A REPORT UPON

TRANSIT

COLUMBUS URBAN AREA

A Report Upon

TRANSIT FACILITIES

Columbus Urban Area

Prepared for the

CITY PLANNING COMMISSION
and
FRANKLIN COUNTY REGIONAL PLANNING COMMISSION

By
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January, 1956

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City Planning Commission
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Gentlemen:

In accordance with our agreement we are pleased to submit herewith our preliminary report upon Transit Facilities.

Even though the local transit facilities (trolley coaches and buses) are losing rather than gaining riders they are very important to the satisfactory functioning of the Columbus Urban Area. Further, it is widely recognized that they offer one of the best potentials in alleviating the traffic problem.

The accompanying report contains data regarding the location and use of existing routes as well as recommendations regarding changes and extensions of routes. Suggestions are also made as to how service might be improved and more riders attracted.

We wish to acknowledge the excellent cooperation furnished us during this study by your staffs and by the officials of the Columbus Transit Company.

Respectfully submitted,

HARLAND BARTHOLOMEW AND ASSOCIATES

By Russell H Riley

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INTRODUCTION

Good mass transit facilities - streetcars, trolley coaches, buses and rapid transit facilities (where available) are by far the most efficient means of moving large numbers of people within large urban communities. It is becoming more obvious that the larger cities can never hope to provide adequate street facilities for the private automobile in their most congested districts, particularly within the central business district, so long as more and more people insist on using private transportation - at an average of one or two persons per car. Furthermore, space is needed for parking as well as operating each private vehicle, and there just is not enough space to accommodate all these cars if any room is to be left for the stores, offices and other establishments which generate the traffic.

It is imperative, therefore, in order to make the most effective use of existing streets and the proposed thoroughfare improvements as well as to maintain and improve downtown shopping facilities and services, that methods be found to make mass transportation more attractive and to encourage more use thereof. Rather ironically, however, the recent history of transit operations in Columbus, as in other cities, has been just the opposite - for as riding habit declines, per capita operating costs increase, fares must be raised, and transit lines become even less attractive.

Prior to the advent of the automobile, the location of transit lines was a major factor in determining the growth pattern in American cities. Other than walking, the citizens depended upon the transit routes for their movements around the city. The widespread use of the private car has reduced this reliance on public mass transportation.

Many irrefutable statistics have been presented showing that all persons moving to and from the business district, as well as other traffic objectives, could

be easily accommodated on buses or other types of transit facilities without seriously congesting existing streets. The plain fact is that citizens insist upon using autos and consequently millions and even billions are being expended for highway improvements yet traffic congestion continues and urban growth moves outward. There is no apparent ready way in which the present practices and promotion can be stopped. Since, however, the present policy isn't solving the problem it is only logical to make extensive efforts to improve transit service and use, so that there will be two rather than a single approach.

The examination of transit facilities in Columbus made in 1954 was limited primarily to a general appraisal of existing lines and their relationship to general land uses and the redevelopment program. The present study is a further analysis of these existing transit routings and data in the light of their adequacy to serve the present and expected future population of urban Columbus. Recommendations are made concerning changes in the location or extent of certain routes to improve service and operations and to provide for additional service into newly developing areas. The proposed transit routes are correlated with the various other elements of the Master Plan, particularly with the proposed major street system, as well as with the present and anticipated future population distribution. Two transit plans have been prepared. The first of these involves adjustments that can be made within the next five to ten years, mostly without major public improvements. The second provides for a complete transit system, including recommendations for transit routing to take advantage of the projected expressway system, which would serve the entire Columbus area by 1980 or so.

PRINCIPLES OF A MODERN TRANSIT SYSTEM

The major characteristics of a good transit system are (a) economy and efficiency of operation (b) convenient and fast service and (c) flexibility or adaptability to changing community needs. Past experience in American cities has established certain basic principles and standards which must be observed in order to achieve such a system. While the location and extent of transit routes are the primary considerations from the standpoint of the City Plan, all of these factors and standards, including efficiency, convenience and operating costs, should be taken into account insofar as they affect routing and service.

Economy and Efficiency

The economy and efficiency of the transit system depend on the cost of providing service to particular areas as well as on efficient operation and management. Operating costs should be low enough to attract sufficient patronage to make the system financially successful, although increasing costs and the strong competition offered by the private automobile may make some form of subsidy necessary eventually in order to maintain fares at the level necessary to promote wider use of mass transit. The public is inherently opposed to an increase in fares and the number of passengers tends to decline each time that fares are raised. This occurs even though the use of transit facilities is considerably less than driving and parking an auto.

While all phases of operation affect the efficiency and economy of the system, certain factors have particular importance in transit planning. These are:

Unified Management and Control. For the most effective and efficient service, all transit facilities serving the urban area should be under a single operating company. There are inherent disadvantages in competitive routes. Operation of a unified transit system as a monopoly under public supervision affords the greatest financial stability and permits the greatest coordination of routes and service throughout all parts of the community. The only exception is where transit service

is first provided in sparsely settled outlying areas. Here a small company with low overhead can do better than a large organization. Fortunately, practically all local transit service in the Columbus Area is now under one control.

Extent of Service. Transit service in outlying areas of low population density is seldom justified and can be provided usually only at the expense of patrons living in other areas. Such service, therefore, should normally be confined to those parts of the community having a gross population density of five persons or more per acre, and even here trolley service cannot be justified and bus operations must be closely adjusted to riding habits.

Convenient and Fast Service. Even though public transportation is far cheaper than travel by private automobile, the average driver is willing to forego the luxury of driving his own car only when service is near at hand, rapid and frequent and buses are clean and well-maintained. Personal discomforts, such as standing and crowding, will be endured only if the service is fast, direct and with a minimum of stops. Most people still desire to board a bus practically at their homes and whenever they choose. The increasing traffic congestion and delays experienced enroute are among the major difficulties encountered in providing fast service.

Area of Service. There should be a transit line within one quarter mile of all residential areas in Columbus and in those parts of the urban area where population densities warrant service. In lower density districts the area of service can be extended to one-half mile.

As transit routes approach the central business district, they will naturally tend to converge, several lines often operating on the same street. This additional service is quite desirable since the central districts are of higher density, and especially good service is required to attract short-ride passengers.

Alignment of Routes. Transit routes should lead directly from residential sections to the central business district and to other major employment areas. Feeder lines requiring transfer should be avoided as should long hauls through unpopulated areas. Routes should be located wherever possible on major streets.

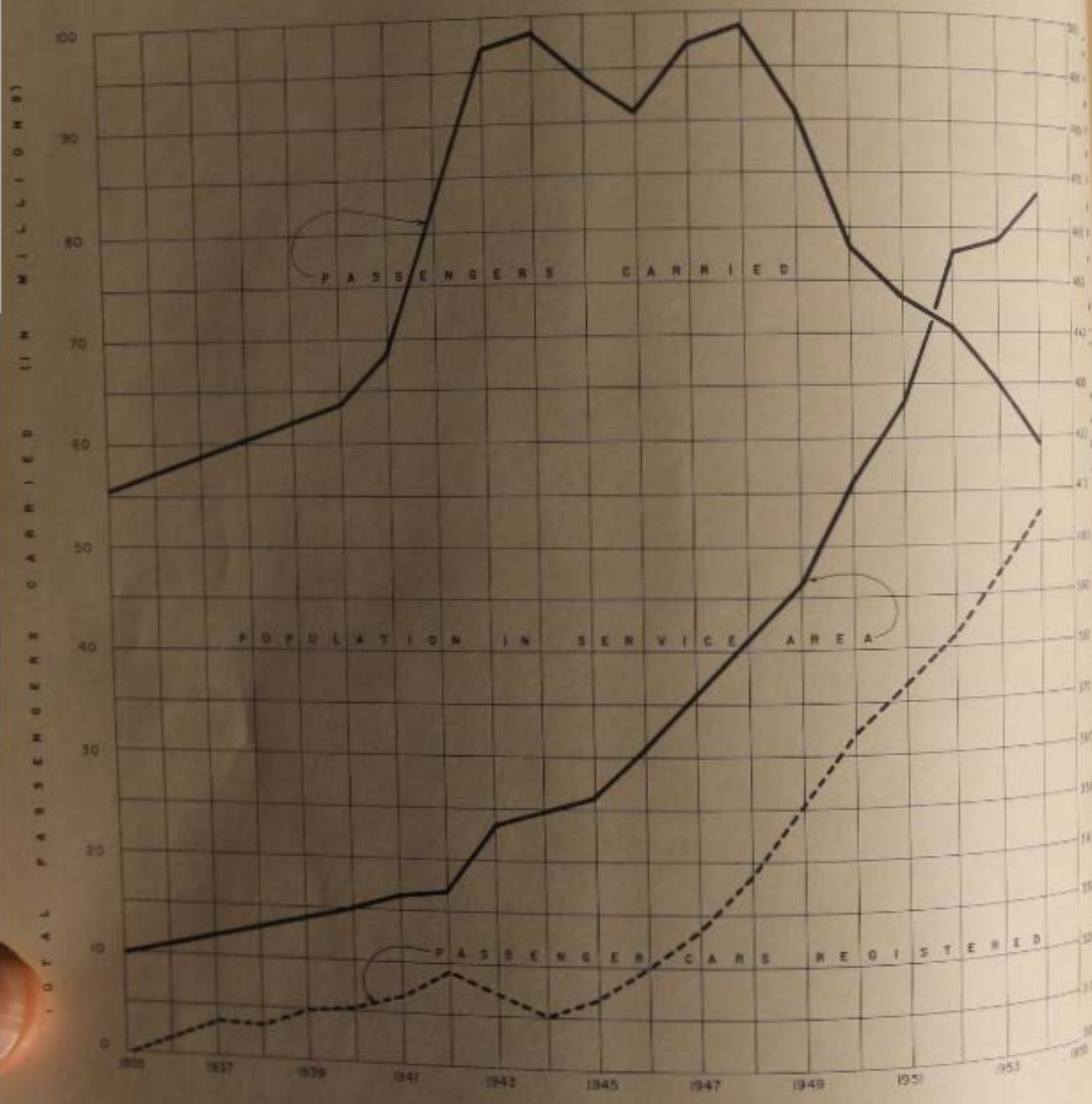
Within the central business district, transit lines should be routed directly through the center rather than around the edges of the district so as to provide the greatest convenience and avoid excessive walking for transfers. Routes should also proceed through rather than loop within the district so that crosstown riders may not be forced to transfer. Such through routing of lines reduces the number of turning movements and lessens both traffic congestion and loss of time.

Since mass transportation is the most effective means of moving large numbers of persons to and from the central business district, street traffic control, should be designed especially to expedite the movement of transit vehicles.

While they are largely matters of operating detail, speed, headways, and general attractiveness of facilities also influence transit riding.

Speed. Competition with the private automobile cannot be met successfully by the transit system if its travel time is excessively greater than that of the private car. Average speed would be increased by the general improvement of traffic conditions in Columbus heretofore proposed. It will also depend on direct routing, routing on major streets particularly on expressways, a minimum number of turning movements, elimination of unnecessary stops, and especially by provision of express service.

Headways. The interval between transit vehicles in general should not exceed twenty minutes. Where this interval is longer, as in low-density areas, it requires a very close adherence to and knowledge of schedules and does not encourage riding.



TREND IN TRANSIT RIDING

COLUMBUS, OHIO

PRESENT TRANSIT OPERATIONS AND FACILITIES

While one or two other motor bus companies now provide limited or special transit service within the Columbus Area, practically all of the regular service is operated by the Columbus Transit Company. The city has been engaged for some time in the drafting of a new transit franchise which will retain control of all facilities within the corporate limits in the hands of a single operating company.

Most of the special or limited routes in the Columbus Urban Area are operated by the Columbus-Celina Coach Company which provides regular service to Lockbourne Air Base, Grove City and Grandview Heights and Upper Arlington - as well as special service to the General Motors plant on west Broad Street and to the Columbus Zoo. Local service is provided also along its interurban line passing through Dublin. Limited local service between downtown Columbus, Valleyview and Hilliard is operated by the Scioto and Greenlawn Bus Company.

Trends in Transit Riding

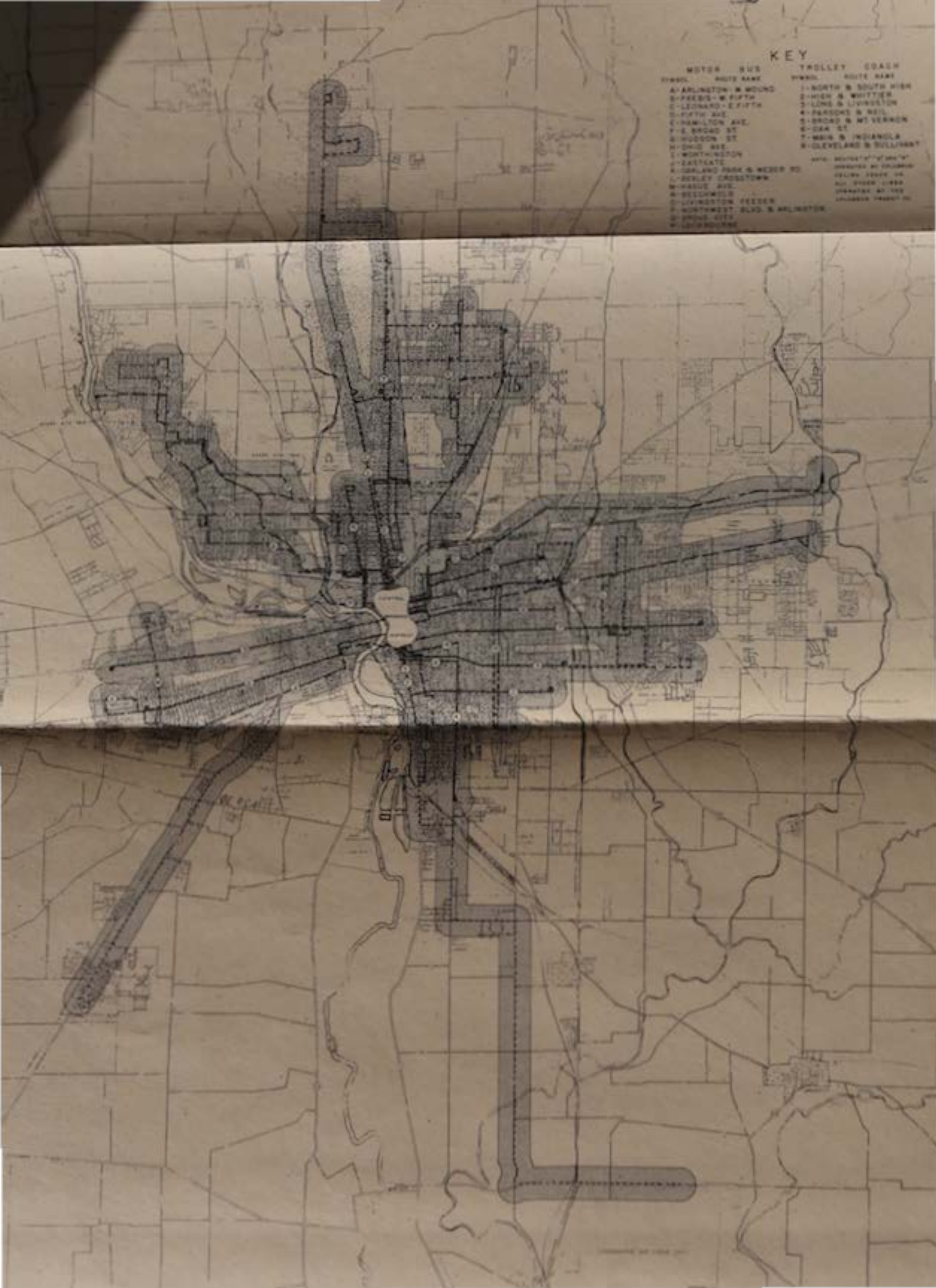
The total number of passengers carried annually by the Columbus Transit Company in 1935 and from 1940 through 1954 is shown in Table 1. This table also shows the riding habit, or ratio of total annual passengers to the population of the general area served by the transit system. Plate 1 is a graphic presentation of these trends.

The total passengers carried increased steadily during the early years of World War II, reaching a peak of more than 98,000,000 in 1944. This markedly increased riding habit was characteristic of all large American cities during World War II, due to gasoline rationing and the scarcity of new automobiles. Transit riding continued at a relatively high level for the next four or five years, until new car production began to exceed the rate of replacement of outmoded automobiles.

In 1950, however, a substantial drop in passengers occurred, due partly to the increase in fares which became effective at that time, and since 1950 the number of passengers has declined annually at the rate of several million per year, such decreases amounting to more than 5,000,000 passengers in each of the last two years.

As shown on Plate 1, transit riding in Columbus generally paralleled the growth of population following the depression of the 1930's and increased much more rapidly than the population during the early years of World War II. Even though the total passengers carried remained fairly high until 1948, however, riding habit began to decline in 1945 and has decreased markedly during the past seven years. Thus, the current trend in transit riding is exactly the opposite of the population growth. For example, the passengers carried annually has declined by more than 39,000,000 or approximately 40 per cent since 1948 while population within the service area has grown by more than 80,000 persons or over 20 per cent during the same period. On the other hand, passenger car registrations in Franklin County have kept pace generally with population growth (except during and immediately following the war), as graphically shown on Plate 1, reaffirming the ever growing travel by private car.

These conditions indicate the importance of using every possible means to improve the attractiveness of mass transportation in Columbus. It is obvious why the city's traffic and parking problems are becoming steadily more acute - a greater proportion of the total population is using the private automobile each year. Public officials, the transit company, businessmen and citizens are all vitally concerned and some way must be found to reverse, or at least arrest, this trend if traffic congestion is not to become steadily worse. Service should be made so convenient, expeditious and generally attractive, as described hereinafter, that a substantial proportion of the population is willing to forego the luxury of their private cars.


KEY
MOTOR BUS
SYMBOL ROUTE NAME
A-ARLINGTON-N.MOUND
B-FREDS-W.FIFTH
C-LEONARD-E.FIFTH
D-FIFTH AVE.
E-HAMILTON AVE.
F-E.BROAD ST.
G-HUDSON ST.
H-OHIO AVE.
I-WORTHINGTON
J-EASTGATE
K-OAKLAND PARK & WEBER RD.
L-BERLEY CROSSTOWN
M-HAGUE AVE.
N-BEECHWOLD
O-LIVINGSTON FEEDER
P-NORTHWEST BLVD. & ARLINGTON
Q-DRIVE CITY
R-LOCKBOURNE
TROLLEY COACH
SYMBOL ROUTE NAME
1-NORTH & SOUTH HIGH
2-HIGH & WHITTIER
3-LONG & LIVINGSTON
4-PARSONS & MCL.
5-BROAD & MT.VERNON
6-OAK ST.
7-MAIN & INDIANOLA
8-CLEVELAND & SULLIVANT

AREA SERVED

LEGEND

TROLLEY COACH LINE

MOTOR BUS LINE

MOTOR BUS FEEDER LINE

MOTOR BUS (SPECIAL SERVICE)

1/4 MILE SERVICE AREA

ONE DOT REPRESENTS 50 PERSONS OF 1955 POPULATION

Existing Transit Facilities

The existing transit routes are shown on Plate 2. All of these routes are operated by the Columbus Transit Company with the exception of the Northwest Boulevard-Arlington and the Grove City and Lockbourne Air Base routes operated by the Columbus-Celina Coach Company. Separate designations are used to differentiate between trolley coach and gasoline bus operations as well as between direct and feeder lines. The routes giving special or limited service to General Motors and to Dublin or the Columbus Zoo have not been shown on this map.

Eight of the routes operated by the Columbus Transit Company are trolley coach lines; the other routes (including those operated by the Columbus-Celina Coach Company) use motor buses. The trolley coach lines and eight of the motor bus lines provide service to and through the central business district. The other ten motor bus lines, however, provide only feeder service to or across the main routes, thereby requiring transfers for most of the riders.

Routing and Alignment of Existing Lines

While a few minor changes in transit routing have been made during the past year, existing lines are essentially the same as those described in the earlier report. All of the existing trolley coach lines are routed through the central business district with the exception of the Oak Street route which loops downtown and returns to its terminus at Fairwood. The North and South High and Whittier Street lines are operated virtually as a single route with split service at Whittier Street. In general, trolley coaches are located so as to serve the denser portions of the city and follow major or secondary thoroughfares. The through routing downtown is desirable to minimize the necessity of transfers and for through travel.

Most of the motor bus lines, however, are feeders, requiring transfer to the main routes. In addition, several of the feeder lines consist of large loops which

are indirect and inconvenient, requiring some passengers to travel substantial extra distances to avoid long walks. This is particularly true of the Oakland Park-Weber Road and Bexley crosstown lines. The Worthington, Beechwold and Livingston feeders provide an extension of service at the end of existing trolley coach lines but only after transferring. Trolley coach routes are generally direct and well located but a number of the motor bus routes, including the Hudson Street and Bexley crosstown lines in particular, are quite circuitous and indirect in routing. Parts of the motor bus routes also are located on minor streets, which is not in conformity with good street or residential planning, although sometimes necessitated by the existing street pattern until adequate major or secondary streets are available.

While duplication of service on radial routes as they converge downtown is unavoidable and, in fact, desirable to provide better service and encourage riding in these close-in areas, duplication of service in other parts of the community is generally unnecessary and inefficient. The looping, circuity, and indirectness of the several motor bus lines in the vicinity of Hudson Street, Weber Road, Hamilton Avenue and Cleveland in north Columbus result in the most obvious duplication of service in the present transit system. The Northwest Boulevard-Arlington line operated by the Columbus-Celina Coach Company provides an example of partial duplication between competing routes, this line largely duplicating service of the Arlington-W. Mound and the West Fifth Avenue routes in Grandview Heights and a section of the Arlington-W. Mound Street route in Upper Arlington.

Adequacy of Service

The area within one fourth mile of existing transit lines is shown in hachure on Plate 2. Within the present city about 40,200 persons or 9.6 per cent of the total population reside more than one quarter of a mile from a transit line. Within the other incorporated communities adjoining the city, approximately 15,500 or 26 per cent of their population are located beyond the quarter mile service area, and in the urban area as a

whole some 102,000 persons or 18.9 per cent of the total population live outside the accepted service radius. These figures are slightly higher than those listed in the 1954 report due to the population growth which has occurred - mostly in outlying areas beyond existing transit service - during the past year and the annexation of several of these areas to the City of Columbus. The figures are also higher, as noted in the 1954 study, than those found in many other communities of comparable size, including Toledo and Dayton.

The major districts still unserved inside the city are to be found in east Columbus, including the large apartment development of Beverly Manor and in the areas to the north, both west of High Street along the Olentangy and between High Street and Indianola Avenue. The largest unserved sections outside the city are located in Whitehall, nearly all of which is now without transit service, and in Clinton and Mifflin Townships between the city and Alum Creek. The new Lincoln Village development on West Broad Street is also entirely without a mass transportation line.

All of the trolley coach lines provide reasonably frequent service to and from the central business district. The motor bus lines routed downtown provide frequent service during the rush periods but operate on 15 to 20 minute headways during the rest of the day, and the feeder service is relatively infrequent, with only the Fifth Avenue, Hudson Street and Livingston feeder lines operating more frequently than at 15 minute intervals, even during the rush hours.

Volume of Service

The number of transit vehicles operated over the various routes during an average day is shown on Plate 3, prepared from information supplied by the Columbus Transit Company. This map is based on the total number of vehicle round trips made on each line and the vehicles turned back at central points along a number of the routes during periods of peak riding.

The large number of vehicles operated on High Street, particularly to the north, is the most striking characteristic of this plate. Some 245 round trips are made to and from the north by the two High Street trolley coach lines alone and another 55 trips by the Hamilton Avenue bus line which is routed on High Street to the edge of Ohio State University. Turnbacks of certain trolley coaches during the rush hours are made on this route at Arcadia and at Blenheim Road. Relatively large volumes of transit vehicles are also operated on Indianola Avenue (with one-way travel on 4th and Summit Streets south of Chittenden Avenue), on Cleveland Avenue, Main Street, west Broad Street and Sullivant Avenue. Thus, most of the major radial arteries leading into downtown Columbus accommodate a substantial number of transit vehicles, most of these being trolley coaches rather than buses. This emphasizes the importance of utilizing such measures as the prohibition of parking, progressive traffic signalization and other trafficcontrols to expedite transit operations on these streets with a minimum of interference from other traffic.

The comparatively light transit operations on the feeder lines are also revealed by Plate 3. For example, the Worthington, Beechwold and Livingston feeders which serve as extensions of the north High, Indianola and Livingston routes respectively, contrast markedly with the latter and only the Fifth Avenue and Weber Road lines make more than sixty round trips per day.

Plate 3 also indicates the relatively light transit service to and from Grandview Heights-Upper Arlington and east Columbus and Whitehall. The latter district in particular would be expected to utilize mass transport much more than present operations along the east Broad Street route indicate. Every effort should be made to increase the attractiveness of this route so as to induce more riding from this populous area.

Transit Routing and Volumes in the Central Business District

Existing transit routing in downtown Columbus and the number of vehicles operated during the peak half hour are graphically delineated on Plate 4 which was discussed previously in the Central Business District report.

PLATE 5

SUMMARY OF TRANSIT DATA – EXISTING TRANSIT LINES

COLUMBUS, OHIO

PASSENGER PER MILE
1,000 SEATS MILES OPERATED

SEATS FURNISHED 10,000
DAILY PASSENGERS 10,000

ROUTE NO. & NAME			LENGTH IN MILES RD. T.	LENGTH IN MILES ONE WAY	NO. OF ROUND TRIPS	HEADWAY IN MINUTES BASE	HEADWAY IN MINUTES RUSH	TIMES FROM BUSINESS DISTRICTS TO ENDS OF ROUTE (MIN)		AVERAGE SPEED MILES / HR.
TROLLEY COACH LINES										
7.53 4838	1	NORTH & SOUTH HIGH	20.02	10.01	245	10	5	40 N	21 S	9.9
8.50 1571	2	HIGH & WHITTIER	18.57	9.28						
8.72 1587	3	LONG & LIVINGSTON	12.48	6.24	118	10	5	35 N	21 E	10.0
7.48 2591	4	PARSONS & NEIL	13.57	6.78	116	12	5½	20	23	8.7
8.47 892	5	BROAD & MT VERNON	15.11	7.56	168	10	4½	18 N	25 S	9.5
6.25 3888	6	OAK STREET	5.93	2.96	141	8½	2½	25 W	18 E	10.5
5.94 3502	7	MAIN & INDIANOLA	21.80	10.90	184	8	3½		22 E	8.1
	8	CLEVELAND & SULLIVANT	20.45	10.22	177	7	2½	32 N	28 E	10.9
7.30 18839		SUMMARY	127.93	63.95	1150	8	3	31 N	26 W	10.8
MOTOR BUS LINES										
3.63 1669	A	ARLINGTON & W. MOUND	25.06	12.53	62	20	7	33 N	29 W	12.1
5.12 1748	B	FREBIS & W. FIFTH	16.54	8.27	86	15	5	30 N	25 S	9.0
4.58 1585	C	LEONARD & E. FIFTH	16.58	8.29	105	15	5	30 E		14.6
6.37 446	D	FIFTH AVENUE	4.50	2.25	91	15	6	15		9.0
3.53 1036	E	HAMILTON AVENUE	16.14	8.07	55	20	10	40 N		12.1
4.82 925	F	E. BROAD STREET	14.30	7.15	66	20	5	40 E		10.7
3.24 443	G	HUDSON STREET	7.73	3.86	59	20	11	20		11.6
4.92 548	H	OHIO AVENUE	6.77	3.39	50	20	20	20		10.2
2.62 283	I	WORTHINGTON	7.02	3.51	31	30	30	15		14.2
.71 133	J	EASTGATE	2.21	1.10	52	15	15	7½		17.6
2.04 500	K	OAKLAND PK.–WEBER RD.	5.04	2.52	57	20	20	10		15.1
2.71 145	L	BEXLEY CROSSTOWN	5.51	2.75	32	30	30	15		11.0
2.69 199	M	HAGUE AVENUE	3.80	1.90	48	20	20	10		11.4
2.73 170	N	BEECHWOLD	5.39	2.69	50	30	30	15		10.7
.93 258	O	LIVINGSTON FEEDER	4.44	2.22	46	20	10	10		13.3
4.04 9873		SUMMARY	141.03	70.50	910					
6.18 28712			268.96	134.45	2060					

NOTES:

Miles operated allows for short-trip operation.
Daily passengers based on averages for typical 5-day period.
Average speed computed from length of line and times from business district to ends of lines (without allowance for layover).

The various one-way streets, notably Spring, Third, and Long, have influenced the routing, but in general the lines proceed through the district with reasonable directness. The large number of lines operating on or across High Street provide convenient service to existing office and shopping facilities and ample opportunity for transfer between the different routes.

The large number of lines on High Street also generate a considerable volume of transit vehicles during the peak half hour, some 65 trolley coaches and 4 motor buses proceeding northbound and nearly 50 trolley coaches southbound in the peak blocks between Town and Long Streets. This volume is not excessive, however, provided loading zones and certain turning movements, as discussed later, are designed to favor easy transit operation, and it has the advantage of affording easy access for most of the transit riders to downtown stores and offices. Compared with that on High Street, peak transit movements on other downtown streets are not heavy, the largest involving about thirty vehicles per half hour on East Spring, Long and Third Streets and slightly more in the single block of Long between High and Third. Motor bus traffic, located mainly on Broad and Front Streets, is relatively light, aggregating fewer than fifteen buses in each direction.

Summary of Present Transit Operations

Information concerning transit operations on each of the lines operated by the Columbus Transit Company is graphically or statistically presented on Plate 5. The basic data were supplied by the Company, certain other figures such as the seats furnished and average speeds were computed from these data.

The most heavily traveled lines are the combined High Street routes, which carry nearly 37,000 passengers daily (although this is a decrease of about 10 per cent over the past year). In general, all of the trolley coach lines are reasonably well patronized, and while these lines in the aggregate have suffered greater losses of patronage, proportionately as well as numerically, than have the motor bus routes during the past year, they still

carry more than three times as many passengers daily as all fifteen motor bus routes combined. With the single exception of the relatively short Oak Street line, all of the trolley coach routes transport two to three times as many passengers daily as the best used motor bus lines and many times as many passengers as the motor bus feeder routes. However, comparison of Plate 5 with Table 2 from the 1954 Transit report indicates that two motor bus lines - East Broad Street and the Oakland Park-Weber Road route - have actually experienced some increase in patronage during the past year and several others have suffered relatively little loss. This is primarily due to the fact that these lines serve parts of the community which have experienced substantial population growth but even so, except for the East Broad Street route, all are still relatively lightly used. Two of the feeder routes - Eastgate and Livingston - carry only 95 and 242 persons respectively on an average weekday.

The number of passengers per vehicle mile operated is a significant figure, since this provides an index to the success of the route from a financial standpoint. This figure is determined by dividing the average of passengers carried by the total miles traveled by all vehicles operated on that route. On the basis of average operating cost, at least four passengers per vehicle mile are required in most communities to make the operation profitable; otherwise the line is not paying its way and its operation must be subsidized by the better patronized routes. As noted in the previous report, the Columbus transit system as a whole is slightly above average in the patronage afforded most routes, primarily because of the compact development of the area served and the favorable population densities along these lines. The trolley coach routes are by far the most successful, the Long-Livingston and Oak Street lines operating through relatively densely populated areas carry nearly 9 and 9.5 persons per mile respectively, and the Parsons Avenue-Neil Avenue line over 8.5. On the other hand, the Main-Indianola and Cleveland-Sullivant lines carry only six passengers or so per mile of operation. The trolley coach lines as a whole average more than seven passengers per vehicle mile, in contrast with about four passengers per mile operated by the motor buses. The latter, however, are slightly less expensive to operate.

The relatively poor utilization of many of the motor bus lines is graphically apparent from Plate 5. Six of the ten feeder routes show fewer than three persons per vehicle mile, two of these - Eastgate and Livingston - fewer than one person per mile ofoperation. Such routes are costly for the service provided, which is obviously not sufficient to overcome the disadvantage of transfer to connecting lines. However, considering the number of feeder bus routes, which are generally poorly patronized in other communities, the average of four persons per vehicle mile operated by all motor buses is surprisingly high in Columbus. Part of this is due to the relatively large number of passengers per mile using the Fifth Avenue feeder line, which is short and in addition to traversing a fairly populous section of the city provides transfer service to industries located along the route. With the exception of the Fifth Avenue feeder, patronage is generally higher along those lines providing direct service downtown, such lines ranging from 3.5 to 5 persons per mile and averaging about 4.4 persons per mile, in contrast with 2.7 persons per mile averaged by all feeder lines (excluding Fifth).

The relation between the total passengers carried by each line and the seats furnished indicates that present service is generally adequate, even though non-rush operations have been curtailed in recent months on certain routes. While conditions vary considerably between rush periods and normal operation during the rest of the day, a ratio of 50 to 75 per cent between passengers and available seats is quite satisfactory. Trolley coaches now show an average seat occupancy ratio of 67 to 78 per cent and motor buses a considerably lower figure. The ratio of passengers to seats on the five main motor bus routes varies between 40 and 79 per cent and on the feeder lines averages well below 40 per cent except for the Fifth Avenue (60 per cent) and the Ohio Avenue and Hudson Street routes (63 and 46 per cent respectively). Patronage of the Eastgate and Livingston Feeder routes is so poor that passengers occupy less than 10 per cent of the available seats.

Present headways are indicative of frequent service, both rush hour and normal, on all the trolley coach routes (even though the base headway was increased from 8 to 10 minutes on the two High Street lines several months ago). Main line motor bus service is frequent during the peak periods but has been decreased on most lines to 15 to 20 minute intervals during the remainder of the day. Intervals exceeding 20 minutes, as on several of the feeder lines, is generally unsatisfactory and even 20 minute service requires both a knowledge of schedules and close adherence to the schedules if the transit facilities are to be reasonably well utilized. However, 30 minute service may be justified in an area such as Worthington where riding habit is low, provided schedules are widely publicized and maintained.

Average speeds were computed from the length of the route and the sum of the travel times from the central business district to each end of the route, no allowance being made for layover, which would tend to reduce the average speed slightly on certain lines. Speeds in general are slightly lower on most lines than those of a year ago. While trolley coach speeds are only a little slower than those in many other cities (those in Dayton, for example, ranged from 9.5 to 12.9 miles per hour in 1953), motor bus service is comparatively slow, even on most of the feeder routes, ranging generally from 9 to 15 miles per hour, in comparison with speeds of 12 to 15 miles per hour or even more in some instances in Dayton and other cities. Motor bus speeds of 9 or 10 miles per hour, as on the Frebis, Fifth Avenue, and Ohio Avenue lines are particularly low. These figures emphasize the necessity for speeding up all transit service by favoring transit operations in parking and traffic control and by improving other operating conditions if mass transportation is to hold its own in the future in competition with the private automobile.

PROPOSED TRANSIT PLANS

Transit facilities, like other physical elements of the community, require modification and extension from time to time to meet the changing needs of the population. Some of these changes can easily be made, others require thoroughfare extensions or other major improvements to provide a logical routing. While transit lines are no longer the major determinants of the urban pattern that they were a generation ago, mass transportation is still important and with the increasing need for lessening traffic congestion, may - and should - be of more importance in solving some of the problems confronting the downtown area. Thus, it is imperative that some way be found to increase transit riding. The most expeditious routing of transit lines, with the resulting convenience, efficiency and economy of operation, will be a major influence in attracting and holding riders.

Due to the need for certain early changes in transit routing as well as to the long-range aspects of the overall plan, two transit plans have been prepared. The first, or intermediate plan, is designed to meet the requirements for service in urban Columbus within the next five to ten years, in addition to indicating relocations or realignments which would assure more economical and efficient operation of several of the existing routes. In particular, many of the present feeder lines would be abandoned or replaced by more direct transit routes. The intermediate plan is also designed to facilitate the systematic extension of mass transportation facilities into new areas so as to help bring about the desirable long-range transit system. The latter - or ultimate transit plan - is intended to provide a complete transit system which would adequately serve the expected 830,000 Columbusans by 1980 or so. This plan is coordinated with the various other community improvements, including especially the major street and expressway systems, proposed in other phases of the over-all master plan.

Intermediate Transit Plan

The proposed intermediate transit plan is shown on Plate 6. No distinction is made between motor bus and

trolley coach lines, although it is recognized that the existing equipment will continue in operation for many years, and the type of equipment has been taken into consideration in developing the plan. Some of the proposed changes, such as extensions to provide for service in presently unserved areas, should be consummated within the next year or two; other changes may have to await minor street adjustments or further development of a particular district before the improvement is made. In any event, however, the proposals embraced in the intermediate plan should normally be carried out within the next ten years.

While a large number of modifications and extensions are indicated on Plate 6, no major changes in the present transit system have been recommended. The proposed routes generally follow major streets and are located so as to afford the maximum service in those areas which they traverse. These routes are described in detail below:

1. and 2. North and South High and High and Whittier. These lines now operate practically as a single line on High Street, with split service in south Columbus on Whittier and on High and Fourth Streets. No change is proposed in the intermediate plan.

3. Long and Livingston. Extension of the Long Street line by way of Nelson Road, Clifton Avenue, Parkview Avenue and Maryland Avenue to a loop at James Road and extension of the Livingston Avenue branch eastward on Livingston Avenue to approximately Waverly Avenue are proposed. Since this is a trolley coach line, supplementing of existing equipment with motor buses would be necessary in order to make the extensions without constructing additional overhead wiring. The Long Street extension is needed to provide service in a populous area north of Broad, including the large population in Beverly Manor Apartments. Only the Bexley crosstown, a feeder line, provides any service at all in the latter district and this is limited to north Bexley.

Extension of the Livingston Avenue leg has been contemplated by the transit company to replace the poorly patronized feeder line but had to await the paving of Livingston Avenue now underway.

4. Oak Street and Neil. Abandonment of the transit operations on Parsons Avenue (described later) and connection of the Neil Avenue leg of this present route to the Oak Street line (now looping downtown) is suggested.

The two service areas are generally similar in population densities and distances from the central business district. Otherwise no changes are proposed in the lines.

5. Broad and Mt. Vernon. Extension of both ends of this line is proposed, the Mt. Vernon route to be extended by way of Woodland and Maryland Avenues, Nelson Road and Fifth Avenue to Stelzer Road, whence split service would operate to Port Columbus and north on Stelzer to a loop south of 17th Avenue. The Fifth Avenue leg would replace the existing leg on Fifth of the Leonard-East Fifth line, which is rerouted. Extension between the present terminus and Fifth Avenue would provide service in an area now only partially served, in addition to replacing a part of the existing poorly used Eastgate Feeder.

Extension of the west leg along West Broad Street to a loop in Lincoln Village is needed to serve the rapidly growing population in the latter. Split operation north of Broad Street on Hague would replace the existing feeder line with direct service in addition to providing transit facilities for the gradually growing area to the northwest. Supplementing of trolley coaches by buses, as pointed out before, might be desirable on this line also.

6. Main and Indianola. No change is proposed in this route.

7. Cleveland and Sullivant. No change is suggested.

8. Arlington and West Mound. Extension of this line northward along Redding Road to Fishinger Road is proposed, the present loop along Lane, Northwest Boulevard and Guilford Road to be replaced by another large loop to the north along Fishinger Road, Kioka Avenue and Zollinger Road. This would replace in part the northern portion of the existing Northwest Boulevard-Arlington route operated by the Columbus-Celina Coach Company, which is to be modified as described later.

Extension of the West Mound Street line to the west along Sullivant Avenue to a loop at Phillipi Road, eliminating the existing loop around Westgate Park, is proposed in order to provide service to the rapidly growing area on both sides of Sullivant Avenue. Since this is a motor bus route, the change could readily be made.

9. Frebis and West Fifth. No change is suggested in the northern portion of this route except for the minor rerouting along Michigan Avenue between Goodale Street and First Avenue, rather than on Pennsylvania, in order to facilitate redevelopment of the Goodale area.

Extension of this line to the south along Lockbourne Road, looping on Marion Road, Champion and Lawrence Avenue, is recommended in order to provide service in a segment of the community now lacking transit facilities. Split service along Parsons Avenue south of Frebis would replace the present Parsons Avenue route to be abandoned as described later.

10. Leonard and East Fifth. The Fifth Avenue leg of this route is to be replaced by extension of the Mt. Vernon line described previously. This will permit realignment of the route along Leonard Avenue and Columbus-Millerburg Road (U.S. 62) to afford split service along Brentnell Road as well as on Columbus-Millersburg Road. The former would proceed northward on Brentnell to Argyle Drive and north on Woodland to a loop at Mock Road, thereby serving the populous Amvet Village and other developments; the latter would proceed along Stelzer Avenue to a loop at Agler Road in an area not yet sufficiently developed for such service but ripe for rapid building if and when water, sewers and other utilities are made available.

11. Fifth Avenue. This is a feeder line but one so well used for transfer to and from adjoining industrial plants that no change is recommended.

12. Hamilton Avenue. Two changes are proposed, one involving extension northward, the other additional service by means of split operation in the area to the east of Cleveland. Extension to the north by way of Karl Road, Cooke Road and Wolford Avenue to a loop at Ferris is recommended in order to serve the section north of the present city. Split operation on Hudson Avenue, Dresden Street, Gennessee Avenue, Parkwood Avenue, Denune and Berrel Avenue would replace in part the existing Hudson Street feeder line, to be abandoned as described later, and provide additional, as well as direct, service in this part of the community.

13. East Broad Street. A large part of east Columbus and most of Whitehall are now without adequate mass transportation. It is recommended that such service be provided by extending the existing East Broad Street line from its present terminus along Hamilton Road to a loop south of Livingston and that additional service be established through split operation in both east Columbus and Whitehall. The latter would involve: (1) routing south of Broad Street on Cassingham Road (now used by one leg of the Bexley feeder line) to Fair Avenue, thence via Fair, Stanwood and Dale Avenue to a loop at Mayfair Boulevard, and (2)

alignment on Robinwood Avenue, Etna Road, and Yearling Road to a loop south of Livingston Avenue. This is a populous and rapidly growing area and transit facilities are already badly needed.

14. Worthington-North Columbus. This is a new line intended by means of split operation to afford direct transit service downtown from both the Clintonville-Beechwold-Worthington areas and the general district east of the Pennsylvania-New York Central R. R. This line would follow the same route as the Main and Indianola line to Hudson street where the split operation begins. The Worthington leg would then proceed via Hudson, Indianola Avenue, Arcadia Avenue, Calumet Street and Brevoort Road to the present south terminus of the Beechwold feeder line, thence would follow the existing routes of the Beechwold and Worthington feeders, to the terminus of the latter north of Dublin-Granville Road (State Route 161). In addition to direct service downtown, the proposed alignment would afford service through a portion of north Columbus between High and Indianola Avenue which is well beyond the service area of existing transit lines on both these arteries. Because of the length of this line and its duplication of the Indianola line south of Hudson Street, it should be operated express south of the latter.

The east leg of the route is located on Hudson Street, Audubon Road, Weber Road, Reis Avenue, Oakland Park Avenue, and Maize Road to a terminus at Morse Road. Together with the Hamilton Avenue line, this would serve part of the area now indirectly served by the Oakland Park and Hudson Street feeder lines and in addition, would make transit facilities available in the areas north of Oakland Park which are now undergoing development. It too should be operated as an express route south of Hudson Street.

15. Olentangy River Road. This is also a new line which would serve mainly the projected developments north of Ackerman Road. It would be

adaptable to ready extension as needed and the location on Olentangy River Road would facilitate fast service to and from downtown Columbus.

16. Northwest Boulevard-Arlington. Now operated by the Columbus-Celina Coach Company, this route presently serves portions of Grandview Heights, west Columbus and Upper Arlington. As noted previously, it is proposed to supplant the part of the route in the vicinity of Fishinger and Zollinger Roads by extension of the Arlington line. Extension of the Northwest Boulevard line is proposed along Northwest Boulevard north of Lane Avenue in the form of a large loop utilizing also Ridgeview Road to North Star Road, and the latter south to Northwest Boulevard and the present route. This proposal along with the Arlington line modification would eliminate present duplication of these lines in the vicinity of Lane Avenue and would improve service in Upper Arlington generally. Split operation of the route along Chambers Road, Hess Boulevard and Kinnear Road could be continued.

Lines to be Abandoned

The large number of feeder lines in the present system have already been noted. These lines provide indirect and generally infrequent service (several are operated at 30-minute intervals) which does not invite wide patronage. While they provide limited crosstown service, this is entirely insufficient to justify the subsidy which present crosstown routing of itself necessarily entails. Practically all of the present feeder lines either duplicate in large part existing radial routes or can be supplanted without great difficulty by modifying, extending or adding other routes as proposed in the foregoing. It is proposed, therefore, that the following feeder lines be abandoned as the various routes embraced by the intermediate plan are put into operation:

Livingston Avenue. This will be replaced by extension of the Long-Livingston route.

Bexley Crosstown. Extension of the east Long Street line and split operation of the East Broad route, together with the Main and Livingston routes would serve directly virtually the entire area now indirectly served by this route.

Ohio Avenue Crosstown. While surprisingly well patronized considering its service, this route crosses and duplicates eight or nine radial lines and should eventually be abandoned, although current patronage may justify its retention for a number of years.

Eastgate. This is a poorly patronized line already duplicated in part by other lines and should be abandoned immediately.

Oakland Park-Weber Road and Hudson Street. The Oakland Park-Weber Road line consists of a large loop operated in opposite directions on these streets and has recently been extended (since preparation of Plate 2) from Indianola to High Street. The Hudson Street line runs from High Street to Parkwood, meandering in an irregular loop east of Cleveland Avenue. All of the area now tributary to these routes would be directly served by the existing and proposed new routes.

Hague Avenue. Part of this line would be supplanted by split operation of the West Broad Street route. While the area between Broad and Sullivant Streets is not completely served by the existing facilities located on these arteries, continued operation of the Hague Avenue line would not be justified.

In addition to the various feeder lines recommended for abandonment, it is proposed also to abandon the Parsons Avenue leg of the existing Neil and Parsons route, which serves the same area

north of Hanford Street presently served by the Frebis, Whittier and Livingston Routes. Service south of Hanford Street would be provided by split operation of the Frebis route. However, since patronage of the Parsons Avenue line is currently increasing, this change may be deferred for several years despite the present duplication of service until wider acceptance of the motor bus can be promoted in Columbus. (Contrary to public practice in most other communities, the motor bus is not as yet a popular type of transit vehicle here despite the elimination of fumes and increasing comfort of modern diesel vehicles).

Express Routing

In order to improve present transit service and foster wider patronage of mass transportation in Columbus, it is recommended that express operations - no stopping between certain portions of the residential areas and the edge of the business district - be put into effect immediately on certain lines serving the more densely populated sections of the city. This would be particularly desirable in the districts adjoining North High and East Broad and Main Streets as well as in the area in west Columbus tributary to the Mound Street line. Since the trolley coach is not adaptable to express operation, existing trolley coach lines would require the use of supplementary motor buses or alternate routes to establish express service, and it is suggested, therefore, that express routing be established initially as follows:

(1) The two legs of Route 14 (Plate 6) serving the area between High and Indianola Avenue and the district in north Columbus east of the Pennsylvania Railroad respectively. These could be operated as local routes north of Hudson Street and express between Hudson Street and downtown Columbus as described previously.

(2) The East Broad Street line serving east Columbus and Whitehall. Express operation of certain buses during the morning and afternoon peak periods would undoubtedly be justified to provide faster service between these sections and the central business district.

In establishing these routes, the charging of a premium fare for the additional service would be justified. Such service is popular in other cities, and as it became recognized and more widely used in Columbus, it could be extended to other areas and other lines such as those along East Main Street, along West Mound Street and to and from Upper Arlington. Express operation on East Main would require supplementing existing trolley coaches with motor buses, but the large population tributary to this line should justify the operation of such buses during peak riding periods. The other routes are presently motor bus lines and the express routing could be established thereon whenever the existing tributary population and patronage warranted such operation.

It is imperative that the widest possible utilization of transit facilities be brought about both from the standpoint of reducing downtown traffic congestion and parking requirements and affording the maximum financial support of transit operations. Thus, both the city as a whole and the operating company are vitally concerned. Express transit service has proven popular and successful in many other communities, and should be given every opportunity to increase the patronage of mass transport in Columbus.

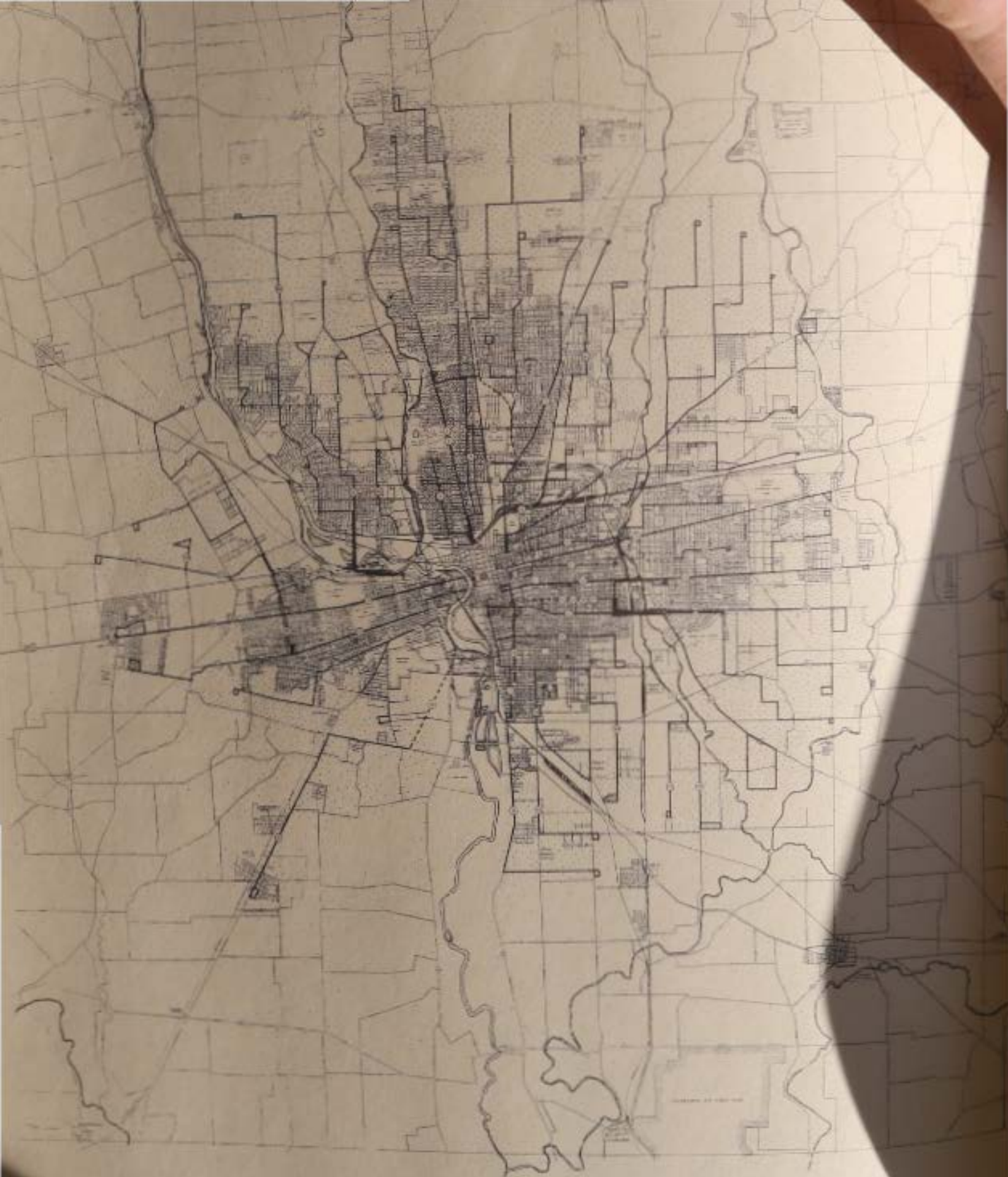
Proposed Ultimate Transit Plan

The intermediate transit plan, in addition to replacing certain feeder service with direct routing and to extending mass transportation into presently unserved areas and new subdivisions, is intended as one stage in the development of an integrated, over-all transit system to serve the expected future urban community of more than 800,000 persons by 1980. Additional transit changes and extensions will be required from time to time to meet the growing needs of the Columbus area. These changes should be coordinated with the provision of public improvements, notably major street construction and the carrying out of the expressway program, so that ultimately a system of transit routes can be established to provide adequate

mass transport for the entire urban community, as envisioned in the comprehensive city plan. Such a transit system is shown on Plate 7.

Comparison of this plate with the intermediate routings shown on Plate 6 indicates both the large number of additional transit lines and the extensions of existing and proposed facilities into the outer reaches of the community to provide service in all sections where present and future population densities are expected to justify such mass transportation. Wherever possible, the new lines are located on major or secondary thoroughfares and routing is made as direct and expeditious as possible. The loops indicated as terminals on this map are more or less diagrammatic, depending on the actual street development in the general area of the proposed terminus.

The proposed ultimate transit plan would make the maximum use of the projected expressway system. For example, all of north Columbus (beyond Hudson Street) and the Colonial Hills - Worthington sections would be served by new lines operating on High, Indianola and certain connecting streets to interchanges on the north freeway at Hudson or 17th Avenue, whence these lines would proceed directly as express routes to the downtown district. Similarly, except for the existing Cleveland Avenue line (which is extended to Ferris Road), all of the area between Alum Creek and the New York Central Railroad and north of 17th Avenue and the Ohio State Fairgrounds would be served by new routes operating over the north freeway south of the proposed interchanges at either Broadway or 17th Avenue. Most of the eastern and southeastern segments of the community would be served by transit lines operated locally east of Fairwood Avenue and express over the projected east freeway between Fairwood Avenue and the central business district, and practically all of the northwest and west districts would be serviced by transit facilities entering the west freeway at Hague Avenue and proceeding directly downtown as express routes from that point. While the southwest freeway



PROPOSED ULTIMATE TRANSIT PLAN

LEGEND

PROPOSED TRANSIT ROUTE

PROPOSED EXPRESS ROUTING

ONE DOT REPRESENTS 50 PERSONS OF ESTIMATED 1980 POPULATION

CITY PLANNING COMMISSION
TRAVELERS' COMMITTEE
REGIONAL PLANNING COMMISSION

HARLAND BARTHOLOMEW AND ASSOCIATES
CITY PLANNERS
SAINT LOUIS

PLATE 7

is not strategically located for wide transit use, it can be used to advantage for such facilities serving the districts along Frank Road and the present U. S. 62 to and from Grove City and is adapted to express routing between Frank Road and the central business district.

Development of the proposed express routes described above would permit shortening a number of the existing lines. Thus, the West Broad and Sullivant Avenue lines would loop at Hague Avenue; the Main-Indianola route would terminate at Alum Creek and 17th Avenue respectively; North High would operate only to the present turn-back at Arcadia Avenue; and the Livingston Avenue route would terminate west of the N. and W. Railroad. The shortening of these lines and service of the more remote areas by express routes should make for much faster and more expeditious transit routing in most sections of the city.

Since expressways are not available in the Upper Arlington-Grandview Heights area, in south Columbus, or in the northeast segment of the community to the east of Alum Creek, these sections will have to be handled by extensions or modifications of the intermediate routes. However, development of the proposed major street system and utilization of these streets should foster reasonably fast operation of mass transport if traffic signalization, restriction of parking, and similar measures are adopted to facilitate transit flow and, as pointed out hereinbefore, express routing should also be utilized as much as possible on these lines.

Service in Upper Arlington would be provided by extension and split operation on Redding Road and Kioka Avenue of the present Arlington route; modification and extension (through split operation along Northwest Boulevard and North Star Avenue) of the Northwest Boulevard-Arlington route to terminate in the vicinity of Fishinger Road; and split operation of the proposed Olentangy River Road line by extension of the latter to and along the proposed intermediate belt and Kenny Road and along Northwest Boulevard, Oxley Road, Eastview Avenue and Kenney Road to a loop south of Kinnear Road.

Service in the northeast sector is based on extension and split operation of the Mt. Vernon Avenue and Leonard Avenue lines. This would necessitate routing of the former along: (1) Fifth Avenue and Stelzer; (2) Cassady Road and 17th Avenue (to the Airport terminal when needed); and (3) along Millersburg Road and proposed major streets and street extensions to a loop in Gahanna. Extension of the Leonard Avenue route is proposed along (1) Cassady Avenue, McCutcheon Road and a proposed new street paralleling Stelzer Road; (2) the extension of Mock Road, Stelzer Road, Agler Road and Stygler Road; and (3) Stelzer Road, a proposed new Street and Hines Road.

Transit service in south Columbus is proposed by means of extension of the South High and Frebis Avenue lines. Extension of the former along High and Obetz Road and along Lake Drive, Parsons and Williams Road to termini near Lockbourne Road would provide facilities in the general area southwest of the C. and O. Railroad, and extension and modification of the latter along Groveport Road and along Innis and Fairwood Avenues would serve the remainder of the district.

Modification and extension of the present Mound Street route is proposed also in order to provide transit facilities in the general area between Clime and Frank Roads and Sullivant Avenue. One leg of the Mound Street line would be rerouted along Chambers Avenue and its extension to Briggs Road and west on Briggs Road to a loop beyond the new high school at Demorest Road. The other leg of this route would proceed along the present U. S. 62 to Hopkins Avenue, Brown Road and a loop in the vicinity of Hart and Richter Roads.

Transit Routing in Downtown Columbus

Wherever possible, the combination of radial routes serving opposite sectors of the community is desirable in order to establish through service, thereby minimizing turning movements, facilitating circulation in the downtown area and helping to reduce the number of transfers.

Thus, practically all of the proposed transit lines have been combined to create such through routing within the area encompassed by the projected innerbelt expressway. The proposed alignment of transit routes within this area is shown on Plate 8. In locating the proposed new routes, careful consideration has been given to avoiding insofar as possible both left turns in general and right turns at heavy pedestrian intersections; for example only a single right turn is proposed at High and Long Streets.

Because of the width of High and Broad Streets as well as their close relationship to shopping and office buildings, the greatest numbers of lines have been concentrated on these two streets. Four lines southbound and five lines northbound (including the two High Street routes) are located on High Street between Town and Long Streets and five lines in each direction are located on Broad Street. Six lines eastbound and six lines westbound are routed on the one-way Long and Spring Streets respectively. Three routes in each direction are routed on East Main Street. Except for those on High Street, practically all of the north-south routes are proposed on either 3rd or Front Streets, Fourth Street being too far from the center of the business district to serve satisfactorily for this purpose.

It is apparent from Plate 8 that wide use would be made of the innerbelt expressway in helping to distribute the various express lines utilizing the separate freeways. This is particularly true of the lines to and from the north and east, most of which would enter the central business district from the east leg of the expressway loop over Main, Broad, and Long and Spring Streets. A large number of lines would utilize the Long-Spring Street connection to the Sandusky Street interchange as well as the Sanudsky Street leg of the innerbelt north of Broad Street. The proposed transit routings indicate not only the importance but the utter necessity of building the projected innerbelt expressway in its entirety, including especially the east leg of the loop, if this artery is to serve its proper function as a distributor in addition to a bypass route for traffic into and around the central business district.

Methods of Improving Transit Service

Transit operations in practically all American cities have been confronted in recent years with serious financial problems. At a time when transit riding should be steadily on the increase in keeping with the unprecedented population growth, patronage of mass transportation facilities has steadily declined. The latter trend in combination with increasing wage rates and operating costs has brought about increases in fares, which in turn induce still greater declines in riding habit and further increases in per capita costs, which prolong and repeat the cycle. If this difficulty is to be overcome, some way must be found to make transit riding attractive to a much greater proportion of the traveling public by so improving the service and convenience that it can compete more successfully with the private automobile.

Fast Service

The potential transit riders are especially interested in fast service and a comfortable seat. Consequently, one of the principal means of improving transit service is through the institution of express bus routing on certain main lines where population densities and potential patronage are reasonably high, as noted earlier. A number of cities, including St. Louis, have established such service which has proven quite popular. While much of the proposed transit service would be of the express type ultimately through utilization of the various projected freeways, it is suggested that express operation be tried in the meantime at least on such arteries as described previously under the intermediate routing plan.

Improving Speed Through Traffic Controls

In order to expedite transit operation, various traffic control devices should be designed, wherever possible, to facilitate the movement of transit vehicles. The prohibitions of parking, particularly on the inbound or outbound side of the street in the morning or evening, and the possible reservation of one

traffic lane for transit operation on certain streets such as High, for example, in many outlying areas as well as downtown, would be of assistance.

Objections to peak hour parking prohibitions would be made by adjacent property owners, particularly by owners and operators of commercial property. However, checks would undoubtedly reveal that the most of these curb spaces is not now occupied by customers' cars, and experience elsewhere has revealed that the placing of curb meters in such commercial districts will insure much more use by customers. In fact, if the time limits are strictly enforced, this increased use should far more than offset the loss of the spaces during peak hours.

The multitudinous turning movements of private cars in and out of the downtown alleys now frequently interfere with mass transportation vehicles and should by all means be prohibited - this use of alleys as traffic ways is exceptionally wide in Columbus and presents problems of traffic control which should not be tolerated. Signalization of traffic lights in the city now leaves much to be desired; progressive timing is a necessity for faster transit operation as well as traffic improvement in general.

The City of Toledo is now testing a new method for expediting transit operation within the central business district. No fares are collected within the central area and both doors are opened at each stop to facilitate loading and unloading of passengers. On inbound vehicles passengers pay fares when boarding and, when outbound, pay fares upon leaving the vehicles. Free riding is permitted for the comparatively short distance traversed within the central area.

Revenue and Possible Subsidy

Even with faster service and improved convenience, however, problems of financing and maintaining a reasonable or attractive fare for service will probably continue to plague transit operation in Columbus as well as in other cities. Among measures that should be considered to improve revenues is the zone system of fares particularly as the city and its transit system continue to expand. The practice of basing charges for both passengers and cargo upon the distances travelled has long been established. In order to maintain sufficienty low fares, and provide good service, it may become necessary to give financial relief to the operating company through tax concessions, waiving of franchise fees, or even - should conditions ultimately require it - some form of financial

subsidy. If annual subsidies for improved transit operation will alleviate traffic congestion it would undoubtedly be far less expensive than the extensive expenditures now needed for street and highway improvements. It has also been suggested that a means of overcoming some of the current difficulties may lie in public ownership of the transit facilities with private operation by experienced transit personnel. In any event, the importance of mass transportation in helping to alleviate traffic congestion, in addition to its public utility and necessity, is a matter of vital public concern and every effort should be made to insure sound fiscal operation.