3 ANALYSIS OF EXISTING RIDERSHIP AND ROUTE PERFORMANCE

DATA COLLECTION

A comprehensive bus stop-level data collection effort was undertaken to inventory existing transit use and to develop a better understanding of the current travel patterns in the Study Area. This section of the report summarizes the results of these data collection efforts. The numbers of passengers on and off by stop were surveyed for weekday, Saturday, and Sunday service periods for each route that operates in the Study Area. All of the scheduled bus trips - 1,998 weekday, 751 Saturday, and 455 Sunday - were sampled multiple times. Data collection was completed during the winter and spring of 2010.

To provide a larger sample at a lower cost, Metro Transit used its automatic passenger counters (APCs) to collect the data. Since only about one-third of the fleet is equipped with APCs, buses equipped with APC equipment were rotated through the Study Area routes to collect the sample.

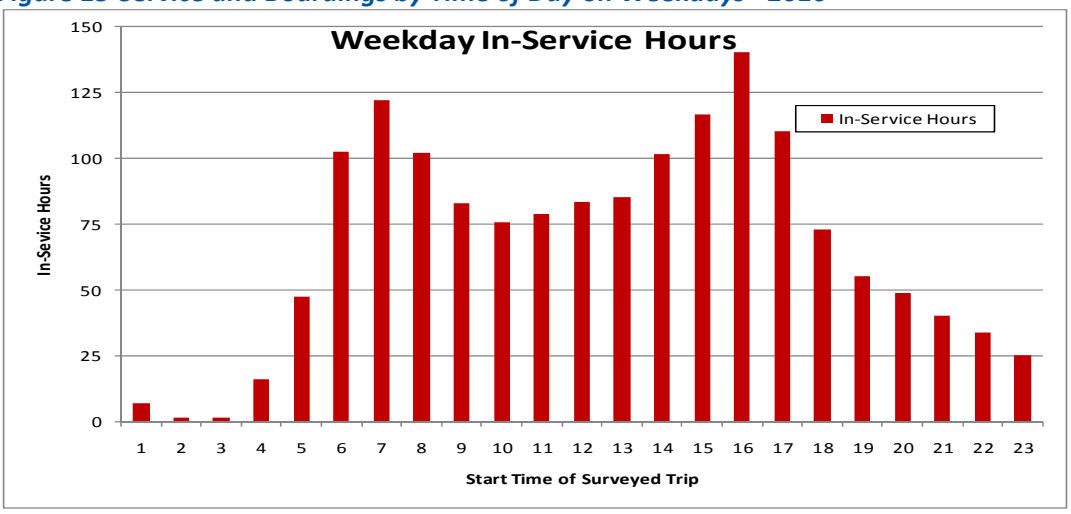
Weekday Transit Ridership

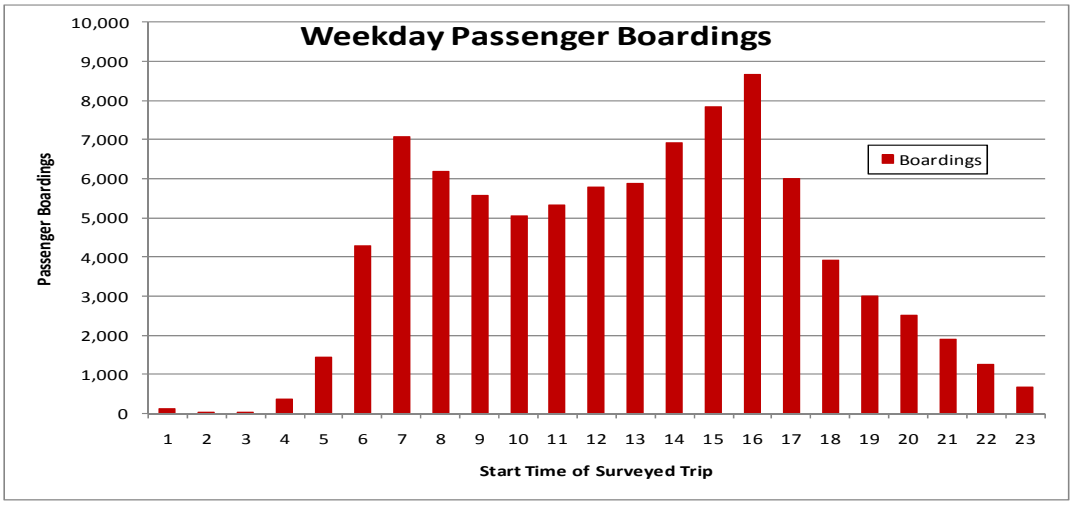
On weekdays 1,568 in-service hours are provided in the Study Area. The distribution of these in-service hours by time of day is illustrated in the first chart of **Figure 15**. Approximately 20 percent of in-service hours are provided during the AM peak period (6:00 to 9:00am), another third during the mid-day period (9:00 am to 3:00 pm), a quarter during the PM peak period (3:00 pm to 6:30 pm), with the remaining revenue hours provided during the evening hours (including less than two percent between 1:00 and 5:00 am). The second chart of **Figure 15** illustrates the distribution of the total number of passengers boarding throughout the day. An average of about **90,000** weekday boardings were counted, with 19 percent occurring during the AM peak period, 38 percent during the mid-day period, and 25 percent during the PM peak period. The final chart in **Figure 15** illustrates the average number of boarding passengers per in-service hour throughout the day. This chart shows that the level of transit service in the Study Area throughout the day is reasonably well matched with the distribution of demand throughout the day. **Figure 15a** shows the average passengers per in service by route on weekdays.

Weekend Transit Ridership

On weekends 897 in-service hours are operated each Saturday and 609 in-service hours each Sunday in the Study Area. The distribution of these revenue hours is illustrated in the top chart of **Figure 16**. Approximately 60 percent of these revenue hours are provided between 9:00 am and 6:00 pm. This chart also illustrates the distribution of total number of passenger boardings counted with the APC equipment throughout Saturdays and Sundays. An average of about 45,600 boarding passengers was observed on Saturday, with 65 percent occurring between 9:00 am and 6:00 pm. On Sunday, an average of about 29,400 boarding passengers was observed with 70 percent occurring between 9:00 am and 6:00 pm. This chart shows that the level of transit service in the Study Area throughout weekend days is reasonably well matched with the distribution of demand throughout the day. **Figure 16a** shows the average passengers per in service by route on weekends.

Figure 15-Service and Boardings by Time of Day on Weekdays - 2010





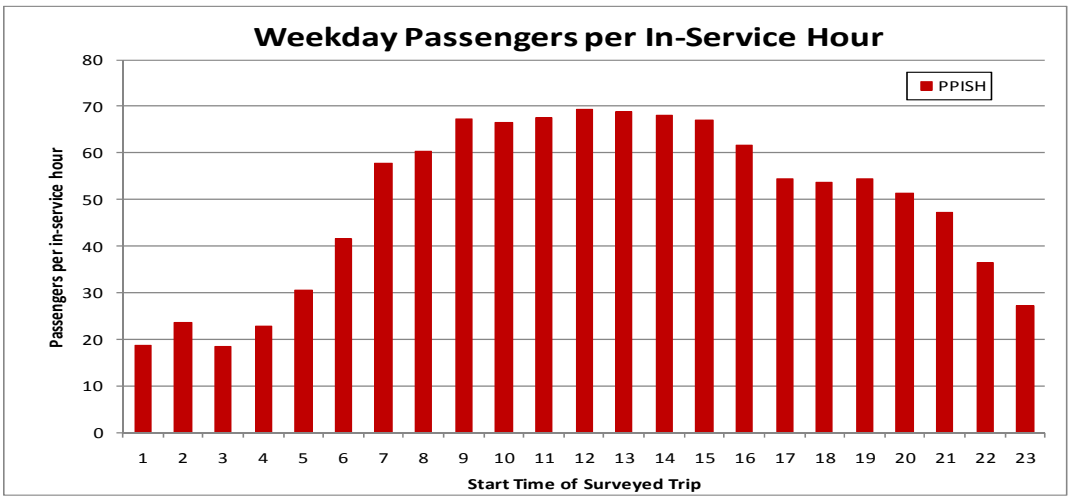


Figure 15a-Chart Passengers per Revenue Hour by Route Weekdays - 2010

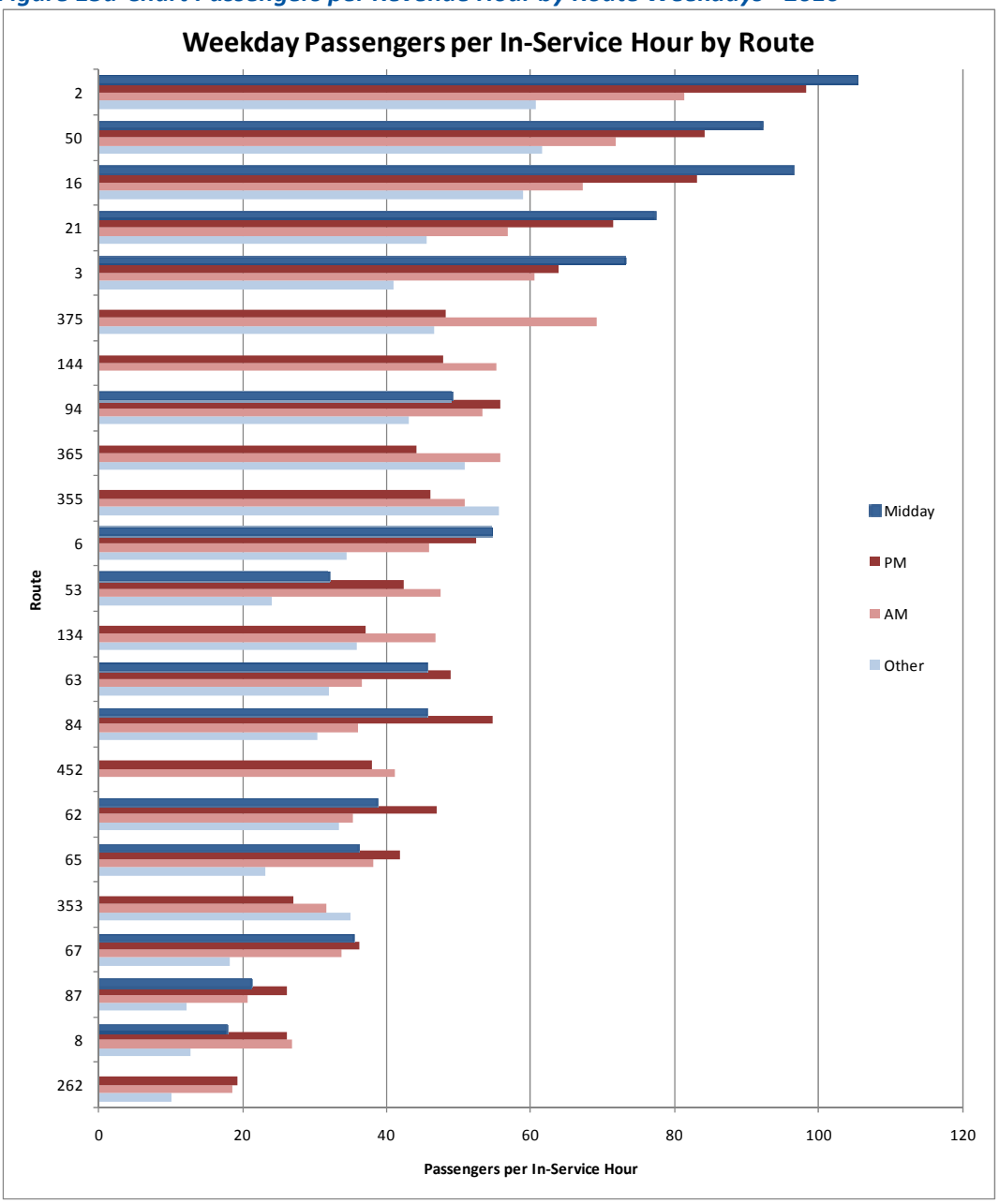
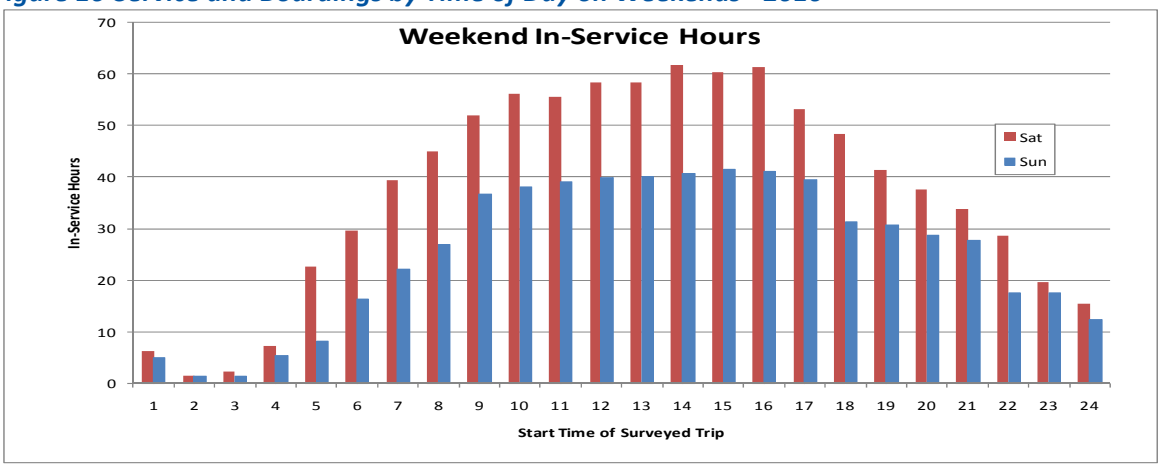
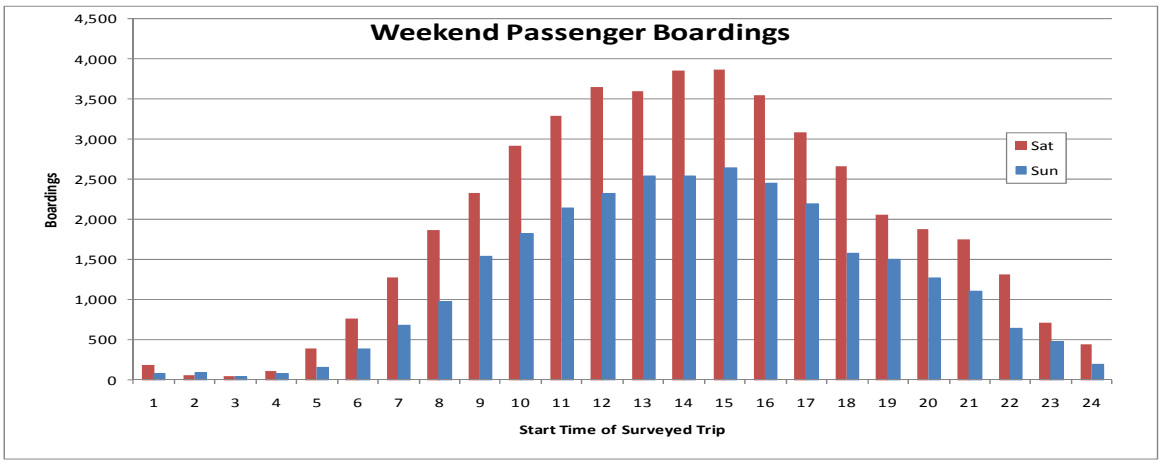


Figure 16-Service and Boardings by Time of Day on Weekends - 2010





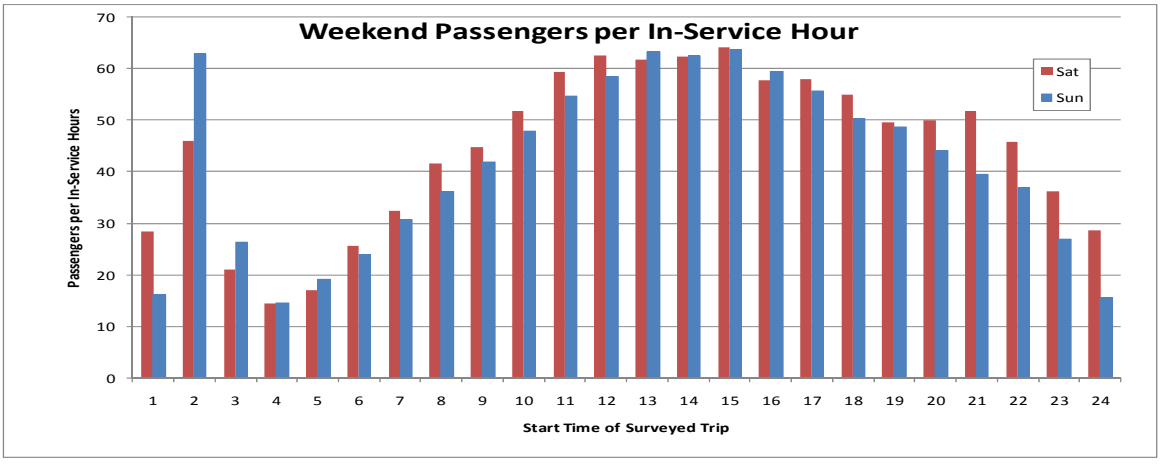
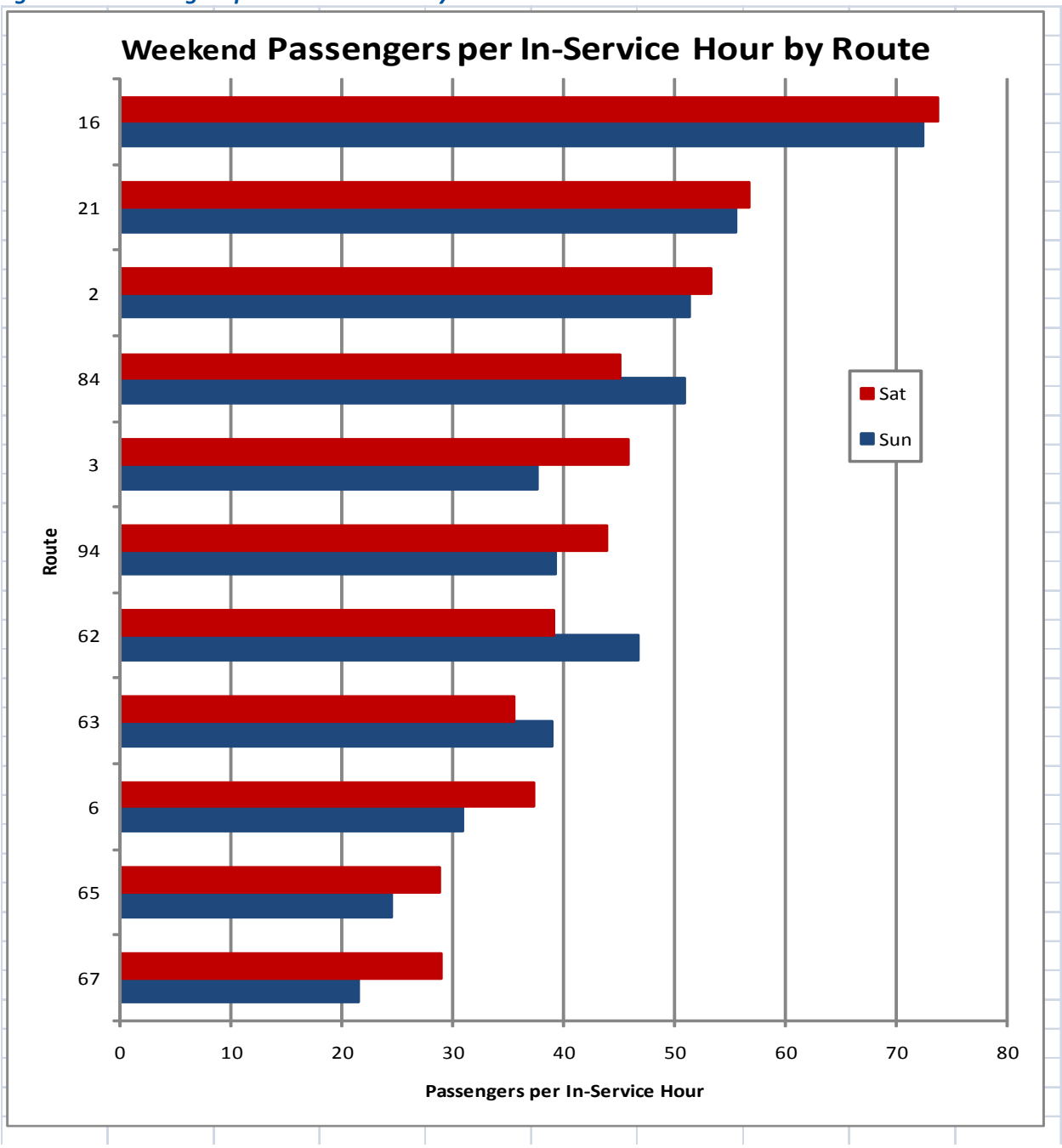


Figure 16a-Passengers per Revenue Hour by Route on Weekends - 2010



BOARDINGS BY ROUTE AND DAY OF WEEK

All day boardings per bus stop on each route for an average weekday, Saturday and Sunday during the survey period are presented in **Figure 18** – Weekday, **Figure 19** – Saturday, and **Figure 20** - Sunday.

Routes are overlaid on the land use / density map to show the correlation between boardings and population and employment densities.

This exhibit shows that University (routes 16, 50), Selby (Route 21), Grand (Route 63) and Snelling (Route 84) avenues, are the highest ridership lines.
The exhibits indicate some very high volume transit routes in the east-west direction along University Avenue and in the north-south direction along Snelling Avenue.

Figure 17-Map of Weekday Ridership

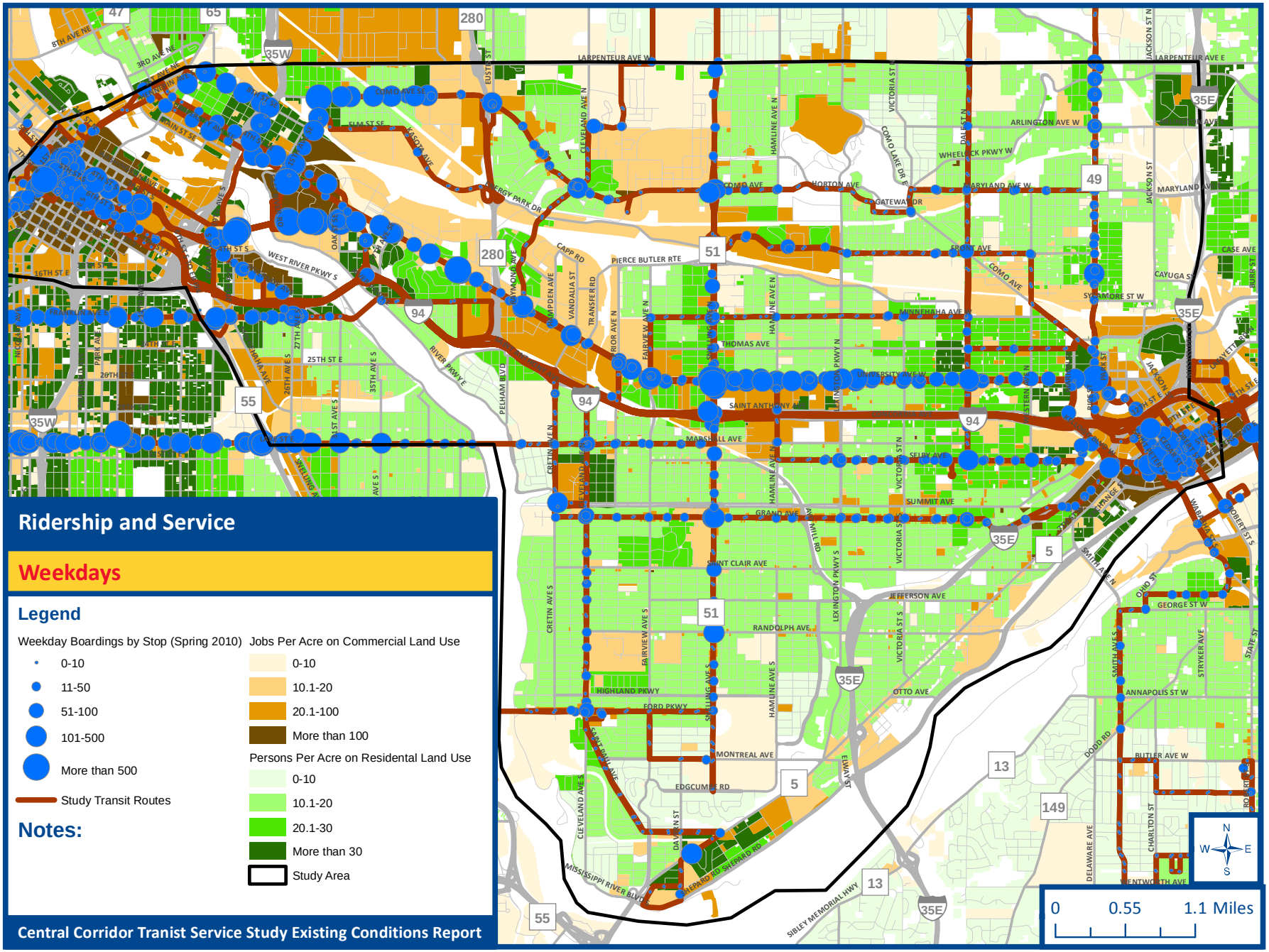


Figure 18-Map of Saturday Ridership

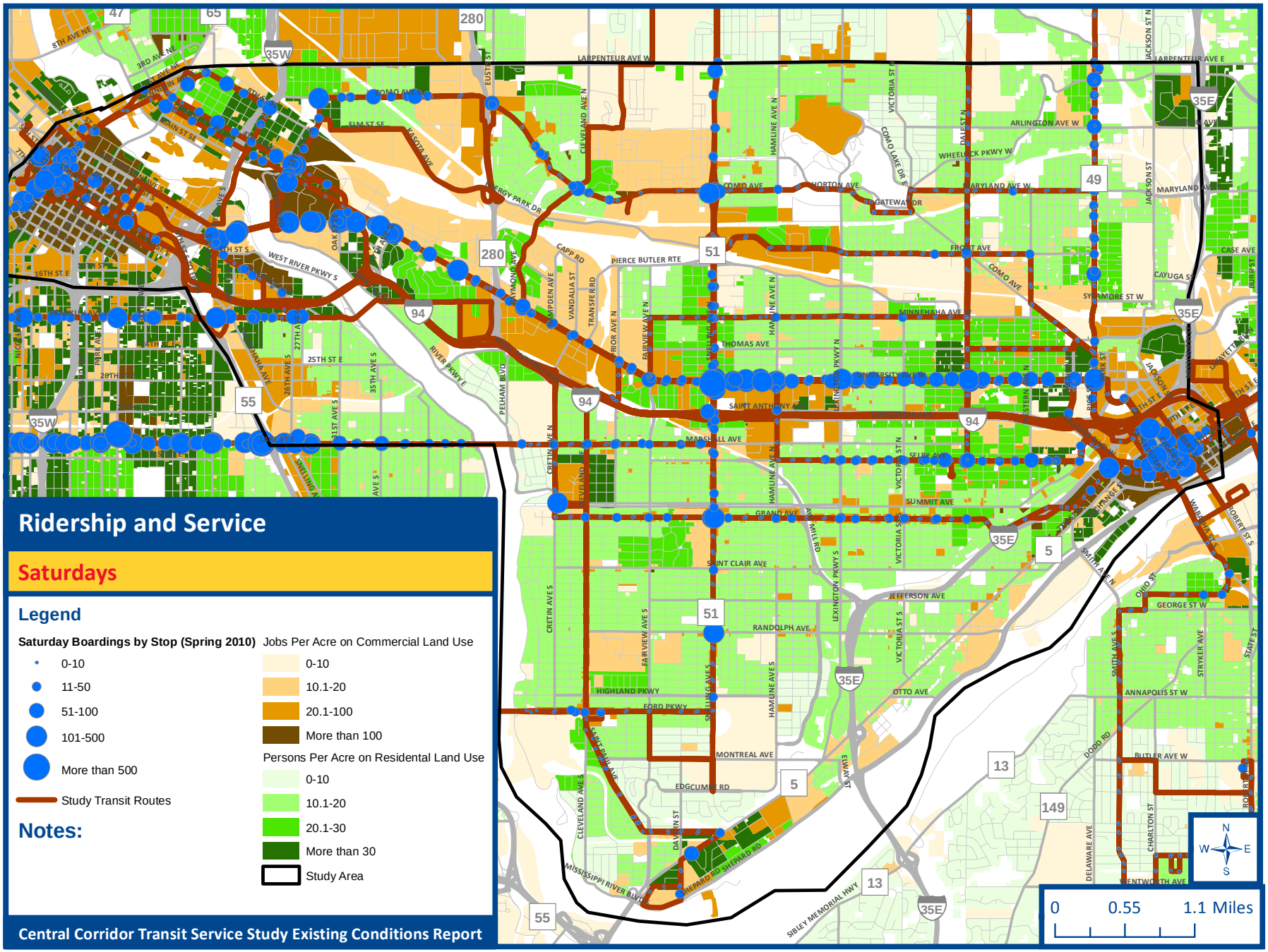
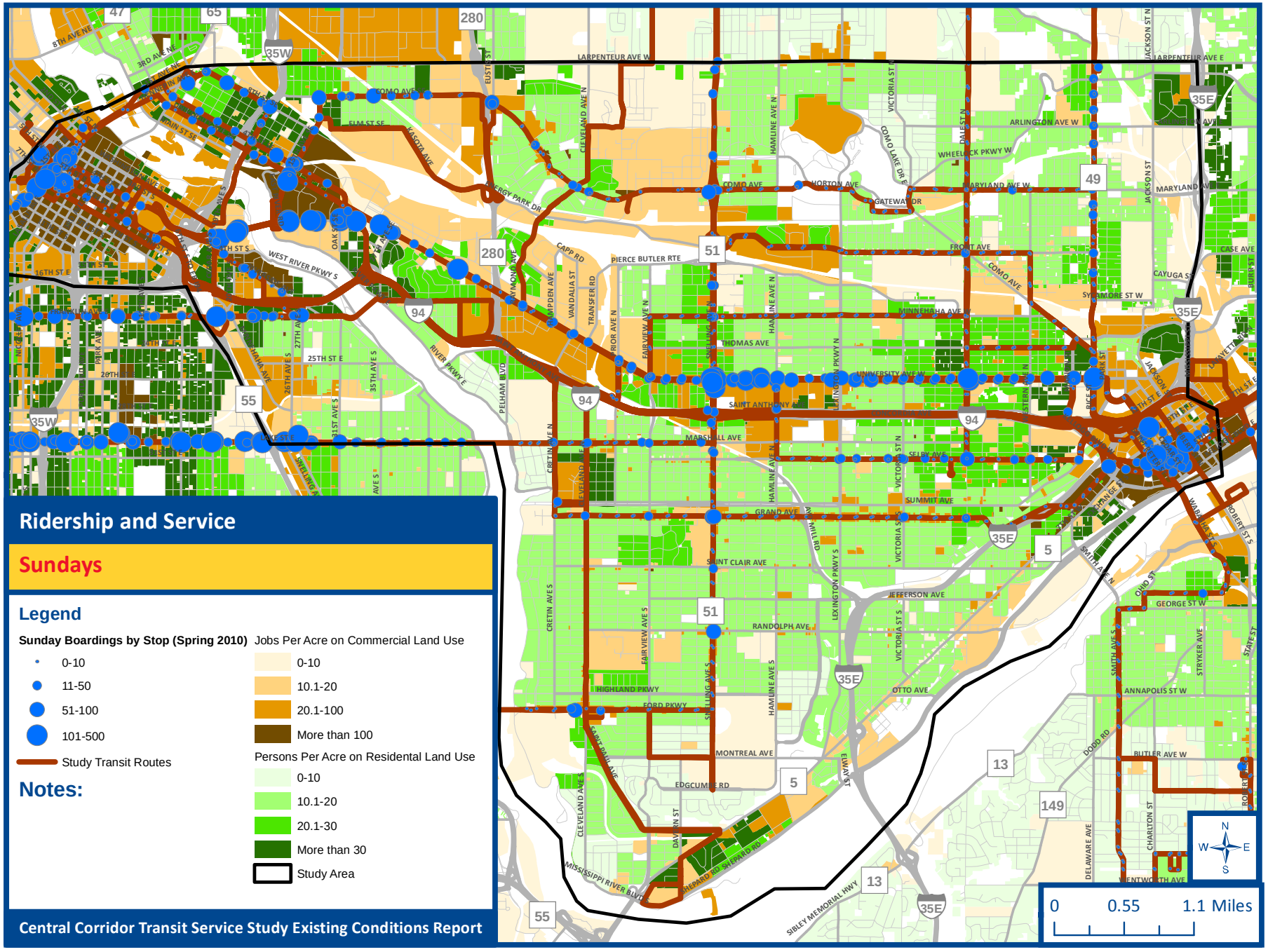


Figure 19-Map of Sunday Ridership



SERVICE PERFORMANCE BY ROUTE

Service performance is summarized for each of the routes on the following pages for the local and express services, respectively. For weekdays, please see **Figure 20**, Saturdays, **Figure** 21, and Sundays, **Figure 22**. The routes are sorted by high performance to low performance in terms of their average passengers per in-service hour.

The values in these tables reflect the service levels and ridership during the winter of 2010. The in-service hours and passengers per in-service hour are calculated for the entire route and not just for the route segment within the Study Area. The passengers per route are the total average Automatic Passenger Counter (APC) counts per day.

Figure 20-Weekday Route performance

Service	Route Type	Route	In-Service Hours	Boardings	PPISH
Weekday					
	Express				
		375	13.8	778	56.25
		94	83.3	4,238	50.89
		365	12.1	596	49.23
		355	20.4	990	48.61
		452	4.8	190	39.51
		353	3.7	117	31.95
	Express Total		138.1	6,909	50.04
	Limited Stop				
		50	88.1	7,227	82.05
		144	8.9	455	51.44
		53	26.8	1,115	41.58
		134	15.7	651	41.57
		262	6.3	110	17.51
	Limited Stop Total		145.7	9,559	65.60
	Local				
		2	103.2	9,040	87.63
		16	218.5	17,037	77.97
		21	218.7	13,972	63.90
		3	177.9	10,857	61.03
		6	198.4	9,238	46.56
		63	101.1	4,190	41.45
		84	93.7	3,879	41.40
		62	38.3	1,468	38.35
		65	37.3	1,320	35.37
		67	55.9	1,743	31.16
		87	31.6	683	21.59
		8	9.3	195	20.96
	Local Total		1,283.9	73,622	57.34
Weekday Total			1,567.7	90,090	57.47

Boardings are the total average of Automatic Passenger Counter (APC) counts per day.

PPISH is the average Passengers per In-Service Hour.

Figure 21-Saturday Route performance

Service	Route Type	Route	In-Service Hours	Boardings	PPISH
Saturday					
	Express				
		94	31.6	1,384	43.84
	Local				
		16	164.4	12,123	73.76
		21	211.8	12,012	56.72
		2	65.5	3,491	53.27
		3	68.8	3,150	45.78
		84	74.9	3,379	45.08
		62	27.5	1,074	39.03
		6	150.8	5,629	37.31
		63	69.9	2,480	35.48
		67	22.3	645	28.96
		65	9.0	259	28.81
	Local Total		865.0	44,243	51.15
Saturday Total			896.5	45,627	50.89

Figure 22-Sunday Route performance

Service	Route Type	Route	In-Service Hours	Boardings	PPISH
Sunday					
	Express				
		94	22.9	899	39.29
	Local				
		16	106.9	7,729	72.30
		21	144.6	8,025	55.49
		2	53.4	2,744	51.36
		84	36.4	1,850	50.87
		62	11.1	516	46.72
		63	29.7	1,154	38.85
		3	58.2	2,182	37.51
		6	123.1	3,809	30.93
		65	5.7	139	24.47
		67	17.0	365	21.40
	Local Total		586.1	28,513	48.65
Sunday Total			609.0	29,412	48.30

Boardings are the total average of Automatic Passenger Counter (APC) counts per day.

PPISH is the average Passengers per In-Service Hour.