

Technical Memorandum:

South Portland Bus Service (SPBS) Passenger On/Off Survey



Prepared by:
Greater Portland Council of Governments

In Cooperation with:
South Portland Bus Service (SPBS)

Prepared for:
**South Portland Bus Service (SPBS)
Portland Area Comprehensive Transportation Committee (PACTS)
Maine Department of Transportation (MDOT)**

September, 2006

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SOUTH PORTLAND BUS SERVICE ON/OFF PASSENGER SURVEY 2005

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A. INTRODUCTION

Overview

Every two years, the Greater Portland Council of Governments (GPCOG) conducts the On/Off Passenger Survey on behalf of the South Portland Bus Service (SPBS). The On/Off Survey counts the number of persons boarding and alighting a South Portland bus and derives from these counts other useful bus route and stop information. One example is average bus trip length in passenger miles, which is required for reporting to the Federal Transit Administration.

The survey is historically known as the “Brown Sheet Survey”, named after brown-colored spreadsheets displaying the results of the early surveys. The GPCOG Transportation Planning Division conducts the On/Off Survey as part of its role to provide planning assistance to the public transit operators in the region.

Purpose

The purpose of the survey is twofold:

- 1) to prepare an estimate of system-wide passenger miles for federal reporting requirements, and
- 2) to provide stop-frequency data for planning passenger amenities such as bus shelters, bus stops and information kiosks.

Methodology

The On/Off Survey is generally conducted in April, which is considered to be a typical month for transit ridership. The survey requires about 72.5 on-bus personnel hours to cover the entire SPBS system. Staff positions are filled by GPCOG staff as well as temporary personnel. The survey is conducted in conjunction with the METRO On/Off survey to optimize the effort necessary to collect data.

Each run on each route is surveyed once during the course of the survey. Data gathering is scheduled into roughly four-hour blocks allowing surveyors to work up to two “jobs” per day with a break in the middle. Weekday and Saturday routes are treated as independent routes in the survey. Appendix A contains maps for each route of the SPBS system. Appendix B contains a copy of a SPBS route schedule.

Survey staffers ride the SPBS buses and count the persons boarding and departing at each stop for an entire route day. While every effort is made to collect data on every run, occasionally a few trips get lost or “dropped”. This does not appreciably affect the total outcome. This information is collected and marked on a survey sheet designed specifically for each bus and route. Exhibit I shows a portion of a completed sample survey sheet with an explanation of the sheet design. A copy of an entire blank survey form can be found in Appendix C.

Exhibit I Sample Completed SPBS On/Off Staff Survey Form

2001 SPBS ON/OFF SURVEY OF ROUTE 1: WILLARD SQUARE			
WEEKDAY SERVICE			
TRIP SEQUENCE		Out: 7:10 AM	
DIRECTION		In: 7:40 AM	
Bus 101	SCHEDULED TIME		
BUS STOPS		ON	OFF
PASSENGERS ALREADY ON			3
HIGH & CONGRESS	HARMON'S FLORIST	I	
536 CONGRESS	OLD 5 & 10		
MONUMENT SQUARE	BUS SHELTER	III	
CASCO BANK	POLE # 557		
TEMPLE & FEDERAL	POLE # 8		
TEMPLE, FREE, STANING	POLE # 2		
CROSS & FORE	POLES #18, 19		II
GLOBE'S RESTAURANT	POLE # 1/2		I
75 YORK STREET	MID-BLOCK		
PASSENGERS REMAINING			1
Next Scheduled Trip			7:54 AM

The SPBS On/Off Survey directly collects two main statistics: boardings (a.k.a. “Ridership, “Ons” or “Number of Passengers”) and departures (a.k.a. “Alightings” “Offs”). The boarding/departure information is entered into a Microsoft Excel Spreadsheet that automatically calculates passenger mileage and other summary information. Passenger mileage information is calculated exclusively from the On/Off Survey data, and describes total bus ridership in terms of distance or passenger miles (i.e., five people riding a bus for one mile = five passenger miles).

Since 1999, using GPCOG's Geographic Information Systems (GIS) capabilities, the Mapping Department was able to plot each stop and measure the distance between them to the nearest one hundredth of a mile. These distances are utilized in the spreadsheet calculations and updated whenever there are changes to the routes. It is anticipated that this detailed mapping will have many more uses as SPBS embarks on Intelligent Transportation System (ITS) applications for transit.

Route passenger mileage is the summation of the passenger mileage at the individual stop. It should be noted that “passenger mileage” is an aggregate statistic, and thus does not describe riding characteristics of any individual passenger.

Although the On/Off Survey provides merely a “snapshot” of route characteristics for the day the survey is conducted, there is a strong correlation between the route ridership distributions of the On/Off survey and the actual “fare box” ridership counts for the same time period.

B. SUMMARY ON/OFF SURVEY RESULTS *

Boardings/Departures - On/Off System-wide Totals vs. Monthly Fare-Box Totals

The primary set of system-wide descriptive statistics collected by the On/Off Survey is passenger boardings. Departures are the natural counterpart to passenger boardings, but because departures are roughly equivalent to boardings, reporting both sets of data is redundant in most cases. The departure data can be used to identify high use stops in the system when coupled with the boarding locations.

The On/Off Survey counted 854 total boardings during the sample period. Exhibit II displays ridership distributions by route comparing it to actual farebox ridership counts for the same period. Overall ridership for the month of April decreased by 3% over the same period in 2003. The distribution of ridership among routes for the 2005 survey remained within 3% of that for 2003. The actual number of boardings for the month in 2005 increased by 2%, (Route One), increased by 11%, (Route Three) and decreased by 6%, (Route Four), compared to 2003.

Tables comparing the last two surveys are in Appendix D.

*Monthly fare-box Ridership information provided by the South Portland Bus Service (SPBS).

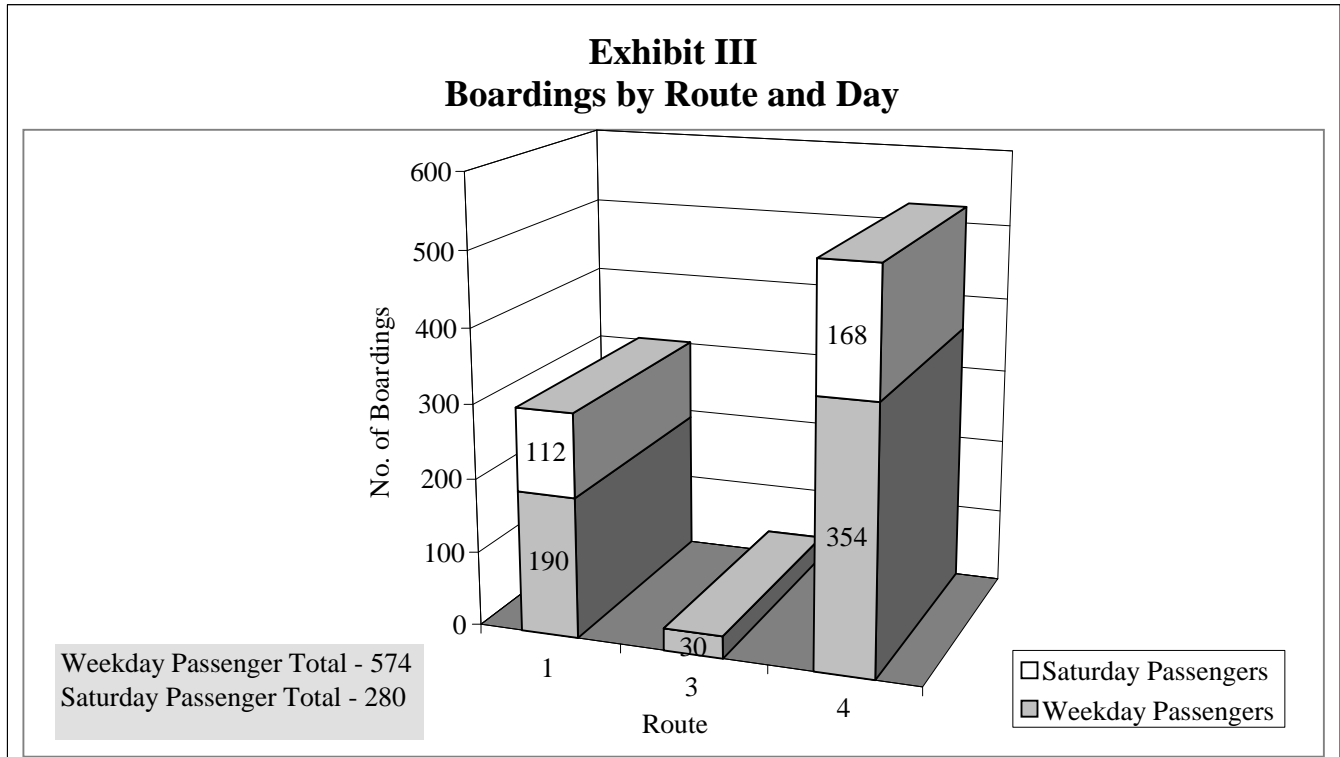
Exhibit II				
SPBS Actual Boardings Compared to On/Off Boardings				
SPBS Actual Boardings April 2005			On/Off Survey Totals	
Route	Actual Ridership	Percentage	Survey Ridership	Percentage
1	4,642	32%	302	35%
3	1,237	8%	30	4%
4	8,846	60%	522	61%
Total	14,725	100%	854	100%

The distribution of ridership by route reported in the On/Off Survey is similar to actual monthly ridership distributions, but not as close as in previous surveys. Route Four – *Maine Mall* has the highest ridership in the On/Off survey with 522 boardings (61% of the total ridership of the On/Off Survey), followed by Route One – *Willard Square* with 302 boardings (35%). The farebox totals for the survey period show Route Four as having the highest ridership at 60%, and Route One with the second highest ridership at 32%. Route Three - *Cross-town* has the lowest ridership for both the On/Off Survey (30 boardings or 4%) and the lowest farebox totals at 8%.

* For summary tables of the SPBS On/Off Survey Results, see Appendix F - Summary Tables
SPBS Passenger On/Off Survey Technical Memorandum

Boardings/Departures - On/Off Totals by Route and Day

Like the farebox totals collected by SPBS, the On/Off Survey separates weekday, and Saturday routes to show differences in route characteristics by day. Exhibit III displays the distribution of boardings by route for the On/Off Survey as in Exhibit II, but goes further to show how the different days of the week contribute to total route ridership.



Reminder: The weekday category describes cumulative data for only one weekday during the week and not the aggregation of all weekdays during the week. This standard applies to daily data in the On/Off survey.

Exhibit III displays passenger boardings by route in the following descending order: Route Four (354), One (190) and Three (30). While the actual farebox totals vary slightly, this chart plainly shows Routes Four and One hold a much larger proportion of the total system ridership than Route Three.

Only Routes One and Four offer Saturday service. Saturday boardings are approximately one half that of weekday boardings on both routes. This is roughly corroborated by the fare box counts.

Higher weekday ridership may be partially attributed to commuters, but fewer runs over a shorter operating day on Saturday also account for the lower number of boardings. Route Four services the Maine Mall Area of South Portland (see Appendix A - Route Maps), and higher Saturday ridership on that route is indicative of Saturday shoppers.

Exhibit IV
Percentage of Weekday Boardings by Route

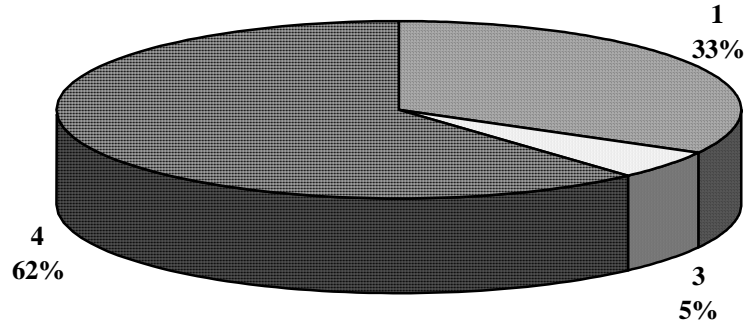
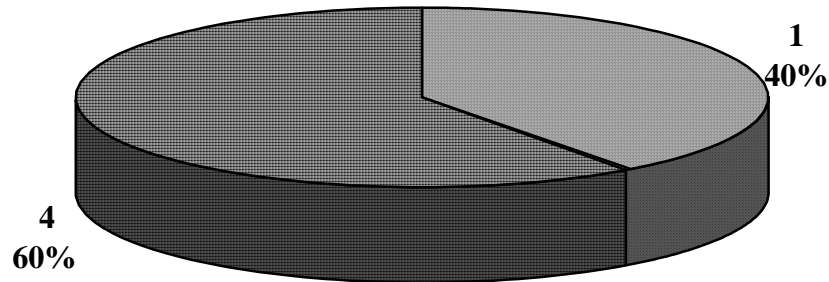


Exhibit V
Percentage of Saturday Boardings by Route

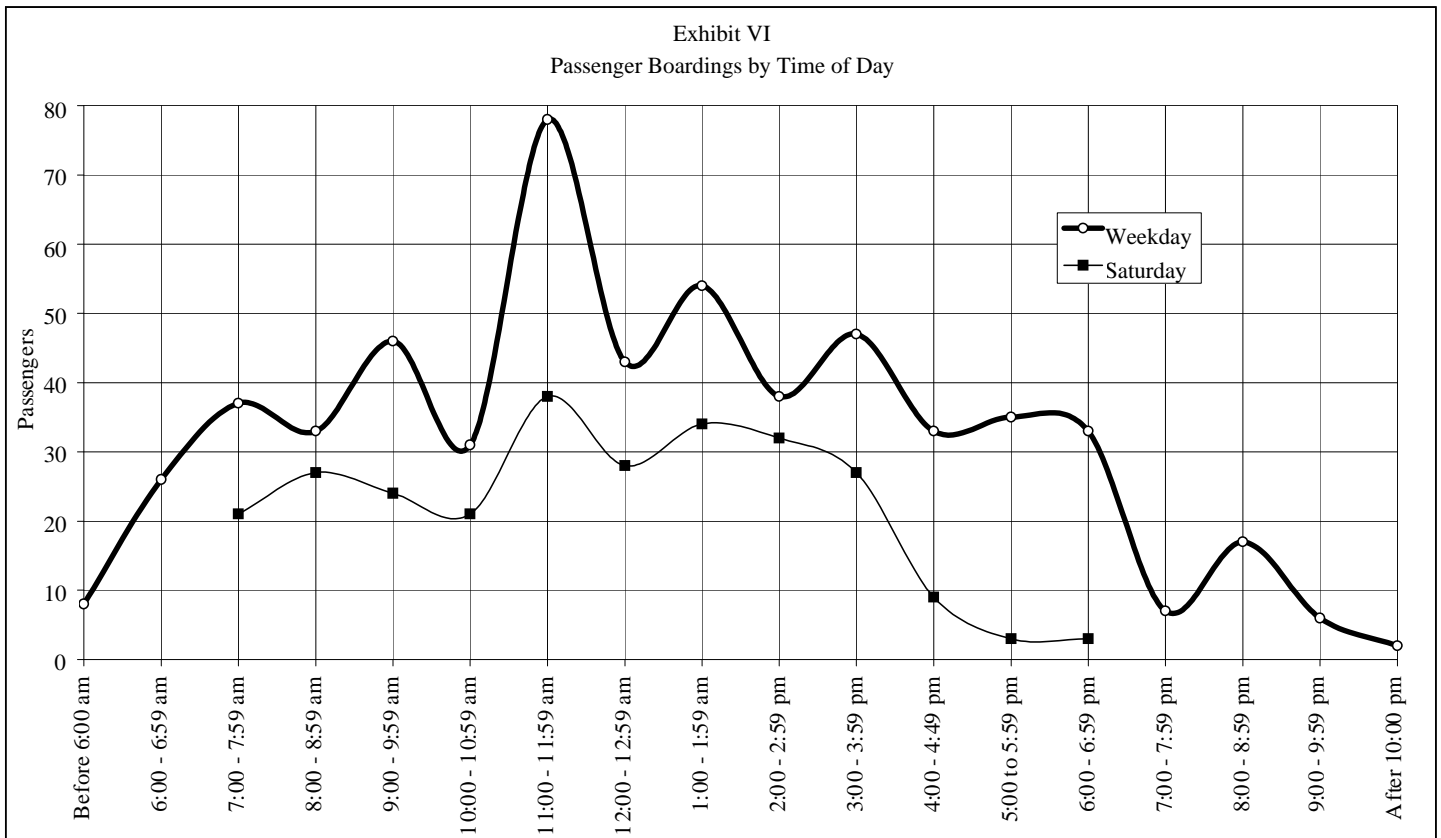


Exhibits IV and V isolate weekday and Saturday boardings to highlight distribution patterns attributable to weekday/weekend variations.

The boarding distribution of weekday routes (Exhibit IV) and Saturday routes (Exhibit V) are both similar to the total boarding distributions shown in Exhibit II.

Passenger Boardings by Time of Day

Exhibit VI displays passenger boardings by time of day. Passenger boardings for the routes of the SPBS transit system are combined and divided into their hourly components to show boarding trends within the daily ridership (for Passenger Boardings/Departures by Time of Day for the Individual Routes, see Appendix E). Boarding times are not actual, but are determined by the starting time of their corresponding outbound or inbound trip.

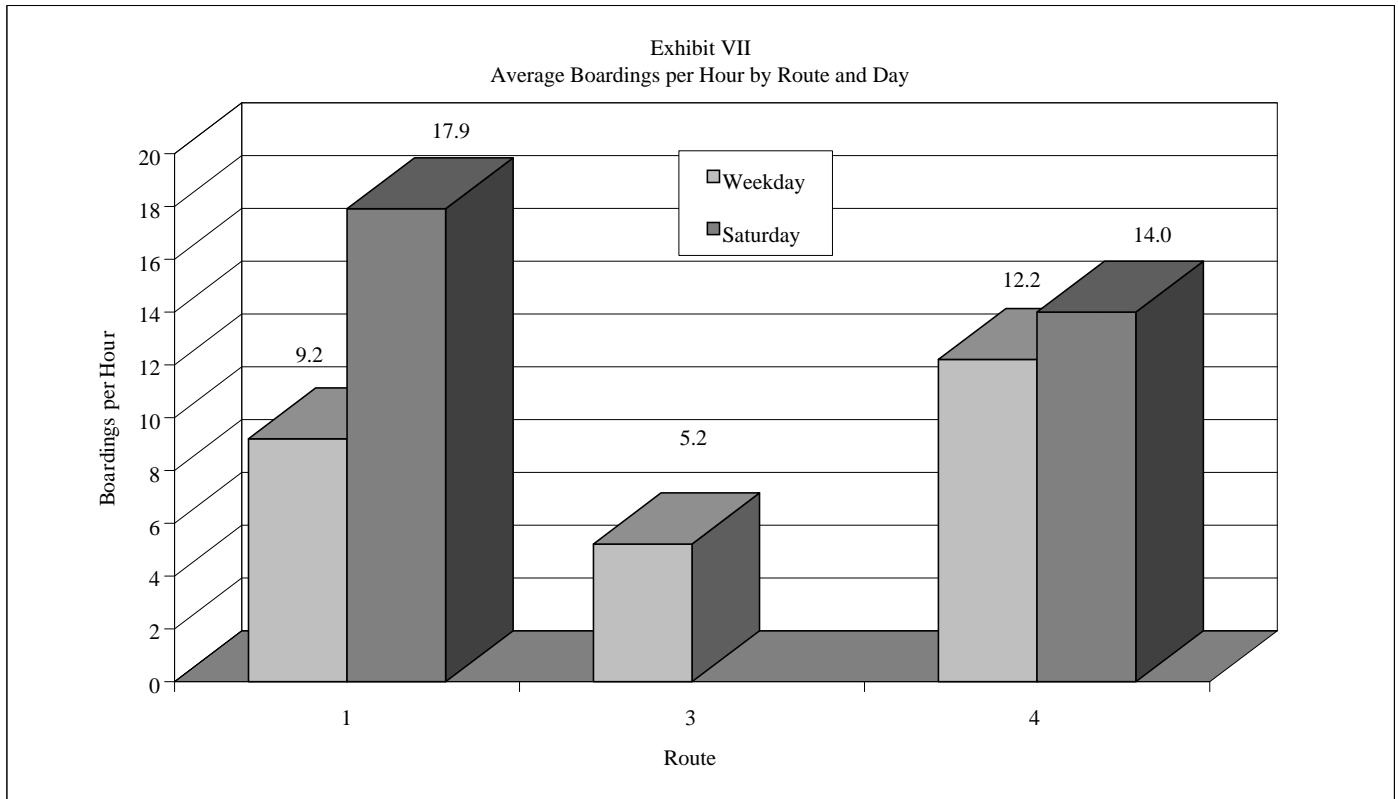


Several properties of Exhibit VI are different from previous years. The weekday morning peak has generally been earlier, more pronounced and of similar magnitude as the afternoon peak. And, the post rush hour drop has tended to flatten out more quickly. Similarly the highest weekday peak is not late in the afternoon, as in previous years, rather it is concentrated to the morning commuter rush.

Saturday boardings are similar to previous years in that they are flatter and more consistent throughout the day, unlike 2003. Charts showing weekday and Saturday boardings by time of day for each route may be found in Appendix E.

Boardings per Hour

Another way to examine bus-boarding statistics is to divide the number of persons riding the bus by the total hours of bus service. Some bus routes appear to have more boardings because they have more buses in operation or longer service hours. Calculating boardings per hour is a way to describe the concentration of ridership, holding constant for differences in number of buses and service hours. In other words, 5 bus hours can mean one bus operating five hours or 5 buses operating one hour. If the total number of passengers is 50, the average number of boardings per hour is 10.

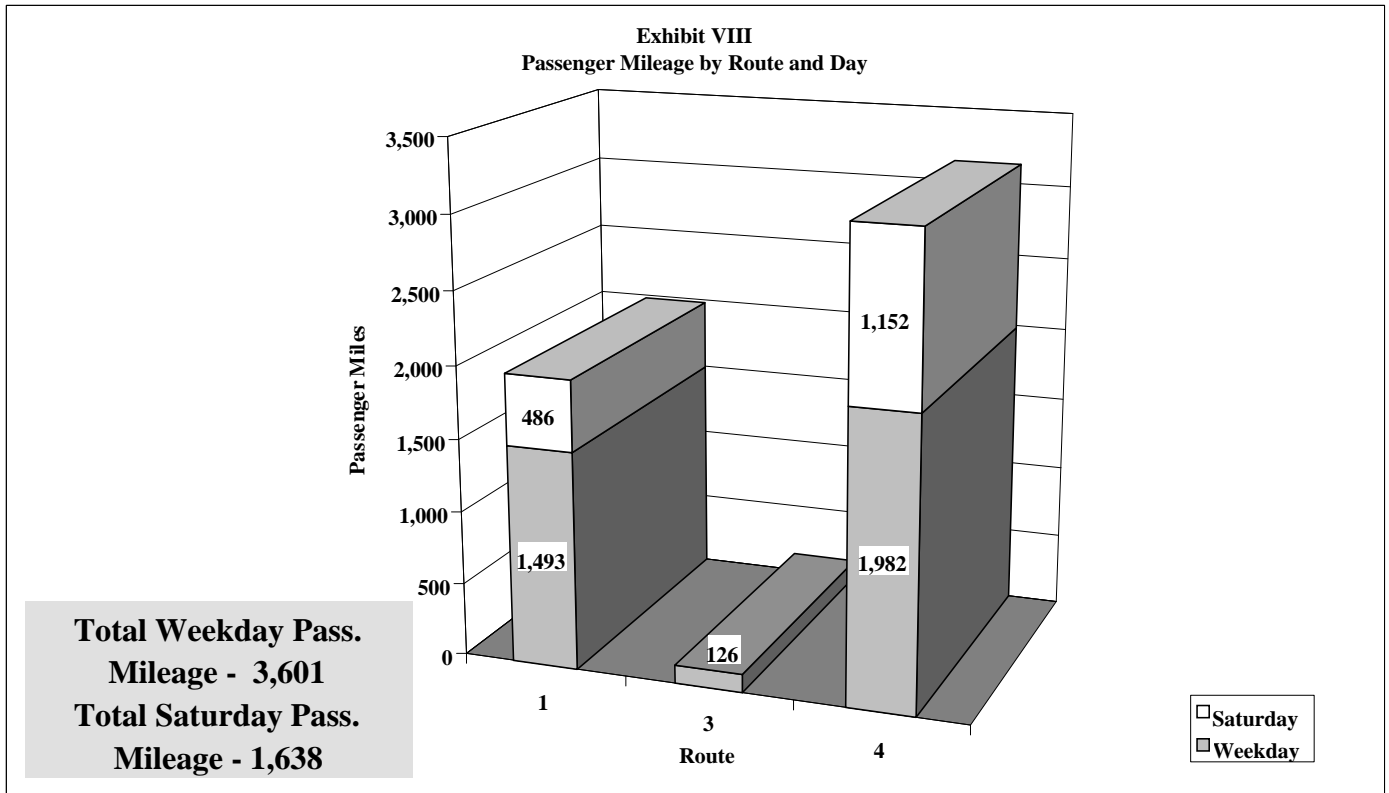


Route Four's high weekday ridership rates (Exhibits II & III) are echoed by its high concentration of passengers (Exhibit VII). Route One weekday has the second highest concentration of passengers at 9.2 passengers per hour. Route Three weekday appears to have a relatively low concentration of riders even with its minimal bus hours.

Saturday boardings per hour are remarkably higher than on weekdays. Recall that Saturday boardings are roughly half that for weekdays, however bus hours are reduced to nearly one-third. In fact, one bus operates both routes on Saturday, switching back and forth. So, the concentration of riders is greater.

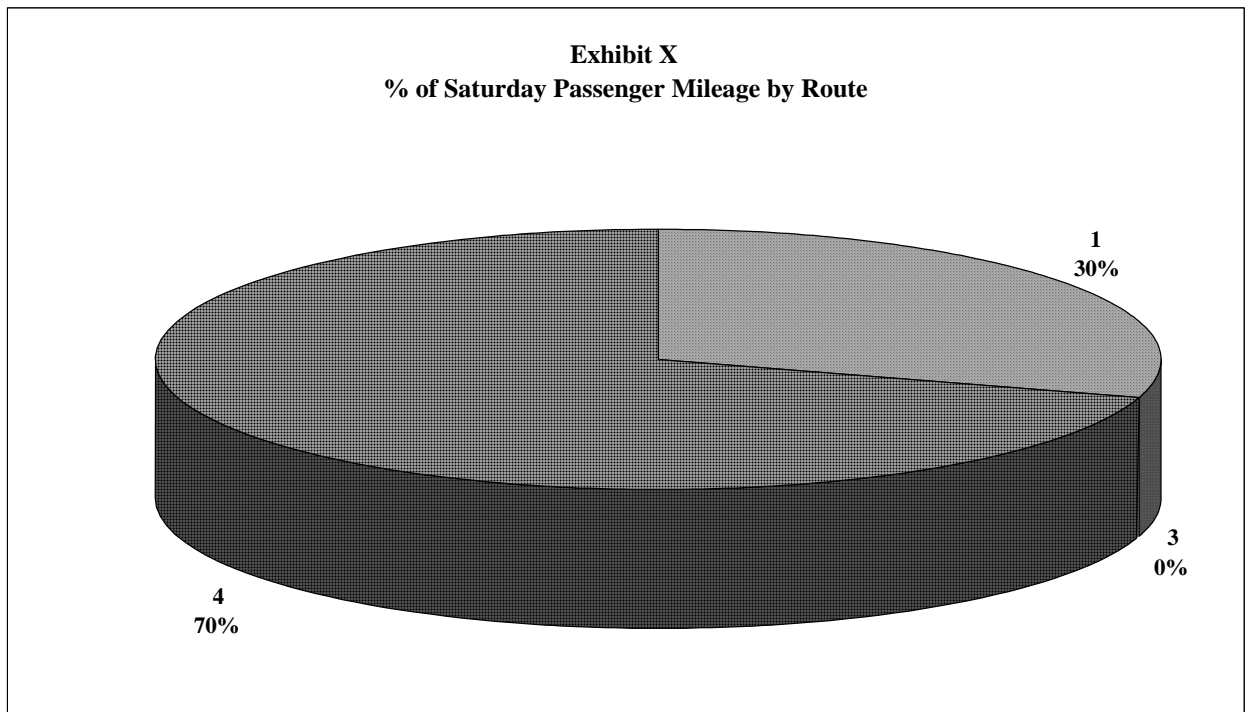
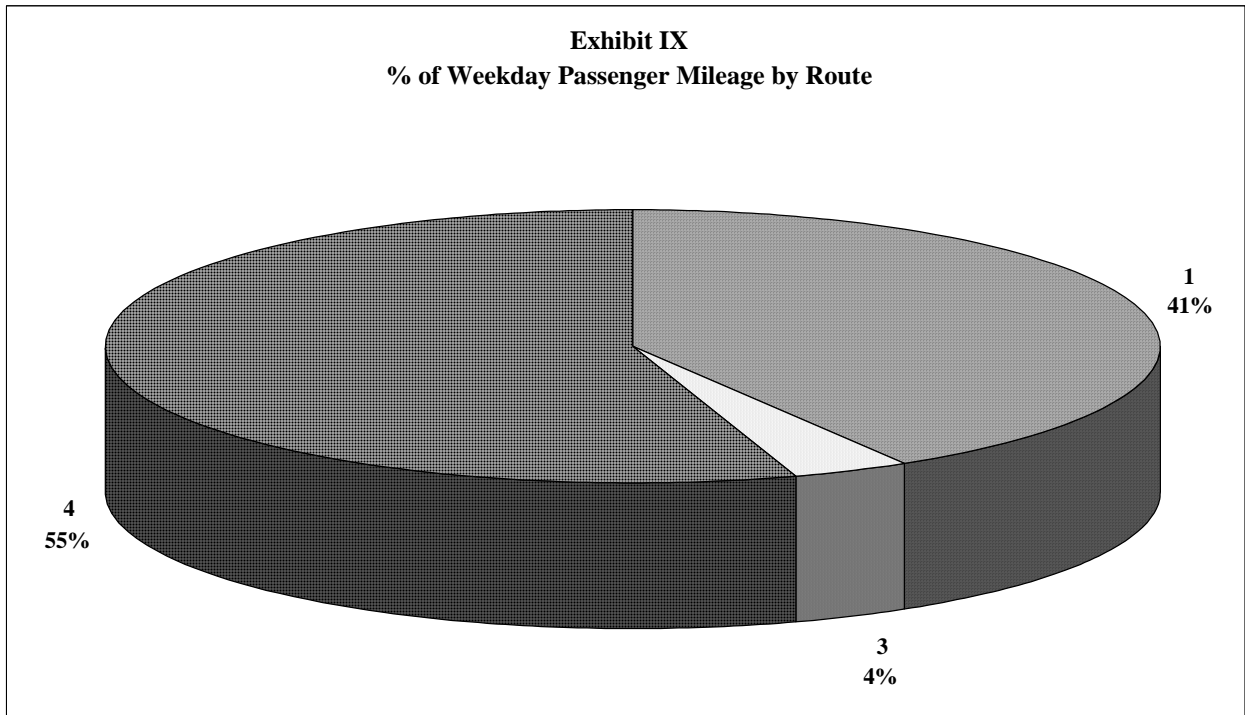
Passenger Mileage

Passenger miles are the sum total of passengers multiplied by the total miles operated while they are on the bus. Exhibit VIII shows passenger mileage by route and day.



The distribution of passenger mileage follows a pattern similar to boardings. Route Four has the highest total passenger mileage (3,134), followed by Route One (1,979), and Route Three (126). Weekdays constitute 69% of all passenger mileage, while Saturdays constitute 31%. Route Four weekday has the greatest passenger mileage of any per day route (1,982), followed by Route One weekday (1,493), and Route Four Saturday (1,152).

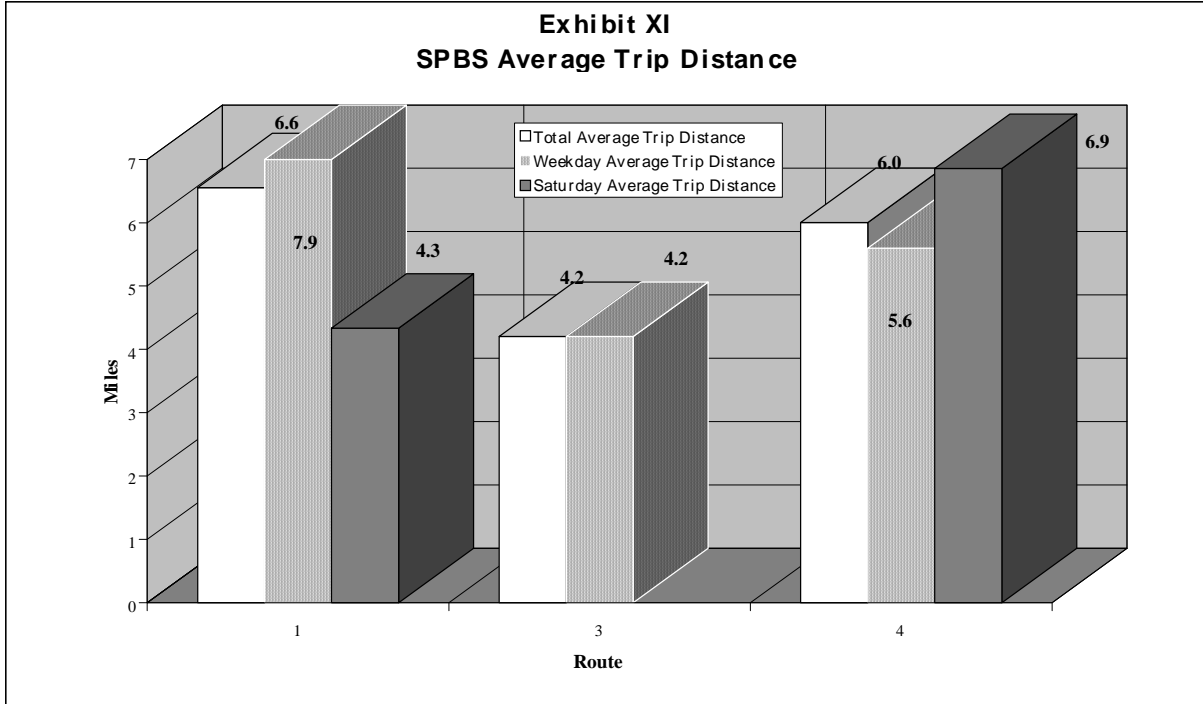
Exhibits IX and X isolate weekday and Saturday passenger mileage to highlight distribution patterns attributable to weekday/weekend variations.



Route Four comprises the largest percentage of both weekday and Saturday passenger miles.

Average Trip Distance:

Average trip distance is obtained by dividing each route’s passenger mileage by the number of passengers (i.e. boardings). The average passenger trip distance describes the distance the average passenger travels on that route.



As shown in Exhibit XI, some routes have longer or shorter average trips, a byproduct of general trip geographical characteristics. Route One has the longest average passenger trip distance (6.6 miles) for all days combined (total average trip distance). Route One also has the longest weekday average trip distance (7.9 miles). Route Four, however, has the longest Saturday trip distance (6.9 miles.)

The distinction should more properly be given to the routes with the lowest average trip distances since those are more productive.

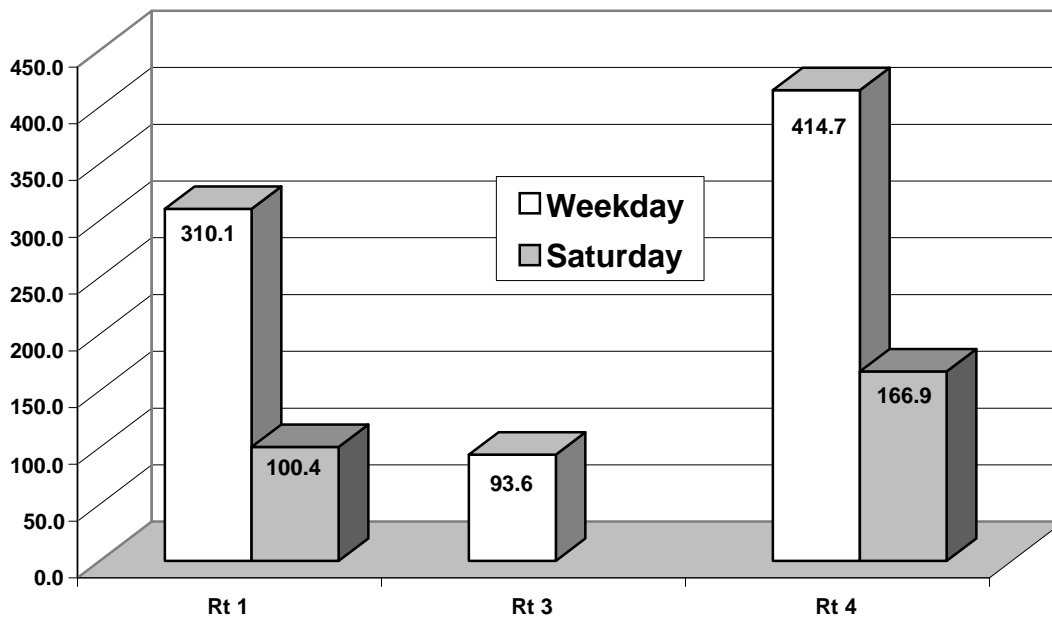
Exhibit XII SPBS Maximum Roundtrip		
Route	Weekdays	Saturdays
1	15.44	11.8
3	22.28	-
4	29.49	22.5

Productivity Metrics:

Operating data such as equipment movement and intensity and duration of service are plotted to form the basis for calculations that integrate boarding statistics. A peak and base period summary of each route as well as a condensed summary table of these statistics may be found in Appendix H.

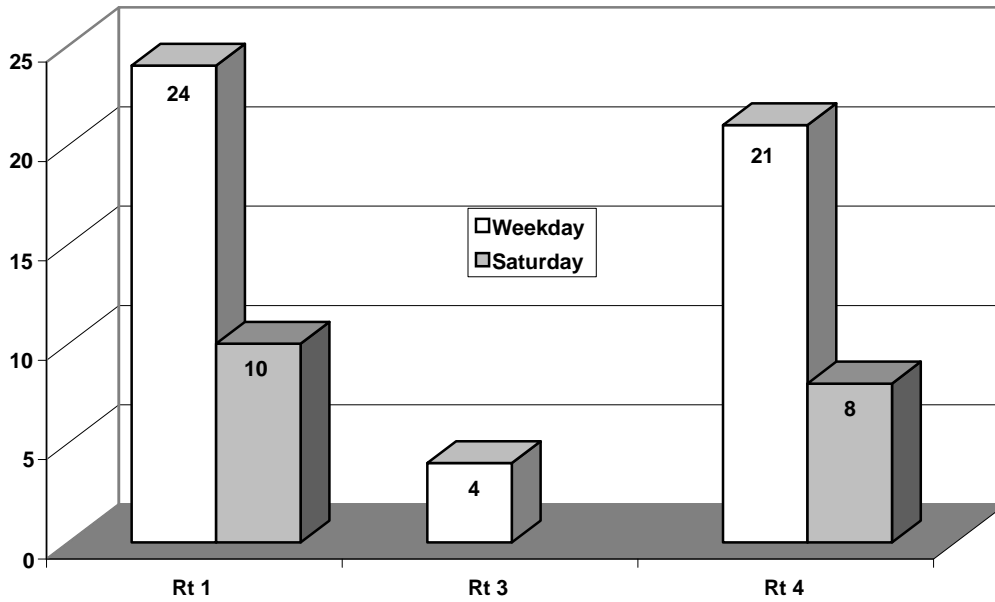
One basic metric is the daily trip miles traveled on each route. Since buses generally travel different deviations of the route throughout the day, there are different trip lengths. The sum total of these route deviations makes up the daily trip miles. These numbers will be used to calculate the number of boardings per mile. Weekday and Saturday trip miles appear in Exhibit XIII below.

Exhibit XIII Daily Trip Miles



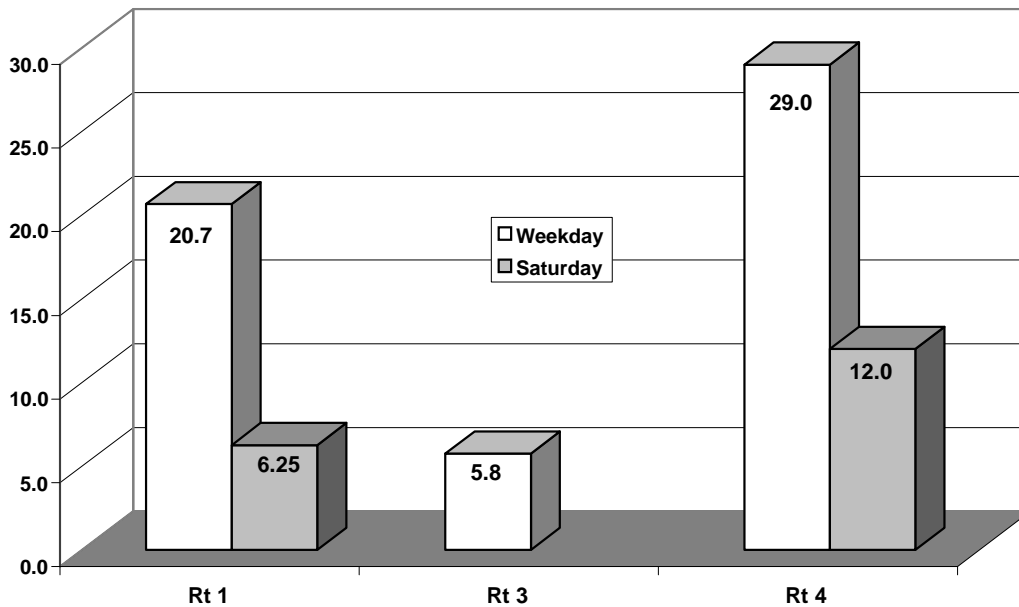
The daily number of bus trips on each route is another operational statistic that is used for deriving the average number of boardings per trip. Exhibit XIV displays the number of daily trips on each route.

Exhibit XIV Daily Trips



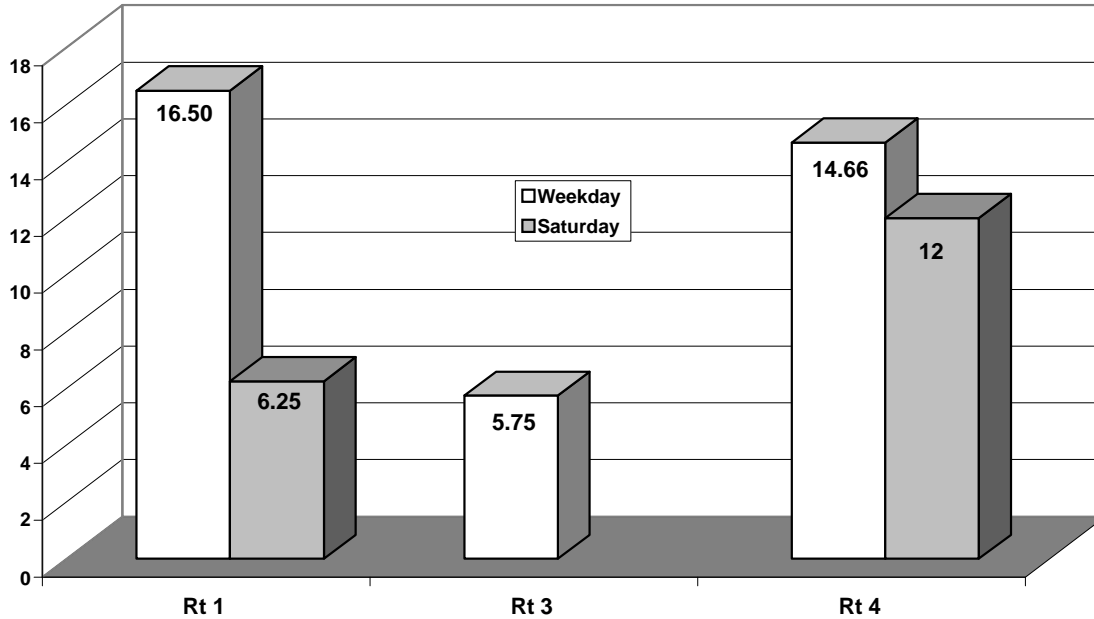
Finally, there are the total daily trip hours (or bus hours) on each route. Since some routes have more than one bus operating at the same time, the revenue operating hours for each bus deployed on the route are combined to produce the Daily Trip Hours - Exhibit XV. Daily trip hours were already used to calculate the average number of boardings per hour in Exhibit VII.

Exhibit XV Daily Trip Hours



As a comparison, the Daily Service Hours (the number of hours the route is serviced), are displayed in Exhibit XVI.

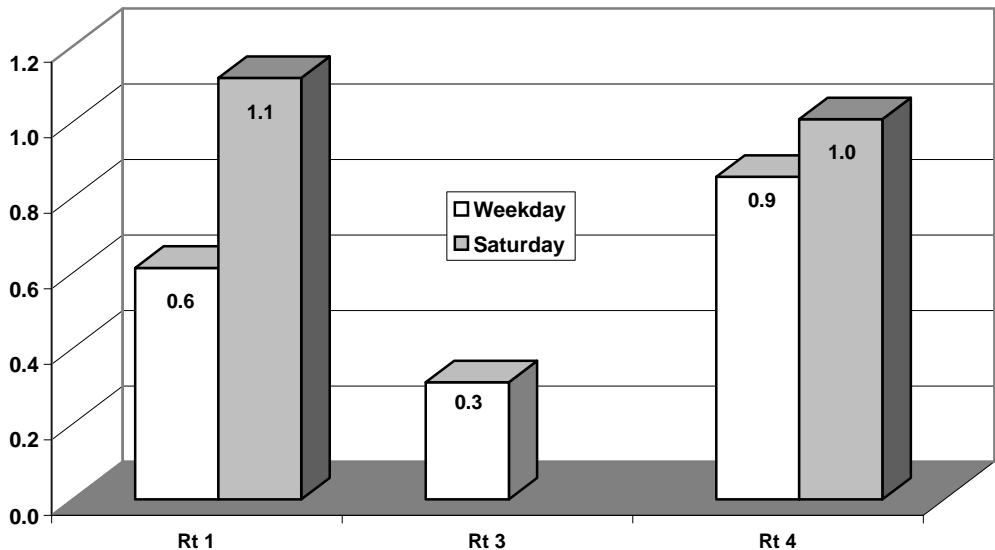
Exhibit XVI Daily Service Hours



Using these baseline operational figures, some very simple metrics may be produced which are useful for comparing the productivity of routes compared with one another in the system. It should be noted that these metrics are not intended for comparison with routes in other systems.

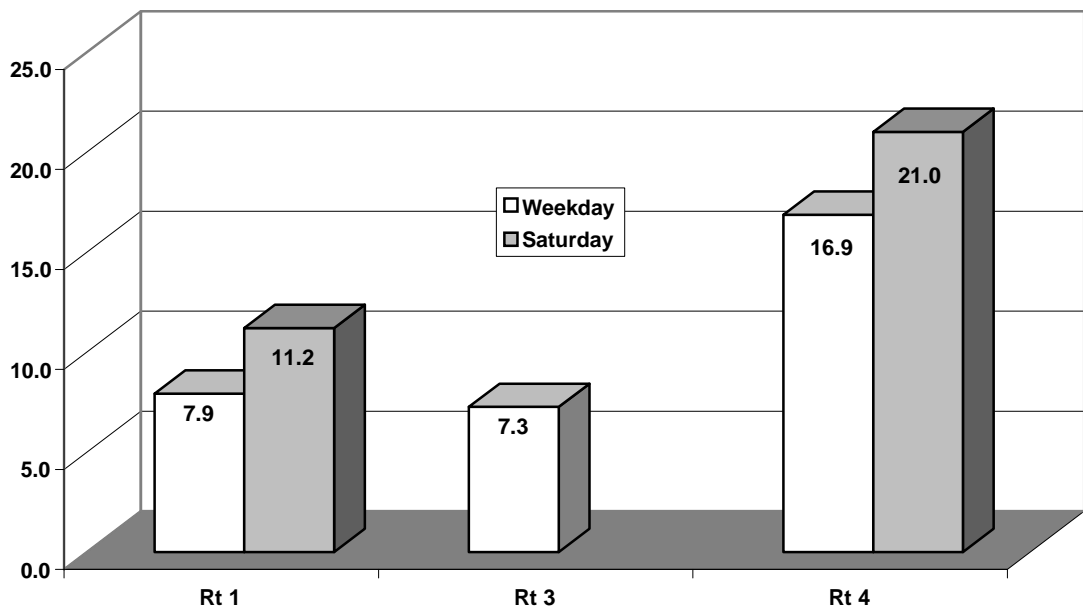
Passengers per mile or boardings per mile are calculated by dividing the total number of boardings for the day by the daily trip miles for each route. The higher the number, the more productive the route is. Boardings per mile statistics are shown in Exhibit XVII.

Exhibit XVII Boardings per Mile



Another way to look at the data is to calculate the average daily boardings per trip. Total boardings per route divided by the number of runs on that route per day equals boardings per trip. Exhibit XVIII displays this metric.

Exhibit XVIII Average Boardings per Trip



The most obvious conclusion derived from looking at these data and the boardings per hour (Exhibit VII) is that productivity on Saturday is significantly greater than on weekdays. The level of effort on weekdays, whether measured by trips, miles or hours, is more than twice the effort on Saturdays for both Routes One and Four. There are only about half as many total boardings on Saturdays but each trip is used more intensively. Note that Route Three does not operate on Saturdays.

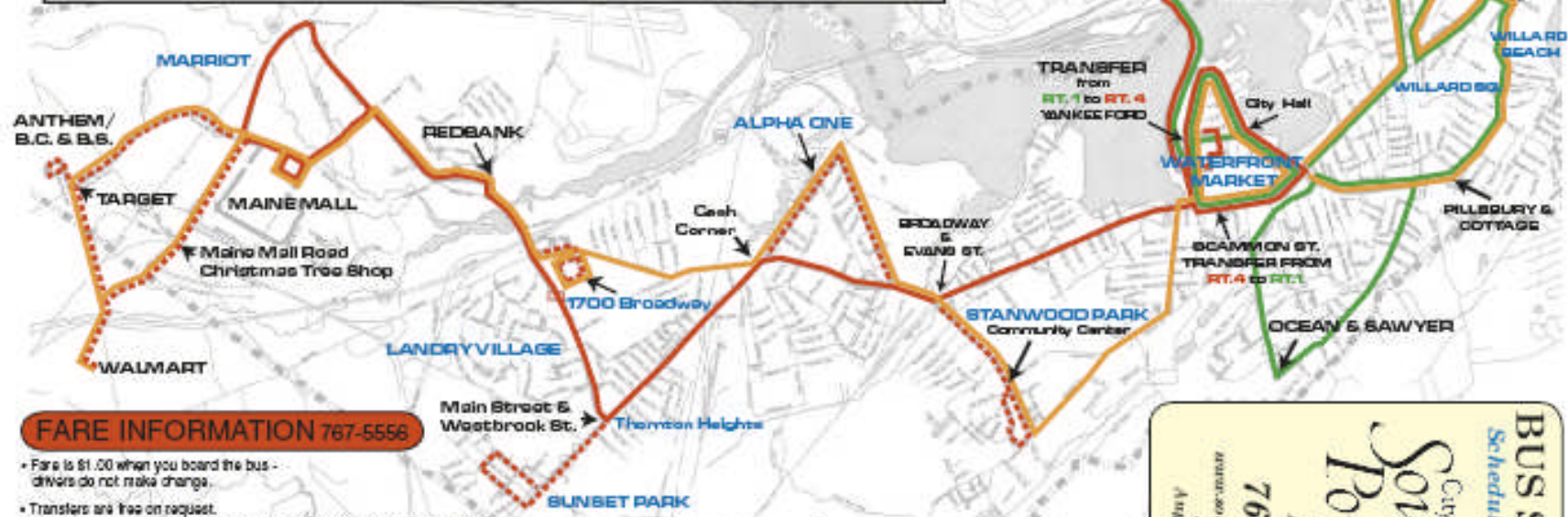
Route One Weekday has the highest number of daily trips and the longest service day but, in terms of total daily trip hours and miles, Route Four Weekday is the workhorse of the system. That effort is rewarded by capturing the highest numbers of weekday boardings per trip and per mile. On Saturday, Route One makes a couple more trips than Route Four but it travels a third fewer miles over about half as many service hours. Still, Route Four handles about the same boardings per mile and nearly twice as many boardings per trip on Saturdays.

The analysis above is for each entire route for a full day. More detailed weekday information is available for peak and off peak periods in tabular form in Appendix H.

APPENDIX A
SPBS ROUTE MAPS

MONDAY THRU FRIDAY	
LEGEND	
RTE. 1 WILLARD SQUARE	WATERFRONT MARKET • SUN LANE PARK • BARRONS • WILLARD SQUARE • PORTLAND HARBOUR SQUARE SMCC • FERRY VILLAGE • OCEAN & SAWYER • CROSSINGS • PORTLAND DOWNTOWN • MONUMENT SQUARE CITY CENTER • PORTLAND LIBRARY • MUSEUM OF ART • OLD POST
RTE. 3 CROSTOWN	COMMUNITY CENTER • WATERFRONT MARKET • ALPHA ONE • WILBERT • SHOP • CAMPBELL TOWN SHOP • SHELBY TOWN MAINE MALL • 1700 BROADWAY WEST • SMCC • FERRY VILLAGE • PILLBURY & COTTAGE • WILLARD SQUARE SUN LANE PARK • PORTLAND HARBOUR SQUARE • WINDHAM • CROSSINGS • S.P. MAIN LIBRARY FRANCIS BRIDGEMAN • S.P. POLICE DEPT. • DEPT. MOTOR VEHICLE BUREAU
RTE. 4 MAINE MALL	PORTLAND DOWNTOWN • WATERFRONT MARKET • MONUMENT SQUARE • CITY CENTER • PORTLAND LIBRARY MUSEUM OF ART • OLD POST • FRANCIS BRIDGEMAN • WINDHAM SQUARE • BRIDGE ST. PARK S.P. POLICE • DEPT. MOTOR VEHICLE BUREAU • CROSSINGS • S.P. MAIN LIBRARY • S.P. MAIN LIBRARY • CITY CENTER TOWNSHIPS SQUARE • MAINE MALL • ANTHONY ST. • SUN LANE • WILLARD AVE. • WILBERT • SHOP
***** LIMITED SERVICE AREAS CHECK TIME TABLE *****	

NOTICE
No SMOKING, EATING or DRINKING
on the South Portland Bus System.
Thank You



FARE INFORMATION 767-5556

- Fare is \$1.00 when you board the bus - drivers do not make change.
- Transfers are free on request. There is no additional charge for transfers between the METRO and the South Portland Bus Service at the Maine Mall and the three Congress Street stops.
- Student Fare with Student ID \$3.75
- Senior Citizens and the disabled with I.D. Cards pay reduced fare of \$1.50.
- 10 Ride ticket prices: Regular \$9.00 - Student \$6.75 - Half \$4.50
- Lift-equipped para-transit bus service is available to disabled residents unable to board the fixed-route buses. For information or service call the Regional Transportation Program, 774-2666.

10-RIDE BUS TICKETS
on sale now at:
SHAW'S - Westbrook
HANNAFORD - Cottage Road & Mill
The METRO Office
SOUTH PORTLAND CITY HALL



BUS SERVICE
Schedule & Timetable

City of
South Portland

Info.
767-5556

www.southportland.org
Effective August 22, 2004

APPENDIX B
SPBS ROUTE SCHEDULE & TIMETABLE

APPENDIX C
SAMPLE SURVEY INSTRUMENT

2005 On/Off Survey Route One - Willard Square South Portland Bus Service - Weekday Service		Job 4A		Job 4A	
		Outbound: 11:10 am		Outbound: 12:10 pm	
		Inbound: 11:40 am		Inbound: 12:40 pm	
		On	Off	On	Off
Passengers Already On					
Forest & Congress	Harmon's Florist				
536 Congress St.	ME College of Art				
Monument Square	Bus Shelter				
Key Bank	Pole # 557				
Temple, Free, Spring	Pole # 2				
Cross & Fore	Pole #'s 18, 19				
Yosaku Restaraunt	Pole # 1/2				
York & High					
167 York & State	Store				
Waterman Drive	McDonalds				
Waterman Drive	A Street				
Ocean	60 min photo				
Ocean	C Street				
Ocean	E Street				
E Street	Legere Drive				
Waterman Drive	Yankee Ford				
Waterman Drive	VIP				
Broadway & Scammon	Corner				
Broadway & Ocean	Mahoney Junior High				
425 Broadway East					
Broadway & Walnut	Pole # 49				
Broadway & Margaret	Pole 11				
Broadway & Mussey	Pole # 37				
Broadway & Roosevelt	Pole # 31				
Broadway & Pine	Pole # 81				
Sawyer & Broadway	Pole #23 1/2				
Sawyer & Maple	Pole # 20				
Sawyer & Peirce	Pole # 16				
Sawyer & Pleasant	Pole # 13				
Sawyer & High	Pole # 8				
Sawyer & Front	Pole # J2				
Stanford & Preble	Pole # 17				
Preble & Jefferson	Pole # J35				
Preble & High	Midblock				
Preble St. Opp Betsy Ross	Pole # 1				
Broadway & Summit Terrace	Pole # 18				
Broadway & Spring					
Broadway & Preble	Pole # 10				
Picket & Broadway	Corner				
Pickett Opp. Adams	Pole # 18				
SMTC	Shelter				

APPENDIX D
RIDERSHIP COMPARISONS BETWEEN '03 AND '05

Exhibit I

**SPBS Monthly Ridership for April 2003
Compared to April 2005**

SPBS Actual <u>Monthly</u> Totals April 2003			SPBS Actual <u>Monthly</u> Totals April 2005	
Route	Actual Ridership	Percentage	Actual Ridership	Percentage
1	3,519	28%	4,642	32%
3	1,036	8%	8,846	60%
4	7,878	63%	1,237	8%
Total	12,433	100%	14,725	100%

Exhibit II

**SPBS Survey Ridership for April 2003
Compared to April 2005**

SPBS Survey Totals April 2003			SPBS Survey Totals April - 2005	
Route	Boardings	Percentage	Boardings	Percentage
1	297	34%	302	35%
3	27	3%	30	4%
4	552	63%	522	61%
Total	876	100%	854	100%

APPENDIX E
PASSENGER BOARDINGS/DEPARTURES
BY TIME OF DAY

Exhibit I
Route One: Willard Square: Weekdays

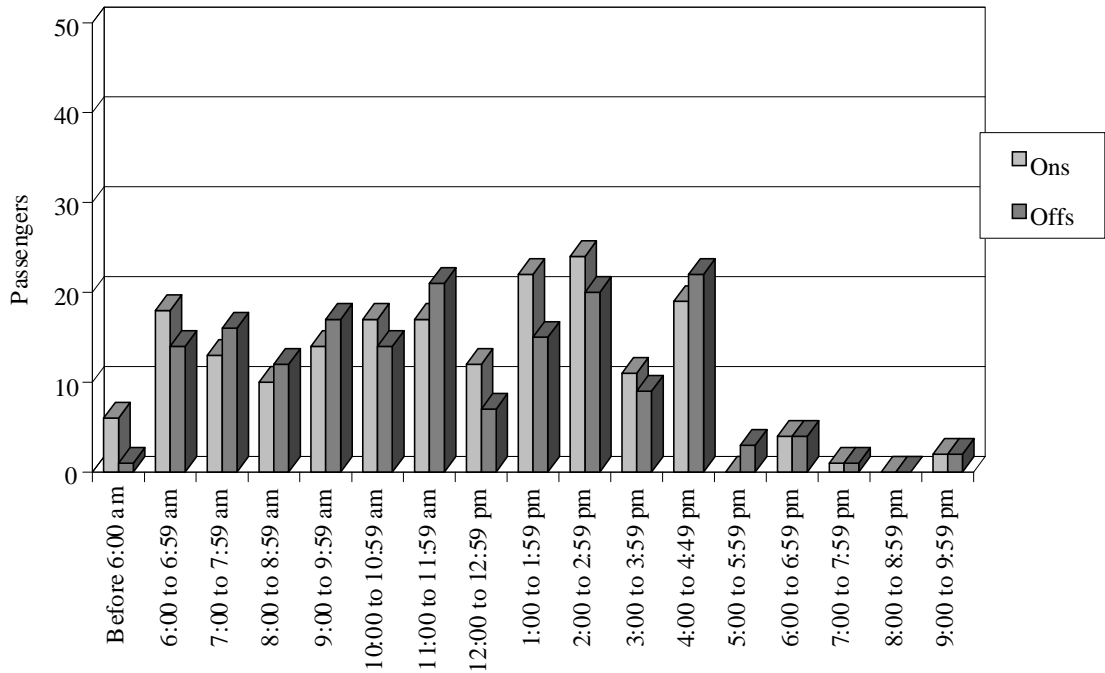


Exhibit II
Route Three: Crosstown: Weekdays

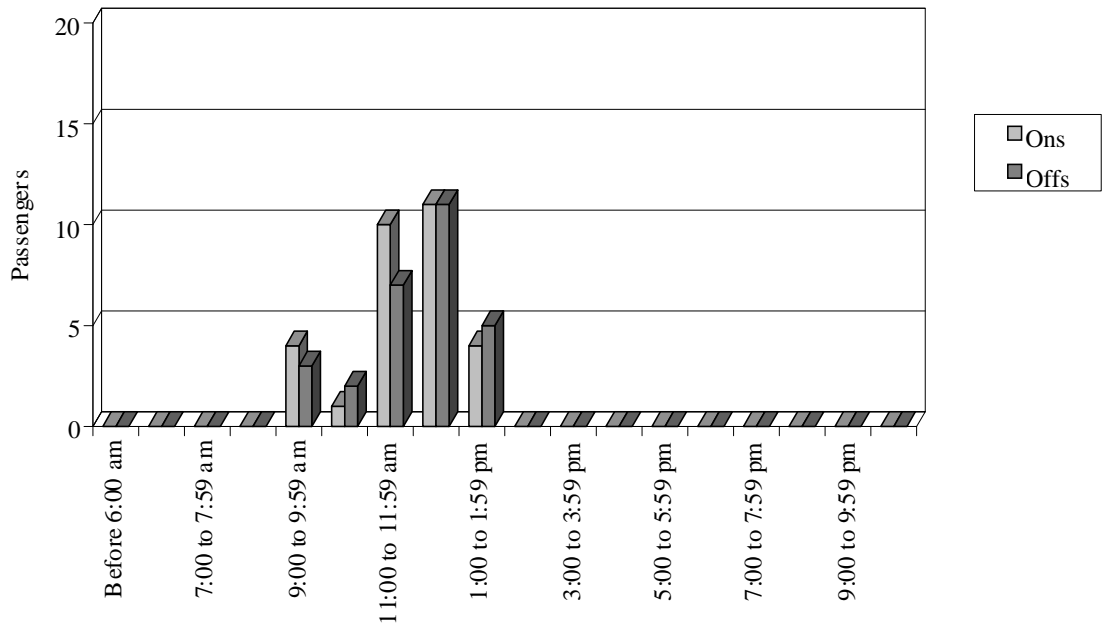


Exhibit III
Route Four: Maine Mall: Weekdays

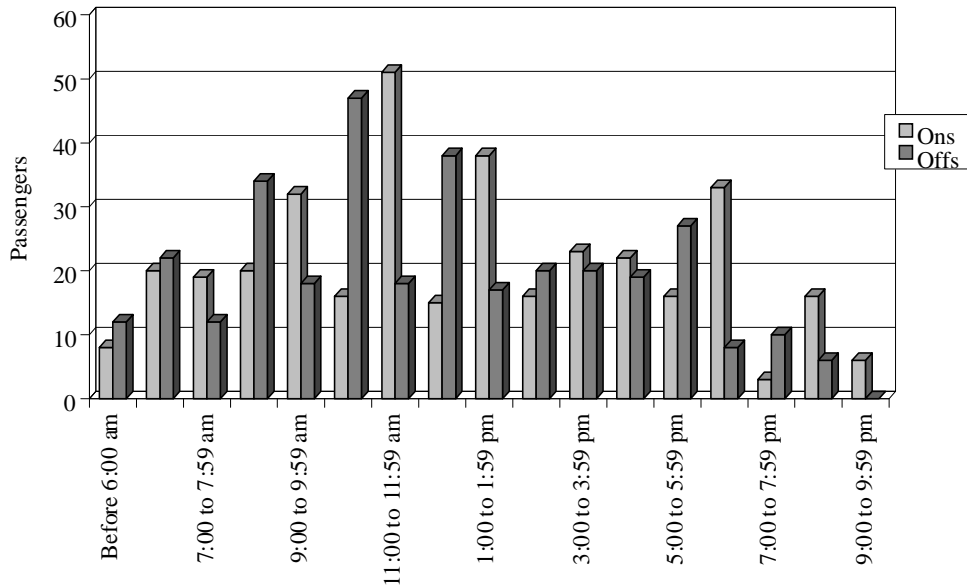


Exhibit IV
SPBS Combined Weekday Boardings/Departures by Time of Day

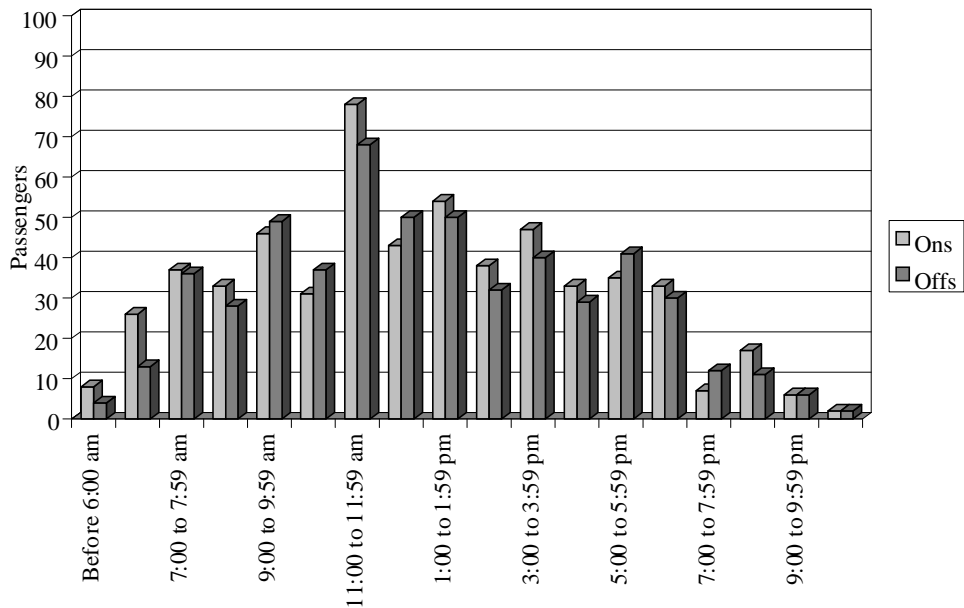


Exhibit V
Route One: Willard Square: Saturday

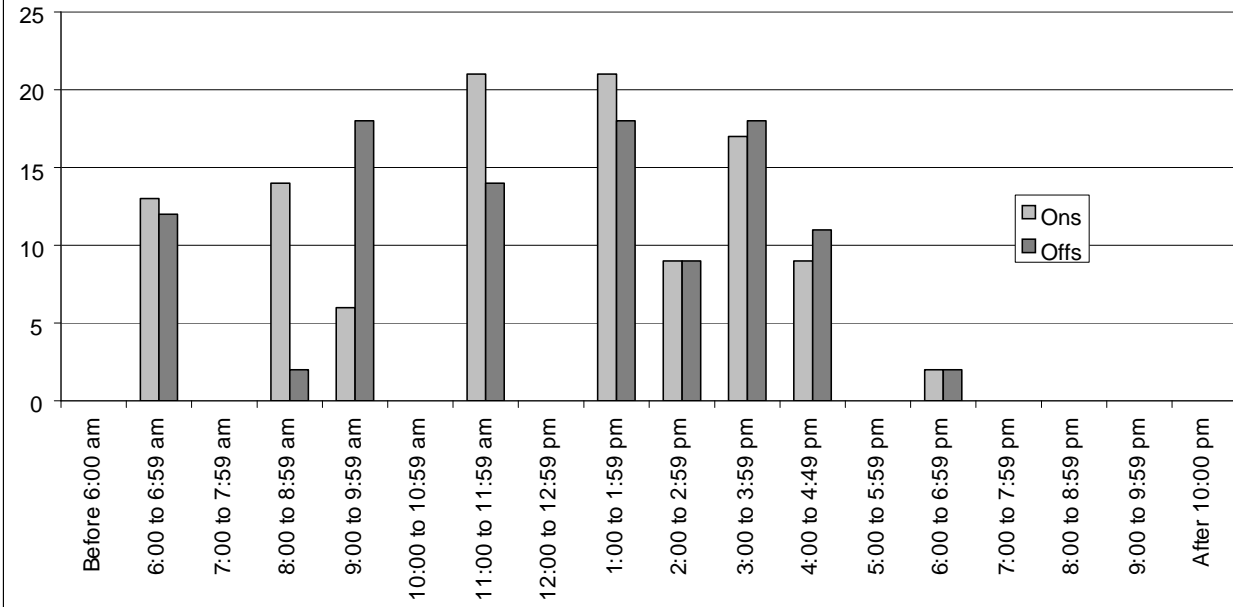


Exhibit VI
Route Four: Maine Mall: Saturday

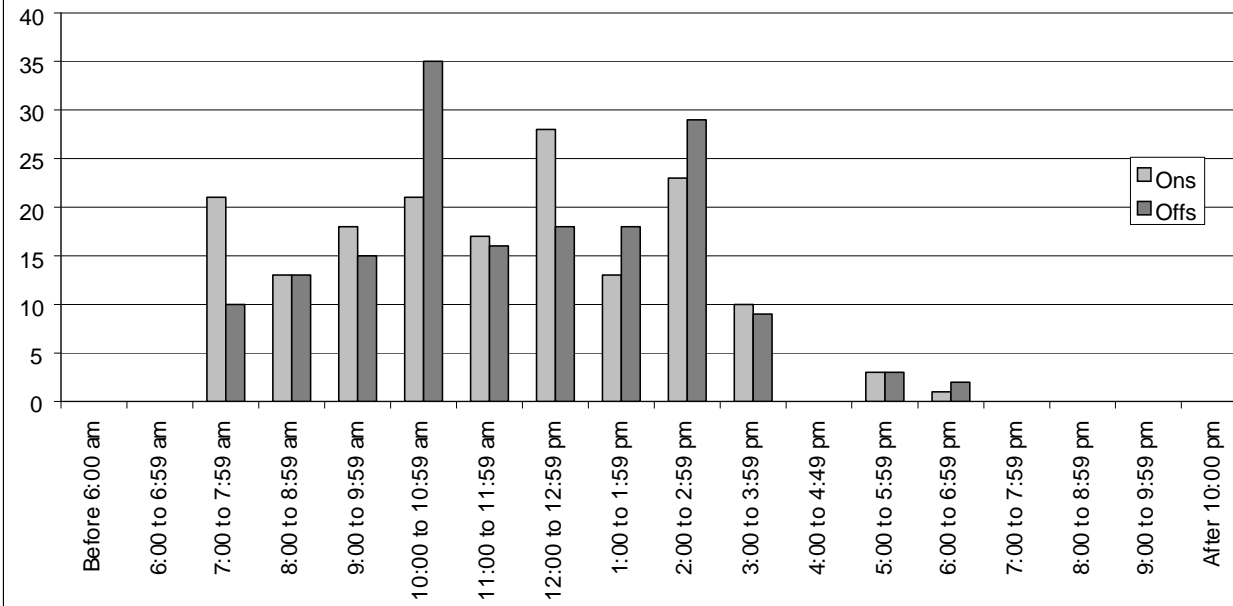
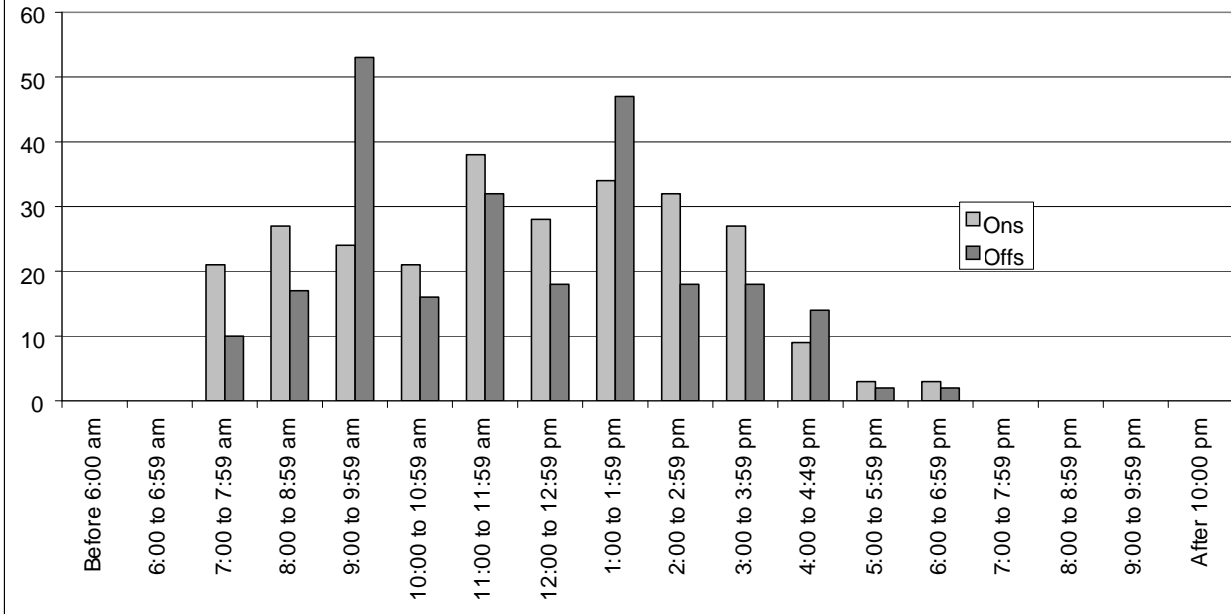
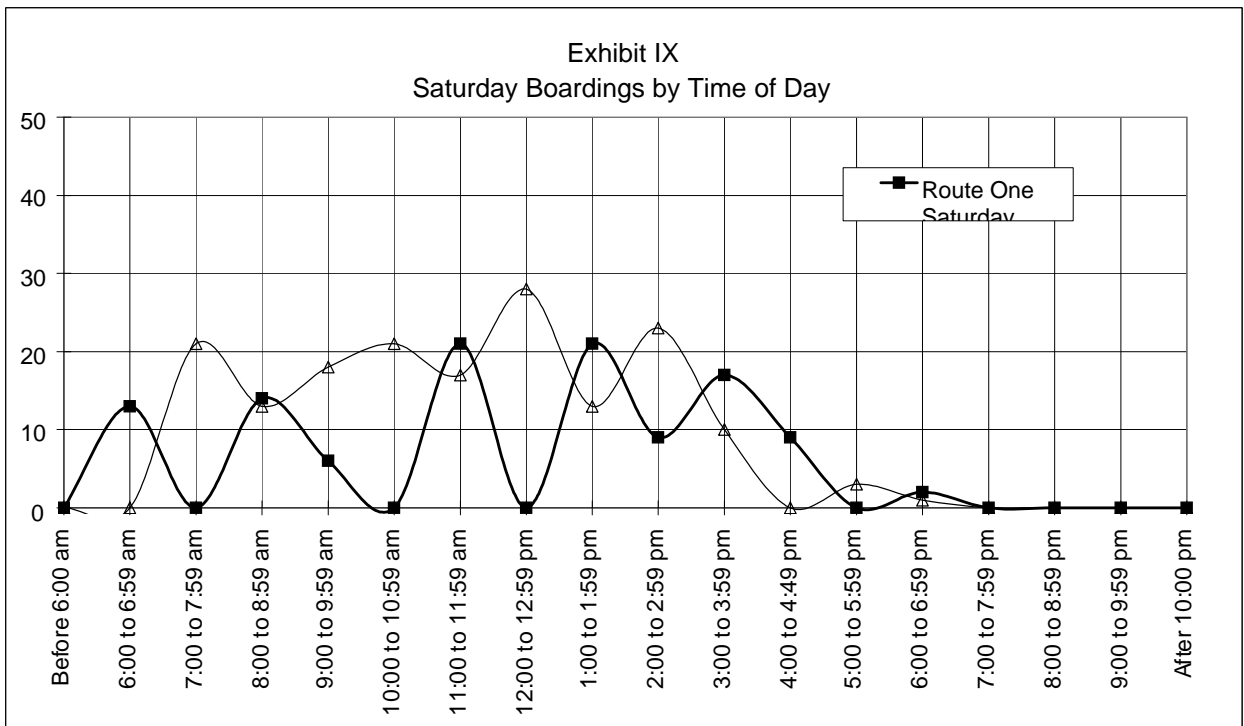
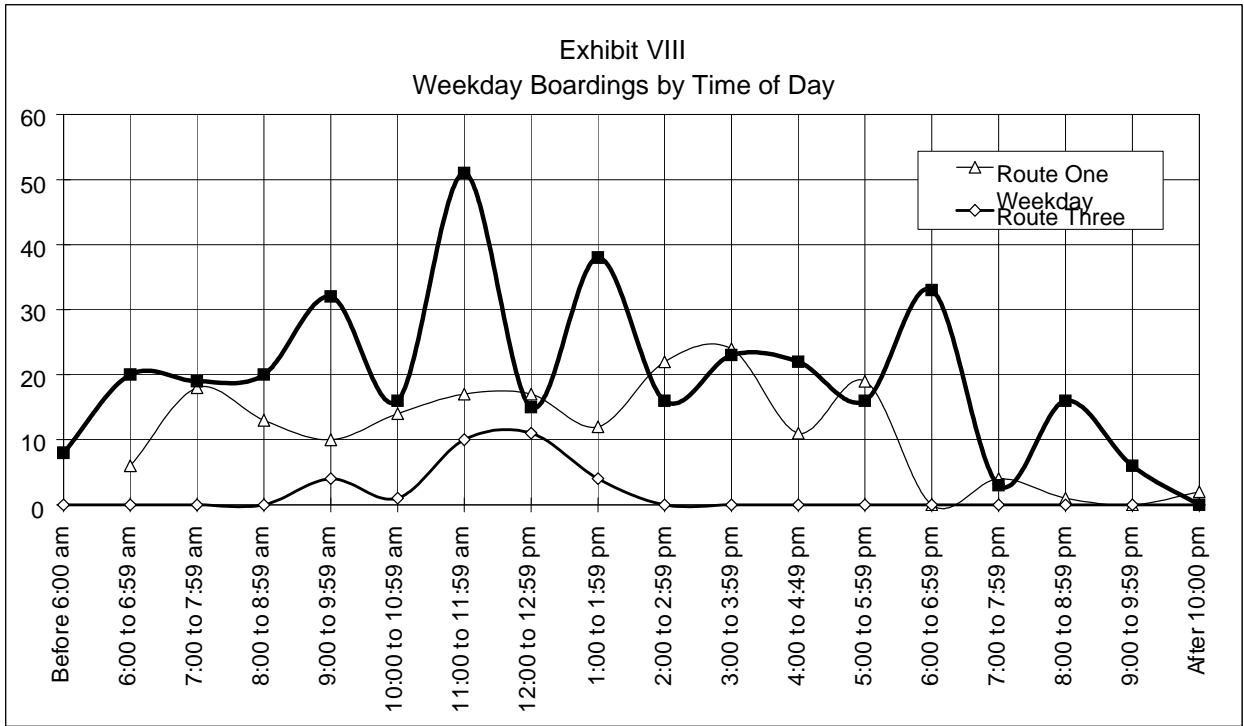


Exhibit VII
Route One/Four: Willard Square/Maine Mall: Saturday





APPENDIX F
2005 SPBS ON/OFF SURVEY
SUMMARY TABLE

**2005 SPBS ON/OFF SURVEY
SUMMARY TABLES**

TABLE 1 WEEKDAY BOARDINGS BY TIME OF DAY 2005						
ROUTE	< 6:00 AM OTHER	6:00 - 9:00 AM PEAK	9:00 - 2:00 BASE	2:00 - 7:00 PM PEAK	> 7:00 PM OTHER	DAILY TOTAL
1	0	37	84	62	7	190
3	0	0	30	0	0	30
4	28	61	134	109	22	354
TOTALS	28	98	248	171	29	574

TABLE 2 WEEKDAY BOARDINGS BY BUS ROUNDTRIP 2005					
ROUTE	< 6:00 AM OTHER	6:00 - 9:00 AM PEAK	9:00 - 2:00 BASE	2:00 - 7:00 PM PEAK	> 7:00 PM OTHER
1		6,18,13	10,14,17,17,12	14,11,12,15,9,8,4,3	4,1,2
3			5,12,13		
4	8,20	11,18,12,20	15,19,25,22,18,18,17	17,20,20,16,18	16,6

TABLE 3 WEEKDAY PASSENGER MILES 2005						
ROUTE	< 6:00 AM OTHER	6:00 - 9:00 AM PEAK	9:00 - 2:00 BASE	2:00 - 7:00 PM PEAK	> 7:00 PM OTHER	DAILY TOTAL
1		218.35	490.97	742.58	41.49	1,493.39
3			126.11			126.11
4	177.5	442.13	597.59	661.61	103.16	1,981.99
TOTALS	177.5	660.48	1214.67	1404.19	144.65	3,601.49

TABLE 4 WEEKDAY BOARDINGS PER HOUR 2005						
ROUTE	< 6:00 AM OTHER	6:00 - 9:00 AM PEAK	9:00 - 2:00 BASE	2:00 - 7:00 PM PEAK	> 7:00 PM OTHER	DAILY AVERAGE
1	0	8.5	16.8	6.9	3.0	9.2
3	0.0	0.0	6.0	0.0	0.0	5.2
4	56.0	11.8	13.4	10.9	6.6	12.2
SYSTEM	56.0	9.6	12.4	9.0	5.1	10.4

Based on the total number of hours each bus runs on the route within the time period (ie am other)

TABLE 5 WEEKDAY BUS HOURS 2005						
	< 6:00 AM OTHER	6:00 - 9:00 AM PEAK	9:00 - 2:00 BASE	2:00 - 7:00 PM PEAK	> 7:00 PM OTHER	DAILY TOTAL
rt 1-1	0	2	0	4	2	8
rt1-2	0	2.33	5	5	0.33	12.66
r1-total	0	4.33	5	9	2.33	20.66
rt3-1	0	0.75	5	0	0	5.75
rt2-total	0	0.75	5	0	0	5.75
rt4-1	0.5	3	5	5	0	13.5
rt4-2	0	2.17	5	5	3.33	15.5
rt4-total	0.5	5.17	10	10	3.33	29
SYSTEM	0.5	10.25	20	19	5.66	55.41

TABLE 6		
SATURDAY BOARDINGS AND PASSENGER MILES 2005		
	NUMBER OF RIDERS	PASSENGER MILES
1	112	485.6
3	-	-
4	168	1151.5
TOTALS	280	1,637.1

TABLE 7	
SATURDAY BOARDINGS BY BUS ROUNDTRIP 2005	
ROUTE	RIDERS
1	13,20,21,21,9,17,9,2
3	-
4	34,28,14,24,31,23,10,4

TABLE 8			
SATURDAY BOARDINGS PER HOUR 2003			
	RIDERS	BUS HOURS	RIDERS PER HOUR
1	112	6.25	17.9
3	-	-	-
4	168	12	14.0

TABLE 9						
SATURDAY BUS HOURS 2005						
	<6:00	6:00-9:00	9:00-2:00	2:00-7:00	>7:00	DAILY TOTAL
	AMOTHER	AMPEAK	BASE	PMPEAK	PMOTHER	
rt1-1	0	0.66	2	0.5	0	3.16
rt1-2	0	0	1.17	1.75	0.17	3.09
r1-total	0	0.66	3.17	2.25	0.17	6.25
rt4-1	0	1.5	3	1.5	0	6
rt4-2	0	0	2.75	3.25	0	6
rt4-total	0	1.5	5.75	4.75	0	12
SYSTEM	0	2.16	8.92	7.00	0.17	18.25

APPENDIX G
ROUTE INFORMATION BY STOP

2005 Weekday Route Information by Stop					
Ten Most Highly Used Stop Locations - Outbound and Inbound Trips					
ROUTE 1: Willard Square			ROUTE 1: Willard Square		
OUTBOUND		ONS	OUTBOUND		OFFS
Forest & Congress	Harmon's Florist	24	SMTC	Shelter	24
Monument Square	Bus Shelter	24	Monument Square	Bus Shelter	19
Temple, Free, Spring	Pole # 2	12	Forest & Congress	Harmon's Florist	8
SMTC	Shelter	8	Waterman Drive	McDonalds	7
536 Congress St.	ME College of Art	4	Waterman Drive	Yankee Ford	6
Key Bank	Pole # 557	4	Key Bank	Pole # 557	6
Waterman Drive	McDonalds	3	Temple, Free, Spring	Pole # 2	6
Seven tied with		2	Broadway & Mussey	Pole # 37	5
			Sawyer & Broadway	Pole #23 1/2	4
			Sawyer & High	Pole # 8	4
INBOUND		ONS	INBOUND		OFFS
SMTC	Shelter	32	High & Congress	Harmon's Florist	28
High & Congress	Harmon's Florist	8	Hannaford's - Cottage Rd.	Bus Shelter	5
Willard Square	Pole # 11	5	High & Spring	Pole # 013	5
Sawyer & Pleasant	Pole # 13	5	Waterman Drive	Yankee Ford	4
Stanford & Preble	Pole # 17	4	12 Kaler	Pole # 8	3
Sawyer & High	Pole # 8	4	Willard Square	Pole # 11	2
Waterman Drive	Yankee Ford	4	State St. & York St.		2
Betsy Ross House - shelter	Pole # 17	3	Six Tied with		1
Sawyer & Broadway	Pole #23 1/2	3			
Four Tied with		2			
2005 Saturday Route Information by Stop					
Ten Most Highly Used Stop Locations - Outbound and Inbound Trips					
ROUTE 1: Willard Square			ROUTE 1: Willard Square		
OUTBOUND		ONS	OUTBOUND		OFFS
SMTC	Shelter	30	Monument Square	Bus Shelter	4
Forest & Congress	Harmon's Florist	7	Broadway & Latham	Pole 119	4
Monument Square	Bus Shelter	7	Family Dollar Store		3
Broadway & Lombard	Corner	3	Broadway Yexas	Pole # J89	3
Cross & Fore	Pole #'s 18, 19	3	Forest & Congress	Harmon's Florist	2
York & High		3	Waterman Drive	Yankee Ford	2
Family Dollar Store		3	Key Bank	Pole # 557	2
Broadway & Anthoine	Crosswalk	2	Seven Tied with		1
Six Tied with		1			
INBOUND		ONS	INBOUND		OFFS
Maine Mall Macys		9	High & Spring	Pole # 013	22
Main St. & Gerry Ave.	Corner	7	Walmart		7
Broadway & Lombard	Corner	6	Westbrook & Fillmore	Pole # 15s	7
Redbank	MacArthur Circle	5	Maine Mall Macys		5
Walmart		5	Broadway & Evans	Amato's	5
Me. Mall - JC Penny & Filenes	Entrance	5	Me. Mall Rd. & Darling Ave.	Pole #6	5
Westbrook & Landry Circle	Bus Shelter	5	Waterman Drive	A Street	4
Redbank	MacArthur Circle	4	Broadway & Pleasant	Corner	4
Westbrook & Main St.	Pole # 8s	4	Thirteen Tied with		3
Five Tied with		3			

2005 Weekday Route Information by Stop					
Ten Most Highly Used Stop Locations - Outbound and Inbound Trips					
ROUTE 3: Crosstown			ROUTE 3: Crosstown		
OUTBOUND		ONS	OUTBOUND		OFFS
SMTC	Shelter	5	Walmart		3
Me. Mall - JC Penny & Filenes	Entrance	5	Me. Mall - JC Penny & Filenes	Entrance	2
Maine Mall Macys		4	Maine Mall Macys		2
Sawyer & High	Pole # 8	2	Sawyer & High	Pole # 8	1
Walmart		2	Ocean St.	Opp. Legion Square Mkt.	1
Ocean St.	Opp. Legion Square Mkt.	1	Redbank	MacArthur Circle	1
West Broadway	In Complex	1	Maine Mall Rd.	Circuit City	1
Redbank	MacArthur Circle	1	Evans & Cumberland	Pole # 15	1
Maine Mall Rd.	Circuit City	1	Broadway & Lincoln		1
			Maine & Broadway	Rite-Aid	1
INBOUND		ONS	INBOUND		OFFS
Hannaford's		3	1700 West Broadway	In Complex	5
Me. Mall - JC Penny & Filenes	Entrance	1	Me. Mall - JC Penny & Filenes	Entrance	2
Redbank	MacArthur Circle	1	Hannaford's		1
1700 West Broadway	In Complex	1	Macey's	Entrance	1
Evans	across from Nutter	1	West Broadway & Fellows	Corner	1
Evans & Cumberland	Corner	1	Main & Broadway	Rite Aid	1
			Lincoln & Broadway		1
			Evans & Cumberland	Corner	1
			Anthoine & Columbus	Corner	1
			Broadway & Scammons	Corner	1

APPENDIX H
SOUTH PORTLAND BUS SERVICE
PASSENGER ON/OFF SURVEY 2005 – CONDENSED SUMMARY

South Portland Bus Service							
Passenger On/Off Survey 2005 - Route Four Summary							
Weekday							
	AM BASE	AM Peak	Base	PM Peak	PM Other		Total
	>6:00AM	6:00 - 9:00 AM	9:00 AM - 2:00 PM	2:00 - 7:00 PM	>7:00 PM		
	Total On's Outbound	5	43	98	92	21	259
	Total On's Inbound	23	18	36	17	1	95
A	Total On's	28	61	134	109	22	354
	Total Off's Outbound	5	30	76	68	12	191
	Total Off's Inbound	11	31	59	36	4	141
	Total Off's	16	61	135	104	16	332
B	Total Passenger Miles	177.5	442.1	597.6	661.6	103.2	1,982.0
C	Daily Trip miles	33.1	83.1	134.7	124.6	39.3	414.7
D	Daily Trips	2.0	4.0	7.0	6.0	2.0	21.0
=A/J	Passengers per hour	15.3	10.8	13.7	11.4	8.8	12.1
=A/C	Passengers per mile	0.8	0.7	1.0	0.9	0.6	0.9
=A/D	Average Boardings per trip	14.0	15.3	19.1	18.2	11.0	16.9
=B/A	Average Trip Length	6.3	7.2	4.5	6.1	4.7	5.6
J	Daily Trip Hours	1.8	5.7	9.8	9.6	2.5	29.4

South Portland Bus Service							
Passenger On/Off Survey 2005 - Weekday Summary, All Routes Combined							
Weekday							
	AM BASE	AM Peak	Base	PM Peak	PM Other		Total
	>6:00AM	6:00 - 9:00 AM	9:00 AM - 2:00 PM	2:00 - 7:00 PM	>7:00 PM		
	Total On's Outbound	5	52	172	133	172	529
	Total On's Inbound	23	46	76	38	76	236
A	Total On's	28	98	248	171	248	765
	Total Off's Outbound	5	49	147	111	147	454
	Total Off's Inbound	11	43	96	50	96	285
	Total Off's	16	92	243	161	243	739
B	Total Passenger Miles	177.5	660.5	1214.7	1,404.2	1214.7	4,494.0
C	Daily Trip miles	33.1	179.1	303.4	225.6	303.4	1011.5
D	Daily Trips	2.0	11.0	17.0	13.0	17.0	58.0
=A/J	Passengers per hour	15.3	9.0	13.4	10.6	13.4	11.9
=A/C	Passengers per mile	0.8	0.5	0.8	0.8	0.8	0.8
=A/D	Average Boardings per trip	14.0	8.9	14.6	13.2	14.6	13.2
=B/A	Average Trip Length	6.3	6.7	4.9	8.2	4.9	5.9
J	Daily Trip Hours	1.8	10.9	18.6	16.1	18.6	64.1

**South Portland Bus Service
Passenger On/Off Survey 2005 - Condensed Summary**

	Weekday				System Totals	Saturday		System Totals
	Rt 1	Rt 3	Rt 4	Rt 1		Rt 4		
	Willard Sq	Crosstown	ME Mall	Willard Sq		ME Mall		
	Total On's Outbound	106	23	259	388	51	109	160
	Total On's Inbound	84	7	95	186	61	59	120
A	Total On's	190	30	354	574	112	168	280
	Total Off's Outbound	123	17	191	331	10	83	93
	Total Off's Inbound	55	11	141	207	94	85	179
	Total Off's	178	28	332	538	104	168	272
B	Total Passenger Miles	1493.39	126.11	1,982.0	3,601.5	485.6	1151.5	1,637.1
C	Daily Trip miles	310.12	93.6	414.7	818.4	100.4	166.9	267.3
D	Daily Trips	24.0	4.0	21.0	49.0	10.0	8.0	18.0
=A/J	Passengers per hour	9.74	10.00	12.06	11.07	17.92	14.00	15.34
=A/C	Passengers per mile	0.61	0.32	0.85	0.70	1.12	1.01	1.05
=A/D	Average Boardings per trip	7.92	7.50	16.86	11.71	11.20	21.00	15.56
=B/A	Average Trip Length	7.86	4.20	5.60	6.27	4.34	6.85	5.85
J	Daily Trip Hours	19.5	3.0	29.4	51.9	6.3	12.0	18.3