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Self-Service Fare Collection: Pre-Implementation Fare Compliance Study

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SELF-SERVICE FARE COLLECTION
PRE-IMPLEMENTATION FARE COMPLIANCE STUDY

MAY 1982

Management Information and Analysis
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PRE-SELF-SERVICE FARE COLLECTION

FARE COMPLIANCE STUDY

Introduction

The collection of fares has always been a difficult but essential part of public transit service operation. Many means have been tried--some more successfully than others. The more successful methods have generally been the most expensive, usually due to labor costs (conductors), provision of structural barriers (turnstiles) or time delays (drivers). As shown in Figure 1, there is a direct trade-off between the fare collection level of effort and the loss of fare revenues due to fare violations. It is desirable for transit operators to minimize both the fare collection effort and the number of undetected fare violations.

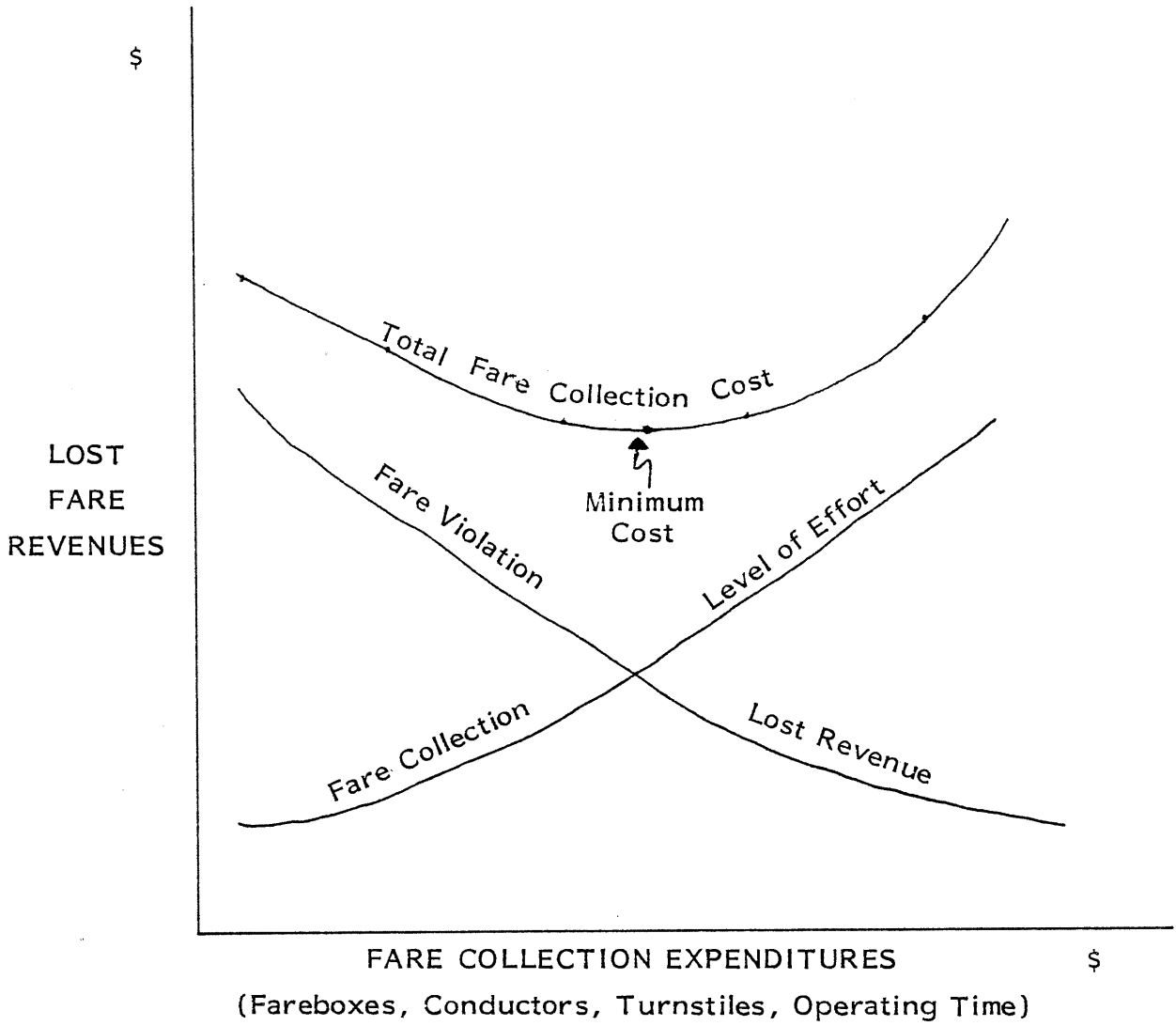
North American bus transit operators have generally used fareboxes to collect fare, with payment checked by the bus driver. This approach is a practical one, but is not without problems. Drivers cannot always count a passenger's coin payment to verify correct fare payment; they must check many fares in a short time; they do not have time to closely check passes or transfers for misuse or counterfeit use; and in zone systems, they cannot always track the passenger's length of travel. The introduction of electronic registering fareboxes makes counting change easier, but other problems remain and electronic fareboxes are expensive. Transit operators, however, have come to largely accept these flaws and the accompanying loss of transit fare revenue. Fare revenue losses, depending on the capacity of the fare structure, are not usually assumed to be great.

Faced with similar problems, many European transit operators have approached the fare collection task with the introduction of Self-Service Fare Collection, where the responsibility for correct fare payment is turned over to the transit rider. Realizing that riders will not always comply with the fare system, they are randomly spot-checked, unannounced by a fare inspector who issues penalties for incorrect or non-payment of fare. In Europe and, to a lesser extent, in North America, it was found that this method was closer to the optimization of minimal collection effort and minimal fare violation. The system made operations more efficient by allowing drivers to focus attention on operating the bus and by allowing passengers to enter or leave the bus by any door. Peer pressure and inspectors were able to minimize non-compliance with the fare system.

With the objective of improving the operation of large capacity articulated buses and light rail trains, Tri-Met has turned to self-service fare collection, the first application of such a system to bus operations in North America. While significant operational benefits are expected, it is hoped that, despite fears of many transit operators, the level of fare compliance would remain the same or even improve.

FIGURE 1

FARE COLLECTION EXPENDITURE TRADE-OFF



While it was known that people do violate the fare system, no one at Tri-Met knew how much fare evasion was occurring and, in fact, there was very little such information anywhere in the United States. A quick study had been conducted at Tri-Met using drivers, which placed the violation rate at about nine percent, but the study was not considered to be particularly accurate.

In anticipation of the new fare collection system at Tri-Met and, as part of its evaluation, a pre-Self-Service Fare Collection Fare Compliance Study was initiated to measure the extent of the fare evasion problem. It was quickly realized that the greatest barrier to conducting such a study was collecting violation data without violators knowing that they were being checked more closely than they usually were. It was recognized that drivers are often unable to spot violations and do not always confront riders when they spot one. On a survey conducted in Spring, 1982, Tri-Met operators said, on the average, that they "sometimes" confront a rider who cheats the fare system. A fare compliance study, then, would require closer scrutiny of fare payment and a complete recording of all violations, no matter how small or what the excuse. For Tri-Met, the task included checking for fare zone travel and checking for counterfeit passes, which had already been identified as a problem. A post-Self-Service Fare Collection Fare Compliance Study would be easier to conduct since fare inspectors would be a direct source of data.

The pre-Self-Service Fare Collection phase of the Fare Compliance Study, conducted in May, 1982, was designed with three objectives:

1. To determine systemwide incidence of fare evasion.
2. To estimate loss in revenue from fare evasion.
3. To establish a basis for estimating the impact of Self-Service Fare Collection on fare evasion at Tri-Met.

This paper discusses the design and results of the pre-implementation portion of the Fare Compliance Study.

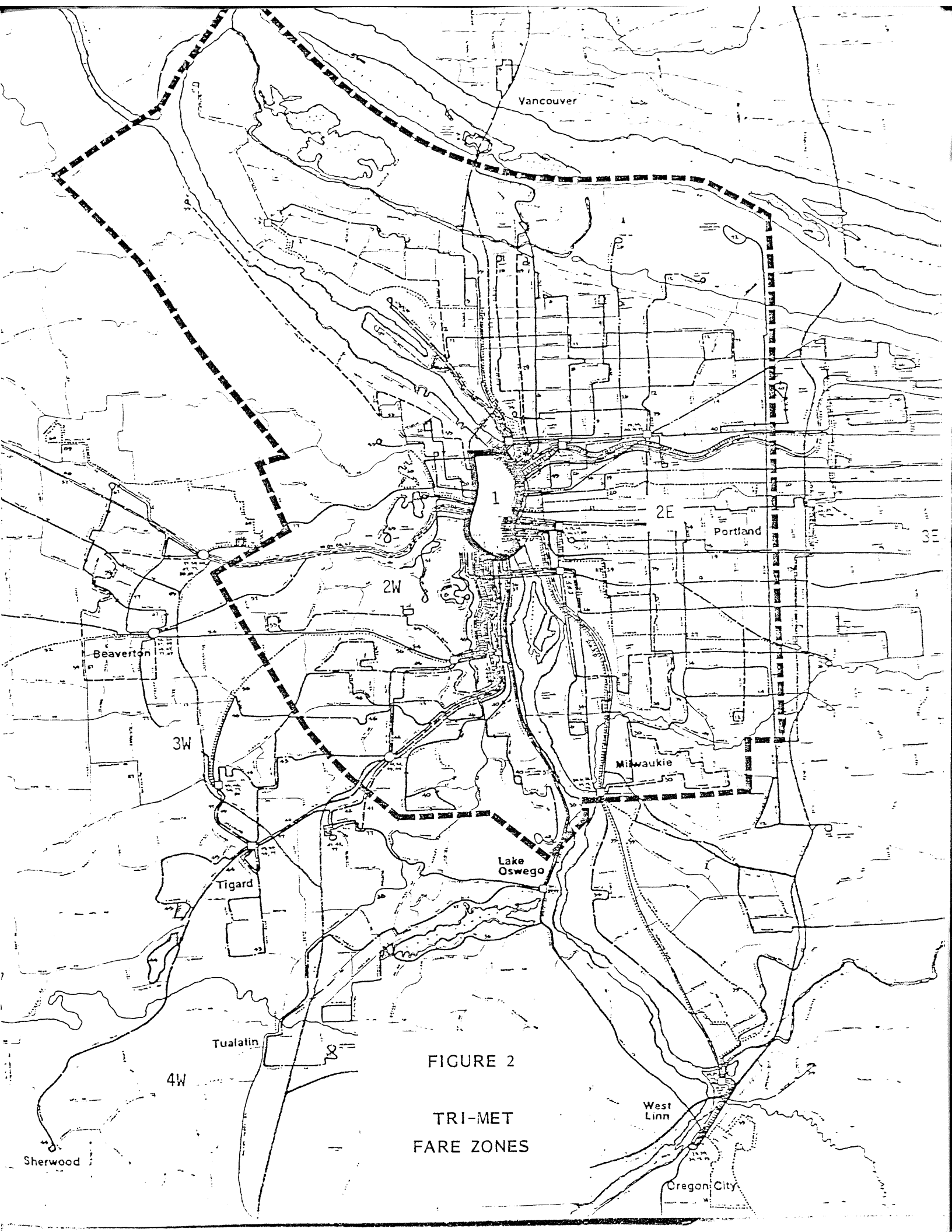


FIGURE 2

TRI-MET
FARE ZONES

Tri-Met Fare Structure

The extent and form of fare evasion is very much dependent on the fare structure and, to some extent, the design of transit routes. Tri-Met's fare structure prior to the introduction of Self-Service Fare Collection included cash fares, monthly transit passes, prepaid tickets and transfer slips. A three-zone fare system (Figure 2) consisted of an inner zone (central business district), an urban zone (most of the city of Portland) and a suburban/rural zone. Two-zone travel required a \$.65 base cash fare and a premium cash fare of \$.90 was charged for three-zone travel. Travel within the 300-square-block inner zone was free (Fareless Square) except from 3:00 to 7:00 PM when full base fare was required. Transfers were provided free of charge, but were not valid for return travel. Special fare was available for senior citizens, handicapped persons and students. Payment was made on entering the bus inbound and when leaving the bus outbound, except from 3:00 to 7:00 PM when all fares were paid upon entering the bus. Fares were always paid on entering the bus on crosstown routes.

TRI-MET FARES

The Tri-Met district is divided into three fare zones.

Fareless Square in Downtown Portland is Zone 1. N.W. Hoyt St. is the boundary to the north. The Willamette River is the boundary to the east. The Stadium Freeway is the boundary to the south and west.

The outer boundary between Zones 2 and 3 is at a designated point for each route.

Fare Structure:

Monthly Pass (Vancouver - Portland)	\$35.00
Monthly Pass (travel through 3 zones)	\$29.00
Monthly Pass (travel through 2 zones)	\$21.00
Youth Pass (monthly pass for youths through high school)	\$14.00
Adults (travel through 3 zones)	\$.90
Adults (travel through 2 zones)	\$.65
Youth Fare (through high school)	\$.45

Children under six years ride free with a fare-paying passenger. Limit of three children per passenger.

Vancouver-Portland	\$ 1.00
* (all other trips on Line 5 are \$.65)	

The use of the various types of fare payment for Spring, 1982 is shown in Table 1. A large percentage of Tri-Met riders used a monthly pass (44%). Slightly over half (53%) paid cash. A small percentage of the ridership rode free in Fareless Square (1.5%), used special employee or Multnomah County passes or were assumed to evade fare payment (1%). Three-zone riders accounted for 24% of total ridership. Saturday ridership is characterized with a higher percentage of cash riders and fewer three-zone riders.

TABLE 1
SYSTEMWIDE FARE CATEGORY DISTRIBUTION

	WEEKDAY			SATURDAY
	All Day	Daybase	Peak	All Day
Cash	53	54	52	60
Pass	44	43	44	38
Three-Zone	24	23	26	15

Estimates shown in Table 1 are based on driver rider counts and fare revenues received. They use a conservative one-percent evasion rate. A detailed report of Fare Category Distribution for Spring, 1982 is included in the appendix.

The fare system in use at Tri-Met includes the use of zone-premium fares and monthly passes. Some transit agencies have eased the fare collection effort by eliminating these features. Both are difficult for the driver to enforce since passes are quickly flashed and drivers are unable to check zonal travel of many riders. The counterfeiting of monthly passes has been a recent concern of Tri-Met's Transit Police. Despite enforcement difficulties, the monthly pass is a great user convenience and reduces processing of coins by Tri-Met. A zone structure is desirable as it helps relate fares to distance traveled. Equity of fare payment has, in the past, been an issue with Tri-Met riders and local government.

Methodology

The task of doing fare checks of all riders for all types of violations is a formidable one when the fare structure includes zone payment and use of passes, particularly during rush hours. To ease this task, types of fare evasion were grouped and checked separately. These groups are:

Cash Evasion: passengers who shortchange the base cash fare, use an invalid transfer slip, use coin slugs or half-dollar bills, or make no payment at all.

Pass Evasion: passengers who use a fraudulent (counterfeit) pass or who misuse a pass (i.e. adult using a student pass).

Zone Evasion: passengers who travel through three zones but only pay for two zones of travel.

Instruction and tally sheets were designed for data particular to each type of evasion. The study utilized volunteer drivers and fare-inspectors-in-training for checking fare payment and recording evasion data. The methodology is summarized as follows:

Cash Check: The bus operator was responsible for recording the total number of cash-paying passengers and those passengers who evaded the cash fare by short-changing the farebox, not paying the fare, using bad cash or using an invalid transfer slip. This check required close inspection of money deposited into the farebox.

Zone Check: A fare inspector and operator worked as a team to identify the number of riders who traveled three zones. Through this identification process, the fare inspector was able to take a count of those riders who paid for two-zone travel and rode three zones. A count was also taken of total three-zone riders.

Pass Check: A uniformed fare inspector made an inspection of all passes that were displayed by the rider upon boarding. It was only possible to inspect passes when the mode of fare payment was "pay as you enter".

Driver Selection

In order to get an accurate picture of fare evasion, it is necessary to observe passenger behavior, introducing as little disruption as possible to the regular flow of operation. Therefore, regular route operators were selected to be responsible for collecting the data. It was necessary for fare inspectors to work with the operators in the zone and pass check.

Only operators who had indicated an interest in assisting with the study were considered (about one-half of the operators). A random selection of those drivers was made based on their work assignments, until the predetermined sample size was covered.

Once the operator and trip selections were completed, the types of checks that the operator was responsible for were determined. Each bus route in the sample was assigned a cash, zone and/or pass check by (a) the number of days the operator had the route as a work assignment, and (b) the number of zones the route transversed. The cash check was taken during the first week followed by the zone and pass check in the second week.

Sample Determination

The sample for each of the three checks was based on five percent of trips selected randomly among those driven by volunteer drivers. A trip is defined as travel from one end of the route to the other end (one-half of a round trip). The time of day sampled was broken down into three categories: AM Peak (7:00 - 9:00 AM); Daybase (9:00 AM - 4:00 PM), and PM Peak (4:00 - 6:00 PM).

Sampled routes were classified as regional, urban radial, local radial or crosstown, based on the Quarterly Performance Report.

Tables identifying actual trip sampling rates for each time period and route type are shown in the appendix and are summarized in Table 2.

TABLE 2
FARE COMPLIANCE STUDY TRIP SAMPLING RATES

BUS TRIP SAMPLING RATES	WEEKDAY			SATURDAY
	Peak %	Daybase %	Total %	Total %
Cash Check	5.6	5.3	5.4	4.5
Zone Check	3.1	5.3	4.3	2.5
Pass Check	4.9	4.2	4.5	2.7

Due to the variable distribution of riders among routes, the sampling indicated in Table 2 produced less than a five-percent sample of boarding riders, however, three percent is considered reliable for systemwide analysis of ridership. A summary of sampled ridership is shown in Table 3.

TABLE 3
FARE COMPLIANCE STUDY
BOARDING RIDER SAMPLING RATES

RIDER SAMPLING RATES	WEEKDAY			SATURDAY
	Peak %	Daybase %	Total %	Total %
Cash Check	4.5	3.5	3.9	3.4
Zone Check	4.2	3.3	3.8	2.3
Pass Check	5.4	2.8	3.7	2.9

Results

A tabulation of results, included in the appendix, shows actual numbers of riders observed and numbers of fare violations. This data was transformed as percentages presented in the following summary tables.

The results of this study indicate an evasion rate between eight and nine percent. One out of every 12 bus riders evade the fare to some extent, intentionally or unknowingly. Most evasion was in the form of shortchanging the farebox or failure to pay for travel beyond two fare zones. Table 4 shows the evasion rate among all riders for each fare category.

TABLE 4
FARE EVASION AS PERCENT OF
TOTAL RIDERSHIP

	<u>Cash</u>	<u>Zone</u>	<u>Pass</u>	<u>Total</u>
Weekday	3.1	4.0	1.0	8.1
Saturday	3.1	4.6	0.7	8.4

There is little variation between weekday and Saturday evasion rates, with Saturdays experiencing slightly higher zone evasion and lower pass evasion, due to different ridership patterns and demographics. Pass evasion is a small portion of the number of fare evasions, but as noted later, accounts for a large portion of lost revenue.

TABLE 5
WEEKDAY PERCENT FARE EVASION BY
TIME OF DAY

	<u>Cash</u>	<u>Zone</u>	<u>Pass</u>
Peak Hour	3.4	2.3	1.0
Daybase	2.9	5.4	1.0

Table 5 shows the fare evasion rate by time of day. While there is no variation in pass evasion rates, there are significantly greater zone evasions during the daybase period. This may in part be explained by more varied ridership habits with riders less knowledgeable of the zone boundaries. Cash evasion during the daybase is one-half of one percent less than during the peak period, perhaps because drivers have more time to inspect cash fares as they are deposited.

TABLE 6

PERCENT FARE EVASION BY
LINE TYPE

<u>Weekday</u>	<u>Zone</u>	<u>Pass</u>	<u>Cash</u>	<u>Total</u>
Local	1.4	1.4	4.1	6.9
Regional	5.1	0.3	3.1	8.5
Urban	4.3	1.2	2.9	8.4
Crosstown	N/A	0.8	3.4	4.2
<u>Saturday</u>	<u>Zone</u>	<u>Pass</u>	<u>Cash</u>	<u>Total</u>
Local	4.3	0.0	1.5	5.8
Regional	2.3	0.0	3.7	6.0
Urban	8.8	1.3	3.1	13.2
Crosstown	N/A	0.4	1.9	2.3

Table 6 shows fare evasion percentages for each of four line types. Because regional and urban routes have a greater portion of three-zone riders, zone evasion is highest among those routes (5.1% and 4.3% respectively); however, it is interesting to note that zone evasion on regional routes is very low on Saturdays (2.3%), perhaps due to fewer riders on board at a time, making it easier for drivers to check passengers (and perhaps because all fares are paid at the outbound end of the trip). In contrast, Saturday zone evasion on urban routes is particularly high (8.8%).

Pass fare evasion rates are similar on all route types although slightly higher than average on local and urban routes. This may correspond to routes most often used by students.

Cash fare evasion rates are similar among the various route types with some shift in comparing weekday to Saturday evasion rates. Cash violations drop for local and crosstown routes on Saturday with no apparent explanation.

Total evasion rates are highest for regional routes (8.5%) and urban routes (8.4%), largely due to three-zone travel. Rates are lowest for crosstown routes (4.2%) with no three-zone travel--except transfers.

TABLE 7

METHOD OF FARE EVASION BY
FARE CATEGORY

	<u>CASH EVASION</u>		<u>ZONE EVASION</u>	
	<u>Weekday</u>	<u>Saturday</u>	<u>Weekday</u>	<u>Saturday</u>
Shortchange	76%	56%	Cash	45%
No Payment	9%	16%	Transfer	19%
Bad Transfer	15%	28%	Pass	36%
Bad Cash	0%	0%		
TOTAL	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

	<u>PASS EVASION</u>	
	<u>Weekday</u>	<u>Saturday</u>
2-Zone	10%	0%
3-Zone	5%	20%
Student	76%	60%
Employee	0%	0%
Senior	10%	20%
TOTAL	<u>100%</u>	<u>100%</u>

Fare evasion within each evasion group is shown in Table 7. Shortchanging the farebox accounts for over three-fourths of all cash evasion. Shortchanging can range from less than \$.05 to over \$.50. Failure to pay any fare accounts for nine percent of the cash violations. The remaining 15% is accounted for by bad transfer slips. No bad cash was detected in the study, although the practice of depositing crumpled halves of dollar bills in the farebox for the \$1.00 fare on the Vancouver, Washington Line 5 route has been common. On Saturday, there is an increased relative incidence of no payment and bad transfers which may again reflect rider characteristics and trip patterns of Saturday riders.

Zone fare violations roughly reflect the overall fare distribution, although a disproportionately large share of zone evasion is made with transfer slips. As monthly transit pass users are generally familiar with the fare system, violations among this group may be largely intentional. This is less certain among cash fare violations as many may be occasional, uninformed riders.

Pass fare violations not related to zone overriding are either due to counterfeit passes or misrepresentation in the use of a special pass. Misrepresentation accounts for 86% of pass fare evasion, 76% being adults presenting themselves as students, and 10% being adults under age 65 presenting themselves as "honored" (senior citizens). It should be noted that failure to possess required identification with the special pass was included as an evasion.

Approximately 15% of pass evasions are counterfeits of varying degrees of quality. Most bad passes are very difficult for a driver to detect and even trainee fare inspectors had some difficulty making positive identification of bad passes although many were quite obvious. (No arrests or confiscations were made to avoid unusual influence on the study.) It should also be noted that there were 11 refusals to present the monthly pass to the trainee fare inspectors. Because fare inspection had not been officially introduced, no insistence was used to see all passes. Refusals are not included in the evasion totals.

TABLE 8

FARE EVASION RATES
WITHIN EACH FARE CATEGORY

	<u>Cash</u>	<u>Zone</u>	<u>Pass</u>
Weekday	5.9%	13.6%	7.3%
Saturday	5.2%	22.5%	1.8%

Fare evasion rates within each group are shown in Table 8. Between five and six percent of all cash riders violate the fare in some way. A larger percentage of zone riders cheat on their zone fare--approximately 14% on weekdays and 23% on Saturdays. Of every seven three-zone riders, one failed to pay for the third zone of travel. On Saturday, better than one-in-five three-zone riders were fare violators. Pass riders tend to be fairly honest, excluding any zone violators. Because the fare is already paid, there is less opportunity to cheat the system, however, a fake pass represents a potentially large loss of revenue.

These results do not explain how many riders are intentional fare violators versus unintentional violators. The results of the onboard bus rider survey also conducted in Spring, 1982 should provide some insight into rider behavior and perception with respect to fare violations. These results are very much in accord with the results of the bus driver survey conducted early in the Spring, 1982 when drivers, on the average, felt that six to ten percent of the ridership evaded fares in some form. The results of the operator survey will be documented separately.

The study results do indicate that fare evasion most frequently occurs in areas not easily detected by drivers. Drivers have great difficulty tracking three-zone-fare-paying riders and also have trouble counting fistfuls of change deposited in the farebox. These are the most common forms of fare evasion.

Financial Impact

The fare evasion rates indicated here have significant financial implications. Table 9 shows the daily and annual revenue loss due to fare evasion using calculations and assumptions noted in the appendix. Total fare evasion costs an estimated \$775,466 annually. For the 1981 fiscal year, Tri-Met collected \$18,291,348 in passenger revenues. Fare evasion, therefore, accounts for a

four percent loss of revenue. Because much of the overall eight to nine percent fare evasion is failure to pay only part of the fare, the financial impact is less than the evasion rate alone would suggest.

TABLE 9

REVENUE LOSS*
DUE TO FARE EVASION

	<u>Cash</u>	<u>Pass</u>	<u>Zone</u>	
Weekday	\$1208	\$1073	\$ 335	
Saturday	\$ 686	\$ 522	\$ 111	
Annual Weekday Revenue Loss				\$ 667,210
Annual Weekend Revenue Loss				\$ 108,256
Total Annual Revenue Loss				\$ 775,466

* Revenue loss assumptions are in the appendix.

It is hoped that Self-Service Fare Collection will reduce fare evasion and the subsequent loss of revenue. While this awaits later analysis, it is notable that much of the pre-Self-Service Fare Collection evasion is in the form of insufficient cash fare payment. While fewer cash riders are expected to use the self-service system, cash riders will continue to pay their fare as before and can be expected to continue to shortchange the farebox, undetected by the driver or the fare inspector.

GLOSSARY OF TERMS

AM Peak: The hours from 7:00 AM to 9:00 AM.

Base Fare: (\$.65) Good for one- or two-zone travel.

Daybase: The hours from 9:00 AM to 4:00 PM.

Fare Distribution Rate: Ridership stratified by mode and amount of fare payment.

Grid/Feeder: Service providing connections between non-downtown locations and between other transit service.

Inbound: The bus is traveling toward the central business district.

Local Radial: Local service on neighborhood streets providing connections to central transit centers and other transit service

Outbound: Bus is traveling from the central business district.

"Pay-As-You-Enter": Mode of fare payment. Payment is made when a person boards the bus.

"Pay-As-You-Leave": Mode of fare payment. Payment is made when a person leaves the bus.

Peak Hour: Commuter-oriented service operating in AM and PM peak time periods only.

PM Peak: The hours from 4:00 PM to 7:00 PM.

Premium Fare: (\$.90) Good for three-zone travel.

Regional Route: Direct, frequent bus service between major trip centers, principally downtown Portland and suburban centers.

Trip: From one end of the route to the other end of the route.

Urban Radial: Local, frequent bus service within the urbanized areas operating principally on major arterial streets.

A P P E N D I X

CALCULATION OF FARE EVASION

Cash

A revenue loss of \$.10 for shortchanging the farebox assumes that most people will shortchange by \$.05 to \$.15. In all other categories (no payment, bad transfer, bad cash), the revenue loss is assumed to be the entire base fare (\$.65).

Pass

The amount of revenue loss was determined by dividing the cost of the pass by the average number of trips per month of a pass user. For adults, the number was 50; for students, 35; for seniors, 42. For students and senior passes, the loss was further determined by finding the difference between the cost of the adult pass and the cost of the discounted pass assuming that the evasion is by misrepresentation and that the discounted pass was paid for.

Zone

Zone evasions were assumed to be the difference between the base fare and premium fare for both the cash and transfer portions. For the pass difference, it was the cost difference between the two passes divided by the average number of uses of the pass (50).

$$\text{Systemwide percent of zone evasion} = (Z / (T / F)) * 100$$

where Z = total number of zone evasions
T = total number of three-zone passengers
F = fare distribution ratio of zone three passengers

$$\text{Systemwide percent of pass evasion} = (P / (T / F)) * 100$$

where P = total number of pass evasions
T = total number of pass passengers
F = fare distribution ratio of pass passengers

$$\text{Systemwide percent of cash evasion} = (C / ((x + y + T) / F)) * 100$$

where C = total number of cash evasions
x = number of cash no-payments
y = number of bad transfers
T = total number of cash-paying passengers
F = Fare Distribution ratio for cash-paying passengers

Evasion rate within each fare group

$$\% \text{ Pass passengers who evade} = (P \div T) * 100$$

where P = total number of pass evasions
T = total number of pass passengers

% Cash-paying passengers who evade = $C \div T * 100$

where C = total number of cash evasions
T = total number of cash-paying passengers

% 3-Zone passengers who evade = $Z \div (Z + T) * 100$

where Z = total number of zone-3 evasions
T = total number of zone-3 passengers

CALCULATION OF LOST REVENUE DUE TO FARE EVASION

Assumed Revenue Loss Per Evasion

CASH		PASS		ZONE	
Shortchange	\$.10	2-Zone	\$.42	Cash	\$.25
No Payment	.65	3-Zone	.58	Transfer	.25
Bad Transfer	.65	Student	.14	Pass	.15
Bad Cash	.65	Senior	.30		

Revenue Calculations

Revenue loss by subgroup = $(E \div W) * (G \div E) * M$
for cash and pass evasion

where E = number of total evasions in a group
 W = number of average daily ridership
 G = number of evasions in a subgroup of a group
 M = revenue loss for the subgroup

Revenue loss by subgroup = $(E \div ((R \div F) * T) * (W \div 1.32 * R) * M$
for zone evasion

where E = number of total evasions in the
 R = Fare Distribution ratio for the subgroup
 F = Fare Distribution ratio for the
 T = total number of group passengers
 W = number of average weekday riders
 M = revenue loss for the subgroup
 1.32 = transfer rate

FARE COMPLIANCE STUDY SAMPLE SELECTION

TABLE I

TOTAL AND DESIGN SAMPLE BUS TRIP BY TIME AND ROUTE TYPE

BUS TRIPS	MORNING PEAK		DAYBASE		EVENING PEAK		SATURDAY	
	TOTAL	5%	TOTAL	5%	TOTAL	5%	TOTAL	5%
Regional	217	11	421	21	209	11	406	20
Urban	542	27	1270	64	490	25	1228	61
Peak	40	2	--	--	43	2	--	--
Local	146	7	376	19	135	7	356	18
Grid	160	8	448	22	158	8	374	19
Total	1105	55	2515	126	1035	52	2364	118

TABLE II

CASH CHECK NUMBER AND PERCENT BUS TRIPS SAMPLED

BUS TRIPS	MORNING PEAK		DAYBASE		EVENING PEAK		SATURDAY	
	#	%	#	%	#	%	#	%
Regional	13	6	23	5	8	4	22	5
Urban	25	5	69	5	38	8	66	5
Peak	0	0	--	--	0	0	--	--
Local	10	7	21	6	10	7	4	1
Grid	9	6	20	4	6	4	14	4
Total	57	5	133	5	62	6	106	4

TABLE III

PASS CHECK NUMBER AND PERCENT BUS TRIPS SAMPLED

BUS TRIPS	MORNING PEAK		DAYBASE		EVENING PEAK		SATURDAY	
	#	%	#	%	#	%	#	%
Regional	8	4	12	3	11	5	11	3
Urban	19	4	49	4	26	5	25	2
Peak	0	0	--	--	0	0	--	--
Local	7	5	16	4	12	9	9	3
Grid	12	8	28	6	10	6	19	5
Total	46	4	105	4	59	6	64	3

TABLE IV

ZONE CHECK NUMBER AND PERCENT BUS TRIPS SAMPLED

BUS TRIPS	MORNING PEAK		DAYBASE		EVENING PEAK		SATURDAY	
	#	%	#	%	#	%	#	%
Regional	12	6	34	8	10	5	11	3
Urban ¹	12	2	55	4	4	1	30	2
Peak	0	0	--	--	0	0	--	--
Local ¹	12	8	21	6	6	4	8	2
Grid ²	NA	NA	NA	NA	NA	NA	NA	NA
Total	36	4	110	5	20	2	49	2

¹Not all routes transverse 3 zones. Percent of 3-zone routes would be higher.

²None of these routes transverse 3 zones. Not included in total percentages.

FARE COMPLIANCE STUDY TABULATED DATA

ZONE EVASION: SAMPLED RIDERS

BUS RIDERS SAMPLED	WEEKDAY			SATURDAY
	PEAK	DAYBASE	TOTAL	TOTAL
Non-Evasion	666	638	1304	224
Cash Evasion	24	68	92	37
Transfer Evasion	10	30	40	14
Pass Evasion	25	49	74	14
Zone Riders Observed	725	785	1510	289
Bus Trips	56	110	166	49

PASS EVASION: SAMPLED RIDERS

BUS RIDERS SAMPLED	WEEKDAY			SATURDAY
	PEAK	DAYBASE	TOTAL	TOTAL
Non-Evasion	1549	1156	2705	558
2-Zone Pass	5	1	6	0
3-Zone Pass	2	1	3	2
Student Pass	2	1	3	2
Honored Citizen Pass	1	5	6	2
Employee Pass	0	0	0	0
Refusal	6	5	11	1
Pass Riders Observed	1589	1190	2779	569
Bus Trips	105	105	210	64

CASH EVASION: SAMPLED RIDERS

BUS RIDERS SAMPLED	WEEKDAY			SATURDAY
	PEAK	DAYBASE	TOTAL	TOTAL
Non-Evasion	1466	1812	3278	1256
Short-change	73	83	156	39
No Payment	13	5	18	11
Bad Cash	0	0	0	0
Bad Transfer	15	16	31	19
Cash Riders Observed	1567	1916	3483	1325
Bus Trips	119	133	252	106

FARE DISTRIBUTION REPORT

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 1

DAY TYPE=WEEKDAY LINE TYPE=ALL

TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.64%	0.0 ¢
FARELESS SQUARE	2.44%	1.55%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.52%	0.0 ¢
25¢ HONORED CITIZENS	15.90%	10.12%	25.00¢
45¢ YOUTH	17.40%	11.08%	45.00¢
65¢ ADULT	34.17%	21.75%	65.00¢
90¢ ADULT	15.84%	10.08%	90.00¢
\$1.00 VANCOUVER	0.63%	0.40%	100.00¢
\$14 YOUTH PASS	12.41%	7.90%	31.90¢
\$21 ADULT PASS	33.15%	21.10%	50.14¢
\$29 ADULT PASS	21.42%	13.64%	53.62¢
\$35 VANCOUVER PASS	0.41%	0.26%	123.54¢
COUNTY PASS	0.18%	0.11%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.32%</u>	<u>0.84%</u>	51.21¢
	157.08%	100.00%	

AVERAGE FARE = 52.40¢
 BOARDING FARE = 39.14¢
 TRANSFER SLIP RATE = 1.267
 TOTAL TRANSFER RATE = 1.339

AVERAGE CASH FARE = 58.25¢
 % FREE PASSENGERS = 2.71%

PASS USES PER DAY = 1.789
 \$14 YOUTH = 1.807
 \$21 ADULT = 1.717
 \$29 ADULT = 2.342
 \$35 VANC. = 1.196
 \$6 ELDERLY = 0.465

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 2

DAY TYPE=SATURDAY LINE TYPE=ALL

TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.69%	0.0 ¢
FARELESS SQUARE	1.55%	1.06%	0.0 ¢
TRI-MET EMPLOYEES	1.35%	0.93%	0.0 ¢
25¢ HONORED CITIZENS	20.02%	13.74%	25.00¢
45¢ YOUTH	15.49%	10.63%	45.00¢
65¢ ADULT	39.76%	27.29%	65.00¢
90¢ ADULT	11.12%	7.63%	90.00¢
\$1.00 VANCOUVER	0.75%	0.51%	100.00¢
\$14 YOUTH PASS	12.57%	8.62%	31.90¢
\$21 ADULT PASS	29.83%	20.47%	50.14¢
\$29 ADULT PASS	10.09%	6.92%	53.62¢
\$35 VANCOUVER PASS	0.45%	0.31%	123.54¢
COUNTY PASS	0.06%	0.04%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.67%</u>	<u>1.15%</u>	51.21¢
	145.71%	100.00%	

AVERAGE FARE = 51.07¢
 BOARDING FARE = 38.41¢
 TRANSFER SLIP RATE = 1.273
 TOTAL TRANSFER RATE = 1.330

AVERAGE CASH FARE = 55.75¢
 % FREE PASSENGERS = 2.68%

PASS USES PER DAY = 0.602
 \$14 YOUTH = 0.776
 \$21 ADULT = 0.655
 \$29 ADULT = 0.468
 \$35 VANC. = 0.557
 \$6 ELDERLY = 0.250

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 3

DAY TYPE=SUNDAY LINE TYPE=ALL

TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.98%	0.0 ¢
FARELESS SQUARE	1.46%	1.44%	0.0 ¢
TRI-MET EMPLOYEES	2.44%	2.40%	0.0 ¢
25¢ HONORED CITIZENS	13.45%	13.23%	25.00¢
45¢ YOUTH	13.18%	12.95%	45.00¢
65¢ ADULT	22.68%	22.30%	65.00¢
90¢ ADULT	2.84%	2.79%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	7.14%	7.02%	31.90¢
\$21 ADULT PASS	27.14%	26.68%	50.14¢
\$29 ADULT PASS	9.10%	8.95%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.06%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.22%</u>	<u>1.20%</u>	51.21¢
	101.72%	100.00%	

AVERAGE FARE = 47.23¢
 BOARDING FARE = 38.59¢
 TRANSFER SLIP RATE = 1.105
 TOTAL TRANSFER RATE = 1.224

AVERAGE CASH FARE = 50.99¢
 % FREE PASSENGERS = 4.82%

PASS USES PER DAY = 0.352
 \$14 YOUTH = 0.316
 \$21 ADULT = 0.427
 \$29 ADULT = 0.302
 \$35 VANC. = 0.0
 \$6 ELDERLY = 0.130

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 5

DAY TYPE=WEEKDAY LINE TYPE=URBAN RADIAL TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.65%	0.0 ¢
FARELESS SQUARE	2.44%	1.57%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.52%	0.0 ¢
25¢ HONORED CITIZENS	16.82%	10.86%	25.00¢
45¢ YOUTH	17.56%	11.33%	45.00¢
65¢ ADULT	33.95%	21.91%	65.00¢
90¢ ADULT	11.42%	7.37%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	12.74%	8.22%	31.90¢
\$21 ADULT PASS	37.89%	24.45%	50.14¢
\$29 ADULT PASS	18.80%	12.13%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.12%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.36%</u>	<u>0.88%</u>	51.21¢
	154.98%	100.00%	

AVERAGE FARE = 50.62¢
 BOARDING FARE = 36.88¢
 TRANSFER SLIP RATE = 1.277
 TOTAL TRANSFER RATE = 1.373

.009

.0418

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 6

DAY TYPE=WEEKDAY LINE TYPE=PEAK HOUR

TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.53%	0.0 ¢
FARELESS SQUARE	2.44%	1.29%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.43%	0.0 ¢
25¢ HONORED CITIZENS	31.74%	16.72%	25.00¢
45¢ YOUTH	0.78%	0.41%	45.00¢
65¢ ADULT	24.77%	13.05%	65.00¢
90¢ ADULT	45.31%	23.87%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	3.64%	1.92%	31.90¢
\$21 ADULT PASS	21.30%	11.22%	50.14¢
\$29 ADULT PASS	55.06%	29.01%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.09%	88.23¢
\$6 HONORED CITIZEN PASS	<u>2.80%</u>	<u>1.48%</u>	51.21¢
	189.84%	100.00%	

AVERAGE FARE = 56.96¢
 BOARDING FARE = 45.26¢
 TRANSFER SLIP RATE = 1.267
 TOTAL TRANSFER RATE = 1.259

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 7

DAY TYPE=WEEKDAY LINE TYPE=LOCAL RADIAL TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.69%	0.0 ¢
FARELESS SQUARE	2.44%	1.69%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.56%	0.0 ¢
25¢ HONORED CITIZENS	11.99%	8.31%	25.00¢
45¢ YOUTH	16.44%	11.39%	45.00¢
65¢ ADULT	31.48%	21.81%	65.00¢
90¢ ADULT	17.86%	12.37%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	12.91%	8.94%	31.90¢
\$21 ADULT PASS	29.67%	20.56%	50.14¢
\$29 ADULT PASS	18.49%	12.81%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.12%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.07%</u>	<u>0.74%</u>	51.21¢
	144.34%	100.00%	

AVERAGE FARE = 53.03¢
 BOARDING FARE = 42.73¢
 TRANSFER SLIP RATE = 1.178
 TOTAL TRANSFER RATE = 1.241

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 8

DAY TYPE=WEEKDAY LINE TYPE=GRID / FEEDER TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.66%	0.0 ¢
FARELESS SQUARE	2.44%	1.62%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.54%	0.0 ¢
25¢ HONORED CITIZENS	17.62%	11.67%	25.00¢
45¢ YOUTH	21.91%	14.52%	45.00¢
65¢ ADULT	34.98%	23.17%	65.00¢
90¢ ADULT	10.55%	6.99%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	13.39%	8.87%	31.90¢
\$21 ADULT PASS	23.59%	15.62%	50.14¢
\$29 ADULT PASS	23.11%	15.31%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.12%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.40%</u>	<u>0.92%</u>	51.21¢
	150.96%	100.00%	

AVERAGE FARE = 50.25¢
 BOARDING FARE = 35.82¢
 TRANSFER SLIP RATE = 1.323
 TOTAL TRANSFER RATE = 1.403

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 9

DAY TYPE=SATURDAY LINE TYPE=REGIONAL

TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.55%	0.0 ¢
FARELESS SQUARE	1.55%	0.86%	0.0 ¢
TRI-MET EMPLOYEES	1.35%	0.75%	0.0 ¢
25¢ HONORED CITIZENS	26.59%	14.71%	25.00¢
45¢ YOUTH	16.84%	9.32%	45.00¢
65¢ ADULT	32.59%	18.03%	65.00¢
90¢ ADULT	48.66%	26.92%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	5.17%	2.86%	31.90¢
\$21 ADULT PASS	29.60%	16.37%	50.14¢
\$29 ADULT PASS	15.10%	8.36%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.03%	88.23¢
\$6 HONORED CITIZEN PASS	<u>2.25%</u>	<u>1.25%</u>	51.21¢
	180.76%	100.00%	

AVERAGE FARE = 58.09¢
 BOARDING FARE = 44.27¢
 TRANSFER SLIP RATE = 1.421
 TOTAL TRANSFER RATE = 1.312

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 10

DAY TYPE=SATURDAY LINE TYPE=URBAN RADIAL TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.74%	0.0 ¢
FARELESS SQUARE	1.55%	1.15%	0.0 ¢
TRI-MET EMPLOYEES	1.35%	1.00%	0.0 ¢
25¢ HONORED CITIZENS	20.30%	15.08%	25.00¢
45¢ YOUTH	14.07%	10.45%	45.00¢
65¢ ADULT	38.11%	28.31%	65.00¢
90¢ ADULT	3.06%	2.27%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	15.10%	11.22%	31.90¢
\$21 ADULT PASS	33.85%	25.15%	50.14¢
\$29 ADULT PASS	4.41%	3.28%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.04%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.73%</u>	<u>1.29%</u>	51.21¢
	134.59%	100.00%	

AVERAGE FARE = 47.57¢
 BOARDING FARE = 36.55¢
 TRANSFER SLIP RATE = 1.212
 TOTAL TRANSFER RATE = 1.301

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 11

DAY TYPE=SATURDAY LINE TYPE=LOCAL RADIAL TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.78%	0.0 ¢
FARELESS SQUARE	1.55%	1.21%	0.0 ¢
TRI-MET EMPLOYEES	1.35%	1.06%	0.0 ¢
25¢ HONORED CITIZENS	23.13%	18.09%	25.00¢
45¢ YOUTH	14.28%	11.17%	45.00¢
65¢ ADULT	27.34%	21.38%	65.00¢
90¢ ADULT	15.51%	12.13%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	6.31%	4.93%	31.90¢
\$21 ADULT PASS	25.19%	19.70%	50.14¢
\$29 ADULT PASS	9.92%	7.76%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.05%	88.23¢
\$6 HONORED CITIZEN PASS	<u>2.23%</u>	<u>1.74%</u>	51.21¢
	127.87%	100.00%	

AVERAGE FARE = 50.91¢
 BOARDING FARE = 44.08¢
 TRANSFER SLIP RATE = 1.121
 TOTAL TRANSFER RATE = 1.155

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 12

DAY TYPE=SATURDAY LINE TYPE=GRID / FEEDER TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.70%	0.0 ¢
FARELESS SQUARE	1.55%	1.08%	0.0 ¢
TRI-MET EMPLOYEES	1.35%	0.94%	0.0 ¢
25¢ HONORED CITIZENS	5.18%	3.62%	25.00¢
45¢ YOUTH	20.23%	14.14%	45.00¢
65¢ ADULT	56.27%	39.33%	65.00¢
90¢ ADULT	4.53%	3.17%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	12.60%	8.81%	31.90¢
\$21 ADULT PASS	21.81%	15.24%	50.14¢
\$29 ADULT PASS	18.14%	12.68%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.04%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.37%</u>	<u>0.26%</u>	51.21¢
	143.10%	100.00%	

AVERAGE FARE = 53.10¢
 BOARDING FARE = 33.99¢
 TRANSFER SLIP RATE = 1.450
 TOTAL TRANSFER RATE = 1.562

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 13

DAY TYPE=SUNDAY

LINE TYPE=REGIONAL

TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.68%	0.0 ¢
FARELESS SQUARE	1.46%	1.00%	0.0 ¢
TRI-MET EMPLOYEES	2.44%	1.67%	0.0 ¢
25¢ HONORED CITIZENS	10.13%	6.92%	25.00¢
45¢ YOUTH	17.05%	11.65%	45.00¢
65¢ ADULT	38.64%	26.40%	65.00¢
90¢ ADULT	26.77%	18.29%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	10.06%	6.87%	31.90¢
\$21 ADULT PASS	28.47%	19.45%	50.14¢
\$29 ADULT PASS	9.42%	6.43%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.04%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.87%</u>	<u>0.60%</u>	51.21¢
	146.37%	100.00%	

AVERAGE FARE = 56.33¢

BOARDING FARE = 43.74¢

TRANSFER SLIP RATE = 1.261

TOTAL TRANSFER RATE = 1.288

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 14

DAY TYPE=SUNDAY LINE TYPE=URBAN RADIAL TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	1.01%	0.0 ¢
FARELESS SQUARE	1.46%	1.47%	0.0 ¢
TRI-MET EMPLOYEES	2.44%	2.45%	0.0 ¢
25¢ HONORED CITIZENS	13.09%	13.17%	25.00¢
45¢ YOUTH	9.71%	9.76%	45.00¢
65¢ ADULT	26.20%	26.35%	65.00¢
90¢ ADULT	1.36%	1.36%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	3.15%	3.17%	31.90¢
\$21 ADULT PASS	28.87%	29.04%	50.14¢
\$29 ADULT PASS	10.88%	10.94%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.06%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.22%</u>	<u>1.22%</u>	51.21¢
	99.44%	100.00%	

AVERAGE FARE = 48.16¢
 BOARDING FARE = 40.28¢
 TRANSFER SLIP RATE = 1.090
 TOTAL TRANSFER RATE = 1.196

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 15

DAY TYPE=SUNDAY

LINE TYPE=LOCAL RADIAL

TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.72%	0.0 ¢
FARELESS SQUARE	1.46%	1.05%	0.0 ¢
TRI-MET EMPLOYEES	2.44%	1.76%	0.0 ¢
25¢ HONORED CITIZENS	9.42%	6.79%	25.00¢
45¢ YOUTH	20.34%	14.66%	45.00¢
65¢ ADULT	31.75%	22.89%	65.00¢
90¢ ADULT	18.01%	12.98%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	5.23%	3.77%	31.90¢
\$21 ADULT PASS	29.67%	21.39%	50.14¢
\$29 ADULT PASS	18.49%	13.33%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.04%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.85%</u>	<u>0.61%</u>	51.21¢
	138.72%	100.00%	

AVERAGE FARE = 54.28¢
 BOARDING FARE = 43.97¢
 TRANSFER SLIP RATE = 1.178
 TOTAL TRANSFER RATE = 1.235

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 16

DAY TYPE=SUNDAY LINE TYPE=GRID / FEEDER TIME PERIOD=ALL

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.63%	0.0 ¢
FARELESS SQUARE	1.46%	0.92%	0.0 ¢
TRI-MET EMPLOYEES	2.44%	1.53%	0.0 ¢
25¢ HONORED CITIZENS	33.88%	21.30%	25.00¢
45¢ YOUTH	16.08%	10.11%	45.00¢
65¢ ADULT	20.15%	12.67%	65.00¢
90¢ ADULT	10.98%	6.91%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	10.88%	6.84%	31.90¢
\$21 ADULT PASS	36.07%	22.67%	50.14¢
\$29 ADULT PASS	23.11%	14.53%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.06%	0.04%	88.23¢
\$6 HONORED CITIZEN PASS	<u>2.95%</u>	<u>1.86%</u>	51.21¢
	159.06%	100.00%	

AVERAGE FARE = 46.65¢
 BOARDING FARE = 36.59¢
 TRANSFER SLIP RATE = 1.212
 TOTAL TRANSFER RATE = 1.275

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 17

DAY TYPE=WEEKDAY LINE TYPE=ALL

TIME PERIOD=PEAK HOURS

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.79%	0.0 ¢
FARELESS SQUARE	2.44%	1.93%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.64%	0.0 ¢
25¢ HONORED CITIZENS	11.67%	9.22%	25.00¢
45¢ YOUTH	13.81%	10.90%	45.00¢
65¢ ADULT	26.35%	20.81%	65.00¢
90¢ ADULT	13.66%	10.79%	90.00¢
\$1.00 VANCOUVER	0.63%	0.50%	100.00¢
\$14 YOUTH PASS	10.08%	7.96%	31.90¢
\$21 ADULT PASS	26.99%	21.31%	50.14¢
\$29 ADULT PASS	17.62%	13.92%	53.62¢
\$35 VANCOUVER PASS	0.41%	0.32%	123.54¢
COUNTY PASS	0.18%	0.14%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.98%</u>	<u>0.78%</u>	51.21¢
	126.65%	100.00%	

AVERAGE FARE = 52.55¢
 BOARDING FARE = 39.86¢
 TRANSFER SLIP RATE = 1.188
 TOTAL TRANSFER RATE = 1.318

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 18

DAY TYPE=WEEKDAY LINE TYPE=REGIONAL

TIME PERIOD=PEAK HOURS

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.74%	0.0 ¢
FARELESS SQUARE	2.44%	1.80%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.60%	0.0 ¢
25¢ HONORED CITIZENS	8.84%	6.52%	25.00¢
45¢ YOUTH	14.01%	10.34%	45.00¢
65¢ ADULT	29.45%	21.73%	65.00¢
90¢ ADULT	20.16%	14.87%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	8.66%	6.39%	31.90¢
\$21 ADULT PASS	23.91%	17.65%	50.14¢
\$29 ADULT PASS	25.27%	18.65%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.13%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.77%</u>	<u>0.57%</u>	51.21¢
	135.51%	100.00%	

AVERAGE FARE = 55.09¢
 BOARDING FARE = 43.12¢
 TRANSFER SLIP RATE = 1.187
 TOTAL TRANSFER RATE = 1.278

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 19

DAY TYPE=WEEKDAY LINE TYPE=URBAN RADIAL TIME PERIOD=PEAK HOURS

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.82%	0.0 ¢
FARELESS SQUARE	2.44%	1.99%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.66%	0.0 ¢
25¢ HONORED CITIZENS	12.51%	10.22%	25.00¢
45¢ YOUTH	13.73%	11.22%	45.00¢
65¢ ADULT	26.95%	22.01%	65.00¢
90¢ ADULT	9.50%	7.76%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	11.98%	9.79%	31.90¢
\$21 ADULT PASS	28.88%	23.59%	50.14¢
\$29 ADULT PASS	13.42%	10.96%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.15%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.02%</u>	<u>0.83%</u>	51.21¢
	122.43%	100.00%	

AVERAGE FARE = 50.28¢
 BOARDING FARE = 36.86¢
 TRANSFER SLIP RATE = 1.201
 TOTAL TRANSFER RATE = 1.364

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 20

DAY TYPE=WEEKDAY LINE TYPE=PEAK HOUR

TIME PERIOD=PEAK HOURS

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.60%	0.0 ¢
FARELESS SQUARE	2.44%	1.48%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.49%	0.0 ¢
25¢ HONORED CITIZENS	26.82%	16.22%	25.00¢
45¢ YOUTH	0.0 %	0.0 %	45.00¢
65¢ ADULT	18.03%	10.91%	65.00¢
90¢ ADULT	43.74%	26.46%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	3.64%	2.20%	31.90¢
\$21 ADULT PASS	16.00%	9.68%	50.14¢
\$29 ADULT PASS	50.37%	30.47%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.11%	88.23¢
\$6 HONORED CITIZEN PASS	<u>2.27%</u>	<u>1.37%</u>	51.21¢
	165.30%	100.00%	

AVERAGE FARE = 57.66¢
 BOARDING FARE = 43.94¢
 TRANSFER SLIP RATE = 1.267
 TOTAL TRANSFER RATE = 1.312

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 21

DAY TYPE=WEEKDAY LINE TYPE=LOCAL RADIAL TIME PERIOD=PEAK HOURS

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.83%	0.0 ¢
FARELESS SQUARE	2.44%	2.03%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.67%	0.0 ¢
25¢ HONORED CITIZENS	11.42%	9.49%	25.00¢
45¢ YOUTH	13.82%	11.48%	45.00¢
65¢ ADULT	21.30%	17.69%	65.00¢
90¢ ADULT	16.22%	13.48%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	9.63%	8.00%	31.90¢
\$21 ADULT PASS	23.33%	19.38%	50.14¢
\$29 ADULT PASS	19.19%	15.94%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.15%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.06%</u>	<u>0.88%</u>	51.21¢
	120.39%	100.00%	

AVERAGE FARE = 52.56¢
 BOARDING FARE = 44.11¢
 TRANSFER SLIP RATE = 1.112
 TOTAL TRANSFER RATE = 1.191

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 22

DAY TYPE=WEEKDAY LINE TYPE=GRID / FEEDER TIME PERIOD=PEAK HOURS

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.78%	0.0 ¢
FARELESS SQUARE	2.44%	1.90%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.63%	0.0 ¢
25¢ HONORED CITIZENS	14.49%	11.31%	25.00¢
45¢ YOUTH	19.90%	15.53%	45.00¢
65¢ ADULT	27.11%	21.16%	65.00¢
90¢ ADULT	9.79%	7.64%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	12.30%	9.60%	31.90¢
\$21 ADULT PASS	22.64%	17.67%	50.14¢
\$29 ADULT PASS	16.33%	12.74%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.14%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.14%</u>	<u>0.89%</u>	51.21¢
	128.13%	100.00%	

AVERAGE FARE = 49.78¢
 BOARDING FARE = 35.26¢
 TRANSFER SLIP RATE = 1.262
 TOTAL TRANSFER RATE = 1.412

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 23

DAY TYPE=WEEKDAY LINE TYPE=ALL

TIME PERIOD=DAY BASE

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.79%	0.0 ¢
FARELESS SQUARE	2.44%	1.93%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.64%	0.0 ¢
25¢ HONORED CITIZENS	13.63%	10.80%	25.00¢
45¢ YOUTH	13.70%	10.86%	45.00¢
65¢ ADULT	28.06%	22.24%	65.00¢
90¢ ADULT	11.95%	9.47%	90.00¢
\$1.00 VANCOUVER	0.63%	0.50%	100.00¢
\$14 YOUTH PASS	11.04%	8.75%	31.90¢
\$21 ADULT PASS	25.73%	20.39%	50.14¢
\$29 ADULT PASS	15.46%	12.25%	53.62¢
\$35 VANCOUVER PASS	0.41%	0.32%	123.54¢
COUNTY PASS	0.18%	0.14%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.14%</u>	<u>0.90%</u>	51.21¢
	126.18%	100.00%	

AVERAGE FARE = 51.64¢
 BOARDING FARE = 38.80¢
 TRANSFER SLIP RATE = 1.201
 TOTAL TRANSFER RATE = 1.331

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 24

DAY TYPE=WEEKDAY LINE TYPE=REGIONAL

TIME PERIOD=DAY BASE

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.80%	0.0 ¢
FARELESS SQUARE	2.44%	1.95%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.65%	0.0 ¢
25¢ HONORED CITIZENS	9.27%	7.42%	25.00¢
45¢ YOUTH	13.39%	10.72%	45.00¢
65¢ ADULT	29.13%	23.32%	65.00¢
90¢ ADULT	20.88%	16.71%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	8.01%	6.41%	31.90¢
\$21 ADULT PASS	20.84%	16.68%	50.14¢
\$29 ADULT PASS	18.16%	14.53%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.14%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.81%</u>	<u>0.65%</u>	51.21¢
	124.92%	100.00%	

AVERAGE FARE = 55.54¢
 BOARDING FARE = 43.90¢
 TRANSFER SLIP RATE = 1.180
 TOTAL TRANSFER RATE = 1.265

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 25

DAY TYPE=WEEKDAY LINE TYPE=URBAN RADIAL TIME PERIOD=DAY BASE

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.82%	0.0 ¢
FARELESS SQUARE	2.44%	1.99%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.66%	0.0 ¢
25¢ HONORED CITIZENS	14.72%	12.02%	25.00¢
45¢ YOUTH	13.93%	11.37%	45.00¢
65¢ ADULT	27.36%	22.33%	65.00¢
90¢ ADULT	7.82%	6.38%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	10.92%	8.91%	31.90¢
\$21 ADULT PASS	28.05%	22.89%	50.14¢
\$29 ADULT PASS	14.09%	11.50%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.15%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.21%</u>	<u>0.98%</u>	51.21¢
	122.54%	100.00%	

AVERAGE FARE = 49.50¢
 BOARDING FARE = 36.50¢
 TRANSFER SLIP RATE = 1.201
 TOTAL TRANSFER RATE = 1.356

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 26

DAY TYPE=WEEKDAY LINE TYPE=PEAK HOUR

TIME PERIOD=DAY BASE

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.59%	0.0 ¢
FARELESS SQUARE	2.44%	1.43%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.47%	0.0 ¢
25¢ HONORED CITIZENS	10.14%	5.94%	25.00¢
45¢ YOUTH	0.0 %	0.0 %	45.00¢
65¢ ADULT	25.81%	15.11%	65.00¢
90¢ ADULT	41.66%	24.40%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	1.92%	1.13%	31.90¢
\$21 ADULT PASS	33.15%	19.42%	50.14¢
\$29 ADULT PASS	52.80%	30.92%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.11%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.82%</u>	<u>0.48%</u>	51.21¢
	170.73%	100.00%	

AVERAGE FARE = 60.29¢
 BOARDING FARE = 43.91¢
 TRANSFER SLIP RATE = 1.267
 TOTAL TRANSFER RATE = 1.373

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 27

DAY TYPE=WEEKDAY LINE TYPE=LOCAL RADIAL TIME PERIOD=DAY BASE

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.95%	0.0 ¢
FARELESS SQUARE	2.44%	2.33%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.77%	0.0 ¢
25¢ HONORED CITIZENS	9.47%	9.04%	25.00¢
45¢ YOUTH	13.81%	13.18%	45.00¢
65¢ ADULT	25.80%	24.63%	65.00¢
90¢ ADULT	12.45%	11.89%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	9.73%	9.29%	31.90¢
\$21 ADULT PASS	21.12%	20.16%	50.14¢
\$29 ADULT PASS	7.14%	6.81%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.17%	88.23¢
\$6 HONORED CITIZEN PASS	<u>0.81%</u>	<u>0.78%</u>	51.21¢
	104.76%	100.00%	

AVERAGE FARE = 52.17¢
 BOARDING FARE = 40.32¢
 TRANSFER SLIP RATE = 1.163
 TOTAL TRANSFER RATE = 1.294

FARE CATEGORY DISTRIBUTION

SPRING, 1982 F. 28

DAY TYPE=WEEKDAY LINE TYPE=GRID / FEEDER TIME PERIOD=DAY BASE

<u>FARE CATEGORY</u>	<u>REPORTED DISTRIBUTION</u>	<u>ADJUSTED DISTRIBUTION</u>	<u>FARE</u>
FARE NON-COMPLIANCE	1.00%	0.80%	0.0 ¢
FARELESS SQUARE	2.44%	1.94%	0.0 ¢
TRI-MET EMPLOYEES	0.81%	0.64%	0.0 ¢
25¢ HONORED CITIZENS	16.29%	12.96%	25.00¢
45¢ YOUTH	20.92%	16.64%	45.00¢
65¢ ADULT	21.56%	17.16%	65.00¢
90¢ ADULT	9.12%	7.26%	90.00¢
\$1.00 VANCOUVER	0.0 %	0.0 %	100.00¢
\$14 YOUTH PASS	11.54%	9.19%	31.90¢
\$21 ADULT PASS	20.59%	16.38%	50.14¢
\$29 ADULT PASS	20.00%	15.91%	53.62¢
\$35 VANCOUVER PASS	0.0 %	0.0 %	123.54¢
COUNTY PASS	0.18%	0.14%	88.23¢
\$6 HONORED CITIZEN PASS	<u>1.22%</u>	<u>0.97%</u>	51.21¢
	125.68%	100.00%	

AVERAGE FARE = 48.72¢
 BOARDING FARE = 32.86¢
 TRANSFER SLIP RATE = 1.284
 TOTAL TRANSFER RATE = 1.483