Analysis of the Taxicab Information Project

For the District of Columbia's Taxicab Commission

June 2007

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Overview of The Project

On October 1, 2005, the District of Columbia Taxicab Commission ("the Commission") launched the Taxicab Information Project (TIP). TIP was a study that examined the revenue impact of installing meters in taxicabs throughout the District of Columbia. Meters were installed in 25 vehicles and collected data related to the trip on a printed receipt.

Taxicabs in the District currently use a zone system to calculate fares. Under that system the District is divided into 23 zones and a flat rate is allocated to each zone. Fares are determined according to the number of zones traveled. Zone rates at the time the TIP Project was initiated in October 2005 were as follows:

Zone	Single Passenger and Shared Riding Rate Per Passenger
1	$5.50
2	$7.60
3	$9.50
4	$11.40
5	$12.80
6	$14.10
7	$16.20
8	$17.20

The Zone rates at that time the TIP Project was concluded in May 2006 were as follows:

Zone	Single Passenger and Shared Riding Rate Per Passenger
1	$6.50
2	$8.80
3	$11.00
4	$12.60
5	$14.00
6	$15.50
7	$17.80
8	$18.90

Meters charged $2.50 for the first sixth of a mile (also known as the drop rate), $0.25 for each additional sixth of a mile, and $15 per hour for waiting time (or $0.25 per minute for waiting time). As discussed below, although fares were calculated by the meter, passengers were only charged the zone fare for their trip.

SCOPE AND METHODOLOGY

Time and distance meters were installed in 21 DC taxicabs. At the beginning of each trip the driver was directed to drop the meter "flag", thus activating the meter, which then calculated a fare based upon the time and distance of the trip. At the end of each trip the driver made a notation of the zone and meter fares, **BUT ONLY COLLECTED THE ZONE FARE**. The drivers were also directed to record information provided by the passenger on the general purpose of the trip.

Data were collected from October 1, 2005 to May 30, 2006. Effective January 9, 2006, the Commission raised the zone fares in non-uniform rates for all zones. As such, data collected from October 1, 2005 to

January 8, 2006 were not analyzed as they would greatly weaken the overall analysis. Only data collected after the January 9, 2006 fare increase were analyzed

21 taxicabs recorded a total of 8,811 eligible trips. Eligible trips included all data points, but may or may not have stated the type of trip (e.g., business, tourist, etc.) or the number of passengers. 27 cases were eventually removed due to invalid data, leaving a total sample size of 8,784.

The sample size for this project (N = 8,784) is rather large, thus minimizing the effect of any extremely high or extremely low values. The data were examined carefully to ensure no data errors were included that may have affected the analyses.

All data points were collected by electronic meters placed in the test taxicabs and printed out onto a receipt. Each receipt produced the following data points:

- Taxicab number;
- Date;
- Start and end times;
- Distance;
- Base meter rate (e.g., the amount based on distance and time only);
- Extra charges (e.g., any extra charges such as additional passengers or rush hour fees);
- Total meter rate (e.g., the base meter rate plus any extra fares);
- Number of passengers; and
- Type of trip (e.g., business, tourist, commuter, or personal).

Each receipt had a location for the driver to write in the total zone fare that was actually charged to the passenger. Additionally, if the trip involved use of an interstate highway, drivers were instructed to write "Interstate" or the letter "I" on the receipt. Drivers were instructed to ask passengers what type of trip they were engaged in (business, tourist, etc.) and to write this information on the receipt.

For both meter rates and zone rates, passengers were charged extra amounts for various conditions such as additional passengers, travel during rush hour periods (weekdays from 7:00-9:30am and 4:00-6:30pm), or excess baggage. These amounts were incorporated into the final fare charged to the passengers on both the meter and zone systems.

Data analysis and this report were produced by the George Washington University's School of Public Policy and Public Administration. Masters of Public Administration students Julie Nicholson and Daniel Paepke entered and analyzed the data, with guidance and support from Dr. Kathryn Newcomer and Dr. Joseph Cordes. To minimize error in data entry, one student read each piece of data to the other student who manually entered the information into a computer program.

DATA LIMITATIONS

There are various limitations to the collected data that should be noted:

Waiting Time: While the meters charged for waiting time, this was neither recorded by the meters nor printed on the receipts. There were likely a great number of cases in which small charges were added by the meter for waiting times that were not obvious (i.e., they were not outliers or very skewed). Based on the start time, end time, and distance of the trip, we were able to determine a few cases (N = 13) that had waiting times incorporated into the meter fares and have noted this in our data.

Number of Taxicabs: Several taxicabs dropped out of the study, decreasing the total number of taxicabs from 25 to 21.

Interstate Trips: Trips between D.C. and Maryland or Virginia use a separate system outside of the zone fare system to determine the fare charged. The receipts did not print which trips were interstate and which were not, but drivers were instructed to write on the receipt when an interstate trip occurred. For the purposes of this study, we assumed that any trip longer than 25 miles was an interstate trip regardless of whether this was noted on the receipt or not.

Time Period of the Study: The zone fare changes in early January meant that higher than average travel periods in the District (e.g., the winter holidays) were not represented in the data.

Data Collection: Although drivers received training and attended monthly meetings organized by the Commission, problems existed due to an overall lack of controls on the data collection:

- Many drivers incorrectly used the meter (e.g., did not start the trip at the correct time or did not turn off the meter at the trip ending point);
- Zone fares were manually written in by drivers and did not note the number of zones traveled or any extra charges added to the fare. In a few cases, drivers recorded a zone fare below the minimum threshold of $6.50 (see *Lower and Upper Ranges on Fare Data* below).

Type of Trip: Drivers were instructed to write on the receipt the type of trip (e.g., business, tourist, commuter, or personal). The type of trip was recorded only about 35 percent of the time, meaning that in many cases the drivers did not write what type of trip occurred.

Extra Charges: Passengers were charged extra fees for additional passengers, travel during rush hour, excess baggage or trunks, radio dispatch, stops en-route, or personal service. While the receipt produced a line item for extra charges, it was an aggregate total and did not breakdown the charges into their various components. Additionally, the zone fare line item on the receipt was a total charge, meaning that it included not only the base zone rate, but also any extra charges which—like the meter rates—were also aggregated. Thus, many fares may have very high upper ranges based on the distance traveled due to the fact that extra charges were added to the total meter rate.
Lower and Upper Ranges on Fare Data: We were forced to remove several cases in which the zone fare noted on the receipt was far below the minimum threshold of $6.50 for zone fares or below the minimum applicable amount based on distance for meter fares. When breaking down the data based on distance or taxicab number, some fares may have very high upper ranges due to the fact that extra charges were added to the total meter rate.

Projected Amounts: As it is unknown if drivers would perform more or less trips outside of the time period of this study, the average amount collected per year in Table 12 and throughout Appendix 1 is simply a projected amount and is not exact.

Origin and Destination of Trips: Because drivers did not record the points of origins and final destinations of their trips, it is unknown whether most trips were concentrated in one area of the city or if the sample represents trips from all areas of D.C.

AREAS FOR FUTURE STUDY

The limitations on the data collected for this study suggest that further analysis may need to be conducted to gather greater information on implementing a metered taxicab system in the District of Columbia. Future studies should take into account the limitations on the data described above, especially:

Waiting Time: Meters should be obtained that can record charges incurred while taxicabs are stopped in traffic. Although the meters used in this study incorporated waiting time charges into the total meter fares, this information was not recorded nor printed on any receipts.

Interstate Trips: A more reliable method should be developed to identify whether trips are solely within the District of Columbia or if interstate charges, which use a separate rate system, are being used.

Data Collection: Drivers should receive extensive training on how to properly use the meter, how to accurately record zone fares, and how to identify mistakes. When simple errors are made, drivers should feel comfortable informing the data collectors that some data has been compromised.

Extra Charges: A more reliable method should be developed to specifically identify and differentiate what types of extra charges (i.e., rush hour, extra passengers, etc.) are incorporated into the meter fares.

Origin and Destination of Trips: Driver manifests might be studied to determine the points of origin and destinations of sample trips in order to ensure a diverse and random sample.

Distance: Again using the driver manifests, the route taken by the driver for each trip should be studied to determine if it was the most direct route, or if the driver was forced to take longer, alternate routes due to construction or traffic problems. Modifying the distance has a significant impact on the total meter rate, but has very little impact on the zone rate.

Descriptive Statistics

Table 1: Description of Sample Statistics

	Range	Median	Mean	Std. Deviation
Total Zone Fare [a]	$6.50 - $110.90	$10.80	$11.73	6.41
Total Meter Fare [b]	$2.75 - $95.00	$9.50	$11.20	6.77
Base Meter Rate [c]	$2.75 - $94.00	$8.00	$9.51	6.38
Extra Charges [d]	$0.00 - $10.50	$1.50	$1.69	1.45
Distance (miles)	0.04 - 59.50	2.80	3.87	4.00
Number of Passengers [e]	1 - 7	1.00	1.31	0.65

NOTE: N= 8,784 unless otherwise noted.

a "Total Zone Fare" is the total fare amount under the zone system and includes the zone charges plus any extra charges (i.e., additional passengers, travel during rush hour, etc.).

b "Total Meter Fare" is the total fare amount under the meter system and includes the base meter rate plus any extra charges.

c "Base Meter Rate" is the fare amount under the meter system based on distance and time and does not include any extra charges.

d "Extra Charges" is the amount added to the base meter rate to create the total meter fare and includes charges for extra passengers, excess luggage, etc.

e N = 8,584

Table 2: Description of Sample Statistics

	Yes (%)	No (%)
Weekday	83	17
Rush Hour	24.4	75.6
Interstate	5.6	94.4
Waiting	0.1	99.9

NOTE: N = 8,784

Table 3: Description of Sample Statistics

	Business (%)	Commuter (%)	Tourist (%)	Personal (%)
Type of Trip	17.7	22.9	5.8	53.6

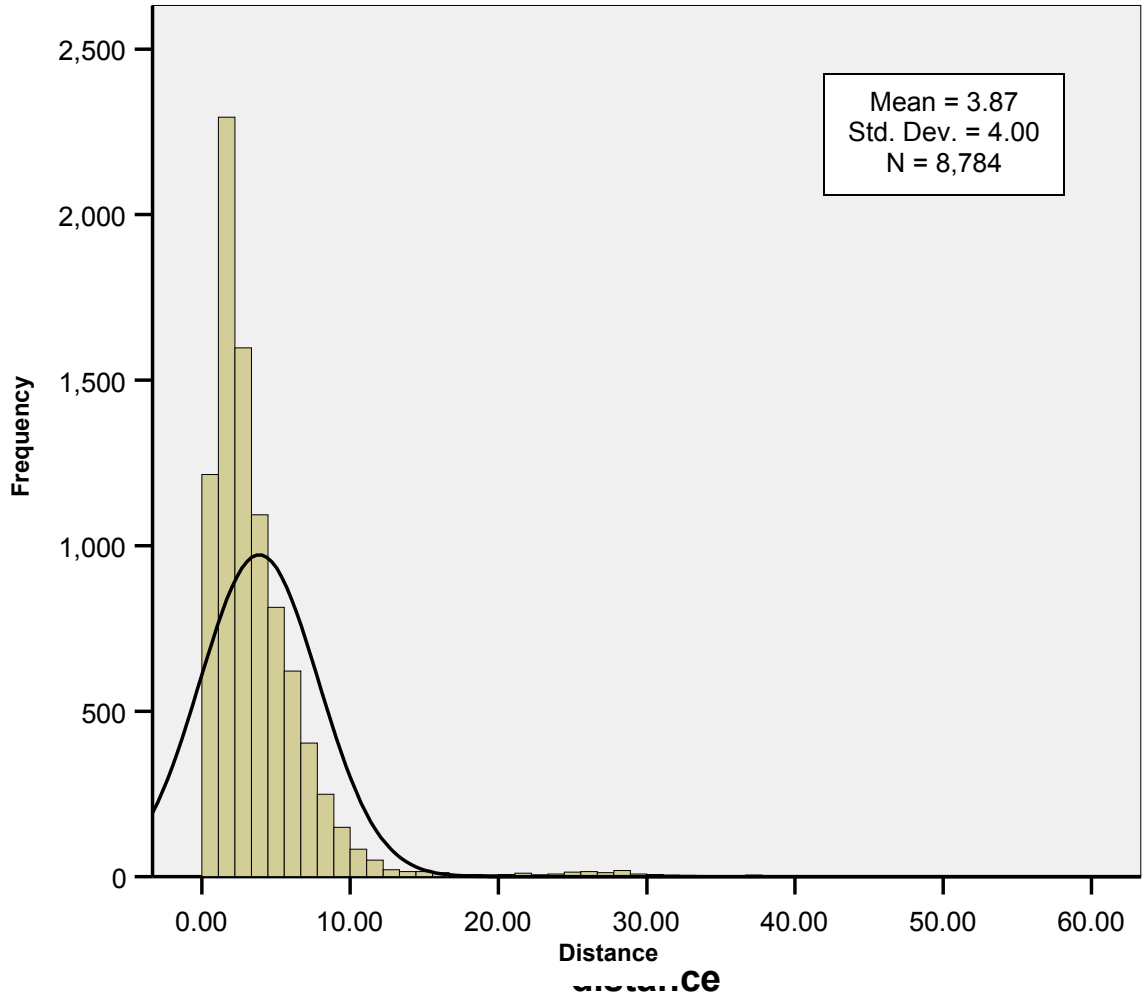
NOTE: N = 3,017

Key Findings

KEY FINDING 1: DISTANCE

The average distance of trips taken in this study was 3.87 miles. The shortest trip was 0.04 miles, with the longest trip being 59.5 miles.

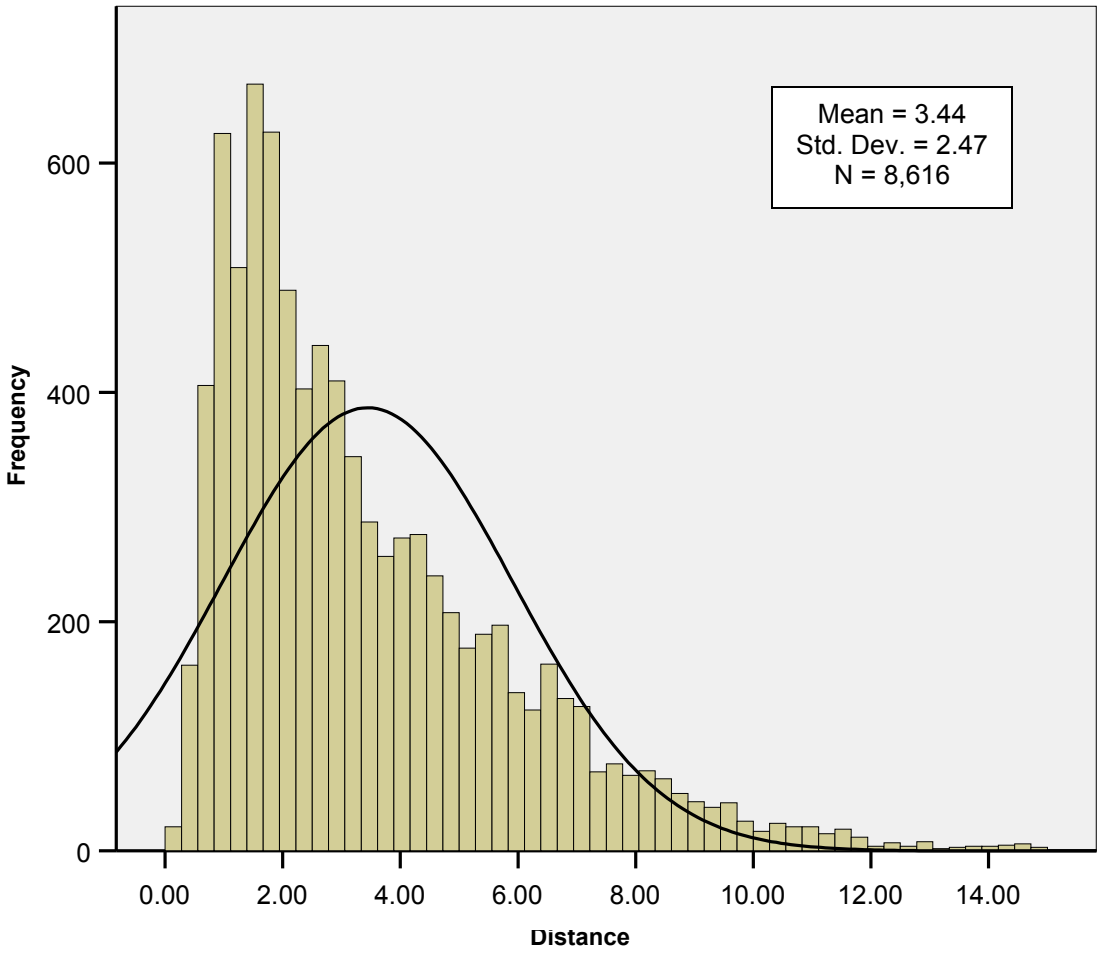
Figure 1: Frequency Distribution for Trips of All Lengths (in miles)



Mean =3.867
Std. Dev. =4.002
N =8,784

The average distance for trips less than 15 miles in length was 3.44 miles. The shortest trip was 0.04 miles and the longest trip was 14.92 miles.

Figure 2: Frequency Distribution for Trips Less than 15 Miles in Length (in miles)

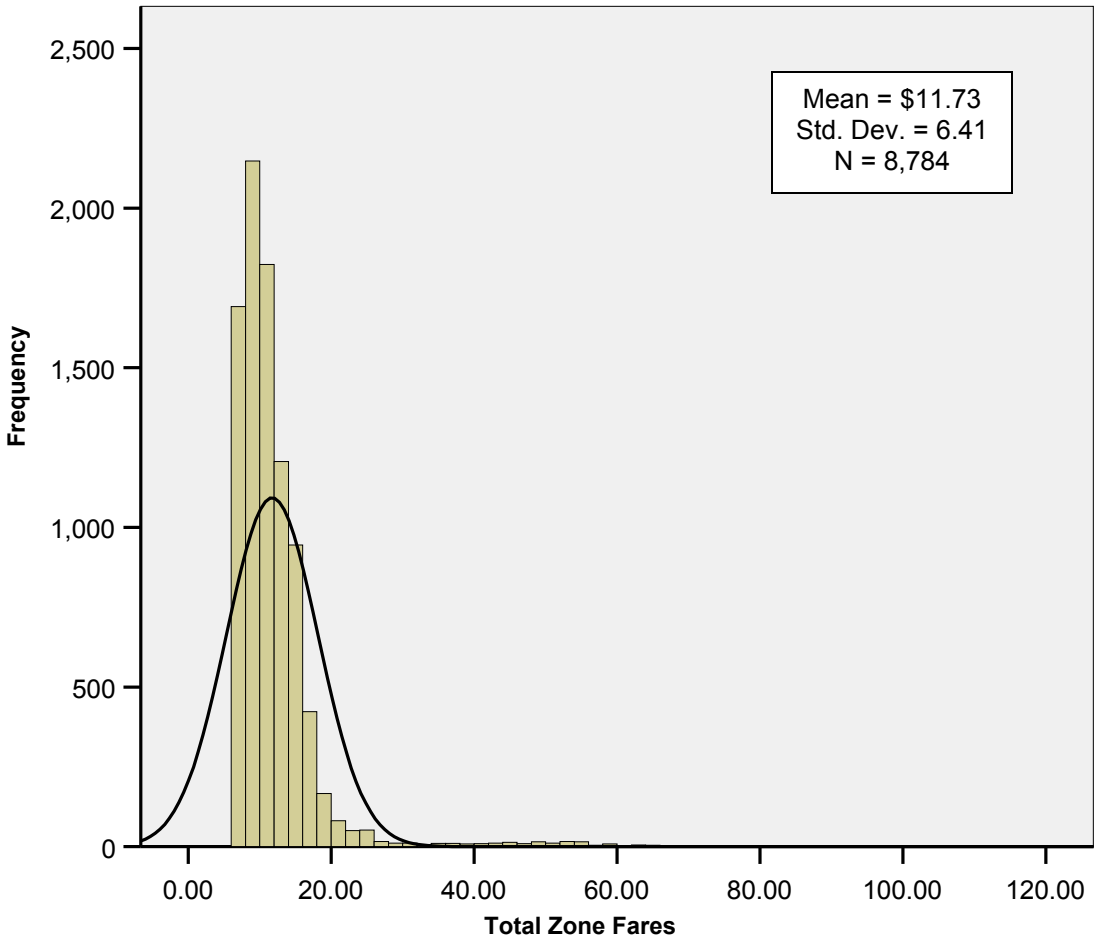


Mean =3.4434
Std. Dev. =2.4698
N =8,616

KEY FINDING 2: ZONE FARES

The average total zone fare calculated during this study was $11.73. The lowest total zone fare was $6.50, and the highest total zone fare was $110.90.

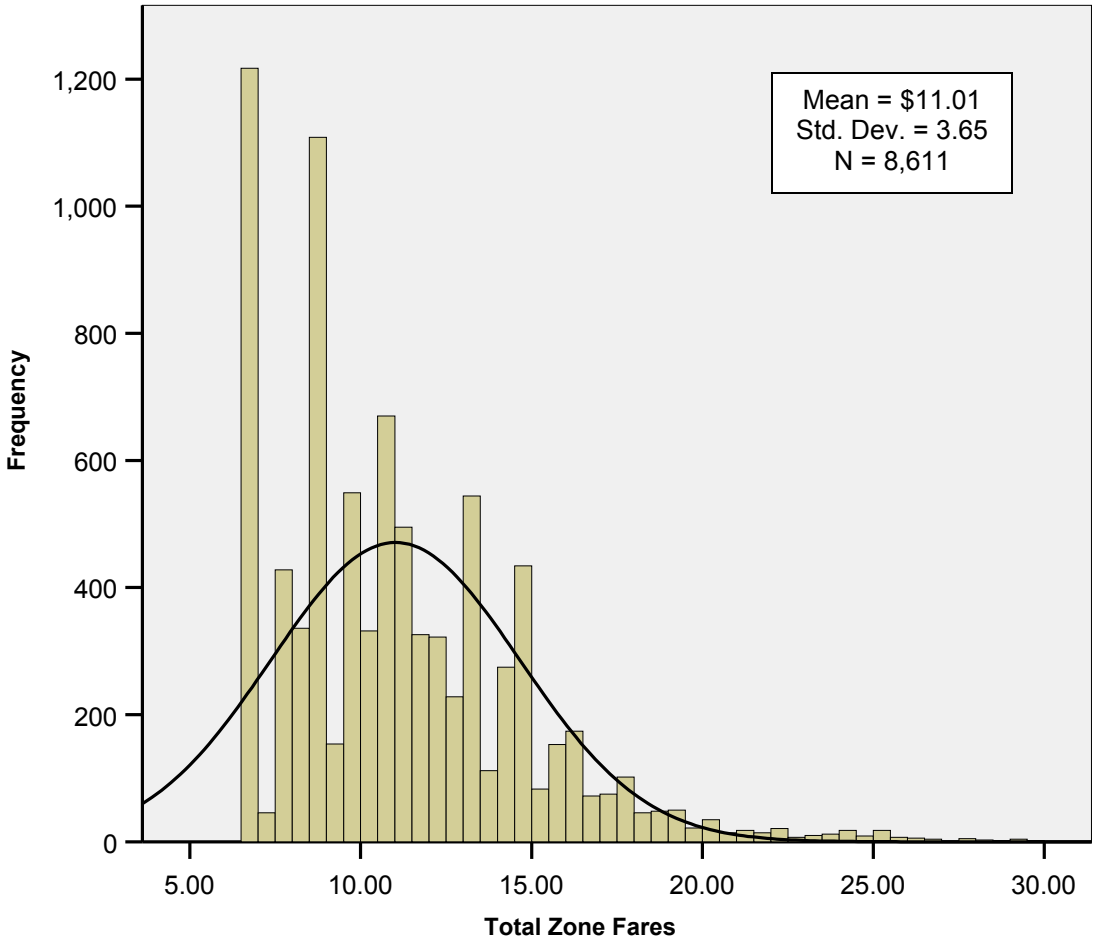
Figure 3: Frequency Distribution for Total Zone Fares (in Dollars)



Mean =11.7335
Std. Dev. =6.4142
N =8,784

The average total zone fare calculated for zone fares less than $30.00 was $11.01. The lowest total zone fare was $6.50, and the highest total zone fare was $29.80.

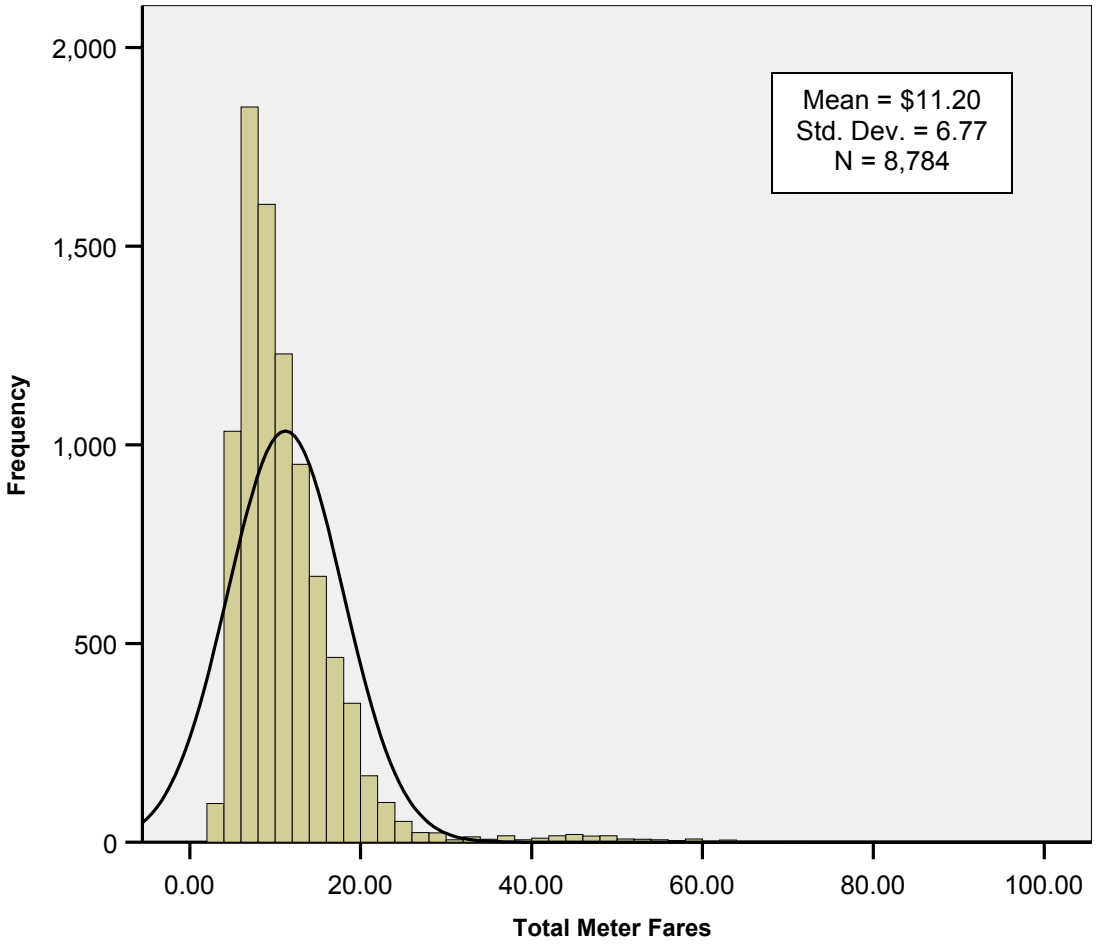
Figure 4: Frequency Distribution for Total Zone Fares less than $30.00 (in Dollars)



KEY FINDING 3: METER FARES

The average total meter fare calculated during this study was $11.20. The lowest total meter fare was $2.75, and the highest meter fare was $95.00.

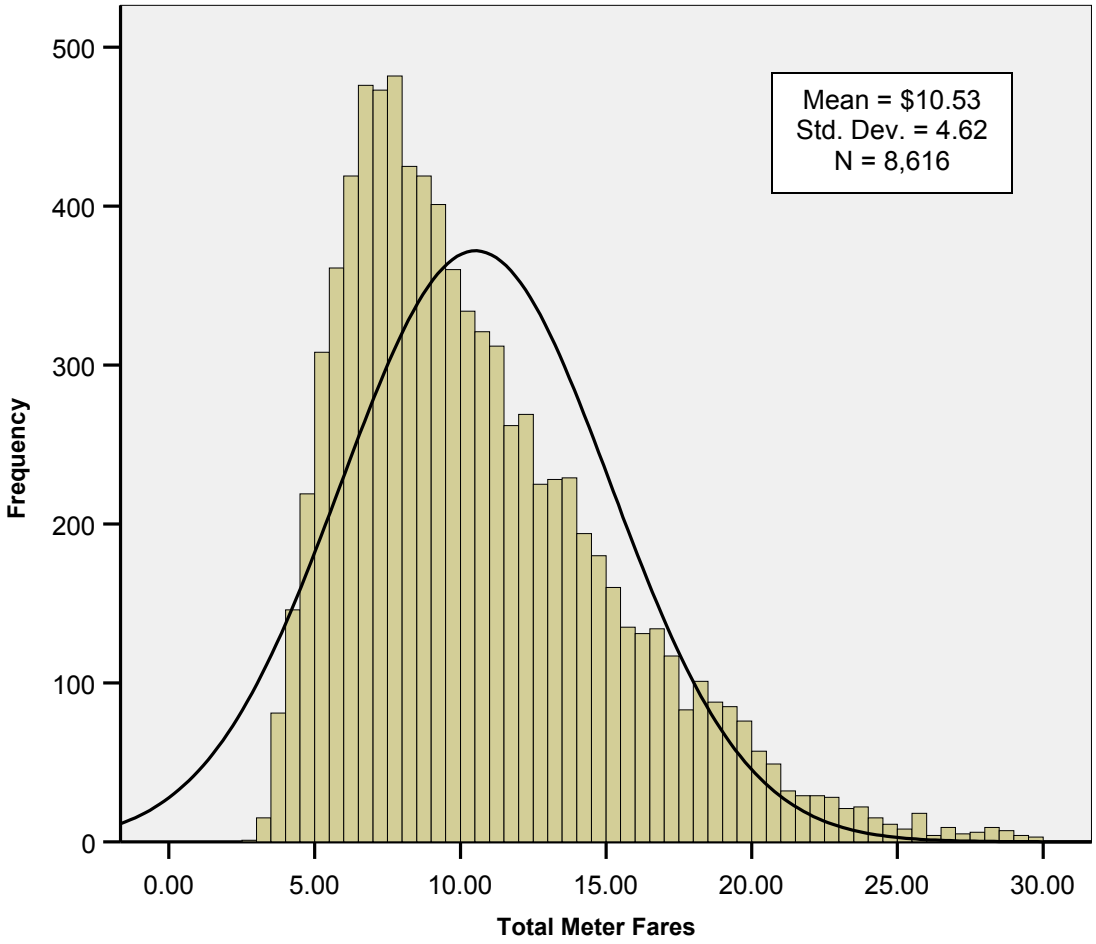
Figure 5: Frequency Distribution for Total Meter Fares (in Dollars)



Mean =11.1977
Std. Dev. =6.77102
N =8,784

The average total meter fare calculated for meter fares less than $30.00 was $10.53. The lowest total meter fare was $2.75, and the highest meter fare was $29.75.

Figure 6: Frequency Distribution for Total Meter Fares less than $30.00 (in Dollars)



Mean =10.527
Std. Dev. =4.62109
N =8,616

KEY FINDING 4: OVERALL FARE DIFFERENCES

The average total meter fare was $0.53 lower than the average total zone fare. However, the difference between the average total meter fare and the average total zone fare varied by distance:

(1) for trips less than 1 mile, the average total zone fare was $2.53 higher than the average total meter fare;

(2) for trips 1 to 4.99 miles, the average total zone fare was $0.91 higher than the average total meter fare; within this subgroup:

(a) for trips 1 to 1.99 miles, the average total zone fare was $1.65 higher than the average total meter fare;

(b) for trips 2 to 2.99 miles, the average total zone fare was $0.87 higher than the average total meter fare;

(c) for trips 3 to 3.99 miles, the average total zone fare was $0.38 higher than the average total meter fare;

(d) for trips 4 to 4.99 miles, the average total zone fare was $0.18 lower than the average total meter fare;

(3) for trips 5 miles to 9.99 miles, the average total zone fare was $1.51 lower than the average total meter fare;

(4) for trips 10 miles to 14.99 miles, the average total zone fare was $2.22 lower than the average total meter fare; and

(5) for trips 15 miles and longer, the average total zone fare was $2.34 higher than the average total meter fare.

For detailed descriptive statistics regarding the effects of distance, please see Tables 5 through 9.

Table 4: Fare Differences Based on Distance Categories

Distance	N	Average Total Meter Rate	Average Total Zone Rate	Difference (Zone – Meter)
Less than 1 mile	818	$5.50	$8.03	$2.53
1 mile to 4.99 miles	5830	$9.05	$9.96	$0.91
1 mile to 1.99 miles	2238	$7.01	$8.66	$1.65
2 miles to 2.99 miles	1600	$8.83	$9.70	$0.87
3 miles to 3.99 miles	1087	$10.70	$11.08	$0.38
4 miles to 4.99 miles	905	$12.49	$12.31	-$0.18
5 miles to 9.99 miles	1789	$16.31	$14.80	-$1.51
10 miles to 14.99 miles	179	$24.05	$21.83	-$2.22
15 miles and longer	168	$45.42	$47.76	$2.34

The following tables present the impact of distance on both meter and zone fare totals. While the lower ranges are generally aligned with what a standard fare would be for that particular distance, the upper ranges vary greatly due to extra fares (i.e., additional passengers, excess baggage, travel during rush hour, etc.).

Table 5: Impact of Distance for Cases Less Than 1 Mile

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	818	$2.75 - $11.25	$5.25	$5.50	1.50
Total Zone Fare	818	$6.50 - $14.80	$7.50	$8.03	1.66

Table 6a: Impact of Distance for Cases 1 Mile to 4.99 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	5830	$4.00 - $27.75	$8.75	$9.05	2.66
Total Zone Fare	5830	$6.50 - $26.10	$9.80	$9.96	2.51

Table 6b: Impact of Distance for Cases 1 Mile to 1.99 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	2238	$4.00 - $20.50	$6.75	$7.01	1.67
Total Zone Fare	2238	$6.50 - $25.00	$8.80	$8.66	1.96

Table 6c: Impact of Distance for Cases 2 Miles to 2.99 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	1600	$5.50 - $20.50	$8.75	$8.83	1.68
Total Zone Fare	1600	$6.50 - $25.00	$9.80	$9.70	2.16

Table 6d: Impact of Distance for Cases 3 Miles to 3.99 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	1087	$7.00 - $20.75	$10.50	$10.70	1.88
Total Zone Fare	1087	$6.50 - $24.00	$10.80	$11.08	2.22

Table 6e: Impact of Distance for Cases 4 Miles to 4.99 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	905	$8.50 - $27.75	$12.25	$12.49	1.99
Total Zone Fare	905	$6.50 - $26.10	$12.30	$12.31	2.34

Table 7: Impact of Distance for Cases 5 Miles to 9.99 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	1789	$10.00 - $28.25	$16.00	$16.31	2.84
Total Zone Fare	1789	$6.50 - $29.00	$14.60	$14.80	2.87

Table 8: Impact of Distance for Cases 10 miles to 14.99 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	179	$18.00 - $37.00	$23.75	$24.05	3.17
Total Zone Fare	179	$11.40 - $36.55	$22.15	$21.83	5.01

Table 9: Impact of Distance for Cases Greater than 15 Miles

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	168	$25.75 - $95.00	$45.00	$45.42	10.07
Total Zone Fare	168	$24.40 - $110.90	$48.20	$47.76	11.13

KEY FINDING 5: TOURIST SEASON

There was very little difference between the average fares collected during a low tourist season and a high tourist season this year. The average meter fare collected during the low season was $11.06, and the average meter fare collected during the high season was $10.83. The average zone fare collected during low season was $11.73, and the average zone fare collected during the high season was $11.49.

The low tourist period chosen was from Saturday, February 25, 2006 to Sunday, March 12, 2006. There were no major holidays during this time period, nor were Washington, DC public schools closed. The high tourist period chosen was from Saturday, March 25 to Sunday, April 9, 2006. This second time period covered the National Cherry Blossom Festival, which likely saw a surge in the number of tourists visiting Washington, DC.

Table 10: Low Tourist Season in DC: Saturday, February 25, 2006 – Sunday, March 12, 2006

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	1140	$3.00 - $58.50	$9.63	$11.06	6.25
Total Zone Fare	1140	$6.50 - $57.50	$10.80	$11.73	5.83

Table 11: High Tourist Season in DC: Saturday, March 25 – Sunday, April 9, 2006 (National Cherry Blossom Festival)

	N	Range	Median	Mean	Std. Deviation
Total Meter Fare	1026	$3.25 - $75.50	$9.25	$10.83	6.59
Total Zone Fare	1026	$6.50 - $59.90	$10.50	$11.49	6.09

KEY FINDING 6: YEARLY DIFFERENCES

The difference between the total amount collected by meter fares and the total amount collected by zone fares varied greatly by each taxicab. For two taxicabs, total meter fares were greater than total zone fares. For the remainder of the taxicabs, total zone fares were greater than total meter fares and varied widely.

Shown below is the daily analysis and yearly projection for both meter fares and zone fares for Taxicab 14. Taxicab 14 is displayed as it had the largest number of trips out of all taxicabs in the study (N = 1,208). Appendix 1 includes similar information on all taxicabs in the study.

The average amount collected per day was determined by dividing the total income for each of the fares (meter and zone) by the number of days the taxicab performed trips in the study. The number of days each taxicab performed trips during the study is noted below the analysis of each taxicab.

The average amount collected per year was determined in the following method:

> (1) the number of days the taxicab performed trips during the study was divided by 143—the total number of days the study was conducted—and then multiplied by 365 days (a full year) to determine the projected number of days a taxicab might conduct trips during a full year;
>
> (2) the projected number of days for a full year was then multiplied by the average amount collected per day (both total meter and total zone fares) to determine the average amount collected per year.

Table 12: Daily and Yearly Analysis for Taxicab 14

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	1,208	$3.50 - $62.75	$11.75	$12.41	$14,987.25	5.33
Total Zone Fare	1,208	$6.50 - $70.90	$12.30	$12.53	$15,132.40	4.72
Distance (miles)	1,208	0.40 - 37.60	4.00	4.48	5,413.27	3.11

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$130.32	$38,314.08
Total Zone Fare	$131.59	$38,687.46

NOTE: Taxicab 14 performed trips on 115 days of the study, translating to 294 days of a 365-day year.

Appendix I

Daily and Yearly Analysis for All Taxicabs

Table 13: Daily and Yearly Analysis for Taxicab 1

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	142	$3.50 - $63.25	$10.00	$12.46	$1,768.75	9.63
Total Zone Fare	142	$6.50 - $62.00	$9.05	$12.03	$1,708.30	9.58
Distance (miles)	142	0.40 - 37.90	3.05	5.18	735.90	6.35

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$45.35	$4,535.00
Total Zone Fare	$43.80	$4,380.00

NOTE: Taxicab 1 performed trips on 39 days of the study, translating to 100 days of a 365-day year.

Table 14: Daily and Yearly Analysis for Taxicab 2

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	88	$3.75 - $58.50	$8.25	$10.62	$934.75	8.68
Total Zone Fare	88	$6.50 - $55.00	$8.80	$10.86	$955.55	7.75
Distance (miles)	88	0.10 - 36.50	2.55	3.92	345.00	5.69

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$49.20	$2,410.80
Total Zone Fare	$50.29	$2,464.21

NOTE: Taxicab 2 performed trips on 19 days of the study, translating to 49 days of a 365-day year.

Table 15: Daily and Yearly Analysis for Taxicab 3

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	71	$3.50 - $24.25	$10.00	$11.48	$815.00	5.04
Total Zone Fare	71	$6.50 - $20.55	$11.00	$11.66	$827.75	3.44
Distance (miles)	71	0.49 - 11.22	2.97	3.77	267.82	2.60

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$81.50	$2,119.00
Total Zone Fare	$82.78	$2,152.28

NOTE: Taxicab 3 performed trips on 10 days of the study, translating to 26 days of a 365-day year.

Table 16: Daily and Yearly Analysis for Taxicab 5

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	424	$3.00 - $46.25	$7.25	$8.58	$3,639.00	5.80
Total Zone Fare	424	$6.50 - $57.05	$8.80	$10.11	$4,284.90	6.36
Distance (miles)	424	0.30 - 29.00	1.90	2.88	1,219.60	3.71

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$53.51	$9,310.74
Total Zone Fare	$63.01	$10,963.74

NOTE: Taxicab 5 performed trips on 68 days of the study, translating to 174 days of a 365-day year.

Table 17: Daily and Yearly Analysis for Taxicab 6

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	609	$4.50 - $59.75	$7.50	$7.92	$4,826.00	2.90
Total Zone Fare	609	$6.50 - $54.65	$8.80	$8.50	$5,173.60	2.59
Distance (miles)	609	0.10 - 32.30	1.50	1.77	1,076.87	1.66

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$40.90	$12,351.80
Total Zone Fare	$43.84	$13,239.68

NOTE: Taxicab 6 performed trips on 118 days of the study, translating to 302 days of a 365-day year.

Table 18: Daily and Yearly Analysis for Taxicab 7

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	156	$2.75 - $71.75	$7.00	$8.26	$1,289.25	6.36
Total Zone Fare	156	$6.50 - $65.00	$8.00	$9.75	$1,520.40	5.87
Distance (miles)	156	0.10 - 37.40	1.50	2.41	375.70	3.54

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$53.72	$3,330.64
Total Zone Fare	$63.35	$3,927.70

NOTE: Taxicab 7 performed trips on 24 days of the study, translating to 62 days of a 365-day year.

Table 19: Daily and Yearly Analysis for Taxicab 8

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	696	$3.25 - $95.00	$10.25	$11.56	$8,049.20	6.74
Total Zone Fare	696	$6.50 - $110.90	$10.80	$11.58	$8,057.80	6.13
Distance (miles)	696	0.10 - 59.50	3.20	4.07	2,830.10	3.84

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$85.63	$20,551.20
Total Zone Fare	$85.72	$20,572.80

NOTE: Taxicab 8 performed trips on 94 days of the study, translating to 240 days of a 365-day year.

Table 20: Daily and Yearly Analysis for Taxicab 10

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	693	$3.00 - $55.75	$7.00	$8.55	$5,921.75	5.99
Total Zone Fare	693	$6.50 - $64.25	$8.80	$9.98	$6,918.10	6.28
Distance (miles)	693	0.20 - 33.50	1.70	2.71	1,878.40	3.70

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$70.50	$15,157.50
Total Zone Fare	$82.36	$17,707.40

NOTE: Taxicab 10 performed trips on 84 days of the study, translating to 215 days of a 365-day year.

Table 21: Daily and Yearly Analysis for Taxicab 11

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	570	$3.50 - $47.25	$8.25	$9.37	$5,343.25	5.11
Total Zone Fare	570	$6.50 - $54.55	$8.80	$9.76	$5,565.55	4.98
Distance (miles)	570	0.40 - 28.20	2.30	3.06	1,743.40	3.04

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$62.13	$13,668.60
Total Zone Fare	$64.72	$14,238.40

NOTE: Taxicab 11 performed trips on 86 days of the study, translating to 220 days of a 365-day year.

Table 22: Daily and Yearly Analysis for Taxicab 12

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	118	$4.50 - $63.25	$16.00	$17.25	$2,035.25	9.88
Total Zone Fare	118	$6.50 - $72.55	$13.65	$17.53	$2,068.65	10.85
Distance (miles)	118	0.70 - 37.60	4.65	6.54	771.23	6.18

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$23.39	$5,215.97
Total Zone Fare	$23.78	$5,302.94

NOTE: Taxicab 12 performed trips on 87 days of the study, translating to 223 days of a 365-day year.

Table 23: Daily and Yearly Analysis for Taxicab 13

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	235	$4.00 - $43.00	$9.00	$9.75	$2,291.00	5.22
Total Zone Fare	235	$6.50 - $49.10	$9.75	$10.53	$2,473.95	5.16
Distance (miles)	235	0.48 - 24.60	3.82	4.05	952.62	3.17

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$45.82	$5,864.96
Total Zone Fare	$49.48	$6,333.44

NOTE: Taxicab 13 performed trips on 50 days of the study, translating to 128 days of a 365-day year.

Table 24: Daily and Yearly Analysis for Taxicab 14

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	1,208	$3.50 - $62.75	$11.75	$12.41	$14,987.25	5.33
Total Zone Fare	1,208	$6.50 - $70.90	$12.30	$12.53	$15,132.40	4.72
Distance (miles)	1,208	0.40 - 37.60	4.00	4.48	5,413.27	3.11

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$130.32	$38,314.08
Total Zone Fare	$131.59	$38,687.46

NOTE: Taxicab 14 performed trips on 115 days of the study, translating to 294 days of a 365-day year.

Table 25: Daily and Yearly Analysis for Taxicab 18

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	702	$3.50 - $61.50	$11.50	$12.42	$8,718.80	5.35
Total Zone Fare	702	$6.50 - $63.00	$12.30	$12.71	$8,925.25	4.22
Distance (miles)	702	0.29 - 36.96	3.57	4.19	2,943.19	3.05

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$68.65	$22,311.25
Total Zone Fare	$70.28	$22,841.00

NOTE: Taxicab 18 performed trips on 127 days of the study, translating to 325 days of a 365-day year.

Table 26: Daily and Yearly Analysis for Taxicab 19

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	23	$3.25 - $36.00	$7.25	$9.50	$218.50	6.88
Total Zone Fare	23	$6.50 - $36.00	$7.50	$9.99	$229.75	6.56
Distance (miles)	23	0.40 - 17.43	2.15	3.40	78.20	3.88

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$36.42	$582.72
Total Zone Fare	$38.29	$612.64

NOTE: Taxicab 19 performed trips on 6 days of the study, translating to 16 days of a 365-day year.

Table 27: Daily and Yearly Analysis for Taxicab 20

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	166	$3.75 - $44.75	$11.25	$13.44	$2,230.75	7.07
Total Zone Fare	166	$6.50 - $47.85	$12.88	$14.42	$2,393.70	6.83
Distance (miles)	166	0.45 - 23.71	3.15	4.71	781.34	3.97

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$71.96	$5,756.80
Total Zone Fare	$77.22	$6,177.60

NOTE: Taxicab 20 performed trips on 31 days of the study, translating to 80 days of a 365-day year.

Table 28: Daily and Yearly Analysis for Taxicab 21

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	45	$3.50 - $44.25	$7.50	$9.30	$418.50	8.10
Total Zone Fare	45	$6.50 - $52.75	$8.00	$10.56	$475.00	8.55
Distance (miles)	45	0.40 - 27.22	1.31	3.01	135.38	5.35

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$32.19	$1,094.46
Total Zone Fare	$36.54	$1,242.36

NOTE: Taxicab 21 performed trips on 13 days of the study, translating to 34 days of a 365-day year.

Table 29: Daily and Yearly Analysis for Taxicab 22

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	472	$3.00 - $50.50	$7.00	$7.96	$3,756.50	5.03
Total Zone Fare	472	$6.50 - $52.45	$9.00	$9.76	$4,605.95	4.69
Distance (miles)	472	0.04 - 30.12	1.47	2.11	994.41	3.05

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$33.24	$9,606.36
Total Zone Fare	$40.76	$11,779.64

NOTE: Taxicab 22 performed trips on 113 days of the study, translating to 289 days of a 365-day year.

Table 30: Daily and Yearly Analysis for Taxicab 24

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	624	$3.25 - $62.75	$10.75	$12.06	$7,523.50	6.38
Total Zone Fare	624	$6.50 - $70.00	$11.80	$12.78	$7,975.00	6.31
Distance (miles)	624	0.14 - 35.93	3.10	3.97	2,475.44	3.77

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$60.67	$19,232.39
Total Zone Fare	$64.31	$20,386.27

NOTE: Taxicab 24 performed trips on 124 days of the study, translating to 317 days of a 365-day year.

Table 31: Daily and Yearly Analysis for Taxicab S1

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	305	$5.00 - $28.50	$11.00	$11.67	$3,558.00	3.93
Total Zone Fare	305	$6.50 - $19.00	$11.60	$11.76	$3,587.00	2.23
Distance (miles)	305	0.41 - 14.18	3.33	3.75	1,144.14	2.26

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$37.06	$9,116.76
Total Zone Fare	$37.36	$9,190.56

NOTE: Taxicab S1 performed trips on 96 days of the study, translating to 246 days of a 365-day year.

Table 32: Daily and Yearly Analysis for Taxicab S2

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	858	$3.00 - $75.50	$13.00	$15.20	$13,039.00	10.32
Total Zone Fare	858	$6.50 - $67.55	$12.30	$15.19	$13,032.00	10.41
Distance (miles)	858	0.37 - 46.52	4.72	6.23	5,341.02	6.27

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$104.31	$33,379.20
Total Zone Fare	$104.26	$33,363.20

NOTE: Taxicab S2 performed trips on 125 days of the study, translating to 320 days of a 365-day year.

Table 33: Daily and Yearly Analysis for Taxicab S3

	N	Range	Median	Mean Amount Per Trip	Total Income and Distance	Std. Deviation
Total Meter Fare	579	$3.50 - $55.00	$11.00	$12.08	$6,996.75	5.98
Total Zone Fare	579	$6.50 - $55.00	$11.80	$12.36	$7,156.35	5.06
Distance (miles)	579	0.41 - 31.39	3.39	4.26	2,465.51	3.41

	Average Amount Collected Per Day	Average Amount Collected Per Year
Total Meter Fare	$78.62	$17,925.36
Total Zone Fare	$80.41	$18,333.48

NOTE: Taxicab S3 performed trips on 89 days of the study, translating to 228 days of a 365-day year.

APPENDIX II

Increasing the Drop Rate from $2.50 to $2.75

The drop rate—the initial fare that is charged when the meter is first activated—was set at $2.50 for this study. This section examines the potential cost differences between total zone fares and total meter fares when the drop rate is increased by $0.25 to $2.75. The total meter fare with a drop rate of $2.75 was determined by the following method:

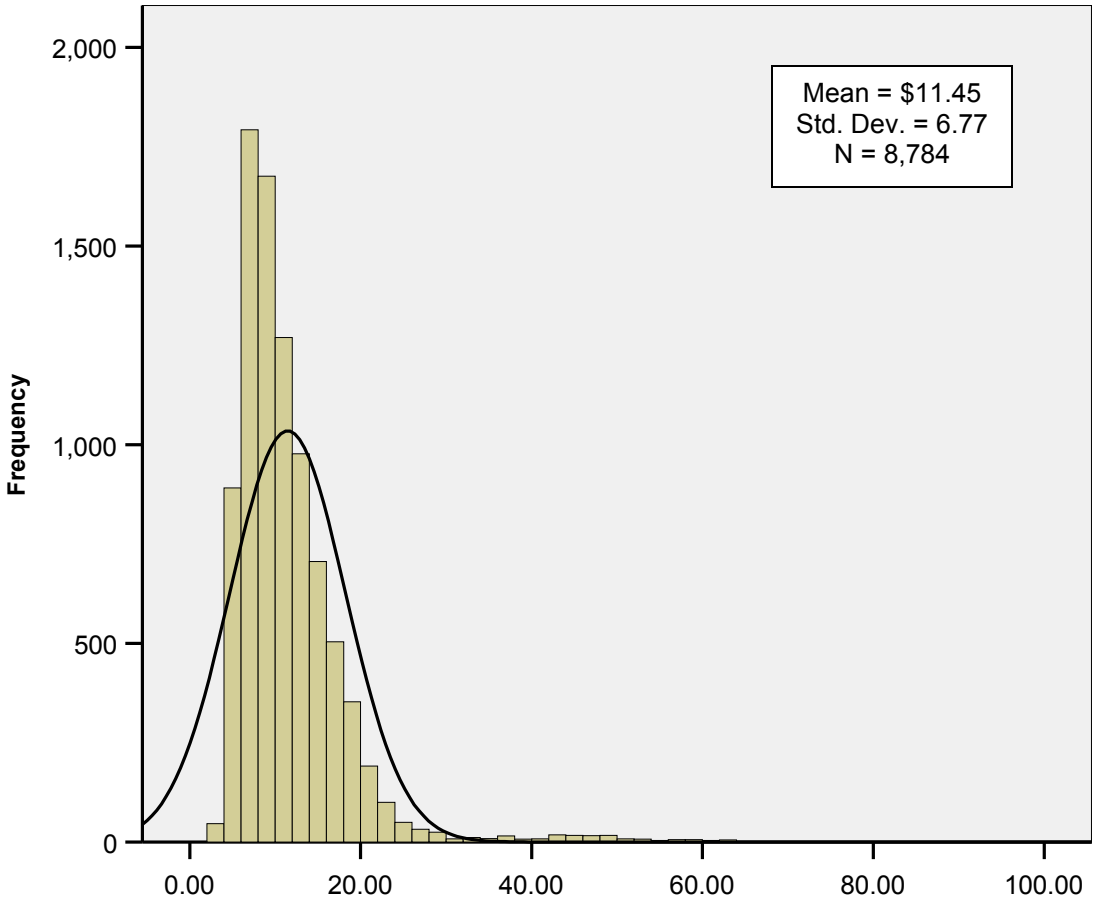
(1) the base meter rate (i.e., the metered fare based on distance and time alone) was observed;

(2) $0.25 was added to the base meter rate;

(3) any extra fares were added to this new base meter rate to determine the total meter fare with a drop rate of $2.75.

When the drop rate was increased from $2.50 to $2.75, the average total meter fare calculated during this study was $11.45. The lowest total meter fare was $3.00, and the highest meter fare was $95.25.

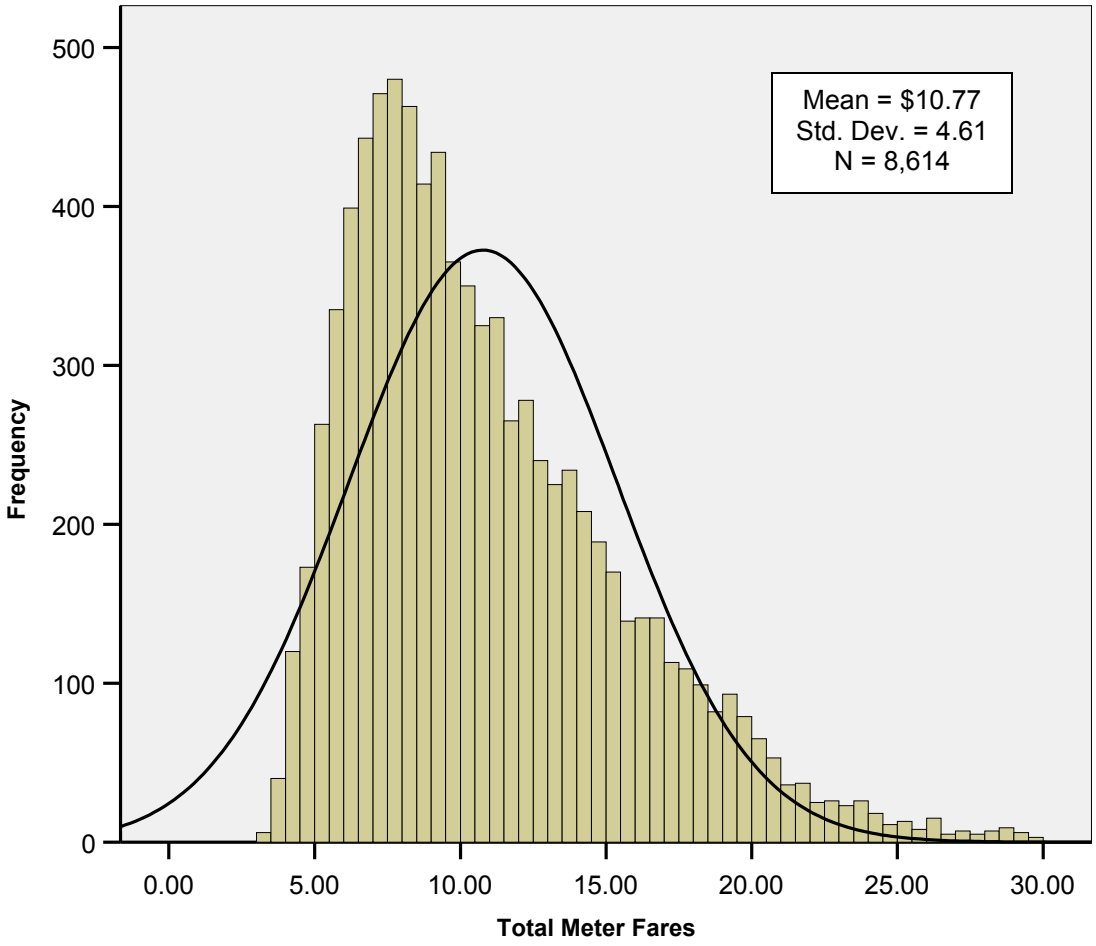
Figure 7: Frequency Distribution for Total Meter Fares with a $2.75 Drop Rate (in Dollars)



Total Meter Fares

When the drop rate was increased from $2.50 to $2.75, the average total meter fare calculated for meter fares less than $30.00 was $10.77. The lowest total meter fare was $3.00, and the highest meter fare was $29.75.

Figure 8: Frequency Distribution for Total Meter Fares less than $30.00 with a $2.75 Drop Rate (in Dollars)



Mean =10.7725
Std. Dev. =4.61233
N =8,614

When the drop rate was increased from $2.50 to $2.75, the average total zone fare was $0.28 higher than the average total meter fare. However, the difference between the average total meter fare and the average total zone fare varied by distance:

(1) for trips less than 1 mile, the average total zone fare was $2.28 higher than the average total meter fare;

(2) for trips 1 to 4.99 miles, the average total zone fare was $0.66 higher than the average total meter fare; within this subgroup:

(a) for trips 1 to 1.99 miles, the average total zone fare was $1.40 higher than the average total meter fare;

(b) for trips 2 to 2.99 miles, the average total zone fare was $0.62 higher than the average total meter fare;

(c) for trips 3 to 3.99 miles, the average total zone fare was $0.13 higher than the average total meter fare;

(d) for trips 4 to 4.99 miles, the average total zone fare was $0.43 lower than the average total meter fare;

(3) for trips 5 miles to 9.99 miles, the average total zone fare was $1.76 lower than the average total meter fare;

(4) for trips 10 miles to 14.99 miles, the average total zone fare was $2.47 lower than the average total meter fare; and

(5) for trips 15 miles and longer, the average total zone fare was $2.09 higher than the average total meter fare.

Table 34: Fare Differences Based on Distance Categories with a $2.75 Drop Rate

Distance	N	Average Total Meter Rate	Average Total Zone Rate	Difference (Zone – Meter)
Less than 1 mile	818	$5.75	$8.03	$2.28
1 mile to 4.99 miles	5830	$9.30	$9.96	$0.66
1 mile to 1.99 miles	2238	$7.26	$8.66	$1.40
2 miles to 2.99 miles	1600	$9.08	$9.70	$0.62
3 miles to 3.99 miles	1087	$10.95	$11.08	$0.13
4 miles to 4.99 miles	905	$12.74	$12.31	-$0.43
5 miles to 9.99 miles	1789	$16.56	$14.80	-$1.76
10 miles to 14.99 miles	179	$24.30	$21.83	-$2.47
15 miles and longer	168	$45.67	$47.76	$2.09

Appendix III

Increasing the Drop Rate from $2.50 to $3.00

Again, the drop rate—or the fare that is charged the moment the meter begins charging—was set at $2.50 for this study. This section examines the potential cost differences between total zone fares and total meter fares when the drop rate is increased by $0.50 to $3.00. The total meter fare with a drop rate of $3.00 was determined by the following method:

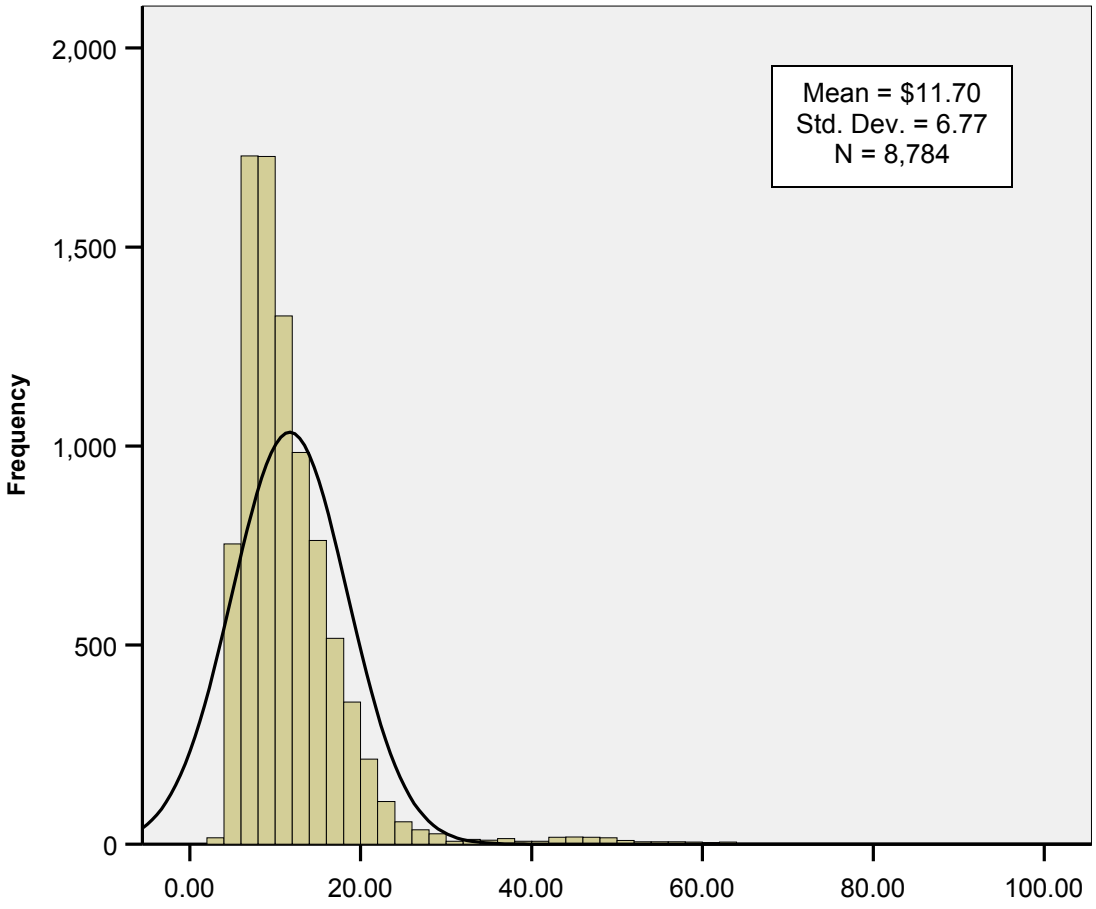
(1) the base meter rate (i.e., the metered fare based on distance and time alone) was observed;

(2) $0.50 was added to the base meter rate;

(3) any extra fares were added to this new base meter rate to determine the total meter fare with a drop rate of $3.00.

When the drop rate was increased from $2.50 to $3.00, the average total meter fare calculated during this study was $11.70. The lowest total meter fare was $3.25, and the highest meter fare was $95.50.

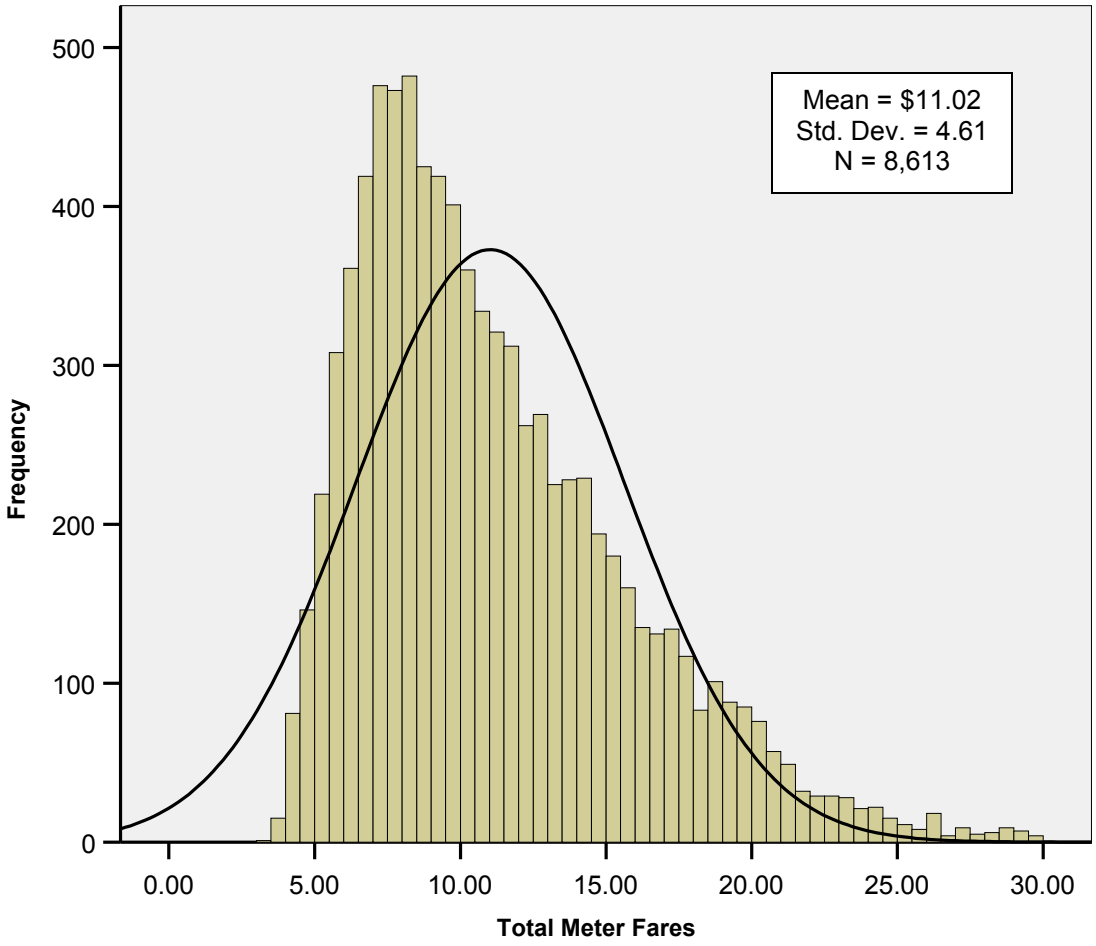
Figure 9: Frequency Distribution for Total Meter Fares with a $3.00 Drop Rate (in Dollars)



Total Meter Fares

When the drop rate was increased from $2.50 to $3.00, the average total meter fare calculated for meter fares less than $30.00 was $11.02. The lowest total meter fare was $3.25, and the highest meter fare was $29.75.

Figure 10: Frequency Distribution for Total Meter Fares less than $30.00 with a $3.00 Drop Rate (in Dollars)



Mean =11.0203
Std. Dev. =4.60806
N =8,613

When the drop rate was increased from $2.50 to $3.00, the average total zone fare was $0.03 higher than the average total meter fare. However, the difference between the average total meter fare and the average total zone fare varied by distance:

(1) for trips less than 1 mile, the average total zone fare was $2.03 higher than the average total meter fare;

(2) for trips 1 to 4.99 miles, the average total zone fare was $0.41 higher than the average total meter fare; within this subgroup:

(a) for trips 1 to 1.99 miles, the average total zone fare was $1.15 higher than the average total meter fare;

(b) for trips 2 to 2.99 miles, the average total zone fare was $0.37 higher than the average total meter fare;

(c) for trips 3 to 3.99 miles, the average total zone fare was $0.12 lower than the average total meter fare;

(d) for trips 4 to 4.99 miles, the average total zone fare was $0.68 lower than the average total meter fare;

(3) for trips 5 miles to 9.99 miles, the average total zone fare was $2.01 lower than the average total meter fare;

(4) for trips 10 miles to 14.99 miles, the average total zone fare was $2.72 lower than the average total meter fare; and

(5) for trips 15 miles and longer, the average total zone fare was $1.84 higher than the average total meter fare.

Table 35: Fare Differences Based on Distance Categories with a $3.00 Drop Rate

Distance	N	Average Total Meter Rate	Average Total Zone Rate	Difference (Zone – Meter)
Less than 1 mile	818	$6.00	$8.03	$2.03
1 mile to 4.99 miles	5830	$9.55	$9.96	$0.41
1 mile to 1.99 miles	2238	$7.51	$8.66	$1.15
2 miles to 2.99 miles	1600	$9.33	$9.70	$0.37
3 miles to 3.99 miles	1087	$11.20	$11.08	-$0.12
4 miles to 4.99 miles	905	$12.99	$12.31	-$0.68
5 miles to 9.99 miles	1789	$16.81	$14.80	-$2.01
10 miles to 14.99 miles	179	$24.55	$21.83	-$2.72
15 miles and longer	168	$45.92	$47.76	$1.84

Appendix IV

Increasing the Drop Rate from $2.50 to $4.00

Again, the drop rate—or the fare that is charged the moment the meter begins charging—was set at $2.50 for this study. This section examines the potential cost differences between total zone fares and total meter fares when the drop rate is increased by $1.50 to $4.00. The total meter fare with a drop rate of $4.00 was determined by the following method:

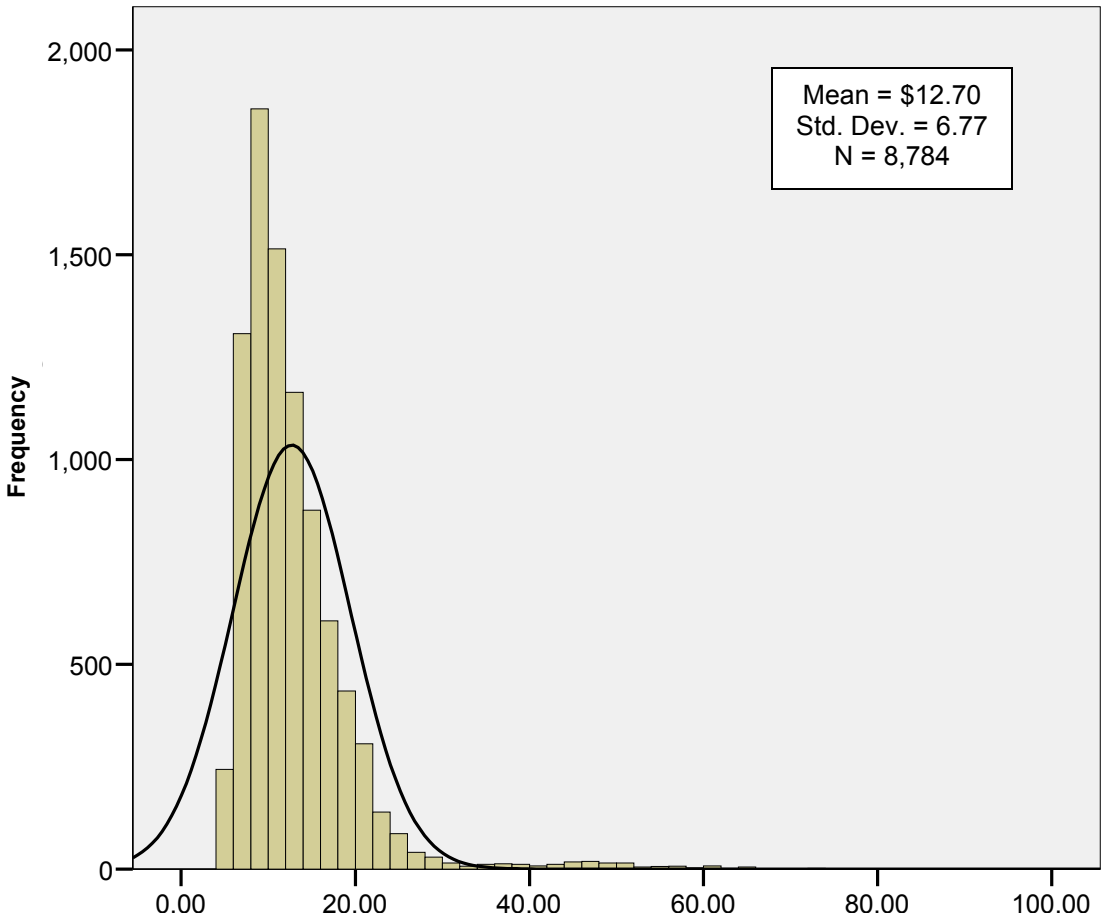
(1) the base meter rate (i.e., the metered fare based on distance and time alone) was observed;

(2) $1.50 was added to the base meter rate;

(3) any extra fares were added to this new base meter rate to determine the total meter fare with a drop rate of $4.00.

When the drop rate was increased from $2.50 to $4.00, the average total meter fare calculated during this study was $12.70. The lowest total meter fare was $4.25, and the highest meter fare was $96.50.

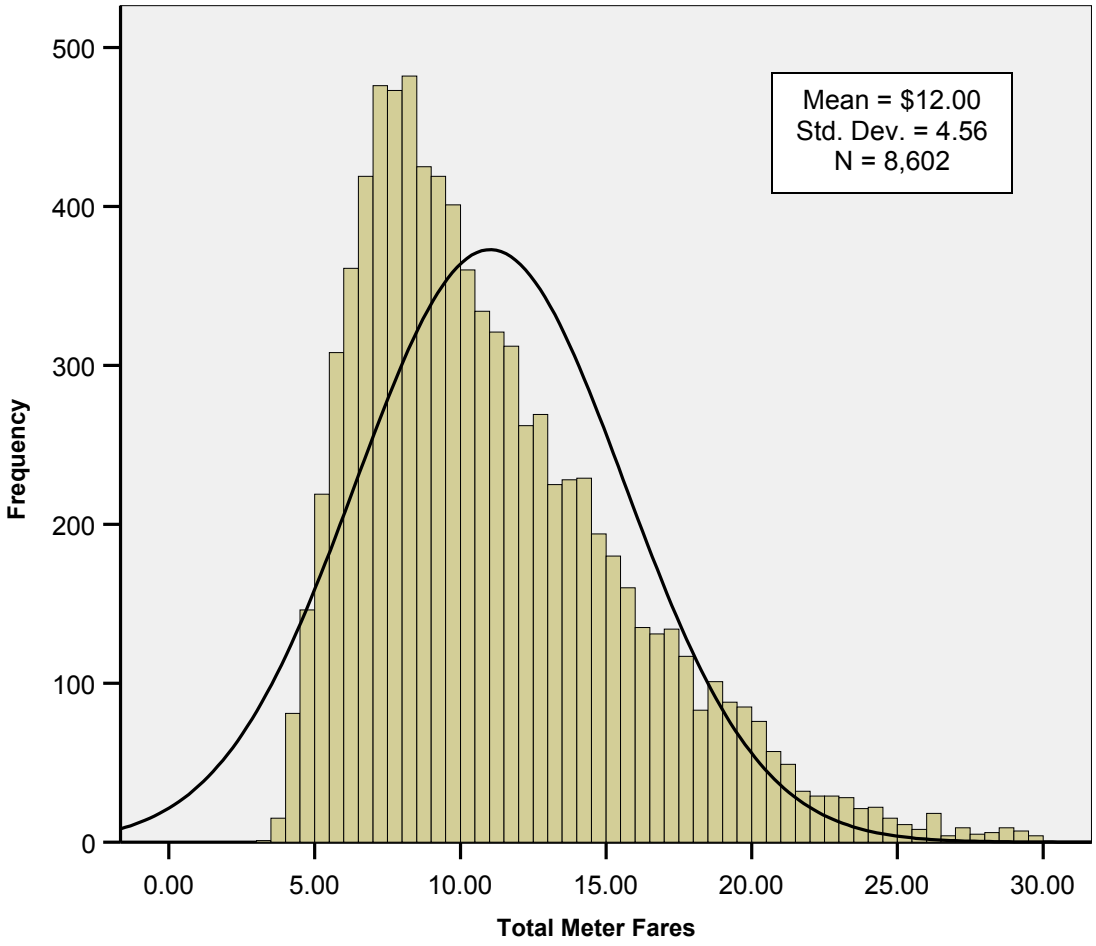
Figure 11: Frequency Distribution for Total Meter Fares with a $4.00 Drop Rate (in Dollars)



Total Meter Fares

When the drop rate was increased from $2.50 to $4.00, the average total meter fare calculated for meter fares less than $30.00 was $12.00. The lowest total meter fare was $4.25, and the highest meter fare was $29.75.

Figure 12: Frequency Distribution for Total Meter Fares less than $30.00 with a $4.00 Drop Rate (in Dollars)



Mean =11.0203
Std. Dev. =4.60806
N =8,613

When the drop rate was increased from $2.50 to $4.00, the average total zone fare was $0.97 lower than the average total meter fare. However, the difference between the average total meter fare and the average total zone fare varied by distance:

(1) for trips less than 1 mile, the average total zone fare was $1.03 higher than the average total meter fare;

(2) for trips 1 to 4.99 miles, the average total zone fare was $0.59 lower than the average total meter fare; within this subgroup:

(a) for trips 1 to 1.99 miles, the average total zone fare was $0.15 higher than the average total meter fare;

(b) for trips 2 to 2.99 miles, the average total zone fare was $0.63 lower than the average total meter fare;

(c) for trips 3 to 3.99 miles, the average total zone fare was $1.12 lower than the average total meter fare;

(d) for trips 4 to 4.99 miles, the average total zone fare was $1.68 lower than the average total meter fare;

(3) for trips 5 miles to 9.99 miles, the average total zone fare was $3.01 lower than the average total meter fare;

(4) for trips 10 miles to 14.99 miles, the average total zone fare was $3.72 lower than the average total meter fare; and

(5) for trips 15 miles and longer, the average total zone fare was $0.84 higher than the average total meter fare.

Table 36: Fare Differences Based on Distance Categories with a $4.00 Drop Rate

Distance	N	Average Total Meter Rate	Average Total Zone Rate	Difference (Zone – Meter)
Less than 1 mile	818	$7.00	$8.03	$1.03
1 mile to 4.99 miles	5830	$10.55	$9.96	-$0.59
1 mile to 1.99 miles	2238	$8.51	$8.66	$0.15
2 miles to 2.99 miles	1600	$10.33	$9.70	-$0.63
3 miles to 3.99 miles	1087	$12.20	$11.08	-$1.12
4 miles to 4.99 miles	905	$13.99	$12.31	-$1.68
5 miles to 9.99 miles	1789	$17.81	$14.80	-$3.01
10 miles to 14.99 miles	179	$25.55	$21.83	-$3.72
15 miles and longer	168	$46.92	$47.76	$0.84

Appendix V

Increasing the Rate Per Sixth of a Mile from $0.25 to $0.30

The rate per sixth of a mile—or the fare that is charged for every sixth of a mile traveled—was set at $0.25 for this study. This section examines the potential cost differences between total zone fares and total meter fares when the rate per sixth of a mile is increased by $0.05 to $0.30. The total meter fare with a rate per sixth of a mile of $0.30 was determined by the following method:

(1) the base meter rate (i.e., the metered fare based on distance and time alone) was observed;

(2) $2.50 (i.e., the drop rate used in this study) was subtracted from the base meter rate;

(3) this amount was divided by $0.25 to determine the number of one-sixth mile segments the trip covered;

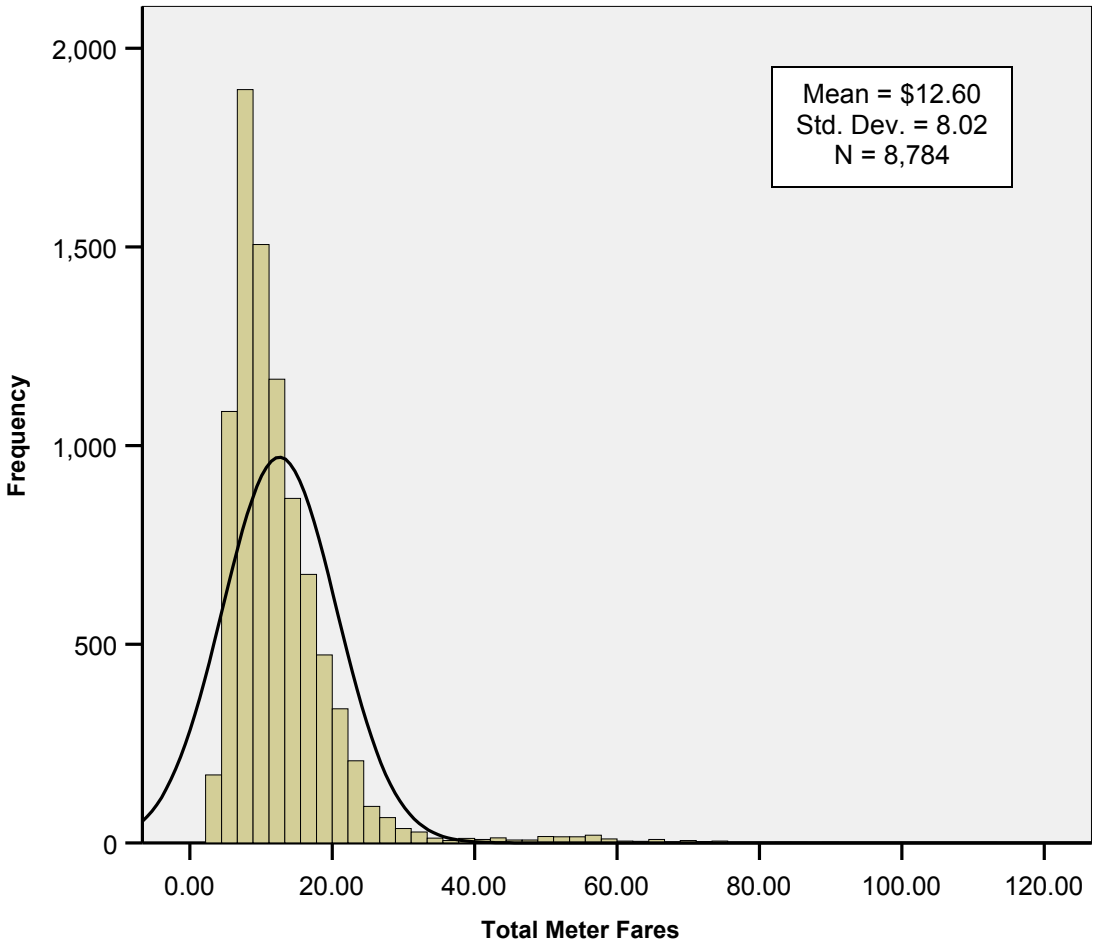
(4) the number of one-sixth mile segments was multiplied by the new rate per sixth of a mile of $0.30;

(5) this dollar amount was added to the drop rate of $2.50 to determine the new base meter rate;

(6) any extra fares were added to this new base meter rate to determine the total meter fare.

When the rate per sixth of a mile was increased from $0.25 to $0.30, the average total meter fare calculated during this study was $12.60. The lowest total meter fare was $2.80, and the highest meter fare was $113.30.

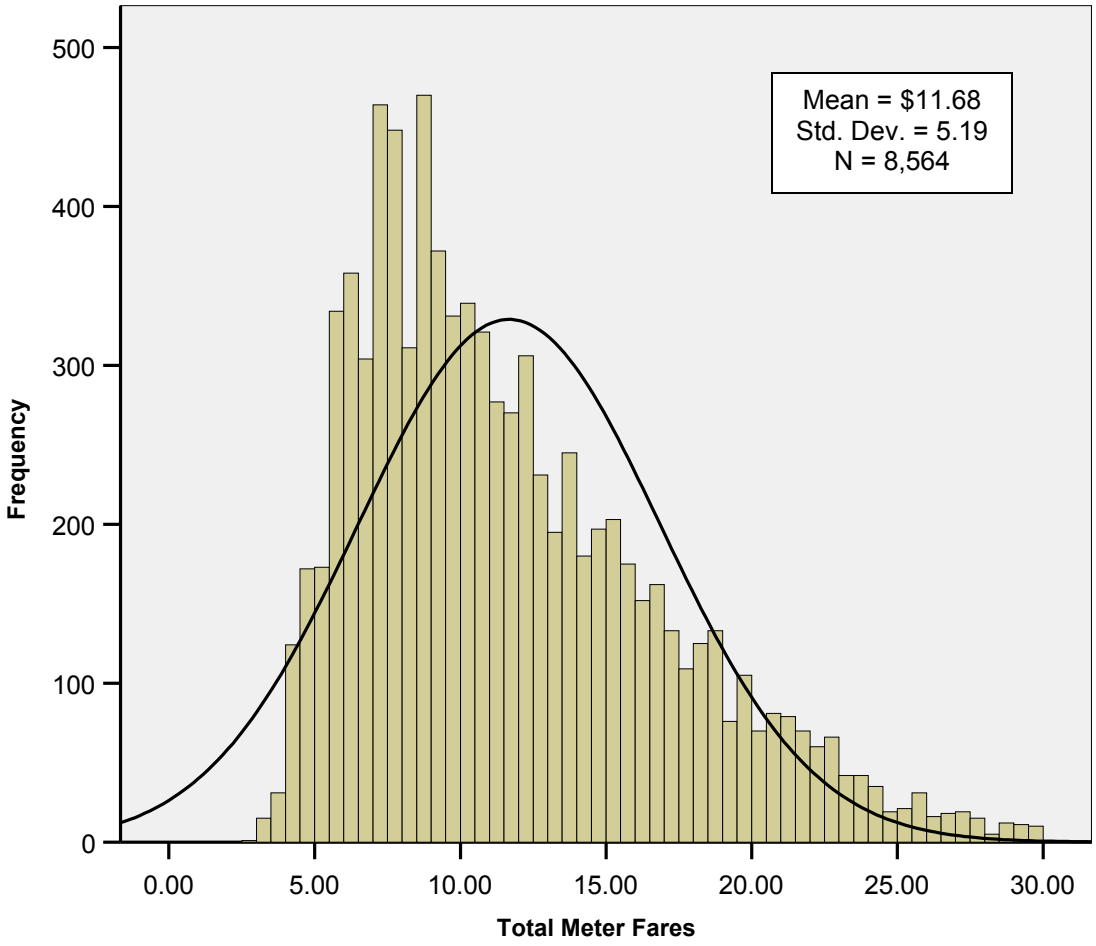
Figure 13: Frequency Distribution for Total Meter Fares with a $0.30 Rate per Sixth of a Mile (in Dollars)



Mean =12.6001
Std. Dev. =8.0227
N =8,784

When the rate per sixth of a mile was increased from $0.25 to $0.30, the average total meter fare calculated for meter fares less than $30.00 was $11.68. The lowest total meter fare was $2.80, and the highest meter fare was $29.90.

Figure 14: Frequency Distribution for Total Meter Fares less than $30.00 with a $0.30 Rate per Sixth of a Mile (in Dollars)



Mean =11.6754
Std. Dev. =5.19374
N =8,564

When the rate per sixth of a mile was increased from $0.25 to $0.30, the average total zone fare was $0.87 lower than the average total meter fare. However, the difference between the average total meter fare and the average total zone fare varied by distance:

(1) for trips less than 1 mile, the average total zone fare was $2.19 higher than the average total meter fare;

(2) for trips 1 to 4.99 miles, the average total zone fare was $0.08 lower than the average total meter fare; within this subgroup:

(a) for trips 1 to 1.99 miles, the average total zone fare was $1.03 higher than the average total meter fare;

(b) for trips 2 to 2.99 miles, the average total zone fare was $0.10 lower than the average total meter fare;

(c) for trips 3 to 3.99 miles, the average total zone fare was $0.91 lower than the average total meter fare;

(d) for trips 4 to 4.99 miles, the average total zone fare was $1.80 lower than the average total meter fare;

(3) for trips 5 miles to 9.99 miles, the average total zone fare was $3.85 lower than the average total meter fare;

(4) for trips 10 miles to 14.99 miles, the average total zone fare was $6.10 lower than the average total meter fare; and

(5) for trips 15 miles and longer, the average total zone fare was $5.76 lower than the average total meter fare.

Table 37: Fare Differences Based on Distance Categories with a $0.30 Rate per Sixth of a Mile

Distance	N	Average Meter Rate	Average Zone Rate	Difference (Zone – Meter)
Less than 1 mile	818	$5.84	$8.03	$2.19
1 mile to 4.99 miles	5830	$10.04	$9.96	-$0.08
1 mile to 1.99 miles	2238	$7.63	$8.66	$1.03
2 miles to 2.99 miles	1600	$9.80	$9.70	-$0.10
3 miles to 3.99 miles	1087	$11.99	$11.08	-$0.91
4 miles to 4.99 miles	905	$14.11	$12.31	-$1.80
5 miles to 9.99 miles	1789	$18.65	$14.80	-$3.85
10 miles to 14.99 miles	179	$27.93	$21.83	-$6.10
15 miles and longer	168	$53.52	$47.76	-$5.76

Appendix VI

Increasing the Drop Rate from $2.50 to $4.00 and Decreasing the Rate Per Sixth of a Mile from $0.25 to $0.15

The drop rate—the initial fare that is charged when the meter is first activated—was set at $2.50 for this study. The rate per sixth of a mile—or the fare that is charged for every sixth of a mile traveled—was set at $0.25 for this study. As requested by members of the Commission, this section examines the potential cost differences between total zone fares and total meter fares when the drop rate is increased by $1.50 to $4.00 and the rate per sixth of a mile is decreased by $0.10 to $0.15. The total meter fare with a drop rate of $4.00 and a rate per sixth of a mile of $0.15 was determined by the following method:

(1) the base meter rate (i.e., the metered fare based on distance and time alone) was observed;

(2) $2.50 (i.e., the drop rate used in this study) was subtracted from the base meter rate;

(3) this amount was divided by $0.25 to determine the number of one-sixth mile segments the trip covered;

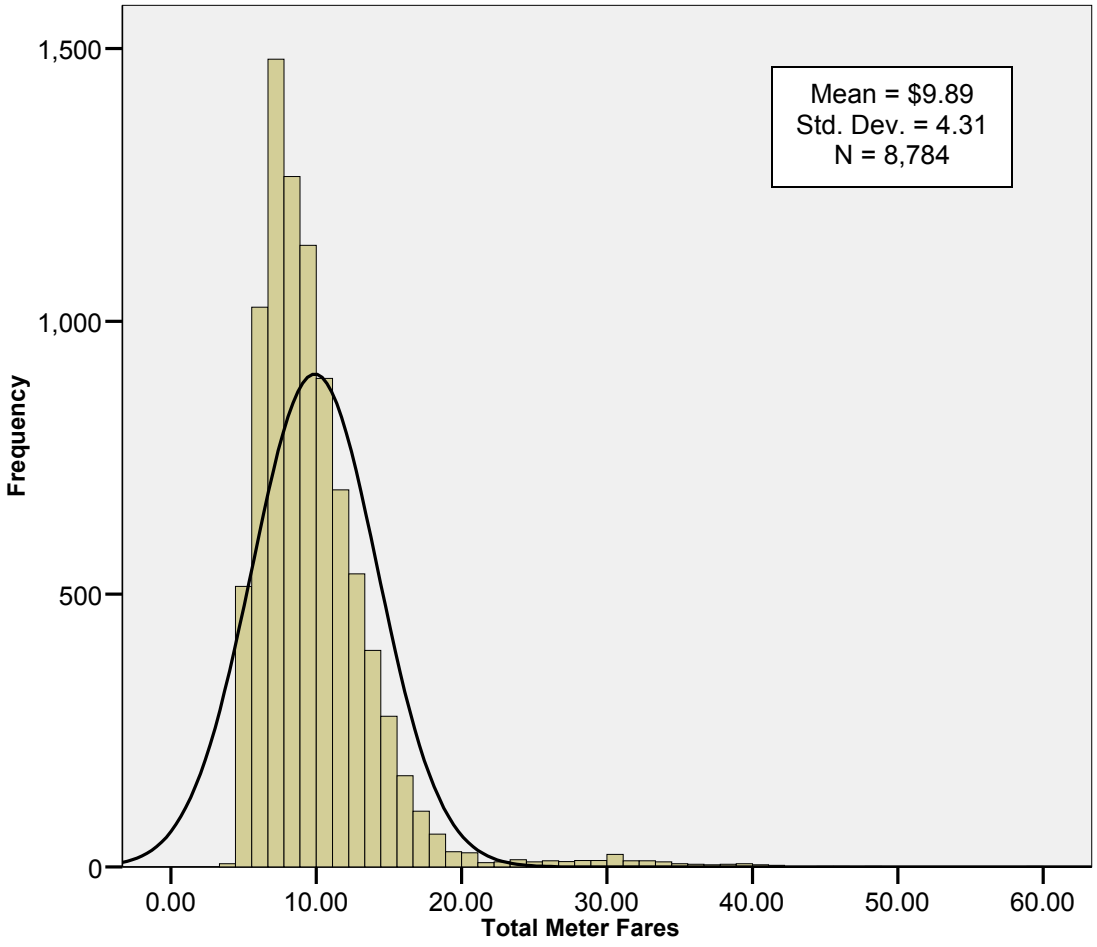
(4) the number of one-sixth mile segments was multiplied by the new rate per sixth of a mile of $0.15;

(5) this dollar amount was added to the new drop rate of $4.00 to determine the new base meter rate;

(6) any extra fares were added to this new base meter rate to determine the total meter fare.

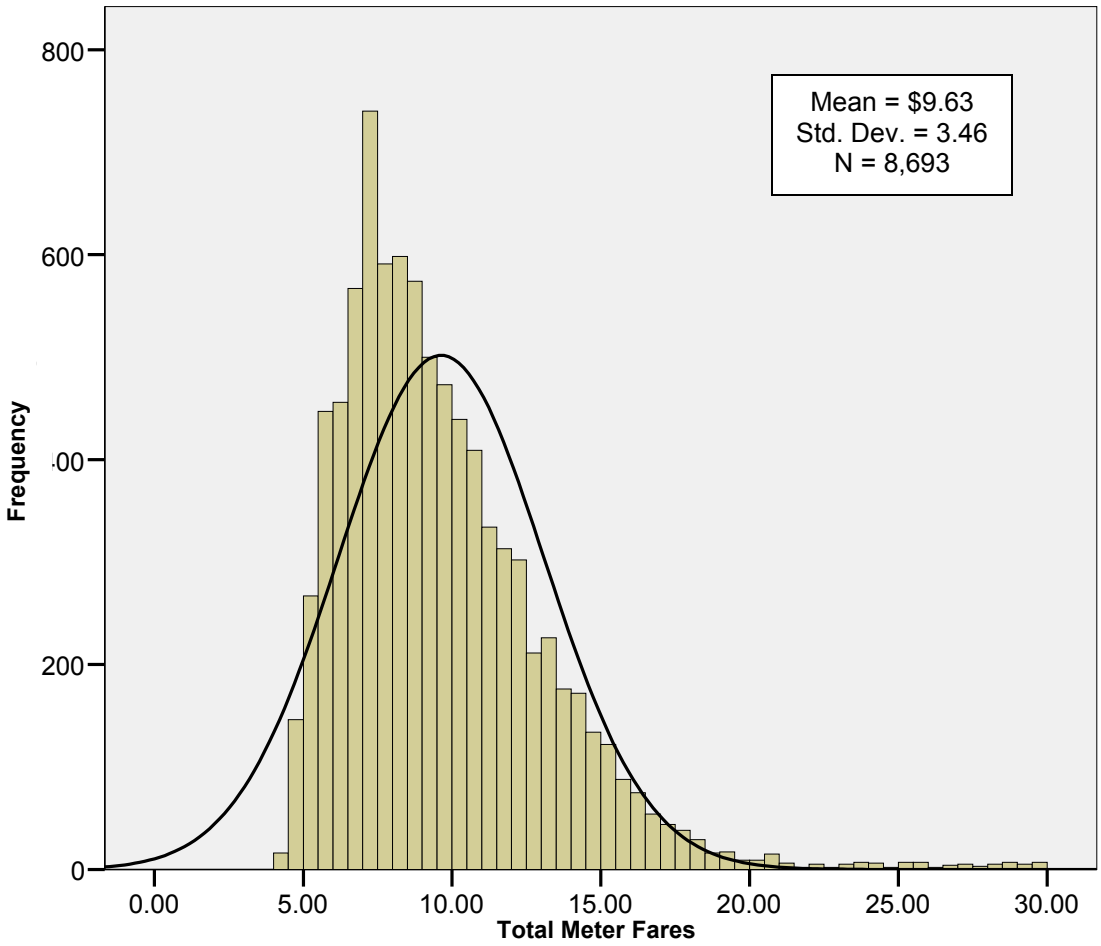
When the drop rate was increased from $2.50 to $4.00 and the rate per sixth of a mile was decreased from $0.25 to $0.15, the average total meter fare calculated during this study was $9.89. The lowest total meter fare was $4.15, and the highest meter fare was $59.90.

Figure 15: Frequency Distribution for Total Meter Fares with a $4.00 Drop Rate and a $0.15 Rate per Sixth of a Mile (in Dollars)



When the drop rate was increased from $2.50 to $4.00 and the rate per sixth of a mile was decreased from $0.25 to $0.15, the average total meter fare calculated for meter fares less than $30.00 was $9.63. The lowest total meter fare was $4.15, and the highest meter fare was $29.90.

Figure 16: Frequency Distribution for Total Meter Fares less than $30.00 with a $4.00 Drop Rate and a $0.15 Rate per Sixth of a Mile (in Dollars)



Mean =9.63
Std. Dev. =3.457
N =8,693

When the drop rate was increased from $2.50 to $4.00 and the rate per sixth of a mile was decreased from $0.25 to $0.15, the average total zone fare was $1.84 higher than the average total meter fare. However, the difference between the average total meter fare and the average total zone fare varied by distance:

(1) for trips less than 1 mile, the average total zone fare was $1.70 higher than the average total meter fare;

(2) for trips 1 to 4.99 miles, the average total zone fare was $1.40 higher than the average total meter fare; within this subgroup:

(a) for trips 1 to 1.99 miles, the average total zone fare was $1.37 higher than the average total meter fare;

(b) for trips 2 to 2.99 miles, the average total zone fare was $1.31 higher than the average total meter fare;

(c) for trips 3 to 3.99 miles, the average total zone fare was $1.48 higher than the average total meter fare;

(d) for trips 4 to 4.99 miles, the average total zone fare was $1.57 higher than the average total meter fare;

(3) for trips 5 miles to 9.99 miles, the average total zone fare was $1.67 higher than the average total meter fare;

(4) for trips 10 miles to 14.99 miles, the average total zone fare was $4.04 higher than the average total meter fare; and

(5) for trips 15 miles and longer, the average total zone fare was $17.06 higher than the average total meter fare.

Table 38: Fare Differences Based on Distance Categories with a $4.00 Drop Rate and a $0.15 Rate per Sixth of a Mile

Distance	N	Average Meter Rate	Average Zone Rate	Difference (Zone – Meter)
Less than 1 mile	818	$6.33	$8.03	$1.70
1 mile to 4.99 miles	5830	$8.56	$9.96	$1.40
1 mile to 1.99 miles	2238	$7.29	$8.66	$1.37
2 miles to 2.99 miles	1600	$8.39	$9.70	$1.31
3 miles to 3.99 miles	1087	$9.60	$11.08	$1.48
4 miles to 4.99 miles	905	$10.74	$12.31	$1.57
5 miles to 9.99 miles	1789	$13.13	$14.80	$1.67
10 miles to 14.99 miles	179	$17.79	$21.83	$4.04
15 miles and longer	168	$30.70	$47.76	$17.06

Appendix VII

Sensitivity Analysis of the Multiple Rate Systems

Below is a summary of the average total fares under the various scenarios analyzed for this report. These include:

(1) the original study (i.e., a meter drop rate of $2.50);

(2) changing the drop rate to $2.75;

(3) changing the drop rate to $3.00;

(4) changing the drop rate to $4.00;

(5) changing the rate per sixth of a mile to $0.30; and

(6) changing the drop rate to $4.00 and the rate per sixth of a mile to $0.15.

Table 39: A Sensitivity Analysis of the Multiple Rate Systems

	Drop Rate $2.50	Change Drop Rate to $2.75	Change Drop Rate to $3.00	Change Drop Rate to $4.00	Change Rate Per 1/6 Mile to $0.30	Change Drop Rate to $4.00 and Rate Per 1/6 Mile to $0.15
Average Total Zone Fare	$11.73	--	--	--	--	--
Average Total Meter Fare	$11.20	$11.45	$11.70	$12.70	$12.60	$9.89
Average Total Zone Fare for Fares Less than $30	$11.01	--	--	--	--	--
Average Total Meter Fare for Fares Less than $30	$10.53	$10.77	$11.02	$12.00	$11.68	$9.63