

PERCEPTIONS  
REGARDING THE SERVICES  
OF THE  
DEPARTMENT OF  
WATER & GAS  
Duluth, Minnesota

**Center for Community & Regional Research**

**College of Liberal Arts  
University of Minnesota, Duluth**

**PERCEPTIONS  
REGARDING THE SERVICES  
OF THE  
DEPARTMENT OF  
WATER & GAS**

Duluth, Minnesota

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## PREFACE

This is the second report in a series of research projects conducted by The Center for Community and Regional Research for and in cooperation with Administrative Units in the City of Duluth. The projects are designed to meet three objectives:

- (1) provide information regarding the quality of the services provided by the Administrative units,
- (2) provide the residents of Duluth with an opportunity to comment on the services that they receive from those units, and
- (3) provide students enrolled at the University of Minnesota - Duluth with an opportunity for "hands on" research experience.

# INTRODUCTION

The process of providing public services is based on a number of factors. The needs of those in the area being served and the capacity of the agency to deliver the services are two of the primary factors considered in the provision of public services . Once services are designed and the delivery process begins, a third factor, evaluation, comes into play.

This study focuses on the evaluation of the delivery of services provided by the Duluth Department of Water and Gas. The study provides data which describe the attitudes and perceptions of customers concerning the services delivered by City of Duluth Department of Water and Gas. The overall objective of the study is to develop a set of data which will assist the Department of Water & Gas in providing quality services.

# RESEARCH METHODS

## Design

The nature of the relationship between public agencies that provide services to a "fixed clientele" sometimes involve adversarial positions. The quality of responses to a survey which attempts to measure attitudes, perceptions, and evaluations of services is more reasonably assured if the respondents can be guaranteed confidentiality. It was therefore imperative that the data collection process be designed so as to provide confidentiality for the respondents.

The Department of Water and Gas staff suggested issues that might be covered in the study, reviewed drafts of the questionnaire, and assisted in pre-testing the questionnaire. The questionnaire (See APPENDIX 3) was developed and produced by the Research Team.

The questionnaire was designed to obtain information related to the following topics:

1. Household description - e.g. number of person; age; length of residence at address, in neighborhood, in Duluth, etc.
2. Experience with Water & Gas service - e.g. repair service; maintenance service; office service, etc.
3. Attitudes and perceptions - e.g. quality; speed; treatment by staff - in person, phone, correspondence; comparison with other services, etc.
4. Effects on way of life - e.g. safety - residential and on streets; convenience.
5. Evaluation of Department activities and estimation of the relative value of Departmental goods and services.

## Sample

The sample that was used for the study was drawn by using a stratified random sample with probability proportionate to size. The stratification was based on the Department's twenty six (26) billing cycles. The billing cycles are represented in the Billing Cycle Map (APPENDIX 1 Figure 1).

A ten percent (10%) sample was drawn from each of the billing cycles using a systematic random sampling technique with a random start. The population that was sampled consisted of approximately 28,000 addresses in the city of Duluth. The sample of approximately 2800 provides a sample with approximately a  $\pm 2\%$  margin of error. It was estimated that the return rate would be between 50% to 60%. The return rate for the study was 62%. The data on TABLE 1 and Graph 1 (See APPENDIX 2 for TABLES and GRAPHS) present the information regarding the number of addresses, the number of questionnaires sent, and the number of questionnaires returned by billing cycle. The return rate across the billing cycles was, for the most part, 60%

The Department of Water and Gas supplied the research team with three sets of address mailing labels (one set for the premailing, one set for the questionnaire mailing, and one set for the reminder card mailing) for the 10% samples of each of the billing cycles. The research team assumed responsibility for mailing the notices, questionnaires and reminder cards.

A three stage mailing (SEE APPENDIX 3) process was used. First a card was sent at the beginning of the second week of July 1990 which notified the respondents that they would be

receiving a questionnaire. During the third week of July, the second stage was completed. The questionnaire and a return envelop was mailed in this stage. In the third stage a card was sent to all respondents reminding them of the importance of completing and returning the questionnaire. This process was used to assure an adequate return rate.

## Analysis

The analysis of the data was accomplished by using the Statistical Package for the Social Sciences (SPSS) and the statistical analyses were run on the University of Minnesota, Duluth VAX computer system.

This report summarizes the frequency analysis that was done on all of the questions in the questionnaire.

# FINDINGS

## Description of Respondents/Address

### Address

Most of the respondents (1622) identified the address receiving the questionnaire as a residence (TABLE 2). Over two-thirds of the households did not have a person under the age of 18 years. Approximately 60% of the Households have at least one person between the ages of 18 and 51 and 65% of the households had at least one person over 51 years old. The data in TABLE 3 and Graphs 3a, 3b, 3c also show that approximately 50% of the households had either one or two persons between the ages of 18 and 50 and/or over 51 years old.

### Number in Household

The data in TABLE 4 and Graph 4 show that the most common number of persons per household is two. The average number of persons per household is approximately 2.6.

## Own or Rent

Most of the respondents indicated that they own (or are "buying") their homes. Only 88 of the respondents indicated that they are renting. These data are presented in TABLE 5 and Graph 5.

The data in TABLE 6 and Graphs 6a and 6b show that almost 75 % of the respondents have lived at their present address six or more years. Over 95% of the respondents have lived in Duluth 35 years or more.

When considering businesses, over one-half have been at the present address for over 15 years. The data in TABLE 7 and Graphs 7a and 7b also show that over one-half have been in Duluth for over 15 years.

## Contact & Evaluation

### Service

The data in TABLES 8 and 8a and Graphs 8 and 8a show that water service is the most common type of service (93 %) received from the department. Only about 25% of the addresses receive only water service. Almost 70% of the

households receive natural gas service for use either to provide energy for a hot water heater and/or for residential heat. Approximately one half of the respondents (44.3%) indicated that they had water service and natural gas for both residential heat and hot water heater.

#### Payment

Most of the respondents (57.8%) paid their water & gas monthly bills by mailing them to the Water & Gas Department. Approximately 30% of the respondents use Pay box or Pay Station locations to pay their month bills. The most frequently used Pay Box or Pay Station locations were the Mount Royal and Plaza shopping locations. These data are presented in Tables 9 and 10 and Graphs 9 and 10.

#### Application

The data in TABLE 11 and Graph 11 show that 13% of the respondents had made an application to the Department of Water & Gas for new service, either water or gas or both during the period July 1989 to July 1990. The data in TABLES 11a, 11b, 11c, and 11d and Graph 11a present the respondents evaluations of how COURTEOUSLY they were treated in the application process, how KNOWLEDGEABLE the staff was, how SATISFIED they were with the application process, and whether there were PROBLEMS with the application. The data show that over 80% of those who made an application indicated that they were TREATED COURTEOUSLY, that the staff

was KNOWLEDGEABLE, and that they were SATISFIED with the application process. Only 18% indicated that there was SOME PROBLEM with the application process.

#### Energy Loan

The Department of Water & Gas has a low interest loan program for qualified customers. The program was developed for the purpose of conserving energy and providing incentives to upgrade energy systems. The data in TABLE 12 and Graph 12 show that approximately 5% of the respondents indicated that they had applied for an energy loan.

One of the conditions of the loan program is that an energy audit needed to be done in the building in which the loan was to be used. Almost all of the respondents who indicated that they had received a loan indicated that they were SATISFIED with the energy audit. The data in TABLE 12a and Graph 12a show that 65% were VERY SATISFIED and 28% were SATISFIED with the audit.

#### Inconvenience

The Department of Water and Gas has the responsibility for repairing water and gas main breaks and for replacing old service. Much of the repair work involves opening holes in streets or sidewalks. These activities often require temporarily changing traffic patterns. In addition such repair work often necessitates an interruption in service.

The data in TABLE 13 and Graph 13 show that less than 10% of those responding indicated that they had been INCONVENIENCED by Water & Gas repair/construction activities.

#### Contact with Staff

The respondents were asked to indicate which of 11 different types of contact they had with the staff of the Water & Gas Department. For each of the types of contact that the respondents had with department staff, the respondents were asked to indicate how COURTEOUS and KNOWLEDGEABLE the staff were and how SATISFIED the respondent was with the contact. The data concerning contact with Staff are presented on TABLES 14, 14a, 14b, and 14c and Graphs 14 and 14a.

The most common ways that the respondents contacted the Water and Gas Department was first by PHONE (39.9%), second with a METER READER (29.3%), third with MAINTENANCE staff (27.5%), and fourth at the FIRST STREET OFFICE (22.2%). It should be noted that the data in TABLES 14 thru 14c should not be interpreted in terms of total number of respondents having contact with the department for one respondent could have had more than one type of contact.

For each of the types of contact that the respondents had with employees of the Water & Gas Department, the

respondents were asked to indicate how COURTEOUSLY they had been treated, how KNOWLEDGEABLE the employee(s) was, and how SATISFIED they were with the results of the contact.

With the exception of SERVICE TERMINATION and CORRESPONDENCE, at least 70% of the respondents who had contact with employees indicated that they were treated COURTEOUSLY by Water & Gas employees. SERVICE TERMINATION and CORRESPONDENCE types of contact had 31.6% and 28.8% respectively of the respondents who had contact with the department and indicated that the employee(s) was NOT COURTEOUS.

When asked how KNOWLEDGEABLE the employees were, the largest percentage of respondents indicating that the employee(s) was NOT KNOWLEDGEABLE was between 15% and 16% for SERVICE INTERRUPTION, for SERVICE TERMINATION, and at the GARFIELD LOCATION.

Finally, when asked how SATISFIED they were with the contact, all but three of the types of contact; SERVICE TERMINATION (36.8%), SERVICE INTERRUPTION (30.4%), and CORRESPONDENCE (25.6%) had more than 25% of the respondents indicating that they were NOT SATISFIED with the contact with Water & Gas employees.

## SERVICE RECEIVED

The Department of Water & Gas provides repair and maintenance service to customers. The service that was most frequently mentioned was FURNACE SERVICE. Approximately 25% of the respondents indicated that they had received gas FURNACE SERVICE from the department. The second most common type of service received was for REPAIR/MAINTENANCE of METERS. These data are presented in TABLE 15 and Graph 15.

For each of the types of service that a respondent indicated receiving from the department, they were asked to indicate whether (1) the employee(s) delivering the service were COURTEOUS, (2) the service was delivered in a TIMELY manner, and (3) whether they were SATISFIED with the service. The data pertaining to these questions are presented in TABLES 15a, 15b and 15c and in Graphs 15a, 15b, and 15c. At least 85% of those receiving some type of service indicated that the employee(s) delivering the service were COURTEOUS. When asked about TIMELINESS, over 70% indicated that the service was delivered in a timely manner. At least 75% of those receiving service indicated that they were SATISFIED with the service that they had received from the Department of Water & Gas.

## ADVERTISING

In addition to contact with employees, the Department of Water & Gas uses a number of different media to let customers know about the services it offers. Questions were asked about six different media that the department has used to advertise its services. The respondents were first asked to indicate for each of the media whether they had SEEN and/or HEARD something about the departments services through that particular media. For each of the media that they had SEEN and/or HEARD, the respondents were asked how USEFUL the information in the advertisement was to them.

The data in TABLE 16 and Graph 16 show that INSERTS placed in the MONTHLY BILL had the most respondents indicating that they had SEEN/HEARD the media. Approximately 2 out of 3 respondents indicated that they had seen BILL INSERTS. The next closest media to be mentioned was NEWSPAPERS (25.2%), followed by RADIO (15.4%) and FLYERS (14.6%). BILLBOARDS were mentioned by only 8.5 % of the respondents and less than 1% of the respondents recalled seeing advertisements at SPORTING EVENTS. When asked to indicate the usefulness of the media, FLYERS (24%) and NEWSPAPERS (17.3%) were most often ranked as VERY USEFUL, while FLYERS (33.2%) and BILLBOARDS (42.5%) were evaluated as SOMEWHAT USEFUL by approximately 50% of those aware of those media. The data concerning USEFULNESS are presented in TABLE 16a and Graphs 16a thru 16f.

## Overall Evaluation & Value of Goods & Services

After providing information regarding the services received from the Department of Water & Gas and the types of contact, both in person, and through different media, the questionnaire concluded with questions which asked the respondents to evaluate the department and the services provided. Two different types of evaluations were requested.

First, the respondents were asked to evaluate the Department of Water & Gas SERVICES, PERFORMANCE, and REPUTATION. Second, the respondents were asked to compare the VALUE of the GOODS (including water and gas) provided by the department and VALUE of the SERVICES (including maintenance and repair) provided by the department with other goods and services that the respondents purchased from other sources.

### OVERALL EVALUATION

The data in TABLE 17 and Graph 17a, 17b, and 17c show that between 75% and 80% of the respondents evaluated SERVICE, PERFORMANCE, and REPUTATION as being EXCELLENT or GOOD. Between 4% and 7% of the respondents evaluated SERVICE, PERFORMANCE or REPUTATION as FAIR and only 3% of the respondents or less evaluated the SERVICE, PERFORMANCE, or REPUTATION as POOR.

## VALUE OF GOODS AND SERVICES

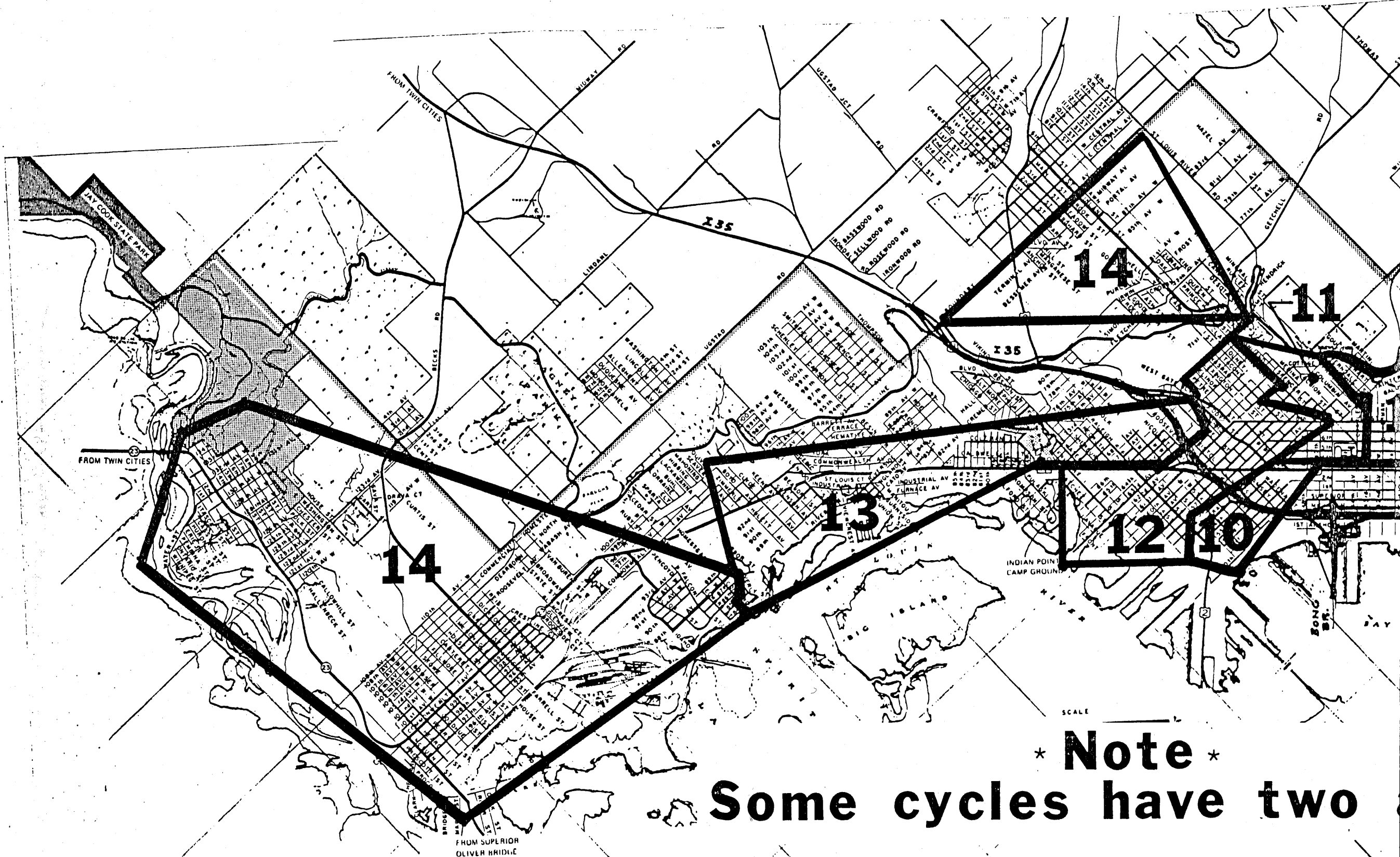
When considering the PRICE OF GOODS and the PRICE OF SERVICES, approximately two-thirds of the respondents indicated that the Department of Water & Gas was IN LINE with other goods and services that they purchased. More respondents indicated that the PRICE OF GOODS and the PRICE OF SERVICES was of HIGHER VALUE (17% for GOODS and 10.3% for SERVICES) than indicated were of LOWER VALUE (6.6% for GOODS and 7.5% for SERVICES).

## SUMMARY

The contacts that respondents have had with the Department of Water & Gas and the specific services that they received were evaluated positively. Further, the general evaluations of the goods and services that the respondents received from the department were also evaluated positively.

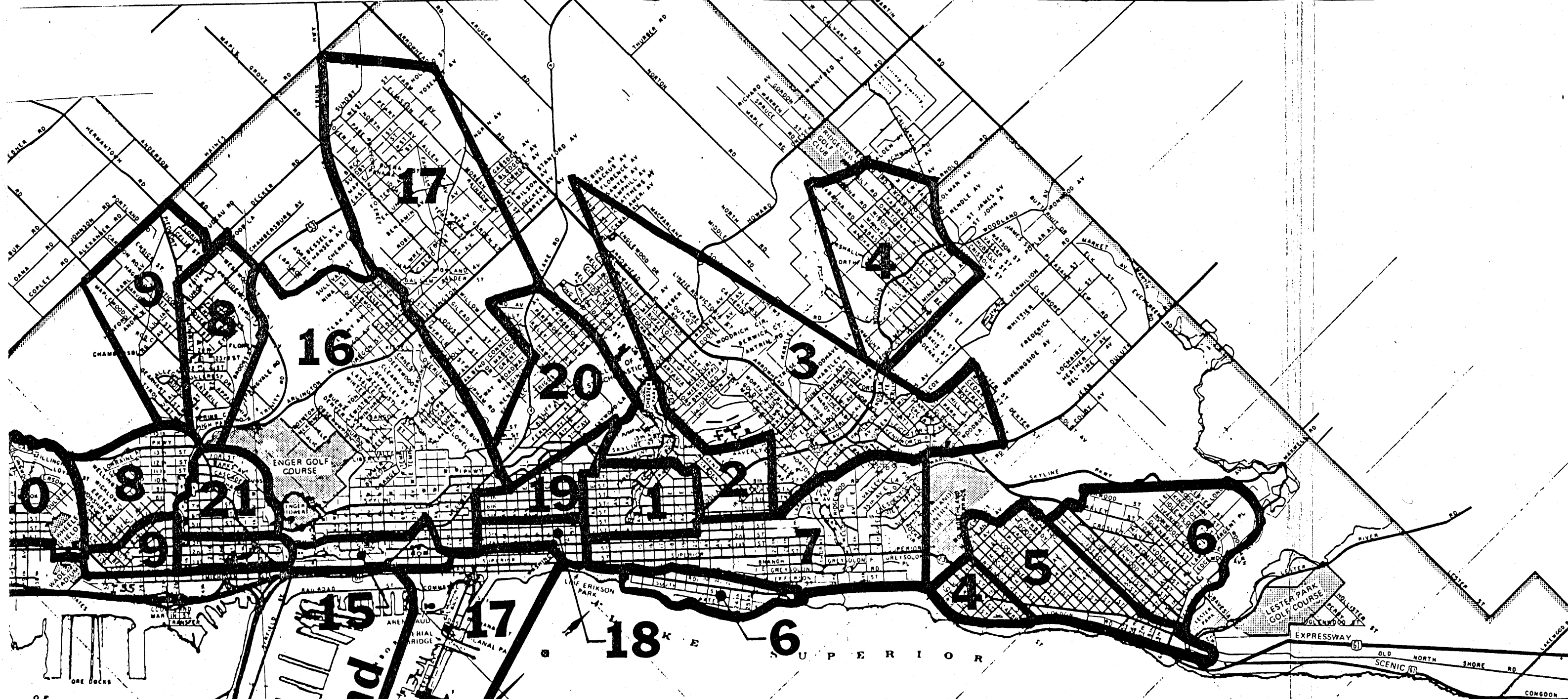
The three areas that the data indicate that the activities of the department are evaluated less positively than others concern service interruption and service termination. The findings also show that the department activities related to advertising might benefit from an evaluation of the objectives to be accomplished and the media used to convey particular messages.

**APPENDIX 1 - FIGURE 1 BILLING CYCLE MAP**



\* **Note** \*

**Some cycles have two**



areas

← thru end  
← of point

1 535  
HIGH BRIDGE  
FROM SUPERIOR

**Driving Routes which do not appear on map:**

22-05	23-05	24-05	27-05
22-06	23-06	24-06	27-06
		25-05	27-07

APPENDIX 2 - TABLES & GRAPHS

TABLE 1

## SAMPLE FOR WATER &amp; GAS STUDY

CYCLE	NUMBER OF ADDRESSES	NUMBER SENT	NUMBER RETURNED	PERCENT RETURNED
01	148	140	114	81.4
02	141	141	133	94.4
03	195	195	126	64.6
04	185	185	133	71.9
05	153	153	100	65.4
06	191	191	128	67.0
07	157	156	93	59.6
08	168	166	105	63.3
09	130	128	72	56.3
10	78	77	38	49.4
11	137	137	85	62.0
12	116	116	78	66.4
13	145	143	73	54.5
14	141	141	80	56.7
15	37	36	18	50.0
16	124	122	52	42.6
17	164	157	103	65.6
18	77	77	24	31.2
19	128	128	66	51.6
20	112	106	52	49.1
21	62	58	23	40.0
22	32	26	15	57.7
23	37	33	25	75.8
24	62	54	18	33.3
25	13	13	10	76.9
27	34	30	12	40.0

N = 2909

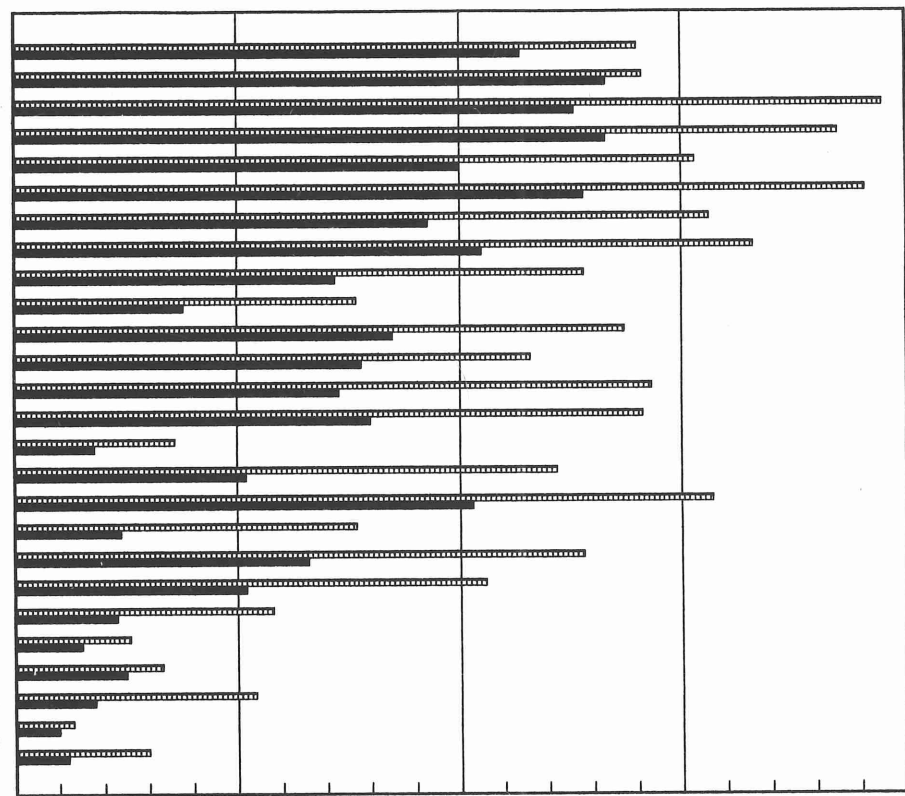
n = 1792

% RETURNED = 61.6 %

Graph 1  
 Number of Addresses by Billing Cycle

Cycle

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
27



Returned  
 Sent

Number of Addresses

TABLE 2 TYPE OF ADDRESS

RESIDENTIAL	1622
COMMERCIAL	81
INDUSTRIAL	14
NON-PROFIT ORGANIZATION	28
DID NOT ANSWER	<u>47</u>
	1792

TABLE 3 NUMBER OF PERSONS IN HOUSEHOLD BY AGE CATEGORY

	UNDER 18	BETWEEN 18 & 50	OVER 51
-----			
NONE	1049	695	788
ONE	239	305	379
TWO	243	509	482
THREE	102	99	8
FOUR	20	37	2
FIVE OR MORE	13	21	6
NOT A RESIDENCE OR DID NOT ANSWER	<u>126</u>	<u>126</u>	<u>127</u>
	1792	1792	1792

TABLE 4 TOTAL NUMBER OF PERSONS IN HOUSEHOLD

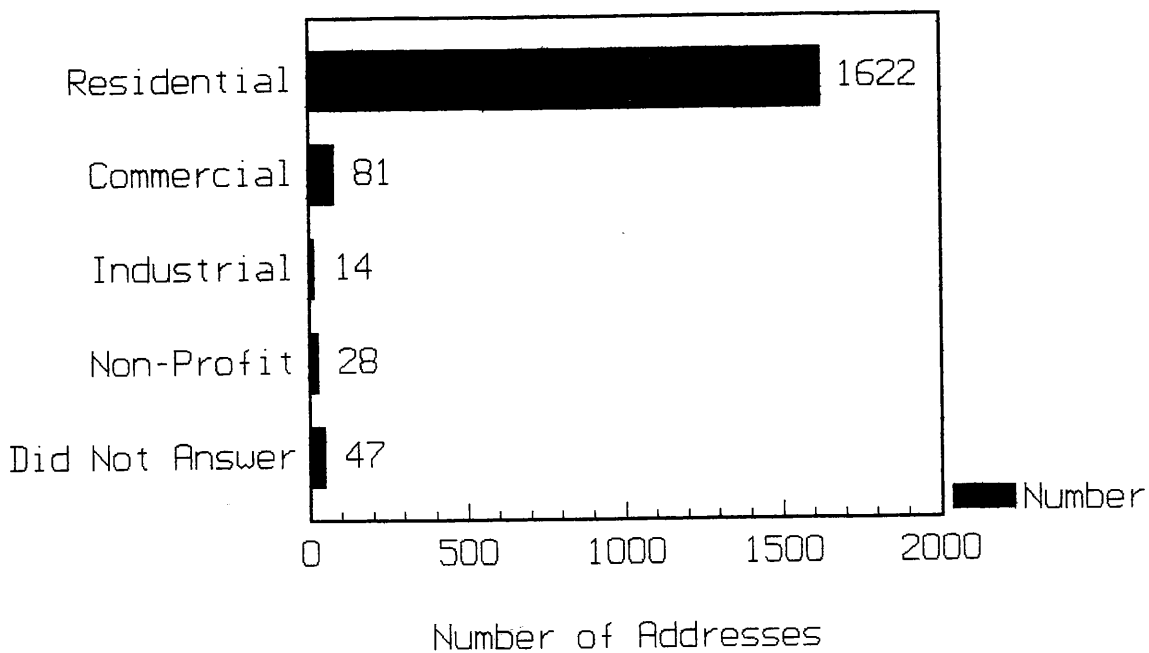
NUMBER OF PERSONS

ONE	303
TWO	630
THREE	275
FOUR	252
FIVE	114
SIX OR MORE	41
NOT A RESIDENCE OR DID NOT ANSWER	<u>177</u>
	1792

TABLE 5 OWN OR RENT PROPERTY

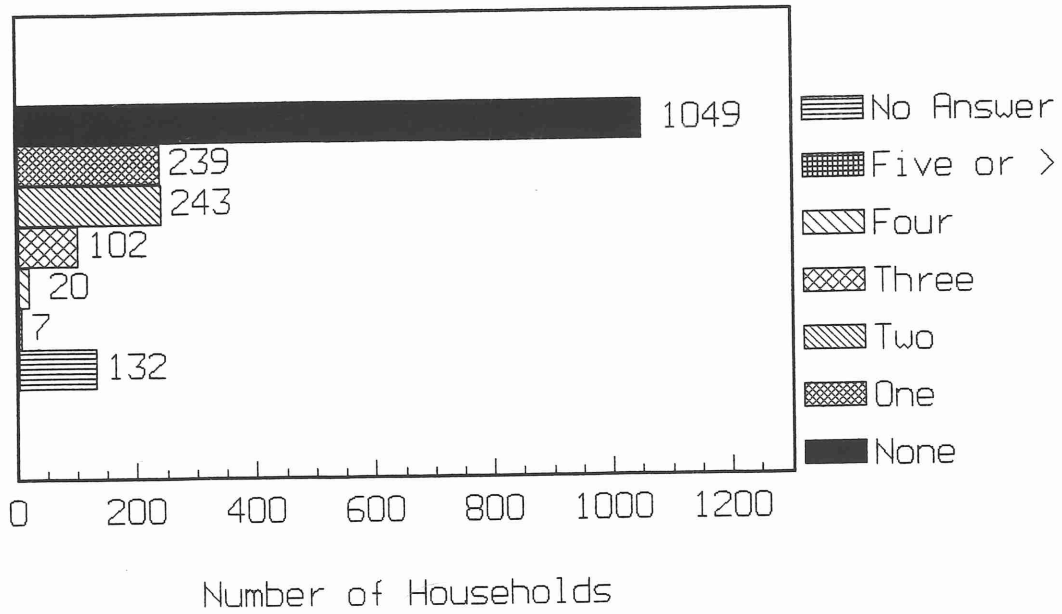
OWN	1643
RENT	88
DID NOT ANSWER	<u>61</u>
	1792

Graph 2 Type of Address



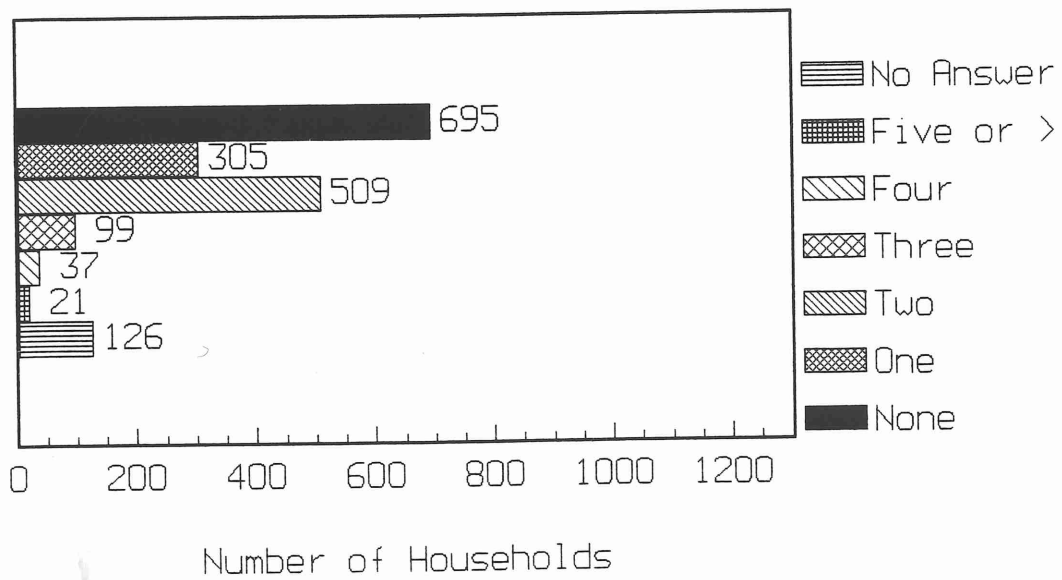
Graph 3a

Number in Household Under 18 Years



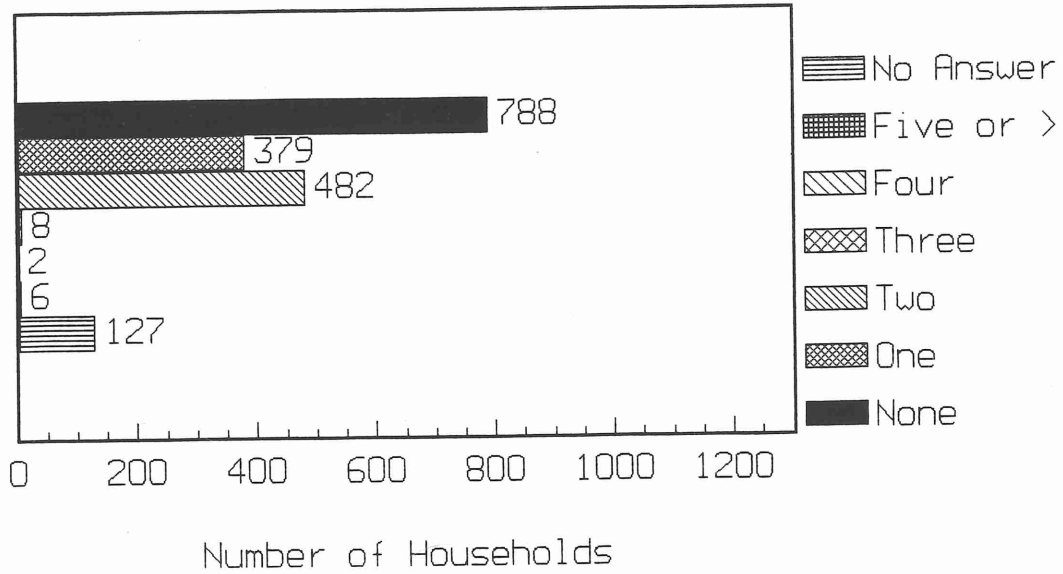
Graph 3b

Number in Household Between 18 and 50 Years of Age



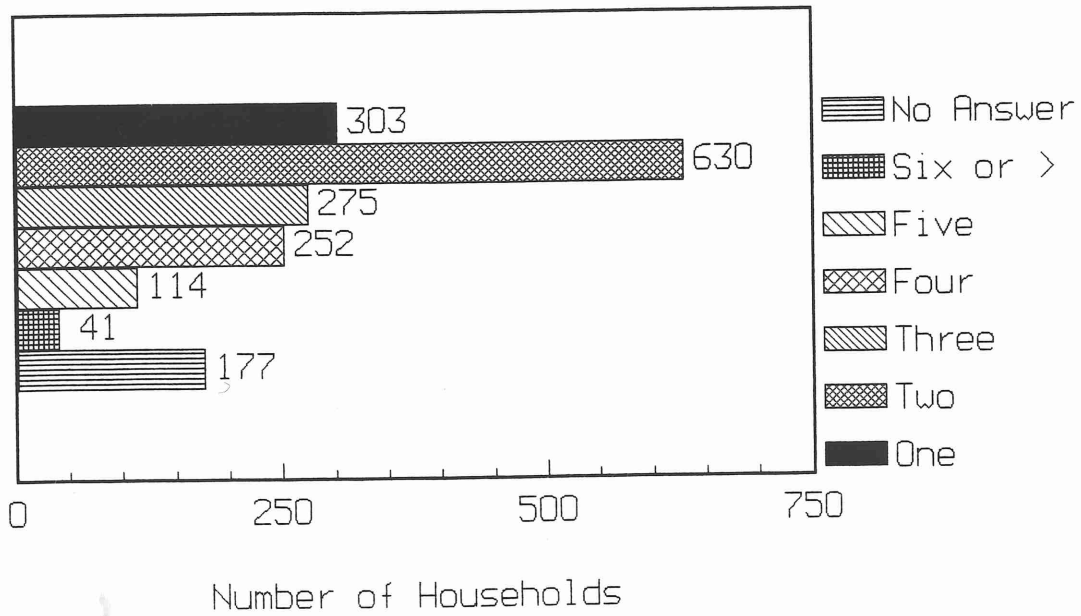
Graph 3c

Number in Household 51 Years  
of Age or Older



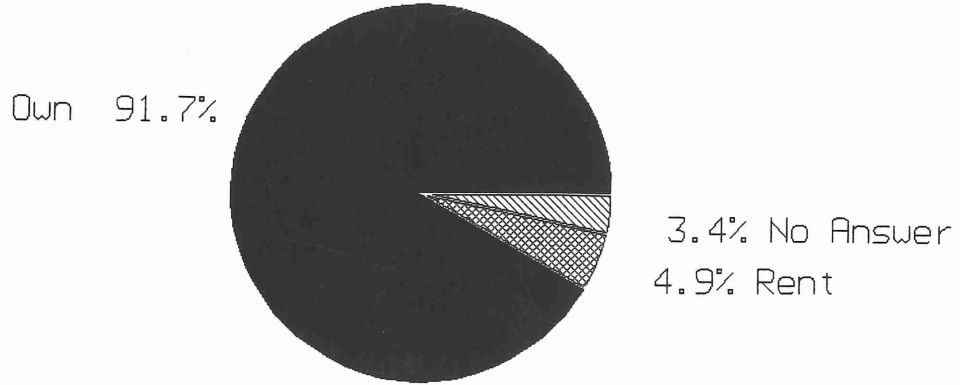
Graph 4

Total Number in Household



Graph 5

Own or Rent Property as Address Served

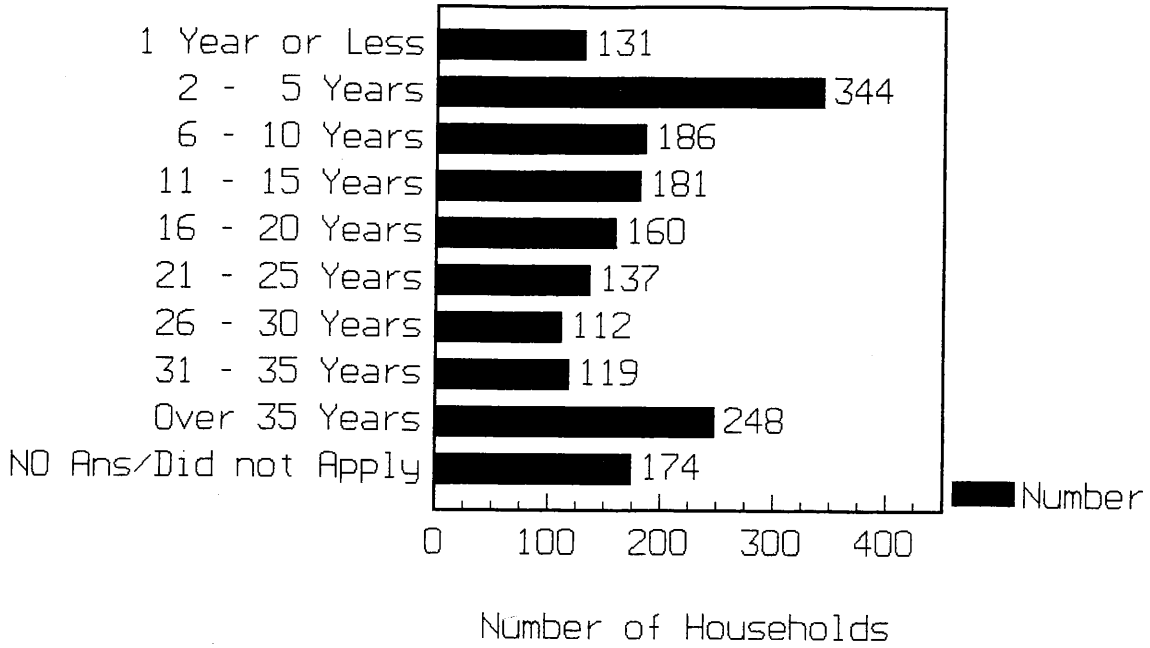


Number of Addresses

TABLE 6 NUMBER OF YEARS LIVING AT THE PRESENT ADDRESS AND  
NUMBER OF YEARS LIVING IN DULUTH

YEARS AT ADDRESS	NUMBER OF RESPONDENTS	YEARS IN DULUTH	NUMBER OF RESPONDENTS
1 - YEAR OF LESS	131	1 - YEAR OF LESS	35
2 - 5 YEARS	344	2 - 5 YEARS	109
6 - 10 YEARS	186	6 - 10 YEARS	81
11 - 15 YEARS	181	11 - 15 YEARS	71
16 - 20 YEARS	160	16 - 20 YEARS	94
21 - 25 YEARS	137	21 - 25 YEARS	109
26 - 30 YEARS	112	26 - 30 YEARS	115
31 - 35 YEARS	119	31 - 35 YEARS	118
OVER 35 YEARS	248	OVER 35 YEARS	828
DID NOT ANSWER		DID NOT ANSWER	
DID NOT APPLY	<u>174</u>	DID NOT APPLY	<u>232</u>
	1792		1792

Graph 6a  
 Number of Years Living at Address



Graph 6b  
 Number of Years Living in Duluth

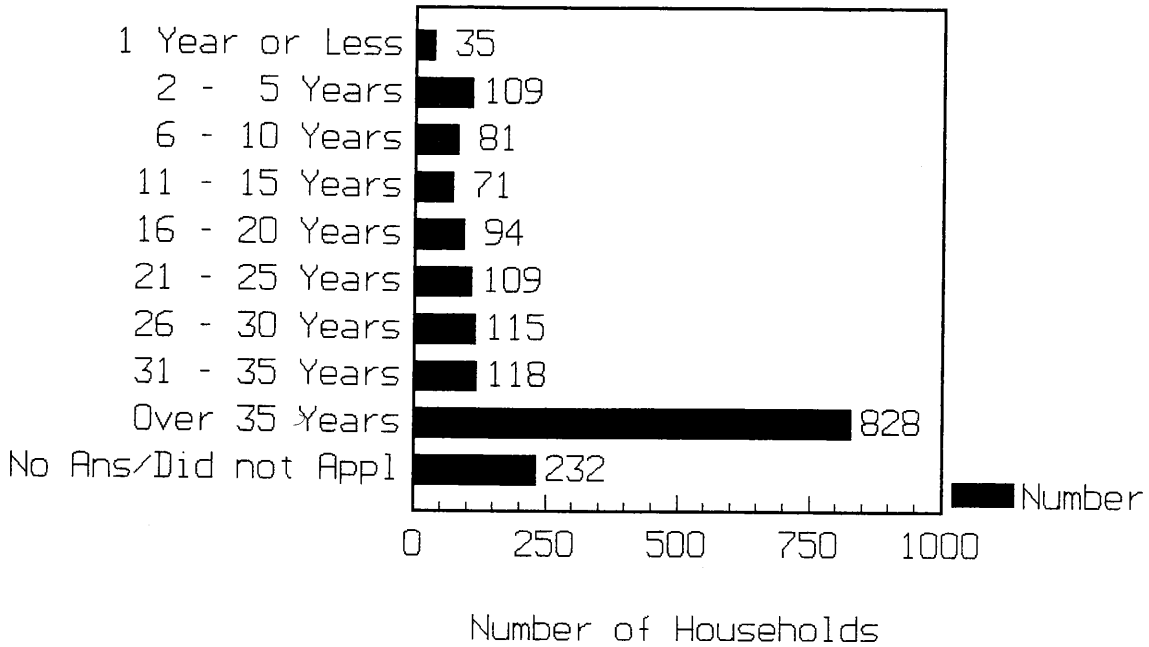


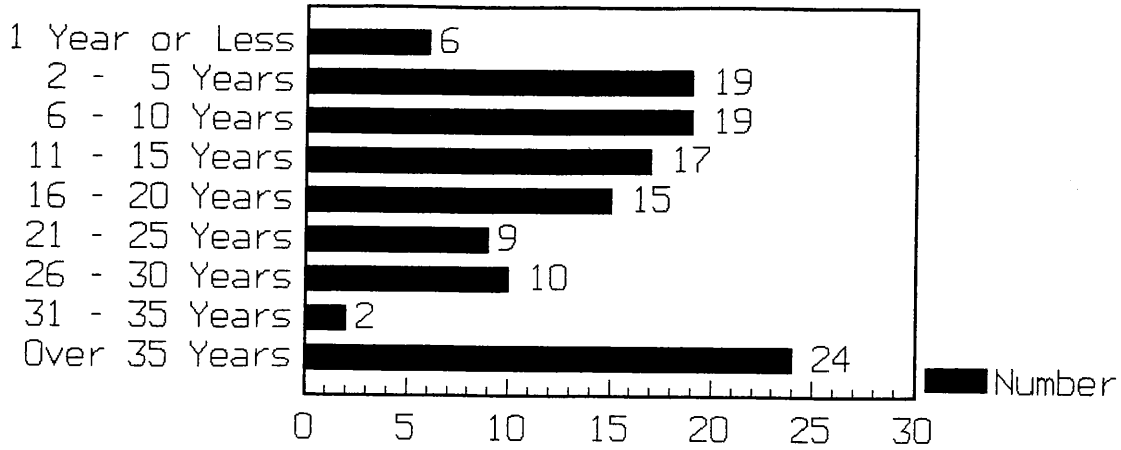
TABLE 7

NUMBER OF YEARS THE BUSINESS OR ORGANIZATIONS HAS BEEN  
AT THE PRESENT ADDRESS AND NUMBER OF YEARS THE BUSINESS  
OR ORGANIZATION HAS BEEN IN DULUTH

YEARS AT ADDRESS	NUMBER OF RESPONDENTS	YEARS IN DULUTH	NUMBER OF RESPONDENTS
1 - YEAR OF LESS	6	1 - YEAR OF LESS	4
2 - 5 YEARS	19	2 - 5 YEARS	11
6 - 10 YEARS	19	6 - 10 YEARS	8
11 - 15 YEARS	17	11 - 15 YEARS	11
16 - 20 YEARS	15	16 - 20 YEARS	14
21 - 25 YEARS	9	21 - 25 YEARS	8
26 - 30 YEARS	10	26 - 30 YEARS	3
31 - 35 YEARS	2	31 - 35 YEARS	3
OVER 35 YEARS	24	OVER 35 YEARS	33
DID NOT ANSWER		DID NOT ANSWER	
DID NOT APPLY	<u>1671</u>	DID NOT APPLY	<u>1697</u>
	1792		1792

Graph 7a

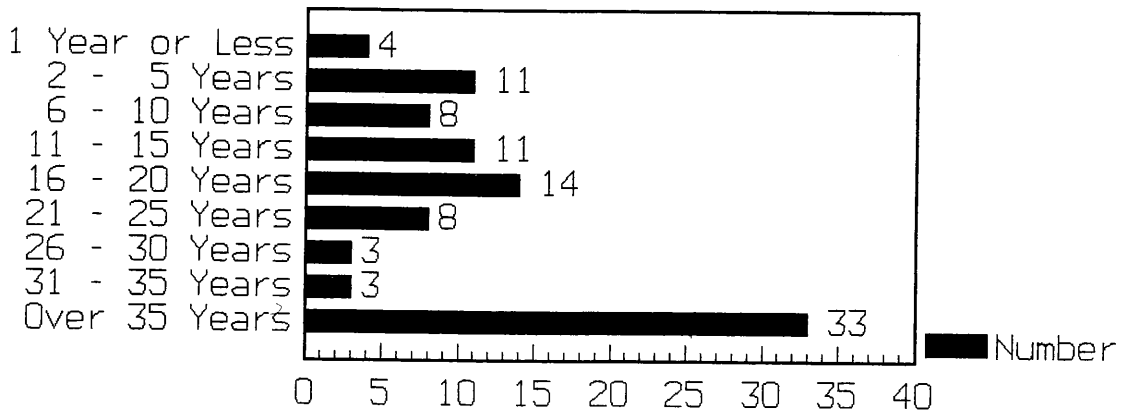
Number of Years Business or Organization at Address



(Note: 1671 No Answer/  
Did Not Apply)

Graph 7b

Number of Years Business or Organization in Duluth



(Note: 1697 No Answer/  
Did Not Apply)

TABLE 8 TYPE OF SERVICE RECEIVED AT ADDRESS \*

WATER SERVICE	1671
NATURAL GAS WATER HEAT	1197
NATURAL GAS RESIDENTIAL HEAT	949
NATURAL GAS COMMERCIAL-INDUSTRIAL	97

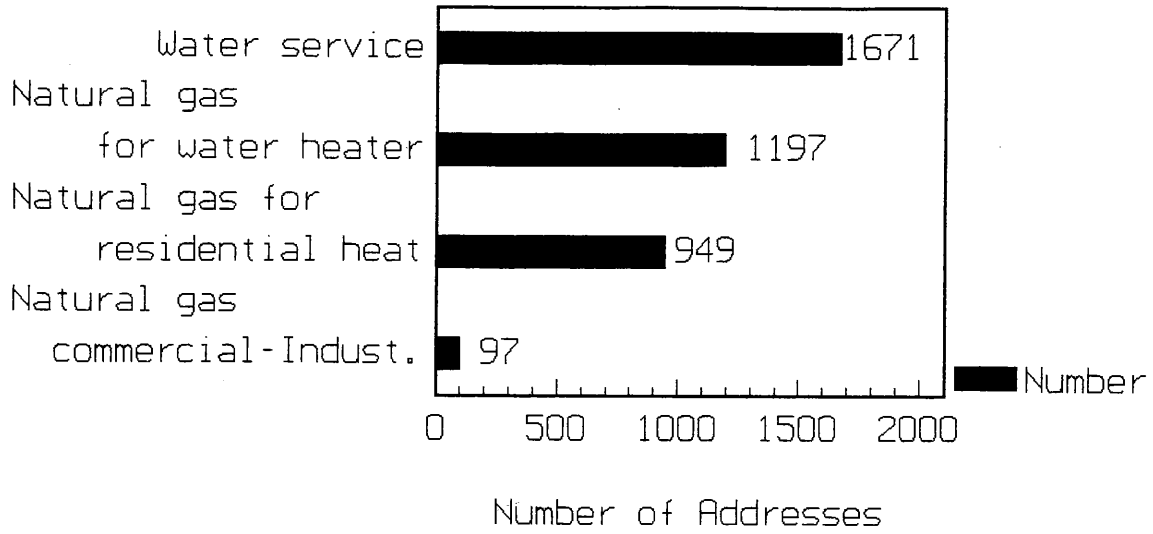
\* Total is greater than 1792, it was possible to have more than one type of service at an address.

TABLE 8b COMBINATIONS OF SERVICE RECEIVED AT ADDRESS

WATER SERVICE ONLY	400
NATURAL GAS	
WATER HEATER	30
RESIDENTIAL HEAT	18
WATER HEATER & RESIDENTIAL HEAT	26
WATER SERVICE & NATURAL GAS WATER HEATER	299
WATER SERVICE & NATURAL GAS RESIDENTIAL HEAT	91
WATER SERVICE & NATURAL GAS FOR WATER HEATER & RESIDENTIAL HEAT	794
NATURAL GAS COMMERCIAL/INDUSTRIAL	6
OTHER COMBINATIONS	87
NO ANSWER	<u>41</u>
	1792

Graph 8

Type of Service(s) Provided to the  
Addresses Returning Questionnaires



Graph 8a  
 Combination of Services Provided to  
 Addresses Returning Questionnaires

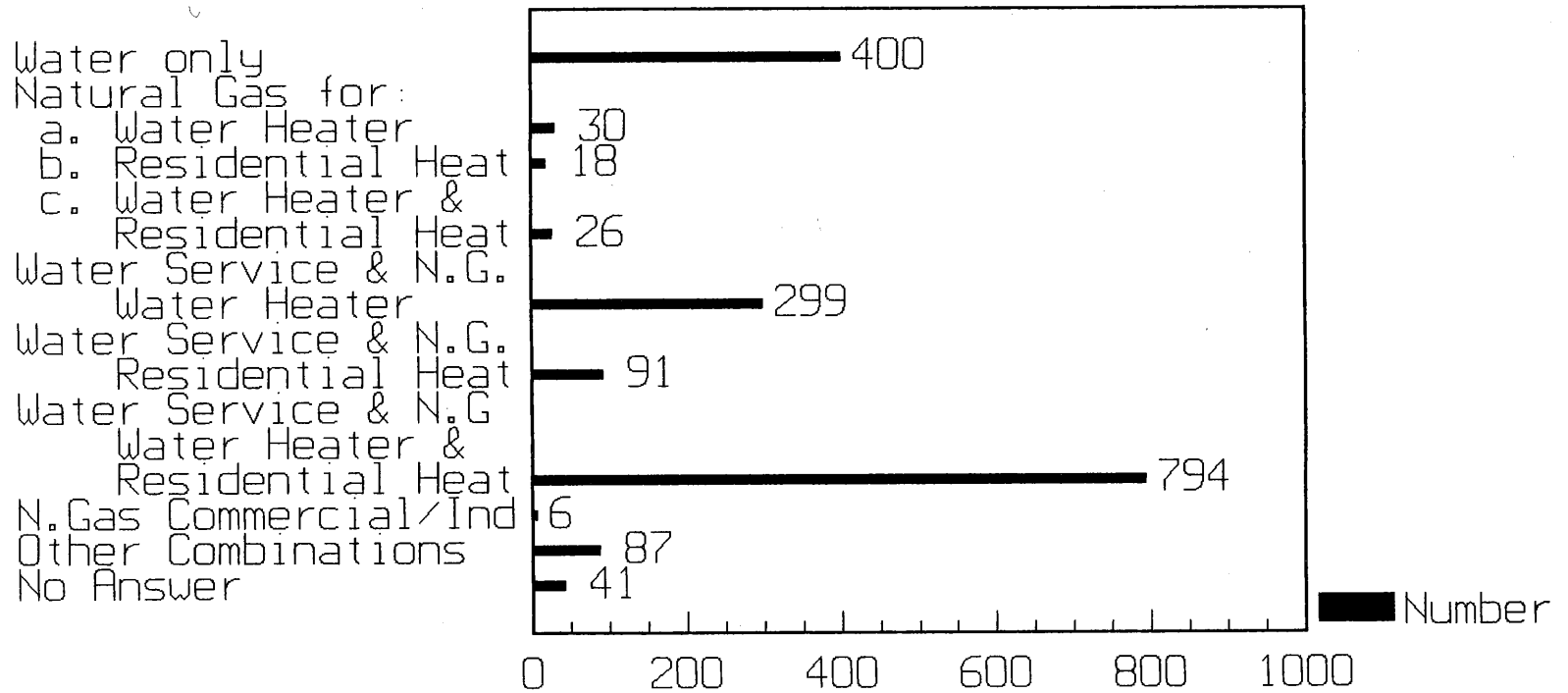


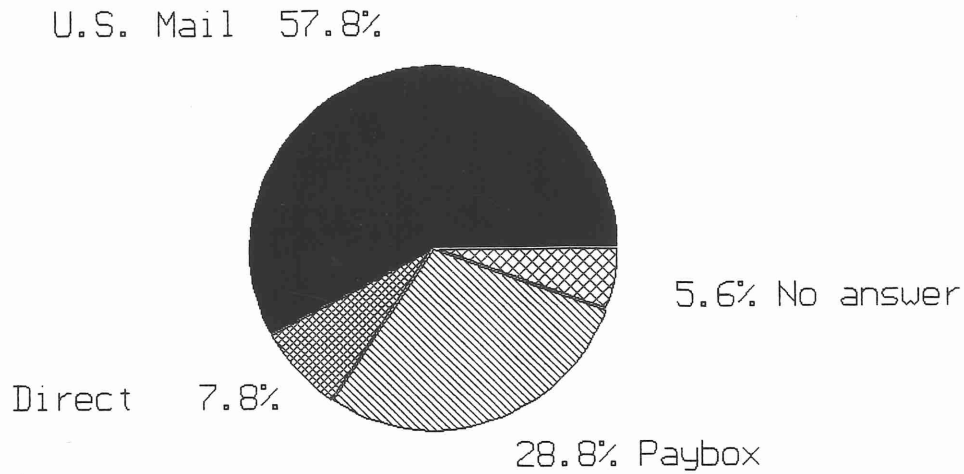
TABLE 9 Method of Payment

U.S. Mail	1035	57.8 %
Direct to Water and Gas	140	7.8
Pay Box or Pay Station	516	28.8
Did Not Answer	<u>101</u>	5.4
	1792	

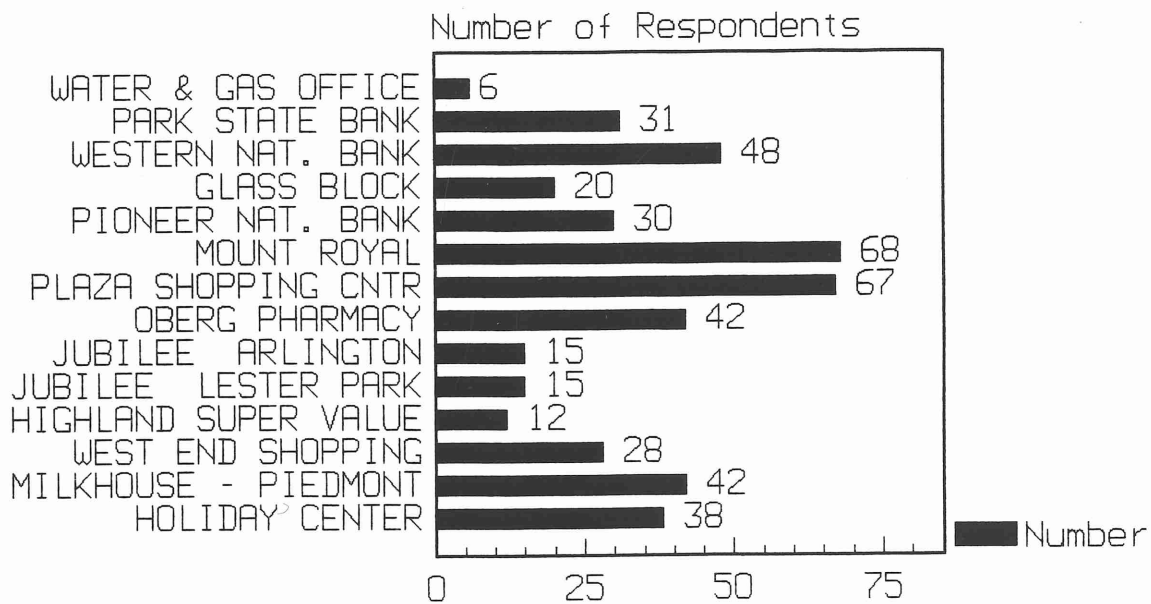
TABLE 10 Location of Pay Box or Pay Station Used to Pay Bill

LOCATION	#	PERCENT
WATER & GAS OFFICE	6	0.4 %
PARK STATE BANK	31	1.7
WESTERN NATIONAL BANK	48	2.7
GLASS BLOCK STORE	20	1.1
PIONEER NATIONAL BANK	30	1.7
MOUNT ROYAL SHOPPING CENTER	68	3.8
PLAZA SHOPPING CENTER	67	3.7
DULUTH CLINIC - OBERG PHARMACY	42	2.3
JUBILEE FOODS - ARLINGTON	15	0.8
JUBILEE FOODS - LESTER PARK	15	0.8
HIGHLAND SUPER VALUE	12	0.7
WEST END SHOPPING CENTER	28	1.6
MILKHOUSE - PIEDMONT	42	2.3
HOLIDAY CENTER	38	2.1
DID NOT ANSWER OR LOCATION UNIDENTIFIABLE	259	14.5
DID NOT APPLY	<u>1071</u>	59.8
	1792	

Graph 9  
Method for Payment of Bill



Graph 10 PAYBOXES OR STATIONS USED



Note: 1420 Did Not Answer or Did Not Use Pay Boxes/Stations

TABLE 11 Made Application in Last 12 Months

Made Application	238	13.3 %
Did not make Application	1515	84.5
Did Not Answer	<u>39</u> 1792	2.2

TABLE 11a Treated Courteously in Application Process

Treated Courteously	199	83.6 %
Not Treated Courteously	29	12.2
Did Not Answer	<u>10</u> 238	4.2

TABLE 11b Staff Knowledgeable About Application

Staff Knowledgeable	208	87.4 %
Staff Not Knowledgeable	22	9.2
Did Not Answer	<u>8</u> 238	3.4

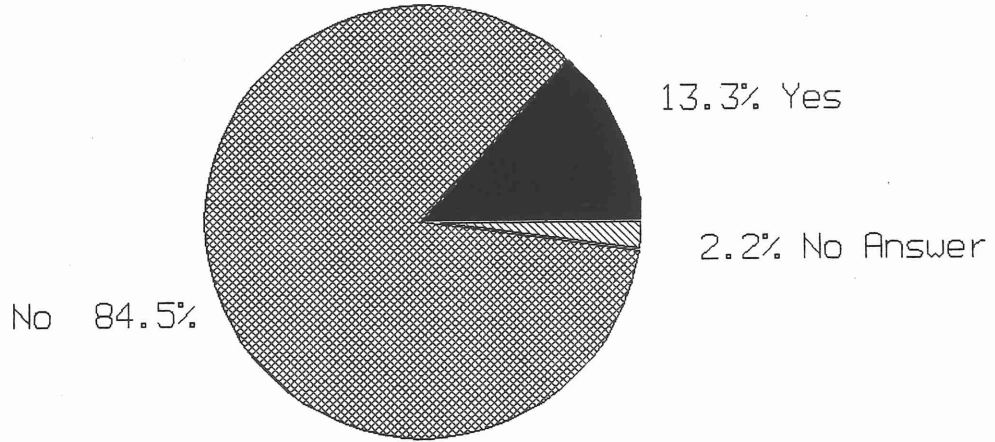
TABLE 11c Satisfied With Application Process

Satisfied	189	79.4 %
Not Satisfied	37	15.5
Did Not Answer	<u>12</u> 238	5.0

TABLE 11d Problem With Application

Problem with Application	42	17.6 %
No Problem with Application	169	71.0
Did Not Answer	<u>27</u> 238	11.3

Graph 11  
 Made Application for Service  
 in Past 12 Months



Graph 11a  
 How Treated in The Application Process

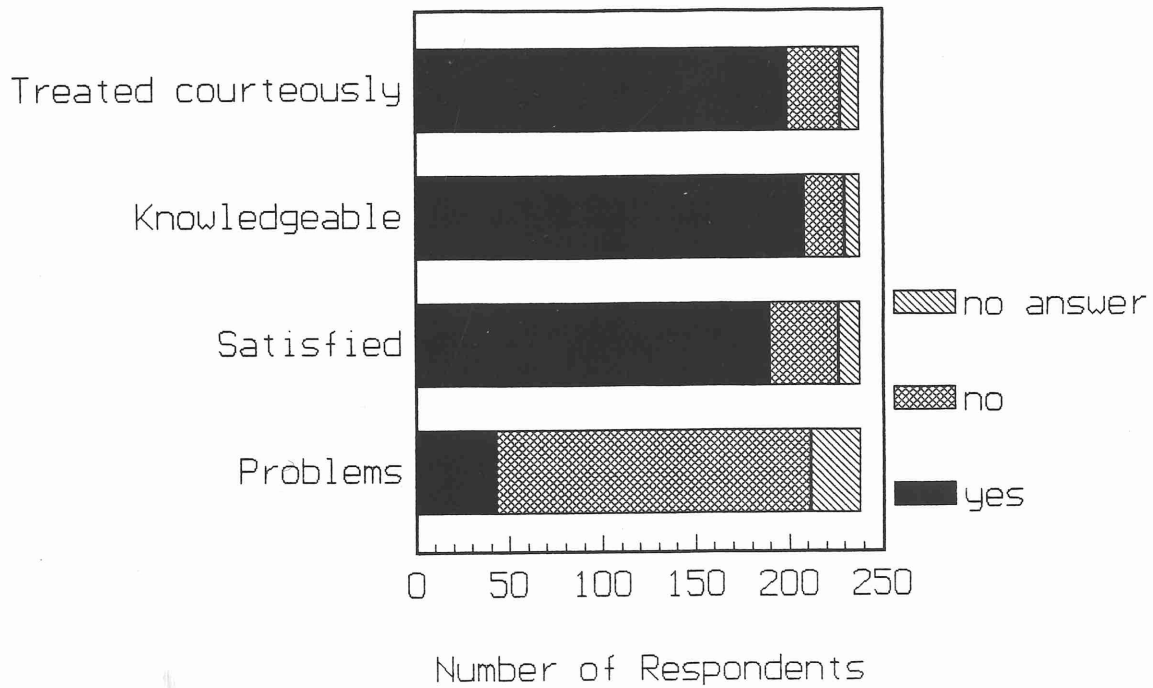


TABLE 12 APPLIED FOR AN ENERGY LOAN IN PAST 12 MONTHS

APPLIED	91	5.1 %
DID NOT APPLY	1571	87.7
DID NOT ANSWER OR DOES NOT APPLY	<u>130</u> 1792	7.3

TABLE 12a SATISFIED WITH ENERGY AUDIT

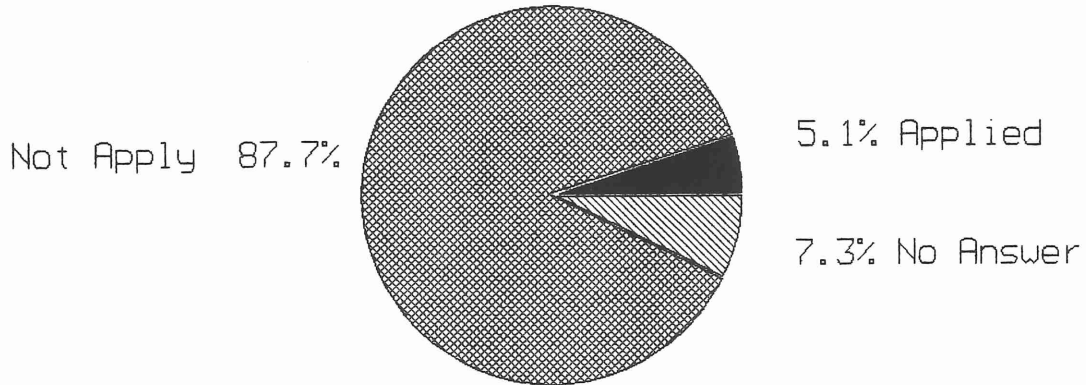
VERY SATISFIED	59	64.8 %
SATISFIED	25	27.5
NEITHER SATISFIED NOR DISSATISFIED	5	5.5
SOMEWHAT DISSATISFIED	1	1.1
VERY DISSATISFIED	<u>1</u> 91	1.1

(DID NOT ANSWER OR DOES NOT APPLY FOR ENERGY AUDIT WAS PART OF THE APPLICATION FOR THE ENERGY LOAN = 1701)

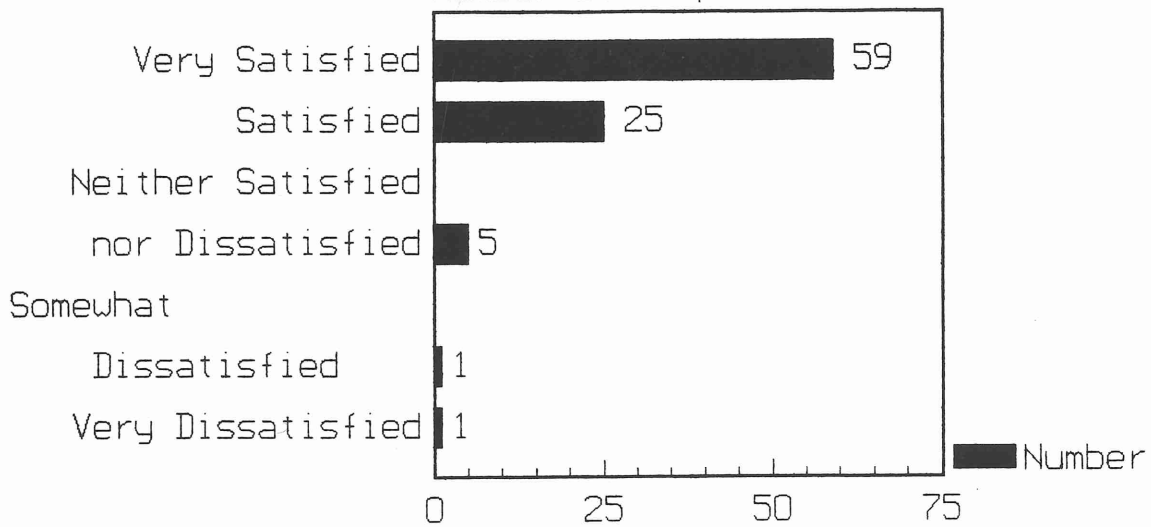
TABLE 13 Inconvenienced By Water & Gas Construction

Inconvenienced	123	6.9 %
Not Inconvenienced	1624	90.6
Did Not Answer	<u>45</u> 1792	2.5

Graph 12  
 Applied for Energy Loan in Past  
 12 Months



Graph 12a  
 Satisfied With Energy Audit  
 Number of Respondents



Note: 1701 Did Not Apply or Did Not Answer

Graph 13

Inconvenienced by Water & Gas Construction

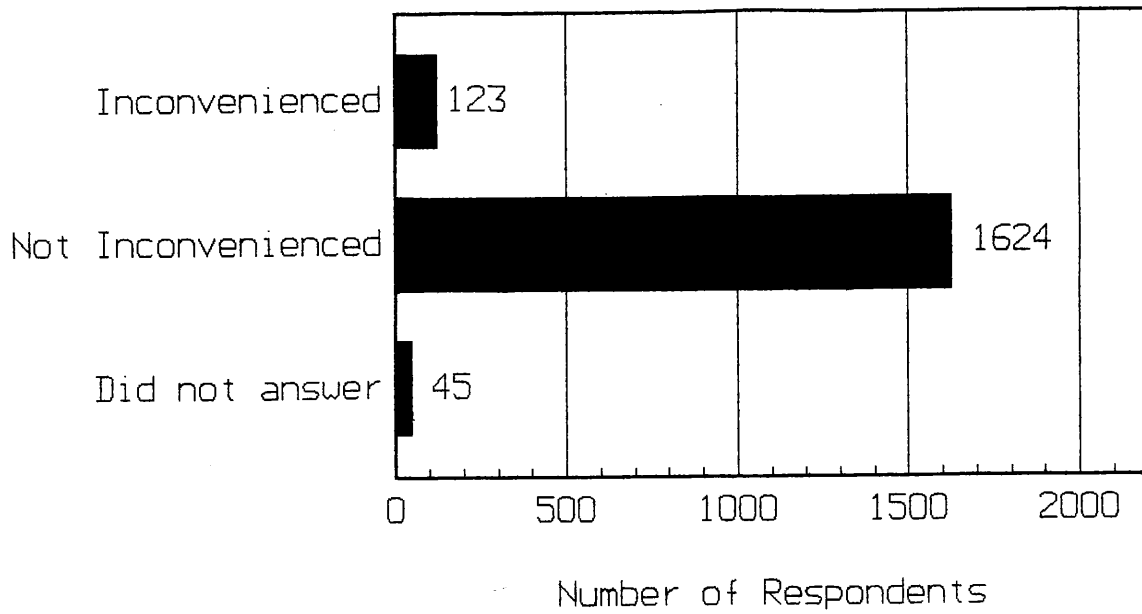


TABLE 14 Type of Contact with the Water & Gas Department \*

<u>Type of Contact</u>	<u>#</u>	<u>%</u> **
Phone	715	39.9%
First Street	398	22.2%
Maintenance	492	27.5%
Garfield	59	3.3%
Meter Reader	525	29.3%
Construction	131	7.3%
Repair	269	15.0%
High Pressure Gas	101	5.6%
Service Interruption	92	5.1%
Service Termination	38	2.1%
Correspondence	125	7.0%
Other Contact	16	0.1%

\* Total exceeds 1792, respondents could have had more than one type of contact.

\*\* Percent based on 1792.

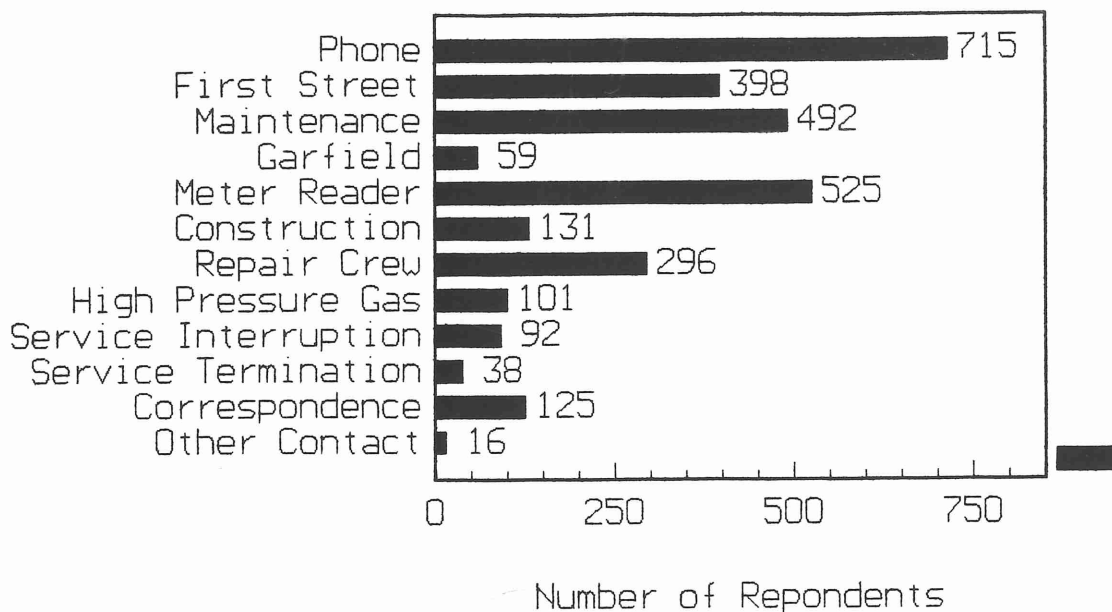
TABLE 14a Evaluation of Courteousness of Water & Gas Staff

TYPE OF CONTACT	Staff Courteous			
	Yes		No	
	#	% *	#	% *
Phone	625	87.4%	54	7.6%
First Street	348	87.4%	47	11.8%
Maintenance	461	93.7%	21	4.3%
Garfield	53	89.8%	6	10.2%
Meter Reader	503	95.8%	13	2.4%
Construction	122	93.1%	9	0.1%
Repair	247	91.8%	22	8.1%
High Pressure Gas	89	88.1%	12	11.9%
Service Interruption	73	79.3%	19	20.7%
Service Termination	26	68.4%	12	31.6%
Correspondence	89	71.2%	36	28.8%
Other Contact	14	87.5%	2	12.5%

\* Percent based on the number of respondents indicating that they had the type of contact (SEE TABLE 14)

Graph 14

Types of Contact With Water & Gas



Graph 14a

Treated Courteously by Staff During Contact

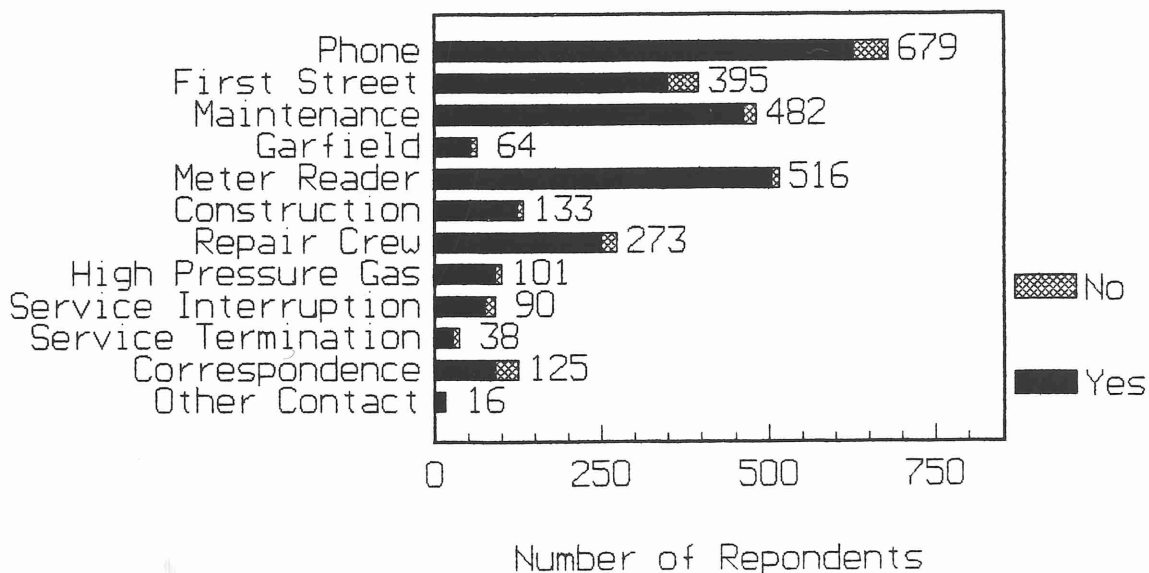


TABLE 14b Evaluation of Degree of Knowledge of Water & Gas Staff

TYPE OF CONTACT	Staff Knowledgeable			
	Yes		No	
	#	% *	#	% *
Phone	548	76.6%	55	7.7%
First Street	294	73.9%	35	8.8%
Maintenance	409	83.1%	21	4.3%
Garfield	47	79.7%	9	15.3%
Meter Reader	337	64.2%	9	1.7%
Construction	100	76.3%	7	5.3%
Repair	211	78.4%	17	6.3%
High Pressure Gas	79	78.2%	8	7.9%
Service Interruption	63	68.5%	15	16.3%
Service Termination	26	68.4%	6	15.8%
Correspondence	82	65.6%	13	10.4%
Other Contact	13	81.2%	3	18.8%

\* Percent based on the number of respondents indicating that they had the type of contact. (SEE TABLE 14)

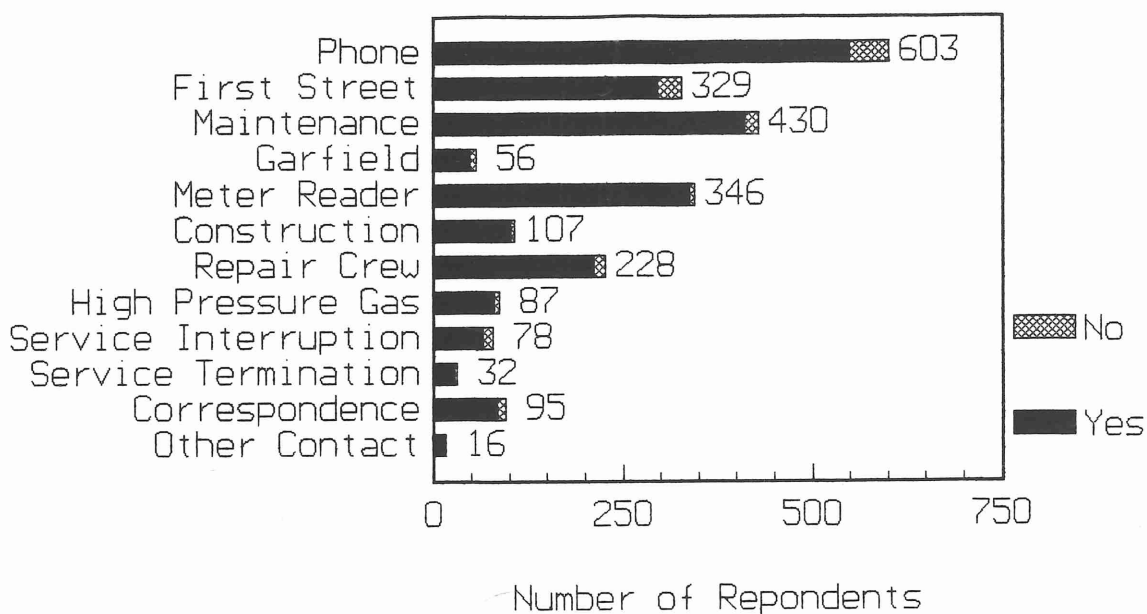
TABLE 14c Evaluation of Satisfaction with Contact Water & Gas Staff

TYPE OF CONTACT	Satisfied with Contact			
	Yes		No	
	#	% *	#	% *
Phone	534	74.7%	91	12.7%
First Street	298	74.9%	50	12.6%
Maintenance	409	83.1%	21	4.3%
Garfield	50	84.7%	6	10.2%
Meter Reader	385	73.3%	14	2.7%
Construction	111	84.7%	9	6.9%
Repair	215	79.9%	19	7.1%
High Pressure Gas	77	76.2%	21	20.8%
Service Interruption	64	69.6%	28	30.4%
Service Termination	24	63.2%	14	36.8%
Correspondence	77	61.6%	32	25.6%
Other Contact	6	37.5%	2	12.5%

\* Percent based on the number of respondents indicating that they had the type of contact. (SEE TABLE 14)

Graph 14b

Staff Knowledgeable About Contact



Graph 14c

Satisfied with Contact with Staff

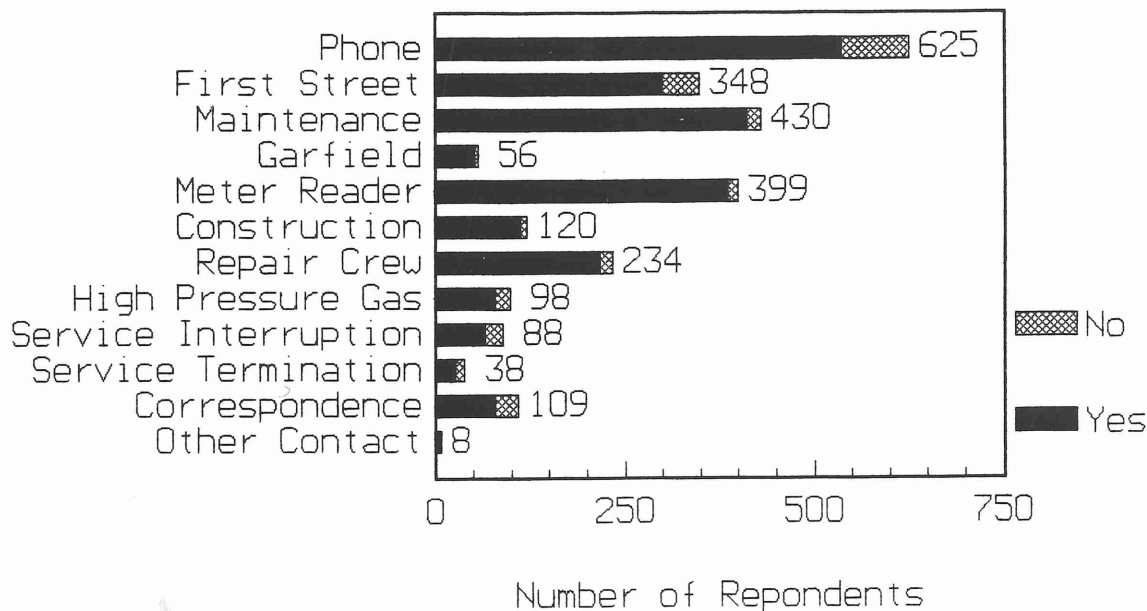


TABLE 15 Type of Service Received From Water & Gas Staff \*

SERVICE	#	%
Furnace	393	21.9%
Hot Water Heater	87	4.9%
Gas Leak	115	6.4%
Water Repair	80	4.4%
Meter Service	257	14.3%
Other Service	29	1.6%

\* Total is less than 1792, not all respondents received a service.

TABLE 15a Water & Gas Staff Courteous When Providing Service

SERVICE	Staff Courteous			
	Yes	% *	No	% *
Furnace	367	93.4	8	2.0%
Hot Water Heater	79	90.8%	4	4.6%
Gas Leak	105	91.3%	8	7.0%
Water Repair	69	86.2%	10	12.5%
Meter Service	230	89.5%	17	6.6%
Other Service	27	93.1%	2	6.9%

\* Percent based on the number of respondents indicating that they had received the type of service. (SEE TABLE 15)

TABLE 15b Timeliness of Service Received From Water & Gas Staff

SERVICE	Service Timely			
	Yes	% *	No	% *
Furnace	313	79.6	20	2.8%
Hot Water Heater	69	79.3%	6	6.9%
Gas Leak	91	79.1%	9	7.8%
Water Repair	57	71.2%	13	16.2%
Meter Service	207	80.5%	12	4.7%
Other Service	25	86.2%	4	13.8%

\* Percent based on the number of respondents indicating that they had received the type of service. (SEE TABLE 15)

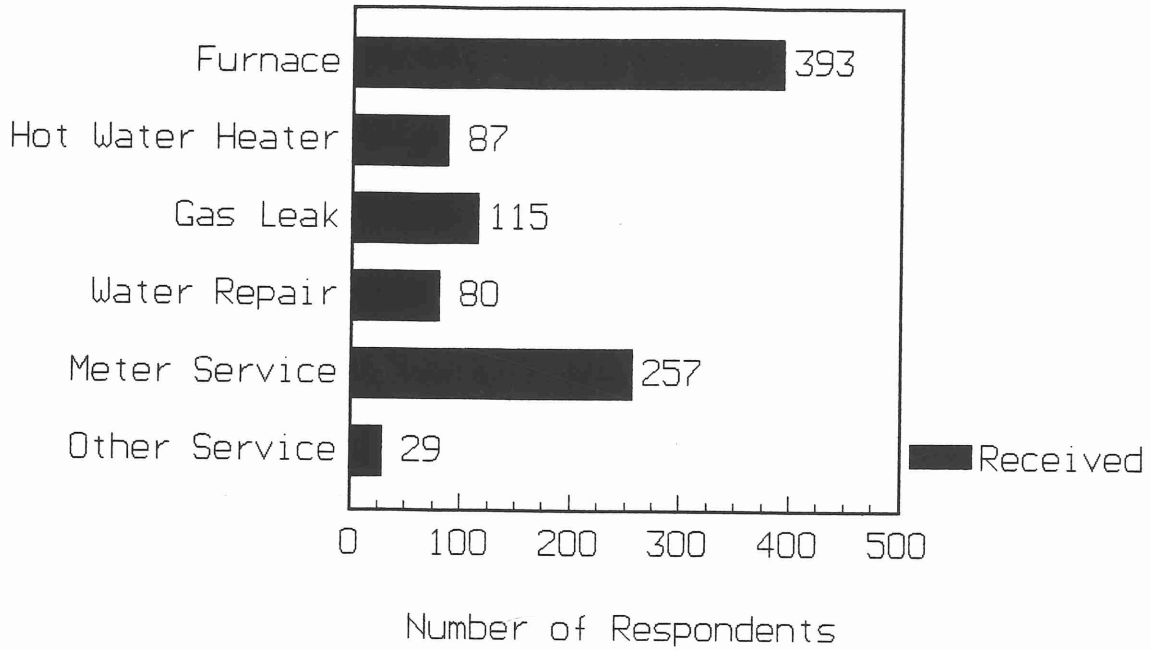
TABLE 15c Satisfaction with Service Received From Water & Gas Staff

SERVICE	Satisfied with Service			
	Yes	% *	No	% *
Furnace	351	89.3	118	2.8%
Hot Water Heater	77	88.5%	4	4.6%
Gas Leak	99	86.1%	9	7.8%
Water Repair	62	77.5%	12	15.0%
Meter Service	221	86.0%	19	7.4%
Other Service	18	62.1%	2	6.9%

\* Percent based on the number of respondents indicating that they had received the type of service. (SEE TABLE 15)

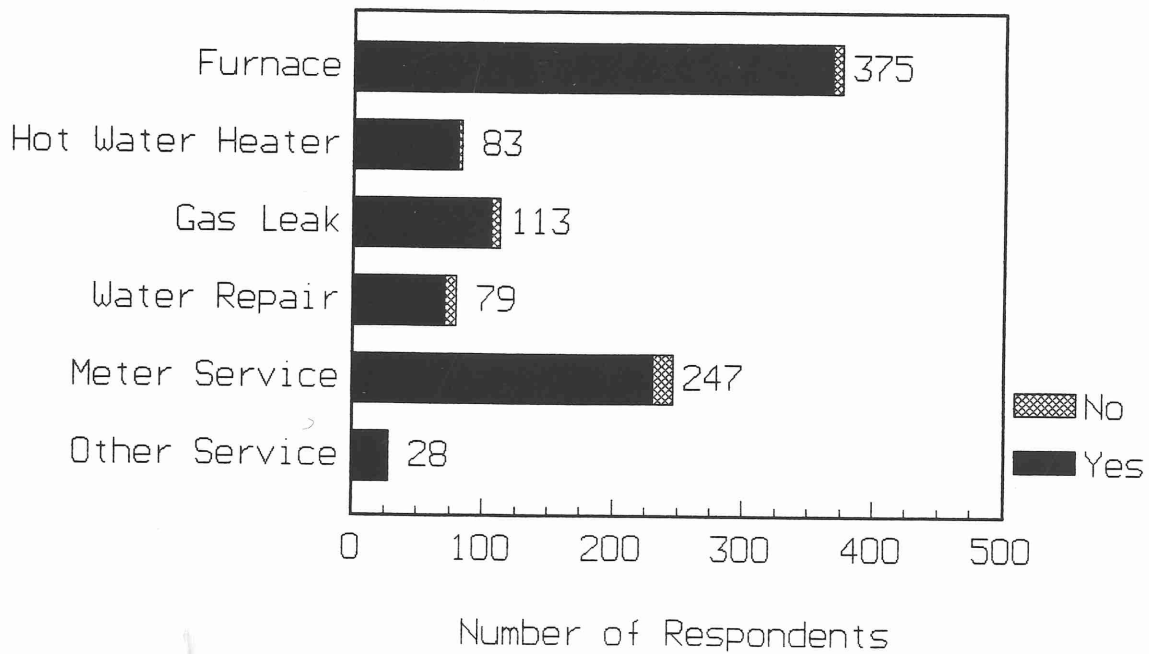
Graph 15

Type of Service Received at Address



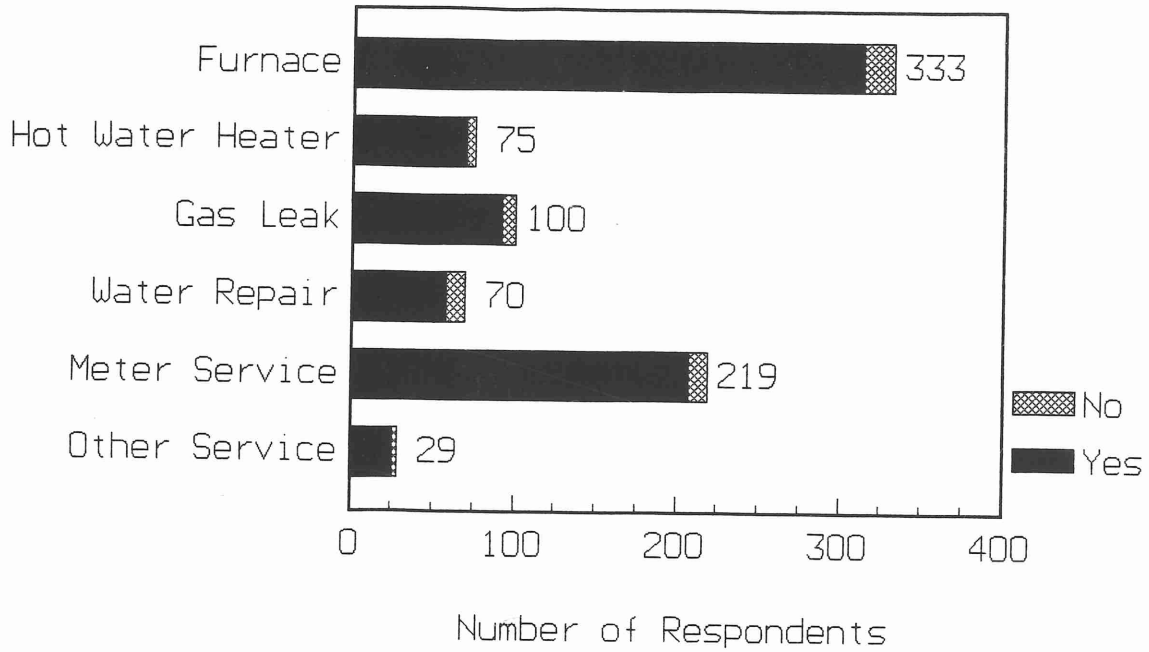
Graph 15a

Staff Courteous in Providing Service



Graph 15b

Service Provided in a Timely Manner



Graph 15c

Satisfied with Service Provided

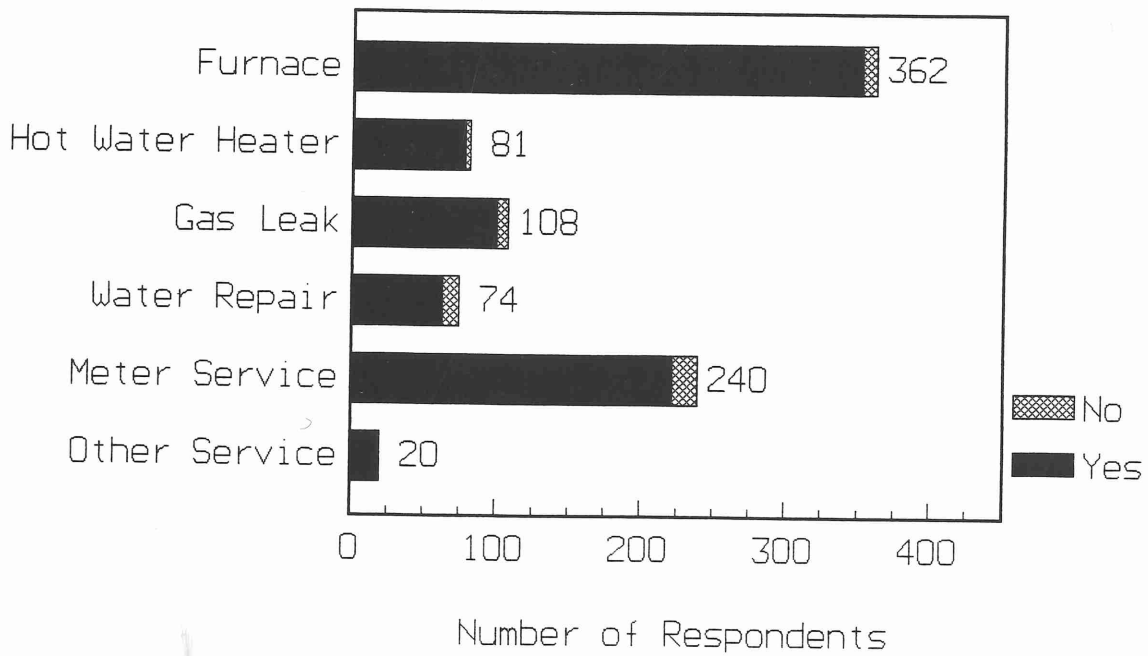


TABLE 16 Seen or Heard Water & Gas Advertisements

MEDIA	Seen/Heard an Advertisement					
	Yes		No		Don't Know	
	#	% *	#	% *	#	% *
Flyers	262	14.6%	610	34.0%	319	17.8%
Bill Inserts	1168	65.2%	198	11.0%	188	10.4%
Billboards	153	8.5%	700	39.1%	286	16.0%
Radio	276	15.4%	671	37.4%	251	14.0%
Sporting Event	53	0.3%	785	43.8%	274	15.3%
Newspaper	452	25.2%	557	31.1	249	13.9%

\* Table does not include those who did not answer the questions. Percentages are base on 1972.

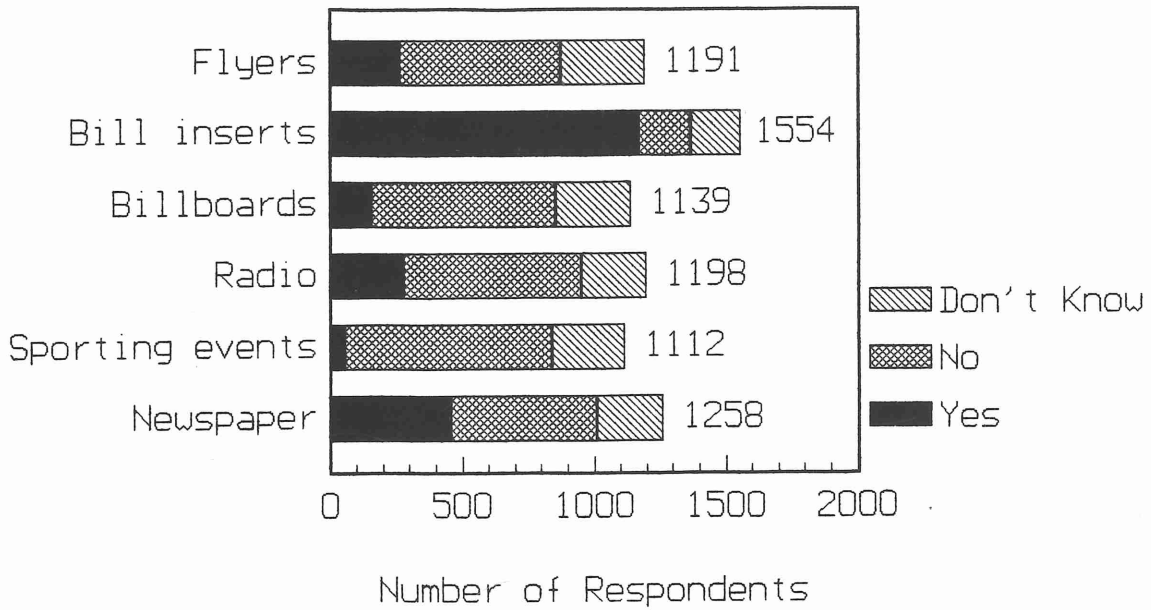
TABLE 16a Usefulness of Water & Gas Advertisements

MEDIA	Usefulness of the Media for Advertising								
	Very		Some what		Not Very		DNA		
	#	% *	#	% *	#	% *	#	% *	
Flyers	63	24%	87	33.2%	88	33.6%	24	9.2%	
Bill Inserts	144	12.3%	552	47.3%	335	30.4%	137	11.7%	
Billboards	13	8.4%	65	42.5%	53	34.6%	22	14.4%	
Radio	32	11.6%	141	51.1%	77	27.9%	42	15.2%	
Sporting Event	4	8.5%	28	52.8%	14	26.4%	7	13.2%	
Newspaper	78	17.3%	213	47.1%	110	24.3%	51	11.3%	

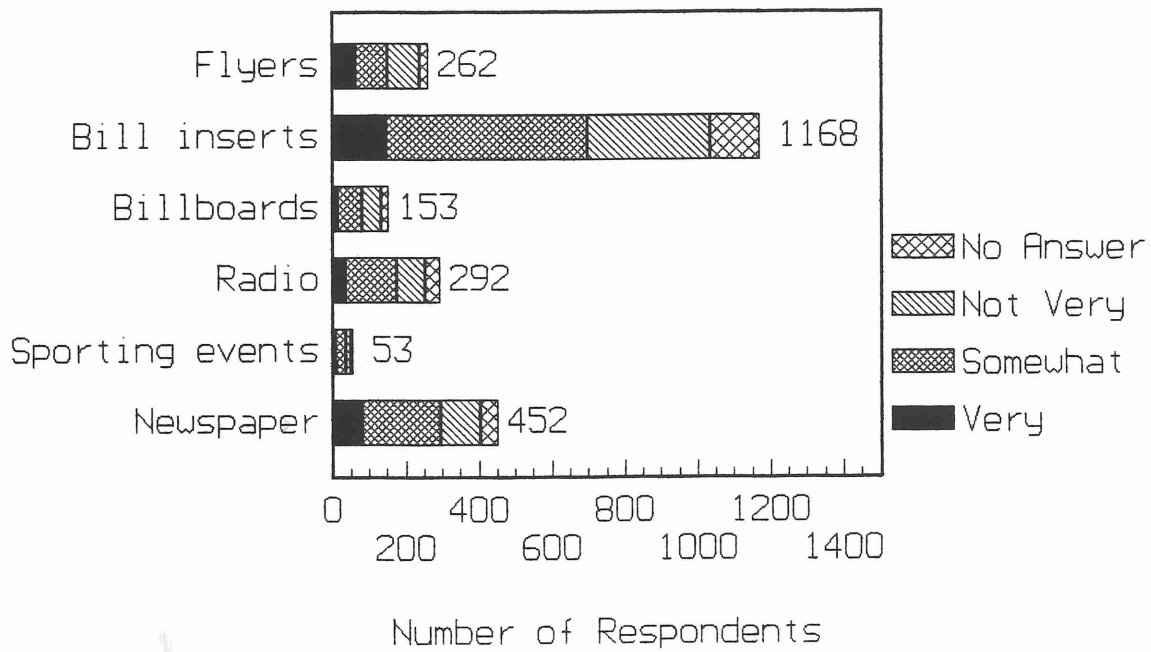
\* Percent based on the number of respondents indicating that they had seen/heard an advertisement. (SEE TABLE 16)

Graph 16

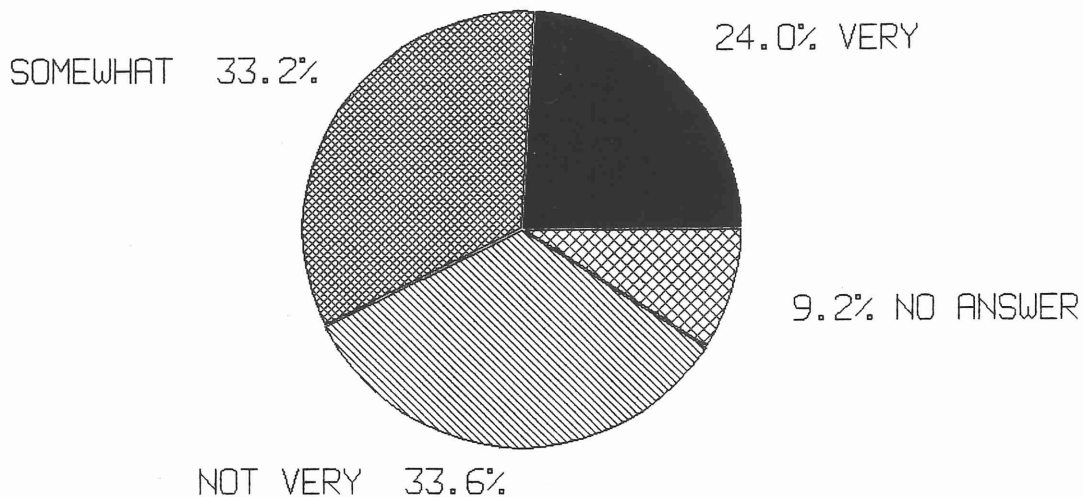
Seen or Heard Water & Gas Advertisements



Graph 16a  
Usefulness of Water & Gas Advertisements

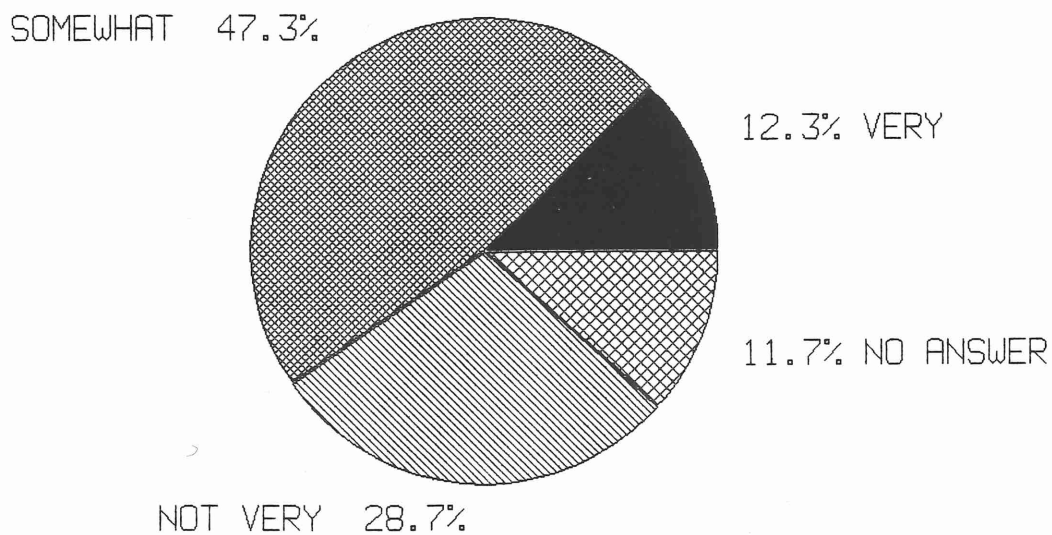


Graph 16 b FLYERS USEFUL



PERCENT RESPONDING

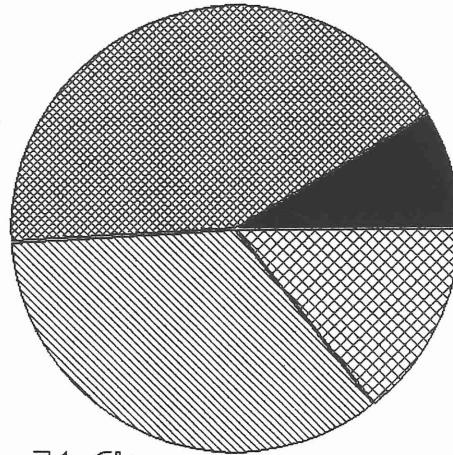
Graph 16 c BILL INSERTS USEFUL



PERCENT RESPONDING

Graph 16 d BILL BOARDS USEFUL

SOMEWHAT 42.5%



8.5% VERY

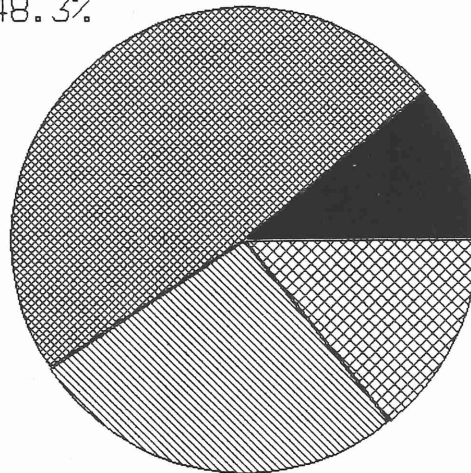
14.4% NO ANSWER

NOT VERY 34.6%

PERCENT RESPONDING

Graph 16 e RADIO ADS USEFUL

SOMEWHAT 48.3%



11.0% VERY

14.4% NO ANSWER

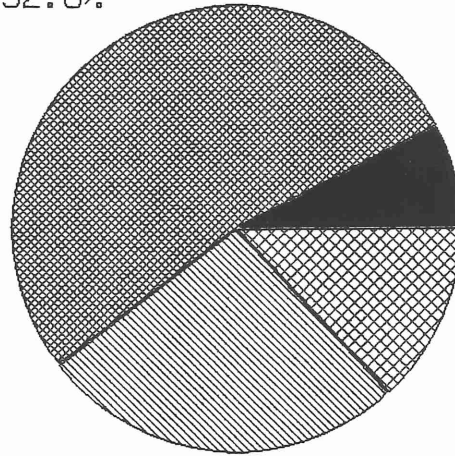
NOT VERY 26.4%

PERCENT RESPONDING

Graph 16 f

SPORTING EVENTS USEFUL

SOMEWHAT 52.8%



7.5% VERY

13.2% NO ANSWER

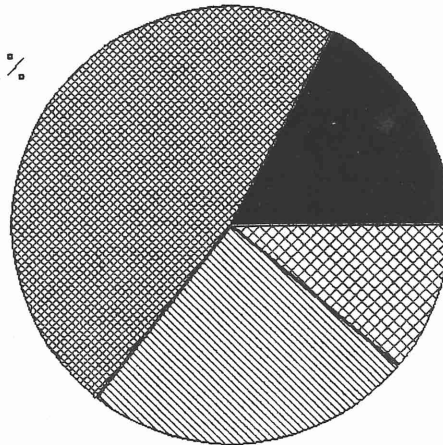
NOT VERY 26.4%

PERCENT RESPONDING

Graph 16 g

NEWSPAPER ADS USEFUL

SOMEWHAT 47.1%



17.3% VERY

11.3% NO ANSWER

24.3% NOT VERY

PERCENT RESPONDING

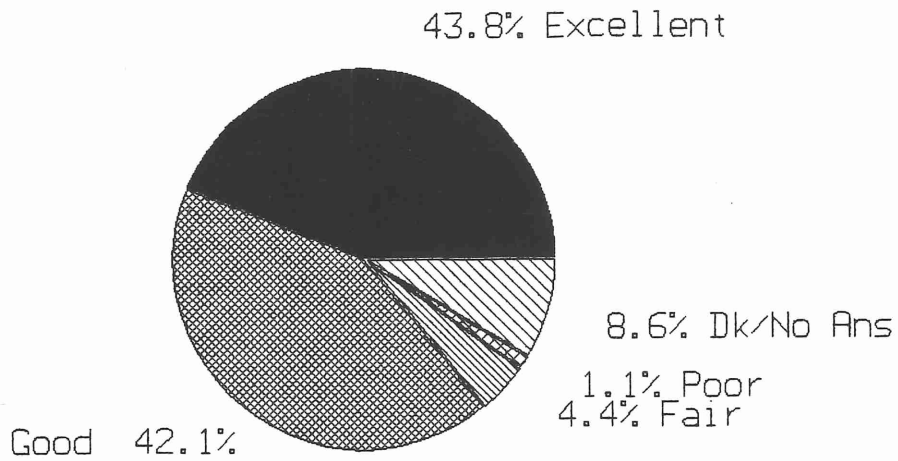
TABLE 17 Overall Ratings of Water & Gas Department

RATING AREA	Rating				
	Excellent	Good	Fair	Poor	DK/No Answer
Service	785 43.8%	754 42.1%	78 4.4%	20 1.1%	155 8.6%
Performance	659 36.8%	723 40.3%	93 5.2%	30 1.7%	287 16.0%
Reputation	607 33.9%	767 42.8%	134 7.5%	53 3.0%	231 12.9%

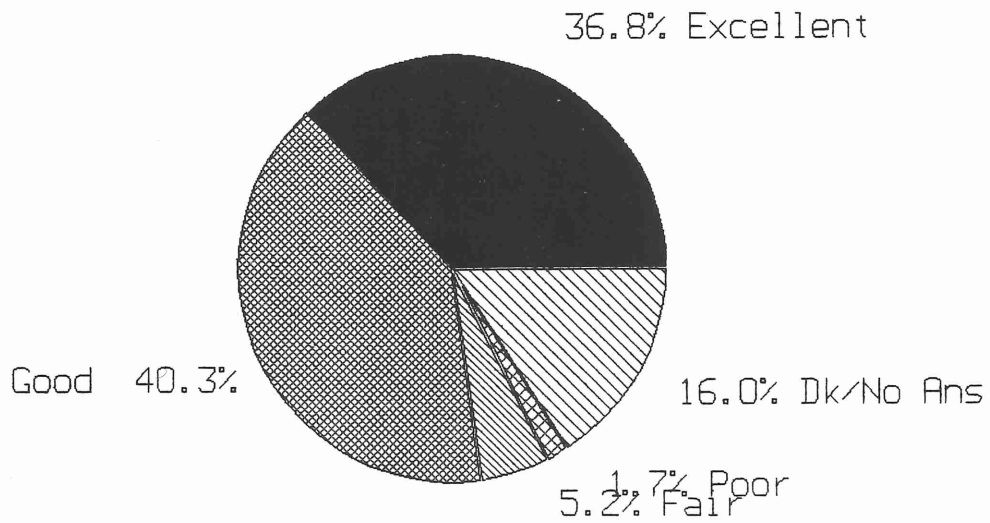
TABLE 18 Value of the Price of Goods and Services Provided by the Water & Gas Department When Compared With Other Goods And Services Purchased by Water & Gas Customers

	Value of Water & Gas Prices			
	Higher Value	Value In Line	Lower Value	DK/No Answer
Price of Goods	304 17.0%	1211 67.6%	119 6.6%	158 8.8%
Price of Services	185 10.3%	1118 62.4%	135 7.5%	354 19.8%

Graph 17a  
Rating of Water & Gas Service

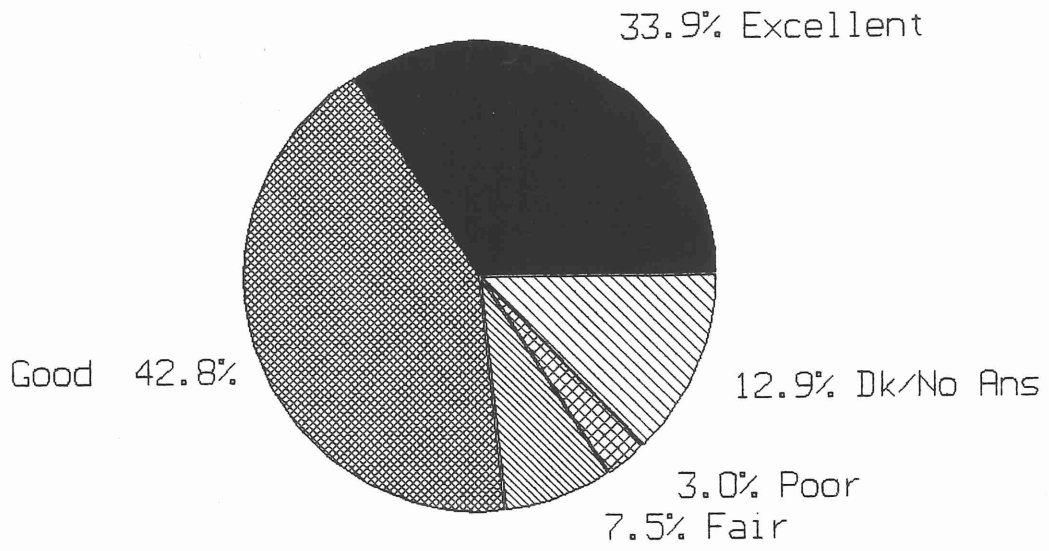


Graph 17b  
Rating of Water & Gas Performance

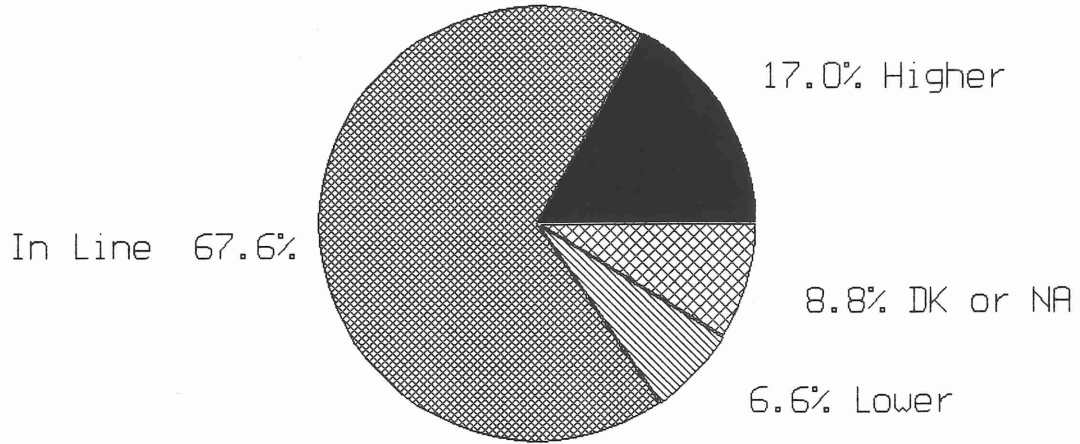


Graph 17c

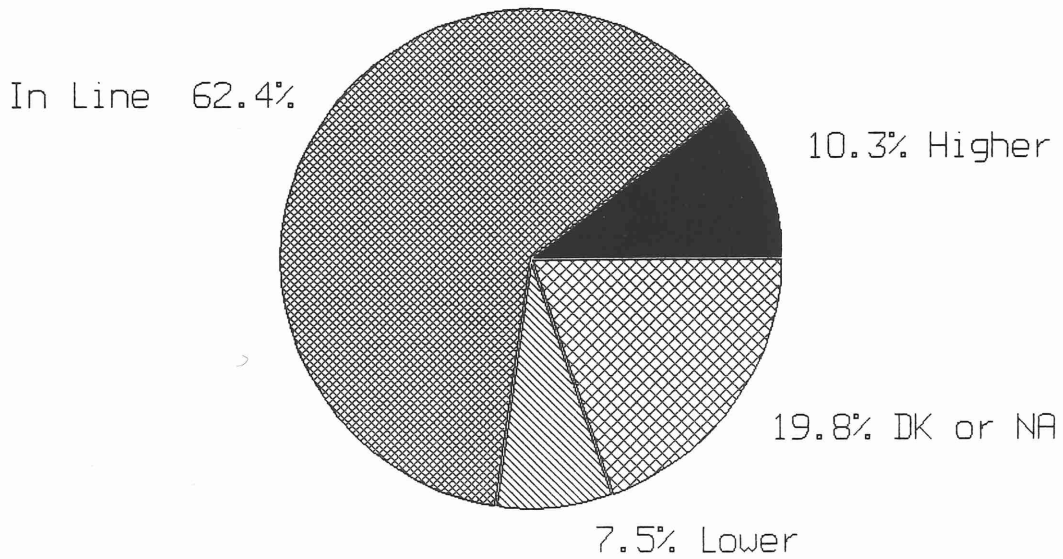
Rating of Water & Gas Department  
Reputation



Graph 18a  
Value of Water & Gas Goods



Graph 18b  
Value of Water & Gas Services



**APPENDIX 3 - LETTERS & QUESTIONNAIRES**

## PREMAILING NOTICE

9 July 1990

Dear Water & Gas Customer:

In an effort to learn from our mistakes, as well as our successes, we have undertaken a program of randomly surveying a number of persons who receive service from this department.

Sometime in the next two weeks a random sample of customers will be receiving a questionnaire in the mail from the Center for Community and Regional Research at the University of Minnesota-Duluth.

It will take only 3 to 5 minutes to complete the questionnaire. The results will aid us in meeting our goal of providing the highest quality service to the residents of the City of Duluth.

It is essential that you take the time to complete the questionnaire and return it to UMD. A self-addressed, postage paid return envelope will be provided for your convenience.

I would like to thank you in advance for taking the time to complete and return the questionnaire.

Sincerely,

Roger A. Kurrle, Director  
Duluth Department of Water and Gas



UNIVERSITY OF MINNESOTA  
DULUTH

Center for Community and Regional Research  
228 Cina Hall  
10 University Drive  
Duluth, Minnesota 55812-2496  
(218) 726-7551

July 1990

Dear Duluth Water & Gas Customer:

Some time within the past ten (10) days a postal card from the Duluth Water & Gas Department was sent to customers notifying them of this survey. The enclosed questionnaire pertains to the services provided by that Department.

You have received the questionnaire because your address was selected as part of a random sample of Water & Gas customers.

The survey was designed to assure that the information you provide cannot be linked to you nor your address. The data will be analyzed by us. The analysis is intended to help the Department of Water & Gas in meeting their goal of providing the highest quality service to the residents of the City of Duluth.

It will take only 4 to 6 minutes to complete the questionnaire.

Once you have completed the questionnaire please return it to us at the University of Minnesota - Duluth. A self-addressed, postage paid return envelope is enclosed for your use. In order to assure ANONYMITY of those responding, PLEASE DO NOT SIGN YOUR COMPLETED QUESTIONNAIRE.

In order for us to keep the project on schedule, it is essential that we receive your completed questionnaire by the END OF NEXT WEEK.

Thanks for taking the time to complete and return the questionnaire. >

Sincerely yours,

William A. Fleischman, Ph.D.  
Associate Professor/Project Director

WAF:dl  
Enclosure



# WATER & GAS CUSTOMER SURVEY

The following questions concern the **services provided by the Duluth Water & Gas Department** to the address referred to on the envelope you received. Depending upon the contacts that persons at this address have had with Water & Gas over the past 12 months some of the questions may be skipped. Please follow the questionnaire closely and answer those questions that pertain to the experience of persons living or working at this address.

When you have completed the questionnaire, place it in the return envelope and mail it directly to the Center For Community & Regional Research at UMD.

\*\*\*\*\*

1. Which of the following **SERVICES** are provided **TO THIS ADDRESS** by the Department of Water & Gas? (**CHECK ALL THAT APPLY**)

- WATER
- NATURAL GAS for **WATER HEATER and/or APPLIANCES**
- NATURAL GAS for **RESIDENTIAL HEAT**
- NATURAL GAS for **COMMERCIAL/INDUSTRIAL USE**

2. Check the category which best describes **THIS ADDRESS**:

- Residential.....(**GO TO QUESTION 2A, THEN 2B**)
- Commercial.....(**GO TO QUESTION 3**)
- Industrial.....(**GO TO QUESTION 3**)
- Non-profit organization...(**GO TO QUESTION 3**)

A. If a **Residence**, please indicate the **NUMBER OF PERSONS** in each of the **AGE CATEGORIES** with this address as their **PERMANENT RESIDENCE**?

Number of Persons:    \_\_\_ under 18            \_\_\_ 18 to 50            \_\_\_ 51 and over

B. Did you receive an **ENERGY LOAN** from Water & Gas in the past **24 MONTHS**?

- YES (**GO TO QUESTION 2C**)             NO (**GO TO QUESTION 3**)

C. How **SATISFIED** were you with the energy audit done for you?

- Very Satisfied     Somewhat Satisfied     Neither Satisfied nor Dissatisfied     Somewhat Dissatisfied     Very Dissatisfied

3. Do you or does this business/organization **OWN** or **RENT** this property?

- Own (Buying)     Rent

4. How long have you **LIVED AT** or had this **BUSINESS/ORGANIZATION AT THIS ADDRESS**? How long **in DULUTH**?

\_\_\_ # years **LIVED at THIS ADDRESS**    \_\_\_ # years **BUSINESS/ORGANIZATION AT THIS ADDRESS**

\_\_\_ # years **LIVED IN DULUTH**            \_\_\_ # years **BUSINESS/ORGANIZATION IN DULUTH**

**CONTACT WITH WATER & GAS PERSONNEL OR SERVICES**

5. Does someone at this address **PAY THE WATER AND/OR GAS BILL DIRECTLY** to the Water & Gas Department?

YES, pays directly       NO, does not pay directly (GO TO QUESTION 6 )

A. What **METHOD** is used most often **TO PAY** the Water & Gas bill for this address?

- Send payment for bill via U.S. Mail
- Take payment directly to Water & Gas office
- Use Water & Gas pay box or pay station to make the payment  
(Please Specify **LOCATION OF PAY BOX/STATION** used most often)

B. Is there a need for **ADDITIONAL PAY BOX/STATION LOCATIONS?**

YES (Please suggest location(s))       NO       DON'T KNOW

6. Did someone living or working at this address **APPLY FOR WATER & GAS SERVICE** in the past 12 months?

Yes       No (If no application in past 12 months, GO TO QUESTION 7 )

A. Describe your contact for the application:

- (1) Was the Water & Gas employee **COURTEOUS**.....  Yes     No
  - (2) Did the employee seem **KNOWLEDGEABLE** about the topic.....  Yes     No
  - (3) Were you **SATISFIED** with the Service you received.....  Yes     No
  - (4) Were there any **PROBLEMS** with the application.....  Yes     No
- IF YES, Please describe the problem(s):

7. During the past 12 months has a person at this address been **INCONVENIENCED** because of Water & Gas under-street repair work?

NO       YES (HOW? \_\_\_\_\_)

8. Which of the following **TYPES** of Water & Gas **ADVERTISING** have you seen in the past 12 months? For those you **HAVE SEEN OR HEARD**, **HOW USEFUL** has each been to you?

TYPE OF ADVERTISING	<u>SEEN/HEARD?</u>			<u>HOW USEFUL?</u>		
	YES	NO	DON'T KNOW	VERY USEFUL	SOMEWHAT USEFUL	NOT USEFUL
a. Flyers announcing rebate programs.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b. Inserts with monthly bill.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c. Billboards in the community.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d. Radio advertisements.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
e. Announcements at sporting events.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
f. Newspaper advertisements concerning appliance maintenance....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

9. For EACH of the following TYPES OF CONTACT that a customer might have had with Water & Gas during the past 12 months:

A. CHECK IF you or someone else at this address has HAD THE TYPE OF CONTACT, AND

B. FOR EACH of the types of contact CHECKED, INDICATE WHETHER:

- (1) the Water & Gas employee was COURTEOUS,
- (2) the Water & Gas employee was KNOWLEDGEABLE,
- (3) you/they were SATISFIED with the service.

TYPE OF CONTACT	CONTACT?		COURTEOUS		KNOWLEDGEABLE		SATISFIED	
	YES	NO	YES	NO	YES	NO	YES	NO
a. Phone contact with Water & Gas employee.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b. Personal contact at Water & Gas 1st Street Office.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c. Maintenance person/crew.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d. Personal contact at Water & Gas Garfield Street location.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
e. Meter Reader.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
f. Water & Gas Construction crew.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
g. Water & Gas repair person/crew.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
h. High Pressure gas installation crew.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
i. Service interruption.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
j. Service termination.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
k. Correspondence other than the receipt of monthly bill.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
l. Other (Please Specify _____).....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

10. For each of the following TYPES OF SERVICE that a customer might have received from Water & Gas during the past 12 months:

A. CHECK IF you or someone else at this address RECEIVED THE TYPE OF SERVICE, AND

B. FOR EACH of the types of service that was CHECKED, INDICATE WHETHER:

- (1) you/they were TREATED COURTEOUSLY by the Water & Gas employee,
- (2) the repair/service was done in a TIMELY MANNER,
- (3) the repair/service was provided SATISFACTORILY.

TYPE OF SERVICE	SERVICE?		COURTEOUSLY		TIMELY		SATISFIED	
	YES	NO	YES	NO	YES	NO	YES	NO
a. Furnace maintenance.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
b. Hot water heater maintenance.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
c. Check or repair gas leak.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
d. Check or repair water service to address.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
e. Meter installed/removed.....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
f. Other (Please Specify _____).....	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

**DEPARTMENT RATINGS:**

	Excellent	Good	Fair	Poor	Don't Know
11. Overall how would you rate the service you receive from Water & Gas?.....	[ ]	[ ]	[ ]	[ ]	[ ]
12. Overall how would you rate the performance of the Water & Gas employees?.....	[ ]	[ ]	[ ]	[ ]	[ ]
13. Compared with other local utilities, how would you rate the overall service reputation of the Water & Gas Department?....	[ ]	[ ]	[ ]	[ ]	[ ]

14. How would you rate the value of the price of the Water & Gas Department's **GOODS** (ie. water & gas) compared with the price of OTHER HOUSEHOLD GOODS (e.g. food, clothing, electricity, etc.)? **Water & Gas GOODS are:**

Lower Value than most     In Line with others     Higher Value than most

15. How would you rate the value of the price of the Water & Gas Department's **SERVICES** (ie. repair & maintenance) compared with the price of OTHER HOUSEHOLD SERVICES (e.g. repairs or maintenance)? **Water & Gas SERVICES are:**

Lower Value than most     In Line with others     Higher Value than most

\*\*\*\*\*

IF THERE ARE TOPICS THIS SURVEY HAD NOT COVERED OR TOPICS THAT YOU WISH TO COMMENT ON FURTHER, PLEASE USE THE SPACE PROVIDED: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

The Director of Water & Gas invites you to call his office directly (723-3413) if you need information regarding the policies or procedures of the Department.

THANK YOU FOR TAKING THE TIME TO COMPLETE & RETURN THIS QUESTIONNAIRE

RETURN TO: CENTER FOR COMMUNITY & REGIONAL RESEARCH  
 UNIVERSITY OF MINNESOTA  
 DULUTH, MN 55812

THE UNIVERSITY OF MINNESOTA IS AN EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR

## REMINDER CARD

July 1990

UNIVERSITY OF MINNESOTA - DULUTH  
CENTER FOR COMMUNITY AND REGIONAL STUDIES

Dear Duluth Water & Gas Customer:

WE NEED YOUR HELP !! A short time ago a questionnaire concerning the Duluth Water and Gas Department was sent to this address. We are taking this opportunity to remind those persons who have not returned the questionnaire to PLEASE DO SO QUICKLY.

The number of questionnaires that we mailed out was not large. It is therefore important that you COMPLETE and RETURN THE QUESTIONNAIRE that you received. We need your COMPLETED QUESTIONNAIRE in order to best represent the views of the Water & Gas customers.

Because there is no way that we can know who returned the questionnaire and who did not, we have sent reminders to all persons on the mailing list. We apologize to those of you who have already returned the questionnaire for your having to receive this reminder.

If you did not receive a questionnaire, please contact us directly. If you have any questions about the questionnaire or about the study in general, please feel free to contact me. Please CALL (218) 726-7551 if you HAVE QUESTIONS or NEED A COPY of the questionnaire.

THANK YOU FOR YOUR ASSISTANCE AND COOPERATION.

Sincerely,

William A. Fleischman, Ph.D., Research Project Director

The University of Minnesota is an equal opportunity educator and employer.