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U.S. Department of Energy
Energy Information Administration
Assistant Administrator for Program Development
Office of the Consumption Data System
Residential and Commercial Data Systems Division

March 1981

Nonresidential Buildings Energy Consumption Survey:

Building Characteristics

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PREFACE

This is the first in a series of reports from the Office of the Consumption Data System (CDS) presenting data from the Nonresidential Buildings Energy Consumption Survey (NBECS). The NBECS has been designed and developed and is now being analyzed by CDS. This is the first time that either the public or private sector has developed a method of collecting data on a statistical sample of nonresidential buildings across the country. Subsequent reports will cover conservation activities, fuel use, distributions of building types, fuel oil capacity, and energy consumption and expenditures. Concurrently, this office is designing and testing an efficient DOE nonresidential buildings sampling frame and a new questionnaire which will provide additional needed data. These new methods will provide an efficient means of collecting consumption and expenditures data for individual buildings as well as the entire commercial/ nonresidential buildings sector.

This report presents building characteristics data collected from interviews conducted between October 1979 and January 1980. The tables present data from the final interview file which contains imputations for missing data. Included in this report are: a summary of findings, an explanation of the relative standard errors, a description of how the survey was conducted, a copy of the questionnaire, and a glossary.

The following staff members have contributed to this project: Kenneth Vagts, Director, Office of the Consumption Data System; Lynda Carlson, Director, Residential and Commercial Data Systems Division; Lynn Patinkin, NBECS survey manager and packager of this report; Lynda Carlson, Wilbert Laird and Tom Woteki, methological development of the survey; Leigh Carleton, Pam Reilly, and Julie Withers, table designers; Pam Reilly and Leslie Whitaker, data processors; Dwight French, statistician and analysis author; Julie Withers, editor; Diane Whited, Dottie Tate, and Laura Wong, secretarial and clerical work. The survey fieldwork was conducted by Westat, Inc., of Rockville, Maryland under the direction of Renee Slobasky and Pat Skinner with Morris Hansen responsible for statistical design.

INTRODUCTION

This report presents data on the characteristics of nonresidential buildings in the 48 contiguous States and the District of Columbia. The information was collected through personal interviews conducted with building representatives between October 1979 and January 1980. A summary of the survey design, data collection procedures, and techniques used to convert the sample data to national estimates is found in Appendix B (How the Survey Was Conducted).[1]

The report contains two major sets of tables. The first set (Tables 1A-12C), presents estimated counts and percent distributions by building type for selected building characteristics. These building characteristics include: location; structural features; use and occupancy characteristics; types of heating and cooling systems; and types of fuels coming into the building. Building type is given separately for nonresidential and commercial buildings. Nonresidential buildings have been defined as roofed and walled structures which house some kind of commercial and/or industrial activity. Buildings which were primarily residential but also showed evidence of commercial or industrial activities were within the scope of the survey. Commercial buildings exclude those where industrial activities occupy more space than any other building activity (see the Glossary for definitions of terms). The second set of tables (13A-23C) presents the same building characteristics for all nonresidential buildings by square footage and year of construction.

Each set of variables is presented in three types of tables. In the first type of table, each cell contains an estimated count of buildings in thousands. The second table expresses the buildings in each cell as a percent of a row total, that is, each row sums to 100 percent. In the third table type, the buildings in each cell represent a percent of a column total (each column sums to 100 percent). Thus in Table 1A, there are 192,000 office buildings in the North Central region. In Table 1B, these buildings represent 32 percent of all office buildings. In Table 1C, these buildings represent 15 percent of all buildings in the North Central region.

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[1]Because the data came from a sample of nonresidential buildings rather than the entire population, the estimates in this report are subject to sampling as well as nonsampling errors, and biases. These issues are discussed in Appendix A (Limitations of the Data). Estimates of the sampling error component have been produced for statistics in this report. They are given in Appendix A for the detailed tables and in parentheses after specific estimates quoted in the text. Sampling errors can be used to test statistical inferences made in the text. Testing procedures are also discussed in Appendix A.

Summary of Findings

At the time the Nonresidential Buildings Energy Consumption Survey was conducted, there were an estimated 4,238,000 (± 398,000)[2] nonresidential buildings in the United States. Of these, 3,995,000 (± 384,000), or approximately 94 percent, (± 1.8) were classified as commercial buildings; the remainder were classified as industrial. The South and North Central regions had the largest numbers of nonresidential buildings, 1,566,000 (± 323,000) and 1,326,000 (± 281,000), respectively, with the Northeast and West regions having only about half that many.

A large proportion of nonresidential buildings are relatively small; 57 percent (± 3.5) have a total enclosed area of no more than 5,000 square feet, which is about the size of a regulation basketball court. The proportion of buildings with only one floor is 58 percent (± 3.5). Only 7 percent (± 1.3) of all nonresidential buildings have more than 3 floors. In 72 percent (± 3.2) of all buildings, the average number of people working in the building is less than 10. The present building stock is also relatively modern; 2,649,000 buildings (± 286,000), or 63 percent (± 3.4) of the total were built after World War II, and 19 percent (± 2.5) were built since 1970. Single establishment buildings account for 83 percent (± 2.8) of the nonresidential buildings stock and approximately two-thirds of all nonresidential buildings are occupied by the owner or his agent.

The great majority of all nonresidential buildings are heated (89 percent, ± 1.7) while a smaller proportion are cooled (64 percent ± 3.4). The building population is divided quite evenly between use of self-contained heating units (1,752,000 buildings, ± 217,000) and central systems (1,920,000 buildings ± 230,000). There are also no statistically significant differences among the number of buildings that are cooled by window units, package units, and central systems.

Virtually all nonresidential buildings use electricity as an energy source. The second most often-used fuel is natural gas, which is supplied to 2,413,000 buildings (± 270,000), or 57 percent (± 3.5) of the total stock. Fuel oil/kerosene is third, used by 872,000 buildings (± 134,000) or 21 percent (± 2.6) of the building stock. Seven percent (± 1.3) of the buildings are supplied with LPG and 3 percent (± .8) use wood. Coal, steam, and other fuels are used far less often.

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[2]The ± values given in parentheses after a statistic quoted in the text represent two standard errors of the statistic. Adding and subtracting the value in parentheses from the statistic will produce an approximate 95 percent confidence interval.

Building Type

Initially, a building was assigned to a particular building type if a single activity occupied 75 percent or more of the space in that building.[3] Following this procedure, approximately 16 percent of the buildings were classified as "mixed-use". For this report, "mixed-use" buildings have been categorized according to the predominant building activity. Table A shows how the "mixed-use" buildings were reassigned (data do not sum to total due to rounding).

Table A. Mixed-Use Buildings

Predominant Building Activity	Percent of Total Buildings
Food sales and service	1.0
Office	2.7
Residential	5.9
Retail sales and personal services	1.5
Warehouse and storage	1.2
Other	2.1
Total	14.3

For the building classification scheme used in this report, the most frequently occurring building category is "retail sales and personal services" which accounts for an estimated 17 percent (± 2.3) of all nonresidential buildings. The next largest category is "office," which accounts for 14 percent (± 2.0) of the building stock. However, there is no one category that stands out significantly from the others. An estimated 146,000 buildings (± 39,000), or 3 percent (± 0.8) of the total stock, were vacant at the time of the survey. The distribution of building types does not vary greatly by region.

There are some notable differences in the size distribution for the various building types. "Education" and "industrial" buildings are larger than average in terms of square footage. Only 27 percent (± 8.1) of "education" buildings and 33 percent (± 7.7) of "industrial" buildings are no larger than 5,000 square feet, whereas 42 percent (± 9.3) and 26 percent (± 7.0) of them, respectively, are over 25,000 square feet. However, neither of these building types are above average in height. "Automotive sales and service" buildings and "food sales" buildings tend to be smaller than other building types. Seventy-two percent (± 6.5) of "automotive sales and services" buildings and 76 percent (± 7.0) of "food sales" buildings are less than 5,000 square feet, while only 2 percent (± 1.3) of each of these building types are over 25,000 square feet. "Automotive sales and service" buildings are generally not multi-storied; 81 percent (± 5.6) have only 1 floor, and no sample "automotive sales and service" buildings taller than 3 stories were found.

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[3]See the definition for building type in the Glossary for the detailed building classification scheme.

While the total building stock was evenly divided between self-contained heating units and central systems, the split was not as consistent for certain building types. Only 30 percent (± 6.0) of assembly buildings and 30 percent (± 8.3) of "education" buildings used self-contained heating units, while approximately two-thirds of these buildings used central systems. On the other hand, 55 percent (± 7.2) of "automotive sales and service" buildings used self-contained heating units, while only 33 percent (± 6.5) used central systems. Of the occupied building types, only the "warehouse and storage" category had a large proportion of unheated buildings: 43 percent (± 6.9).

The presence of air conditioning equipment varied substantially by building type. Overall, 64 percent (± 3.4) of nonresidential buildings were air conditioned. The percentage of air conditioning among occupied building types ranged from 35 percent (± 6.7) for "automotive sales and service" buildings to 90 percent (± 4.1) for office buildings.

Electricity was supplied to more buildings than any other energy source. The only building type (other than "vacant" buildings) for which electricity consumption was not virtually universal was "warehouse and storage" of which 85 percent (± 6.3) were supplied with electricity.

The distribution of the average number of persons working in the building varied greatly by building type. The proportion of buildings with an average of fewer than 10 workers ranged from 36 percent (± 9.0) for "education" buildings to 88 percent (± 4.3) for "automotive sales and service" buildings. "Education", "industrial", and "health care" buildings tended to have more workers than the average building: 16 percent (± 6.1), 20 percent (± 6.1) and 27 percent (± 12.0), respectively, of these building types had 50 or more workers.

One measure of intensity or availability for use of a building is the number of hours it is open for operation during a typical week. As might be expected, lodging buildings were open for very long hours. An estimated 74 percent (± 10.5) of all lodging buildings were open more than 84 hours per week. Interestingly, another 14 percent (± 6.6) of these buildings were open less than 40 hours per week. This pattern contrasts dramatically with that of office buildings, of which 75 percent (± 5.7) were open from 40-60 hours per week. "Food sales" buildings are also open for long hours. An estimated 76 percent (± 7.0) were open longer than 60 hours per week. Of the occupied building types, "assembly" buildings were most likely to be open for short periods; 63 percent (± 7.0) were open less than 40 hours per week.

Square Footage

One of the descriptive variables that should be correlated with energy consumption in nonresidential buildings is square footage. As mentioned earlier, an estimated 57 percent (± 3.5) of all nonresidential buildings have less than 5,000 square feet of space. Only 10 percent (± 1.7) have more than 25,000 square feet of space. The distribution of buildings by size category remains fairly uniform by region.

As might be expected, square footage is positively associated with the number of floors. The percentage of buildings with only 1 floor decreases as square footage increases, from 88 percent (± 3.9) of buildings less than 1,000 square feet to 15 percent (± 7.5) of buildings greater than 100,000 square feet. Conversely, the percentage of buildings with more than 3 floors increases with square footage from 1 percent (± 2.0) of buildings with less than 1,000 square feet to 46 percent (± 12.1) of buildings over 100,000 square feet.

There are no obvious relationships between type of heating and/or air conditioning equipment and square footage, except that the use of window units decreases somewhat as building size increases, while the use of central units increases. However, smaller buildings are much more likely than large buildings to have no heating and/or cooling equipment at all. Of buildings having no more than 1,000 square feet, 52 percent (± 6.2) are not air conditioned and 25 percent (± 4.8) are not heated, whereas only 13 percent (± 6.9) of buildings over 100,000 square feet are not cooled and 2 percent (± 4.0) are not heated.

The percent of exterior glass is inversely related to the size of the building. Seventy-one percent (± 3.8) of the buildings with 5,000 square feet or less have less than one-fourth of their surface area covered by glass, while only 44 percent (± 12.0) of the buildings over 100,000 square feet have less than one-fourth covered by glass.

Another variable that correlates well with square footage, as would be expected, is the number of people working in the building. The proportion of buildings with an average of fewer than 10 workers drops sharply from 97 percent (± 2.5) for buildings of 1,000 square feet or less to 8 percent (± 8.0) for buildings over 100,000 square feet. Conversely, virtually no buildings under 10,000 square feet have an average working staff of 100 or more, but 59 percent (± 12.0) of buildings over 100,000 square feet average at least 100 workers.

Finally, larger buildings are more likely to be open for very long hours, and less likely to be open for very short hours, than are smaller buildings. The proportion of buildings open less than 40 hours during a typical week decreases steadily from 36 percent (± 5.6) of buildings with 1,000 square feet or less to 4 percent (± 6.0) of buildings with more than 100,000 square feet. Conversely, the proportion of buildings open longer than 84 hours increases from 15 percent (± 3.8) of buildings with 1,000 square feet or less to 42 percent (± 11.7) of buildings with more than 100,000 square feet.

Year Constructed

"Year constructed" has been sub-divided into seven categories. The end points of these categories reflect times of significant change in construction methods and building standards. Statistics for the more recent categories represent values for the large majority of buildings constructed during these periods, while estimates for the earlier time periods represent values for surviving buildings, rather than for all construction that took place. An estimated 329,000 buildings (± 68,000), or 8 percent (± 1.5) of the total building stock at the time of the survey, were constructed before 1900. Buildings constructed since 1970 account for 19 percent (± 2.4) of the building stock. The largest regional differences occur in the oldest categories. An estimated 32 percent (± 5.3) of buildings in the Northeast region and 23 percent (± 3.8) in the North Central region were constructed in 1920 or before, compared with 10 percent (± 2.3) and 12 percent (± 3.4) of the stock in the South and West regions, respectively.

There is a sharp contrast in the number of floors between buildings built up to 1945 and those built afterward. A large proportion of the older buildings have 3 or more floors, while 71 percent (± 3.7) of the newer buildings have only 1 floor.

A smaller proportion of older buildings than newer buildings have self-contained forced-air heating units, and a corresponding larger proportion have radiant central systems. Similarly, older buildings are more likely to have window units, and less likely to have package units and central units than newer buildings. In the case of air conditioning, the dividing line between "older" and "newer" buildings appears to be 1960 rather than 1945.

It is interesting to note that there is no obvious relationship between the age of a building and the percentage of exterior glass. In fact, older buildings (those built in 1920 or earlier) appear to have slightly more exterior glass than buildings built later, although this difference is not statistically significant. One explanation may be that a disproportionate share of large older buildings are still standing and these buildings tend to have a larger proportion of glass than small buildings.

Electricity use is equally predominant in buildings of all ages, but natural gas and fuel oil/kerosene use is relatively more frequent in older buildings. The proportion of buildings that use natural gas decreases from 73 percent (± 5.4) of buildings built before 1920 to 36 percent (± 5.9) of buildings built after 1973, while the proportion using fuel oil/kerosene decreases from 31 percent (± 6.7) of buildings built before 1900 to 12 percent (± 3.5) of buildings built after 1973.

Older buildings are more likely to have a smaller average number of workers than newer buildings. The proportion of buildings with an average of fewer than 10 workers decreases from 82 percent (± 5.9) for buildings built before 1900 to 62 percent (± 5.8) for buildings built after 1970.

TABLE 1A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY CENSUS REGIONS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	CENSUS REGIONS			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST
NONRESIDENTIAL BUILDING..	4,238	735	1,326	1,566	612
BUILDING TYPE					
ASSEMBLY.....	448	57	146	199	46
AUTOMOTIVE SALES AND SERVICE.....	401	77	145	122	57
EDUCATION.....	161	23	35	75	28
FOOD SALES.....	366	56	118	139	53
HEALTH CARE.....	44	7	18	15	5
INDUSTRIAL.....	243	36	80	86	41
LODGING.....	101	13	12	54	23
OFFICE.....	600	104	192	199	105
RESIDENTIAL.....	347	131	109	78	29
RETAIL/SERVICES.....	714	114	227	277	96
WAREHOUSE AND STORAGE..	430	59	137	157	77
OTHER.....	237	34	68	94	40
VACANT.....	146	23	39	70	13
COMMERCIAL BUILDINGS.....	3,995	699	1,246	1,480	571
BUILDING TYPE					
ASSEMBLY.....	448	57	146	199	46
AUTOMOTIVE SALES AND SERVICE.....	401	77	145	122	57
EDUCATION.....	161	23	35	75	28
FOOD SALES.....	366	56	118	139	53
HEALTH CARE.....	44	7	18	15	5
LODGING.....	101	13	12	54	23
OFFICE.....	600	104	192	199	105
RESIDENTIAL.....	347	131	109	78	29
RETAIL/SERVICES.....	714	114	227	277	96
WAREHOUSE AND STORAGE..	430	59	137	157	77
OTHER.....	237	34	68	94	40
VACANT.....	146	23	39	70	13

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

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TABLE 1B. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY CENSUS REGIONS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	CENSUS REGIONS			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST
NONRESIDENTIAL BUILDINGS.	100%	17	31	37	14
BUILDING TYPE					
ASSEMBLY	100%	13	33	44	10
AUTOMOTIVE SALES AND SERVICE	100%	19	36	30	14
EDUCATION	100%	15	22	47	17
FOOD SALES	100%	15	32	38	14
HEALTH CARE	100%	15	40	34	10
INDUSTRIAL	100%	15	33	35	17
LODGING	100%	13	11	54	22
OFFICE	100%	17	32	33	17
RESIDENTIAL	100%	38	31	23	8
RETAIL/SERVICES	100%	16	32	39	13
WAREHOUSE AND STORAGE	100%	14	32	36	18
OTHER	100%	14	29	40	17
VACANT	100%	16	27	48	9
COMMERCIAL BUILDINGS	100%	18	31	37	14
BUILDING TYPE					
ASSEMBLY	100%	13	33	44	10
AUTOMOTIVE SALES AND SERVICE	100%	19	36	30	14
EDUCATION	100%	15	22	47	17
FOOD SALES	100%	15	32	38	14
HEALTH CARE	100%	15	40	34	10
LODGING	100%	13	11	54	22
OFFICE	100%	17	32	33	17
RESIDENTIAL	100%	38	31	23	8
RETAIL/SERVICES	100%	16	32	39	13
WAREHOUSE AND STORAGE	100%	14	32	36	18
OTHER	100%	14	29	40	17
VACANT	100%	16	27	48	9

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TABLE 1C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY CENSUS REGIONS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	CENSUS REGIONS			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%
BUILDING TYPE					
ASSEMBLY	11	8	11	13	8
AUTOMOTIVE SALES AND SERVICE	9	10	11	8	9
EDUCATION	4	3	3	5	5
FOOD SALES	9	8	9	9	9
HEALTH CARE	1	1	1	1	1
INDUSTRIAL	6	5	6	5	7
LODGING	2	2	1	3	4
OFFICE	14	14	15	13	17
RESIDENTIAL	8	18	8	5	5
RETAIL/SERVICES	17	16	17	18	16
WAREHOUSE AND STORAGE	10	8	10	10	13
OTHER	6	5	5	6	7
VACANT	3	3	3	4	2
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%
BUILDING TYPE					
ASSEMBLY	11	8	12	13	8
AUTOMOTIVE SALES AND SERVICE	10	11	12	8	10
EDUCATION	4	3	3	5	5
FOOD SALES	9	8	9	9	9
HEALTH CARE	1	1	1	1	1
LODGING	3	2	1	4	4
OFFICE	15	15	15	13	18
RESIDENTIAL	9	19	9	5	5
RETAIL/SERVICES	18	16	18	19	17
WAREHOUSE AND STORAGE	11	8	11	11	13
OTHER	6	5	5	6	7
VACANT	4	3	3	5	2

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

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TABLE 2A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HEATING AND COOLING DEGREE DAYS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) AND COOLING DEGREE DAYS (CDD)				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500 TO 7000 HDD	<2000 CDD AND 4000 TO 5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
NONRESIDENTIAL BUILDING..	4,238	470	1,242	1,132	704	689
BUILDING TYPE						
ASSEMBLY.....	448	38	143	154	60	53
AUTOMOTIVE SALES AND SERVICE.....	401	55	130	115	53	48
EDUCATION.....	161	17	36	43	28	38
FOOD SALES.....	366	47	99	83	69	68
HEALTH CARE.....	44	1	20	12	5	5
INDUSTRIAL.....	243	25	75	57	47	38
LODGING.....	101	8	21	18	28	26
OFFICE.....	600	59	199	136	94	113
RESIDENTIAL.....	347	68	117	119	18	25
RETAIL/SERVICES.....	714	78	180	184	136	136
WAREHOUSE AND STORAGE..	430	44	107	112	90	77
OTHER.....	237	19	69	68	43	38
VACANT.....	146	11	45	32	33	26
COMMERCIAL BUILDINGS.....	3,995	444	1,167	1,075	657	652
BUILDING TYPE						
ASSEMBLY.....	448	38	143	154	60	53
AUTOMOTIVE SALES AND SERVICE.....	401	55	130	115	53	48
EDUCATION.....	161	17	36	43	28	38
FOOD SALES.....	366	47	99	83	69	68
HEALTH CARE.....	44	1	20	12	5	5
LODGING.....	101	8	21	18	28	26
OFFICE.....	600	59	199	136	94	113
RESIDENTIAL.....	347	68	117	119	18	25
RETAIL/SERVICES.....	714	78	180	184	136	136
WAREHOUSE AND STORAGE..	430	44	107	112	90	77
OTHER.....	237	19	69	68	43	38
VACANT.....	146	11	45	32	33	26

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

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TABLE 28. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HEATING AND COOLING DEGREE DAYS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) AND COOLING DEGREE DAYS (CDD)				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500 TO 7000 HDD	<2000 CDD AND 4000 TO 5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
NONRESIDENTIAL BUILDINGS.	100%	11	29	27	17	16
BUILDING TYPE						
ASSEMBLY	100%	9	32	34	13	12
AUTOMOTIVE SALES AND SERVICE	100%	14	32	29	13	12
EDUCATION	100%	10	22	27	17	24
FOOD SALES	100%	13	27	23	19	19
HEALTH CARE	100%	3	46	28	12	11
INDUSTRIAL	100%	10	31	24	19	16
LODGING	100%	8	21	18	28	26
OFFICE	100%	10	33	23	16	19
RESIDENTIAL	100%	20	34	34	5	7
RETAIL/SERVICES	100%	11	25	26	19	19
WAREHOUSE AND STORAGE	100%	10	25	26	21	18
OTHER	100%	8	29	29	18	16
VACANT	100%	7	31	22	22	18
COMMERCIAL BUILDINGS	100%	11	29	27	16	16
BUILDING TYPE						
ASSEMBLY	100%	9	32	34	13	12
AUTOMOTIVE SALES AND SERVICE	100%	14	32	29	13	12
EDUCATION	100%	10	22	27	17	24
FOOD SALES	100%	13	27	23	19	19
HEALTH CARE	100%	3	46	28	12	11
LODGING	100%	8	21	18	28	26
OFFICE	100%	10	33	23	16	19
RESIDENTIAL	100%	20	34	34	5	7
RETAIL/SERVICES	100%	11	25	26	19	19
WAREHOUSE AND STORAGE	100%	10	25	26	21	18
OTHER	100%	8	29	29	18	16
VACANT	100%	7	31	22	22	18

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 2C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HEATING AND COOLING DEGREE DAYS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) AND COOLING DEGREE DAYS (CDD)				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500 TO 7000 HDD	<2000 CDD AND 4000 TO 5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	8	12	14	9	8
AUTOMOTIVE SALES AND SERVICE	9	12	10	10	8	7
EDUCATION	4	4	3	4	4	6
FOOD SALES	9	10	8	7	10	10
HEALTH CARE	1	-	2	1	1	1
INDUSTRIAL	6	5	6	5	7	5
LODGING	2	2	2	2	4	4
OFFICE	14	13	16	12	13	16
RESIDENTIAL	8	14	9	11	3	4
RETAIL/SERVICES	17	17	14	16	19	20
WAREHOUSE AND STORAGE	10	9	9	10	13	11
OTHER	6	4	6	6	6	5
VACANT	3	2	4	3	5	4
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	9	12	14	9	8
AUTOMOTIVE SALES AND SERVICE	10	12	11	11	8	7
EDUCATION	4	4	3	4	4	6
FOOD SALES	9	11	9	8	11	10
HEALTH CARE	1	-	2	1	1	1
LODGING	3	2	2	2	4	4
OFFICE	15	13	17	13	14	17
RESIDENTIAL	9	15	10	11	3	4
RETAIL/SERVICES	18	18	15	17	21	21
WAREHOUSE AND STORAGE	11	10	9	10	14	12
OTHER	6	4	6	6	7	6
VACANT	4	2	4	3	5	4

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 3A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY TOTAL SQUARE FOOTAGE - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	TOTAL SQUARE FOOTAGE						
		1,000 OR LESS	1,001 TO 5,000	5,001 TO 10,000	10,001 TO 25,000	25,001 TO 50,000	50,001 TO 100,000	OVER 100,000
NONRESIDENTIAL BUILDING.	4,238	677	1,729	801	596	237	121	78
BUILDING TYPE								
ASSEMBLY	448	44	156	131	79	25	8	5
AUTOMOTIVE SALES AND SERVICE	401	92	197	78	28	5	1	1
EDUCATION	161	10	33	21	31	30	24	13
FOOD SALES	366	70	207	51	31	5	2	1
HEALTH CARE	44	4	15	9	6	2	4	4
INDUSTRIAL	243	22	58	55	45	30	20	13
LODGING	101	10	33	22	16	13	4	3
OFFICE	600	89	259	115	86	27	13	12
RESIDENTIAL	347	41	177	45	64	11	6	2
RETAIL/SERVICES	714	123	292	152	95	31	14	7
WAREHOUSE AND STORAGE	430	79	169	59	64	33	17	10
OTHER	237	58	76	38	39	16	5	5
VACANT	146	37	59	24	12	9	2	2
COMMERCIAL BUILDINGS	3,995	655	1,672	745	551	207	101	65
BUILDING TYPE								
ASSEMBLY	448	44	156	131	79	25	8	5
AUTOMOTIVE SALES AND SERVICE	401	92	197	78	28	5	1	1
EDUCATION	161	10	33	21	31	30	24	13
FOOD SALES	366	70	207	51	31	5	2	1
HEALTH CARE	44	4	15	9	6	2	4	4
LODGING	101	10	33	22	16	13	4	3
OFFICE	600	89	259	115	86	27	13	12
RESIDENTIAL	347	41	177	45	64	11	6	2
RETAIL/SERVICES	714	123	292	152	95	31	14	7
WAREHOUSE AND STORAGE	430	79	169	59	64	33	17	10
OTHER	237	58	76	38	39	16	5	5
VACANT	146	37	59	24	12	9	2	2

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 38. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY TOTAL SQUARE FOOTAGE - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	TOTAL SQUARE FOOTAGE						
		1,000 OR LESS	1,001 TO 5,000	5,001 TO 10,000	10,001 TO 25,000	25,001 TO 50,000	50,001 TO 100,000	OVER 100,000
NONRESIDENTIAL BUILDINGS	100%	16	41	19	14	6	3	2
BUILDING TYPE								
ASSEMBLY	100%	10	35	29	18	6	2	1
AUTOMOTIVE SALES AND SERVICE	100%	23	49	19	7	1	-	-
EDUCATION	100%	6	21	13	19	19	15	8
FOOD SALES	100%	19	57	14	8	1	-	-
HEALTH CARE	100%	9	35	20	14	4	8	9
INDUSTRIAL	100%	9	24	23	19	12	8	5
LODGING	100%	10	33	22	16	13	4	3
OFFICE	100%	15	43	19	14	4	2	2
RESIDENTIAL	100%	12	51	13	19	3	2	1
RETAIL/SERVICES	100%	17	41	21	13	4	2	1
WAREHOUSE AND STORAGE	100%	18	39	14	15	8	4	2
OTHER	100%	24	32	16	16	7	2	2
VACANT	100%	26	40	16	8	6	2	1
COMMERCIAL BUILDINGS	100%	16	42	19	14	5	3	2
BUILDING TYPE								
ASSEMBLY	100%	10	35	29	18	6	2	1
AUTOMOTIVE SALES AND SERVICE	100%	23	49	19	7	1	-	-
EDUCATION	100%	6	21	13	19	19	15	8
FOOD SALES	100%	19	57	14	8	1	-	-
HEALTH CARE	100%	9	35	20	14	4	8	9
LODGING	100%	10	33	22	16	13	4	3
OFFICE	100%	15	43	19	14	4	2	2
RESIDENTIAL	100%	12	51	13	19	3	2	1
RETAIL/SERVICES	100%	17	41	21	13	4	2	1
WAREHOUSE AND STORAGE	100%	18	39	14	15	8	4	2
OTHER	100%	24	32	16	16	7	2	2
VACANT	100%	26	40	16	8	6	2	1

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SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 3C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY TOTAL SQUARE FOOTAGE - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	TOTAL SQUARE FOOTAGE						
		1,000 OR LESS	1,001 TO 5,000	5,001 TO 10,000	10,001 TO 25,000	25,001 TO 50,000	50,001 TO 100,000	OVER 100,000
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE								
ASSEMBLY	11	6	9	16	13	11	7	7
AUTOMOTIVE SALES AND SERVICE	9	14	11	10	5	2	1	1
EDUCATION	4	1	2	3	5	13	20	17
FOOD SALES	9	10	12	6	5	2	1	1
HEALTH CARE	1	1	1	1	1	1	3	5
INDUSTRIAL	6	3	3	7	8	13	17	16
LODGING	2	1	2	3	3	5	3	4
OFFICE	14	13	15	14	14	11	11	16
RESIDENTIAL	8	6	10	6	11	5	5	3
RETAIL/SERVICES	17	18	17	19	16	13	12	9
WAREHOUSE AND STORAGE	10	12	10	7	11	14	14	13
OTHER	6	9	4	5	7	7	5	7
VACANT	3	6	3	3	2	4	2	2
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE								
ASSEMBLY	11	7	9	18	14	12	8	8
AUTOMOTIVE SALES AND SERVICE	10	14	12	10	5	2	1	1
EDUCATION	4	2	2	3	6	15	24	20
FOOD SALES	9	11	12	7	6	2	2	1
HEALTH CARE	1	1	1	1	1	1	4	6
LODGING	3	2	2	3	3	6	4	5
OFFICE	15	14	15	15	16	13	13	19
RESIDENTIAL	9	6	11	6	12	5	6	4
RETAIL/SERVICES	18	19	17	20	17	15	14	11
WAREHOUSE AND STORAGE	11	12	10	8	12	16	17	15
OTHER	6	9	5	5	7	8	5	8
VACANT	4	6	4	3	2	5	2	3

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SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 4A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY NUMBER OF FLOORS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF FLOORS			
		ONLY 1 FLOOR	2 FLOORS	3 FLOORS	MORE THAN 3 FLOORS
NONRESIDENTIAL BUILDINGS.	4,238	2,467	980	501	290
BUILDING TYPE					
ASSEMBLY	448	195	169	68	16
AUTOMOTIVE SALES AND SERVICE	401	326	68	8	-
EDUCATION	161	86	41	22	13
FOOD SALES	366	256	74	28	9
HEALTH CARE	44	16	16	6	6
INDUSTRIAL	243	145	68	18	11
LODGING	101	44	28	13	16
OFFICE	600	300	151	88	62
RESIDENTIAL	347	55	84	120	87
RETAIL/SERVICES	714	476	141	71	27
WAREHOUSE AND STORAGE	430	310	74	30	15
OTHER	237	163	35	21	18
VACANT	146	96	33	7	10
COMMERCIAL BUILDINGS	3,995	2,322	912	483	279
BUILDING TYPE					
ASSEMBLY	448	195	169	68	16
AUTOMOTIVE SALES AND SERVICE	401	326	68	8	-
EDUCATION	161	86	41	22	13
FOOD SALES	366	256	74	28	9
HEALTH CARE	44	16	16	6	6
LODGING	101	44	28	13	16
OFFICE	600	300	151	88	62
RESIDENTIAL	347	55	84	120	87
RETAIL/SERVICES	714	476	141	71	27
WAREHOUSE AND STORAGE	430	310	74	30	15
OTHER	237	163	35	21	18
VACANT	146	96	33	7	10

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TABLE 4B. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY NUMBER OF FLOORS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF FLOORS			
		ONLY 1 FLOOR	2 FLOORS	3 FLOORS	MORE THAN 3 FLOORS
NONRESIDENTIAL BUILDINGS.	100%	58	23	12	7
BUILDING TYPE					
ASSEMBLY	100%	43	38	15	4
AUTOMOTIVE SALES AND SERVICE	100%	81	17	2	-
EDUCATION	100%	53	25	14	8
FOOD SALES	100%	70	20	8	2
HEALTH CARE	100%	37	37	13	13
INDUSTRIAL	100%	60	28	7	5
LODGING	100%	44	28	13	15
OFFICE	100%	50	25	15	10
RESIDENTIAL	100%	16	24	35	25
RETAIL/SERVICES	100%	67	20	10	4
WAREHOUSE AND STORAGE	100%	72	17	7	4
OTHER	100%	69	15	9	8
VACANT	100%	66	23	5	7
COMMERCIAL BUILDINGS	100%	58	23	12	7
BUILDING TYPE					
ASSEMBLY	100%	43	38	15	4
AUTOMOTIVE SALES AND SERVICE	100%	81	17	2	-
EDUCATION	100%	53	25	14	8
FOOD SALES	100%	70	20	8	2
HEALTH CARE	100%	37	37	13	13
LODGING	100%	44	28	13	15
OFFICE	100%	50	25	15	10
RESIDENTIAL	100%	16	24	35	25
RETAIL/SERVICES	100%	67	20	10	4
WAREHOUSE AND STORAGE	100%	72	17	7	4
OTHER	100%	69	15	9	8
VACANT	100%	66	23	5	7

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TABLE 4C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY NUMBER OF FLOORS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF FLOORS			
		ONLY 1 FLOOR	2 FLOORS	3 FLOORS	MORE THAN 3 FLOORS
NONRESIDENTIAL BUILDINGS.	**100%**	**100%**	**100%**	**100%**	**100%**
BUILDING TYPE					
ASSEMBLY	11	8	17	14	6
AUTOMOTIVE SALES AND SERVICE	9	13	7	2	-
EDUCATION	4	3	4	4	4
FOOD SALES	9	10	8	6	3
HEALTH CARE	1	1	2	1	2
INDUSTRIAL	6	6	7	4	4
LODGING	2	2	3	3	5
OFFICE	14	12	15	18	21
RESIDENTIAL	8	2	9	24	30
RETAIL/SERVICES	17	19	14	14	9
WAREHOUSE AND STORAGE	10	13	8	6	5
OTHER	6	7	4	4	6
VACANT	3	4	3	1	3
COMMERCIAL BUILDINGS	**100%**	**100%**	**100%**	**100%**	**100%**
BUILDING TYPE					
ASSEMBLY	11	8	19	14	6
AUTOMOTIVE SALES AND SERVICE	10	14	7	2	-
EDUCATION	4	4	4	5	5
FOOD SALES	9	11	8	6	3
HEALTH CARE	1	1	2	1	2
LODGING	3	2	3	3	6
OFFICE	15	13	17	18	22
RESIDENTIAL	9	2	9	25	31
RETAIL/SERVICES	18	20	15	15	10
WAREHOUSE AND STORAGE	11	13	8	6	6
OTHER	6	7	4	4	6
VACANT	4	4	4	1	4

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SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 5A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY YEAR CONSTRUCTED - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS.	4,238	329	432	829	1,064	789	235	561
BUILDING TYPE								
ASSEMBLY	448	53	61	84	101	80	17	51
AUTOMOTIVE SALES AND SERVICE	401	13	25	74	127	97	23	42
EDUCATION	161	2	12	23	53	47	6	18
FOOD SALES	366	20	38	64	95	69	17	63
HEALTH CARE	44	3	2	4	11	11	3	11
INDUSTRIAL	243	8	23	46	55	44	30	35
LODGING	101	3	5	13	33	28	12	6
OFFICE	600	46	53	117	118	121	41	104
RESIDENTIAL	347	68	72	97	63	30	7	10
RETAIL/SERVICES	714	68	63	129	219	105	28	103
WAREHOUSE AND STORAGE	430	21	42	96	99	77	25	70
OTHER	237	15	22	45	50	48	18	39
VACANT	146	10	13	38	40	31	6	8
COMMERCIAL BUILDINGS	3,995	321	408	783	1,008	744	205	525
BUILDING TYPE								
ASSEMBLY	448	53	61	84	101	80	17	51
AUTOMOTIVE SALES AND SERVICE	401	13	25	74	127	97	23	42
EDUCATION	161	2	12	23	53	47	6	18
FOOD SALES	366	20	38	64	95	69	17	63
HEALTH CARE	44	3	2	4	11	11	3	11
LODGING	101	3	5	13	33	28	12	6
OFFICE	600	46	53	117	118	121	41	104
RESIDENTIAL	347	68	72	97	63	30	7	10
RETAIL/SERVICES	714	68	63	129	219	105	28	103
WAREHOUSE AND STORAGE	430	21	42	96	99	77	25	70
OTHER	237	15	22	45	50	48	18	39
VACANT	146	10	13	38	40	31	6	8

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SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 5B. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY YEAR CONSTRUCTED - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS.	100%	8	10	20	25	19	6	13
BUILDING TYPE								
ASSEMBLY	100%	12	14	19	23	18	4	11
AUTOMOTIVE SALES AND SERVICE	100%	3	6	18	32	24	6	10
EDUCATION	100%	1	8	14	33	29	4	11
FOOD SALES	100%	5	11	17	26	19	5	17
HEALTH CARE	100%	6	4	9	25	25	8	24
INDUSTRIAL	100%	3	10	19	23	18	12	15
LODGING	100%	3	5	13	33	28	12	6
OFFICE	100%	8	9	20	20	20	7	17
RESIDENTIAL	100%	20	21	28	18	9	2	3
RETAIL/SERVICES	100%	9	9	18	31	15	4	14
WAREHOUSE AND STORAGE	100%	5	10	22	23	18	6	16
OTHER	100%	6	9	19	21	20	8	16
VACANT	100%	7	9	26	27	22	4	5
COMMERCIAL BUILDINGS	100%	8	10	20	25	19	5	13
BUILDING TYPE								
ASSEMBLY	100%	12	14	19	23	18	4	11
AUTOMOTIVE SALES AND SERVICE	100%	3	6	18	32	24	6	10
EDUCATION	100%	1	8	14	33	29	4	11
FOOD SALES	100%	5	11	17	26	19	5	17
HEALTH CARE	100%	6	4	9	25	25	8	24
LODGING	100%	3	5	13	33	28	12	6
OFFICE	100%	8	9	20	20	20	7	17
RESIDENTIAL	100%	20	21	28	18	9	2	3
RETAIL/SERVICES	100%	9	9	18	31	15	4	14
WAREHOUSE AND STORAGE	100%	5	10	22	23	18	6	16
OTHER	100%	6	9	19	21	20	8	16
VACANT	100%	7	9	26	27	22	4	5

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 5C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY YEAR CONSTRUCTED - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE								
ASSEMBLY	11	16	14	10	10	10	7	9
AUTOMOTIVE SALES AND SERVICE	9	4	6	9	12	12	10	7
EDUCATION	4	1	3	3	5	6	3	3
FOOD SALES	9	6	9	8	9	9	7	11
HEALTH CARE	1	1	-	-	1	1	1	2
INDUSTRIAL	6	3	5	6	5	6	13	6
LODGING	2	1	1	2	3	4	5	1
OFFICE	14	14	12	14	11	15	18	19
RESIDENTIAL	8	21	17	12	6	4	3	2
RETAIL/SERVICES	17	21	15	16	21	13	12	18
WAREHOUSE AND STORAGE	10	6	10	12	9	10	11	12
OTHER	6	5	5	5	5	6	8	7
VACANT	3	3	3	5	4	4	2	1
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE								
ASSEMBLY	11	17	15	11	10	11	9	10
AUTOMOTIVE SALES AND SERVICE	10	4	6	9	13	13	11	8
EDUCATION	4	1	3	3	5	6	3	3
FOOD SALES	9	6	9	8	9	9	8	12
HEALTH CARE	1	1	-	-	1	1	2	2
LODGING	3	1	1	2	3	4	6	1
OFFICE	15	14	13	15	12	16	20	20
RESIDENTIAL	9	21	18	12	6	4	4	2
RETAIL/SERVICES	18	21	15	16	22	14	14	20
WAREHOUSE AND STORAGE	11	7	10	12	10	10	12	13
OTHER	6	5	5	6	5	6	9	7
VACANT	4	3	3	5	4	4	3	1

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 6A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HEATING SYSTEM CHARACTERISTICS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	HEATING SYSTEM CHARACTERISTICS								
		SELF-CONTAINED UNITS				CENTRAL SYSTEM			OTHER	NONE
		FORCED AIR	RADIANT		OTHER	FORCED AIR	RADIANT	OTHER		
			ELECTRIC BASE-BOARDS	RADIATORS						
NONRESIDENTIAL BUILDINGS.	4,238	1,203	71	51	427	1,068	503	349	120	447
BUILDING TYPE										
ASSEMBLY	448	88	6	3	37	169	66	59	7	15
AUTOMOTIVE SALES AND SERVICE	401	155	-	2	64	99	14	20	24	24
EDUCATION	161	37	1	2	9	38	45	26	2	2
FOOD SALES	366	143	3	1	44	93	27	19	14	23
HEALTH CARE	44	8	-	1	-	21	7	6	-	-
INDUSTRIAL	243	81	5	1	34	54	14	26	6	21
LODGING	101	22	4	-	19	17	23	10	3	2
OFFICE	600	199	20	9	28	183	92	43	15	12
RESIDENTIAL	347	38	5	18	35	75	118	48	11	-
RETAIL/SERVICES	714	253	18	11	78	185	47	54	14	55
WAREHOUSE AND STORAGE	430	108	4	3	30	58	20	16	6	184
OTHER	237	52	5	-	43	51	23	18	14	32
VACANT	146	21	-	-	6	25	7	4	4	77
COMMERCIAL BUILDINGS	3,995	1,122	67	49	393	1,013	489	323	113	427
BUILDING TYPE										
ASSEMBLY	448	88	6	3	37	169	66	59	7	15
AUTOMOTIVE SALES AND SERVICE	401	155	-	2	64	99	14	20	24	24
EDUCATION	161	37	1	2	9	38	45	26	2	2
FOOD SALES	366	143	3	1	44	93	27	19	14	23
HEALTH CARE	44	8	-	1	-	21	7	6	-	-
LODGING	101	22	4	-	19	17	23	10	3	2
OFFICE	600	199	20	9	28	183	92	43	15	12
RESIDENTIAL	347	38	5	18	35	75	118	48	11	-
RETAIL/SERVICES	714	253	18	11	78	185	47	54	14	55
WAREHOUSE AND STORAGE	430	108	4	3	30	58	20	16	6	184
OTHER	237	52	5	-	43	51	23	18	14	32
VACANT	146	21	-	-	6	25	7	4	4	77

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 68. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HEATING SYSTEM CHARACTERISTICS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	HEATING SYSTEM CHARACTERISTICS								
		SELF-CONTAINED UNITS				CENTRAL SYSTEM			OTHER	NONE
		FORCED AIR	RADIANT		OTHER	FORCED AIR	RADIANT	OTHER		
			ELECTRIC BASE-BOARDS	RADIATORS						
NONRESIDENTIAL BUILDINGS.	100%	28	2	1	10	25	12	8	3	11
BUILDING TYPE										
ASSEMBLY	100%	20	1	1	8	38	15	13	2	3
AUTOMOTIVE SALES AND SERVICE	100%	39	-	-	16	25	3	5	6	6
EDUCATION	100%	23	1	1	5	23	28	16	1	1
FOOD SALES	100%	39	1	-	12	25	7	5	4	6
HEALTH CARE	100%	19	-	3	-	48	16	13	-	-
INDUSTRIAL	100%	33	2	1	14	22	6	11	3	9
LODGING	100%	22	4	-	19	17	23	10	3	2
OFFICE	100%	33	3	1	5	30	15	7	3	2
RESIDENTIAL	100%	11	1	5	10	22	34	14	3	-
RETAIL/SERVICES	100%	35	2	2	11	26	7	8	2	8
WAREHOUSE AND STORAGE	100%	25	1	1	7	14	5	4	1	43
OTHER	100%	22	2	-	18	22	10	8	6	13
VACANT	100%	14	-	-	4	17	5	3	3	53
COMMERCIAL BUILDINGS	100%	28	2	1	10	25	12	8	3	11
BUILDING TYPE										
ASSEMBLY	100%	20	1	1	8	38	15	13	2	3
AUTOMOTIVE SALES AND SERVICE	100%	39	-	-	16	25	3	5	6	6
EDUCATION	100%	23	1	1	5	23	28	16	1	1
FOOD SALES	100%	39	1	-	12	25	7	5	4	6
HEALTH CARE	100%	19	-	3	-	48	16	13	-	-
LODGING	100%	22	4	-	19	17	23	10	3	2
OFFICE	100%	33	3	1	5	30	15	7	3	2
RESIDENTIAL	100%	11	1	5	10	22	34	14	3	-
RETAIL/SERVICES	100%	35	2	2	11	26	7	8	2	8
WAREHOUSE AND STORAGE	100%	25	1	1	7	14	5	4	1	43
OTHER	100%	22	2	-	18	22"	10	8	6	13
VACANT	100%	14	-	-	4	17	5	3	3	53

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 6C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HEATING SYSTEM CHARACTERISTICS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	HEATING SYSTEM CHARACTERISTICS								
		SELF-CONTAINED UNITS				CENTRAL SYSTEM			OTHER	NONE
		FORCED AIR	RADIANT		OTHER	FORCED AIR	RADIANT	OTHER		
			ELECTRIC BASE-BOARDS	RADIATORS						
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE										
ASSEMBLY	11	7	8	5	9	16	13	17	6	3
AUTOMOTIVE SALES AND SERVICE	9	13	-	3	15	9	3	6	20	5
EDUCATION	4	3	2	3	2	4	9	7	2	-
FOOD SALES	9	12	4	2	10	9	5	5	12	5
HEALTH CARE	1	1	-	3	-	2	1	2	-	-
INDUSTRIAL	6	7	7	2	8	5	3	8	5	5
LODGING	2	2	6	-	5	2	5	3	2	1
OFFICE	14	17	28	17	7	17	18	12	13	3
RESIDENTIAL	8	3	7	36	8	7	23	14	9	-
RETAIL/SERVICES	17	21	25	22	18	17	9	15	12	12
WAREHOUSE AND STORAGE	10	9	6	7	7	5	4	5	5	41
OTHER	6	4	7	-	10	5	4	5	12	7
VACANT	3	2	-	-	1	2	1	1	3	17
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE										
ASSEMBLY	11	8	9	5	9	17	13	18	6	3
AUTOMOTIVE SALES AND SERVICE	10	14	-	3	16	10	3	6	21	6
EDUCATION	4	3	2	4	2	4	9	8	2	1
FOOD SALES	9	13	5	2	11	9	6	6	12	5
HEALTH CARE	1	1	-	3	-	2	1	2	-	-
LODGING	3	2	6	-	5	2	5	3	2	1
OFFICE	15	18	30	18	7	18	19	13	13	3
RESIDENTIAL	9	3	7	37	9	7	24	15	9	-
RETAIL/SERVICES	18	23	27	22	20	18	10	17	12	13
WAREHOUSE AND STORAGE	11	10	6	7	8	6	4	5	6	43
OTHER	6	5	8	-	11	5	5	6	12	7
VACANT	4	2	-	-	2	2	2	1	4	18

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. S DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY. THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 7A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY AIR CONDITIONING EQUIPMENT - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	AIR CONDITIONING EQUIPMENT				
		WINDOW UNITS	PACKAGE UNITS	CENTRAL SYSTEM	COMBINATION/ OTHER	NO AIR CONDITIONING
NONRESIDENTIAL BUILDINGS.	4,238	856	800	749	302	1,530
BUILDING TYPE						
ASSEMBLY	448	47	85	95	46	175
AUTOMOTIVE SALES AND SERVICE	401	70	25	28	16	262
EDUCATION	161	37	28	31	13	53
FOOD SALES	366	95	106	77	25	64
HEALTH CARE	44	9	7	15	7	5
INDUSTRIAL	243	42	55	40	24	81
LODGING	101	30	10	16	10	35
OFFICE	600	108	188	186	61	59
RESIDENTIAL	347	137	33	36	22	118
RETAIL/SERVICES	714	169	163	130	35	216
WAREHOUSE AND STORAGE	430	47	40	54	17	272
OTHER	237	54	50	23	20	90
VACANT	146	10	12	18	6	100
COMMERCIAL BUILDINGS	3,995	814	746	709	278	1,449
BUILDING TYPE						
ASSEMBLY	448	47	85	95	46	175
AUTOMOTIVE SALES AND SERVICE	401	70	25	28	16	262
EDUCATION	161	37	28	31	13	53
FOOD SALES	366	95	106	77	25	64
HEALTH CARE	44	9	7	15	7	5
LODGING	101	30	10	16	10	35
OFFICE	600	108	188	186	61	59
RESIDENTIAL	347	137	33	36	22	118
RETAIL/SERVICES	714	169	163	130	35	216
WAREHOUSE AND STORAGE	430	47	40	54	17	272
OTHER	237	54	50	23	20	90
VACANT	146	10	12	18	6	100

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 78. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY AIR CONDITIONING EQUIPMENT - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	AIR CONDITIONING EQUIPMENT				
		WINDOW UNITS	PACKAGE UNITS	CENTRAL SYSTEM	COMBINATION/ OTHER	NO AIR CONDITIONING
NONRESIDENTIAL BUILDINGS.	100%	20	19	18	7	36
BUILDING TYPE						
ASSEMBLY	100%	11	19	21	10	39
AUTOMOTIVE SALES AND SERVICE	100%	17	6	7	4	65
EDUCATION	100%	23	17	19	8	33
FOOD SALES	100%	26	29	21	7	18
HEALTH CARE	100%	21	17	35	16	12
INDUSTRIAL	100%	17	23	17	10	33
LODGING	100%	30	10	15	10	35
OFFICE	100%	18	31	31	10	10
RESIDENTIAL	100%	40	10	10	6	34
RETAIL/SERVICES	100%	24	23	18	5	30
WAREHOUSE AND STORAGE	100%	11	9	13	4	63
OTHER	100%	23	21	10	8	38
VACANT	100%	7	8	12	4	68
COMMERCIAL BUILDINGS	100%	20	19	18	7	36
BUILDING TYPE						
ASSEMBLY	100%	11	19	21	10	39
AUTOMOTIVE SALES AND SERVICE	100%	17	6	7	4	65
EDUCATION	100%	23	17	19	8	33
FOOD SALES	100%	26	29	21	7	18
HEALTH CARE	100%	21	17	35	16	12
LODGING	100%	30	10	15	10	35
OFFICE	100%	18	31	31	10	10
RESIDENTIAL	100%	40	10	10	6	34
RETAIL/SERVICES	100%	24	23	18	5	30
WAREHOUSE AND STORAGE	100%	11	9	13	4	63
OTHER	100%	23	21	10	8	38
VACANT	100%	7	8	12	4	68

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 7C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY AIR CONDITIONING EQUIPMENT - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	AIR CONDITIONING EQUIPMENT				
		WINDOW UNITS	PACKAGE UNITS	CENTRAL SYSTEM	COMBINATION/ OTHER	NO AIR CONDITIONING
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	5	11	13	15	11
AUTOMOTIVE SALES AND SERVICE	9	8	3	4	5	17
EDUCATION	4	4	4	4	4	3
FOOD SALES	9	11	13	10	8	4
HEALTH CARE	1	1	1	2	2	-
INDUSTRIAL	6	5	7	5	8	5
LODGING	2	4	1	2	3	2
OFFICE	14	13	23	25	20	4
RESIDENTIAL	8	16	4	5	7	8
RETAIL/SERVICES	17	20	20	17	12	14
WAREHOUSE AND STORAGE	10	5	5	7	6	18
OTHER	6	6	6	3	7	6
VACANT	3	1	1	2	2	7
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	6	11	13	17	12
AUTOMOTIVE SALES AND SERVICE	10	9	3	4	6	18
EDUCATION	4	5	4	4	5	4
FOOD SALES	9	12	14	11	9	4
HEALTH CARE	1	1	1	2	2	-
LODGING	3	4	1	2	4	2
OFFICE	15	13	25	26	22	4
RESIDENTIAL	9	17	4	5	8	8
RETAIL/SERVICES	18	21	22	18	13	15
WAREHOUSE AND STORAGE	11	6	5	8	6	19
OTHER	6	7	7	3	7	6
VACANT	4	1	2	3	2	7

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 8A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY ENERGY SOURCES SUPPLIED TO THE BUILDING - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	ENERGY SOURCES							
		ELECTRICITY	NATURAL GAS	FUEL OIL/ KEROSENE	LIQUID PETROLEUM GAS	WOOD	COAL	STEAM	OTHER
NONRESIDENTIAL BUILDINGS	4,238	4,109	2,413	872	317	119	62	44	23
BUILDING TYPE									
ASSEMBLY	448	443	270	129	41	10	9	4	1
AUTOMOTIVE SALES AND SERVICE	401	395	203	132	32	18	6	1	2
EDUCATION	161	161	92	47	12	-	6	4	1
FOOD SALES	366	365	214	50	56	14	9	1	2
HEALTH CARE	44	44	28	10	2	-	-	2	1
INDUSTRIAL	243	242	165	60	23	6	7	6	7
LODGING	101	101	53	18	10	1	1	6	1
OFFICE	600	599	356	94	25	8	5	9	5
RESIDENTIAL	347	345	260	107	22	26	6	1	-
RETAIL/SERVICES	714	712	450	113	51	17	1	1	2
WAREHOUSE AND STORAGE	430	366	154	60	16	7	4	1	1
OTHER	237	230	110	42	25	11	8	4	1
VACANT	146	105	59	10	2	2	1	3	-
COMMERCIAL BUILDINGS	3,995	3,867	2,248	813	294	114	55	38	16
BUILDING TYPE									
ASSEMBLY	448	443	270	129	41	10	9	4	1
AUTOMOTIVE SALES AND SERVICE	401	395	203	132	32	18	6	1	2
EDUCATION	161	161	92	47	12	-	6	4	1
FOOD SALES	366	365	214	50	56	14	9	1	2
HEALTH CARE	44	44	28	10	2	-	-	2	1
LODGING	101	101	53	18	10	1	1	6	1
OFFICE	600	599	356	94	25	8	5	9	5
RESIDENTIAL	347	345	260	107	22	26	6	1	-
RETAIL/SERVICES	714	712	450	113	51	17	1	1	2
WAREHOUSE AND STORAGE	430	366	154	60	16	7	4	1	1
OTHER	237	230	110	42	25	11	8	4	1
VACANT	146	105	59	10	2	2	1	3	-

NOTE: ROWS DO NOT SUM TO TOTAL BECAUSE OF MULTIPLE ENERGY SOURCES. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 88. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY ENERGY SOURCES SUPPLIED TO THE BUILDING - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	ENERGY SOURCES							
		ELECTRICITY	NATURAL GAS	FUEL OIL/ KEROSENE	LIQUID PETROLEUM GAS	WOOD	COAL	STEAM	OTHER
NONRESIDENTIAL BUILDINGS	100%	97	57	21	7	3	1	1	1
BUILDING TYPE									
ASSEMBLY	100%	99	60	29	9	2	2	1	-
AUTOMOTIVE SALES AND SERVICE	100%	99	51	33	8	4	1	-	1
EDUCATION	100%	100	57	29	7	-	4	3	1
FOOD SALES	100%	100	58	14	15	4	2	-	-
HEALTH CARE	100%	100	64	24	5	-	-	5	2
INDUSTRIAL	100%	100	68	25	10	2	3	3	3
LODGING	100%	100	53	18	10	1	1	6	1
OFFICE	100%	100	59	16	4	1	1	2	1
RESIDENTIAL	100%	100	75	31	6	7	2	-	-
RETAIL/SERVICES	100%	100	63	16	7	2	-	-	-
WAREHOUSE AND STORAGE	100%	85	36	14	4	2	1	-	-
OTHER	100%	97	46	18	11	5	3	2	-
VACANT	100%	72	40	7	1	1	1	2	-
COMMERCIAL BUILDINGS	100%	97	56	20	7	3	1	1	-
BUILDING TYPE									
ASSEMBLY	100%	99	60	29	9	2	2	1	-
AUTOMOTIVE SALES AND SERVICE	100%	99	51	33	8	4	1	-	1
EDUCATION	100%	100	57	29	7	-	4	3	1
FOOD SALES	100%	100	58	14	15	4	2	-	-
HEALTH CARE	100%	100	64	24	5	-	-	5	2
LODGING	100%	100	53	18	10	1	1	6	1
OFFICE	100%	100	59	16	4	1	1	2	1
RESIDENTIAL	100%	100	75	31	6	7	2	-	-
RETAIL/SERVICES	100%	100	63	16	7	2	-	-	-
WAREHOUSE AND STORAGE	100%	85	36	14	4	2	1	-	-
OTHER	100%	97	46	18	11	5	3	2	-
VACANT	100%	72	40	7	1	1	1	2	-

NOTE: ROWS DO NOT SUM TO TOTAL BECAUSE OF MULTIPLE ENERGY SOURCES. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 8C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY ENERGY SOURCES SUPPLIED TO THE BUILDING - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	ENERGY SOURCES							
		ELECTRICITY	NATURAL GAS	FUEL OIL/ KEROSENE	LIQUID PETROLEUM GAS	WOOD	COAL	STEAM	OTHER
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE									
ASSEMBLY	11	11	11	15	13	9	14	9	4
AUTOMOTIVE SALES AND SERVICE	9	10	8	15	10	15	9	1	10
EDUCATION	4	4	4	5	4	-	10	9	5
FOOD SALES	9	9	9	6	18	12	14	2	7
HEALTH CARE	1	1	1	1	1	-	-	5	3
INDUSTRIAL	6	6	7	7	7	5	11	14	29
LODGING	2	2	2	2	3	1	2	15	5
OFFICE	14	15	15	11	8	6	8	21	24
RESIDENTIAL	8	8	11	12	7	22	9	2	-
RETAIL/SERVICES	17	17	19	13	16	14	1	3	7
WAREHOUSE AND STORAGE	10	9	6	7	5	6	7	3	2
OTHER	6	6	5	5	8	9	13	10	4
VACANT	3	3	2	1	1	2	2	6	-
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%	100%
BUILDING TYPE									
ASSEMBLY	11	11	12	16	14	9	15	11	5
AUTOMOTIVE SALES AND SERVICE	10	10	9	16	11	15	10	1	14
EDUCATION	4	4	4	6	4	-	11	11	7
FOOD SALES	9	9	10	6	19	13	16	2	10
HEALTH CARE	1	1	1	1	1	-	-	6	5
LODGING	3	3	2	2	3	1	2	17	7
OFFICE	15	16	16	12	8	7	9	25	33
RESIDENTIAL	9	9	12	13	8	23	10	2	-
RETAIL/SERVICES	18	18	20	14	17	15	2	3	10
WAREHOUSE AND STORAGE	11	9	7	7	6	6	7	3	3
OTHER	6	6	5	5	9	9	14	11	5
VACANT	4	3	3	1	1	2	3	7	-

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 3A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY GLASS AS PERCENTAGE OF EXTERIOR SURFACE - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	GLASS AS PERCENTAGE OF EXTERIOR SURFACE			
		75% OR MORE	AT LEAST 50% BUT LESS THAN 75%	AT LEAST 25% BUT LESS THAN 50%	LESS THAN 25%
NONRESIDENTIAL BUILDINGS.	4,238	56	257	1,036	2,889
BUILDING TYPE					
ASSEMBLY	448	6	23	120	299
AUTOMOTIVE SALES AND SERVICE	401	3	37	135	226
EDUCATION	161	6	32	53	71
FOOD SALES	366	4	27	100	235
HEALTH CARE	44	1	3	14	26
INDUSTRIAL	243	1	10	36	195
LODGING	101	3	11	32	55
OFFICE	600	10	42	170	379
RESIDENTIAL	347	3	18	102	224
RETAIL/SERVICES	714	11	24	142	537
WAREHOUSE AND STORAGE	430	7	8	50	364
OTHER	237	1	12	44	180
VACANT	146	-	11	37	98
COMMERCIAL BUILDINGS	3,995	55	247	1,000	2,693
BUILDING TYPE					
ASSEMBLY	448	6	23	120	299
AUTOMOTIVE SALES AND SERVICE	401	3	37	135	226
EDUCATION	161	6	32	53	71
FOOD SALES	366	4	27	100	235
HEALTH CARE	44	1	3	14	26
LODGING	101	3	11	32	55
OFFICE	600	10	42	170	379
RESIDENTIAL	347	3	18	102	224
RETAIL/SERVICES	714	11	24	142	537
WAREHOUSE AND STORAGE	430	7	8	50	364
OTHER	237	1	12	44	180
VACANT	146	-	11	37	98

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 98. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY GLASS AS PERCENTAGE OF EXTERIOR SURFACE - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	GLASS AS PERCENTAGE OF EXTERIOR SURFACE			
		75% OR MORE	AT LEAST 50% BUT LESS THAN 75%	AT LEAST 25% BUT LESS THAN 50%	LESS THAN 25%
NONRESIDENTIAL BUILDINGS.	100%	1	6	24	68
BUILDING TYPE					
ASSEMBLY	100%	1	5	27	67
AUTOMOTIVE SALES AND SERVICE	100%	1	9	34	56
EDUCATION	100%	3	20	33	44
FOOD SALES	100%	1	7	27	64
HEALTH CARE	100%	3	7	32	58
INDUSTRIAL	100%	-	4	15	81
LODGING	100%	3	11	32	54
OFFICE	100%	2	7	28	63
RESIDENTIAL	100%	1	5	29	65
RETAIL/SERVICES	100%	2	3	20	75
WAREHOUSE AND STORAGE	100%	2	2	12	85
OTHER	100%	-	5	18	76
VACANT	100%	-	7	25	67
COMMERCIAL BUILDINGS	100%	1	6	25	67
BUILDING TYPE					
ASSEMBLY	100%	1	5	27	67
AUTOMOTIVE SALES AND SERVICE	100%	1	9	34	56
EDUCATION	100%	3	20	33	44
FOOD SALES	100%	1	7	27	64
HEALTH CARE	100%	3	7	32	58
LODGING	100%	3	11	32	54
OFFICE	100%	2	7	28	63
RESIDENTIAL	100%	1	5	29	65
RETAIL/SERVICES	100%	2	3	20	75
WAREHOUSE AND STORAGE	100%	2	2	12	85
OTHER	100%	-	5	18	76
VACANT	100%	-	7	25	67

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 9C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY GLASS AS PERCENTAGE OF EXTERIOR SURFACE - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	GLASS AS PERCENTAGE OF EXTERIOR SURFACE			
		75% OR MORE	AT LEAST 50% BUT LESS THAN 75%	AT LEAST 25% BUT LESS THAN 50%	LESS THAN 25%
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%
BUILDING TYPE					
ASSEMBLY	11	12	9	12	10
AUTOMOTIVE SALES AND SERVICE	9	5	15	13	8
EDUCATION	4	10	12	5	2
FOOD SALES	9	7	10	10	8
HEALTH CARE	1	2	1	1	1
INDUSTRIAL	6	2	4	3	7
LODGING	2	5	4	3	2
OFFICE	14	17	16	16	13
RESIDENTIAL	8	5	7	10	8
RETAIL/SERVICES	17	20	9	14	19
WAREHOUSE AND STORAGE	10	13	3	5	13
OTHER	6	1	5	4	6
VACANT	3	1	4	4	3
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%
BUILDING TYPE					
ASSEMBLY	11	12	9	12	11
AUTOMOTIVE SALES AND SERVICE	10	5	15	14	8
EDUCATION	4	10	13	5	3
FOOD SALES	9	7	11	10	9
HEALTH CARE	1	2	1	1	1
LODGING	3	5	5	3	2
OFFICE	15	18	17	17	14
RESIDENTIAL	9	5	7	10	8
RETAIL/SERVICES	18	20	10	14	20
WAREHOUSE AND STORAGE	11	13	3	5	14
OTHER	6	1	5	4	7
VACANT	4	1	4	4	4

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 10A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY NUMBER OF PEOPLE WORKING IN THE BUILDING - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF PEOPLE WORKING IN THE BUILDING				
		LESS THAN 10	10 TO 19	20 TO 49	50 TO 99	100 OR MORE
NONRESIDENTIAL BUILDINGS	4,238	3,035	516	427	142	119
BUILDING TYPE						
ASSEMBLY	448	385	38	16	5	5
AUTOMOTIVE SALES AND SERVICE	401	355	25	18	3	1
EDUCATION	161	59	24	54	19	7
FOOD SALES	366	244	60	47	14	1
HEALTH CARE	44	24	5	2	4	8
INDUSTRIAL	243	104	39	52	21	27
LODGING	101	76	7	9	4	5
OFFICE	600	302	126	103	32	37
RESIDENTIAL	347	309	25	10	2	1
RETAIL/SERVICES	714	546	90	47	19	12
WAREHOUSE AND STORAGE	430	339	36	40	8	7
OTHER	237	151	38	29	11	8
VACANT	146	142	3	-	-	-
COMMERCIAL BUILDINGS	3,995	2,931	477	375	120	92
BUILDING TYPE						
ASSEMBLY	448	385	38	16	5	5
AUTOMOTIVE SALES AND SERVICE	401	355	25	18	3	1
EDUCATION	161	59	24	54	19	7
FOOD SALES	366	244	60	47	14	1
HEALTH CARE	44	24	5	2	4	8
LODGING	101	76	7	9	4	5
OFFICE	600	302	126	103	32	37
RESIDENTIAL	347	309	25	10	2	1
RETAIL/SERVICES	714	546	90	47	19	12
WAREHOUSE AND STORAGE	430	339	36	40	8	7
OTHER	237	151	38	29	11	8
VACANT	146	142	3	-	-	-

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 108. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY NUMBER OF PEOPLE WORKING IN THE BUILDING - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF PEOPLE WORKING IN THE BUILDING				
		LESS THAN 10	10 TO 19	20 TO 49	50 TO 99	100 OR MORE
NONRESIDENTIAL BUILDINGS	100%	72	12	10	3	3
BUILDING TYPE						
ASSEMBLY	100%	86	8	4	1	1
AUTOMOTIVE SALES AND SERVICE	100%	88	6	4	1	-
EDUCATION	100%	36	15	33	11	4
FOOD SALES	100%	67	16	13	4	-
HEALTH CARE	100%	54	12	4	10	19
INDUSTRIAL	100%	43	16	21	9	11
LODGING	100%	75	7	9	3	5
OFFICE	100%	50	21	17	5	6
RESIDENTIAL	100%	89	7	3	1	-
RETAIL/SERVICES	100%	76	13	7	3	2
WAREHOUSE AND STORAGE	100%	79	8	9	2	2
OTHER	100%	64	16	12	5	3
VACANT	100%	98	2	-	-	-
COMMERCIAL BUILDINGS	100%	73	12	9	3	2
BUILDING TYPE						
ASSEMBLY	100%	86	8	4	1	1
AUTOMOTIVE SALES AND SERVICE	100%	88	6	4	1	-
EDUCATION	100%	36	15	33	11	4
FOOD SALES	100%	67	16	13	4	-
HEALTH CARE	100%	54	12	4	10	19
LODGING	100%	75	7	9	3	5
OFFICE	100%	50	21	17	5	6
RESIDENTIAL	100%	89	7	3	1	-
RETAIL/SERVICES	100%	76	13	7	3	2
WAREHOUSE AND STORAGE	100%	79	8	9	2	2
OTHER	100%	64	16	12	5	3
VACANT	100%	98	2	-	-	-

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 10C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY NUMBER OF PEOPLE WORKING IN THE BUILDING - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF PEOPLE WORKING IN THE BUILDING				
		LESS THAN 10	10 TO 19	20 TO 49	50 TO 99	100 OR MORE
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	13	7	4	3	4
AUTOMOTIVE SALES AND SERVICE	9	12	5	4	2	1
EDUCATION	4	2	5	13	13	6
FOOD SALES	9	8	12	11	10	1
HEALTH CARE	1	1	1	-	3	7
INDUSTRIAL	6	3	7	12	15	23
LODGING	2	3	1	2	2	4
OFFICE	14	10	24	24	23	31
RESIDENTIAL	8	10	5	2	2	1
RETAIL/SERVICES	17	18	17	11	13	10
WAREHOUSE AND STORAGE	10	11	7	9	5	6
OTHER	6	5	7	7	8	6
VACANT	3	5	1	-	-	-
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	13	8	4	4	5
AUTOMOTIVE SALES AND SERVICE	10	12	5	5	2	1
EDUCATION	4	2	5	14	15	7
FOOD SALES	9	8	13	12	12	1
HEALTH CARE	1	1	1	1	4	9
LODGING	3	3	2	3	3	5
OFFICE	15	10	26	28	27	40
RESIDENTIAL	9	11	5	3	2	1
RETAIL/SERVICES	18	19	19	13	15	13
WAREHOUSE AND STORAGE	11	12	7	11	6	7
OTHER	6	5	8	8	9	8
VACANT	4	5	1	-	-	-

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

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TABLE 11A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HOURS OF OPERATION FOR A TYPICAL WEEK - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	HOURS OF OPERATION FOR A TYPICAL WEEK				
		39 OR FEWER HOURS	40 TO 48 HOURS	49 TO 60 HOURS	61 TO 84 HOURS	MORE THAN 84 HOURS
NONRESIDENTIAL BUILDINGS.	4,238	857	1,047	960	629	746
BUILDING TYPE						
ASSEMBLY	448	281	42	42	33	49
AUTOMOTIVE SALES AND SERVICE	401	16	65	138	106	76
EDUCATION	161	28	66	34	23	11
FOOD SALES	366	21	16	53	99	178
HEALTH CARE	44	5	12	6	7	14
INDUSTRIAL	243	17	87	62	29	48
LODGING	101	14	3	4	5	75
OFFICE	600	51	277	176	58	39
RESIDENTIAL	347	68	75	74	55	74
RETAIL/SERVICES	714	56	209	238	150	62
WAREHOUSE AND STORAGE	430	134	129	96	28	43
OTHER	237	41	55	37	38	67
VACANT	146	124	10	2	-	10
COMMERCIAL BUILDINGS	3,995	839	960	898	600	697
BUILDING TYPE						
ASSEMBLY	448	281	42	42	33	49
AUTOMOTIVE SALES AND SERVICE	401	16	65	138	106	76
EDUCATION	161	28	66	34	23	11
FOOD SALES	366	21	16	53	99	178
HEALTH CARE	44	5	12	6	7	14
LODGING	101	14	3	4	5	75
OFFICE	600	51	277	176	58	39
RESIDENTIAL	347	68	75	74	55	74
RETAIL/SERVICES	714	56	209	238	150	62
WAREHOUSE AND STORAGE	430	134	129	96	28	43
OTHER	237	41	55	37	38	67
VACANT	146	124	10	2	-	10

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

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TABLE 11B. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HOURS OF OPERATION FOR A TYPICAL WEEK - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	HOURS OF OPERATION FOR A TYPICAL WEEK				
		39 OR FEWER HOURS	40 TO 48 HOURS	49 TO 60 HOURS	61 TO 84 HOURS	MORE THAN 84 HOURS
NONRESIDENTIAL BUILDINGS.	100%	20	25	23	15	18
BUILDING TYPE						
ASSEMBLY	100%	63	9	9	7	11
AUTOMOTIVE SALES AND SERVICE	100%	4	16	34	26	19
EDUCATION	100%	17	41	21	14	7
FOOD SALES	100%	6	4	14	27	49
HEALTH CARE	100%	12	28	13	15	32
INDUSTRIAL	100%	7	36	25	12	20
LODGING	100%	14	3	4	5	74
OFFICE	100%	8	46	29	10	6
RESIDENTIAL	100%	20	22	21	16	21
RETAIL/SERVICES	100%	8	29	33	21	9
WAREHOUSE AND STORAGE	100%	31	30	22	6	10
OTHER	100%	17	23	16	16	28
VACANT	100%	85	7	1	-	7
COMMERCIAL BUILDINGS	100%	21	24	22	15	17
BUILDING TYPE						
ASSEMBLY	100%	63	9	9	7	11
AUTOMOTIVE SALES AND SERVICE	100%	4	16	34	26	19
EDUCATION	100%	17	41	21	14	7
FOOD SALES	100%	6	4	14	27	49
HEALTH CARE	100%	12	28	13	15	32
LODGING	100%	14	3	4	5	74
OFFICE	100%	8	46	29	10	6
RESIDENTIAL	100%	20	22	21	16	21
RETAIL/SERVICES	100%	8	29	33	21	9
WAREHOUSE AND STORAGE	100%	31	30	22	6	10
OTHER	100%	17	23	16	16	28
VACANT	100%	85	7	1	-	7

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

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TABLE 11C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY HOURS OF OPERATION FOR A TYPICAL WEEK - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	HOURS OF OPERATION FOR A TYPICAL WEEK				
		9 OR FEWER HOURS	40 TO 48 HOURS	49 TO 60 HOURS	61 TO 84 HOURS	MORE THAN 84 HOURS
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	33	4	4	5	7
AUTOMOTIVE SALES AND SERVICE	9	2	6	14	17	10
EDUCATION	4	3	6	4	4	2
FOOD SALES	9	2	2	5	16	24
HEALTH CARE	1	1	1	1	1	2
INDUSTRIAL	6	2	8	6	5	6
LODGING	2	2	-	-	1	10
OFFICE	14	6	27	18	9	5
RESIDENTIAL	8	8	7	8	9	10
RETAIL/SERVICES	17	7	20	25	24	8
WAREHOUSE AND STORAGE	10	16	12	10	4	6
OTHER	6	5	5	4	6	9
VACANT	3	14	1	-	-	1
COMMERCIAL BUILDINGS	100%	100%	100%	100%	100%	100%
BUILDING TYPE						
ASSEMBLY	11	34	4	5	6	7
AUTOMOTIVE SALES AND SERVICE	10	2	7	15	18	11
EDUCATION	4	3	7	4	4	2
FOOD SALES	9	2	2	6	16	26
HEALTH CARE	1	1	1	1	1	2
LODGING	3	2	-	-	1	11
OFFICE	15	6	29	20	10	6
RESIDENTIAL	9	8	8	8	9	11
RETAIL/SERVICES	18	7	22	26	25	9
WAREHOUSE AND STORAGE	11	16	13	11	5	6
OTHER	6	5	6	4	6	10
VACANT	4	15	1	-	-	1

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TABLE 12A. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY OCCUPANCY CHARACTERISTICS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	OCCUPANCY CHARACTERISTICS			
		SINGLE ESTABLISHMENT BUILDING		MULTIPLE ESTABLISHMENT BUILDING	
		OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT	OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT
NONRESIDENTIAL BUILDINGS.	4,238	2,308	1,216	440	274
BUILDING TYPE					
ASSEMBLY	448	277	119	42	10
AUTOMOTIVE SALES AND SERVICE	401	234	150	14	4
EDUCATION	161	117	35	5	4
FOOD SALES	366	231	101	14	20
HEALTH CARE	44	35	8	1	-
INDUSTRIAL	243	162	53	13	15
LODGING	101	54	38	6	2
OFFICE	600	256	108	174	63
RESIDENTIAL	347	205	64	43	34
RETAIL/SERVICES	714	327	249	70	69
WAREHOUSE AND STORAGE	430	238	141	25	26
OTHER	237	133	51	32	20
VACANT	146	39	98	3	5
COMMERCIAL BUILDINGS	3,995	2,146	1,163	427	259
BUILDING TYPE					
ASSEMBLY	448	277	119	42	10
AUTOMOTIVE SALES AND SERVICE	401	234	150	14	4
EDUCATION	161	117	35	5	4
FOOD SALES	366	231	101	14	20
HEALTH CARE	44	35	8	1	-
LODGING	101	54	38	6	2
OFFICE	600	256	108	174	63
RESIDENTIAL	347	205	64	43	34
RETAIL/SERVICES	714	327	249	70	69
WAREHOUSE AND STORAGE	430	238	141	25	26
OTHER	237	133	51	32	20
VACANT	146	39	98	3	5

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 12B. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY OCCUPANCY CHARACTERISTICS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	OCCUPANCY CHARACTERISTICS			
		SINGLE ESTABLISHMENT BUILDING		MULTIPLE ESTABLISHMENT BUILDING	
		OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT	OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT
NONRESIDENTIAL BUILDINGS.	100%	54	29	10	6
BUILDING TYPE					
ASSEMBLY	100%	62	27	9	2
AUTOMOTIVE SALES AND SERVICE	100%	58	37	3	1
EDUCATION	100%	73	22	3	3
FOOD SALES	100%	63	28	4	5
HEALTH CARE	100%	81	18	1	-
INDUSTRIAL	100%	67	22	5	6
LODGING	100%	53	38	6	2
OFFICE	100%	43	18	29	11
RESIDENTIAL	100%	59	19	12	10
RETAIL/SERVICES	100%	46	35	10	10
WAREHOUSE AND STORAGE	100%	55	33	6	6
OTHER	100%	56	22	13	9
VACANT	100%	27	68	2	4
COMMERCIAL BUILDINGS	100%	54	29	11	6
BUILDING TYPE					
ASSEMBLY	100%	62	27	9	2
AUTOMOTIVE SALES AND SERVICE	100%	58	37	3	1
EDUCATION	100%	73	22	3	3
FOOD SALES	100%	63	28	4	5
HEALTH CARE	100%	81	18	1	-
LODGING	100%	53	38	6	2
OFFICE	100%	43	18	29	11
RESIDENTIAL	100%	59	19	12	10
RETAIL/SERVICES	100%	46	35	10	10
WAREHOUSE AND STORAGE	100%	55	33	6	6
OTHER	100%	56	22	13	9
VACANT	100%	27	68	2	4

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 12C. NONRESIDENTIAL AND COMMERCIAL BUILDINGS: TYPE BY OCCUPANCY CHARACTERISTICS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	OCCUPANCY CHARACTERISTICS			
		SINGLE ESTABLISHMENT BUILDING		MULTIPLE ESTABLISHMENT BUILDING	
		OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT	OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT
NONRESIDENTIAL BUILDINGS.	**100%**	**100%**	**100%**	**100%**	**100%**
BUILDING TYPE					
ASSEMBLY	11	12	10	9	4
AUTOMOTIVE SALES AND SERVICE	9	10	12	3	1
EDUCATION	4	5	3	1	2
FOOD SALES	9	10	8	3	7
HEALTH CARE	1	2	1	-	-
INDUSTRIAL	6	7	4	3	5
LODGING	2	2	3	1	1
OFFICE	14	11	9	39	23
RESIDENTIAL	8	9	5	10	13
RETAIL/SERVICES	17	14	20	16	25
WAREHOUSE AND STORAGE	10	10	12	6	9
OTHER	6	6	4	7	7
VACANT	3	2	8	1	2
COMMERCIAL BUILDINGS	**100%**	**100%**	**100%**	**100%**	**100%**
BUILDING TYPE					
ASSEMBLY	11	13	10	10	4
AUTOMOTIVE SALES AND SERVICE	10	11	13	3	1
EDUCATION	4	5	3	1	2
FOOD SALES	9	11	9	3	8
HEALTH CARE	1	2	1	-	-
LODGING	3	3	3	1	1
OFFICE	15	12	9	41	24
RESIDENTIAL	9	10	6	10	13
RETAIL/SERVICES	18	15	21	16	27
WAREHOUSE AND STORAGE	11	11	12	6	10
OTHER	6	6	4	7	8
VACANT	4	2	8	1	2

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 13A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY CENSUS REGIONS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	CENSUS REGIONS			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST
NONRESIDENTIAL BUILDINGS	4,238	735	1,326	1,566	612
SQUARE FOOTAGE					
1,000 OR LESS	677	62	195	339	81
1,001 TO 5,000	1,729	270	550	664	245
5,001 TO 10,000	801	155	268	248	130
10,001 TO 25,000	596	144	171	188	94
25,001 TO 50,000	237	58	74	68	37
50,001 TO 100,000	121	27	41	35	17
OVER 100,000	78	20	26	24	8
YEAR CONSTRUCTED					
1900 OR BEFORE	329	119	129	54	27
1901 TO 1920	432	113	171	101	46
1921 TO 1945	829	169	271	262	126
1946 TO 1960	1,064	145	309	447	163
1961 TO 1970	789	122	208	350	108
1971 TO 1973	235	24	69	102	40
1974 TO PRESENT	561	44	168	248	101

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 13B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY CENSUS REGIONS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	CENSUS REGIONS			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST
NONRESIDENTIAL BUILDINGS	100%	17	31	37	14
SQUARE FOOTAGE					
1,000 OR LESS	100%	9	29	50	12
1,001 TO 5,000	100%	16	32	38	14
5,001 TO 10,000	100%	19	34	31	16
10,001 TO 25,000	100%	24	29	31	16
25,001 TO 50,000	100%	24	31	29	16
50,001 TO 100,000	100%	23	34	29	14
OVER 100,000	100%	26	34	31	10
YEAR CONSTRUCTED					
1900 OR BEFORE	100%	36	39	16	8
1901 TO 1920	100%	26	40	24	11
1921 TO 1945	100%	20	33	32	15
1946 TO 1960	100%	14	29	42	15
1961 TO 1970	100%	15	26	44	14
1971 TO 1973	100%	10	30	43	17
1974 TO PRESENT	100%	8	30	44	18

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 13C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY CENSUS REGIONS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	CENSUS REGIONS			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%
SQUARE FOOTAGE					
1,000 OR LESS	16	8	15	22	13
1,001 TO 5,000	41	37	41	42	40
5,001 TO 10,000	19	21	20	16	21
10,001 TO 25,000	14	20	13	12	15
25,001 TO 50,000	6	8	6	4	6
50,001 TO 100,000	3	4	3	2	3
OVER 100,000	2	3	2	2	1
YEAR CONSTRUCTED					
1900 OR BEFORE	8	16	10	3	4
1901 TO 1920	10	15	13	6	8
1921 TO 1945	20	23	20	17	21
1946 TO 1960	25	20	23	29	27
1961 TO 1970	19	17	16	22	18
1971 TO 1973	6	3	5	6	7
1974 TO PRESENT	13	6	13	16	16

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 14A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HEATING AND COOLING DEGREE DAYS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) AND COOLING DEGREE DAYS (CDD)				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500 TO 7000 HDD	<2000 CDD AND 4000 TO 5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
NONRESIDENTIAL BUILDINGS	4,238	470	1,242	1,132	704	689
SQUARE FOOTAGE						
1,000 OR LESS	677	50	155	176	134	162
1,001 TO 5,000	1,729	185	485	474	303	282
5,001 TO 10,000	801	112	264	196	121	107
10,001 TO 25,000	596	67	193	172	75	88
25,001 TO 50,000	237	27	76	64	40	29
50,001 TO 100,000	121	17	40	31	20	13
OVER 100,000	78	10	28	20	11	8
YEAR CONSTRUCTED						
1900 OR BEFORE	329	79	152	67	16	16
1901 TO 1920	432	53	158	138	48	35
1921 TO 1945	829	88	247	280	119	95
1946 TO 1960	1,064	91	294	261	216	200
1961 TO 1970	789	78	212	177	155	167
1971 TO 1973	235	23	59	57	45	50
1974 TO PRESENT	561	59	120	153	105	125

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SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

BUILDING CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) AND COOLING DEGREE DAYS (CDD)				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500 TO 7000 HDD	<2000 CDD AND 4000 TO 5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
NONRESIDENTIAL BUILDINGS	100%	11	29	27	17	16
SQUARE FOOTAGE						
1,000 OR LESS	100%	7	23	26	20	24
1,001 TO 5,000	100%	11	28	27	18	16
5,001 TO 10,000	100%	14	33	24	15	13
10,001 TO 25,000	100%	11	32	29	13	15
25,001 TO 50,000	100%	12	32	27	17	12
50,001 TO 100,000	100%	14	34	25	16	10
OVER 100,000	100%	13	37	26	15	10
YEAR CONSTRUCTED						
1900 OR BEFORE	100%	24	46	20	5	5
1901 TO 1920	100%	12	37	32	11	8
1921 TO 1945	100%	11	30	34	14	11
1946 TO 1960	100%	9	28	25	20	19
1961 TO 1970	100%	10	27	22	20	21
1971 TO 1973	100%	10	25	24	19	21
1974 TO PRESENT	100%	10	21	27	19	22

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 14C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HEATING AND COOLING DEGREE DAYS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) AND COOLING DEGREE DAYS (CDD)				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500 TO 7000 HDD	<2000 CDD AND 4000 TO 5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE						
1,000 OR LESS	16	11	12	16	19	23
1,001 TO 5,000	41	39	39	42	43	41
5,001 TO 10,000	19	24	21	17	17	16
10,001 TO 25,000	14	14	16	15	11	13
25,001 TO 50,000	6	6	6	6	6	4
50,001 TO 100,000	3	4	3	3	3	2
OVER 100,000	2	2	2	2	2	1
YEAR CONSTRUCTED						
1900 OR BEFORE	8	17	12	6	2	2
1901 TO 1920	10	11	13	12	7	5
1921 TO 1945	20	19	20	25	17	14
1946 TO 1960	25	19	24	23	31	29
1961 TO 1970	19	17	17	16	22	24
1971 TO 1973	6	5	5	5	6	7
1974 TO PRESENT	13	12	10	14	15	18

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 15A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY NUMBER OF FLOORS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF FLOORS			
		ONLY 1 FLOOR	2 FLOORS	3 FLOORS	MORE THAN 3 FLOORS
NONRESIDENTIAL BUILDINGS.	4,238	2,467	980	501	290
SQUARE FOOTAGE					
1,000 OR LESS	677	597	61	12	6
1,001 TO 5,000	1,729	1,166	357	161	46
5,001 TO 10,000	801	360	273	125	44
10,001 TO 25,000	596	221	182	119	74
25,001 TO 50,000	237	78	55	50	54
50,001 TO 100,000	121	34	35	21	31
OVER 100,000	78	11	18	13	36
YEAR CONSTRUCTED					
1900 OR BEFORE	329	55	91	102	80
1901 TO 1920	432	116	118	122	76
1921 TO 1945	829	414	196	143	76
1946 TO 1960	1,064	737	252	58	17
1961 TO 1970	789	566	156	47	21
1971 TO 1973	235	158	56	11	10
1974 TO PRESENT	561	421	111	18	10

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 158. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY NUMBER OF FLOORS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF FLOORS			
		ONLY 1 FLOOR	2 FLOORS	3 FLOORS	MORE THAN 3 FLOORS
NONRESIDENTIAL BUILDINGS.	100%	58	23	12	7
SQUARE FOOTAGE					
1,000 OR LESS	100%	88	9	2	1
1,001 TO 5,000	100%	67	21	9	3
5,001 TO 10,000	100%	45	34	16	5
10,001 TO 25,000	100%	37	30	20	12
25,001 TO 50,000	100%	33	23	21	23
50,001 TO 100,000	100%	29	29	18	25
OVER 100,000	100%	15	23	17	46
YEAR CONSTRUCTED					
1900 OR BEFORE	100%	17	28	31	24
1901 TO 1920	100%	27	27	28	18
1921 TO 1945	100%	50	24	17	9
1946 TO 1960	100%	69	24	5	2
1961 TO 1970	100%	72	20	6	3
1971 TO 1973	100%	67	24	5	4
1974 TO PRESENT	100%	75	20	3	2

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 15C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY NUMBER OF FLOORS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF FLOORS			
		ONLY 1 FLOOR	2 FLOORS	3 FLOORS	MORE THAN 3 FLOORS
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%
SQUARE FOOTAGE					
1,000 OR LESS	16	24	6	2	2
1,001 TO 5,000	41	47	36	32	16
5,001 TO 10,000	19	15	28	25	15
10,001 TO 25,000	14	9	19	24	26
25,001 TO 50,000	6	3	6	10	18
50,001 TO 100,000	3	1	4	4	11
OVER 100,000	2	-	2	3	12
YEAR CONSTRUCTED					
1900 OR BEFORE	8	2	9	20	28
1901 TO 1920	10	5	12	24	26
1921 TO 1945	20	17	20	29	26
1946 TO 1960	25	30	26	12	6
1961 TO 1970	19	23	16	9	7
1971 TO 1973	6	6	6	2	3
1974 TO PRESENT	13	17	11	4	4

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 16A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - ESTIMATED NUMBERS IN THOUSANDS

NATIONAL

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	4,238	329	432	829	1,064	789	235	561
SQUARE FOOTAGE								
1,000 OR LESS	677	29	35	153	205	123	27	105
1,001 TO 5,000	1,729	141	166	311	471	330	90	221
5,001 TO 10,000	801	67	106	147	190	148	41	102
10,001 TO 25,000	596	63	69	127	120	96	38	83
25,001 TO 50,000	237	18	34	55	35	45	24	25
50,001 TO 100,000	121	7	13	23	26	27	10	16
OVER 100,000	78	4	9	14	16	21	6	8

SEE FOOTNOTES AT END OF TABLE

TABLE 16A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - ESTIMATED NUMBERS IN THOUSANDS (CONTINUED)

NORTHEAST

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	735	119	113	169	145	122	24	44
SQUARE FOOTAGE								
1,000 OR LESS	62	10	5	11	16	11	-	9
1,001 TO 5,000	270	40	32	64	60	49	8	15
5,001 TO 10,000	155	27	30	34	22	27	6	8
10,001 TO 25,000	144	30	25	37	28	14	4	6
25,001 TO 50,000	58	9	14	11	10	9	2	3
50,001 TO 100,000	27	2	3	6	5	8	2	1
OVER 100,000	20	1	3	5	4	4	1	1

SEE FOOTNOTES AT END OF TABLE

TABLE 16A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - ESTIMATED NUMBERS IN THOUSANDS (CONTINUED)

NORTH CENTRAL

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	1,326	129	171	271	309	208	69	168
SQUARE FOOTAGE								
1,000 OR LESS	195	7	18	58	61	19	2	29
1,001 TO 5,000	550	63	69	105	136	78	29	70
5,001 TO 10,000	268	27	47	49	56	51	15	23
10,001 TO 25,000	171	20	18	28	32	34	11	27
25,001 TO 50,000	74	5	9	20	10	13	8	8
50,001 TO 100,000	41	5	6	7	7	7	2	7
OVER 100,000	26	3	4	3	6	6	2	3

SEE FOOTNOTES AT END OF TABLE

TABLE 16A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - ESTIMATED NUMBERS IN THOUSANDS (CONTINUED)

SOUTH

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	1,566	54	101	262	447	350	102	248
SQUARE FOOTAGE								
1,000 OR LESS	339	7	8	65	101	79	20	59
1,001 TO 5,000	664	24	47	95	205	163	39	92
5,001 TO 10,000	248	11	17	40	78	41	15	46
10,001 TO 25,000	188	7	21	38	38	35	14	36
25,001 TO 50,000	68	4	6	14	9	18	9	8
50,001 TO 100,000	35	-	2	7	10	8	3	4
OVER 100,000	24	1	2	4	5	7	2	3

SEE FOOTNOTES AT END OF TABLE

TABLE 16A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - ESTIMATED NUMBERS IN THOUSANDS (CONTINUED)

WEST

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	612	27	46	126	163	108	40	101
SQUARE FOOTAGE								
1,000 OR LESS	81	4	3	19	27	14	5	8
1,001 TO 5,000	245	15	18	46	69	40	14	43
5,001 TO 10,000	130	2	12	23	34	29	5	25
10,001 TO 25,000	94	6	6	24	22	13	9	14
25,001 TO 50,000	37	-	5	10	6	5	5	6
50,001 TO 100,000	17	-	2	2	3	4	2	4
OVER 100,000	8	-	-	1	2	3	1	1

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 16B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF ROW TOTALS

NATIONAL

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	8	10	20	25	19	6	13
SQUARE FOOTAGE								
1,000 OR LESS	100%	4	5	23	30	18	4	16
1,001 TO 5,000	100%	8	10	18	27	19	5	13
5,001 TO 10,000	100%	8	13	18	24	18	5	13
10,001 TO 25,000	100%	11	12	21	20	16	6	14
25,001 TO 50,000	100%	8	14	23	15	19	10	11
50,001 TO 100,000	100%	6	11	19	21	22	8	13
OVER 100,000	100%	6	11	18	21	26	8	10

SEE FOOTNOTES AT END OF TABLE

TABLE 16B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF ROW TOTALS (CONTINUED)

NORTHEAST

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	16	15	23	20	17	3	6
SQUARE FOOTAGE								
1,000 OR LESS.....	100%	16	9	18	26	17	-	14
1,001 TO 5,000.....	100%	15	12	24	22	18	3	6
5,001 TO 10,000.....	100%	17	20	22	14	17	4	5
10,001 TO 25,000.....	100%	21	17	26	19	10	3	4
25,001 TO 50,000.....	100%	15	24	19	17	16	4	5
50,001 TO 100,000.....	100%	6	12	23	18	29	8	4
OVER 100,000.....	100%	6	16	26	18	21	5	7

SEE FOOTNOTES AT END OF TABLE

TABLE 16B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF ROW TOTALS (CONTINUED)

NORTH CENTRAL

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	10	13	20	23	16	5	13
SQUARE FOOTAGE								
1,000 OR LESS.....	100%	3	9	30	32	10	1	15
1,001 TO 5,000.....	100%	11	13	19	25	14	5	13
5,001 TO 10,000.....	100%	10	17	18	21	19	6	9
10,001 TO 25,000.....	100%	12	11	17	19	20	6	16
25,001 TO 50,000.....	100%	7	12	27	14	18	11	11
50,001 TO 100,000.....	100%	12	14	18	18	16	5	17
OVER 100,000.....	100%	10	14	11	23	24	7	11

SEE FOOTNOTES AT END OF TABLE

TABLE 16B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF ROW TOTALS (CONTINUED)

SOUTH

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	3	6	17	29	22	6	16
SQUARE FOOTAGE								
1,000 OR LESS.....	100%	2	2	19	30	23	6	17
1,001 TO 5,000.....	100%	4	7	14	31	25	6	14
5,001 TO 10,000.....	100%	4	7	16	31	17	6	19
10,001 TO 25,000.....	100%	4	11	20	20	18	7	19
25,001 TO 50,000.....	100%	6	9	21	14	26	13	12
50,001 TO 100,000.....	100%	1	5	20	29	24	9	12
OVER 100,000.....	100%	3	6	18	21	29	10	13

SEE FOOTNOTES AT END OF TABLE

TABLE 16B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF ROW TOTALS (CONTINUED)

WEST

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	4	8	21	27	18	7	16
SQUARE FOOTAGE								
1,000 OR LESS	100%	5	4	24	34	17	6	10
1,001 TO 5,000	100%	6	7	19	28	16	6	18
5,001 TO 10,000	100%	1	9	18	26	22	4	19
10,001 TO 25,000	100%	7	6	26	23	14	9	15
25,001 TO 50,000	100%	1	14	26	15	14	13	17
50,001 TO 100,000	100%	-	12	12	19	23	12	22
OVER 100,000	100%	1	5	16	21	40	9	9

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 16C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF COLUMN TOTALS

NATIONAL

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE								
1,000 OR LESS	16	9	8	18	19	16	12	19
1,001 TO 5,000	41	43	38	38	44	42	38	39
5,001 TO 10,000	19	20	25	18	18	19	17	18
10,001 TO 25,000	14	19	16	15	11	12	16	15
25,001 TO 50,000	6	6	8	7	3	6	10	4
50,001 TO 100,000	3	2	3	3	2	3	4	3
OVER 100,000	2	1	2	2	2	3	3	1

SEE FOOTNOTES AT END OF TABLE

TABLE 16C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF COLUMN TOTALS (CONTINUED)

NORTHEAST

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE								
1,000 OR LESS	8	9	5	6	11	9	-	20
1,001 TO 5,000	37	34	29	38	42	40	33	35
5,001 TO 10,000	21	23	27	20	15	22	27	18
10,001 TO 25,000	20	25	22	22	19	11	17	14
25,001 TO 50,000	8	7	12	6	7	8	9	7
50,001 TO 100,000	4	1	3	4	3	7	10	2
OVER 100,000	3	1	3	3	3	3	4	3

SEE FOOTNOTES AT END OF TABLE

TABLE 16C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED – PERCENTAGE OF COLUMN TOTALS (CONTINUED)

NORTH CENTRAL

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE								
1,000 OR LESS	15	5	11	21	20	9	3	17
1,001 TO 5,000	41	49	40	39	44	37	42	42
5,001 TO 10,000	20	21	27	18	18	24	21	14
10,001 TO 25,000	13	15	11	11	10	16	16	16
25,001 TO 50,000	6	4	5	7	3	6	12	5
50,001 TO 100,000	3	4	3	3	2	3	3	4
OVER 100,000	2	2	2	1	2	3	3	2

SEE FOOTNOTES AT END OF TABLE

TABLE 16C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF COLUMN TOTALS (CONTINUED)

SOUTH

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE								
1,000 OR LESS	22	13	8	25	23	23	20	24
1,001 TO 5,000	42	44	46	36	46	46	38	37
5,001 TO 10,000	16	20	17	15	17	12	14	19
10,001 TO 25,000	12	13	20	14	9	10	14	14
25,001 TO 50,000	4	8	6	5	2	5	9	3
50,001 TO 100,000	2	-	2	3	2	2	3	2
OVER 100,000	2	1	1	2	1	2	2	1

SEE FOOTNOTES AT END OF TABLE

TABLE 16C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE BY YEAR CONSTRUCTED - PERCENTAGE OF COLUMN TOTALS (CONTINUED)

WEST

BUILDING CHARACTERISTICS	TOTAL	YEAR CONSTRUCTED						
		1900 OR BEFORE	1901 TO 1920	1921 TO 1945	1946 TO 1960	1961 TO 1970	1971 TO 1973	1974 TO PRESENT
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE								
1,000 OR LESS	13	16	7	15	17	13	12	8
1,001 TO 5,000	40	53	39	37	43	37	35	43
5,001 TO 10,000	21	7	25	18	21	27	12	25
10,001 TO 25,000	15	23	12	19	13	12	22	14
25,001 TO 50,000	6	2	11	8	3	5	12	6
50,001 TO 100,000	3	-	4	2	2	4	5	4
OVER 100,000	1	-	1	1	1	3	2	1

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 17A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HEATING SYSTEM CHARACTERISTICS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	HEATING SYSTEM CHARACTERISTICS								
		SELF-CONTAINED UNITS				CENTRAL SYSTEM			OTHER	NONE
		FORCED AIR	RADIANT		OTHER	FORCED AIR	RADIANT	OTHER		
			ELECTRIC BASE-BOARDS	RADIATORS						
NONRESIDENTIAL BUILDINGS	4,238	1,203	71	51	427	1,068	503	349	120	447
SQUARE FOOTAGE										
1,000 OR LESS	677	173	28	8	110	115	24	16	32	172
1,001 TO 5,000	1,729	512	21	18	199	482	165	108	33	191
5,001 TO 10,000	801	245	9	17	43	230	110	83	28	37
10,001 TO 25,000	596	176	9	4	46	140	106	66	20	28
25,001 TO 50,000	237	58	3	2	21	50	54	33	3	13
50,001 TO 100,000	121	28	3	2	5	30	27	21	1	5
OVER 100,000	78	11	-	-	2	21	17	22	2	2
YEAR CONSTRUCTED										
1900 OR BEFORE	329	42	2	6	24	93	93	39	9	21
1901 TO 1920	432	105	3	8	33	127	94	38	4	20
1921 TO 1945	829	178	9	14	91	188	144	80	25	99
1946 TO 1960	1,064	278	18	11	123	292	92	78	39	134
1961 TO 1970	789	265	11	7	79	191	52	73	19	91
1971 TO 1973	235	98	5	4	34	51	8	13	6	16
1974 TO PRESENT	561	237	23	1	43	126	19	28	18	67

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 17B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HEATING SYSTEM CHARACTERISTICS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	HEATING SYSTEM CHARACTERISTICS								
		SELF-CONTAINED UNITS				CENTRAL SYSTEM			OTHER	NONE
		FORCED AIR	RADIANT		OTHER	FORCED AIR	RADIANT	OTHER		
			ELECTRIC BASE-BOARDS	RADIATORS						
NONRESIDENTIAL BUILDINGS	100%	28	2	1	10	25	12	8	3	11
SQUARE FOOTAGE										
1,000 OR LESS	100%	26	4	1	16	17	4	2	5	25
1,001 TO 5,000	100%	30	1	1	12	28	10	6	2	11
5,001 TO 10,000	100%	31	1	2	5	29	14	10	4	5
10,001 TO 25,000	100%	30	1	1	8	24	18	11	3	5
25,001 TO 50,000	100%	25	1	1	9	21	23	14	1	6
50,001 TO 100,000	100%	23	2	2	4	24	22	17	1	4
OVER 100,000	100%	14	-	-	3	27	22	28	3	2
YEAR CONSTRUCTED										
1900 OR BEFORE	100%	13	1	2	7	28	28	12	3	6
1901 TO 1920	100%	24	1	2	8	29	22	9	1	5
1921 TO 1945	100%	22	1	2	11	23	17	10	3	12
1946 TO 1960	100%	26	2	1	12	27	9	7	4	13
1961 TO 1970	100%	34	1	1	10	24	7	9	2	12
1971 TO 1973	100%	42	2	2	14	22	3	6	2	7
1974 TO PRESENT	100%	42	4	-	8	22	3	5	3	12

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 17C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HEATING SYSTEM CHARACTERISTICS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	HEATING SYSTEM CHARACTERISTICS								
		SELF-CONTAINED UNITS				CENTRAL SYSTEM			OTHER	NONE
		FORCED AIR	RADIANT		OTHER	FORCED AIR	RADIANT	OTHER		
			ELECTRIC BASE-BOARDS	RADIATORS						
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE										
1,000 OR LESS	16	14	39	16	26	11	5	5	26	38
1,001 TO 5,000	41	43	29	36	47	45	33	31	27	43
5,001 TO 10,000	19	20	12	33	10	22	22	24	24	8
10,001 TO 25,000	14	15	12	8	11	13	21	19	17	6
25,001 TO 50,000	6	5	4	4	5	5	11	9	2	3
50,001 TO 100,000	3	2	4	4	1	3	5	6	1	1
OVER 100,000	2	1	-	-	1	2	3	6	2	-
YEAR CONSTRUCTED										
1900 OR BEFORE	8	4	3	13	6	9	18	11	8	5
1901 TO 1920	10	9	5	16	8	12	19	11	3	4
1921 TO 1945	20	15	12	28	21	18	29	23	21	22
1946 TO 1960	25	23	25	21	29	27	18	22	32	30
1961 TO 1970	19	22	16	14	18	18	10	21	16	20
1971 TO 1973	6	8	8	8	8	5	2	4	5	4
1974 TO PRESENT	13	20	32	1	10	12	4	8	15	15

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 18A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY AIR CONDITIONING EQUIPMENT - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	AIR CONDITIONING EQUIPMENT				
		WINDOW UNITS	PACKAGE UNITS	CENTRAL SYSTEM	COMBINATION/ OTHER	NO AIR CONDITIONING
NONRESIDENTIAL BUILDINGS	4,238	856	800	749	302	1,530
SQUARE FOOTAGE						
1,000 OR LESS	677	192	52	65	16	352
1,001 TO 5,000	1,729	359	291	302	93	685
5,001 TO 10,000	801	130	182	152	65	271
10,001 TO 25,000	596	108	165	130	61	133
25,001 TO 50,000	237	41	65	44	30	56
50,001 TO 100,000	121	19	28	32	20	22
OVER 100,000	78	8	17	24	18	10
YEAR CONSTRUCTED						
1900 OR BEFORE	329	83	51	40	24	130
1901 TO 1920	432	106	67	63	32	164
1921 TO 1945	829	219	115	93	59	343
1946 TO 1960	1,064	256	141	172	86	409
1961 TO 1970	789	113	177	198	64	237
1971 TO 1973	235	25	68	58	9	75
1974 TO PRESENT	561	54	182	125	28	171

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 18B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY AIR CONDITIONING EQUIPMENT - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	AIR CONDITIONING EQUIPMENT				
		WINDOW UNITS	PACKAGE UNITS	CENTRAL SYSTEM	COMBINATION/ OTHER	NO AIR CONDITIONING
NONRESIDENTIAL BUILDINGS	100%	20	19	18	7	36
SQUARE FOOTAGE						
1,000 OR LESS	100%	28	8	10	2	52
1,001 TO 5,000	100%	21	17	17	5	40
5,001 TO 10,000	100%	16	23	19	8	34
10,001 TO 25,000	100%	18	28	22	10	22
25,001 TO 50,000	100%	17	28	19	12	24
50,001 TO 100,000	100%	15	23	26	16	19
OVER 100,000	100%	11	22	31	23	13
YEAR CONSTRUCTED						
1900 OR BEFORE	100%	25	16	12	7	40
1901 TO 1920	100%	24	16	15	7	38
1921 TO 1945	100%	26	14	11	7	41
1946 TO 1960	100%	24	13	16	8	38
1961 TO 1970	100%	14	22	25	8	30
1971 TO 1973	100%	11	29	25	4	32
1974 TO PRESENT	100%	10	33	22	5	31

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "—" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 18C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY AIR CONDITIONING EQUIPMENT - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	AIR CONDITIONING EQUIPMENT				
		WINDOW UNITS	PACKAGE UNITS	CENTRAL SYSTEM	COMBINATION/ OTHER	NO AIR CONDITIONING
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE						
1,000 OR LESS	16	22	6	9	5	23
1,001 TO 5,000	41	42	36	40	31	45
5,001 TO 10,000	19	15	23	20	22	18
10,001 TO 25,000	14	13	21	17	20	9
25,001 TO 50,000	6	5	8	6	10	4
50,001 TO 100,000	3	2	3	4	7	1
OVER 100,000	2	1	2	3	6	1
YEAR CONSTRUCTED						
1900 OR BEFORE	8	10	6	5	8	9
1901 TO 1920	10	12	8	8	11	11
1921 TO 1945	20	26	14	12	20	22
1946 TO 1960	25	30	18	23	29	27
1961 TO 1970	19	13	22	26	21	16
1971 TO 1973	6	3	8	8	3	5
1974 TO PRESENT	13	6	23	17	9	11

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 19A. NONRESIDENTIAL BUILDING: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY ENERGY SOURCES SUPPLIED TO THE BUILDING - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	ENERGY SOURCES							
		ELECTRICITY	NATURAL GAS	FUEL OIL/ KEROSENE	LIQUID PETROLEUM GAS	WOOD	COAL	STEAM	OTHER
NONRESIDENTIAL BUILDINGS	4,238	4,109	2,413	872	317	119	62	44	23
SQUARE FOOTAGE									
1,000 OR LESS	677	620	201	88	73	18	6	1	-
1,001 TO 5,000	1,729	1,675	970	325	120	60	32	5	4
5,001 TO 10,000	801	789	513	194	59	23	7	4	6
10,001 TO 25,000	596	594	417	144	36	15	10	10	7
25,001 TO 50,000	237	234	166	59	13	-	2	9	2
50,001 TO 100,000	121	120	86	31	9	-	4	6	3
OVER 100,000	78	78	61	31	7	2	2	9	1
YEAR CONSTRUCTED									
1900 OR BEFORE	329	324	232	102	25	16	8	4	1
1901 TO 1920	432	422	322	99	36	9	8	8	1
1921 TO 1945	829	796	535	209	52	29	20	9	3
1946 TO 1960	1,064	1,031	568	232	94	29	15	11	3
1961 TO 1970	789	764	435	125	37	12	4	6	6
1971 TO 1973	235	231	119	38	26	4	4	4	2
1974 TO PRESENT	561	541	202	66	47	20	3	2	8

NOTE: ROWS DO NOT SUM TO TOTAL BECAUSE OF MULTIPLE ENERGY SOURCES. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 198. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY ENERGY SOURCES SUPPLIED TO THE BUILDING - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	ENERGY SOURCES							
		ELECTRICITY	NATURAL GAS	FUEL OIL/ KEROSENE	LIQUID PETROLEUM GAS	WOOD	COAL	STEAM	OTHER
NONRESIDENTIAL BUILDINGS	100%	97	57	21	7	3	1	1	1
SQUARE FOOTAGE									
1,000 OR LESS	100%	92	30	13	11	3	1	-	-
1,001 TO 5,000	100%	97	56	19	7	3	2	-	-
5,001 TO 10,000	100%	98	64	24	7	3	1	1	1
10,001 TO 25,000	100%	100	70	24	6	3	2	2	1
25,001 TO 50,000	100%	99	70	25	5	-	1	4	1
50,001 TO 100,000	100%	100	71	26	8	-	3	5	3
OVER 100,000	100%	100	79	39	9	2	2	12	2
YEAR CONSTRUCTED									
1900 OR BEFORE	100%	98	71	31	8	5	2	1	-
1901 TO 1920	100%	98	75	23	8	2	2	2	-
1921 TO 1945	100%	96	65	25	6	3	2	1	-
1946 TO 1960	100%	97	53	22	9	3	1	1	-
1961 TO 1970	100%	97	55	16	5	2	1	1	1
1971 TO 1973	100%	98	51	16	11	2	2	2	1
1974 TO PRESENT	100%	97	36	12	8	4	1	-	1

NOTE: ROWS DO NOT SUM TO TOTAL BECAUSE OF MULTIPLE ENERGY SOURCES. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 19C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY ENERGY SOURCES SUPPLIED TO THE BUILDING - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	ENERGY SOURCES							
		ELECTRICITY	NATURAL GAS	FUEL OIL/ KEROSENE	LIQUID PETROLEUM GAS	WOOD	COAL	STEAM	OTHER
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE									
1,000 OR LESS	16	15	8	10	23	15	9	1	-
1,001 TO 5,000	41	41	40	37	38	51	51	11	16
5,001 TO 10,000	19	19	21	22	19	20	11	10	27
10,001 TO 25,000	14	14	17	17	11	13	16	22	30
25,001 TO 50,000	6	6	7	7	4	-	4	21	7
50,001 TO 100,000	3	3	4	4	3	-	6	15	13
OVER 100,000	2	2	3	4	2	1	3	21	6
YEAR CONSTRUCTED									
1900 OR BEFORE	8	8	10	12	8	13	12	9	5
1901 TO 1920	10	10	13	11	11	8	12	19	3
1921 TO 1945	20	19	22	24	16	24	33	20	14
1946 TO 1960	25	25	24	27	29	24	25	25	13
1961 TO 1970	19	19	18	14	12	10	7	15	26
1971 TO 1973	6	6	5	4	8	4	6	8	7
1974 TO PRESENT	13	13	8	8	15	16	5	4	34

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 20A. NONRESIDENTIAL BUILDING: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY GLASS AS PERCENTAGE OF EXTERIOR SURFACE - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	GLASS AS PERCENTAGE OF EXTERIOR SURFACE			
		75% OR MORE	AT LEAST 50% BUT LESS THAN 75%	AT LEAST 25% BUT LESS THAN 50%	LESS THAN 25%
NONRESIDENTIAL BUILDINGS	4,238	56	257	1,036	2,889
SQUARE FOOTAGE					
1,000 OR LESS	677	8	42	143	484
1,001 TO 5,000	1,729	12	77	413	1,228
5,001 TO 10,000	801	14	48	207	533
10,001 TO 25,000	596	11	40	146	399
25,001 TO 50,000	237	3	27	64	143
50,001 TO 100,000	121	4	12	37	68
OVER 100,000	78	5	12	27	34
YEAR CONSTRUCTED					
1900 OR BEFORE	329	-	22	98	208
1901 TO 1920	432	2	29	124	277
1921 TO 1945	829	14	46	188	581
1946 TO 1960	1,064	9	67	258	730
1961 TO 1970	789	20	54	196	518
1971 TO 1973	235	4	14	49	168
1974 TO PRESENT	561	8	25	122	406

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 20B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY GLASS AS PERCENTAGE OF EXTERIOR SURFACE - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	GLASS AS PERCENTAGE OF EXTERIOR SURFACE			
		75% OR MORE	AT LEAST 50% BUT LESS THAN 75%	AT LEAST 25% BUT LESS THAN 50%	LESS THAN 25%
NONRESIDENTIAL BUILDINGS	100%	1	6	24	68
SQUARE FOOTAGE					
1,000 OR LESS	100%	1	6	21	72
1,001 TO 5,000	100%	1	4	24	71
5,001 TO 10,000	100%	2	6	26	67
10,001 TO 25,000	100%	2	7	24	67
25,001 TO 50,000	100%	1	11	27	60
50,001 TO 100,000	100%	3	10	31	56
OVER 100,000	100%	6	15	34	44
YEAR CONSTRUCTED					
1900 OR BEFORE	100%	-	7	30	63
1901 TO 1920	100%	-	7	29	64
1921 TO 1945	100%	2	6	23	70
1946 TO 1960	100%	1	6	24	69
1961 TO 1970	100%	3	7	25	66
1971 TO 1973	100%	2	6	21	72
1974 TO PRESENT	100%	1	4	22	72

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 20C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY GLASS AS PERCENTAGE OF EXTERIOR SURFACE - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	GLASS AS PERCENTAGE OF EXTERIOR SURFACE			
		75% OR MORE	AT LEAST 50% BUT LESS THAN 75%	AT LEAST 25% BUT LESS THAN 50%	LESS THAN 25%
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%
SQUARE FOOTAGE					
1,000 OR LESS	16	13	16	14	17
1,001 TO 5,000	41	21	30	40	43
5,001 TO 10,000	19	25	18	20	18
10,001 TO 25,000	14	20	16	14	14
25,001 TO 50,000	6	6	10	6	5
50,001 TO 100,000	3	7	5	4	2
OVER 100,000	2	8	5	3	1
YEAR CONSTRUCTED					
1900 OR BEFORE	8	1	9	10	7
1901 TO 1920	10	3	11	12	10
1921 TO 1945	20	24	18	18	20
1946 TO 1960	25	15	26	25	25
1961 TO 1970	19	36	21	19	18
1971 TO 1973	6	6	5	5	6
1974 TO PRESENT	13	14	10	12	14

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 21A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY NUMBER OF PEOPLE WORKING IN THE BUILDING - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF PEOPLE				
		LESS THAN 10	10 TO 19	20 TO 49	50 TO 99	100 OR MORE
NONRESIDENTIAL BUILDINGS	4,238	3,035	516	427	142	119
SQUARE FOOTAGE						
1,000 OR LESS	677	657	18	2	-	-
1,001 TO 5,000	1,729	1,487	175	54	12	1
5,001 TO 10,000	801	531	157	94	16	2
10,001 TO 25,000	596	263	122	154	37	20
25,001 TO 50,000	237	69	28	84	31	23
50,001 TO 100,000	121	21	12	31	30	26
OVER 100,000	78	6	3	8	15	46
YEAR CONSTRUCTED						
1900 OR BEFORE	329	271	33	17	4	6
1901 TO 1920	432	313	57	40	11	11
1921 TO 1945	829	622	91	78	19	18
1946 TO 1960	1,064	818	116	83	26	21
1961 TO 1970	789	522	115	89	34	30
1971 TO 1973	235	135	31	40	18	11
1974 TO PRESENT	561	355	73	81	30	22

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 21B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY NUMBER OF PEOPLE WORKING IN THE BUILDING - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF PEOPLE				
		LESS THAN 10	10 TO 19	20 TO 49	50 TO 99	100 OR MORE
NONRESIDENTIAL BUILDINGS	100%	72	12	10	3	3
SQUARE FOOTAGE						
1,000 OR LESS	100%	97	3	-	-	-
1,001 TO 5,000	100%	86	10	3	1	-
5,001 TO 10,000	100%	66	20	12	2	-
10,001 TO 25,000	100%	44	20	26	6	3
25,001 TO 50,000	100%	29	12	36	13	10
50,001 TO 100,000	100%	18	10	26	25	22
OVER 100,000	100%	8	4	10	19	59
YEAR CONSTRUCTED						
1900 OR BEFORE	100%	82	10	5	1	2
1901 TO 1920	100%	72	13	9	3	2
1921 TO 1945	100%	75	11	9	2	2
1946 TO 1960	100%	77	11	8	2	2
1961 TO 1970	100%	66	15	11	4	4
1971 TO 1973	100%	57	13	17	8	5
1974 TO PRESENT	100%	63	13	14	5	4

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 21C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY NUMBER OF PEOPLE WORKING IN THE BUILDING - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	NUMBER OF PEOPLE				
		LESS THAN 10	10 TO 19	20 TO 49	50 TO 99	100 OR MORE
NONRESIDENTIAL BUILDINGS	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE						
1,000 OR LESS	16	22	3	-	-	-
1,001 TO 5,000	41	49	34	13	9	1
5,001 TO 10,000	19	18	31	22	11	2
10,001 TO 25,000	14	9	24	36	26	17
25,001 TO 50,000	6	2	6	20	22	20
50,001 TO 100,000	3	1	2	7	21	22
OVER 100,000	2	-	1	2	10	39
YEAR CONSTRUCTED						
1900 OR BEFORE	8	9	6	4	3	5
1901 TO 1920	10	10	11	9	8	9
1921 TO 1945	20	21	18	18	13	15
1946 TO 1960	25	27	23	19	18	17
1961 TO 1970	19	17	22	21	24	25
1971 TO 1973	6	4	6	9	13	10
1974 TO PRESENT	13	12	14	19	21	18

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 22A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HOURS OF OPERATION FOR A TYPICAL WEEK - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	HOURS OF OPERATION FOR A TYPICAL WEEK				
		39 OR FEWER HOURS	40 TO 48 HOURS	49 TO 60 HOURS	61 TO 84 HOURS	MORE THAN 84 HOURS
NONRESIDENTIAL BUILDINGS.	4,238	857	1,047	960	629	746
SQUARE FOOTAGE						
1,000 OR LESS	677	244	139	106	88	100
1,001 TO 5,000	1,729	367	431	400	233	299
5,001 TO 10,000	801	145	224	199	118	115
10,001 TO 25,000	596	69	153	150	115	110
25,001 TO 50,000	237	25	53	60	40	59
50,001 TO 100,000	121	5	32	32	22	29
OVER 100,000	78	3	15	13	13	33
YEAR CONSTRUCTED						
1900 OR BEFORE	329	81	88	80	40	41
1901 TO 1920	432	92	108	97	69	66
1921 TO 1945	829	195	205	207	100	123
1946 TO 1960	1,064	233	268	250	139	174
1961 TO 1970	789	140	185	162	133	169
1971 TO 1973	235	32	58	46	48	51
1974 TO PRESENT	561	85	134	119	101	122

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 22B. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HOURS OF OPERATION FOR A TYPICAL WEEK - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	HOURS OF OPERATION FOR A TYPICAL WEEK				
		39 OR FEWER HOURS	40 TO 48 HOURS	49 TO 60 HOURS	61 TO 84 HOURS	MORE THAN 84 HOURS
NONRESIDENTIAL BUILDINGS.	100%	20	25	23	15	18
SQUARE FOOTAGE						
1,000 OR LESS.	100%	36	21	16	13	15
1,001 TO 5,000.	100%	21	25	23	14	17
5,001 TO 10,000.	100%	18	28	25	15	14
10,001 TO 25,000.	100%	12	26	25	19	18
25,001 TO 50,000.	100%	10	22	25	17	25
50,001 TO 100,000.	100%	4	27	26	18	24
OVER 100,000.	100%	4	20	16	17	42
YEAR CONSTRUCTED						
1900 OR BEFORE.	100%	25	27	24	12	12
1901 TO 1920.	100%	21	25	22	16	15
1921 TO 1945.	100%	23	25	25	12	15
1946 TO 1960.	100%	22	25	23	13	16
1961 TO 1970.	100%	18	24	21	17	21
1971 TO 1973.	100%	14	25	19	21	22
1974 TO PRESENT.	100%	15	24	21	18	22

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 22C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY HOURS OF OPERATION FOR A TYPICAL WEEK - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	HOURS OF OPERATION FOR A TYPICAL WEEK				
		39 OR FEWER HOURS	40 TO 48 HOURS	49 TO 60 HOURS	61 TO 84 HOURS	MORE THAN 84 HOURS
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%	100%
SQUARE FOOTAGE						
1,000 OR LESS	16	28	13	11	14	13
1,001 TO 5,000	41	45	41	42	37	40
5,001 TO 10,000	19	17	21	21	19	15
10,001 TO 25,000	14	8	15	16	18	15
25,001 TO 50,000	6	3	5	6	6	8
50,001 TO 100,000	3	1	3	3	4	4
OVER 100,000	2	-	1	1	2	4
YEAR CONSTRUCTED						
1900 OR BEFORE	8	9	8	8	6	5
1901 TO 1920	10	11	10	10	11	9
1921 TO 1945	20	23	20	22	16	16
1946 TO 1960	25	27	26	26	22	23
1961 TO 1970	19	16	18	17	21	23
1971 TO 1973	6	4	6	5	8	7
1974 TO PRESENT	13	10	13	12	16	16

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 23A. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY OCCUPANCY CHARACTERISTICS - ESTIMATED NUMBERS IN THOUSANDS

BUILDING CHARACTERISTICS	TOTAL	OCCUPANCY CHARACTERISTICS			
		SINGLE ESTABLISHMENT BUILDING		MULTIPLE ESTABLISHMENT BUILDING	
		OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT	OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT
NONRESIDENTIAL BUILDINGS.	4,238	2,308	1,216	440	274
SQUARE FOOTAGE					
1,000 OR LESS	677	417	225	22	12
1,001 TO 5,000	1,729	925	573	156	76
5,001 TO 10,000	801	432	187	104	78
10,001 TO 25,000	596	290	152	92	62
25,001 TO 50,000	237	128	45	38	26
50,001 TO 100,000	121	72	24	13	12
OVER 100,000	78	43	11	16	8
YEAR CONSTRUCTED					
1900 OR BEFORE	329	166	82	60	20
1901 TO 1920	432	228	110	42	52
1921 TO 1945	829	407	281	95	46
1946 TO 1960	1,064	582	346	88	48
1961 TO 1970	789	438	224	75	52
1971 TO 1973	235	136	57	25	17
1974 TO PRESENT	561	352	116	55	39

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 238. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY OCCUPANCY CHARACTERISTICS - PERCENTAGE OF ROW TOTALS

BUILDING CHARACTERISTICS	TOTAL	OCCUPANCY CHARACTERISTICS			
		SINGLE ESTABLISHMENT BUILDING		MULTIPLE ESTABLISHMENT BUILDING	
		OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT	OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT
NONRESIDENTIAL BUILDINGS.	100%	54	29	10	6
SQUARE FOOTAGE					
1,000 OR LESS.....	100%	62	33	3	2
1,001 TO 5,000.....	100%	53	33	9	4
5,001 TO 10,000.....	100%	54	23	13	10
10,001 TO 25,000.....	100%	49	25	15	10
25,001 TO 50,000.....	100%	54	19	16	11
50,001 TO 100,000.....	100%	59	20	11	10
OVER 100,000.....	100%	56	14	21	10
YEAR CONSTRUCTED					
1900 OR BEFORE.....	100%	51	25	18	6
1901 TO 1920.....	100%	53	26	10	12
1921 TO 1945.....	100%	49	34	12	6
1946 TO 1960.....	100%	55	33	8	5
1961 TO 1970.....	100%	55	28	9	7
1971 TO 1973.....	100%	58	24	11	7
1974 TO PRESENT.....	100%	63	21	10	7

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "—" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

TABLE 23C. NONRESIDENTIAL BUILDINGS: TOTAL SQUARE FOOTAGE AND YEAR CONSTRUCTED BY OCCUPANCY CHARACTERISTICS - PERCENTAGE OF COLUMN TOTALS

BUILDING CHARACTERISTICS	TOTAL	OCCUPANCY CHARACTERISTICS			
		SINGLE ESTABLISHMENT BUILDING		MULTIPLE ESTABLISHMENT BUILDING	
		OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT	OCCUPIED BY OWNER OR AGENT	NOT OCCUPIED BY OWNER OR AGENT
NONRESIDENTIAL BUILDINGS.	100%	100%	100%	100%	100%
SQUARE FOOTAGE					
1,000 OR LESS	16	18	19	5	4
1,001 TO 5,000	41	40	47	35	28
5,001 TO 10,000	19	19	15	24	28
10,001 TO 25,000	14	13	12	21	23
25,001 TO 50,000	6	6	4	9	10
50,001 TO 100,000	3	3	2	3	4
OVER 100,000	2	2	1	4	3
YEAR CONSTRUCTED					
1900 OR BEFORE	8	7	7	14	7
1901 TO 1920	10	10	9	9	19
1921 TO 1945	20	18	23	22	17
1946 TO 1960	25	25	28	20	18
1961 TO 1970	19	19	18	17	19
1971 TO 1973	6	6	5	6	6
1974 TO PRESENT	13	15	10	13	14

NOTE: DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. A DASH "-" REPRESENTS OR ROUNDS TO ZERO. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX A FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL DATA SYSTEMS DIVISION, OFFICE OF THE CONSUMPTION DATA SYSTEM, ASSISTANT ADMINISTRATOR FOR PROGRAM DEVELOPMENT, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

A. LIMITATIONS OF THE DATA

Data from the Nonresidential Buildings Energy Consumption Survey are subject to many sources of sampling error, nonsampling error, and bias. Sampling error is a measure of the variability in the data because a subset of buildings was surveyed rather than the entire population. Because the survey used probability sampling techniques, it is possible to estimate sampling errors of the survey estimates and use these sampling errors as a guide in making inferences from the sample observations to the total population. (These topics are discussed in later sections of the Appendix.) Nonsampling error and bias are measures of variability in survey data due to the conduct of the survey. They can include respondent bias and response variance, interviewer error, coding and/or punching error, and nonresponse bias. Estimates of variance and bias due to these sources of error are not available for this survey. The wording and format of the survey questionnaires, the procedures used to select and train interviewers, and the quality control built into the data collection, data receipt, and data processing operations were all designed to minimize these sources of error (for discussion of these procedures, see Appendix B--How the Survey Was Conducted).

One way to judge the validity of survey estimates is to compare them with similar types of estimates from other sources. However, since no national counts of the nonresidential building stock exist, and since no national probability sample surveys of this population are known to have been previously undertaken, such comparisons cannot be made. The lack of prior information also made it impossible to use techniques such as ratio estimation or post-stratification in the estimator. These techniques, which can help to increase the precision of survey estimates, could not be used because there were no benchmark values of buildings, or variables correlated with buildings, that were available to make such adjustments.

Computation of Sampling Errors

The complex multi-stage, multi-frame design of the survey makes it virtually impossible to construct an exact algebraic variance estimator. The method used to produce variances for this survey is balanced half-sample replication (see References 1 and 2). In order to apply the half-sample technique to this survey, the 79 sample primary sampling units (PSU's) were grouped into 37 strata. Eighteen of the strata were self-representing; that is, they consisted of large metropolitan areas that came into the sample with certainty. In these strata, segments were divided into two replication groups. Each of the remaining 19 strata consisted of two or more sample PSU's belonging to the same Census region. The two replication groups in these strata consisted of one or more PSU's each.

Variance estimates for selected survey statistics were created by computing 40 half-sample estimates for each statistic. Each half-sample estimate was formed by selecting one of the two replication groups from each stratum using

an orthogonal matrix technique adapted from an article by Plackett and Burman (Reference 3). Then the sampling weights were adjusted so that the half-sample estimates would be essentially unbiased estimates of the corresponding population parameter, as was the estimate based on the entire national sample.

The variance estimate for the survey estimate X′ of characteristic X is given by:

$$s^2_{X'} = \frac{1}{40} \sum_{i=1}^{40} (X'_i - X')^2$$

where X'_i is the i^{th} half-sample estimate of X.

Summary and Display of Sampling Errors

Instead of displaying a computed error estimate for every statistic in this report, the variances are summarized in the error curves shown in Figures 1 and 2.

There are two reasons why the summary curves are used:

(1) Showing an error estimate for every statistic in the detailed tables would mean producing an error table for each detailed table, thus doubling the size of the report.

(2) Because the half-sample variance estimates are themselves subject to sampling error, certain variance estimates would be misleading simply because they are outliers.

The error curves were constructed from variance estimates computed for selected statistics in the report by a least squares fit of the log-linear model

$$\log [RSE\ (X')] = A + B\ [\log\ (X')]$$

where A and B are the parameters whose least squares estimates determine the shape of the curve, and RSE (X′), the relative standard error of X′, is given by

$$RSE\ (X') = \frac{S_{X'}}{X'}.$$

Thus the standard error of X′, the error form used in the text of this report, is given by

$$S_{X'} = RSE\ (X') \cdot X'. \qquad (A)$$

FIGURE 1—RELATIVE STANDARD ERRORS FOR NATIONAL ESTIMATES OF NUMBER OF BUILDINGS

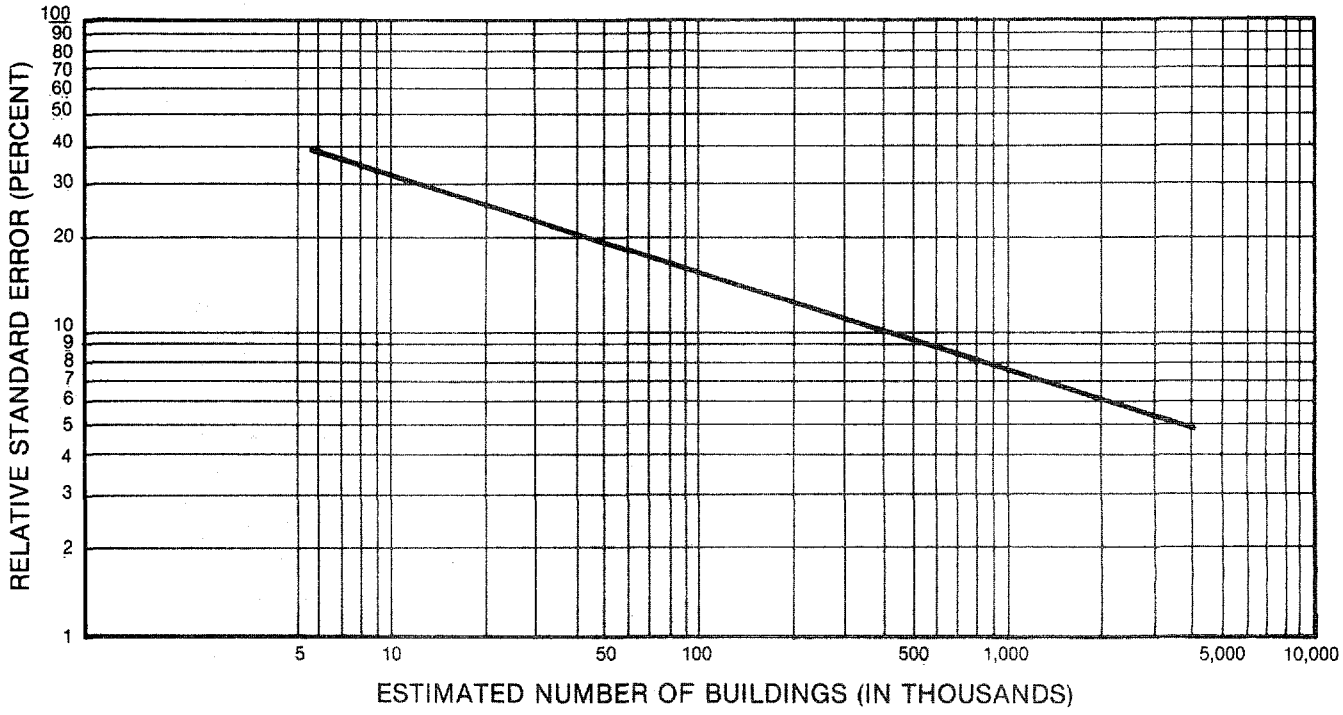
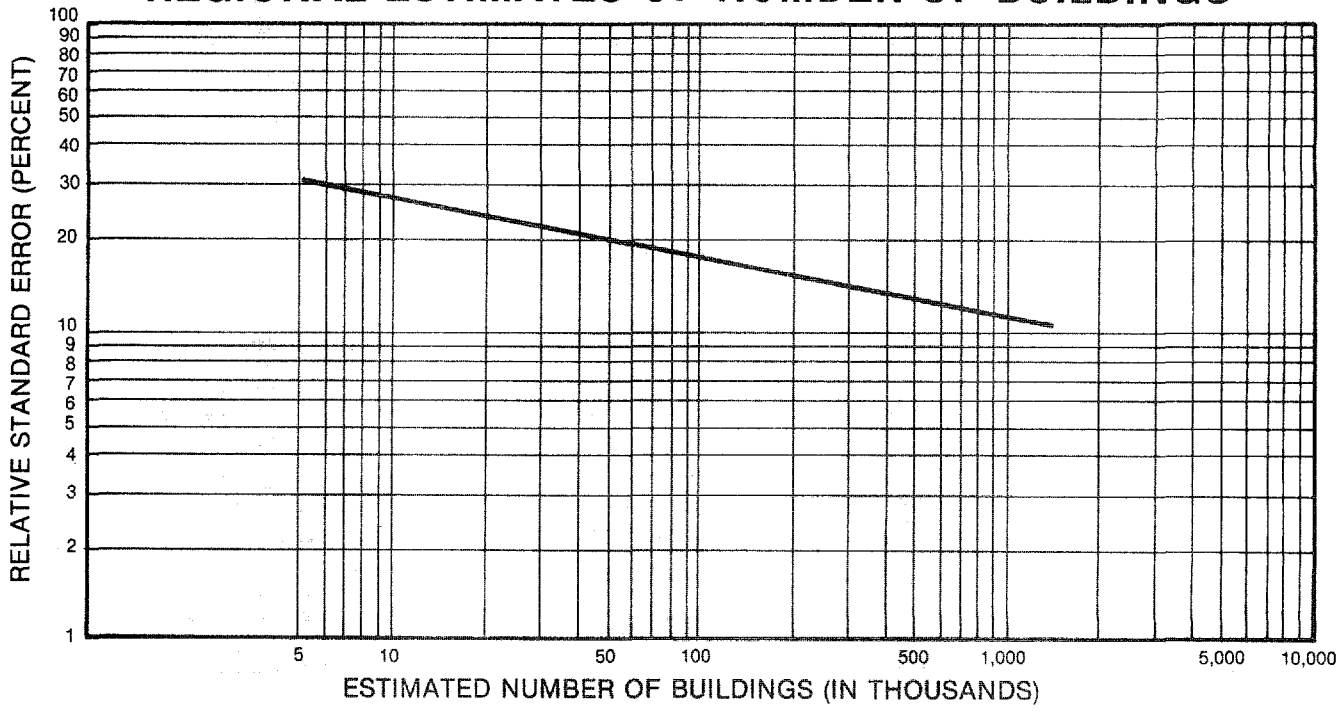


FIGURE 2—RELATIVE STANDARD ERRORS FOR REGIONAL ESTIMATES OF NUMBER OF BUILDINGS



Separate curves are shown for estimates within a region and estimates over all regions since the clustered design of the sample tends to make regional estimates more variable than national estimates of the same magnitude.

Use of Error Curves

Standard error estimates for any aggregate statistic (number of buildings) in this report can be produced directly from the error curves in Figures 1 and 2. For example, Table 8A shows that an estimated 356,000 office buildings are supplied with natural gas. By reading up from the 356,000 value on the horizontal axis of Figure 1 and then to the left to the vertical axis, the RSE is 10 percent, or the standard error is (.10) (356,000) = 35,600. In Table 1A there are an estimated 139,000 food sales buildings in the South region. By reading up from the 139,000 value on the horizontal axis of Figure 2 and then to the left to the vertical axis, the RSE is 16 percent, or the standard error is (.16) (139,000) = 22,240.

Standard error estimates for percentage statistics can be produced indirectly from the error curves using the approximation

$$RSE\ (X'/Y') = \sqrt{RSE^2(X') - RSE^2(Y')} \qquad (B)$$

For example, Table 11B shows that 26 percent of all "automotive sales and service" buildings are open from 61 to 84 hours in a typical week. This 26 percent statistic is based upon a numerator of 106,000 buildings and a denominator of 401,000 buildings, from Table 11A. Using the curve in Figure 1 in the manner previously described, the RSE of 106,000 is 15 percent while the RSE of 401,000 is 10 percent. Therefore, the estimated RSE of the 26 percent statistic is

$$RSE\ (.26) = \sqrt{(.15)^2 - (.10)^2} \approx 0.11$$

and the standard error is (.11) (26) = 2.9 percent.

Using Standard Errors to Test Statistical Hypotheses

The analytical statements in this report can be divided into three types. The first type is the expository statement, which presents a statistic for its own sake, without reference or comparison to any other statistic. An example of such a statement is found in the first sentence under "Summary of Findings": " ... there were an estimated 4,238,000 ($\pm$ 398,000) nonresidential buildings in the United States". No statistical tests of hypothesis are needed or were performed for such statements; twice the standard error is given in parentheses after the estimate. This value serves as a measure of the level of variability in the statistic, and allows the reader to compute an approximate 95 percent confidence interval for the estimate by adding and subtracting the value in parentheses.

The second type of statement is the descriptive statement, which is intended as a summary statement of a data relationship or relationships that exist in a table. An example of this type of statement is found in the first sentence of the last paragraph of the text section entitled, "Square Footage": "Finally, larger buildings are more likely to be open for very long hours, and less likely to be open for very short hours, than are smaller buildings". Such statements are meant to give general impressions and are not subject to statistical justification.

The third, and most commonly occurring type of statement, is the stated or implied comparision between two or more statistics. Such comparisons are meant to point out specific similarities and differences between population subgroups, sometimes in support of the summary statements discussed above. Since these statements imply specific relationships among population subgroups based on sample data, they are inferential, and subject to statistical testing. Examples of such comparisons are

(1) Sentence 2 in paragraph 4 under "Summary of Findings": "The second most often-used fuel is natural gas, which is supplied to 2,413,000 buildings (± 270,000), or 57 percent (± 3.5) of the total building stock".

(2) The last sentence of paragraph 4 under "Year Constructed": "The proportion of buildings that use natural gas decreases from 73 percent (± 5.4) of buildings built before 1920 to 36 percent (± 5.9) of buildings built after 1973, while the proportion using fuel oil/kerosene decreased from 31 percent (± 6.7) of buildings built before 1900 to 12 percent (± 3.5) of buildings built after 1973.

Example 1 implies that the number of buildings supplied with natural gas was compared to the number supplied with all other fuels. The number supplied with natural gas was found to be smaller than the number supplied with electricity and larger than the number supplied with each other fuel. Example 2 specifically states the two comparisons of interest.

The test used to check this kind of statement is the standard normal deviate test. In order to test the significance of the difference between estimates X' and Y', X' and Y' are assumed to be normally distributed by appeal to the Central Limit Theorem. Then the test statistic

$$Z_{X',Y'} = \frac{X' - Y'}{\sqrt{S_{X'}^2 + S_{Y'}^2}} \qquad (C)$$

is computed, with Z having approximately a standard normal distribution. The null hypothesis, that there is no difference between X' and Y', is rejected if $|Z_{X',Y'}|$ is greater than some critical value G. In this report, G is set so that the level of significance of the test (the probability of incorrectly detecting a significant difference) is .05. Ordinarily, this level of significance corresponds to a critical value of 1.96, and when a comparison is the only possible one of its type, 1.96 is the correct value. However, most of the statements in this report involve comparisons that were selected from a larger set of C possible comparisons, each of which had an opportunity to be tested and falsely yield a significant difference. In order to attain a true level of significance no greater than .05 for a particular test from such a set, the critical value G was adjusted so that the probability of falsely detecting any significant difference was .05/C. The rationale for this adjustment is based on the Bonferroni inequality, and is discussed elsewhere (see References 4 and 5).

The normal test of an hypothesis with adjusted critical value can be applied to the examples as follows:

(1) The statement that natural gas is the second most often-used fuel implies significant differences in comparisons between it and all other fuel types shown in Table 8A.

The following data can be collected from Figure 1 and Table 8A:

Type of Fuel	Estimated No. of Bldgs. Supplied (in Thousands)	RSE of Estimate (Percent)	Standard Error of Estimate (in Thousands)
Electricity	4,109	4.7	193
Natural gas	2,413	5.6	135
Fuel oil/kerosene	872	7.7	67
Liquid petroleum gas	317	10.5	33
Wood	119	14.3	17
Coal	62	17.5	11
Steam	44	19.5	8.6
Other fuels	23	24.0	5.5

The number of possible comparisons among the 8 fuel categories in Table 22 is the combinatorial $\binom{8}{2} = 28$, so the critical value for all tests is the normal two-tailed $^{.05}/_{28} = .0018$ critical value which, from the standard normal tables, is 3.12.

The test statistic for the comparison between electricity and natural gas is

$$Z = \frac{4,109 - 2,413}{\sqrt{(193)^2 + (135)^2}} = \frac{1696}{235.529} = 7.20$$

The Z value exceeds the critical value of 3.12, so the difference is significant. Similarly, the comparisons between natural gas and the remaining fuel sources can be shown to have Z values exceeding 3.12. Therefore, the statement is justified.

(2) Example 2 comes from Table 19B. The number of possible comparisons between specific ranges of year of construction is the combinatorial $\binom{7}{2} = 21$ for each fuel type. Since comparisons could be made for each of the 8 fuels, the total number of possible comparisons underlying this statement is 8 x 21 = 168. Thus the critical value for all comparisons is the two-tailed $^{.05}/_{168} = .0003$ critical value, which is 3.61.

The estimates and error values in Example 2 can be used to perform the required tests. The error values must be divided by 2 to apply the tests, because they represent two standard errors. The test statistics for the two differences implied by the statement as being significant are

$$Z_1 = \frac{73 - 36}{\sqrt{(2.7)^2 + (2.95)^2}} = \frac{37}{4} = 9.25$$

$$Z_2 = \frac{31 - 12}{\sqrt{(3.35)^2 + (1.75)^2}} = \frac{19}{3.78} = 5.03$$

Since both Z values are greater than 3.61, both differences are significant and the statement is justified.

References

1. National Center for Health Statistics: "Replication: An Approach to the Analysis of Data From Complex Surveys." Vital and Health Statistics. Public Health Service Publication No. 1000 - Series 2 - No. 14., Washington: U.S. Government Printing Office, April 1966.

2. National Center for Health Statistics: "Pseudoreplication: Further Evaluation and Application of the Balanced Half-Sample Technique," Vital and Health Statistics. Public Health Service Publication No. 1000 - Series 2 - No. 31. Washington: U.S. Government Printing Office, January 1969.

3. Plackett, R.L., and Burman, J.P.: "The Design of Optimum Multifactorial Experiments." Biometrika 33: pp. 305-325, 1946.

4. Miller, R. G.: Simultaneous Statistical Inference. New York: McGraw-Hill Book Co., 1966.

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B. HOW THE SURVEY WAS CONDUCTED

Introduction

The Nonresidential Buildings Energy Consumption Survey was designed by the Energy Information Administration (EIA) to provide information related to energy consumption in nonresidential buildings, primarily those in the commercial sector. This survey, along with analogous studies for the residential and industrial sectors, will enable the analysis of comprehensive consumption patterns for the United States.

Information on energy use in the commercial sector was collected at the building level. A representative sample of buildings was selected in the 48 contiguous States plus the District of Columbia. The data on actual energy consumption is currently being collected from fuel records maintained by the buildings' fuel suppliers. Energy consumption data will also be obtained for establishments within surveyed buildings when they are separately metered, but their totals will be aggregated to the building total. The results of this phase of the survey will be available in winter 1981.

Sample Design

The building sample is a multi-stage, representative area probability sample consisting of 79 primary sampling units (PSU's). The approximately 3,100 counties and independent cities of the contiguous United States were grouped into about 1,900 PSU's by the Census Bureau for its Current Population Survey. These PSU's, with some modifications, were used to construct the first-stage area-sampling frame. All PSU's having a 1970 population of over 1.85 million were designated as self-representing; that is, they were chosen with certainty. Each nonself-representing PSU was placed in a stratum on the basis of metropolitan status, region, various size measures, and socio-economic status. The 79 sample PSU's were selected with probabilities proportionate to their 1970 population.

The sample PSU's were then divided into secondary sampling units corresponding to zip codes or groups of zip codes. Procedures were designed to handle zip codes that overlapped county boundaries and/or zip codes that were assigned to large commercial establishments or Government agencies.

Each zip code was assigned a measure of size based jointly on summary data from the 1975 County Business Patterns (CBP) and on proprietary commercial data related to office machines. The CBP data were counts of establishments by 2-digit Standard Industrial Classification (SIC)

code and employment size according to zip code. The measure of size assigned to a zip code was an integer equal to the number of segments into which a zip code would be divided if drawn into the sample. The sizes were assigned in such a way that segments would contain an average of 120 establishments based on the CBP tabulations. After assignments of the measures of size were made, a sample of about five zip code groups was selected in each PSU with probabilities proportionate to the number of segments in each zip code group, giving a total second-stage sample of about 400 zip code groups.

The sample of third-stage units consisted of approximately 400 segments, one selected from each of the sampled zip code areas. The selection of the segments was done in such a way that one percent of all segments in the contiguous United States was included in the sample, each having an equal chance of being selected. In zip code groups with measures of size of 6 or more, the segments were compact areas. It was feasible to define area segments within these selected zip code groups on the basis of prior field work done in the selected zip codes. In the zip code groups with smaller measures of size, the segments were, in effect, selected from listings made for the complete zip code group.

Nonresidential buildings were selected from the area segments at the fourth-stage of sampling. With a few exceptions, a nonresidential building was defined as a structure that (1) was totally enclosed by walls that extend from the foundation to the roof line, and (2) housed some type of nonresidential activity. The first step in the selection process was to do a field canvass to identify and list the addresses of all in-scope buildings within each sampled segment. As part of the listing procedure, the lister made rough estimates based on observation of descriptive information related to energy usage, including square footage and general use. This information was used to categorize buildings for subsampling. About 75,000 buildings were listed (this includes the extra listings in zip code groups with measures of less than 6) from which approximately 5,800 buildings were selected for interview. Subsampling fractions from the one percent sample of segments varied from 1 in 1 for buildings having measures of size of 50,000 or more square feet as assigned by the lister, to 1 in 20 for small buildings (less than 10,000 square feet) of certain types.

Another part of the sampling procedure entailed the location of "large" buildings within the sampled PSU's and placing them on a Special Building List. "Large" buildings were defined as those with 250,000 or more square feet of enclosed floor space in PSU's that are Standard Metropolitan Statistical Areas (SMSA). In the remaining one-third of the PSU's, buildings of 100,000 square feet or more were listed. The list of large buildings was compiled through inquiries with chambers of commerce and other local sources. Some of the large buildings listed were clusters of buildings such as a university campus. About 3,200 buildings (or building clusters) were included on the Special Building List and approximately 1,200 of them were included in the sample. In those cases where

the selected unit consisted of a cluster of buildings, the individual buildings were listed and subsampled at rates designed to yield the desired overall selection probabilities. Large buildings sampled from the area sample list were checked against the Special Building List to identify duplicates and assign them appropriate selection probabilities.

A total of 547 sampled buildings were ineligible for interview. Buildings were designated as being ineligible for interview for a number of reasons including: (1) duplication; (2) incorrect or multiple listings; (3) sampled structure failed to meet the building definition; and (4) the sampled structure was demolished after the list was prepared. Duplication resulted from duplicate sample selections from the area sample and the sample selections from the list of large buildings.

Buildings were listed incorrectly or as multiple listings for several reasons. First, the area-sampling technique required that most buildings be listed by observation. Therefore, it was not always possible to determine the exact scope of a building until the interviewing phase, when contact was made with a building owner/manager. Secondly, since the list of large buildings was obtained through telephone contacts, what was reported over the telephone to be one building frequently turned out to be a group of buildings. Buildings that did not meet the study definition (e.g., totally residential buildings) were also considered out of scope.

Weights were calculated for each sample building to: (1) reflect the reciprocals of the probabilities of selection, and (2) adjust for differences in the interview completion rate for different classes of buildings. The overall response rate in the survey was 92 percent, but this varied somewhat for various types of sizes of buildings. The weights used in this report may be subject to minor revisions.

Data Collection

The sample consisted of a total of 7,323 buildings. Of these, 6,776 were eligible to be interviewed. Westat, Inc., of Rockville, Maryland conducted the interviews. Extensive follow-up efforts were used in field data collection, and as a result, interviews were initially completed for 91 percent of the eligible buildings. Of those interviewed, 88 percent signed waivers authorizing utility companies to release their buildings' consumption records (see Table 1).

Since the field response was so high, only limited additional follow-up procedures were initiated. In January 1980, an overall refusal-conversion effort was undertaken. An attempt was made to conduct telephone interviews with building owners or managers who had originally refused to be interviewed in person. Calls were made to 197 buildings, and of these, 83 interviews were completed. As a result of this effort, 42 percent of the refusals were converted, and the overall response rate was raised by 1 percentage point, to 92 percent.

During Decmeber 1979, 727 letters were sent to respondents who had completed the interview but did not sign an authorization form to ask them to reconsider their decision. From the waiver-conversion effort, an additional 122 signed waivers were received, 46 refused, and 599 failed to reply. This effort resulted in an overall conversion rate of 17 percent and boosted the waiver response rate by 1 percentage point, to 89 percent.

In addition to these supplemental follow-up efforts, some additional follow-up was done for a few selected data items that were missing or inconsistent in completed questionnaires. Certain items in the building questionnaire, such as size, building activity, and the names and addresses of fuel suppliers, were designated as being crucial. If any of the crucial items were missing, a telephone call was made to the respondent to try to obtain this information as well as any other missing data.

Initial contacts with the building owners and managers were made through a letter signed by the EIA Administrator. The letter introduced the data collection contractor, stressed the importance of cooperation, and assured the confidentiality of responses.

The building interviews were conducted between October 1979 and January 1980. Respondents were asked about the building as a whole, rather than individual establishments located within the building. Professionals in the areas of architecture, building operations, engineering, statistics, and survey research were consulted during the development of the interview questionnaire. The interviews averaged 50 minutes and covered: structural and operational building features; types of heating, cooling, and ventilation systems; fuel used in these systems and patterns of usage; and a description of the activities found in the building. At the conclusion of the interview, respondents were asked to sign waivers authorizing Westat, Inc., to obtain fuel consumption records from the buildings' fuel suppliers.

Nearly 90 percent of the respondents signed waivers to permit fuel suppliers to give Westat, Inc., monthly records of their fuel purchases for the past 14 months. Information was requested on the amount sold, the price of the fuel, and the billing dates. The suppliers of electricity and natural gas were contacted by mail beginning in August 1979. Two letters were sent to each company. The first, signed by the EIA Administrator, explained the legal authority and need for the data collection. The second letter introduced Westat, Inc., the data collection contractor, and discussed the data collection procedures and the kind of information that would be requested. Follow-up telephone calls were initiated in October 1979 to insure the receipt of the letters and to establish a personal contact with the appropriate utility company representative.

After the building interviews were completed and the signed waivers were received, approximately 230 electric and natural gas companies and about 1,300 fuel oil and other energy suppliers were identified for participation.

At the end of February 1980, each supplier was sent a packet containing instructions and explanations, signed waivers, and data-retrieval forms. Follow-up telephone calls were made to the suppliers of electricity and natural gas in March 1980 to make sure the utility companies received the forms, to answer any of their questions, and to obtain an estimated completion date. A letter was then sent to confirm the completion date. If the data were not received within a week of the completion date, a second telephone call was made to deal with any problems that might have arisen and to arrange a second date.

Some buildings had many tenants who were metered and billed separately. Interviewers were instructed to obtain lists of tenants in buildings where establishments were separately metered. If there were three or fewer establishments within a building, the interviewer attempted to get a signed waiver for each establishment. In buildings with four or more establishments, the building owner or manager was asked to sign a waiver releasing the aggregate utility records for the occupants of the building.

Companies were asked to supply limited consumption data for those buildings where an interview was completed but a signed waiver was not obtained. While energy suppliers will not provide individual building data without a waiver, some will provide aggregate data for groups of nonrespondent buildings. This information will be used to analyze the potential bias introduced by nonresponse and to improve the accuracy of consumption estimates in the commercial sector. The results of the utility survey should be available in late 1981.

Adjusting for Nonresponse

The amount of data collected from this survey was reduced by two types of nonresponse: unit nonresponse (e.g., noninterview) and nonresponse to particular items in an otherwise completed interview. As mentioned in the section, "Sample Design", unit nonresponse was handled by adjusting the sampling weights of responding buildings. Item nonresponse for selected building characteristics was treated by imputing data from responding cases, using a separate hot deck procedure for each item. The only data element for which a hot deck procedure was not used was square footage. For this variable, the lister's guess was used, unless that guess was less than 10,000 or greater than 100,000 square feet. When the lister's square footage estimate was in either of these categories, an average unweighted square foot per floor was computed for all responding buildings of the same type in the same size class. This value was then multiplied by the number of floors in the building of interest to produce an estimate of square footage for the building. Most of the imputed building characteristics items had less than two percent nonresponse; two of them (year constructed and square footage) had about three percent nonresponse, and one item (hours of operation) had about seven percent nonresponse.

Field Procedures

Once the sampled zip code groups and segments had been selected, the initial field step was to prepare a listing of building addresses located within the sampled segments (see Sample Design). The sample consisted of approximately 400 segments which were listed by a team of 85 listers. Supervisors attended a 3-day training session during the first week of June 1979. During this session a combination of slides, exercises, lectures, and an actual listing were used as training devices. Supervisors were also given an annotated manual which described the session. This manual was used as a guidebook to supervisors in order to conduct identical training sessions for the listers.

Prior to their training, each lister received a copy of a Listing Manual and a home study package with assignments to be turned in before training began. The supervisors trained 85 listers in 2-day sessions conducted in 9 cities. As soon as possible after the listing procedure began, the supervisors relisted at least one segment for each lister. This verification provided immediate feedback for the lister and corrected any misunderstandings. The check also served to identify any definitional problems or procedural weaknesses.

Once all the segments had been listed, the field supervisors relisted a subsample of 53, not including the segments that had already been checked. The relisting showed that less than one percent of the buildings had been missed. Buildings were usually missed because of questions concerning segment boundaries.

Training for the interview phase began with a 3-day session for supervisors and their assistants in September 1979. Approximately 170 interviewers were trained in 3-day sessions held during October and November 1979. Westat, Inc., conducted the training of both the supervisors and the interviewers utilizing a variety of techniques. The training materials used included: an annotated manual, interactive lectures, role-playing exercises, audio-visual presentations of the interview techniques, and slides relating specific building types to the questionnaire. The supervisors and their assistants functioned as small-group leaders during the interview training.

The completed questionnaires were initially screened by the field supervisors. They were reviewed for completeness, correct identifying information, and ambiguities requiring clarification. The supervisors mailed the completed questionnaires to Westat, Inc., where they were subjected to a similar check. Also at this time, certain data were categorized and some of the more complex data items such as open-ended questions, were put into special processing. After the manual editing, the questionnaires were coded, keypunched, verified, and computerized. A machine edit check was made for reasonable values, proper skip patterns, and logical inconsistencies.

Weather Data

Two types of weather data will be used in conjunction with the building interview and consumption data. The first type is the 54-year annual average heating degree days (HDD) and cooling degree days (CDD) for the National Oceanic and Atmospheric Administration (NOAA) weather division in which the building is located. These data will be used in analyzing the effects of weather on trends in basic building structure and equipment.

The second type of data will be the HDD and CDD totals for each building by billing period. These totals will be calculated for the appropriate billing period. For example, one building may be billed on the 1st of the month, while another may be billed on the 5th. Thus, there will be different 30-day averages of HDD and CDD for each billing period. These data will allow more complete analysis of fuel consumption. Analyses of usage patterns and operation characteristics can be undertaken only if the confounding effects of the weather are controlled.

Table 1. Number and Percent Distribution of Sample Buildings by Building Disposition

Building Disposition	Number	Percent of All Buildings	Percent of Eligible Buildings	Percent of Interviewed Buildings
Total Buildings	7,323	100.0	NA	NA
Not Eligible for Interview	547	7.5	NA	NA
Eligible for Interview	6,776	92.5	100.0	NA
Interviewed	6,222	85.0	91.8	100.0
With Waiver	5,537	NA	NA	89.0
Without Waiver	685	NA	NA	11.0
Not Interviewed	554	7.6	8.2	NA

C. BUILDING QUESTIONNAIRE

OMB NO. 038-S78042
Expires: June 31, 1980
Collected for the
Department of Energy
by Westat, Inc.
0255

NONRESIDENTIAL BUILDING

ENERGY CONSUMPTION STUDY

Hello, I'm _____ from Westat, Inc., a private research firm. We are conducting a study for the Department of Energy about energy consumption in non-residential buildings. May I speak with the building manager or a person knowledgeable about the types of energy coming into the building. May I have his or her name, title and where I might locate that person.

NAME:_____

TITLE: _____

LOCATION: _____ Phone ( ) _____

Hello, I'm _____ from Westat, Inc. a social science research organization. We are conducting a study for the Department of Energy about energy consumption in non-residential buildings. [HAND LETTER.] Although your participation in this survey is voluntary, we do hope you will cooperate and participate in this important study of energy use.

IF ASKED ABOUT CONFIDENTIALITY, READ:

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose, except as required by law.

Interviewer Name_____ **ID No.**_____

0	1	0	0	+					
12	13	14	15	16	17	18	19	20	21

Time Began_____

BOX 1

BASED UPON YOUR OBSERVATION, CHECK ONE BOX AND FOLLOW INSTRUCTION:

☐ IF BUILDING IS FREE-STANDING, IS A SHOPPING CENTER/MALL, OR IS SAMPLED FROM SPECIAL BUILDING LIST, SKIP TO THE TOP OF PAGE 2.

☐ IF BUILDING IS ATTACHED ON ANY SIDE TO ANOTHER BUILDING, CONTINUE.

First of all I need to be able to distinguish, or separate, one building from another.

1. Is the building at [MENTION ADDRESS(ES)], and the building at [MENTION ADDRESS(ES)] owned by the same person or persons?

YES.....1

or

DON'T KNOW.....8

NO.....2

- DEFINITION: CONSIDER EACH SEPARATELY OWNED BUILDING AS A SEPARATE BUILDING.
- IF THE BUILDING IDENTIFIED ON THE LABEL TURNS OUT TO BE TWO OR MORE SEPARATE BUILDINGS AS DEFINED ABOVE, OBTAIN AN INTERVIEW FOR EACH BUILDING.

GO TO BOX 2

2. Are there permanent walls that extend from the ground level to the top story of the building, at [MENTION ADDRESS(ES)] which totally separate it from the building at [MENTION ADDRESS(ES)]?

YES.....1

- DEFINITION: CONSIDER EACH BUILDING SEPARATED BY A PERMANENT WALL AS A SEPARATE BUILDING.
- IF THE BUILDING IDENTIFIED ON THE LABEL TURNS OUT TO BE TWO OR MORE SEPARATE BUILDINGS AS DEFINED ABOVE, OBTAIN AN INTERVIEW FOR EACH BUILDING.

GO TO BOX 2

NO.....2

- CONSIDER CONNECTED BUILDINGS AS ONE BUILDING.
- OBTAIN INTERVIEW AND INCLUDE ALL PARTS THAT ARE TO BE CONSIDERED AS "ONE" BUILDING.

GO TO BOX 2

BOX 2

ORIGINAL LISTING IS:

☐ CORRECT ☐ INCORRECT

The questions I will be asking you will all be about this building. By this building, I am referring to (the structure(s) at [USE NUMBER(S) OR NAME]/the entire shopping center or mall at [USE NUMBER(S) OR NAME]).

3. (IF NAME OF BUILDING IS NOT KNOWN, ASK): What is the correct name and address of this building? (IF KNOWN, SAY): Is the correct name and address of the building: (MENTION NAME AND ADDRESS)? (IF BUILDING HAS NO NAME, ASK, OR VERIFY, NAME OF MAJOR ESTABLISHMENT THAT OCCUPIES BUILDING)

(CHECK ONE)

NAME: _____ ☐ Name of Building

ADDRESS: _____ ☐ Name of Major Establishment in Building

4. What is the phone number of the building (establishment)?

( ) _____
Area Code

5. What is the building's Zip Code?

☐☐☐☐☐
26 27 28 29 30

_____
Zip Code

BOX 3 • IF AREA LISTING: CHECK TO SEE IF YOUR ASSIGNED ZIP CODE AGREES WITH THE BUILDING'S ZIP (CHECK ONE BOX)

☐ AGREES - CONTINUE WITH INTERVIEW

☐ DOES NOT AGREE - CHECK THAT YOU ARE AT THE CORRECT ADDRESS AND WITHIN THE SEGMENT BOUNDARIES. IF SO, CONTINUE WITH INTERVIEW.

• IF SPECIAL BUILDING LIST, CHECK THAT YOU ARE AT CORRECT ADDRESS AND CONTINUE WITH INTERVIEW.

☐ 36

6. Is the building occupied by one, or more than one, organization, company or agency?

One.....1 (Q11)
More than one.....2 (Q7) 37

7. Is there any establishment in this building that receives its mail through any other ZIP code?

Yes.....1 (Q8)
No.....2 (Q11) 38
Don't know.....8 (Q11)

8. Does the establishment that has a different ZIP code occupy 75% or more of the space in this building?

Yes.....1 (Q9)
No.....2 (Q11)
Don't Know.....8 (Q11)

9. What is the name of that establishment?

_____
(Name)

10. What is the ZIP Code for (MENTION NAME OF ESTABLISHMENT)?

_____
(Zip Code)

11. Is (any part of) the building occupied by: (READ CATEGORIES)

	YES	NO	DK
A Federal Government Agency.....	1	2	8
A State Government Agency.....	1	2	8
A Local Government Agency.....	1	2	8

- IF YES IS ANSWERED TO ANY PART OF Q11, ASK Q12.
- OTHERWISE, SKIP TO Q13.

12. Is the building owned by an agency of the Federal, State or local government?

Yes.....1 (BOX 4)
No.....2 (Q13)
Don't know.....8 (Q13)

13. Is the building owner, or his agent, an occupant of this building?

Yes.....1
No.....2

BOX 4

IF YOU KNOW THE NAME, ADDRESS, TELEPHONE NUMBER, AND ZIP CODE OF THE MANAGEMENT OFFICE RECORD THE INFORMATION IN Q14 AND 15, AND THEN SKIP TO Q16, OTHERWISE CONTINUE.

14. Is there a management office that supervises the building?

Yes.....1 (Q15)
No.....2 (Q16)
Don't know.....8 (Q16)

15. (What is/let me verify) the name, address, ZIP code, and phone number of the management office?

Name: _____ ☐ 46

Address: _____

ZIP Code: _____ Telephone: ( )_____

16. I would now like to ask you some questions about the physical characteristics of the building. When was the major or largest portion of the building constructed?

_____ (Q18) ☐☐☐ 47 48 49
Year
Don't know..... 998 (Q17)

17. Here is a card which has several categories of years. Which category in your estimation best applies to the year the largest portion of the building was constructed?

HAND CARD 1

Before 1900..... 01
1901-1920..... 02
1921-1945..... 03 50—51
1946-1960..... 04
1961-1970..... 05
1971-1973..... 06
1974 to present..... 07
Don't know..... 98

18. (IF BUILDING BUILT BEFORE 1974, ASK): In the last five years has any weather stripping or caulking been added to the building shell?
(IF BUILDING BUILT 1974 TO PRESENT, ASK): Since the building was constructed, has any weather stripping or caulking been added to the building shell?

Yes.....1 (Q19)
No.....2 (Q20) 52
Don't know.....8 (Q20)

19. In what year was it last added?

_____ ☐☐☐ 53 54 55
Year
Don't know.....998

20. Has any additional insulation been installed in the roof or walls since the building was constructed?

Yes.....1 (Q21)
No.....2 (Q22) 56
Don't know.....8 (Q22)

21. In what year was the insulation last added?

_____ ☐☐☐ 57 58 59
Year
Don't know.....998

60—80 blank

Begin card 02

22. Thinking of the amount of glass on the exterior surface of the building, would you estimate that glass covers 50% or more of the exterior surface of this building?

Yes.....1 → Is it 75% or more?
Yes.....1
No.....2

No.....2 → Is it 25% or more?
Yes.....3
No.....4

17 ☐
18 ☐

23. Is any of the exterior glass considered to be tinted, reflective, insulated, or the thermal pane type of glass?

Yes.....1 (Q24)
No.....2 (Q26)
Don't know.....8 (Q26)
19

24. Was the tinted, reflective, insulated or thermal pane type of glass installed at the time of construction or added since the building was constructed?

Time of construction..... 1 (Q26)
Since construction.....2 (Q25)
Both.....3 (Q25)
Don't know.....8 (Q26)
20

25. In approximately what year was the tinted, reflective, insulated, or the thermal pane glass most recently installed?

_____ Year
Don't know.....998
21 22 23 ☐☐☐

26. Are there any window awnings or other window-shadings on the outside of the building?

Yes.....1 (Q27a)
No.....2 (Q28)
Don't know.....8 (Q28)
24

27a. Were these window awnings or other shadings installed at the time of construction or added since that time?

Time of construction.....1 (Q28)
Since construction.....2 (Q27b)
Both.....3 (Q27b)
Don't know.....8 (Q28)
25

27b. In approximately what year were these window awnings or shadings most recently installed?

_____ Year
Don't know.....998
26 27 28 ☐☐☐

28. Are there any window shadings on the inside of the building such as shades, drapes, or venetian blinds?

Yes.....1
No.....2
Don't know.....8
29

29. How many floors are in the tallest section of the building? Please include any floors that may be used as a parking garage, basements, or any other floors below ground level.

_____ # of floors

[ ][ ][ ] 90 91 92

30. What is the total square footage of all the space enclosed within the exterior walls of this building? Again, please include indoor parking facilities and basements, and all space such as hallways, lobbies, stairways and elevator shafts.

_____ # of Sq. Feet (INTRODUCTION ABOVE Q32)

Don't know.....99999998 (Q31)

[ ][ ][ ][ ][ ][ ][ ][ ] 93 94 95 96 97 98 99 100

31. Here is a card that has several broad categories of total square feet. Which category in your estimation best applies to the total square feet in this building?

HAND CARD 2

1,000 or less.....01
1,001 to 5,000 sq. ft.....02
5,001 to 10,000 sq. ft.....03
10,001 to 25,000 sq. ft.....04
25,001 to 50,000 sq. ft.....05
50,001 to 100,000 sq. ft.....06
100,001 to 200,000 sq. ft.....07
200,001 to 500,000 sq. ft.....08
500,001 to 1 million sq. ft.....09
Over 1 million sq. ft.....10
Don't know.....98

101-102

The purpose of the next few questions is to find out about the kinds of activities that occur within this building.

By "activities" we mean the building's purpose. What is it used for? For example, space in a building may be used for office work, retail sales, as residential living quarters, for manufacturing, warehousing, laundering, classroom activities, or any number of other purposes.

32. First of all, is any part of the building used for residential purposes? By residential we mean individual housekeeping units with kitchen facilities.

Yes..... 1 (Q33)
No.....2 (BOX 6)

103

33. Approximately what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in the building is used for residential purposes?

_____ % (BOX 5)

Don't Know.....998 (Q34)

[ ][ ][ ] 44 45 46

BOX 5

CIRCLE CODE AND FOLLOW SKIP INSTRUCTION:

25% OR OVER.....1 (Q39)
NONE OR LESS THAN 25% RESIDENTIAL.....2 (BOX 6)

[ ] 47

34. Would you estimate that 50% or more of the (MENTION SQUARE FEET FROM Q30 or 31) square feet is used for residential purposes?

Yes.....1	No.....2	
↓	↓	33
Is it 75% or more?	Is it 25% or more?	
Yes.....1 (Q39) No.....2 (Q39)	Yes.....3 (Q39) No.....4 (BOX 6)	49

BOX 6

IF BUILDING APPEARS TO BE: (CIRCLE CODE AND FOLLOW SKIP INSTRUCTION.)

OFFICE OR PROFESSIONAL BUILDING.....	1	(Q35)
SHOPPING CENTER/MALL.....	2	(Q36)
ANYTHING ELSE.....	3	(Q37)

50

35. Considering all of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building, would you estimate that over 75% of this space is used as offices for establishments or professionals?

Yes.....1(Q41)
No.....2(Q37) 51

36. Would you classify this (building/complex of stores) as being a shopping center or mall?

Yes.....1(Q41) 52
No.....2(Q37)

37. Considering all of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is there one main activity that occupies over 75% of the space?

Yes.....1(Q38) 53
No.....2(Q39)

38. Could you describe that activity? A general description such as office work, laundry, restaurant, manufacturing, etc., is what I need.

_____

_____

_____

54-80 blank

SKIP TO Q41

Begin Card 03

39. Could you describe all the activities that occur within this building (other than residential)? A general description such as office work, laundry, restaurant, manufacturing, etc., is what I need.

17 18

ACTIVITIES

40. You have named the following activities (READ ACTIVITIES MENTIONED IN Q39.)

A. Which of these activities occupies most space in this building?

ACTIVITY:_____ 19 20 21 22

B. About what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is used for (ACTIVITY MENTIONED IN "A")?

_____% 23 24 25

C. Which activity occupies the next most space in this building?

ACTIVITY:_____ 26 27 28 29

D. About what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is used for (ACTIVITY MENTIONED IN "C")?

_____% 30 31 32

41. My next few questions are about the establishments in this building. Approximately, how many people work in (all of the establishments that occupy/the establishment that occupies) this building? (IF NUMBER VARIES THROUGHOUT THE YEAR, ASK FOR WHAT OCCURS MOST OF THE YEAR.)

33 34 35 36

_____ (Q43)
Number or range

Don't know or won't estimate.... 99998 (Q42)

37 38 39 40 41

42. Here is a card which shows categories. Which category in your estimation best applies to the number of people who work in the building?

HAND CARD 3

Less than 10..... 01
10-19..... 02
20-49..... 03
50-99..... 04
100-249..... 05
250-499..... 06
500-999..... 07
1,000-2,499..... 08
2,500-4,999..... 09
5,000 or more..... 10
Don't know..... 98

42-43

I would now like to ask you about the hours the building is "in operation". By "in operation" we mean the total hours people normally work in the building. For this building, what are the total number of hours each day that (the establishment is/<u>most</u> of the establishments are) "in operation"? Lets start with: (READ EACH DAY)

SCHEDULE

DAY	HOURS FOR MOST ESTABLISHMENT(s) In operation	24 Hrs. (✓)	Not open (✓)	
MONDAY				44 45
TUESDAY				46 47
WEDNESDAY				48 49
THURSDAY				50 51
FRIDAY				52 53
SATURDAY				54 55
SUNDAY				56 57

44. Are the hours you just mentioned the same throughout the year?

Yes..... 1 (Q46a)
No..... 2 (Q45)
Don't know..... 8 (Q46a)

59 60

61-80 blank

45. During what months are the hours of operation changed, and what are the hours at those times?

Months _____

DAY	HOURS FOR MOST ESTABLISHMENT(s)		
	In operation	24 Hrs. (✓)	Not open (✓)
MONDAY			
TUESDAY			
WEDNESDAY			
THURSDAY			
FRIDAY			
SATURDAY			
SUNDAY			

Months _____

DAY	HOURS FOR MOST ESTABLISHMENT(s)		
	In operation	24 Hrs. (✓)	Not open (✓)
MONDAY			
TUESDAY			
WEDNESDAY			
THURSDAY			
FRIDAY			
SATURDAY			
SUNDAY			

46a. My next few questions are about the heating and cooling system or systems that serve the building. Approximately, what percentage of the (MENTION SQUARE FEET FROM Q30 OR Q31) square feet in this building is heated?

_____ %
% heated

IF ZERO PERCENT IS HEATED,
SKIP TO Q53; OTHERWISE CONTINUE.

Begin card 35

(46a) ☐☐☐ 17 18 19

46b. The process of heating a building may be thought of in two parts: one, the system used to convert energy into heat, and two, the system that is used to distribute the heat throughout the building. First of all, just think of the system, or systems, that convert energy into heat; then look at this card, and pick the ONE choice that most nearly describes the energy conversion system for this building.

HAND CARD 4

a. Self-contained unit(s) that may be installed either in the building or on the roof. These units both generate and deliver the heat to the area each unit serves..... 1

b. A central system [furnace or boiler(s)] which is located within the building. This system generates the heat, but depends on an additional system for distribution of the heat..... 2 ☐☐ 20 21

c. A central system located outside of the building. This system converts energy to a heated substance (water or steam) which is then delivered to the building. The heated substance (water or steam) is then distributed through another system to specific areas within the building..... 3

d. Something else or a combination of the above. (PLEASE SPECIFY)

_____

_____.... 4

46c. Here is a second card. This card shows various heat distribution systems. Which distribution system on this card most nearly describes the heat distribution system in use in this building?

HAND CARD 5

I. Forced hot air (with fans) using:

a. Air handling unit(s) with self-contained fan(s) which distribute heat to only part of the building.....01

b. Single central air handling unit separate from the energy conversion system, which distributes air throughout the building through ducts.... 02 ☐☐ 22 23

II. Radiant or naturally circulated air using:

c. Electric baseboards..... 11

d. Baseboard heating using hot water..... 12

e. Baseboard heating using steam..... 13

f. Radiators or convectors..... 14

g. Heating panels in the walls or floor..... 15

h. Something else (PLEASE SPECIFY)

_____

_____.... 16

IF BUILDING: (CIRCLE CODE AND FOLLOW INSTRUCTION)

- HAS ANY RESIDENTIAL UNITS..... 1 (Q47)
- IS TOTALLY NON-RESIDENTIAL..... 2 (Q50)

☐ 24

47. Do the residential occupants have control over the heating system; that is, are they able to turn the heat on or off or to set the temperature in their area?

Yes.....1 (Q50) 25
No.....2 (Q48a)

48a. During normal daytime hours, what interior temperature will you try to maintain in the residential part of this building when the heating system is operating this (coming) winter?

_____ °F (Interior Temperature) ☐☐☐ 26 27 28

Don't know.....998

48b. As far as you know, what interior temperature was maintained in the residential part of the building last winter?

_____ °F (Interior Temperature) ☐☐☐ 29 30 31

Don't know.....998

49. As part of the building's standard operating procedure for the residential portion of this building, is there a manual or an automatic reduction in the heat produced by the heating system at night?

Yes.....1 32
No.....2

50. Do employees of (the establishment/the establishments) in the building have control over the heating system; that is, are they able to turn the heat on or off or to set the temperature in their area?

Yes.....1 (Q52) 33
No..... 2 (Q51a)

51a. During normal working hours for this building, what interior temperature will you try to maintain when the heating system is operating this (coming) winter?

_____ °F (Interior Temperature) ☐☐☐ 34 35 36

Don't know.....998

51b. As far as you know, what interior temperature was maintained last winter?

_____ °F (Interior Temperature) ☐☐☐ 37 38 39

Don't know.....998

52. As part of the building's standard operating procedure, is there a manual or an automatic reduction in the heat produced by the heating system during the hours when the building is not in full use?

Yes.....1 40
No.....2

53. Now thinking of the cooling system or systems that serve the building. Approximately, what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is air conditioned for cooling purposes?

_____ %
% Air Conditioned

41 42 43

IF "ZERO" PERCENT IS AIR CONDITIONED SKIP TO Q61, OTHERWISE CONTINUE.

54. What kind of cooling system or systems supply the air conditioning for this building? Please look at this card and pick the ONE choice that most nearly describes the air conditioning system here.

HAND CARD 6

a. Window units only.....1 (Q61)

b. One or more packaged units (i.e. built and assembled at a factory and installed as a unit at the building) which cool all, or portions, of this building.....2 (BOX 7) 44 45

c. A single central system which serves all areas of the building that are air-conditioned and which was specially constructed for this building.....3 (BOX 7)

d. Something else or any combination of the above (SPECIFY)

_____

_____ 4 (BOX 7)

BOX 7

IF BUILDING: (CIRCLE CODE AND FOLLOW INSTRUCTION)

- HAS ANY RESIDENTIAL UNITS.....1 (Q55)
- IS TOTALLY NON-RESIDENTIAL.....2 (Q58)

55. Do the residential occupants have control over the central or packaged unit air conditioning system; that is, are they able to turn the air conditioning on or off or to set the temperature in their area?

Yes.....1 (Q58)
No.....2 (Q56a) 46

56a. During normal daytime hours, what interior temperature did you try to maintain in the residential part of this building this past summer?

°F
(Interior Temperature) ☐☐☐ 47 48 49
Don't know.....998

56b. As far as you know, what interior temperature did you try to maintain in the residential part of the building the summer before; that is, the summer of 1978?

°F
(Interior Temperature) ☐☐☐ 50 51 52
Don't know.....998

57. As part of the building's standard operating procedure for the residential portion of this building, is there a manual or an automatic reduction in the cooling produced by the air conditioning system at night?

Yes.....1 53
No.....2

58. Do employees of (the establishment/the establishments) in the building have control over the central or package unit air conditioning system; that is, are they able to turn the air conditioning on or off or to set the temperature in their area?

Yes.....1 (Q60) 54
No.....2 (Q59a)

59a. During normal working hours for this building, what interior temperature did you try to maintain this past summer?

°F
(Interior Temperature) ☐☐☐ 55 56 57
Don't know.....998

59b. As far as you know, what interior temperature did you try to maintain the summer before; that is, the summer of 1978?

°F
(Interior Temperature) ☐☐☐ 58 59 60
Don't know.....998

60. As part of the building's standard operating procedure, is there a manual or an automatic reduction in the cooling produced by the air conditioning system during the hours when the building is not in full use?

Yes.....1 61
No.....2

61. Has any of the space in the building which is <u>normally</u> in use been vacant or unoccupied for at least 3 months in the past 12 months?

Yes.....1 (Q62) 62
No.....2 (Q64)

62. Approximately, what percentage of the (<u>MENTION SQUARE FEET FROM Q30 and Q31</u>) square feet in the building would you estimate has been vacant or unoccupied for at least 3 months during the past 12 months?

%
% Unoccupied
Don't know.....998

63. During that time, was there a reduction in the amount of heat and/or cooling supplied to the vacant or unoccupied area?

Yes.....1
No.....2

64. The next few questions concern the actual equipment that supplies heating (and air conditioning) to the building. Is there a regular maintenance program for the heating (and air conditioning) system; that is, is the equipment checked at least once a year even if there are no apparent problems?

Yes.....1
No.....2
Don't know.....8

65. Are there any features that are part of the building's heating or cooling system which are specifically designed to help conserve energy?

Yes.....1 (Q66)
No.....2 (Q67)
Don't know.....8 (Q67)

66. Could you describe those features?

COLUMN A	COLUMN B	COLUMN C
SPECIFY FEATURE(S) BELOW	READ: In what year was it installed?	IF "1977" READ: What month in 1977 was it installed?

69 70 71

67. Are there any features that are part of the building's lighting system which are specifically designed to help conserve energy?

Yes.....1 (Q68)
No.....2 (Q69)
Don't know.....3 (Q69)

68. Could you describe those features?

COLUMN A	COLUMN B	COLUMN C
SPECIFY FEATURE(S) BELOW	READ: In what year was it installed?	IF "1977" READ: What month in 1977 was it installed?

73 74 75

76-80 blank

69. Here is a card which lists various types of fuels or energy sources. Which of these fuels or energy sources are brought into this building?

HAND CARD 7

RECORD ENERGY SOURCES IN COLUMN HEADINGS ON TOP OF FACING PAGE. IF ADDITIONAL COLUMNS ARE NEEDED TO RECORD ENERGY SOURCES, USE CONTINUATION BOOKLET.

IF FUEL OIL MENTIONED, ASK Q69a; OTHERWISE SKIP TO Q70.

69a. In how many tanks is the fuel oil stored?

_____ (Q69b)

Don't know.....98(Q70)

ASK QUESTIONS 69b-69c IN SEQUENCE FOR EACH TANK.
IF MORE THAN 4 TANKS, USE CONTINUATION BOOKLET.

	69b. How many gallons of fuel oil does (the/each) tank hold?	69c. At the present time, approximately how many gallons of fuel oil are in (the/each) tank?	69d. Would you estimate the tank is: (READ CATEGORIES)
Tank #1	_____ gal. Don't know..999998	_____ gal. (Tank 2 or Q70) Don't know...999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2	Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8
Tank #2	_____ gal. Don't know..999998	_____ gal. (Tank 3 or Q70) Don't know..999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2	Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8
Tank #3	_____ gal. Don't know..999998	_____ gal. (Tank 4 or Q70) Don't know..999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2	Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8
Tank #4	_____ gal. Don't know..999998	_____ gal. (Tank 5 or Q70) Don't know..999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2	Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8

70. Which fuels or energy sources are used to supply the building's need for: (RECORD RESPONSES BY CHECKING APPROPRIATE COLUMN(S) ON FACING PAGE.)

		NOT PERFORMED IN BUILDING
a.	Heating	☐
b.	Air conditioning for cooling purposes	☐
c.	Water heating other than for heating the building	☐
d.	Electricity generation	☐
e.	Manufacturing or any other type of industrial activity	☐
f.	Cooking	☐

70a. Have you converted from fuel oil to some other energy source since January 1, 1979 for: (READ CATEGORIES)

		YES	NO
a.	Heating	1	2
b.	Air conditioning for cooling purposes	1	2
c.	Water heating other than for heating the building	1	2
d.	Electricity generation	1	2
e.	Manufacturing or any other type of industrial activity.	1	2
f.	Cooking	1	2

71. Are there any boilers in the building?

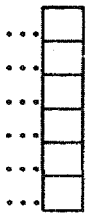
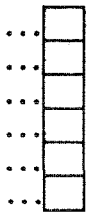
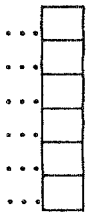
Yes.....1 (Q72)
No.....2 (Q74)
Don't know.....8 (Q74)

72. How many boilers are there?

_____
(NUMBER OF BOILERS)
Don't know.....8

73. Which fuels or energy sources are used to fire the boiler(s)?

ENERGY SOURCES

Type of Energy	Type of Energy	Type of Energy	Type of Energy
70. 			
73. 			

ASK Q74-84 CONSECUTIVELY FOR EACH ENERGY SOURCE.

The following questions deal with specific companies that supply fuel to this building. The Department of Energy would like specific information on energy consumption that can only be collected by going directly to energy companies and suppliers. For this reason, I would like to find out who supplies the building's fuels or other types of energy.

74. In the past year, who has supplied the building's (MENTION ENERGY SOURCE)? IF MORE THAN ONE SUPPLIER IS MENTIONED, RECORD ADDITIONAL SUPPLIERS IN CONTINUATION BOOKLET.

Name.....

Address.....

Zip Code.....

FOR ELECTRICITY AND NATURAL GAS ENERGY SOURCES, SKIP TO BOX 8. FOR OTHER SOURCES CONTINUE.

75. Has the same supplier been used for the past year?

Yes.....
No.....
DK.....

76. How many suppliers have been used in the past year?

77. What (is/are) the name(s) and address(es) of the other company(ies) that supplied (MENTION ENERGY SOURCE) in the past year? RECORD INFORMATION IN CONTINUATION BOOKLET.

BOX 8
IF MULTI-TENANT BUILDING, CONTINUE WITH Q78; OTHERWISE SKIP TO Q81.

78. How is the (MENTION ENERGY SOURCE) from (NAME OF SUPPLIER FROM Q74) billed; that is, are any of the tenants billed separately by the (NAME OF SUPPLIER) or is there just one bill for the entire building?

One bill.....
More than one bill.....

ENERGY SOURCES

Type of Energy	Type of Energy	Type of Energy	Type of Energy
74.			
75. ..... 1 (BOX 8) ..... 2 (Q76) ..... 8 (BOX 8)	..... 1 (BOX 8) ..... 2 (Q76) ..... 8 (BOX 8)	..... 1 (BOX 8) ..... 2 (Q76) ..... 8 (BOX 8)	..... 1 (BOX 8) ..... 2 (Q76) ..... 8 (BOX 8)
76. # of suppliers	# of suppliers	# of suppliers	# of suppliers
78. ..... 1 (Q81) 2 (Q79)	..... 1 (Q81) 2 (Q79)	..... 1 (Q81) 2 (Q79)	..... 1 (Q81) 2 (Q79)

79. How many separate bills are there?

80. We would like to contact each tenant who receives a bill from (NAME OF SUPPLIER) to obtain information about their energy consumption. Could you tell me the name of each tenant who is billed separately?

IF LIST IS NOT PROVIDED, RECORD NAME AND ADDRESS OF EACH TENANT WHO RECEIVES A SEPARATE BILL ON PAGES 28-31.

81. What is the name and address of the person or company who receives the bill for this building's use of (MENTION ENERGY SOURCE) from the (NAME OF SUPPLIER)?

Name:.....

Address:.....

Zip Code:.....

82. Does the bill you receive from (NAME OF SUPPIER) cover just the square footage in this building or does it cover more than this building?

Just this building.....
More than building.....
Don't know.....

83. What is the name and address of the other building or facility that the bill covers?

Name:.....

Address:.....

Zip Code:.....

IF BILLING ARRANGEMENT INCLUDES OTHER BUILDING, OBTAIN AS MUCH INFORMATION AS POSSIBLE. RECORD THIS INFORMATION ON THE PAGES 28-31 AND CONTACT SUPERVISOR

84. Could you tell me how many meters you have for the (ENERGY SOURCE) coming into the building?

RETURN TO QUESTION 74 FOR OTHER ENERGY SOURCES; IF NO OTHER ENERGY SOURCES, CONTINUE.

ENERGY SOURCES

	Type of Energy	Type of Energy	Type of Energy	Type of Energy
79.	# of bills	# of bills	# of bills	# of bills
81.				
82.	..... 1 (Q84) ..... 2 (Q83) 8 (Q84)	..... 1 (Q84) ..... 2 (Q83) 8 (Q84)	..... 1 (Q84) ..... 2 (Q83) 8 (Q84)	..... 1 (Q84) ..... 2 (Q83) 8 (Q84)
83.				
84.	# of meters	# of meters	# of meters	# of meters

IF NEEDED, GO TO CONTINUATION BOOKLET

The President has issued a set of new Federal regulations which are designed to reduce the temperature in buildings. I have a few questions to find out if information about this program has been received by buildings across the country.

85. Informational booklets which look like this and contain information about the President's program are being sent to building managers nationwide. Have you, or has anyone else in this building received such a packet?

SHOW INFORMATIONAL BOOKLET

Yes..... 1 (Q86)
No..... 2 (BOX 9)
Don't know..... 8 (BOX 9)

86. The informational booklet contains a certificate which is to be displayed in the building. Has a certificate, which looks like this, been posted in this building?

SHOW CERTIFICATE

Yes..... 1 (Q87)
No..... 2 (BOX 9)
Don't know..... 8 (BOX 9)

87. Which of these three boxes on this certificate has been checked?

POINT OUT BOXES ON CERTIFICATE

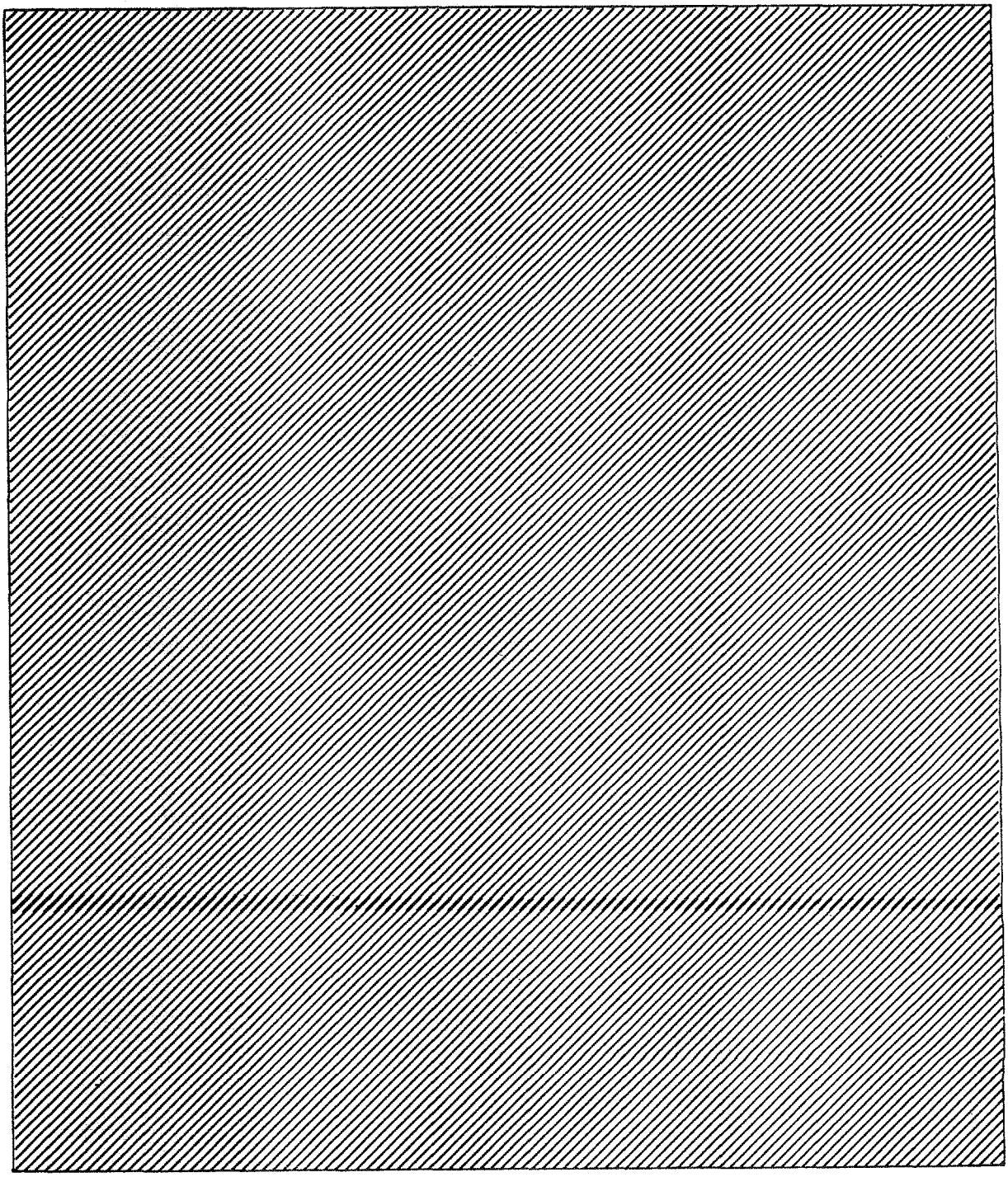
READ CATEGORIES

Full compliance..... 1 (BOX 9)
Exempted compliance..... 2 (BOX 9)
Excepted from compliance..... 3 (BOX 9)
Don't know..... 8 (BOX 9)

IF ASKED ABOUT COMPLIANCE WITH THE TEMPERATURE SETBACK PROGRAM, READ CONFIDENTIALITY STATEMENT ON COVER PLUS STATEMENT BELOW:

The purpose of this survey is to collect information which is necessary to evaluate the effectiveness of energy conservation programs. Information on participation in any of these programs by individuals will not be released to anyone for any purpose.

_____TIME ENDED



BOX 9

WAIVER INSTRUCTIONS FOR EACH SUPPLIER --

- One bill for entire building, obtain one waiver.

  Obtained.....

  Not obtained.....

- Three bills or less, obtain waiver for each.

  Obtained.....

  Not obtained.....

- Four bills or more, obtain waiver from building owner/manager only.

  Obtained.....

  Not obtained.....

ENERGY SOURCES

Type of Energy	Type of Energy	Type of Energy	Type of Energy
RECORD BELOW WAIVER RESULTS			
..... 01	 01	 01	 01
(Reason)	(Reason)	(Reason)	(Reason)
..... 11	 11	 11	 11
(Explain)	(Explain)	(Explain)	(Explain)
(# not obtained)	(# not obtained)	(# not obtained)	(# not obtained)
..... 21	 21	 21	 21
(Reason)	(Reason)	(Reason)	(Reason)

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

Q. 80 LIST OF TENANTS RECEIVING SEPARATE BILLS	WAIVERS OBTAINED YES	NO	NOT NECESSARY	ADDITIONAL INFORMATION TO EXPLAIN BILLING
1) Name _____ Address _____				
2) Name _____ Address _____				
3) Name _____ Address _____				
4) Name _____ Address _____				
5) Name _____ Address _____				
6) Name _____ Address _____				
7) Name _____ Address _____				
8) Name _____ Address _____				

Use additional pages as needed to list separately billed tenants.

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

Q. 80 LIST OF TENANTS RECEIVING SEPARATE BILLS	WAIVERS OBTAINED YES	NO	NOT NECESSARY	ADDITIONAL INFORMATION TO EXPLAIN BILLING
1) Name _____ Address _____				
2) Name _____ Address _____				
3) Name _____ Address _____				
4) Name _____ Address _____				
5) Name _____ Address _____				
6) Name _____ Address _____				
7) Name _____ Address _____				
8) Name _____ Address _____				

Use additional pages as needed to list separately billed tenants.

Begin card 08

INTERVIEWER OBSERVATIONS

IF LISTING DISAGREES WITH INTERVIEW DEFINITION OF BUILDING (I.E.,IF BOX 2 IS CHECKED "INCORRECT" ON PAGE 1 OF QUESTIONNAIRE), COMPLETE QUESTION 1; OTHERWISE, SKIP TO QUESTION 2.

1. A. Please indicate the name and address(es) of the building from the listing sheet.

Name _____

Address _____

_____

B. Please indicate the name and address of the building as defined for the interview.

Name _____

Address _____

_____

C. Please explain the circumstances of the disagreement between listing and interview definition of the building.

_____

_____

_____

2. Did you contact any other respondent than the person recorded on the front cover of the questionnaire?

YES..... 1 (Q3) 17
NO..... 2 (Q4)

3. Please list all respondents.

Name: _____

Title: _____ 18 19

Location: _____ Phone No. ( ) _____

Name: _____

Title: _____ 20 21

Location: _____ Phone No. ( ) _____

4. What is your observation of the type of building or kind of business that occurs within the building? Please be thorough in your description.

_____

_____

_____

5. Is this building free standing or attached to another building?

Free standing..... 1 22
Attached..... 2

6. Please describe any unusual circumstances you may have encountered in obtaining the waiver.

_____ 23 24

_____

_____

7. IF SHOPPING CENTER/MALL:

A. Is this a strip shopping center or enclosed mall?

Strip shopping center..... 1 25
Enclosed mall..... 2

B. Approximately how many establishments are in this shopping center/mall?

Less than 10..... 1
10-24..... 2
25-49..... 3 26
50-74..... 4
75-100..... 5
Over 100..... 6

NON-INTERVIEW REPORT

1. Please explain in detail the reason you were unable to complete the interview.

_____

_____

_____

_____

_____

_____

2. What is your observation of the type of building or kind of business that occurs within the building?

_____

_____

_____ 27 28 29 30

_____

_____

_____

3. Approximately how many square feet would you estimate to be in this building?

1,000 or less	01
1001 to 5,000	02
5,001 to 10,000	03
10,001 to 25,000	04
25,001 to 50,000	05
50,001 to 100,000	06
100,001 to 200,000	07
200,001 to 500,000	08
500,001 to 1 million	09
Over 1 million	10
Don't know	98

31-32

Date 33 34 35 36

Contacts Int. 37 38 39

Contacts Waiver 40 41 42

Time 43 44 45

Disp. 46 47

Batch# 48 49 50 51

52-80 blank

RECORD OF CONTACTS

Date	Time		Type of Contact		Contact Relates to		Results of Contact	Comments
	Began	Ended	Field	Phone	Inter-view	Waiver		

FINAL STATUS ON INTERVIEW AND WAIVER
(Circle one code)

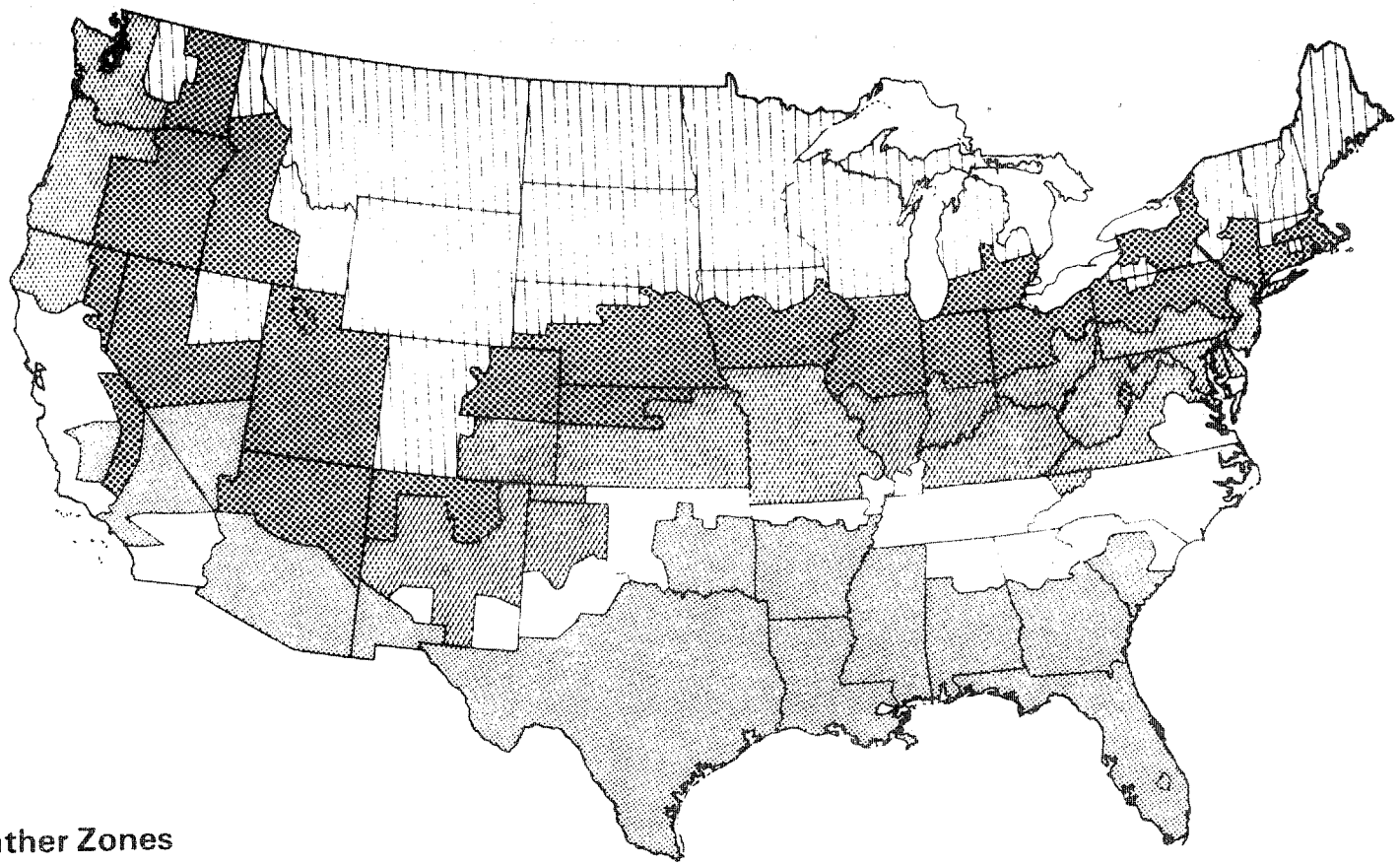
Interview Complete with all waivers 1

Interview Complete without all waviers . . . 2

Non-Response (e.g., unable to enter structure; refusal; breakoff; unable to contact respondent; other) 3

Ineligible Bldg. (out of segment; not a bldg. according to study definition; listing and interview definition of the bldg. has changed scope of bldg.) 4

United States Weather Zone Map
of
Heating Degree Days (HDD) and Cooling Degree Days (CDD)



Weather Zones

Zone 1 is less than 2,000 CDD and greater than 7,000 HDD.
Zone 2 is less than 2,000 CDD and 5,500 - 7,000 HDD.
Zone 3 is less than 2,000 CDD and 4,000 - 5,499 HDD.
Zone 4 is less than 2,000 CDD and less than 4,000 HDD.
Zone 5 is greater than 2,000 CDD and less than 4,000 HDD.

GLOSSARY

Air Conditioning refers to air cooled by a refrigeration unit. It does not include fans, blowers, or evaporative cooling systems which are not connected to a refrigeration unit. Air conditioning units which are not currently in working condition or are not used, but are in place in the building, are included in this survey.

Building Activity. The primary business, commerce, or function carried out by the occupants of a building. The activity categories were designed to group buildings having similar patterns of energy consumption after controlling for weather and size.

Building Type is derived from the predominant activity in which the occupants of a building are engaged. For this report, mixed-use buildings (those buildings where 75 percent or more of the floor space was not devoted to a single activity) have been categorized according to the predominant building activity. Each category is described below. (Note: These categories are preliminary; they will be tested and revised after the actual consumption data are available.)

Assembly refers to large buildings used for the gathering of 50 or more people for purposes such as social, recreational, or religious. Included in this category are the following building types:

Social/Public/Civic Assembly (fixed seating): (meeting hall/lodge hall, convention hall/assembly hall, town hall, auditorium, lecture hall, student union, etc.)

Religious Assembly: (Church, chapel, synagogue, mosque, etc.)

Recreational Facility:

- Gymnasium/YMCA or YWCA/indoor racket sports, recreation center/athletic facility
- Pool room
- Amusement arcade
- Skating rink
- Bowling alley
- Indoor pool
- Other

Entertainment Building:

- Archive/library, museum/art gallery/exhibit hall
- Observatory/planetarium
- Concert hall
- Coliseum/arena (enclosed)
- Theater/movie/cinema

(Building Type Continued, "Assembly")

- Radio/TV studio or station
- Nightclub
- Other

Other Enclosed Assembly Building:

- Passenger terminal
- Armory
- Other

Non-enclosed or Partial Structure:

- Stadium
- Grandstand
- Other

Automotive Sales and Service Buildings include:

Gas Stations
Automobile Dealers
Motor Vehicle Repair/Service

Education buildings house academic or technical instruction. This category includes:

Preschool
Elementary
Junior High
Senior High
College or University
Vocational School
Specific Building Types (on school campuses)

- Administration (see Office)
- Auditorium (see Assembly)
- Dormitory (see Lodging)
- Gymnasium (see Assembly)
- Infirmary (see Health Care)
- Library (see Assembly)
- Museum (see Assembly)
- Student union (see Assembly)
- School for mentally retarded (see Health Care)
- Stadium (see Assembly)
- Heating plant/utility (see Industrial)

(Building Type Continued, "Food Sales and Service")

Food Sales and Service buildings include:

Cafeteria

Full Service Restaurant: (Diner - limited menu, bar and grill - limited menu, coffee shop - limited menu, full menu service, bar, etc.)

Carry-Out Service: (Caterer, pizza parlor, sandwich shop, fast food, etc.)

Retail Food Sales:

- Supermarket
- Specialty food store
- Meat/seafood market
- Retail bakery
- Farmer's market, fruit/vegetable market
- Other

Food-Related Activities/Other Activity Except Office or Residential (Mixed-Use)

Food Sales or Service/Other Retail Sales

Food Sales or Service/Other Service Activity

Food Sales or Services/Storage (except supermarket)

Other

Health Care buildings house diagnostic and treatment facilities for both in- and out-patient care. In-patient facilities treat the mentally or physically ill. Buildings for overnight care are also included. This type includes:

Medical Care Hospital: (General medical and surgical; chronic disease; medical infirmary (connected with institution); tuberculosis/other respiratory disease; orthopedic; maternity; ear, eye, nose, and throat; etc.)

Mental Facility: (Psychiatric, mental retardation)

Rehabilitation: (Narcotic/drug addiction, physical therapy, alcoholism, etc.)

(Building Type Continued, "Industrial")

Veterinary: (Hospital, kennel)

(Out-patient care may be medical, dental or psychiatric. A building housing out-patient veterinary practices also falls into this category.) Buildings of this type include:

- Medical Clinic: (Abortion; ear, eye, nose and throat; general)
- Mental Health Clinic
- Dental Clinic
- Veterinary Clinic

Industrial buildings house manufacturing and the processing or procurement of goods, merchandise, raw materials or food. Buildings of this type include:

Food Processing Plant: (Meat-packing plant, poultry-dressing plant, dairy, cannery, grain mill, bakery, confectionery, beverage, etc.)

Leather/Textile Mill

Light Assembly - Factory: (Leather goods, apparel and other goods made from purchased material, furniture and other wood products, electrical or electronic instruments and other fabricated metal tools, measuring devices and light equipment)

Heavy Assembly - Factory: (Machinery - including farm, construction, mining, metal-working and other heavy equipment; transportation vehicles)

Paper, Chemical, Rubber or Petroleum Processing Factory: (Pulp and paper, rubber/plastic, chemical/pharmaceutical, petroleum refinery)

Metalworks, Glassworks, Other Similar Manufacturing Plants: (Foundry, steel works, rolling or finishing mill, buildings for smelting, refining, drawing, rolling, or extruding of nonferrous metals, stone, clay, glass and concrete products)

Printing, Publishing

Generation, Transmission, or Distribution of Electricity, Natural Gas, Steam or Other Utility or Sanitary Services: (Hydroelectric generation; nuclear generation of electricity; coal generation of electricity; other generation, transmission, or distribution of electricity; natural gas; storage, transmission or distribution; steam supply; collection or disposal of refuse; sewage disposal; treatment; water supply; pumping stations; irrigation)

(Building Type Continued, "Lodging")

Construction/Natural Resource Procurement: (Mining, construction site building, etc.)

Lodging facilities refer to buildings offering multiple accomodations for long or short-term residents. Included are:

Short-Term Residence:

- Shelter home
- Motel
- Tourist home
- Hotel
- Convention hotel
- Inn
- Other

Long-Term Residence:

- Boarding house
- Orphanage
- Home for aged, nursing home
- Convent/monastery
- Dormitory/sorority/fraternity
- Other

Office buildings are used for general office space, professional offices, and administrative offices. Included are:

Professional Office Building: (Management consulting, engineering, medical, law, corporate, administration of an institution, mixed professional)

Financial Office Building: (Bank, insurance, securities, brokerage firm, real estate, etc.)

Data Processing:

- Computer center
- Other data processing

Offices/Other Activity (Except Residential): Mixed Use

- Office with retail (except food)
- Office with food sales or service
- Offices/services activity (other than food)
- Office/warehouse or storage
- Real estate/other commercial
- State or Federal capitol

(Building Type Continued, "Lodging")

Residential buildings serve as living quarters and have individual kitchen facilities.

Multi-Family:

- High-rise apartments
- Low-rise apartments

Single Family:

- Detached
- Duplex
- Triplex
- Quadraplex
- Townhouse/rowhouse

Mobile Homes

Residential/Other Building Type (Mixed Use):

- Residential/food-related
- Residential/sales (non-food)
- Residential/office space
- Residential/service activity
- Residential/other use than above-mentioned

Retail Sales and Personal Services are buildings housing sales and displays of goods or services (excluding food). Included are:

Shopping Mall

Strip Shopping Center

Retail Sales (single establishment):

- Building materials, hardware, garden supply
- Department store, apparel stores
- Furniture, home furnishings, and equipment
- Drugstore
- Multi-retail establishment
- Other retail stores

Wholesale Goods (except food)

Services (except food):

- Laundry/dry cleaner/car wash
- Post office

(Building Type Continued, "Retail Sales and Personal Services")

- Personal service
- Multi-service establishment
- Other service

Building Housing Two or More Services, Retail or Wholesale Establishments Not Previously Mentioned:

- Service/retail
- Retail/wholesale
- Service/wholesale
- Retail/wholesale/service

Warehouse and Storage buildings are used for the storage of goods, merchandise, raw materials, or manufactured products. Included are:

Agricultural

Warehouse - nonrefrigerated

Refrigerated storage

Other

Storage/Retail, Wholesale or Manufacturing:

- Storage/food processing
- Storage/retail sales (nonfood)
- Storage/wholesale (nonfood)
- Storage/manufacturing (nonfood)

Other buildings are those that do not fit into any of the previous categories. Included are:

Crematorium

Parking garage

Hangar

Telephone exchange

(Also included in the Other category are the building types Laboratory and Public Order and Safety)

Laboratory buildings house equipment for experimental testing or for analysis. Included are:

(Building Type Continued, "Other")

Mechanical/Electrical

Medical/Dental

Agricultural

Other

Public Order and Safety buildings house establishments engaged in the preservation of law and order or in public safety.

Fire station

Police station

Jail

Reformatory

Penitentiary

Courthouse

Sheriff's office

Other

Campus or complex refers to a well-defined geographic area containing a group of separate buildings that are operated as a unit (such as a college or university campus).

Census Region. An area consisting of various States selected according to population size and physical location. In this survey, the States were grouped into four regions:

Northeast - Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

North Central - Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota, and South Dakota.

South - Maryland, Delaware, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma, and Texas.

West - Montana, Wyoming, Washington, Oregon, Nevada, Colorado, California, Idaho, Utah, New Mexico, and Arizona.

(Note: Alaska and Hawaii are normally considered parts of the western region but were not included in the sample for this survey.)

Central Air Conditioning serves all areas of the building that are air conditioned. Such systems are specially designed for each building.

Central Heating Systems. This heating equipment category represents two types of systems depending upon the location of the system. A central system located within the building, (such as a furnace or boiler,) generates the heat but depends upon an additional system for distribution of the heat. A central system located outside of the building converts energy to a heated substance such as steam or hot water which is then distributed to the heated parts of the building by a separate system wholly contained within the building.

Combination Air Conditioning Systems. Air coolant systems composed of various types of equipment which are either combinations of window units, package units, or central systems.

Commercial Buildings. All nonresidential buildings with the exception of those where industrial activities occupy more of the total square footage than any other type of activity (see Nonresidential Buildings).

Cooling Degree Days refers to the number of degrees the average daily temperature is above 65 degrees Fahrenheit. Normally, cooling is not required in a building when the outdoor average daily temperature is below 65 degrees. Cooling degree days are determined by subtracting the base of 65 from the average temperature. For example, a day with an average temperature of 85 degrees has 20 cooling degree days (85-65=20), while one with an average temperature of 65 degrees or lower has none.

Electricity. Electric power supplied to a building by a central utility via underground or above-ground power lines. It does not refer to electric power generated onsite for the exclusive use of the building. In this case, the fuel used for the generator would be indicated.

Energy Suppliers. The companies which provide electricity, natural gas, fuel oil, coal, or other forms of energy to the buildings and to the individual customers within the buildings.

Establishment. As defined by the Standard Industrial Classification Manual, "an economic unit, generally at a single physical location where business is conducted or where services or industrial operations are performed."

Forced Hot Air. A heat distribution system consisting of two types of units which distribute heat via fans: (1) a self-contained air handling unit serving only a part of the building; and (2) a single central air handling

unit separate from the energy conversion system which distributes air throughout the building through ducts.

Fuel Oil refers to No. 1, No. 2, or No. 4 grade fuel oil, residual fuel oil, or kerosene that might be burned for space heating or water heating purposes.

Glass as Percentage of Exterior Surface refers to the proportion of glass to the exterior wall structure of the surface.

Heating Degree Days refers to the number of degrees the daily average temperature is below 65 degrees Fahrenheit. Normally, heating is not required in a building when the outdoor average daily temperature is above 65 degrees. Heating degree days are determined by subtracting the average daily temperature below 65 degrees from the base 65. For example, a day with an average temperature of 50 degrees has 15 heating degrees (65-50=15), while one with an average temperature of 65 or higher has none.

Hours of Operation During a Typical Week refers to the number of hours per week that the building is occupied by regular employees (employees responsible for carrying out the primary activity or activities of the building), and excludes hours when the building is occupied only by maintenance, security, or other supportive personnel. Many buildings do not maintain the same hours of operation during the year. Alternate schedules were reported for these buildings, but for this report "hours of operation" refers to the schedule followed most often. Other buildings do not have any regular schedule of hours, are open intermittently or by appointment only, or are open without being staffed (this last category includes automatic bank tellers and roadside rest stops). These buildings were recorded as having 0 operating hours, according to the definition given by the questionnaire, even though they were not vacant.

Imputation. A statistical method used to estimate the response to specific unanswered questions which should have been answered or were unknown at the time of the interview.

Kerosene refers to a distilled product of oil or coal with the generic name "kerosene" and used for space heating, water heating, cooking, or lighting.

LPG or Liquid Petroleum Gas. Any gas fuel supplied to a building in liquid form. It is usually delivered by tank truck and stored near the building in a tank or cylinder until used. Propane and butane are liquefied petroleum gases.

Master-Metered. The method used by utility companies (i.e., electricity and natural gas,) to measure the total volume of energy used by several individual customers collectively.

Metropolitan refers to buildings located within Standard Metropolitan Statistical Areas (SMSA's) as defined in the 1970 Census. Except in New England, an SMSA is a county or a group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a

combined population of at least 50,000. The contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, SMSA's consist of towns and cities rather than counties. "Nonmetropolitan" refers to buildings not located within SMSA's as defined in the 1970 Census.

Multiple Building Unit. A single building address which at the time of the interview was discovered to be two or more separate buildings.

Natural Gas is utility gas supplied by pipeline to individual buildings by a central utility company. It does not refer to privately-owned gas wells operated by the building owner.

Nonresidential Building. A roofed and walled structure that is used for some purpose other than just a residence. The scope of this definition is quite broad and includes some buildings that are primarily residential (as well as commercial and industrial buildings). The term "residential" applies to structures where the primary activity is that of a residence for one or more households. Residential buildings were within the scope of the survey if they showed evidence of some kind of commercial or industrial activity. For example, a residential building, such as an apartment building, which also contained some obvious nonresidential activity such as a store or office was within the scope of the survey. A private residence which contained an office or business, such as a doctor's office in a home, was considered a nonresidential building for the purposes of this survey. In order for a private residence to have been selected for this survey, it had to have a sign (large enough to be visible from the street) advertising the presence of some commercial or industrial activity.

Number of People Working in the Building The normal number of people working in the building during a typical workday or that which occurs during most of the year.

Number of Floors is the count of building levels in the tallest section of the building including parking, basements, or other floors below ground level.

Package Units refers to air conditioning units which are built and assembled at a factory and installed as a unit to cool all, or portions of, a building.

Self-Contained Heating Units are units installed either in the building or on the roof and which generate and deliver heat to the area served.

Separately Metered. This refers to the method in which utility companies, (i.e., electricity and natural gas) measure the volume of energy consumed by individual customers in a building.

SIC. Standard Industrial Classification codes developed by the U.S. Bureau of the Census which categorizes businesses into groups with similar economic activities.

Special Building List. Part of the sampling procedure entailed locating "large" buildings within the sampled PSU's. "Large" buildings were defined as those with 250,000 or more square feet of enclosed floor space in PSU's that are Standard Metropolitan Statistical Areas. In the remaining one-third of the PSU's, buildings of 100,000 square feet or more were listed.

Special Zip Codes. Postal ZIP codes which are allocated by the Postal Service to business establishments, government agencies, or buildings which have a high mail volume.

Steam Energy Source refers to buildings which purchase steam from steam generation and distribution companies serving municipal areas such as natural gas distributors. This does not refer to buildings which use purchased fuels to generate their own steam for use in the building or other buildings in a campus/complex situation.

Total Square Footage refers to all the space enclosed within the exterior walls of the building. This includes indoor parking facilities and basements, and all space such as hallways, lobbies, stairways, and elevator shafts.

Waiver. An authorization form instructing the energy-supplying company serving the buildings to release the volumes and costs of energy the building consumed over a specified period.

Window Unit. Air conditioners are self-contained units which are installed in a window or through the wall.

Year Constructed. The year in which the major or largest portion of the building was constructed.

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