

CHAPTER IV

PRESENTATION OF THE DATA

Introduction

This study was conducted to develop a baseline set of data to provide a description of the status of Nebraska school facilities during the early 1990's. Specifically, two sets of data were gathered from Nebraska superintendents and principals regarding both individual school building and district level demographics. To provide consistency of financial data, the Nebraska Department of Education district annual financial information from 1990-91 replaced the special building fund levy and bond debt responses provided on the survey instrument.

This chapter is organized and presented in five sections. In this study, the entire population of Class II through Class VI Nebraska school districts was studied. The quantity of data collected and presented is voluminous. The categorization and stratification of the responses into logical groupings was crucial to the analysis and clarity of the presentation of data. The explanation of how the school buildings and districts were categorized into descriptive indexes is contained in the first section. These indexes were designed to match categories identified in the research questions. The indexes were class of school district, relative district wealth, percentage of county population change in the 1990 census, time period of original building construction, and building instructional type. The number of buildings and districts contained in each of the indexes is

described in the second section. A descriptive accounting, by the identified index, of building adequacy for instructional program and status in relationship to capacity, handicapped accessibility, and other reported building conditions is given in the third section. The superintendents' assessment of the condition and limitations of their districts' facilities is presented the fourth section, by index. The final section contains the analysis of the superintendents' assessments of their districts' need, optimism for success, urgency for a bond issue, and the districts' fiscal capacity to meet current and future facility needs.

Categorization of Building and District Responses into Facility Indexes

The indexes chosen to categorize the responses of the building and district level administrators were Nebraska class of district; relative district wealth as measured by reported property valuation divided by pupil average daily membership (ADM) in 1990-91; the district's percentage of population change, as determined by the county of the district's headquarters in the 1990 census; and the era of the reported time period of original construction of the building or majority of the district's buildings. Additionally, the instructional category of the building, as determined by the reported ranges of grades of instruction provided in each building, was determined for building analysis.

At the time of the study, Nebraska public school districts were classified by the grade ranges of instruction offered by the district's schools and the population base served by the district. A Class I school district was a district which operated only an elementary school. A Class II district was

a school district which had a population of 1000 inhabitants or less and operated both an elementary and high school. A Class III district was a school district which a population of more than 1000 and less than 100,000 inhabitants and operated both an elementary and high school. A Class IV district was a school district which had a population of more than 100,000 and less than 200,000 inhabitants and operated both an elementary and high school. A Class V district was a school district which had a population of greater than 200,000 inhabitants and operated both an elementary and high school. A Class VI school district was a district which operated only a high school which consisted of grades 7 through 12 or 9 through 12. In this study, the population of Nebraska Class II, III, IV, V, and VI school districts was selected. The class of school district was a standard for analysis. To illustrate the population ranges of these classes of districts, a graph was generated and presented in Figure 1.

The population range in the Class II school districts was very small compared to that of the Class III, IV, and V districts. The Class VI district was not defined by a specific population range and, therefore, was not represented on the graph.

In Nebraska, school facilities were funded in a district by the creation of a special sinking fund or through bonds approved in a referendum election. Once one or both of these methods for the construction of school facilities had been established in the district, taxes were levied against district property valuation to generate these construction or remodeling revenues. Nebraska schools relied

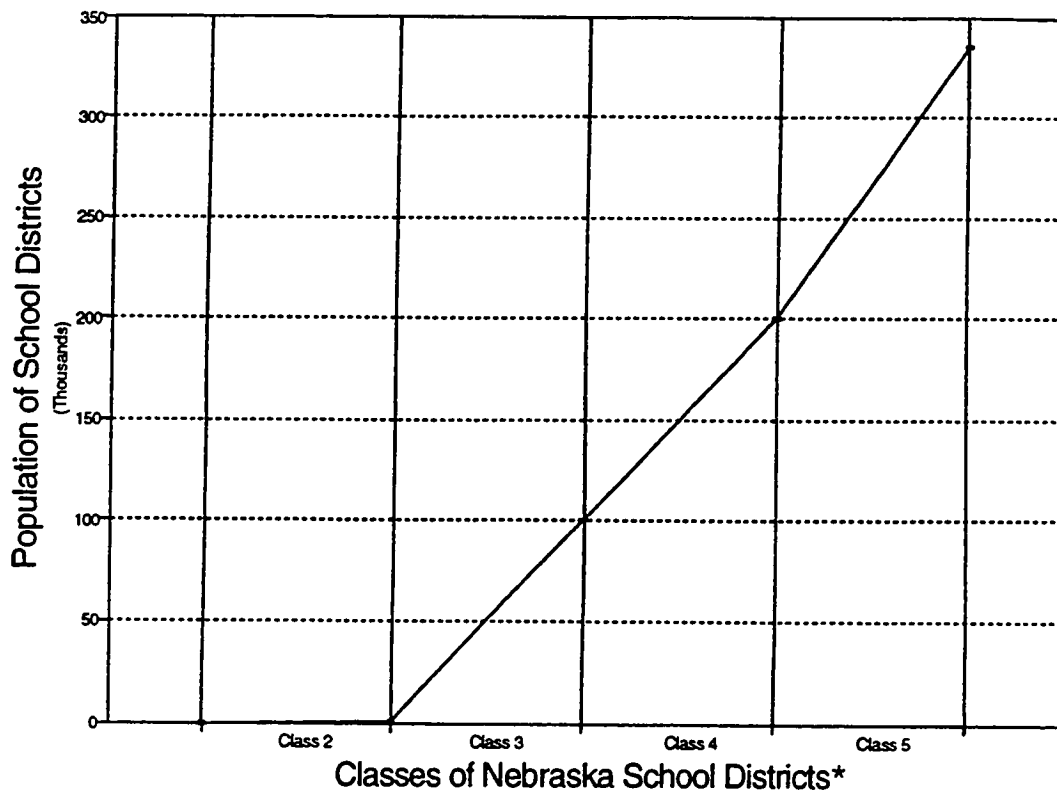


Figure 1. Classes of Nebraska School Districts by Population Size

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,00 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

entirely on their property tax base to support these facility construction projects. In Nebraska, the value of the property to which a school district had access varied greatly from district to district. The measure of the total dollars of property valuation divided by the annual average daily membership (ADM) of a school district provided a common measure of relative wealth in the state. Because Nebraska school patrons were solely reliant upon this access to their district's property tax base for facility construction and repair, the relative wealth factor provided a good index to judge the ability within a district to pay for these projects. The category chosen to represent wealth was quartiles of total districts. The graph presented in Figure 2 illustrates the dollars of valuation per pupil in Nebraska school districts.

The wealth curve shown in Figure 2 represents a line of uniform increase in dollars of valuation per pupil through the first three quartiles, with a rapid increase in the fourth quartile. Each quartile contained 75 districts, except quartile 4 in which there were 74 districts. Sequentially, each quartile represented districts with increasing relative wealth to support potential facility construction or maintenance projects.

Nebraska's 1990 county census figures revealed changes in population. Of Nebraska's 93 counties, a population increase was reported in only ten counties. To analyze questionnaire responses in light of these population fluctuations, an index was created based upon the categories of percentage of county population change reported in the 1990 census. Each district was assigned a county, based upon the county of the district's offices or headquarters. This county assignment of the district was

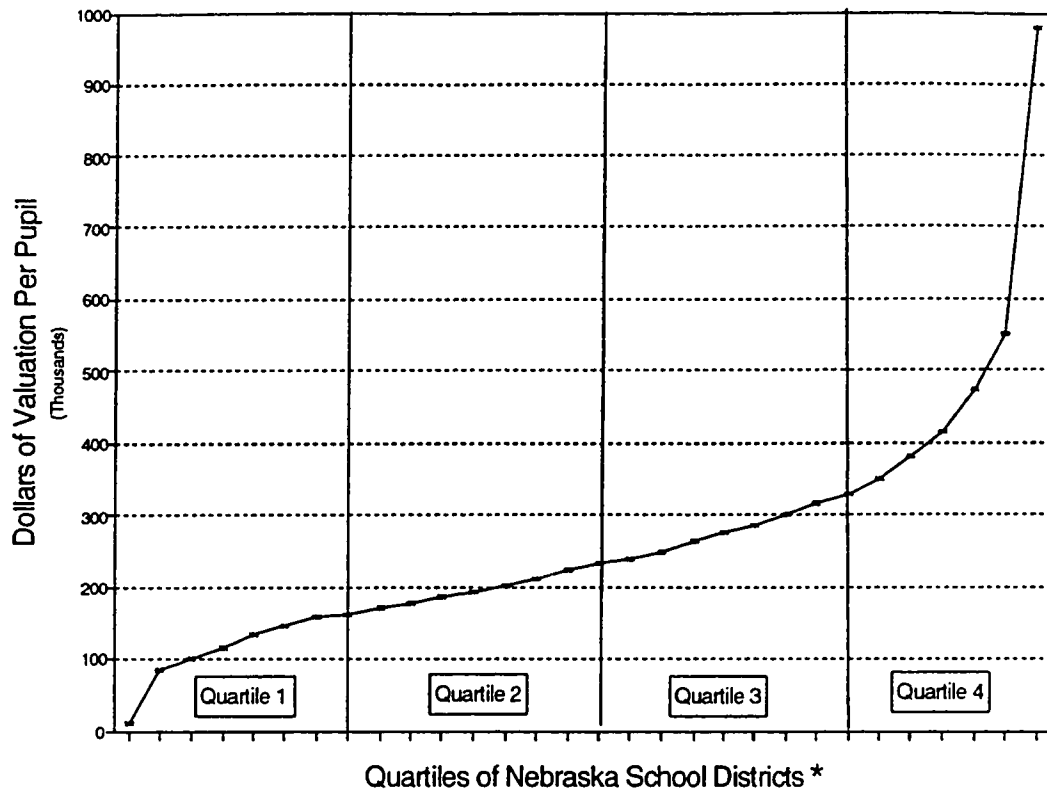


Figure 2. Dollars of Valuation Per Pupil by Quartile of Nebraska School Districts

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

matched to the corresponding percentage of change reported for that county. The graph of the reported percentage of change is illustrated in Figure 3.

Percentage categories were selected as shown in Figure 3. A positive population change of more than 10 percent was entitled Major Growth. Growth was represented by a positive population change from zero to ten percent. The category titled Decline represented a negative population change from minus ten to zero percent. Finally, counties with a negative population change of minus ten percent or more was represented by the Major Decline category.

Age of school facilities was a concern for school planners as they evaluated replacement or remodeling needs. Facility age was also a factor of importance for school management as they considered maintenance needs. The age of Nebraska facilities was measurable, and the original construction dates of attendance centers was known by district management. The administrators' opinions about the effects of the age of the facility, when categories of original construction were considered, were essential to the data analysis. The date ranges of original construction were reported by administrators for each school building. The reported date ranges are shown in Figure 4.

Two periods of increasing facility construction and one of decreasing school facility construction are shown in Figure 4. The first period, beginning prior to 1920 and ending during the 1940's, was labeled "World

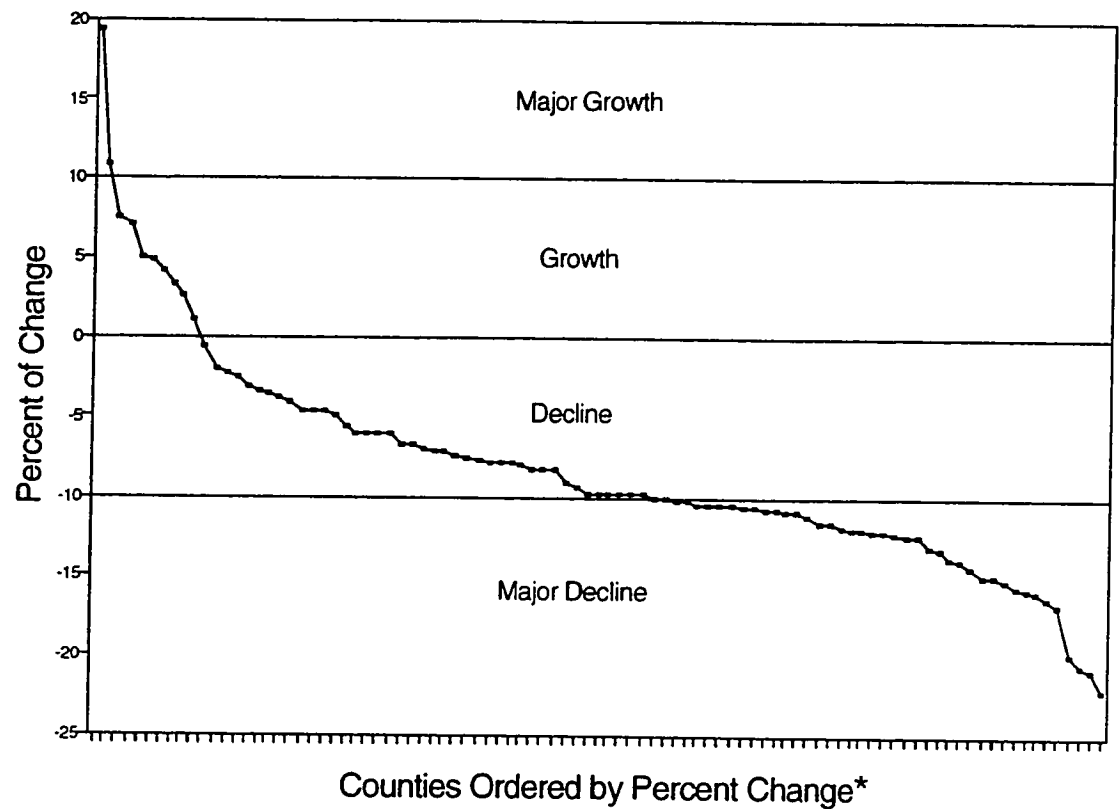


Figure 3. Percentage of County Population Change by Nebraska Counties in the 1990 Census

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

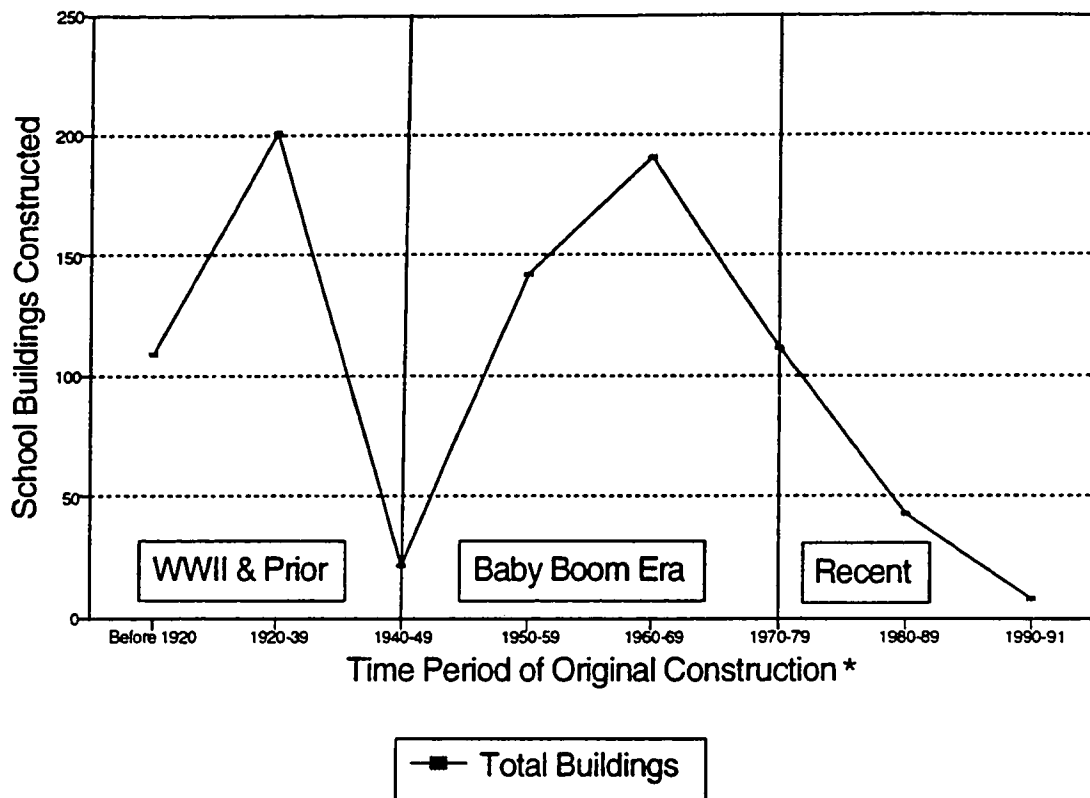


Figure 4. Numbers of Nebraska School Buildings Built During Specified Time Intervals

****World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.**

War II and Prior." The last peak period began following 1949, reached a construction crest in the 1950's, and then decreased during the 1960's. This period was referred to as the "Baby Boom Era." The period of decline in original school facility construction continued through the 1970's to 1991. This time category was referenced as the "Recent" construction period.

School buildings served different student populations. Buildings serving elementary pupils varied in design from the design of high schools. In response to survey questions, building administrators reported the grade range of instruction provided to pupils within the building. A frequency table was constructed from these reported instructional grades. This information was used to classify each building into one of the following categories: elementary, middle, high school, K-12, and other.

"Elementary" buildings were those buildings in which administrators reported instruction in grades kindergarten through grade eight and contained at least one grade below grade five. "Middle" education schools were those buildings in which instruction was provided in grades five through nine with no grades beyond those lower or upper grade limits. Buildings categorized as "Secondary" were those in which instruction was offered in grades seven through twelve and at least one grade above grade eight. A category titled "K-12" included buildings in which instruction was reported in grades kindergarten through grade 12. The last category represented in the building analysis was "Other." This building type was typically a special services or special education facility.

Summary

The quantity of data collected by the two facility survey instruments was sizable. To manage these data and make the descriptive presentation and analysis of the responses meaningful to the reader and decision makers, methods to stratify and categorize the responses were required.

Stratifications of the data collected were used to develop the indexes used for the interpretation of the results.

The first index chosen was "Class" of school district. School district class was defined by Nebraska statute, based upon the population base served and the organizational structure of the instructional program. Class II, III, IV, V, and VI districts were surveyed in the facility study.

In 1993, the financing of public school facility construction was based upon revenue generated by taxing school district real and personal property. The index "Quartiles of Valuation/Pupil" was chosen to represent the increasing property tax base available to different Nebraska public school districts. The nearly linear relationship of this increase in valuation made the stratification of the districts into quartiles a logical choice.

Changes in the percentage of county population in Nebraska during the 1980's were reported in the 1990 U.S. Census. U.S. Bureau of Census school district census data for Nebraska were not available at the time of the study. The percentage of county population change was used as a substitute for specific district population change data. Each district was assigned the percentage of population change reported for the county of the district's headquarters. The index "Population Change Category" was

created by sorting the districts into four equal percentage-of-change categories.

To describe the survey responses in relationship to the relative age of a facility of the majority of the districts buildings, an index, "Periods of Facility Construction," was created. This index was created by using the total buildings built during each time period of original facility construction. The shape of the data reported was used to determine the three categories of facility construction used in the index.

The final index was created by examination of the frequency distribution of the grade ranges of instruction reported in each building surveyed. This index, "Building Category," used five classifications of buildings generally descriptive of the types of buildings used in Nebraska school districts. This index was only used for the analysis of the responses from the building survey.

Numbers of Buildings and Districts Reported by Categories within Facility Indexes

Building Index Categories

School administrators returned 828 school building surveys. Analysis of this large number of building surveys and the corresponding data required the development of indexes and categories. Given the previous categories established to index and report the data, the numbers of buildings and districts varied from category to category. Variations in numbers of buildings and districts are presented in this section. Graphs are

used to illustrate the diversity in the numbers of buildings and districts in each category, depending into which index the data were sorted.

Buildings were first sorted into the "Class" index. The number of buildings in each class of Nebraska school districts was represented by this index, as shown in Figure 5.

In Nebraska, the majority of school district were categorized as Class III school districts. It logically followed, as illustrated in Figure 5, that this class had the largest number of buildings (629). The number of buildings in all 51 Class II districts (69) was only six more than the number of buildings in the one Class V (Omaha) district (63).

The index of buildings by quartile of wealth placed each building of a district within the quartile of wealth for that district. The number of buildings in each quartile of wealth is illustrated in Figure 6.

While, the number of districts categorized into each quartile was approximately equal, 75 districts in each quartile, the number of buildings in each quartile was different. With each increase in the quartile of wealth there was a decrease in the number of school buildings.

The categorization process for the index for population change placed each building of each district into the percentage of population change category of the county in which its district was headquartered. For example, Lincoln High School (55-0001-001), a building in the Lincoln Public School district (55-0001), was located in Lancaster County (55), which was a Major Growth county. This placed the responses for the building Lincoln High School in the category Major Growth in the

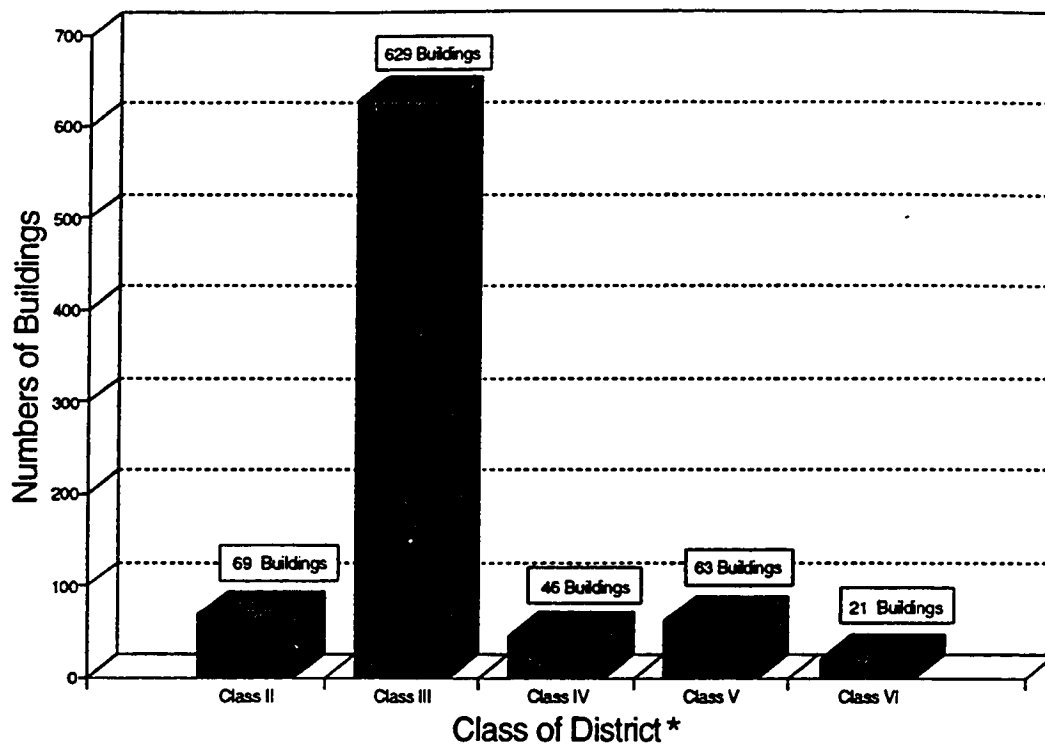


Figure 5. Numbers of Nebraska School Buildings by Class of District

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,00 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

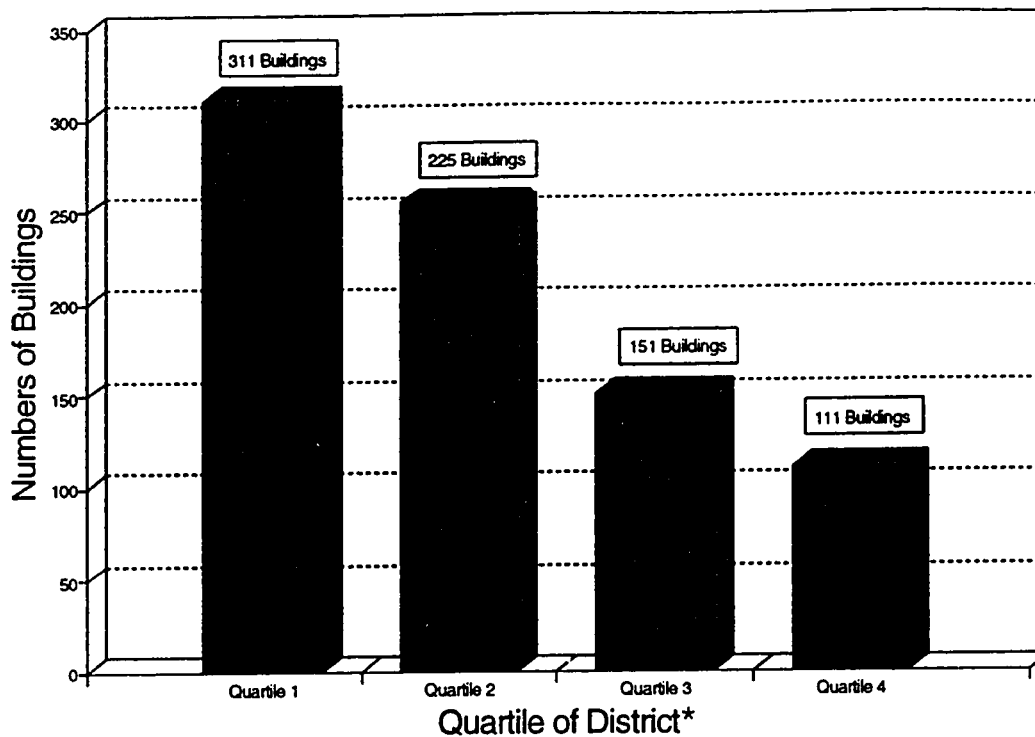


Figure 6. Numbers of Nebraska School Buildings by Quartile Dollars of Valuation/Pupil

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

population change index for buildings. The number of buildings categorized into each growth or decline category is illustrated in Figure 7.

Just as the number of counties in the Major Growth and Growth categories were few, the number of buildings placed in these two categories also reflected a coinciding small number of buildings.

Respondents reported the date of the original construction of the school buildings in one of eight date range categories. After analysis of the construction date range categories, the index for construction era was established. The construction eras used in this index were "World War II & Prior," "Baby Boom Era," and "Recent." The date range of the building's original construction was used to place the individual building in one of the three construction era categories. The number of buildings categorized into each construction era category is illustrated in the graph presented in Figure 8.

Because the number of buildings in each construction date range was used to determine the era categories, this graph closely corresponds to the shape of the index graph illustrated in Figure 4.

The administrators reported the grades of instruction that were currently being provided within the building. Each building's grade ranges were matched to an "Instructional Facility Type" according to the index formula. The number of buildings categorized according to facility type is illustrated in Figure 9.

The number of buildings categorized as "Elementary" buildings (422) was twice as large as the next largest category, "Secondary" buildings (189).

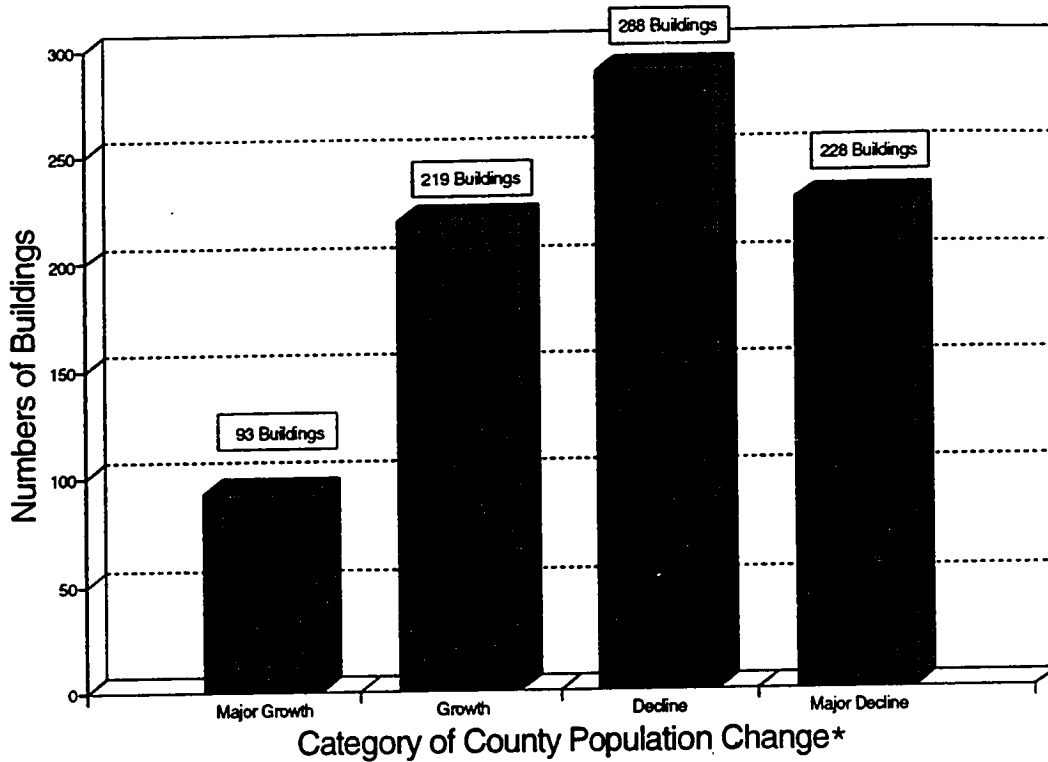


Figure 7. Numbers of Nebraska School Buildings by 1990 County Population Census Change

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

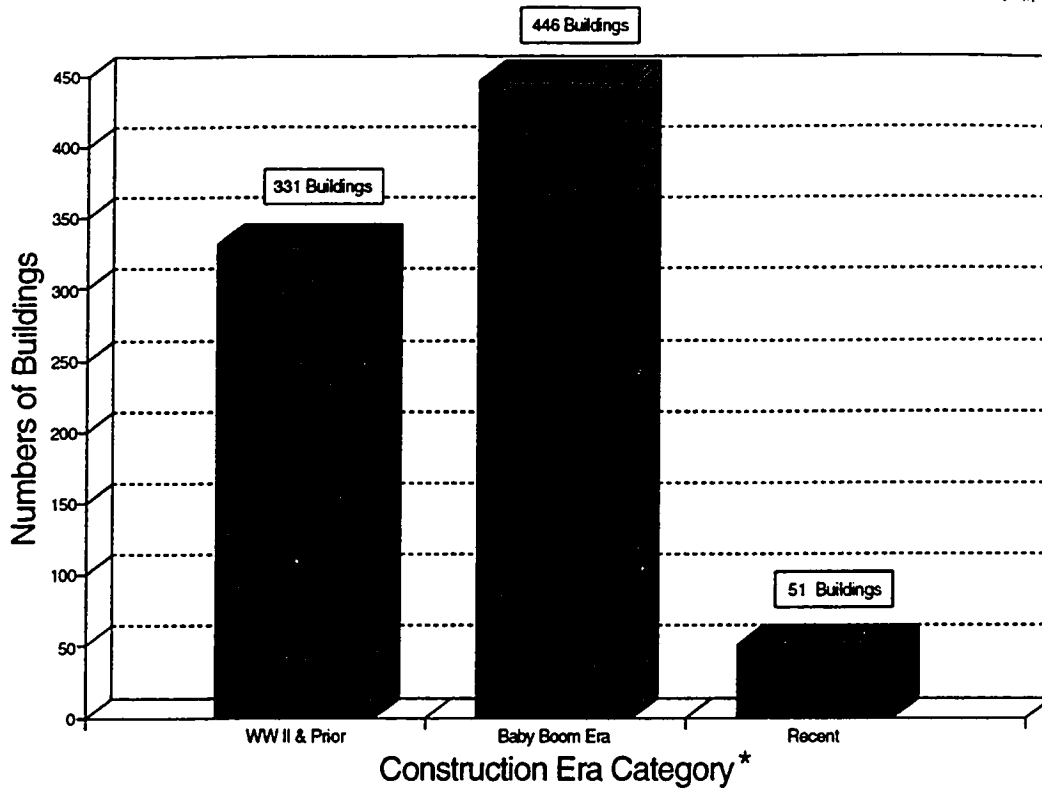


Figure 8. Numbers of Nebraska School Buildings by Construction Era of Buildings

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

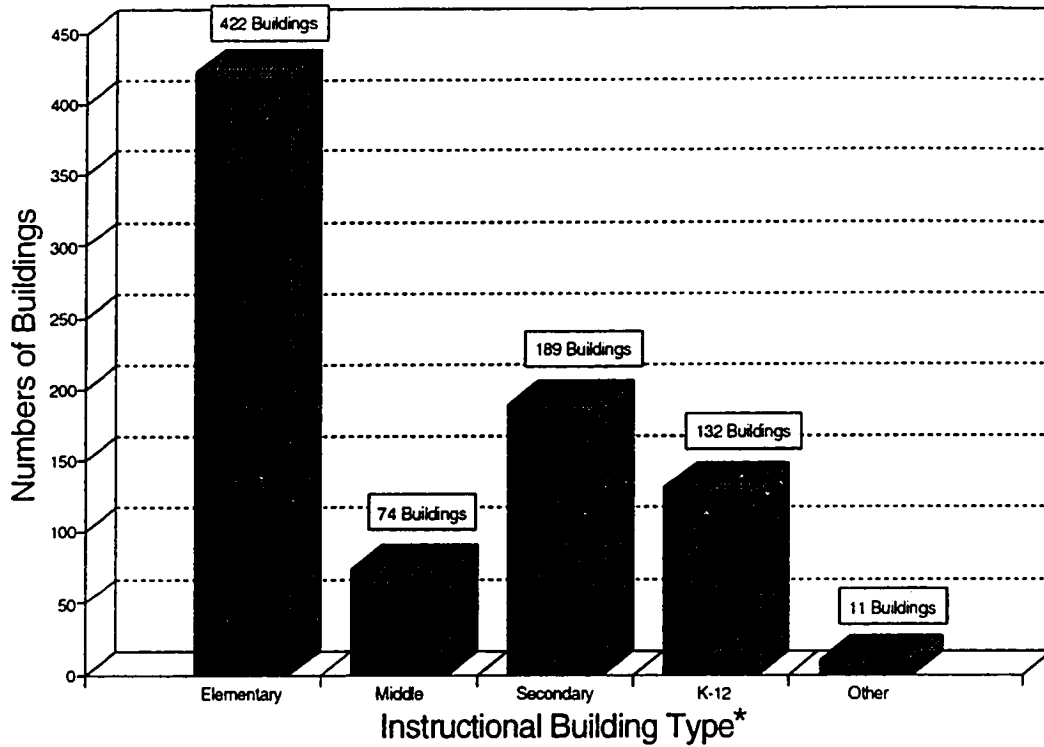


Figure 9. Numbers of Nebraska School Buildings by Instructional Facility Type

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

District Index Categories

Superintendents returned all 299 school district questionnaires. Superintendent responses and the corresponding data were matched to the previous indexes and categories developed for school buildings. The numbers of districts varied from category to category in each index. Graphs were used to illustrate the variation in the numbers of districts in each category depending into which index the data were sorted.

The district index for "Class" included the number of districts by class in Nebraska. These numbers of districts are illustrated in Figure 10. In Nebraska, the majority of school districts were Class III school districts. There was only one Class IV district, Lincoln, and one Class V district, Omaha.

The index of districts, by quartile of wealth, placed each district within one quartile of wealth, determined by the dollars of property valuation divided by pupil ADM. These quartiles are illustrated in Figure 11. This division of districts by quartile divided the numbers of districts into four nearly equal categories of increasing wealth. Each quartile contained 75 districts, except for "Quartile 4" which contained 74 districts.

The index for population change by district placed each district into the percentage of population change category of the county in which its district was headquartered. For example, the Lincoln Public School district (55-0001), was located in Lancaster County (55), which was a Major Growth county. This placed the responses for Lincoln Public Schools in the category Major Growth in the population change index for districts. The number of districts categorized into each growth or decline

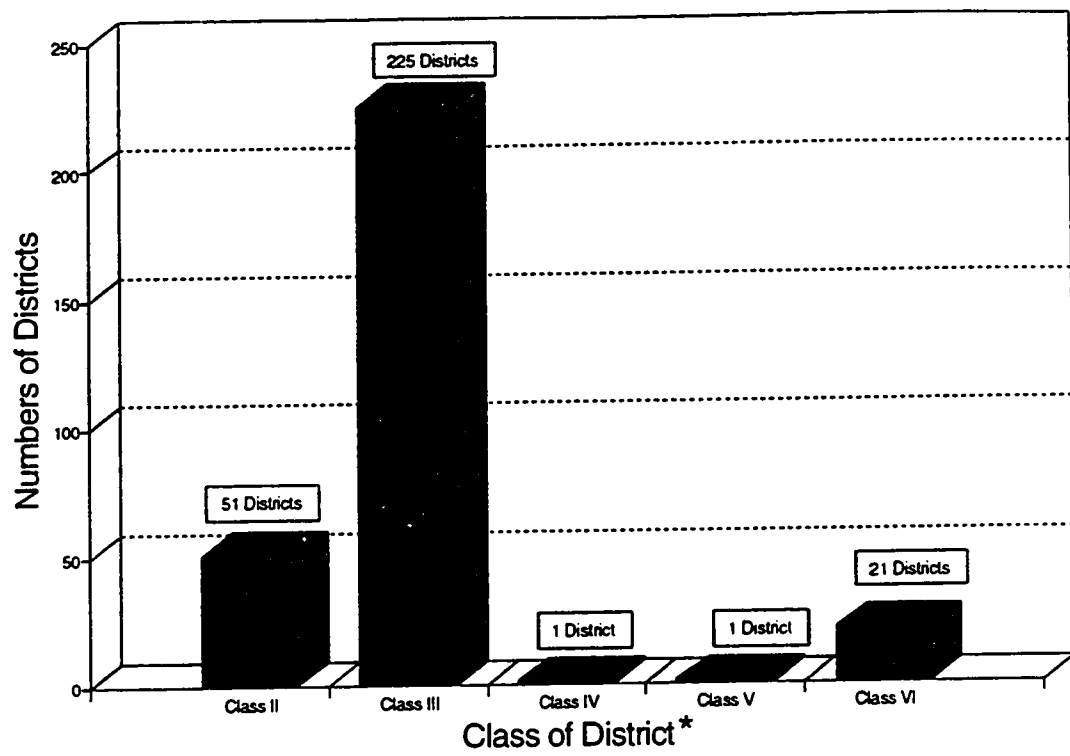


Figure 10. Numbers of Nebraska School Districts by Class of District

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,00 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

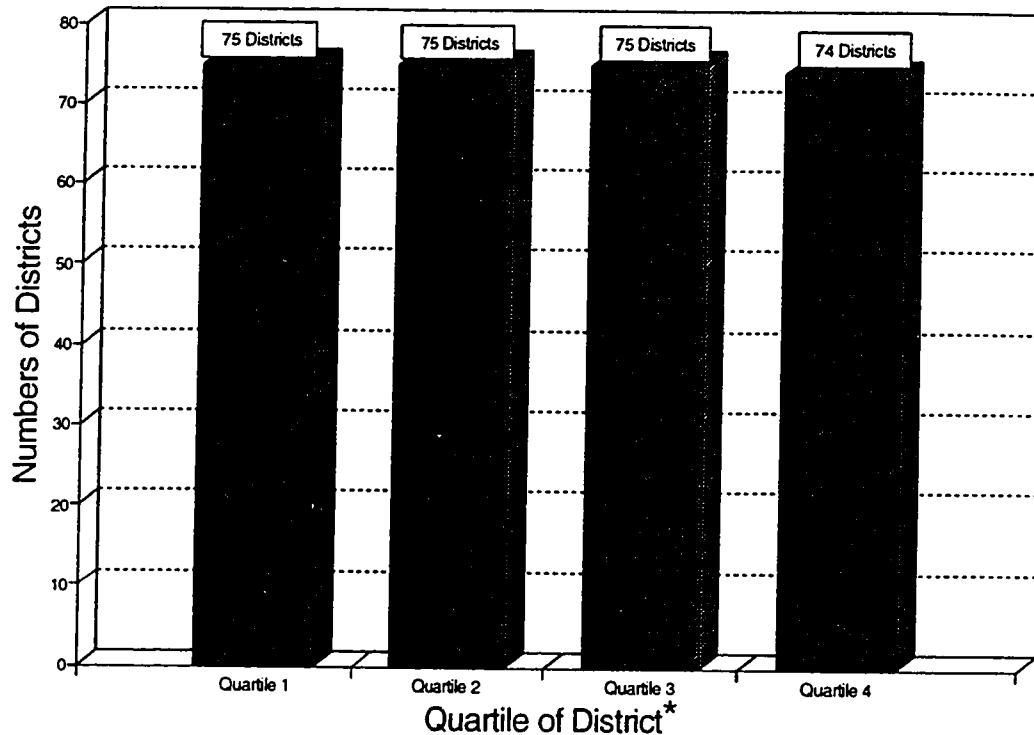


Figure 11. Numbers of Nebraska School Districts by Quartile of Dollars of Valuation/Pupil

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

category is illustrated in Figure 12. Parallel to the number of counties and buildings, the number of districts in the Major Growth and Growth categories were few.

The index for construction era was established by the use of the reported original construction date range of the individual buildings. The construction eras used in this index were the same as those of individual buildings: "World War II & Prior," "Baby Boom Era," and "Recent." A district's categorization in this index, however, was based upon the construction date range of the majority of the district's facilities. If a district administrator reported only one building, the date range of that building determined the construction era category of the district. If construction date ranges were reported for only two buildings, or there was an equal number in two different date range categories, the most recent time category was selected for the district. The number of districts categorized into each building construction era category is illustrated in Figure 13.

Because the number of buildings in each construction date range was used to determine the era categories, and the majority of the construction date ranges of a district's facilities was used to determine the district's construction era, Figure 13 closely matches the shape of the index graph illustrated in Figure 4.

Summary

The description of the superintendent's responses to the facility survey required the use of different indexes into which the data were sorted. These indexes represented different demographic representations of the district level responses. This section illustrated the differences in the

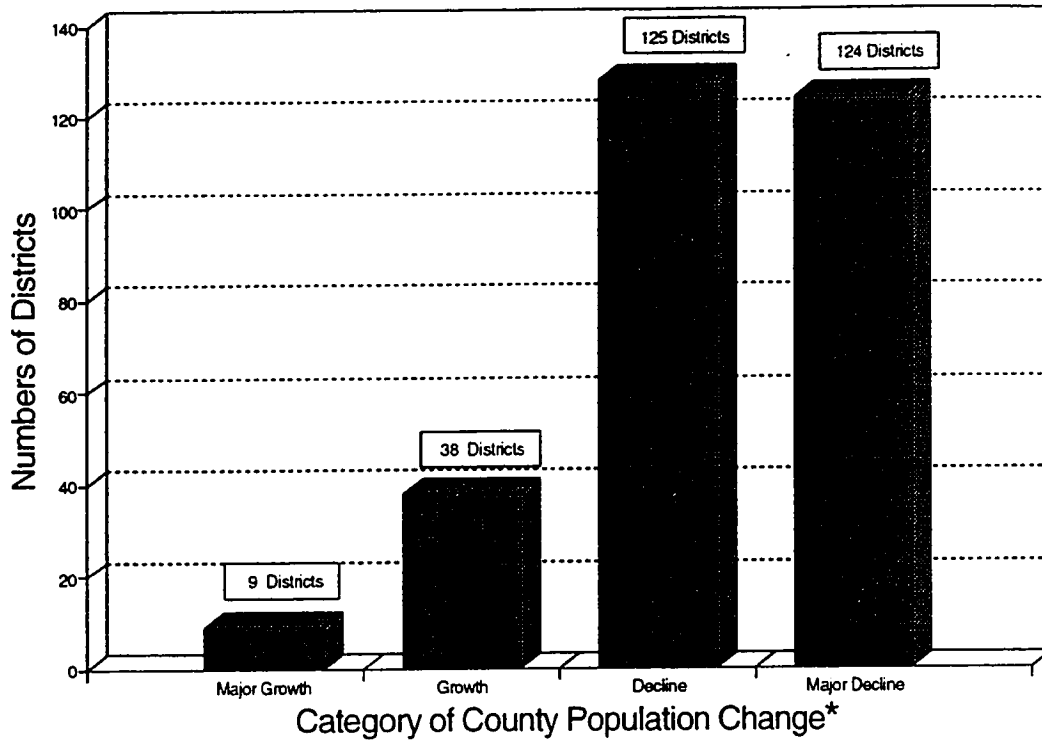


Figure 12. Numbers of Nebraska School Districts by 1990 County Population Census Change

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

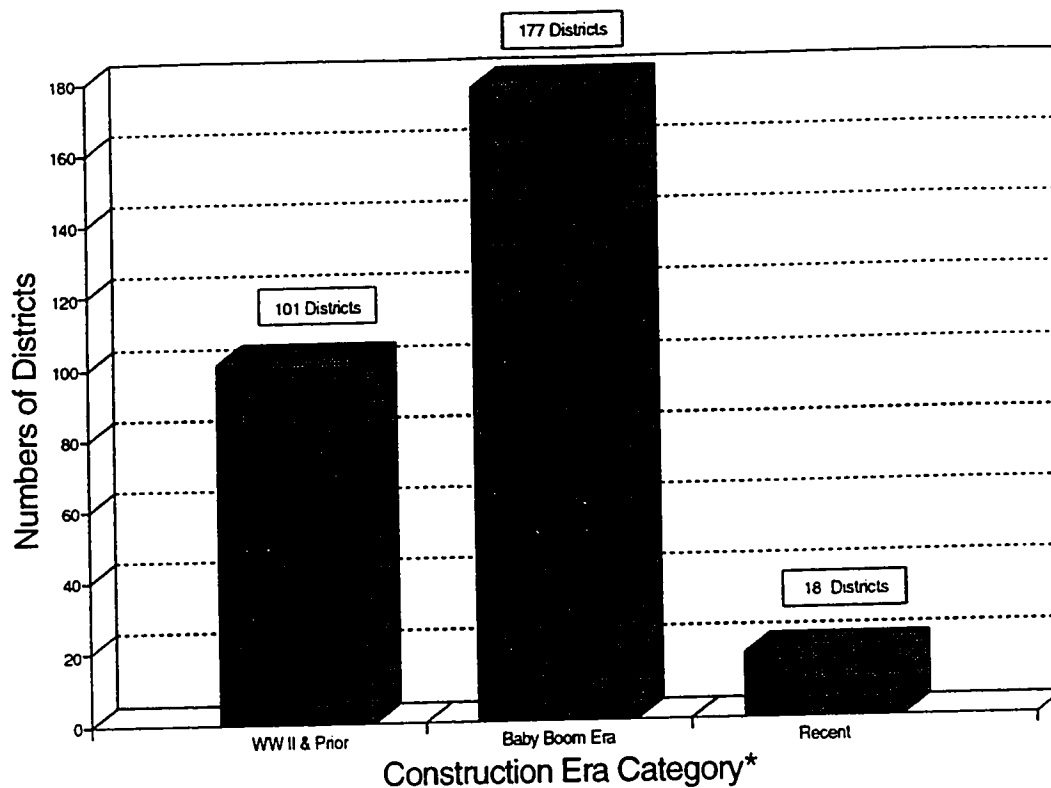


Figure 13. Numbers of Nebraska School Districts by Construction Era of District Buildings

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

numbers of districts that would be included in the analysis of each response by the descriptive indexes.

A Descriptive Analysis of Building Adequacy and Condition

Responses to the "Nebraska Public Schools Facilities Survey Building Questionnaire" (see Appendix A) were returned for 828 Nebraska school buildings from the 299 Class II through Class VI school districts. The responses on the questionnaire varied from basic building demographics such as district name (item 1) and number (item 2), building name (item 3), building address (item 4), grades of instruction offered in the building (items 5-18), date range of the original construction (items 19-26), dates of additions to the original construction (items 27-31), number of teaching stations (item 32), site size (item 33), and current enrollment (item 34). The building administrator or district superintendent was also asked to respond to a series of opinion questions regarding the physical and instructional adequacy of the building (items 35-50).

Grades of instruction offered in each building and the reported date range of original construction (items 5-25) were used to develop two indexes in order to analyze both district and building responses.

Building Questionnaire Items Nineteen through Twenty-Six.

"Date of construction of original building" (check one category of date range listed as items 19 through 26).

The reported date ranges of original construction of school facilities were used to interpret the general age of school facilities currently in use

in Nebraska school districts. Date ranges of original school building construction are presented in Figures 14 through 22. These graphs illustrate the numbers of buildings constructed by date ranges of original construction in the four indexes, "Class of District," "Wealth," "County Population Change," and "Building Instruction Type."

The eight date ranges for original facility construction were "Before 1920," "1920-39," "1940-49," "1950-59," "1960-69," "1970-79," "1980-89," "1990-91." The numbers of the 828 facilities reported constructed during each of these date range categories are illustrated in Figure 14.

The reported numbers of school facilities built during the 1920's and 1930's dropped to a low during the 1940's. During the 1950's and 1960's, another increase in the numbers of school facilities constructed was reported. In successive time periods after this second peak, a declining number of school facilities constructed was reported.

In the data index of "Class" of district, the date ranges of original construction of buildings were sorted into their respective class of the school district. These numbers were graphed and illustrated in Figure 15 as a composite area graph with a legend to assist in differentiating each class.

The totals in this graph match those illustrated in Figure 14. Since there were more Class III districts than any other class, it follows this class would contain the majority of school facilities. The early peak in the number of Class II facilities originally constructed was in the 1920's and 1930's, with very few new constructions started after 1940, as compared to the other classes of districts.

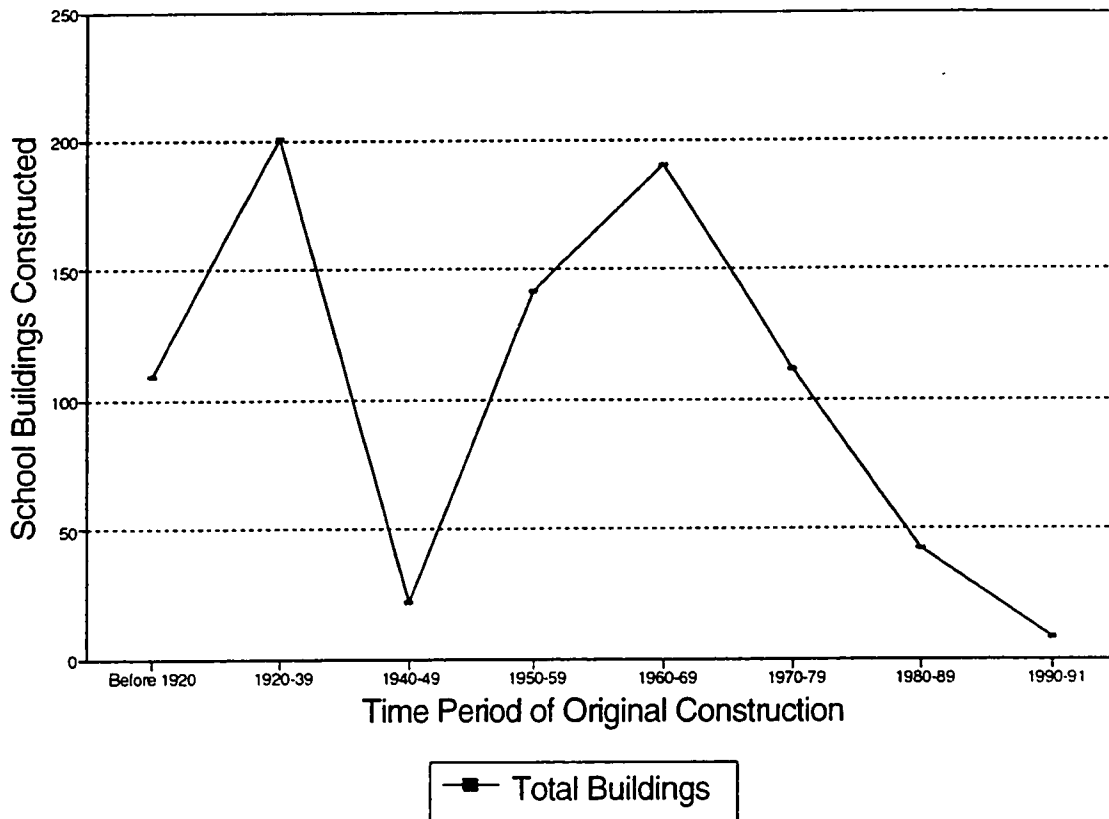


Figure 14. Numbers of Nebraska School Buildings Built During Specified Time Intervals

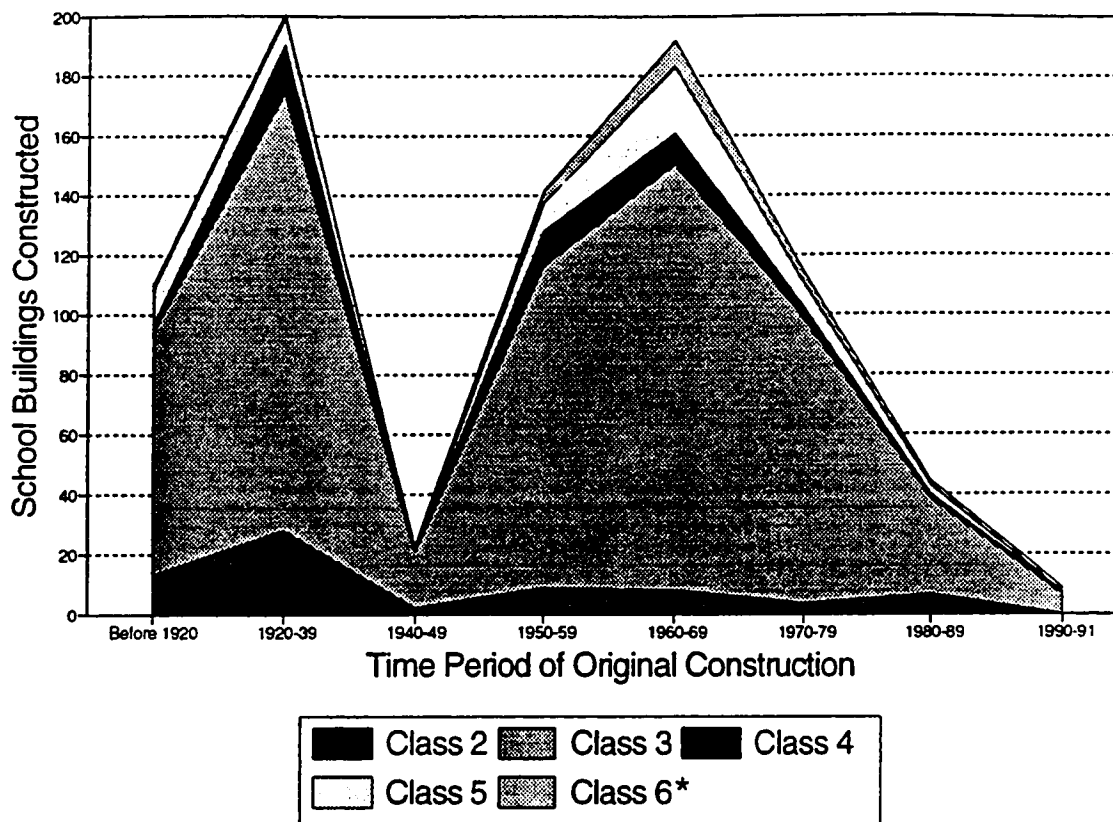


Figure 15. Numbers of Nebraska School Buildings Built During Time Intervals by Class

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,00 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

A ribbon graph was the second method used to examine the reported date ranges of original construction by class. This graphing technique separated each class into individual ribbons of data. The individual path of the ribbon illustrates the numbers of buildings for a specific category. In Figure 16, each ribbon illustrates numbers of buildings by date range of original construction by class of Nebraska school district.

The graph in Figure 16 clearly illustrates the individual differences in facility construction by class. The response to the construction need during the 1950's varied greatly between each class of district. Construction in Class II districts did not show the magnitude of increase that other classes did. Class III districts constructed more buildings over an extended period than other class districts. The Class IV district appeared to construct more facilities in the 1950's than the 1960's, with a continued decrease in construction since that time period. Class V and VI district administrators reported most of the district's school buildings were originally constructed during the 1960's with a decline in construction since that time period.

The index of "Quartiles of Valuation/Pupil" was determined by the dollars of property valuation per pupil for each district. The school districts were assigned to one of four equal quartiles numbered one through four. Each successive quartile represented increasing district property valuation per pupil. The area graph representing the number of buildings constructed during each of the date ranges for each quartile of wealth is illustrated in Figure 17.

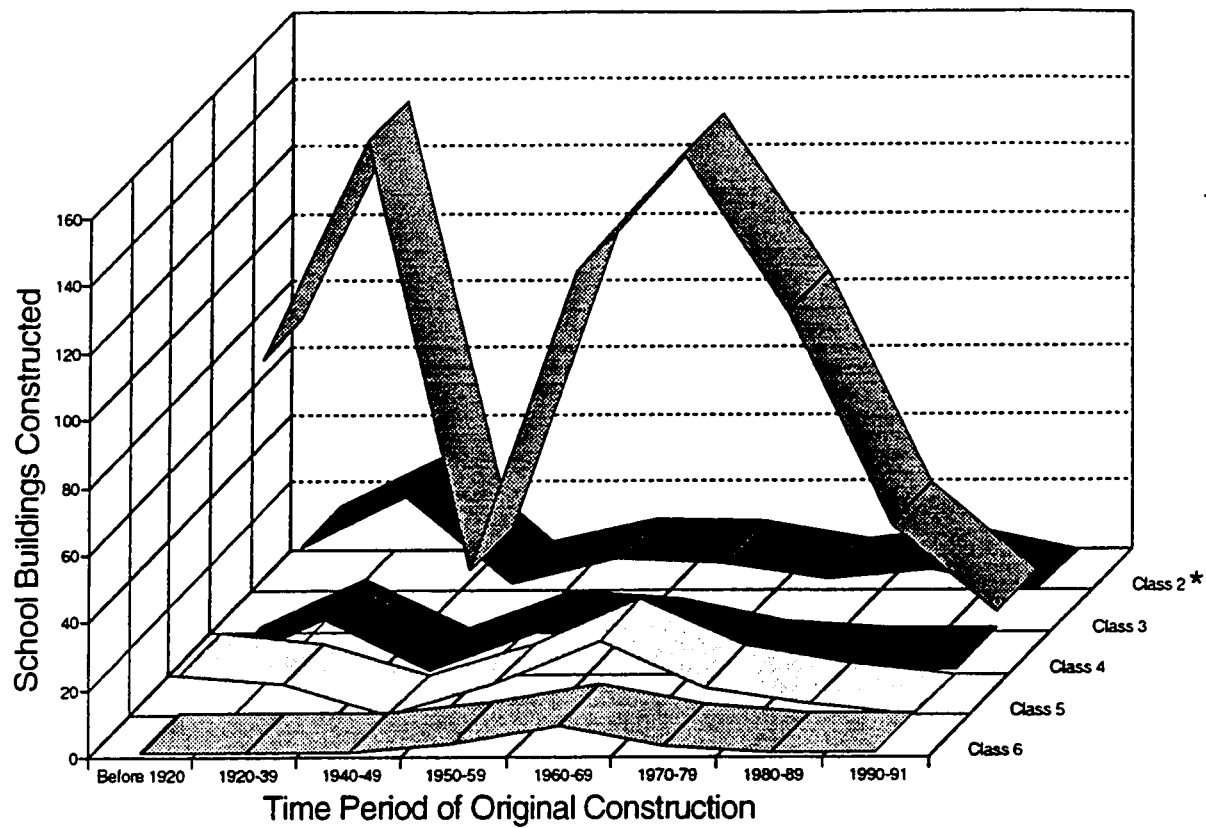


Figure 16 Numbers of Nebraska School Buildings Built During Time Intervals by Class of District

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,00 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

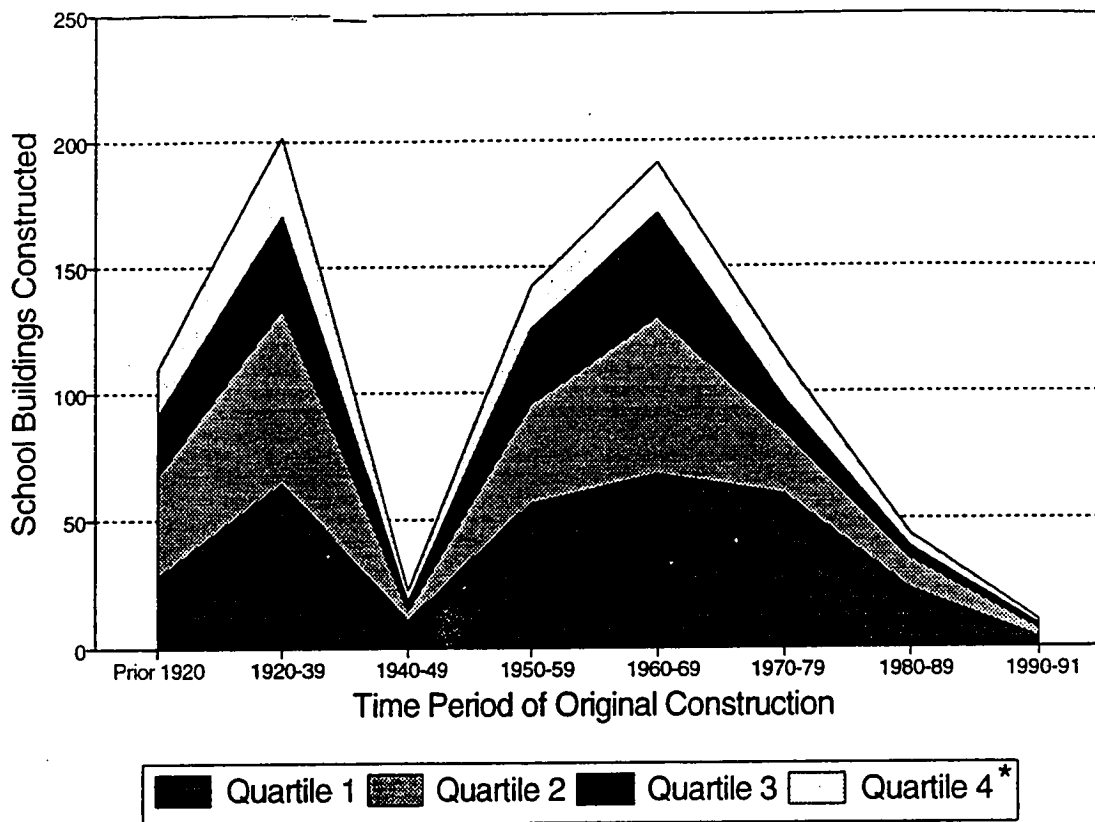


Figure 17. Numbers of Nebraska School Buildings Built During Time Intervals by Wealth

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Each successive layer represented the quartile listed in the legend. Each quartile had a similar shape, however, in almost every date range the numbers of buildings constructed in "Quartile 1" was the greatest.

The ribbon graph constructed to represent the numbers of buildings by original construction date placed the numbers of buildings constructed on separate ribbons, each representing a quartile of wealth. The ribbon graph illustrated in Figure 18 represents the index of the number buildings originally constructed by date range by quartile of increasing wealth.

The ribbon graph in Figure 18 more clearly defines the similarity of the original date ranges of construction which experienced increased and decreased construction by quartile of wealth. This figure also illustrates a larger number of buildings existed in the first two quartiles of wealth, while quartile four, which contained districts with the most dollars of valuation per pupil, reported the least number of facilities.

The index of "Population Change Category" was determined by the 1990 county population census change. The number of buildings constructed in each population change category is illustrated in Figure 19. This area graph was generated by placing the numbers of buildings by reported dates of original construction of the building into their respective county. The building was then indexed by the counties' population change category, "Major Growth," "Growth," "Decline," or "Major Decline."

The area representing the number of buildings by original construction date ranges in the "Major Growth" category was less than each of the other three categories, however, these buildings were constructed in (see Figure 12) just nine school districts. The distribution of the

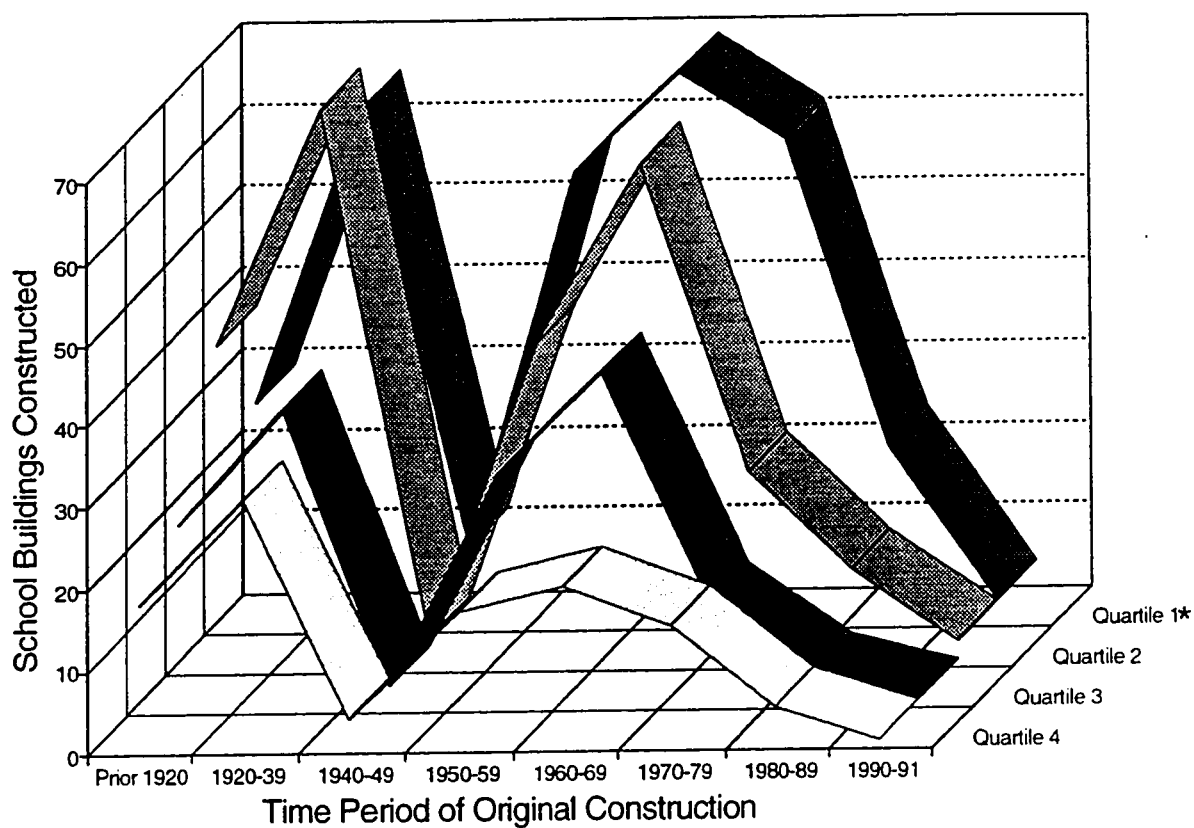


Figure 18. Numbers of Nebraska School Buildings Built During Time Intervals by Wealth

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

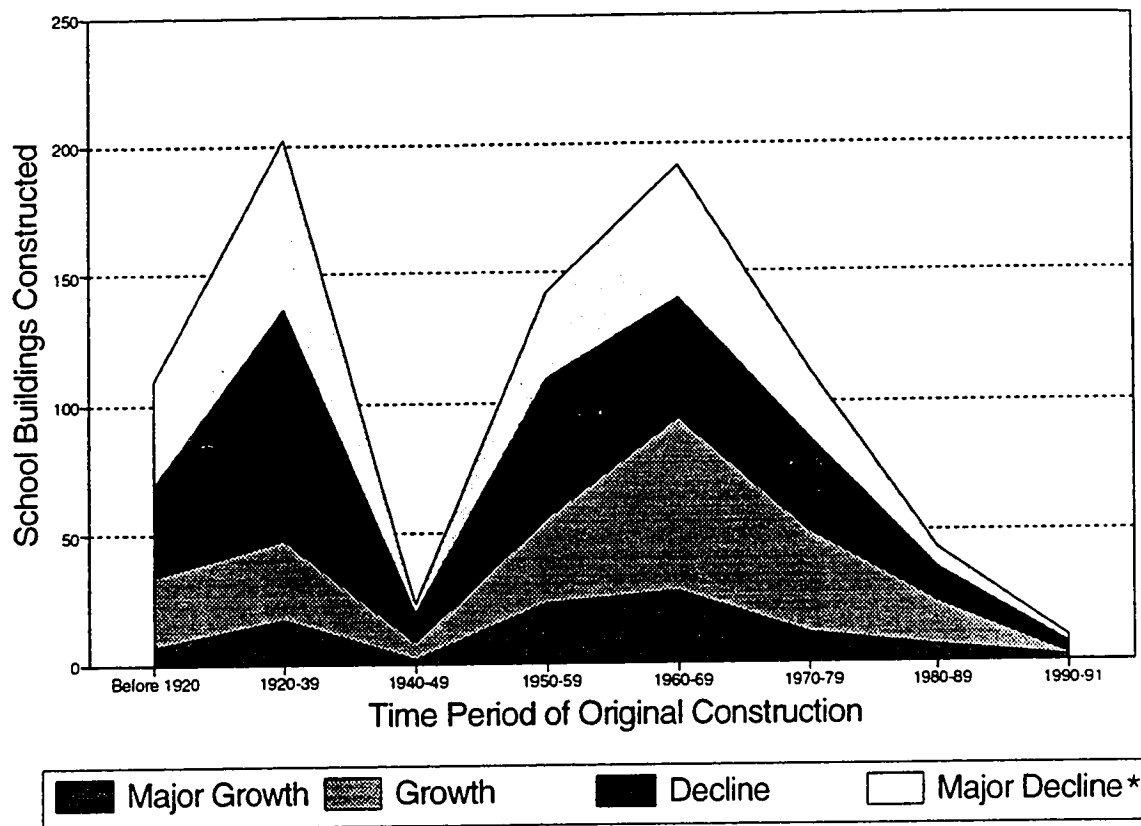


Figure 19. Numbers of Nebraska School Buildings Built During Time Intervals by Population Change

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

number of buildings in this index, constructed in periods of increased and decreased construction, was consistent with the previously established change patterns.

The ribbon graph generated for the index of "Population Change" by 1990 census of county population, sorts each building into the appropriate population change category for that building by percentage of county population change. Each ribbon represents the numbers of buildings by original construction date range in each population change category as illustrated in Figure 20.

Each of the four change categories reflected an increase and decrease pattern consistent with each of the previous indexes and categories. As seen in Figure 20, the category "Major Growth" was the only category in which more facilities were reported to be constructed during the periods following 1940-49 than prior to that time period.

Building Questionnaire Items Five through Eighteen.

The index for facility instructional type was created to differentiate the numbers of buildings by the grade ranges of instruction offered in the facility. The formula used for the indexing of these buildings by grade ranges placed buildings into five categories of facility instructional types. These instructional facility types were "Elementary," "Middle," "Secondary," "K-12," and "Other." The building's original construction date ranges were sorted into one of these five categories. The area graph representing the numbers of buildings by original construction date by building instructional type is illustrated in Figure 21.

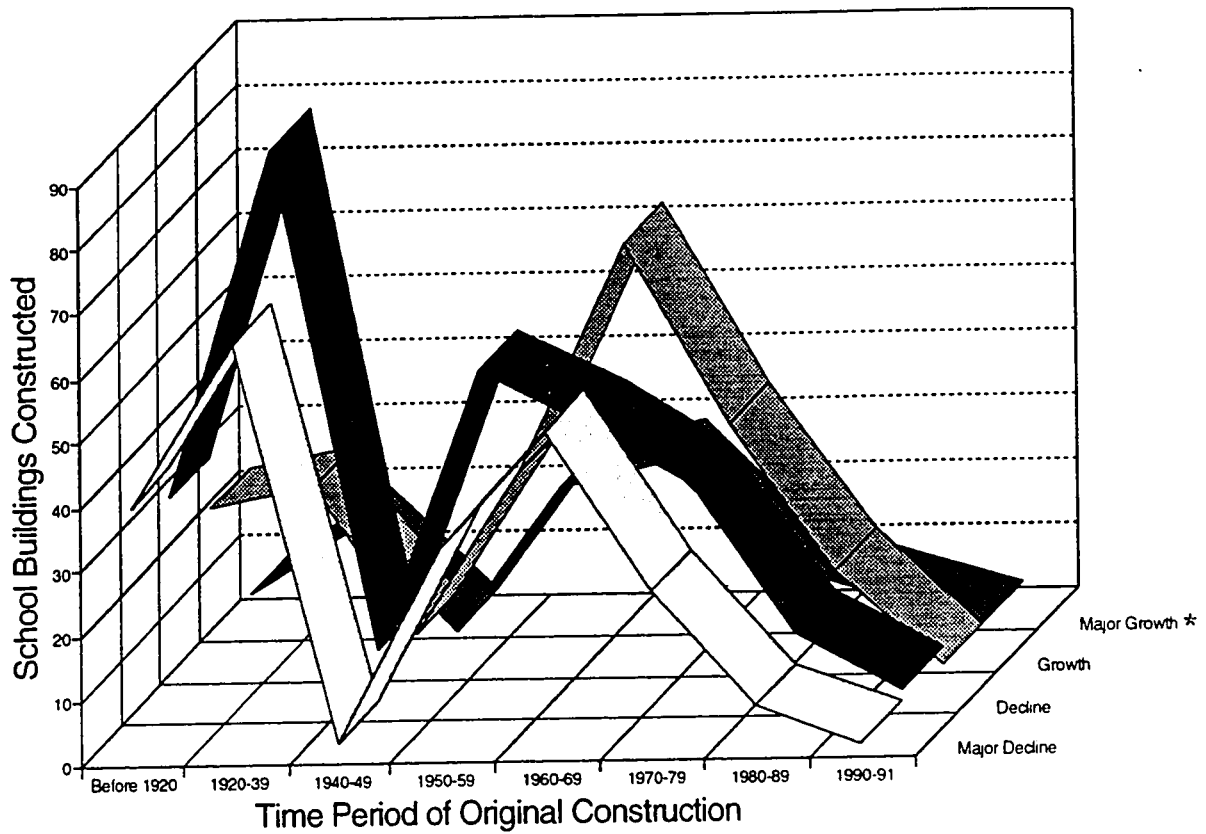


Figure 20. Numbers of Nebraska School Buildings Built During Time Intervals by Population Charge

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

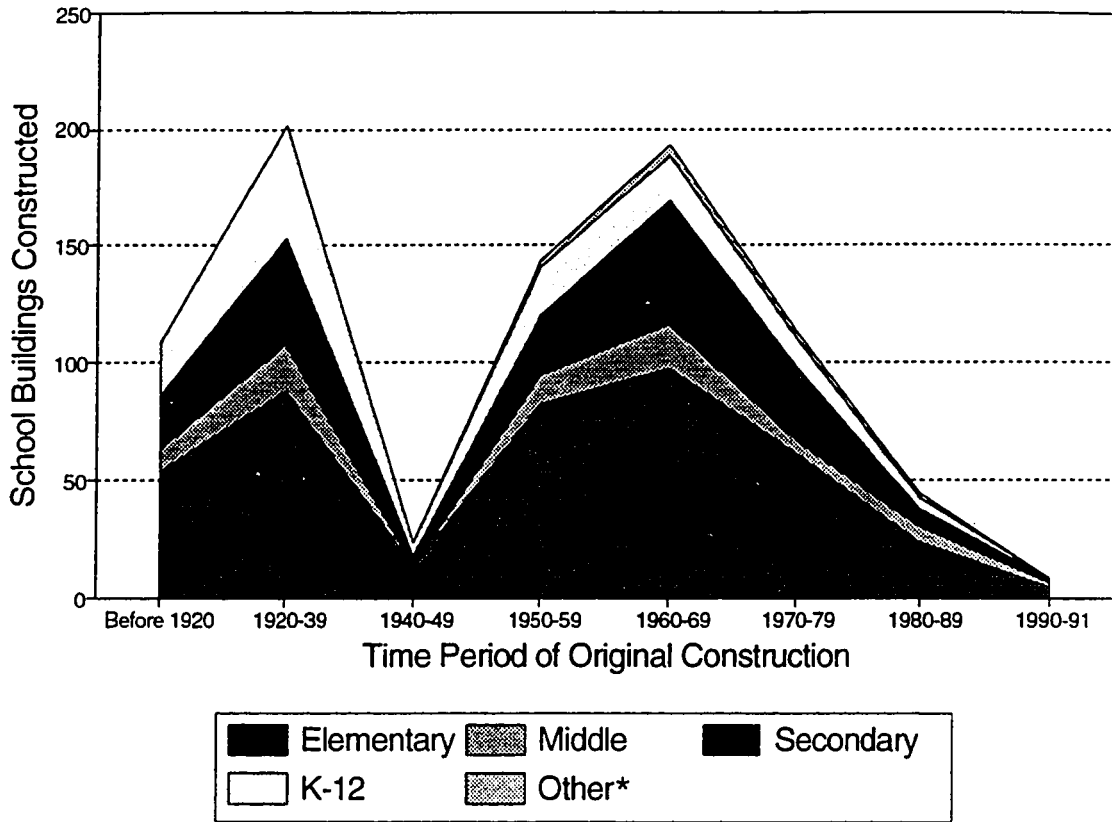


Figure 21. Numbers of Nebraska School Buildings Built During Time Intervals by Building Type

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other

As previously reported, the number of elementary schools outnumbered all other categories. During no date range period were more buildings of any other type built than in the category "Elementary."

Following the same procedure as previous indexes, the ribbon graph generated for the facility instructional type places totals of buildings in each of the five categories of facility types on separate ribbons of the graph. The ribbon graph is illustrated in Figure 22. The ribbon representing the category of K-12 in Figure 22 clearly illustrates the declining numbers of this type of building constructed in Nebraska. Following the 1920-39 date range, construction of this type of facility has continued to decline.

Building Questionnaire Item Thirty-Five.

"Over Capacity?" (Yes or No)

In the review of literature, overcrowded school facilities were reported as a current concern for school managers and decision makers. Were there Nebraska school buildings that were over capacity? Administrators' responses to this question were sorted into each of the five building indexes and analyzed through frequency for distribution and chi square for goodness of fit. For each chi square, a contingency coefficient was calculated to assist in the determination of the chi square probability. The chi square was considered statistically significant at the $p < .001$ level.

The index for "Class" of district represents the frequency of the building administrator's responses to item 35, sorted into one of the five district classes. The frequency and distribution of over capacity buildings by class are presented in Table 3.

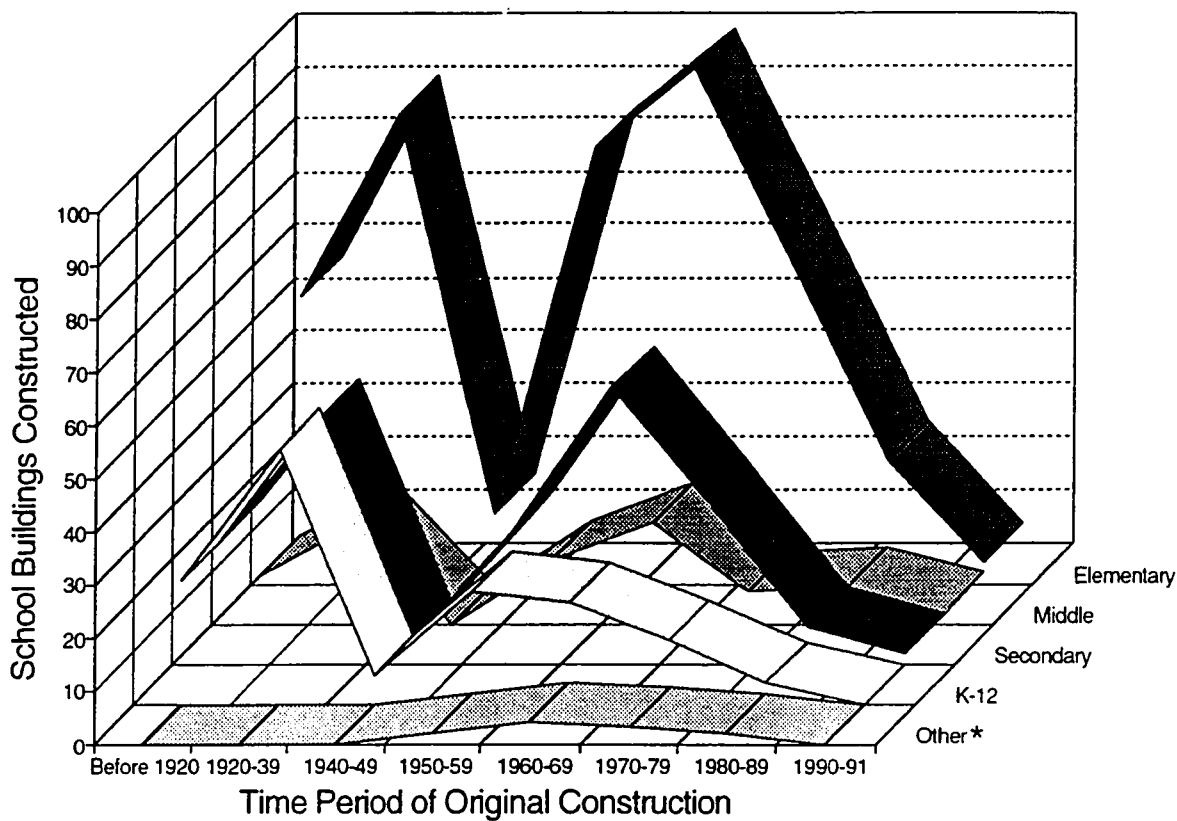


Figure 22. Numbers of Nebraska School Buildings Built During Time Intervals by Building Type

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other

Table 3

Frequency of Over Capacity Buildings as Reported by Superintendents and Principals by Class of School District in Nebraska

District Class*	Over Capacity Buildings				Total
	Yes	Percent	No	Percent	
II	1	1.5	68	98.5	69
III	92	14.6	537	85.4	629
IV	31	67.4	15	32.6	46
V	28	44.4	35	55.6	63
VI	0	0.0	21	100.0	21
Total	152	18.4	676	81.6	828

$X^2 = 126.126$ ($p < .001$); contingency coefficient = 0.364

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Administrators in Class IV and Class V, representing Lincoln and Omaha, reported the largest number of over capacity buildings. Administrators in Class II and Class VI reported only a small percentage or no buildings over capacity. This relationship by class was statistically significant, with a moderate effect size.

The index of "Quartile of Valuation/Pupil" sorted the responses of building administrator's regarding over capacity buildings into successive quartile categories of increasing relative wealth. The frequency of administrator's responses are shown in Table 4. The reported numbers of over capacity buildings decreased with increased wealth, as illustrated in Table 4. This finding was significant; however, the effect of this significance was small.

To determine if the condition of over capacity facilities was proportionally significant when population change of the county was considered, the responses to item 35 were sorted into the index of "Population Change Category." The analysis of the responses are reported in Table 5. The reported frequency of over capacity school buildings increased with the increased percentage of county population growth. The proportion of change was significant and the effect was moderate.

The relative age of a building was interpreted through the index of "Periods of Facility Construction." Responses were sorted into the construction era groupings and the results are reported in Table 6. The category "World War II and prior" representing the oldest buildings was reported to be the most overcrowded (22.4%). Date of original

Table 4

Frequency of Over Capacity of Buildings as Reported by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Over Capacity Buildings				Total
	Yes	Percent	No	Percent	
Quartile 1	62	19.9	249	80.1	311
Quartile 2	77	30.2	178	69.8	255
Quartile 3	12	7.9	139	92.1	151
Quartile 4	1	0.9	110	99.1	111
Total	152	18.4	676	81.6	828

$X^2 = 57.851$ ($p < .001$); contingency coefficient = 0.256

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 5

Frequency of Over Capacity Buildings as Reported by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Over Capacity Buildings				Total
	Yes	Percent	No	Percent	
Major decline	15	6.6	213	93.4	228
Decline	29	10.1	259	89.9	288
Growth	67	30.6	152	69.4	219
Major growth	41	44.1	52	55.9	93
Total	152	18.4	676	81.6	828

$X^2 = 97.258$ ($p < .001$); contingency coefficient = 0.324

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 6

Frequency of Over Capacity Buildings as Reported by Superintendents and Principals by Periods of Facility Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction	Over Capacity Buildings				Total
	Yes	Percent	No	Percent	
World War II and prior	74	22.4	257	77.6	331
Baby boom era	68	15.3	378	84.7	446
Recent	10	19.6	41	80.4	51
Total	152	18.4	676	81.6	828

$X^2 = 6.465$; contingency coefficient = 0.088

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

construction of a school building had no relationship to the reported condition of overcrowding of the building.

Type of instructional facility may be broadly interpreted to reflect the age of the pupils who attended those facilities. In grade ranges kindergarten through twelve, the student population served in each grade generally increased in age with each advance in grade level. The results of reported overcrowding in different building types are presented in Table 7. In 1991 both the elementary (26.3%) and middle (25.7%) level, educational facilities were reported as experiencing overcrowded conditions. Few secondary buildings (7.4%) were reported as being overcrowded while K-12 facilities (5.3%) were proportionately experiencing the least overcrowding.

Building Questionnaire Items Thirty-Six through Thirty-Eight.

"How would you rate the adequacy of your building for the existing instructional program?" (36 = Poor, 37 = Adequate, 38 = Good)

The instructional programs offered within the school facility varied and were required to change to meet the current demand of the district's population and educational trends. Administrators working in these facilities, with instructional staff and pupils, had an opinion regarding the adequacy of their buildings' condition to provide for educational programs. The administrators were asked to rank their opinion regarding this educational adequacy. The responses were sorted into each of the five building survey indexes for analysis.

Table 7

Frequency of Over Capacity Buildings as Reported by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Over Capacity Buildings				Total
	Yes	Percent	No	Percent	
Elementary	111	26.3	311	73.7	422
Middle	19	25.7	55	74.3	74
Secondary	14	7.4	175	92.6	189
K-12	7	5.3	125	94.7	132
Other	1	9.1	10	90.9	11
Total	152	18.4	676	81.6	828

$X^2 = 51.182$ ($p < .001$); contingency coefficient = 0.241

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

Administrators' responses to their facilities' adequacy for existing instructional programs were coded and sorted into the index "Class" of district. The results of this coding and sorting are presented in Table 8. The administrators of buildings in Class II districts reported the highest percentage (25.0%) of buildings considered poor. Administrators in this same class, however, considered most of their facilities' adequacy for the educational programs good (42.6%). Class IV (62.2%) and Class V (58.7%) administrators considered the majority of their buildings adequate for existing instructional programs. Class VI districts were reported by the majority (78.9%) of their administrators as having "good" facilities for their existing instructional programs. Proportional differences reported for a building's adequacy for their existing instructional program by class of district were significant. The effect of this difference was small.

To determine the effect of wealth upon a building's reported instructional adequacy, administrator responses were sorted into the index representing their districts' respective quartile of relative wealth. The results of this classification are reported in Table 9. The greatest percentage of buildings reported as poorly meeting the expectations of the administrators to meet the existing educational program were found in quartile one (20.8%) and quartile three (21.1%). The majority of all buildings were rated adequate or good for existing instructional programs, regardless of quartile of wealth.

To interpret the adequacy for existing instructional program responses in relationship to county population growth the data were sorted

Table 8

Rating of Adequacy of Buildings for Existing Instructional Program as Perceived by Superintendents and Principals by Class of School District in Nebraska

District Class*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
II	17	25.0	22	32.4	29	42.6	68
III	118	19.2	213	34.8	282	46.0	613
IV	8	17.8	28	62.2	9	20.0	45
V	6	9.5	37	58.7	20	31.8	63
VI	0	0.0	4	21.1	15	78.9	19
Total	149	18.4	304	37.6	355	44.1	808**

$X^2 = 39.890$ ($p < .001$); contingency coefficient = 0.217

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

**Nonrespondents = 20

Table 9

Rating of the Adequacy of Buildings for Existing Instructional Program as Perceived by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Quartile 1	64	20.8	105	34.1	139	45.1	308
Quartile 2	38	15.1	119	47.4	94	37.5	251
Quartile 3	30	21.1	43	30.3	69	48.6	142
Quartile 4	17	15.9	37	34.6	53	49.5	107
Total	149	18.4	304	37.6	355	43.9	808**

$X^2 = 17.006$; contingency coefficient = 0.144

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

**Nonrespondents = 20.

into the "Population Change" index. Results of the sorted responses are presented in Table 10.

The highest percentage of buildings reported as substandard in meeting the expectations of the administrators for providing for existing educational programs were found in the categories of "Major Decline" (21.0%) and "Decline" (20.9%) (see Table 10). Because these two index categories contained the largest number of buildings, 104 of the total 149, poor buildings were in these two categories. Regardless of population growth category, the majority of all buildings were reported adequate or good for housing the existing instructional programs.

To determine if date of original construction would make a significant difference in the administrators' responses to item 38, the responses were categorized into the index for "Periods of Facility Construction." The results of the sorting of the data into the facility age index are presented in Table 11.

The responses of the school administrators, when sorted into periods of decreasing age, clearly reflected a changing opinion regarding the adequacy to meet the existing educational program. Those buildings rated poor were primarily in the "World War II and prior" category (35.1%) and the majority of the buildings reported as good were found in the "baby boom era" (54.0%) and "recent" (89.6%). These proportional relationships were significant with a moderate effect.

Adequacy of a building's ability to meet existing instructional programs was sorted into the index for building instructional category to

Table 10

Rating of Adequacy of Buildings for Existing Instructional Program as Perceived by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Major decline	46	21.0	75	34.3	98	44.7	219
Decline	58	20.9	108	38.8	112	40.3	278
Growth	31	14.2	77	35.2	111	50.6	219
Major growth	14	15.2	44	47.8	34	36.9	92
Total	149	18.4	304	37.6	355	44.0	808**

$X^2 = 12.204$; contingency coefficient = 0.122

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

**Nonrespondents = 20

Table 11

Rating of Adequacy of Building for Instructional Program as Perceived by Superintendents and Principals by Periods of Facility Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
World War II and prior	114	35.1	134	41.2	77	23.7	325
Baby boom era	35	8.1	165	37.9	235	54.0	435
Recent	0	0.0	5	10.4	43	89.6	43
Total	149	18.4	304	37.6	355	44.0	808**

$X^2 = 156.848$ ($p < .001$); contingency coefficient = 0.403

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Nonrespondents = 20

determine if the responses were dissimilar for different types of buildings. Analyses of the responses are presented in Table 12. The results of the administrators' responses, when sorted into the building category index, revealed there was a fairly consistent proportion of buildings reported in each condition in each category. As in all other indexes of assessment, the majority of the buildings in each category were judged by administrators as either adequate or good for existing educational programs.

Building Questionnaire Items Thirty-Nine through Forty-One.

"How would you rate the interior physical condition of your building, e.g., paint, flooring, equipment, lighting, etc.?" (39 = Poor, 40 = Adequate, 41 = Good).

The interior condition of the school facility has a great impact upon the ambiance or climate toward instruction and attitude of the pupils and instructional staff. Quality educational programs require an internal atmosphere conducive to learning. Administrators working in these facilities were observant of the internal conditions in the building and had an opinion regarding the overall internal condition of the facility. The building administrators were asked to rank their opinions regarding their buildings' interior physical condition. The responses were sorted into each of the five building survey indexes for analysis.

The first index used for analysis of interior condition was "Class" of the district. The opinions of the building administration regarding interior condition are reported in Table 13.

Very few buildings were reported to be in "Poor" condition. The highest percentage of school buildings whose interiors were considered

Table 12

Rating of Adequacy of Buildings for Existing Instructional Program as Perceived by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Elementary	82	19.7	164	39.3	171	41.0	417
Middle	12	16.4	32	43.8	29	39.7	73
Secondary	27	14.7	58	31.5	99	53.8	184
K-12	28	22.6	45	36.3	51	41.9	124
Other	0	0.0	5	50.0	5	50.0	10
Total	149	18.4	304	37.6	355	44.0	808**

$X^2 = 13.760$; contingency coefficient = 0.129

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

**Nonrespondents = 20

Table 13

Rating of Physical Condition of Building Interior as Perceived by
Superintendents and Principals by Class of School District in Nebraska

District Class*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
II	5	7.4	26	38.2	37	54.4	68
III	61	10.0	176	28.8	374	61.2	611
IV	0	0.0	0	0.0	46	100.0	46
V	2	3.2	15	23.8	46	73.0	63
VI	1	5.3	3	15.8	15	78.9	19
Total	69	8.5	220	27.3	518	64.2	807**

$X^2 = 37.612$ ($p < .001$); contingency coefficient = 0.211

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

**Nonrespondents = 21

poor was reported in Class III school districts (10.0%). In every class district the lowest percentage of their buildings was reported as "Poor" and the highest percentage was reported as "Good." This relationship was significant; however, the power of the relationship was small.

To consider how the categories of wealth reflected upon the opinions of the administrators regarding the condition of a building's interior, the responses were sorted into the index "Quartile of Valuation/Pupil." The results of the analysis are reported in Table 14. In every quartile of wealth, the majority of school building interiors were reported in good condition. Interestingly, although there was only a small number of buildings (11) quartile four, the highest percentage of buildings were reported in poor condition (10.3%) in this quartile. This was the quartile considered most wealthy.

Population change could reflect a potential for decreasing enrollments and possible neglect of interiors. The responses were sorted into the index for "Population Change" and the results of this analysis are presented in Table 15. The largest numbers and highest percentage of building interiors reported in poor condition were found in the decline categories. At the other end of the population change index, the categories of growth showed the highest percentage of buildings with interiors in good condition. This relationship was significant; however, the effect was small.

Category of original construction of a school building reflected a building constructed to meet the requirements of a school during that time period. Many buildings had not been remodeled or refitted to meet current

Table 14

Rating of Physical Condition of Building Interior as Perceived by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Quartile 1	27	8.8	90	29.2	191	62.0	308
Quartile 2	17	6.8	56	22.4	177	70.8	250
Quartile 3	14	9.9	44	31.0	84	59.1	142
Quartile 4	11	10.3	30	28.0	66	61.7	107
Total	69	8.5	220	27.3	518	64.2	807**

$X^2 = 7.514$; contingency coefficient = 0.096

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

**Nonrespondents = 21

Table 15

Rating of Physical Condition of Building Interior as Perceived by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Major decline	29	13.4	67	30.9	121	55.7	217
Decline	26	9.4	93	33.5	159	57.1	278
Growth	12	5.5	52	23.7	155	70.8	219
Major growth	2	2.2	8	8.6	83	89.2	93
Total	69	8.6	220	27.3	518	64.1	807**

$X^2 = 45.88$ ($p < .001$); contingency coefficient = 0.232

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

**Nonrespondents = 21

interior requirements for schools. The opinions of building administrators regarding the interior condition of their school buildings were sorted into the index for "Periods of Facility of Construction" and are shown in Table 16.

The category "World War II and prior" for periods of facility construction reflected the highest number of building interiors reported as poor (69). The more current the date range category, the higher the percentage of buildings reported in good condition. The highest percentage of buildings reported in good condition was in the category "Recent." This relationship was significant, and the effect of the relationship was moderate.

The responses regarding the interior condition of school buildings were sorted into the index for "Building Category" of instructional program. The results of this analysis were presented in Table 17. The administrators' reported opinions regarding the condition of the buildings' interior were consistent from building category to building category. The majority of the buildings were considered by building management to be in good condition.

Building Questionnaire Items Forty-Two through Forty-Four.

"How would you rate the exterior physical condition of your building, e.g., roof, tuck pointing, paint, windows, etc.?" (42 = Poor, 43 = Adequate, 4 = Good)

The exterior condition of the school facility also has an influence upon the climate and attitude of the pupil and instructional staff. In addition, the exterior condition of a school provides a parallel

Table 16

Rating of Physical Condition of Building Interior as Perceived by Superintendents and Principals by Periods of Facility Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
World War II and prior	60	18.5	128	39.4	137	42.1	325
Baby boom era	9	2.1	90	20.7	335	77.2	434
Recent	0	0.0	2	4.2	46	95.8	48
Total	69	8.6	220	27.3	518	64.1	807**

$X^2 = 139.922$ ($p < .001$); contingency coefficient = 0.384

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Nonrespondents = 21

Table 17

Rating of Physical Condition of Building Interior as Perceived by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Elementary	35	8.4	109	26.2	272	65.4	416
Middle	6	8.1	20	27.0	48	64.9	74
Secondary	17	9.3	38	20.8	128	69.9	183
K-12	10	8.1	50	40.3	64	51.6	124
Other	1	8.1	3	30.0	6	60.0	10
Total	69	8.6	220	27.3	518	64.1	807**

$X^2 = 15.120$; contingency coefficient = 0.136

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

**Nonrespondents = 21

representation of the attitude of the community towards education or the lack of resources the community has to invest in education. Administrators working in these facilities were observant of the external condition of the building and had opinions regarding the external condition of the facility. The administrators were asked to rank their opinions regarding the exterior physical condition. The responses were sorted into each of the five building survey indexes for analysis.

The building exterior condition responses of the building management were sorted into the index for "Class" of the district for analysis. The opinions of the building administrators regarding exterior conditions were reported in Table 18. A total of 81 building exteriors were reported to be in poor condition. In Class II, 13 (19.1%) and Class III, 64 (10.5%) of the school building exteriors were rated as poor. Congruent with the reported interior condition by class (see Table 13), in every class category the lowest percentage of buildings was reported as poor and the highest percentage was reported as good. The majority of buildings in each class were reported as either adequate or good. This relationship was significant; however, the effect of the relationship was small.

The analysis of the rating of the building's exterior by the relative wealth was done by sorting the building administrators' responses into the appropriate category of the relative wealth index of the school district. This analysis of the buildings' exterior conditions by wealth is presented in Table 19.

Table 18

Rating of Physical Condition of Building Exterior as Perceived by Superintendents and Principals by Class of School District in Nebraska

District Class*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
II	13	19.1	17	25.0	38	55.9	68
III	64	10.5	188	30.8	358	58.7	610
IV	0	0.0	0	0.0	46	100.0	46
V	3	4.8	13	20.6	47	74.6	63
VI	1	5.3	3	15.8	15	78.9	19
Total	81	10.1	221	27.4	504	62.5	806**

$X^2 = 44.352$ ($p < .001$); contingency coefficient = 0.228

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

**Nonrespondents = 22

Table 19

Rating of Physical Condition of Building Exterior as Perceived by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Quartile 1	34	11.0	95	30.8	179	58.2	308
Quartile 2	14	5.6	56	22.4	180	72.0	250
Quartile 3	17	12.1	42	29.8	82	58.2	141
Quartile 4	16	15.0	28	26.2	63	58.8	107
Total	81	10.0	221	27.4	504	62.6	806**

$X^2 = 17.519$; contingency coefficient = 0.146

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

**Nonrespondents = 22

In each quartile of increasing wealth, the percentage of buildings reported in each category was proportionally similar. As in the rating of interior condition (see Table 14), although only a small number of buildings (16) were reported in quartile four, the highest percentage of buildings whose exterior condition was reported in condition (15.0%) was in this category. The quartile four category was considered the most wealthy.

Responses of building management regarding exterior condition were sorted into the index for "Population Change" by county. The results of this analysis are presented in Table 20. The largest number and highest percentage of building exteriors reported in poor condition were found in the two decline categories. The two categories of growth showed the highest percentage of buildings with exteriors reported in good condition. The majority of all categories of population change building exteriors were reported to be in good condition. This relationship was significant; however, the effect of the relationship was considered small.

Category of original construction of a school building revealed a school building constructed to meet the building codes and utilize the construction technology of that time period. Many buildings constructed in earlier time periods had additions constructed, roofs replaced, or modifications completed for energy conservation. The opinions of administrators regarding the current exterior condition of their school buildings were sorted into the index "Periods of Facility of Construction" and are shown in Table 21.

Table 20

Rating of Physical Condition of Building Exterior as Perceived by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Major decline	27	12.4	72	33.2	118	54.4	217
Decline	32	11.5	85	30.6	161	57.9	278
Growth	17	7.8	55	25.2	146	67.0	219
Major growth	5	5.4	9	9.7	79	85.0	93
Total	81	10.1	221	27.4	504	62.5	806**

$X^2 = 31.056$ ($p < .001$); contingency coefficient = 0.193

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

**Nonrespondents = 22

Table 21

Rating of Physical Condition of Building Exterior as Perceived by Superintendents and Principals by Periods of Facility Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
World War II and prior	66	20.4	127	39.3	130	40.3	323
Baby boom era	15	3.5	92	21.1	328	75.4	435
Recent	0	0.0	2	4.2	46	95.8	48
Total	81	10.1	221	27.4	504	62.5	806**

$X^2 = 136.441$ ($p < .001$); contingency coefficient = 0.380

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Nonrespondents = 22

The category "World War II and prior" for periods of facility construction contained 66 of the 81 buildings whose exteriors were reported as poor. The more current the date range of original construction, the higher the percentage of buildings reported in good condition. The highest percentage of buildings reported in good condition (95.8%) was reported in the time category "Recent." This relationship was significant, and the effect of the relationship was moderate.

The reported results for the exterior condition of school buildings were sorted into the index for "Building Category" of instructional program. The results of this analysis are presented in Table 22.

The reported exterior condition of different instructional categories of buildings, as expressed by building administrators, was proportionally consistent among the different building instructional categories. The majority of the building exteriors reported by the administrators were considered to be in good condition.

Building Questionnaire Item Forty-Five.

"Are the classrooms in this building air conditioned?" (Yes or No).

The need to provide for a year-round instructional program has often been included in discussions regarding the restructuring of Nebraska's public schools. Great variations in outside temperatures during the seasonal changes in Nebraska requires school buildings to be constructed with climate control systems which are able to provide for the comfort of pupils and staff. The current agrarian school calendar begins during the late summer months of August or September and continues into May and June, the late months of late spring. The mean temperatures

Table 22

Rating of Physical Condition of Building Exterior as Perceived by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Rating						Total
	Poor	Percent	Adequate	Percent	Good	Percent	
Elementary	44	10.6	114	27.3	259	62.1	417
Middle	9	12.2	14	18.9	51	68.9	74
Secondary	13	7.2	45	24.7	124	68.1	182
K-12	14	11.4	45	36.6	64	52.0	123
Other	1	10.0	3	30.0	6	60.0	10
Total	81	10.1	221	27.4	504	62.5	806**

$X^2 = 11.993$; contingency coefficient = 0.121

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

**Nonrespondents = 22

during these time periods have been typically low. The patrons of Nebraska school districts have traditionally provided heating systems for their school buildings to keep them warm during the fall, winter, and early spring seasons. In order for the patrons of a school district to operate their schools on a year-round basis, appropriate provisions for comfort during the summer heat would be required. Typically, this summer comfort level would be provided through the use of some type of air cooling or conditioning system. The type of air conditioning system, centrally controlled or individual classroom units, was not investigated.

The numbers of Nebraska buildings reported by school administrators to be air conditioned are reported by the "Class" of district in Table 23. Class II schools had the lowest percentage of school buildings that were reported as air conditioned (11.6%). Nearly one-third of the Class III (32.8%) and IV (34.8%) buildings were air conditioned. Of the 63 buildings in Class V, 30 were reported as air conditioned. Considering the number of air conditioned buildings, only 32.3 percent of Nebraska's 828 buildings would be air conditioned for the summer period of a year-round school program. These reported proportional differences were significant, and the effect was considered small.

The buildings status of air conditioned classrooms was next analyzed by sorting the administrator's responses into the index of wealth of the school district. The results of this analysis were reported in Table 24. In the index "Quartiles of Valuation/Pupil" the successive quartiles represented districts of increasing wealth. Interestingly, the percentage of buildings in the most wealthy quartile (four) reported as air conditioned

Table 23

Frequency of Air-Conditioned Buildings as Reported by Superintendents and Principals by Class of School District in Nebraska

District Class*	Air Conditioning				Total
	Yes	Percent	No	Percent	
II	8	11.6	61	88.4	69
III	206	32.8	423	67.2	629
IV	16	34.8	30	65.2	46
V	30	47.6	33	52.4	63
VI	7	33.3	14	66.7	21
Total	267	32.3	561	67.7	828

$X^2 = 20.504$ ($p < .001$); contingency coefficient = 0.155

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 10,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 24

Frequency of Air Conditioned Buildings as Reported by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Air Conditioning				Total
	Yes	Percent	No	Percent	
Quartile 1	122	39.2	189	60.8	311
Quartile 2	83	32.5	172	67.5	225
Quartile 3	44	29.1	107	70.9	151
Quartile 4	18	16.2	93	83.8	111
Total	267	32.3	561	67.7	828

$X^2 = 20.672$ ($p < .001$); contingency coefficient = 0.156

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

(16.2%) was not as high as in quartile one (39.2%), which was the poorest quartile. An inverse relationship was apparent when considering the percentage of air conditioned buildings to the increase in quartiles of wealth. This relationship was significant; however, the effect would be considered small.

The number of buildings reported as air conditioned was sorted into the four categories "Population Change" to determine if there was any relationship to the growth or decline of population. The results are reported in Table 25. There was a significant proportional relationship between the population change categories and the numbers of reported air-conditioned school buildings. The effect of the proportional relationship was moderate. The numbers and percentage of air conditioned buildings in growth counties were higher than those reported in the decline counties.

The original construction of air-conditioned school buildings has been a more common practice since the 1960's. Prior to this time, the original facility required retrofitting to meet any air conditioning requirements. Using the index, "Periods of Construction," by the reported original construction date range, the differences between older buildings and new buildings and their air-conditioned status were assessed. The reported status of air-conditioned buildings by their period of original construction is shown in Table 26.

There were only 39 of the 292 buildings constructed during the "World War II and prior" category that were air conditioned. During the "Baby boom era, " the percentage (42.8%) of the air-conditioned buildings

Table 25

Frequency of Air Conditioned Buildings as Reported by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Air Conditioning				Total
	Yes	Percent	No	Percent	
Major decline	45	19.7	183	80.3	228
Decline	62	21.5	226	78.5	288
Growth	119	54.3	100	45.7	219
Major growth	41	44.1	52	55.9	93
Total	267	32.2	561	67.8	828

$X^2 = 86.362$ ($p < .001$); contingency coefficient = 0.307

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 26

Frequency of Air Conditioned Buildings as Reported by Superintendents and Principals by Periods of Facility Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Air Conditioning				Total
	Yes	Percent	No	Percent	
World War II and prior	39	11.8	292	88.2	331
Baby boom era	191	42.8	255	57.2	446
Recent	37	72.5	14	27.5	51
Total	267	32.3	561	67.7	828

$X^2 = 124.205$ ($p < .001$); contingency coefficient = 0.361

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

increased; however, not until the "Recent" time period of original construction was a clear majority of the buildings air conditioned (72.5%).

The distribution of air-conditioned school buildings was next analyzed by the "Building Category" of instructional type. The responses were sorted into the "Building Category" index, and the results are presented in Table 27. The percentage of air-conditioned buildings in the elementary (36.7%), middle (37.8%), and secondary (30.2%) schools was consistent. Most other buildings (90.9%) were air conditioned, while the lowest percentage of air-conditioned buildings (12.9%) was in the K-12 category. The proportional relationship was significant; however, the effect of the relationship was small.

Building Questionnaire Item Forty-Six.

"Are the classrooms in this building consistently comfortable (not too warm, cold, drafty, stuffy, etc.)?" (Yes or No).

A consistently comfortable internal environment provides a place more conducive to the educational efforts of teachers and pupils. Great variations in outside temperatures during the seasonal changes in Nebraska require school buildings to have climate control systems which are able to provide for the comfort of pupils and staff. Even with state-of-the-art climate control systems however, the classrooms may not be consistently comfortable for the pupils and teachers. As shown in Table 28, an analysis was made by "Class" of district of the number of Nebraska buildings reported by school administrators in which classrooms were consistently comfortable.

Table 27

Frequency of Air Conditioned Buildings as Reported by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Air Conditioning				Total
	Yes	Percent	No	Percent	
Elementary	155	36.7	267	63.7	422
Middle	28	37.8	46	62.2	74
Secondary	57	30.2	132	69.8	189
K-12	17	12.9	115	87.1	132
Other	10	90.9	1	9.1	11
Total	267	32.3	561	67.7	828

$X^2 = 45.308$ ($p < .001$); contingency coefficient = 0.228

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

Table 28

Frequency of Buildings with Consistently Comfortable Classrooms as
Reported by Superintendents and Principals by Class of School
District in Nebraska

District Class*	Comfortable Classrooms				Total
	Yes	Percent	No	Percent	
II	43	62.3	26	37.7	69
III	358	56.9	271	43.1	629
IV	46	100.0	0	0.0	46
V	61	96.8	2	3.2	63
VI	15	71.4	6	28.6	21
Total	523	63.2	305	36.8	828

$X^2 = 68.699$ ($p < .001$); contingency coefficient = 0.277

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

The majority of all buildings in all "Class" districts were reported by their administrators as having consistently comfortable classrooms. The percentages of reported comfortable classrooms varied from a low in Class III (56.9%) to a high in Class IV (100.0%). The proportional relationship by "Class" was significant; however the effect of the relationship would be considered small.

To determine if there was a difference in administrator responses when the wealth of a district was considered, the responses to questions regarding consistently comfortable classrooms were sorted by "Quartile of Valuation/Pupil." The results of that analysis are presented in Table 29. The results of this analysis were significant; however, the effect of the relationship was small. There was a proportional relationship between the quartiles; however, the relationship did not follow a pattern of increasing or decreasing wealth. In quartile three, the percentage of classrooms reported as consistently comfortable was nearly the same as those that were not consistently comfortable (51.7% to 48.3%). The majority of all categories of wealth were reported as having consistently comfortable classrooms.

To determine if the change in the county population made a difference in administrators' responses concerning consistently comfortable classrooms, the data were sorted into the index of "Population Change." The results of the analysis are presented in Table 30. The proportional relationship of categories of population change and the numbers of buildings that had consistently comfortable classrooms was significant. The effect size of the relationship between these categories was considered

Table 29

Frequency of Buildings with Consistently Comfortable Classrooms as Reported by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Comfortable Classrooms				Total
	Yes	Percent	No	Percent	
Quartile 1	183	58.8	128	41.2	311
Quartile 2	194	76.1	61	23.9	255
Quartile 3	78	51.7	73	48.3	151
Quartile 4	68	61.3	43	38.7	111
Total	523	63.2	305	36.8	828

$X^2 = 29.543$ ($p < .001$); contingency coefficient = 0.186

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 30

Frequency of Buildings with Consistently Comfortable Classrooms as Reported by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Comfortable Classrooms				Total
	Yes	Percent	No	Percent	
Major decline	118	51.8	110	48.2	228
Decline	164	56.9	124	43.1	288
Growth	165	75.3	54	24.7	219
Major growth	76	81.7	17	18.3	93
Total	523	63.2	305	36.8	828

$X^2 = 45.268$ ($p < .001$); contingency coefficient = 0.228

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

small. The percentage of buildings containing comfortable classrooms increased with each category of increased growth.

With older buildings, the expectation would be that the climate control systems would not be as sophisticated, modern, or in as good condition as newer or more recently constructed buildings. To determine if the category of the period of building's original construction did make a difference regarding the building administrators' opinions regarding the comfort of the classrooms, the data were sorted into "Periods of Facility Construction." The results of this analysis are presented in Table 31.

Buildings originally constructed in the earliest category "World War II and prior" had the highest percentage (51.7%) of buildings with classrooms judged as consistently uncomfortable. The buildings in the "Recent" category had the highest percentage of administrators who rated their facilities classrooms as consistently comfortable (84.3%). The proportional relationship between these categories was significant; however, the effect of the relationship was small.

To determine if the relationship between the administrators' opinions regarding consistently comfortable classrooms was related to the instructional type of the building, the data were sorted into "Building Category" by instructional grade range. The differences of responses by administrators in different instructional ranges of buildings were analyzed and are presented in Table 32. The highest percentage of administrators who reported buildings with consistently comfortable classrooms was in the other (72.7%) category, while the lowest percentage category was K-12 (51.5%). Building administrators of other building instructional categories

Table 31

Frequency of Buildings with Consistently Comfortable Classrooms as Reported by Superintendents and Principals by Periods of Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Comfortable Classrooms				Total
	Yes	Percent	No	Percent	
World War II and prior	160	48.3	171	51.7	331
Baby boom era	320	71.8	126	28.2	446
Recent	43	84.3	8	15.7	51
Total	523	63.2	305	36.8	828

$X^2 = 55.201$ ($p < .001$); contingency coefficient = 0.250

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

Table 32

Frequency of Buildings with Consistently Comfortable Classrooms as Reported by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Comfortable Classrooms				Total
	Yes	Percent	No	Percent	
Elementary	286	67.8	136	32.2	422
Middle	47	63.5	27	36.5	74
Secondary	114	60.3	75	39.7	189
K-12	68	51.5	64	48.5	132
Other	8	72.7	3	27.3	11
Total	523	63.2	305	36.8	828

$X^2 = 12.645$; contingency coefficient = 0.123

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

reported their classrooms comfortable at near the state-wide average (63.2%).

Building Questionnaire Item Forty-Seven.

"Do your teaching stations accommodate changing technologies-- computers, data access, closed circuit TV, sufficient electrical outlets, sufficient power, etc.?" (Yes or No).

Instructional programs of the 1990's increasingly call for the use of the new electronic technologies listed in item 47. The current school building must be able to provide places for pupils to use the technology and adequate access to the electrical energy to operate these new technologies. The building administrators worked with teachers and planned for the delivery of the instructional programs requiring the use of the current electronic technology and had opinions regarding the classrooms' accommodation for such technology. The opinions of building administrators regarding the buildings' ability to accommodate changing technology were sorted into the "Class" category and are shown in Table 33.

There was a significant proportional relationship between the reported responses by classes of school district. The effect of the relationship was small, and the pattern was not consistent with class or district order. The majority of the building administrators considered their buildings as able to accommodate changing technologies.

The purchase of electronic technology required fiscal resources. To evaluate if there was a difference between administrators' opinions regarding their buildings' ability to accommodate technology and the

Table 33

Frequency of Buildings That Accommodated the Use of Technology as Reported by Superintendents and Principals by Class of School District in Nebraska

District Class*	Accommodated the Use of Technology				Total
	Yes	Percent	No	Percent	
II	39	56.5	30	43.5	69
III	343	54.5	286	45.5	629
IV	46	100.0	0	0.0	46
V	53	84.1	10	15.9	63
VI	13	61.9	8	38.1	21
Total	494	59.7	334	40.3	828

$X^2 = 53.977$ ($p < .001$); contingency coefficient = 0.247

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

district's category of increasing wealth, the administrator responses were sorted into the index of district wealth by "Quartile of Valuation/Pupil." The analysis of these opinions is presented in Table 34. The percentage of buildings in quartile (44.7%) that was able to accommodate technology was 29 percentage points lower than the percentage of buildings in quartile two (73.7%) and nearly 20 percentage points lower than the other two quartiles of wealth. These proportional differences were significant; however, the effect of these proportional differences was small.

To determine if there were differences in the opinions of building administrators regarding the ability of their buildings to accommodate technology, the responses were sorted into the index for "Population Change" by county growth. Each building was placed in a category by the population change of the county of the reporting district. The building administrators' opinions by the districts' percentage of county population change are shown in Table 35. The percentage of buildings reported as accommodating technology was in a consistent majority in the categories of major decline (55.7%), decline (55.2%), and growth (58.9%). The highest percentage of buildings accommodating technology, however, was reported in the category of major growth (84.9%). These proportional relationships were significant. The effect of this proportional significance was small.

When the age of a school building was considered, buildings originally constructed prior to the 1980's might not have been engineered or constructed to accommodate the rapidly changing electronic technologies of the late 1980's and early 1990's. For example, access to

Table 34

Frequency of Buildings That Accommodated the Use of Technology as Reported by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Accommodated the Use of Technology				Total
	Yes	Percent	No	Percent	
Quartile 1	139	44.7	172	53.3	311
Quartile 2	188	73.7	67	26.3	255
Quartile 3	96	63.6	55	36.4	151
Quartile 4	71	64.0	40	36.0	111
Total	494	59.7	334	40.3	828

$X^2 = 51.721$ ($p < .001$); contingency coefficient = 0.242

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 35

Frequency of Buildings that Accommodated the Use of Technology as Reported by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Accommodated the Use of Technology				Total
	Yes	Percent	No	Percent	
Major decline	127	55.7	101	44.3	228
Decline	159	55.2	129	44.8	288
Growth	129	58.9	90	41.1	219
Major growth	79	84.9	14	15.1	93
Total	494	59.7	334	40.3	828

$\chi^2 = 28.616$ ($p < .001$); contingency coefficient = 0.183

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

electrical outlets would have been required to meet the electrical needs for microcomputers. Access to telephone communication lines would have been required for an electronic facsimile (FAX) machine to function. To evaluate the accommodation of technology by date (range categories of original building construction) the administrator responses to this item were sorted into the index "Periods of Facility Construction." The analysis ability to accommodate changing technologies in the buildings is shown in Table 36.

The proportional relationships between the categories of periods of facility construction were significant. The effect of the relationship was small; however, the differences between categories was incremental. The category containing the highest percentage of buildings reported as not accommodating technology was "World War II and prior" (53.8%). The "Recent" category contained the highest percentage (76.5%) of buildings reported as accommodating changing technology.

The use of current technology was diversified across all instructional levels. To determine if there was any difference among the different categories of instructional facility types, the administrator responses were sorted into the index "Building Category." The results of the responses by administrators are presented in Table 37. The proportional relationships between administrators' responses in categories of building instructional type were not significant. The number and percentage of responses accommodating technology were consistent from category to category. The majority of buildings in each instructional category were reported as accommodating the use of changing technology.

Table 36

Frequency of Buildings That Accommodated the Use of Technology as Reported by Superintendents and Principals by Periods of Construction by Construction Date Ranges in Nebraska

Periods Facility Construction*	<u>Accommodated the Use of Technology</u>				Total
	Yes	Percent	No	Percent	
World War II and prior	153	46.2	178	53.8	331
Baby boom era	302	67.7	144	32.3	446
Recent	39	76.5	12	23.5	51
Total	494	59.7	334	40.3	828

$\chi^2 = 42.837$ ($p < .001$); contingency coefficient = 0.222

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

Table 37

Frequency of Buildings That Accommodated the Use of Technology as Reported by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Accommodated the Use of Technology				Total
	Yes	Percent	No	Percent	
Elementary	242	57.4	180	42.6	422
Middle	46	62.2	28	37.8	74
Secondary	122	64.6	67	35.4	189
K-12	74	56.1	58	43.9	132
Other	10	90.9	1	9.1	11
Total	494	59.7	334	40.3	828

$X^2 = 8.183$; contingency coefficient = 0.099

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

Building Questionnaire Item Forty-Eight.

"Is this building completely accessible for handicapped persons?"
(Yes or No).

By 1992, all public school buildings were required to have plans to provide access to or be accessible to handicapped individuals for instructional programs. The planning process for meeting accessibility requirements and facility modification of school buildings for the handicapped had been completed. Previously erected school facilities, not constructed to meet the requirements for handicapped individuals, potentially required extensive modification. To develop a description of these buildings, administrators' responses regarding their buildings' accessibility to handicapped individuals were sorted into each of the descriptive indexes.

The responses were sorted into the index "Class" of district and the results are presented in Table 38. The Class VI schools had the highest (71.4%) and Class IV had the lowest (8.7%) percentage rate of schools reported as completely handicapped accessible. There was a significant proportional relationship between the categories of "Class" of schools. The effect of this proportional relationship was small.

The cost to build or to remodel school buildings to become accessible to the handicapped would have certainly been an additional expenditure to any school district which had a major deficit in the numbers of buildings meeting the requirements of handicapped accessibility. To determine the numbers of buildings that were reported as handicapped accessible by quartile of wealth the responses of the administrators were sorted into the

Table 38

Frequency of Buildings Completely Accessible to Handicapped Persons as Reported by Superintendents and Principals by Class of School District in Nebraska

District Class*	Accessible to Handicapped Persons				Total
	Yes	Percent	No	Percent	
II	21	30.4	48	69.6	69
III	300	47.7	329	52.3	629
IV	4	8.7	42	91.3	46
V	35	55.6	28	44.4	63
VI	15	71.4	6	28.6	21
Total	375	45.3	453	54.7	828

$X^2 = 40.944$ ($p < .001$); contingency coefficient = 0.217

*Class I= elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

index "Quartile of Valuation/Pupil." The results of this analysis are presented in Table 39.

The higher percentages of buildings reported as completely handicapped accessible were found in quartile one (55.0%) and quartile two (42.0%). The higher percentages of buildings that were not completely handicapped accessible were reported in the upper two quartiles of wealth. These were the districts that could most afford to make the adjustments to meet accessibility requirements. The results of the analysis by wealth were significant; however, the effect of the proportional relationships was low.

To analyze the difference of reported handicapped accessible school facilities among different categories of county population change, the data were sorted into the index for "Population Change." The results are presented in Table 40. The growth category contained the highest percentage (60.7%) of buildings that were judged as handicapped accessible by building administrators. The major growth category had the fewest number of school buildings, but contained the highest proportion of buildings reported as not completely handicapped accessible. This proportional relationship was significant, but with only a small effect.

Many school buildings were constructed during previous time periods when accessibility for handicapped individuals was not incorporated into building plans. In order to determine the reported handicapped accessibility status of buildings, when considering the original construction date range of buildings, the responses were sorted into the

Table 39

Frequency of Buildings Completely Accessible to Handicapped Persons as Reported by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Accessible to Handicapped Persons				Total
	Yes	Percent	No	Percent	
Quartile 1	171	55.0	140	45.0	311
Quartile 2	107	42.0	148	58.0	255
Quartile 3	58	38.4	93	61.6	151
Quartile 4	39	35.1	72	64.9	111
Total	375	45.3	453	54.7	828

$X^2 = 20.439$ ($p < .001$); contingency coefficient = 0.155

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 40

Frequency of Buildings Completely Accessible to Handicapped Persons as Reported by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Accessible to Handicapped Persons				Total
	Yes	Percent	No	Percent	
Major decline	87	38.2	141	61.8	228
Decline	124	43.1	164	56.9	288
Growth	133	60.7	86	39.3	219
Major growth	31	33.3	62	66.7	93
Total	375	45.3	453	54.7	828

$X^2 = 31.699$ ($p < .001$); contingency coefficient = 0.192

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

index for "Periods of Facility Construction. The results are presented in Table 41. There were large proportional differences reported in the categories of buildings reported as completely handicapped accessible. In the "World War II and prior" category, approximately 16 percent of the school buildings were reported as handicapped accessible. In the category "Baby boom era," a large percentage increase was reported (62.1%), and in the "Recent" category over 86 percent of the buildings were considered completely handicapped accessible. The proportional difference was significant, and the effect of the difference was moderate.

The access of handicapped individuals to instructional programs was required for all types of instructional programs. To determine if there were differences in the reported handicapped access in different instructional types of buildings, the responses were sorted into the index for "Building Category." The results of this analysis are presented in Table 42. The category, other, was reported to contain the highest percentage (81.8%) of completely handicapped accessible buildings. The majority (51.4%) of the middle level education buildings were reported handicapped accessible, while all other categories were reported at a level less than a majority.

Building Questionnaire Item Forty-Nine.

"Is this building generally free of safety hazards?" (Yes or No).

Current concerns for school administrators include the safety from health hazards for the pupils and staff under their supervision. Asbestos in construction materials, radon gas in the internal environment, and lead in the drinking water ranked high among the different environmental hazards

Table 41

Frequency of Buildings Completely Accessible to Handicapped Persons as Reported by Superintendents and Principals by Periods of Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	<u>Accessible to Handicapped Persons</u>				Total
	Yes	Percent	No	Percent	
World War II and prior	54	16.3	277	83.7	331
Baby boom era	277	62.1	169	37.9	446
Recent	44	86.3	7	13.7	51
Total	375	45.3	453	54.7	828

$X^2 = 197.640$ ($p < .001$); contingency coefficient = 0.439

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

Table 42

Frequency of Buildings Completely Accessible to Handicapped Persons as Reported by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Accessible to Handicapped Persons				Total
	Yes	Percent	No	Percent	
Elementary	195	46.2	227	53.8	422
Middle	38	51.4	36	48.6	74
Secondary	91	48.2	98	51.8	189
K-12	42	31.8	90	68.2	132
Other	9	81.8	2	18.2	11
Total	375	45.3	453	54.7	828

$X^2 = 17.456$; contingency coefficient = 0.144

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

present in school buildings. The responses of administrators, regarding the safety of their buildings, were sorted into the indexes to determine what reported differences existed in various categories of school buildings.

The results of administrators' opinions regarding the freedom from safety hazards in school buildings are reported by "Class" in Table 43. A very high percentage of buildings was judged by their administrators as free from safety hazards. Except for Class III school buildings (89.8%), buildings in all "Class" school districts were reported over 90 percent free of safety hazards.

To determine if there were proportional differences in the administrators' responses concerning freedom from safety hazards, the responses were sorted by the index "Quartile of Valuation/Pupil." The results of this analysis are presented in Table 44. Quartile three contained the lowest percentage (84.1%) of buildings reported free from safety hazards. All administrators reported a high percentage of buildings they considered safe.

The differences in administrator's response to freedom from safety hazards was evaluated by "Population Change Category." The results of this analysis are shown in Table 45. The proportional differences in the administrators' responses were more pronounced in the index of "Population Change Category." The categories major decline (13.2%) and decline (11.8%) had the highest percentage of schools not free from safety hazards. Growth (2.7%) and major growth (2.1%) had the lowest percentage of schools not free from safety hazards. These results were considered proportionally significant; however, at a low degree of effect.

Table 43

Frequency of Buildings Completely Free From Safety Hazards as Reported by Superintendents and Principals by Class of School District in Nebraska

District Class*	Free from Safety Hazards				Total
	Yes	Percent	No	Percent	
II	63	91.3	6	8.7	69
III	565	89.8	64	10.2	629
IV	46	100.0	0	0.0	46
V	63	100.0	0	0.0	63
VI	19	90.5	2	9.5	21
Total	756	91.3	72	8.7	828

$X^2 = 12.133$; contingency coefficient = 0.120

*Class I= elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 44

Frequency of Buildings Completely Free from Safety Hazards as Reported by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Free from Safety Hazards				Total
	Yes	Percent	No	Percent	
Quartile 1	289	92.9	22	7.1	311
Quartile 2	241	94.5	14	5.5	255
Quartile 3	127	84.1	24	15.9	151
Quartile 4	99	89.2	12	10.8	111
Total	756	91.3	72	8.7	828

$X^2 = 14.811$; contingency coefficient = 0.133

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 45

Frequency of Buildings Completely Free from Safety Hazards as Reported by Superintendents and Principals by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Free from Safety Hazards				Total
	Yes	Percent	No	Percent	
Major decline	198	86.8	30	13.2	228
Decline	254	88.2	34	11.8	288
Growth	213	97.3	6	2.7	219
Major growth	91	97.9	2	2.1	93
Total	756	91.3	72	8.7	828

$X^2 = 24.029$ ($p < .001$); contingency coefficient = -0.168

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

The use of asbestos as a component of construction materials increased during the late 1940's to a peak in the 1970's, when researchers began to point to potential health risks with long-term contact. In order to determine if categories of time periods of original construction of school buildings made a difference in the opinions of building administrators regarding safety, the responses were sorted into the "Periods of Facility Construction." The results are presented in Table 46. According to the building administrators, the category "World War II and prior" had the highest percentage (13.6%) of buildings with safety hazards. The overall proportional difference was significant. The effect of the difference was small.

To determine if the safety of a relative age group of pupils was more exposed to safety hazards than other groups, the administrator responses regarding a building's freedom from safety hazards were sorted into the index for "Building Category." The analysis of the administrators' responses by building instructional type is presented in Table 47. Buildings in all categories, with the exception of K-12 (84.9%), were reported free from safety hazards at a rate higher than 90 percent.

Building Questionnaire Item Fifty.

"Does this building inhibit or prevent the changes you would like to make in educational programming?" (Yes or No).

Restructuring education, utilizing new curriculums, and accommodating different organizational patterns of pupils were examples of instructional changes some school building administrators were considering. To determine if there was a difference in the way

Table 46

Frequency of Buildings Completely Free from Safety Hazards as Reported by Superintendents and Principals by Periods of Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Free from Safety Hazards				Total
	Yes	Percent	No	Percent	
World War II and prior	286	86.4	45	13.6	331
Baby boom era	422	94.6	24	5.4	446
Recent	48	94.1	3	5.9	51
Total	756	91.3	72	8.7	828

$X^2 = 16.688$ ($p < .001$); contingency coefficient = 0.141

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

Table 47

Frequency of Buildings Completely Free from Safety Hazards as Reported by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	Free from Safety Hazards				Total
	Yes	Percent	No	Percent	
Elementary	393	93.1	29	6.9	422
Middle	69	93.2	5	6.8	74
Secondary	172	91.0	17	9.0	189
K-12	112	84.9	20	15.1	132
Other	10	90.9	1	9.1	11
Total	756	91.3	72	8.7	828

$X^2 = 9.071$; contingency coefficient = 0.104

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

administrators perceived the ability of their facility to accommodate changes in instructional programs, the responses to item 50 were sorted by the five building indexes.

The analysis of building administrators' responses regarding the inhibition of change for instructional programs in their buildings when examined by "Class" of Nebraska school district is shown in Table 48. The Class IV school district administrators reported no buildings that inhibited change. The percentage rates of buildings reported inhibiting change in Class V (11.1%) and Class VI (19.1%) were both low, while Class II (46.4%) and Class III (46.1%) were much higher. The results were significant; however, the effect would be considered small.

To assess the difference in administrators' opinions regarding buildings as inhibiting change in school districts with different wealth, the responses were sorted into the index for school district wealth. The results of this analysis by quartile of valuation per pupil are presented in Table 49. A smaller percentage of schools in which the changes in the instructional program were reported was in quartile two (27.8%) than in any of the other three quartiles. In the other quartiles, school buildings were reported as inhibiting instructional change at near the state average of 40 percent. These proportional differences were considered significant, and the effect was small.

Adjustments for a population increase or decrease could have been a reason for changes in the instructional program to be inhibited. To determine if there was a significant difference in "Population Change

Table 48

Frequency of Buildings That Inhibited Changes in Instructional Programs as Reported by Superintendents and Principals by Class of School District in Nebraska

District Class*	Inhibited Changes in Instructional Programs				Total
	Yes	Percent	No	Percent	
II	32	46.4	37	53.6	69
III	290	46.1	339	53.9	629
IV	0	0.0	46	100.0	46
V	7	11.1	56	88.9	63
VI	4	19.1	17	80.9	21
Total	333	40.2	495	59.8	828

$X^2 = 67.216$ ($p < .001$); contingency coefficient = 0.274

*Class I= elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 49

Frequency of Buildings That Inhibited Changes in Instructional Programs as Reported by Superintendents and Principals by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	<u>Inhibited Changes in Instructional Program</u>				Total
	Yes	Percent	No	Percent	
Quartile 1	150	48.2	161	51.8	311
Quartile 2	71	27.8	184	72.2	255
Quartile 3	67	44.4	84	55.6	151
Quartile 4	45	40.5	66	59.5	111
Total	333	40.2	495	59.8	828

$X^2 = 25.636$ ($p < .001$); contingency coefficient = 0.173

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Categories" the administrator responses were sorted into the county population change index. The results are presented in Table 50.

The dissimilarity in categories of growth was apparent. There were differences between the percentages of buildings in which administrators reported change was inhibited. Growth was inhibited by 45.6 percent in the major decline category and 50.0 percent in the decline category when compared to the growth categories, where 30.1 percent was reported in the growth category and 20.4 percent was reported in the major growth category. These findings were significant; however, the effect was small.

Buildings constructed during different time periods reflect different methodologies for providing space for instructional programs. As time periods pass, concepts concerning methods for school facility construction to meet current educational programs change. Without efforts by patrons of a school district to keep their schoolhouse up-to-date, the efforts by administrators and teachers to make changes in the instructional program may not be met. To determine if there was a difference in the opinions of school administrators when categories of original construction were considered, these opinions were sorted into the "Periods of Facility Construction" index. The results are presented in Table 51.

The results presented in Table 51 illustrate one of the highest proportional differences in the study. The buildings reported in the "World War II and prior" era had the highest percentage of buildings inhibiting instructional change, while administrators of the buildings categorized as constructed in the "Recent" era reported only 5.9 percent of the buildings inhibited the instructional program. The results presented in

Table 50

Frequency of Buildings That Inhibited Changes in Instructional Programs
as Reported by Superintendents and Principals by Percentage Categories of
County Population Change in the 1990 Census in Nebraska

Population Change Category*	<u>Inhibited Changes in Instructional Programs</u>				Total
	Yes	Percent	No	Percent	
Major decline	104	45.6	124	54.4	228
Decline	144	50.0	144	50.0	288
Growth	66	30.1	153	69.9	219
Major growth	19	20.4	74	79.6	93
Total	333	40.2	495	59.8	828

$X^2 = 38.626$ ($p < .001$); contingency coefficient = 0.211

*Major decline = a county population decrease of -10 percent or more;
decline = a county population decrease from 0 percent to -10 percent;
growth = a county population increase from +0.01 percent to +10 percent;
and major growth = a county population increase of +10 percent or more.

Table 51

Frequency of Buildings That Inhibited Changes in Instructional Programs as Reported by Superintendents and Principals by Periods of Construction by Construction Date Ranges in Nebraska

Periods of Facility Construction*	<u>Inhibited Changes in Instructional Programs</u>				Total
	Yes	Percent	No	Percent	
World War II and prior	197	59.5	134	40.5	331
Baby boom era	133	29.8	313	70.2	446
Recent	3	5.9	48	94.1	51
Total	333	40.2	495	59.8	828

$X^2 = 96.335$ ($p < .001$); contingency coefficient = 0.323

**World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

Table 51 were significant, and the effect of the proportional difference was considered modest.

To determine if the administrators of buildings of different instructional types considered their buildings inhibiting to change, responses were sorted into the index for "Building Category." The results of this analysis are shown in Table 52. The building instructional category, other, contained the smallest percentage (9.1%) of buildings reported by administrators as inhibiting change of instructional programs. Buildings in the other four categories were reported inhibiting change in instructional programs near the state average of 40.2 percent.

Summary

The descriptive analyses of the building level questionnaire responses by the indexes for "Class," "Quartile of Valuation/Pupil," "Population Change Category," "Periods of Facility Construction," and "Building Category" were presented in this section. Each different index was used to describe the numbers of buildings constructed during each of the time periods of original construction of Nebraska's school facilities and responses from administrators for each of the ten major questions on the building survey instrument.

When applicable, administrator responses to each question were analyzed for proportional differences by the use of chi square. The effect size of these differences was assessed by the calculating a contingency coefficient for each chi square. The descriptive results and the analysis of the results were individually presented and discussed.

Table 52

Frequency of Buildings That Inhibited Changes in Instructional Programs as Reported by Superintendents and Principals by Building Category as Determined by Instructional Grade Ranges in Nebraska

Building Category*	<u>Inhibited Changes in Instructional Programs</u>				Total
	Yes	Percent	No	Percent	
Elementary	169	40.1	253	59.9	422
Middle	31	41.9	43	58.1	74
Secondary	74	39.2	115	60.8	189
K-12	58	43.9	74	56.1	132
Other	1	9.1	10	90.9	11
Total	333	40.2	495	59.8	828

$X^2 = 5.374$; contingency coefficient = 0.080

*Elementary = grades kindergarten through eight and at least one grade below grade five; middle = grades five through nine; secondary = grades seven through twelve and at least one grade above grade eight; K-12 = grades kindergarten through twelve; and other = areas reported as other.

Superintendents' Assessment of Their Districts' Instructional
Facilities' Condition and Limitations

Responses to the "Nebraska Public Schools Facility Superintendent Questionnaire" (see Appendix A) were returned from all 299 Class II through Class VI Nebraska school district superintendents. The responses on the questionnaire collected basic demographics such as district name (item 1) and number (item 2), and the superintendent's name (item 3). The next five survey questions solicited the current building fund levy (item 4), bond debt (item 5), opinions regarding necessity of a facility bond referendum (item 6), anticipation of the success of the referendum (item 7), and the projected year of the referendum (item 8). Other survey items (items 9, 10, 11, 12, 14, and 15) requested the opinions of the district superintendents regarding overall conditions and limitations of their districts' facilities. Item 13 asked the opinions of the superintendents regarding their districts' fiscal capability to meet facility needs without raising tax rates.

The analysis of responses to survey items 9 through 15, excluding item 13, are presented in this section. Items relating to facility finance and necessity for a bond referendum issue are discussed in the next section.

The superintendents' responses regarding overall district facility condition and limitations were sorted into the indexes described in the previous section: "Class" of district, "Quartile of Valuation/Pupil," "Population Change Category," and "Periods of Facility Construction." Each Nebraska school district was categorized into one of the above indexes except for index "Periods of Facility Construction." A district was

categorized into this index in relationship to the original construction date range which contained the majority of the district's facilities. In 1990-91, some Nebraska school districts were legally contracting all of their pupils to other school districts. In these cases, school districts were in existence without operating school buildings.

Superintendent Questionnaire Item 9

"Have you delayed maintenance on your facilities within the past five years because of budget constraints?" (Yes or No).

Delayed maintenance of school facilities was identified as a problem in national school facilities research in the early 1990's. To establish if and where this condition of delayed maintenance existed in Nebraska school districts, the responses to this question were sorted into the four descriptive indexes.

The analysis of the responses for "Class" of district is presented in Table 53. Both Class IV and V district administrators reported their districts had delayed maintenance. Class III superintendents reported delayed maintenance (45.8%) at near the state-wide average (44.8%), while Class VI districts had the smallest percentage (38.1%) of districts delaying facility maintenance in the past five years. Proportional relationships by "Class" were not critically judged because two classes, IV and V, contained only one district in each class. This did not provide for adequate expected results of the chi square in 40 percent of the cells.

Maintenance of school facilities required the establishment and fiscal support of an on-going budget expenditure. To establish if there was a proportional relationship between the responses of superintendents of

Table 53

Frequency of Delayed Maintenance During the Past Five Years
(1987-1992) by Class of School District in Nebraska

District Class*	Delayed Maintenance				Total
	Yes	Percent	No	Percent	
II	21	41.2	30	58.8	51
III	103	45.8	122	54.2	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	8	38.1	13	61.9	21
Total	134	44.8	165	55.2	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

districts which had access to more dollars of valuation per pupil, the responses were sorted into the index "Quartile of Valuation/Pupil." The results of this analysis are presented in Table 54. While the proportional differences were not significant, these differences were discernible. With each quartile of increased valuation per pupil, the percentage of districts reported as delaying maintenance over the past five years decreased. A clear majority of districts in quartile one (54.7%) were reported as required to delay maintenance.

The change in population could influence change regarding how buildings were used and potentially how the facilities were maintained. To determine if the "Population Change Category" of the county census reflected a proportional difference in delayed maintenance, the responses were sorted into the index representing this arrangement. The results of this analysis are presented in Table 55. One-half (50.0%) of administrators whose districts were in the growth category reported their district delayed maintenance during the past five years. The majority of superintendents in the other categories reported that their districts had not been required to delay the maintenance of their facilities.

Age of school facilities could be a reason for an increase in required maintenance. The responses of the administrators were sorted into the index "Periods of Facility Construction" to determine if the category representing the period of construction of the majority of the districts facilities could be considered a factor of delayed facility maintenance. The analysis of the superintendents' responses is presented in Table 56.

Table 54

Frequency of Delayed Maintenance During the Past Five Years (1987-1992) by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Delayed Maintenance				Total
	Yes	Percent	No	Percent	
Quartile 1	41	54.7	34	45.3	75
Quartile 2	37	49.3	38	50.7	75
Quartile 3	32	42.7	43	57.3	75
Quartile 4	24	32.4	50	67.6	74
Total	134	44.8	165	55.2	299

$X^2 = 8.290$; contingency coefficient = 0.164.

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 55

Frequency of Delayed Maintenance During the Past Five Years (1987-1992) by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Delayed Maintenance				Total
	Yes	Percent	No	Percent	
Major decline	49	39.5	75	60.5	124
Decline	63	49.2	65	50.8	128
Growth	19	50.0	19	50.0	38
Major growth	3	33.3	6	66.7	9
Total	134	44.8	165	55.2	299

$X^2 = 3.304$; contingency coefficient = 0.105

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

Table 56

Frequency of Delayed Maintenance During the Past Five Years (1987-1992) by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Delayed Maintenance				Total
	Yes	Percent	No	Percent	
World War II and prior	49	48.5	52	51.5	101
Baby boom era	80	45.2	97	54.8	177
Recent	4	22.2	14	77.8	18
Total	133	44.9	163	55.1	296**

$X^2 = 4.281$; contingency coefficient = 0.119

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3.

The highest percentage of districts reported by their superintendent as having delayed facility maintenance in the past five years was in the category of "World War II and prior" (48.5%). None of the three categories contained a majority of districts reported as having delayed maintenance. The proportional relationship of the results was not significant.

Superintendent Questionnaire Item 10.

"Do your present facilities limit your response to the current call for restructuring or the installation of new instructional programs you believe desirable?" (Yes or No).

In the early 1990's, change and restructuring of educational programs by superintendents to meet the changing educational philosophy of that time were considered high priority items. For district personnel to make many of these changes in instructional programs, the school facilities in which the instructional programs were to be offered required physical change or remodeling. To analyze if the superintendents of Nebraska's school districts considered their facilities as limiting the restructuring process and if there were differences between responses in different categories of school districts, these results were sorted into the four analysis indexes.

The analysis of responses by "Class" of district is presented in Table 57. Except for Class VI (33.3%), the majority of all "Class" district facilities were reported by their superintendent's as limiting their efforts to restructure or install new educational programs. Although the differences among classes were reported, they were not considered significant.

Table 57

**Number of Superintendents Who Perceived Facilities Limited
Restructuring of Instructional Programs by Class of School District in
Nebraska**

District Class*	Facilities Limited Restructuring				Total
	Yes	Percent	No	Percent	
II	27	52.9	24	47.1	51
III	146	64.9	79	35.1	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	7	33.3	14	66.7	21
Total	182	60.9	117	39.1	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

To determine if there were proportional differences between the responses of superintendents who reported facilities as limiting to restructuring when the wealth of the district was considered, the responses were sorted into the index for relative wealth of district. The responses represented by quartile of wealth are presented in Table 58. There were differences in the superintendents' responses when quartiles of dollars of valuation per pupil were considered. The quartile one category had the highest percentage (69.3%), and the quartile four category's had the lowest percentage (51.4%) of superintendents who reported their district's facilities as limiting restructuring. Although all categories contained over 50 percent of the districts' superintendents who reported their districts' facilities limited restructuring, the proportional differences were not considered significant.

To determine if there was a difference in the categories of change in county population upon the responses of school district superintendents regarding their districts' facilities limiting restructuring, the results were sorted into the index for "Population Change Category." The results of this analysis are presented in Table 59. In each population change category over 50 percent of the superintendents' indicated their district's facilities limited their efforts to change educational programming. The proportional differences also illustrated an increasing percentage of limiting responses in each category; however, these differences were not considered significant.

The proportional differences in superintendents' responses regarding their districts' facilities ability to meet the call for restructuring were next analyzed by category of the majority of the district's facilities original

Table 58

Frequency of Facilities Perceived by Superintendents as Limiting
Restructuring of Instructional Program by Quartile of Increasing Valuation
Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Facilities Limited Restructuring				Total
	Yes	Percent	No	Percent	
Quartile 1	52	69.3	23	30.7	75
Quartile 2	48	64.0	27	36.0	75
Quartile 3	44	58.7	31	41.3	75
Quartile 4	38	51.4	36	48.6	74
Total	182	60.9	117	39.1	299

$X^2 = 5.582$; contingency coefficient = 0.135

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 59

Frequency of Facilities Perceived by Superintendents as Limiting
Restructuring of Instructional Programs by Percentage Categories of
County Population Change in the 1990 Census in Nebraska

Population Change Category*	Facilities Limited Restructuring				Total
	Yes	Percent	No	Percent	
Major decline	67	54.0	57	46.0	124
Decline	84	65.6	44	34.4	128
Growth	25	65.8	13	34.2	38
Major growth	6	66.7	3	33.3	9
Total	182	60.9	117	39.1	299

$X^2 = 4.162$; contingency coefficient = 0.117

*Major decline = a county population decrease of -10 percent or more;
decline = a county population decrease from 0 percent to -10 percent;
growth = a county population increase from +0.01 percent to +10 percent;
and major growth = a county population increase of +10 percent or more.

construction date ranges. The results of this analysis are presented in Table 60. Both "World War II and prior" (61.4%) and "Baby Boom Era" (63.3%) categories contained a majority of responses which indicated the districts' facilities limited restructuring. The "Recent" category had a lower rate (38.9%) of facilities which limited educational restructuring. Although real, these differences were not considered significantly different.

Superintendent Questionnaire Item 11.

"Do your present facilities inhibit your use of technological advancements?" (Yes or No).

The use of electronic technology in different course curriculums during the 1990's was considered complementary to the teacher's instructional efforts. Many of these technologies required additional access to electrical power, specific operational climates, and cabling. Some current school buildings were not well-adapted to the use of these advanced technologies. To determine if the proportional differences in districts whose facilities were considered as inhibiting the use of these technologies by their superintendents were significant, their responses were sorted into the four indexes used for analysis.

The results of the analysis for the "Class" of district are presented in Table 61. Except for Class VI districts (38.1%), the majority of all "Class" district superintendents reported their districts' facilities inhibited the use of technological advances. The proportional differences were not considered significant.

Table 60

Frequency of Facilities Perceived by Superintendents as Limiting Restructuring of Instructional Programs by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Facilities Limited Restructuring				Total
	Yes	Percent	No	Percent	
World War II and prior	62	61.4	39	38.6	101
Baby boom era	112	63.3	65	36.7	177
Recent	7	38.9	11	61.1	18
Total	181	61.2	115	38.8	296**

$\chi^2 = 4.094$; contingency coefficient = 0.129

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3.

Table 61

Number of Superintendents Who Perceived Facilities Inhibited the Use of Technology by Class of School District in Nebraska

District Class*	Facilities Inhibited the Use of Technology				Total
	Yes	Percent	No	Percent	
II	29	56.9	22	43.1	51
III	146	64.9	79	35.1	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	8	38.1	13	61.9	21
Total	185	61.9	114	38.1	199

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

The index for relative wealth of a district, represented by the dollars of valuation per pupil, was used to determine the proportional differences in the inhibition of the use of technology responses. These results are presented in Table 62. Each quartile of relative wealth contained a majority of superintendents' responses indicating their districts' facilities did inhibit the use of technological advances. The proportional differences were not large and were not significant.

Next, the index "Population Change Category" was considered. The superintendents' responses regarding their facilities inhibition of the use of technology were sorted into the change categories and are presented in Table 63. In no category of population change did the majority superintendents report their districts' facilities were adequate to utilize advanced technology. The differences in the proportions were not considered significant.

The "Periods of Facility Construction" index was used to analyze the differences in superintendents' responses when original construction periods were considered. These differences are presented in Table 64. The periods of construction "World War II and prior" (61.4%) and "Baby Boom Era" (64.4%) both contained a majority of superintendent responses indicating their districts' facilities inhibited use of technological advancements. The "Recent" era category had a higher number of responses indicating district facilities were able to accommodate technological advances. These proportional differences were not considered significant.

Table 62

Frequency of Facilities Perceived by Superintendents as Inhibiting the Use of Technology by Quartile of Increasing Valuations Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Facilities Inhibited the Use of Technology				Total
	Yes	Percent	No	Percent	
Quartile 1	52	69.3	23	30.7	75
Quartile 2	44	58.7	31	41.3	75
Quartile 3	47	62.7	28	37.3	75
Quartile 4	42	56.8	32	43.2	74
Total	185	61.9	114	38.1	299

$X^2 = 2.937$; contingency coefficient = 0.099

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 63

Frequency of Facilities Perceived by Superintendents as Inhibiting the Use of Technology by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	<u>Facilities Inhibited the Use of Technology</u>				Total
	Yes	Percent	No	Percent	
Major decline	69	55.6	55	44.4	124
Decline	87	68.0	41	32.0	128
Growth	23	60.5	15	39.5	38
Major growth	6	66.7	3	33.3	9
Total	185	61.9	114	38.1	299

$X^2 = 4.172$; contingency coefficient = 0.117

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 64

Frequency of Facilities Perceived by Superintendents as Inhibiting the Use of Technology by Periods of Facility Construction of the Majority a District's Facilities by Construction Date Ranges in Nebraska

Periods of Facility Construction*	<u>Facilities Inhibited the Use of Technology</u>				Total
	Yes	Percent	No	Percent	
World War II and prior	62	61.4	39	38.6	101
Baby boom era	114	64.4	63	35.6	177
Recent	8	44.4	10	55.6	18
Total	184	62.2	112	37.8	296**

$X^2 = 2.807$; contingency coefficient = 0.097

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3.

Superintendent Questionnaire Item 12.

"Has the attention to asbestos removal, radon checks, handicapped accessibility or other required work prevented or delayed desired remodeling, maintenance or new construction?" (Yes or No).

Many facility accessibility modifications or environmental safety checks have been mandated by federal and state agencies. Depending upon the judged condition of the facility to meet these mandates, many of these required modifications or safety checks were extensive and costly. There was a potential for fiscal resources to be diverted to required projects. To determine if there were differences in categories of school districts whose superintendents reported their districts' attention to these mandated projects preventing remodeling or new construction, the superintendents' responses were sorted into each analysis index.

The analysis of superintendent responses to item 12 by "Class" of district is shown in Table 65. Class IV and V district administrators reported that attention to required projects caused their districts to delay maintenance, remodeling, and new construction. The majority of superintendents in other classes of districts reported that required facility work was not a problem.

To determine if attention to asbestos removal or other required work delayed other facility maintenance or construction in the superintendents' opinions, when wealth of the district was considered, responses were sorted into the index "Quartile of Valuation/Pupil." The analysis of these responses is presented in Table 66.

Table 65

Number of Superintendents Who Reported Attention to Radon, Asbestos, and ADA Prevented Remodeling by Class of School District in Nebraska

District Class*	Prevented Remodeling				Total
	Yes	Percent	No	Percent	
II	18	35.3	33	64.7	51
III	102	45.3	123	54.7	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	4	19.1	17	80.9	21
Total	126	42.1	173	57.9	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 66

Frequency of Attention to Radon, Asbestos, and ADA Reported by
Nebraska School Superintendents as Preventing Remodeling by
Quartile of Increasing Valuation Per Pupil

Quartile of Valuation/Pupil*	Prevented Remodeling				Total
	Yes	Percent	No	Percent	
Quartile 1	31	41.3	44	58.7	75
Quartile 2	31	41.3	44	58.7	75
Quartile 3	38	50.7	37	49.3	75
Quartile 4	26	35.1	48	64.9	74
Total	126	42.1	173	57.9	299

$X^2 = 3.766$; contingency coefficient = 0.112

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Quartile one and quartile two both contained the same percentage (41.3%) of districts whose superintendents reported required work had delayed other facility projects. Quartile three was the only quartile where a majority of districts reported this required work delayed maintenance and new construction. The proportional difference between categories of relative wealth was not considered significant.

The "Population Change Category" of county census was used to determine if the proportional differences of responses in categories representing the growth or decline of a county's population were significant. The results of this analysis are presented in Table 67. The percentage differences in responses between categories of districts by county population change were not considered to be significant. There was a pattern of decrease, however, in the percentage of districts, from major decline (45.2%) to major growth (11.1%), whose superintendents reported their districts' attention to required projects had delayed other desired facility projects.

The index for the "Periods of Facility Construction" was used to illustrate the differences in responses of superintendents where required facility work had delayed or prevented maintenance or new construction in their district. The analysis of the superintendents' responses is shown in Table 68. The percentage of responses of superintendents who reported attention to required facility projects was lowest (16.7%) in districts where the majority of their facilities were constructed in the "Recent" period. These differences, although large, were not considered significant.

Table 67

Frequency of Attention to Radon, Asbestos, and ADA Reported by Superintendents as the Cause of Preventing Remodeling by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Prevented Remodeling				Total
	Yes	Percent	No	Percent	
Major decline	56	45.2	68	54.8	124
Decline	57	44.5	71	55.5	128
Growth	12	31.6	26	68.4	38
Major growth	1	11.1	8	88.9	9
Total	126	42.1	173	57.9	299

$X^2 = 6.057$; contingency coefficient = 0.141

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

Table 68

Frequency of Attention to Radon, Asbestos, and ADA Reported by Superintendents as the Cause of Preventing Remodeling by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Prevented Remodeling				Total
	Yes	Percent	No	Percent	
World War II and prior	48	47.5	53	52.5	101
Baby boom era	74	41.8	103	58.2	177
Recent	3	16.7	15	83.3	18
Total	125	42.2	171	57.8	296**

$X^2 = 5.995$; contingency coefficient = 0.141

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3.

Superintendent Questionnaire Items 14 and 15.

"In this District, indicate the number of attendance sites which are:
. . ." (Permanent Sites = 14; Portable Sites = 15)

The response to item 14 was used in the analysis only to confirm that the number of building surveys returned by respondents matched the number of attendance sites reported by the superintendent.

The use of non-traditional, temporary, or portable buildings in 1991 was considered a viable option for district management as a solution for overcrowded facilities, or a temporary replacement for facilities not meeting current required safety or accessibility standards. To determine where these "portable" facilities were located and if there was a difference between categories of schools using this type of instructional facility, the superintendents' responses to item 15 were sorted into the four indexes for analysis.

The analysis of the superintendents responses when considering "Class" of district is presented in Table 69. No Class VI districts, two percent of Class II districts, and 18.6 percent of Class III districts utilized portable buildings. The Class IV and V districts both were using portable facilities.

To determine if there were significant differences in the categories of relative wealth of school district and the number districts reporting using portable facilities, the superintendents' responses to item 15 were sorted into the index "Quartile of Valuation/Pupil." The analysis of quartile of wealth is presented in Table 70.

Table 69

Frequency of the Utilization of Portable Facilities by Class of District in Nebraska

District Class*	Utilization of Portable Facilities				Total
	Yes	Percent	No	Percent	
II	1	2.0	50	98.0	51
III	42	18.6	183	81.3	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	0	0.0	21	100.0	21
Total	45	15.1	254	84.9	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 70

Frequency of the Utilization of Portable Facilities by Quartile of Increasing Valuation Per Pupil in Nebraska School Districts

Quartile of Valuation/Pupil*	Utilization of Portable Facilities				Total
	Yes	Percent	No	Percent	
Quartile 1	24	32.0	51	68.0	75
Quartile 2	14	18.7	61	81.3	75
Quartile 3	5	6.7	70	93.3	75
Quartile 4	2	2.7	72	97.3	74
Total	45	15.1	154	84.9	299

$X^2 = 30.568$ ($p < .001$); contingency coefficient = 0.305

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

The proportional differences of the numbers of districts reported as using portable facilities by "Quartile of Pupil Valuation" were considered significant. The effect of this significance was moderate. The quartiles with the lowest dollars of valuation per pupil had the highest number (24) and percentage (32.0%) of reported districts using portable facilities, while the quartile with the highest valuation per pupil had the lowest number (2) and percentage (2.7%). In no quartile was a majority of districts reported using portable facilities.

The change in a county's population during the 1980's would be proportionately reflected in the population of school-age children. To determine if the differences were significant, the number of districts reporting the use of portable facilities was sorted by "Population Change Category." The analysis of the responses by population change is presented in Table 71. The only category in which a majority of superintendents (55.6%) reported using portable facilities was the major growth category. A smaller percentage of superintendents in districts in the major decline category reported the use of portable facilities than did those superintendents in districts in growth categories. These differences were significant, and the effect of the proportional difference was moderate.

The final analysis of the reported use of portable facilities was done to determine if there were significant differences when the category of the majority of the districts' date of original building construction was considered. This analysis is presented in Table 72.

Table 71

Frequency of the Utilization of Portable Facilities by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Utilization of Portable Facilities				Total
	Yes	Percent	No	Percent	
Major decline	8	6.5	116	93.5	124
Decline	20	15.6	108	84.4	128
Growth	12	31.6	26	68.4	38
Major growth	5	55.6	4	44.4	9
Total	45	15.1	254	84.9	299

$X^2 = 26.874$ ($p < .001$); contingency coefficient = 0.287

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 72

Frequency of the Utilization of Portable Facilities by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Utilization of Portable Facilities				Total
	Yes	Percent	No	Percent	
World War II and prior	13	12.9	88	87.1	101
Baby boom era	31	17.5	146	82.5	177
Recent	1	5.6	17	94.4	18
Total	45	15.2	251	84.8	296**

$X^2 = 2.459$; contingency coefficient = 0.091

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3.

The proportional differences between the categories of "Periods of Facility Construction" were not significant. In no group did a majority of the superintendents report using portable facilities.

Summary

A descriptive analysis of the non-fiscal portion of the superintendent's questionnaire was presented in this section. Responses were analyzed and presented by the indexes for "Class," "Quartile of Valuation/Pupil," "Population Change Category," and "Periods of Facility Construction." Each index was used to describe Nebraska's school facilities through the responses from superintendents for each of the five non-fiscal survey questions addressing adequacy and condition of the districts' facilities.

Administrators' responses to each question were analyzed for proportional differences by the use of chi square. The effect size of these differences was determined by calculating a contingency coefficient for each chi square. The descriptive analysis and significant results were presented and discussed for each questionnaire item.

Analysis of Superintendents' Assessment of Their Districts' Fiscal Capacity to Meet Current and Future Facility Needs

For Nebraska school districts to maintain current and build new school facilities requires fiscal resources. Currently in Nebraska, the dollars to construct new school facilities come from taxes levied against property within the boundary of the school district. This tax could be

levied and the dollars set aside in a sinking or building reserve fund, or voter approval of a bond issue in a referendum election could establish a tax to retire the bond debt approved in the election. In the 1990's, there was a total reliance upon the revenues raised by taxes assessed against a district's property valuation for facility modification, remodeling, or construction projects. This reliance was a concern for the decision makers and administrators in many school districts. To provide for a consistent analysis of responses, the information collected on the survey instrument was used to describe the fiscal condition of Nebraska school districts in relationship to the same indexes used to describe previous facility data. The current status and tax rates of Nebraska school districts' sinking or building fund levies (item 4), the existence and amount of bond indebtedness (item 5), the anticipation (item 6), potential for success (item 7), and the urgency of a building construction bond referendum (item 8) are described in this section. To conclude this section, an analysis was made to portray the superintendents' opinions regarding the school districts' fiscal capacity to meet facility needs over the next ten years (item 13).

Superintendent Questionnaire Item 4.

"If you maintain a current building fund, what is the levy rate for that purpose in your 1991-92 budget?" (levy rate).

This item was a dual question asking for an indication of the existence of a special sinking or building fund levy and, if there was a levy, the rate of that levy. In Nebraska, the assessment of a sinking fund levy upon the property tax base of the district was permitted by law. The

approval of the sinking fund levy by the board of education or by a vote of the patrons of the school district provided for funds to be set aside for special or future building projects. Existence of this levy could indicate a commitment to a plan for a future maintenance or construction need. Because of the differential in the valuation of the property within the boundaries of the school district, however, the same levy rate in two districts generated two different amounts of revenue to be set aside for the districts' building projects.

To describe where and in what type of a school district the use of a sinking or building fund levy had been approved, the existence of a building fund levy was used to create a file indicator that the district supported a special fund. Using this indicator, superintendents who reported using a building fund levy were sorted into the descriptive indexes for analysis. These indexes were "Class" of district, "Quartile of Valuation/Pupil," "Population Change Category" of county census, and "Periods of Facility Construction" by the majority of the age ranges of original construction within the district.

The analysis of the number of school districts reported to use a building or sinking fund levy by district "Class" is presented in Table 73. The only class reported with less than a majority (29.4%) of districts with a building or sinking fund levy was the Class II districts. Both Class IV and V districts utilized a building fund levy to anticipate future building or facility maintenance expenditures.

The responses were sorted to the index for "Quartile of Valuation/Pupil" to determine if there were significant proportional

Table 73

Number and Percent of Nebraska School Districts Using a Building Fund Levy During the 1990-91 School Year by District Class

District Class*	Used Building Fund Levy				Total
	Yes	Percent	No	Percent	
II	15	29.4	36	70.6	51
III	165	73.3	60	26.7	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	12	57.1	9	42.9	21
Total	194	64.9	105	35.1	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

differences in the number of districts in different categories of relative property wealth. The analysis of these results is presented in Table 74. A decreasing number and percentage of districts using a sinking fund were reported in quartiles of increasing dollars of valuation per pupil. However, these differences, however, were not significant.

To discover if the change in population in the county of the school district made a difference in the numbers of districts reported as using a levy for a building fund, the responses were sorted into the index for "Population Change Category." The analysis of population change in relationship to a levy for future building purposes is presented in Table 75. Districts in counties experiencing growth during the 1980's were reported using a building fund levy at a higher percentage than those districts in counties of population decline during that same period. There were differences in the categories of population change; however, these proportional differences were not significant.

The construction date range index of the majority of a district's school facilities was used to determine if there were significant differences in the districts' use of a building fund levy. The results of this analysis are presented in Table 76. There were differences in the percentages of the numbers of school districts utilizing a building fund levy when the different periods of the majority of a district's facilities were considered; however, those differences were not significant. The majority of all districts, regardless of category of period of construction, using a building fund levy for future facility projects.

Table 74

Number and Percent of School Districts Using a Building Fund Levy
During the 1990-91 School Year by Quartile of Increasing Valuation Per
Pupil in Nebraska

Quartile of Valuation/Pupil*	Used Building Fund Levy				Total
	Yes	Percent	No	Percent	
Quartile 1	56	74.7	19	25.3	75
Quartile 2	53	70.7	22	29.3	75
Quartile 3	48	64.0	27	36.0	75
Quartile 4	37	50.0	37	50.0	74
Total	194	64.9	105	35.1	299

$X^2 = 11.471$; contingency coefficient = 0.192

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 75

Number and Percent of Nebraska School Districts Using a Building Fund Levy During the 1990-91 by Percentage Categories of County Population Change in the 1990 Census

Population Change Category*	Used Building Fund Levy				Total
	Yes	Percent	No	Percent	
Major decline	79	63.7	45	36.3	124
Decline	77	60.2	51	39.8	128
Growth	30	78.9	8	21.1	38
Major growth	8	88.9	1	11.1	9
Total	194	64.9	105	35.1	299

$X^2 = 6.905$; contingency coefficient = 0.150

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 76

Number and Percent of Nebraska School Districts Using a Building Fund Levy During the 1990-91 School Year by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges

Periods of Facility Construction*	Used Building Fund Levy				Total
	Yes	Percent	No	Percent	
World War II and prior	61	60.4	40	39.6	101
Baby boom era	123	69.5	54	30.5	177
Recent	10	55.6	8	44.4	18
Total	194	65.6	102	34.5	296**

$X^2 = 3.202$; contingency coefficient = 0.103

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3

The second part of the analysis of item 4 was to examine both the dissimilarity of the reported building fund levies between the predetermined categories of school districts and the variation of the sinking or building fund levies assessed within these categories. Tables were created to illustrate the frequency of the superintendents who reported using a levy, along with the mean, maximum, minimum, and the median reported building fund levy for each district category within the descriptive index.

The central tendency of the reported building fund levies by "Class" of Nebraska school district is shown in Table 77. Using both the mean and the median levies reported in each class, the lowest sinking fund levies were reported in Class II and Class VI school districts. Class IV and Class V contained only one district in each class. This condition should be considered when referencing this table.

The relative wealth of a district reflected the property valuation per pupil. The "Quartile of Valuation/Pupil" index was used to describe the central tendency of sinking fund levies of each quartile of increasing relative wealth. The results of the calculations by the index for relative wealth are presented in Table 78. The frequency of the number of superintendents reporting the use of a special building fund levy decreased with each quartile of increasing wealth. The differential of reported levy use was from over two-thirds of the districts in quartile one to only one-half of the districts in quartile four. The mean and median levies assessed decreased with each quartile of increasing relative wealth.

Table 77

Central Tendency of Building Fund Levies During the 1990-91 School Year by Class of District in Nebraska

District Class*	Frequency	Mean	Maximum	Minimum	Median
II	15	0.0525	0.1750	0.0093	0.0360
III	165	0.0669	0.2654	0.0075	0.0550
IV	1	0.1400	0.1400	0.1400	0.1400
V	1	0.0900	0.0900	0.0900	0.0900
VI	12	0.0323	0.1096	0.0117	0.0238

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 78

Central Tendency of Building Fund Levies During the 1990-91 School Year by Quartile of Increasing Valuation per Pupil in Nebraska

Quartile of Valuation/Pupil*	Frequency	Mean	Maximum	Minimum	Median
Quartile 1	56	0.0887	0.1870	0.0191	0.0883
Quartile 2	53	0.0629	0.2654	0.0075	0.0509
Quartile 3	48	0.0578	0.1750	0.0093	0.0487
Quartile 4	37	0.0373	0.1346	0.0117	0.0302

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

The responses were next sorted to into the index "Population Change Category." This sort of responses described the frequency of use and the central tendency of the special building fund levy when changes in county population during the 1980's were considered. The results of this sort of data and central tendency calculations are presented in Table 79.

Superintendents in counties with a population decline reported a lower levy than those districts categorized as growth counties.

The reported age range of original construction of the majority of a district's facilities was used to determine which category in index "Periods of Facility Construction" a district was placed. The reported levies were sorted into the index for periods of construction to determine if there were differences in the reported levies when facility construction periods were considered. The results of this analysis are presented in Table 80.

The results presented in Table 80 did not establish a pattern of levy change in direct or indirect relationship with building category. The mean levy of the "Baby Boom Era" category was the lowest (0.0626) and the "Recent" category was the highest (0.0731).

Superintendent Questionnaire Item 5.

"What is your current bonded indebtedness?" (dollars of bond debt).

The superintendents were asked to report their district's current bond debt. Because of the inconsistency in the reported bond debt by the superintendents, data used for the analysis of this question was from the 1990-91 "Annual Finance Report" submitted to the Nebraska Department of Education. The analysis of this question parallels that of the item 4.

The existence of a bond debt amount was used to create an indicator that

Table 79

Central Tendency of Building Fund Levies During the 1990-91 School Year by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Frequency	Mean	Maximum	Minimum	Median
Major decline	79	0.0570	0.2654	0.0075	0.0398
Decline	77	0.0644	0.1870	0.0076	0.0509
Growth	30	0.0722	0.1531	0.0142	0.0694
Major growth	8	0.1035	0.1400	0.0217	0.1270

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 80

Central Tendency of Building Fund Levies During the 1990-91 School Year by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Frequency	Mean	Maximum	Minimum	Median
World War II and prior	61	0.0660	0.1870	0.0098	0.0604
Baby boom era	123	0.0626	0.2654	0.0075	0.0494
Recent	10	0.0731	0.1399	0.0093	0.0722

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

was used for the analysis of districts with bond debt by descriptive indexes. The reported bond debt was used to calculate the central tendency of amounts of bond debt and presented by categories of districts within each index category.

The number of superintendents who reported a bond debt by each "Class" of district are presented in Table 81. Statewide, the number of reported districts with bond debt (158) represented 52.8 percent of the total districts. Superintendents in Class II (37.3%) and Class VI (33.3%) districts reported bond debt at a lower level than the statewide average. The majority of Class III, IV, and V districts had existing bond debt. There was only one district in both the Class IV and Class V categories.

The superintendents who reported bond debt were sorted into the index representing the quartile of relative wealth of each district. The analysis of the results is presented in Table 82. The percentage of superintendents who reported bond debt in quartile one (65.3%) and quartile two (66.7%) was higher than the percentage of superintendents in the quartiles of higher relative wealth, quartile three (42.7%) and quartile four (36.5%). These proportional differences were significant; however, the effect size of the difference was considered small.

The reported existence of bond debt by district was used to determine if there were differences in districts with bond debt in categories of "Population Change Category." The analysis of reported bond debt by a district's county population change category is presented in Table 83. The percentage of districts with reported bond debt in the category of county population decline was less than the percentage of the growth

Table 81

Number and Percent of School Districts Reporting Bond Debt During the 1990-91 School Year by Class of District in Nebraska

District Class*	Bond Debt				Total
	Yes	Percent	No	Percent	
II	19	37.3	32	62.7	51
III	130	57.8	95	42.2	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	7	33.3	14	66.7	21
Total	158	52.8	141	47.2	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 82

Number and Percent of School Districts Reporting Bond Debt During the 1990-91 School Year by Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Bond Debt				Total
	Yes	Percent	No	Percent	
Quartile 1	49	65.3	26	34.7	75
Quartile 2	50	66.7	25	33.3	75
Quartile 3	32	42.7	43	57.3	75
Quartile 4	27	36.5	47	63.5	74
Total	158	52.8	141	47.2	299

$X^2 = 21.508$ ($p < .001$); contingency coefficient = 0.259

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 83

Number and Percent of Nebraska School Districts Reporting Bond Debt
During the 1990-91 School Year by Percentage Categories of
County Population Change in the 1990 Census

Population Change Category*	Bond Debt		Bond Debt		Total
	Yes	Percent	No	Percent	
Major decline	60	48.4	64	51.6	124
Decline	59	46.1	69	53.9	128
Growth	32	84.2	6	15.8	38
Major growth	7	77.8	2	22.2	9
Total	158	52.8	141	47.2	299

$X^2 = 20.577$ ($p < .001$); contingency coefficient = 0.254

*Major decline = a county population decrease of -10 percent or more;
decline = a county population decrease from 0 percent to -10 percent;
growth = a county population increase from +0.01 percent to +10 percent;
and major growth = a county population increase of +10 percent or more.

county districts. These proportional differences were considered significant; however, the effect of the proportional differences was small.

The index representing districts by their category of age range of the original construction of the majority of the district's facilities was used to determine if there were differences in the existence of bond debt among these categories. The results of this analysis are presented in Table 84. A majority of the districts in the categories "Baby Boom Era" (57.6%) and "Recent" (77.8%) were reported to have bond debt; a total of 40.6 percent of the districts in the category of "World War II and prior" had bond debt. The differences were real but were not determined to be significant.

The second portion of the analysis of item 5 addressed the central tendency of the amounts of bond indebtedness. To conduct the analysis the data were sorted into the categories of the study's descriptive indexes.

The analysis of central tendency of the reported amounts of bond debt by categories of "Class" of districts reported with bond debt are presented in Table 85. The differences in the mean amount of bond debt for each class of district varied. At least one superintendent in a Class III district reported a higher bond debt (a maximum of \$53,865,000) than the Class IV district (\$16,260,000) and nearly as much bond debt as the Class V district (\$55,060,000).

The amounts of bond debt of districts reported by the superintendents were sorted into the index "Quartile of Valuation/Pupil." This analysis was used determine means and illustrate differences in amounts of

Table 84

Number and Percent of Nebraska School Districts Reporting Bond Debt During the 1990-91 School Year by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges

Periods of Facility Construction*	Bond Debt		Bond Debt		Total
	Yes	Percent	No	Percent	
World War II and prior	41	40.6	60	59.4	101
Baby boom era	102	57.6	75	42.4	177
Recent	14	77.8	4	22.2	18
Total	157	53.0	139	47.0	296**

$X^2 = 12.199$; contingency coefficient = 0.199

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3

Table 85

Central Tendency of Bond Debt During the 1990-91 School Year by Class of District in Nebraska

District Class*	Number Reporting Bond Debt	Mean	Maximum	Minimum	Median
II	19	400,052	1,740,000	30,000	250,000
III	130	1,653,925	53,865,000	1,000	660,000
IV	1	16,260,000	16,260,000	16,260,000	16,260,000
V	1	55,060,000	55,060,000	55,060,000	55,060,000
VI	7	1,074,429	2,500,000	3,000	1,087,000

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 10,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

bond debt that existed in categories of relative wealth of the district. This analysis is presented in Table 86. Examination of Table 86 reveals as the quartile of relative wealth increased the number of districts reported with bond debt decreased. The same relationship inverse relationship existed with the mean and median amounts of bond debt.

To determine if the county population change in the 1980's made a difference in the amounts of bond debt reported by superintendents of districts in these counties, the amounts of bond debt were arranged by their respective categories and the central tendencies of these amounts calculated. The results of these calculations are reported in Table 87. The mean and median in the growth and major growth categories of reported bond debt were in each case in the millions of dollars. The central tendencies of bond debt in the decline and major decline categories did not reach that level.

The final analysis of central tendency of districts reported with bond debt was made to determine what differences in central tendency of debt existed in the "Periods of Facility Construction" categories. The responses were sorted into the index for facility construction and the results are presented in Table 88. Central tendency calculations for districts with bond debt that were classified as "World War II and prior" were not as high as those in the other two categories. The mean debt was highest (\$2,508,787) in the "Baby boom era" while the highest median debt (\$1,052,500) was in the "Recent" category.

Table 86

Central Tendency of Bond Debt During the 1990-91 School Year by
Quartile of Increasing Valuation Per Pupil in Nebraska

Quartile of Valuation/Pupil*	Number of Districts Reporting Bond Debt	Mean	Maximum	Minimum	Median
Quartile 1	49	3,016,761	53,865,000	30,000	2,650,000
Quartile 2	50	2,381,980	55,060,000	20,000	650,000
Quartile 3	32	640,813	1,750,00	1,000	582,500
Quartile 4	27	519,482	2,500,00	3,000	155,000

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

Table 87

Central Tendency of Bond Debt During the 1990-91 School Year by
Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Number of Districts Reporting Bond Debt	Mean	Maximum	Minimum	Median
Major decline	60	887,617	5,925,000	1,000	450,000
Decline	59	806,242	3,532,000	3,000	490,000
Growth	32	5,249,563	55,060,000	61,000	1,086,000
Major growth	7	4,663,000	16,260,000	70,000	2,305,000

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 88

**Central Tendency of Bond Debt During the 1990-91 School Year by
Period of Facility Construction of the Majority of a District's Facilities by
Construction Date Ranges in Nebraska**

Periods of Facility Construction*	Number of Districts Reporting Bond Debt	Mean	Maximum	Minimum	Median
World War II and Prior	41	726,829	3,525,000	20,000	346,000
Baby boom era	102	2,508,787	55,060,000	1,000	780,000
Recent	14	1,091,500	2,605,000	30,000	1,052,500

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

Superintendent Questionnaire Item 6.

"Do you anticipate the necessity of a bond issue?" (Yes or No).

The superintendents' responses to this survey item were used to categorize the school districts in which a construction project was anticipated. This response also established that the fiscal requirement to fund this facility project would be through a building bond approved by a referendum vote of the district's registered voters. These responses were analyzed and reported by organizing them into the different descriptive indexes and categories used in this study.

Superintendents' responses regarding the anticipation of a bond issue were sorted into the index for the "Class" of the district and are shown in Table 89. Statewide, 33.4 percent of Nebraska's Class II through Class VI districts anticipated the necessity of a bond issue for construction of school facilities. A small percentage of Class II (15.7%) and Class VI (14.3%) district superintendents reported the need for a bond issue. A higher percentage (38.7%) of Class III district superintendents reported the need for a bond issue, and both Class IV and Class V district superintendents reported needing a bond issue.

The relative wealth or the "Quartile of Valuation/Pupil" of a district was used as the index to determine if there were proportional differences in the responses of the superintendents regarding their districts' need for a building bond issue. The analysis to determine differences in superintendents' responses when the relative wealth of the district was considered are presented in Table 90. More superintendents in districts with less valuation per pupil anticipated the need for a bond issue than

Table 89

Number and Percent of Superintendents Who Anticipated a Bond Issue by Class of District in Nebraska

District Class*	Anticipated a Bond Issue				Total
	Yes	Percent	No	Percent	
II	8	15.7	43	84.3	51
III	87	38.7	138	61.3	225
IV	1	100.0	0	0.0	1
V	1	100.0	0	0.0	1
VI	3	14.3	18	85.7	21
Total	100	33.4	199	66.6	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 90

Number and Percent of Nebraska Superintendents Anticipating a Bond Issue by Quartile of Increasing Valuation Per Pupil

Quartile of Valuation/Pupil*	Anticipated a Bond Issue				Total
	Yes	Percent	No	Percent	
Quartile 1	36	48.0	39	52.0	75
Quartile 2	26	34.7	49	65.3	75
Quartile 3	22	29.3	53	70.7	75
Quartile 4	16	21.6	58	78.4	74
Total	100	33.4	199	66.6	299

$X^2 = 12.405$; contingency coefficient = 0.200

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

superintendents in districts with more relative wealth. These real differences, however, were not determined as proportionately significant.

The superintendents' responses were sorted into the index for "Population Change Category" to report and analyze the proportional differences in population growth and decline districts. The results of this analysis are presented in Table 91. Superintendents in schools categorized as decline county districts did not anticipate the necessity of a bond issue at as high a rate as those in districts categorized as growth counties. A majority (77.8%) of superintendents in the major growth category anticipated the necessity of a bond issue at the highest rate. These proportional differences between county population change categories were considered significant. The effect of this difference was small.

The construction era of the majority of the school district's facilities was next used to analyze the responses of the district superintendents regarding the need for a bond issue. The results of this analysis are shown in Table 92. No category of "Periods of Facility Construction" contained a majority of districts in which the superintendents reported a bond issue was needed. The lowest percentage (16.7%) was reported in the "Recent" category. These results were not considered significant.

Table 91

Number and Percent of Nebraska Superintendents Anticipating a Bond Issue by Percentage Categories of County Population Change in the 1990 Census

Population Change Category*	Anticipated a Bond Issue				Total
	Yes	Percent	No	Percent	
Major decline	29	23.4	95	76.6	124
Decline	48	37.5	80	62.5	128
Growth	16	42.1	22	57.9	38
Major growth	7	77.8	2	22.2	9
Total	100	33.4	199	66.6	299

$X^2 = 15.808$ ($p < .001$); contingency coefficient = 0.224

*Major decline = a county population decrease of -10 percent or more;
 decline = a county population decrease from 0 percent to -10 percent;
 growth = a county population increase from +0.01 percent to +10 percent;
 and major growth = a county population increase of +10 percent or more.

Table 92

Number and Percent of Nebraska Superintendents Anticipating a Bond Issue by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges

Periods of Facility Construction*	Anticipated a Bond Issue				Total
	Yes	Percent	No	Percent	
World War II and prior	32	31.7	69	68.3	101
Baby boom era	64	36.2	113	63.8	177
Recent	3	16.7	15	83.3	18
Total	99	33.5	197	66.5	296**

$X^2 = 3.003$; contingency coefficient = 0.100

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3.

Superintendent Questionnaire Item 7

"If yes, do you feel this anticipated bond issue would be successful?"
(Yes or No).

The superintendents' responses to survey item 7 were used to further categorize the superintendents' opinions regarding their school district's anticipated construction project. Responses were used to establish a degree of optimism for successful approval of the building bond referendum by a district's registered voters. These responses were analyzed and reported by organizing them into the different indexes and categories used in this study.

Superintendents' responses regarding the anticipated success of a bond issue were sorted into the index for the "Class" of the district and are presented in Table 93. Statewide, in districts anticipating a bond issue, the majority (58.0%) of the superintendents anticipated success. Only Class III superintendents anticipated success of their districts' bond issue at a lower rate (56.3%). Both Class IV and Class V school district administrators anticipated the success of their district's bond referendums.

To determine what proportional differences of optimism existed for bond referendum success in the opinions of superintendents of districts with varying degrees of property valuation per pupil, the responses were sorted into the index "Quartiles of Valuation/Pupil." The results of this analysis are presented in Table 94. The proportional differences of the reported optimism for success of a bond issue in districts of varying wealth were considered significant. The most dramatic difference was between quartile one (83.3%), considered poorest, and quartile four (37.5%),

Table 93

Frequency of Predicted Success by Superintendents Who Anticipated a Bond Issue by Class of District in Nebraska

District Class	Anticipated a Bond Issue	Anticipated Success	Percent Anticipating Success
II	8	5	62.5
III	87	49	56.3
IV	1	1	100.0
V	1	1	100.0
VI	3	2	66.7
Total	100	58	58.0

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 94

Frequency of Anticipated Success Expressed by Nebraska Superintendents for Districts Anticipating a Bond Issue by Quartile of Increasing Valuation Per Pupil

Quartile of Valuation/Pupil	Anticipated a Bond Issue	Anticipated Success	Percent Anticipating Success
Quartile 1	36	30	83.3
Quartile 2	26	11	42.3
Quartile 3	22	11	50.0
Quartile 4	16	6	37.5
Total	100	58	58.0

$X^2 = 15.41$ ($p < .001$); contingency coefficient = 0.366

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

considered the wealthiest. The effect of this proportional difference was considered moderate.

To determine if differences in superintendents' optimism for bond success would also be present for the index "Population Change Category" the responses were sorted into population change categories. The results of this analysis are presented in Table 95. Both population growth categories contained a higher percentage of affirmative superintendent responses than did the population decline categories. Only in the category major decline, however, was the reported anticipated success of the bond referendum at less than the majority (44.8%) of districts.

The number of districts whose superintendents anticipated bond issue success were next sorted into their appropriate categories in the index for "Periods of Facility Construction." The results of the analysis are presented in Table 96. The proportional differences in construction period categories were not considered significant. "World War II and prior" was the only category that contained less than a majority (43.8%) of districts whose superintendents anticipated bond referendum success.

Superintendent Questionnaire Item 8.

"If yes, in what year would you expect it [the bond referendum] to occur?" (Year).

Superintendents' responses to survey item 8 were used to further clarify the opinions regarding the future school bond referendum. The superintendents were asked to provide the year of the anticipated bond issue. These responses were interpreted as the degree of urgency for the bond issue. The closer the year to the 1990-91 school year the more

Table 95

Frequency of Anticipated Success Expressed by Nebraska Superintendents
for Districts Anticipating a Bond Issue by Percentage Categories of County
Population Change in the 1990 Census

Population Change Category*	Anticipated a Bond Issue	Anticipated Success	Percent Anticipating Success
Major decline	29	13	44.8
Decline	48	26	54.2
Growth	16	13	81.3
Major growth	7	6	85.7
Total	100	58	58.0

$X^2 = 8.113$; contingency coefficient = 0.274

*Major decline = a county population decrease of -10 percent or more;
decline = a county population decrease from 0 percent to -10 percent;
growth = a county population increase from +0.01 percent to +10 percent;
and major growth = a county population increase of +10 percent or more.

Table 96

Frequency of Anticipated Success Expressed by Nebraska Superintendents for Districts Anticipating a Bond Issue by Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges

Periods of Facility Construction*	Anticipated a Bond Issue	Anticipated Success	Percent Anticipating Success
World War II and prior	32	14	43.8
Baby boom era	64	42	65.6
Recent	3	2	66.7
Total	99	58	58.6

$X^2 = 4.291$; contingency coefficient = 0.204

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

urgent the perceived need for the bond referendum. The reported dates were categorized according to the formula: the time category was Immediate if the reported years were 1990-91; Imminent if the reported years were 1992-95; and Future if the reported years were 1995 and beyond. Only the responses from superintendents in districts in which a bond issue had previously been anticipated were categorized.

The responses were initially analyzed by "Class" of district. The results of this analysis are presented in Table 97. The Class IV district administrators reported an "Immediate" need for a bond referendum. In all other classes, the majority of superintendents reported their districts bond referendum to be needed in the "Imminent" category.

The responses concerning the urgency of an anticipated bond issue were sorted into the index "Quartile of Valuation/Pupil" to determine if significant differences existed for districts in increasing quartiles of relative wealth. These differences and their analysis are shown in Table 98. The majority of respondents, in districts in which a bond issue was anticipated, indicated that the urgency of their district's referendum would be considered "Imminent." More superintendents in districts in the quartiles 1 and 2 (6) reported their district's referendum "Urgent" than those in quartiles 3 and 4 (2).

The categorized responses of superintendents regarding the urgency of their district's bond issue were tabulated into the index "Population Change Category" to determine what differences were present when county population change during the 1980's was considered. The results of this categorization are presented in Table 99. The index county population

Table 97

Urgency for Presentation of Bond Issues as Perceived by Nebraska Superintendents of Districts Anticipating Bond Issues by Time Reference Categories and Class of District

District Class*	Time Category					
	Immediate** Percent		Imminent** Percent		Future** Percent	
II	1	16.7	3	50.0	2	33.3
III	6	9.1	52	78.8	8	12.1
IV	1	100.0	0	0.0	0	0.0
V	0	0.0	1	100.0	0	0.0
VI	0	0.0	2	100.0	0	0.0
Total	8	10.5	58	76.3	10	13.2

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

**Immediate = a bond issue was anticipated in the years 1990-91; imminent = a bond issue was anticipated in the years 1992-95; and future = a bond issue was anticipated in the years 1995 and beyond.

Table 98

Urgency for Presentation of Bond Issues as Perceived by Nebraska Superintendents of Districts Anticipating Bond Issues by Time Categories and Quartile of Increasing Valuation Per Pupil

Quartile of Valuation/Pupil*	Time Category					
	Immediate**	Percent	Imminent**	Percent	Future**	Percent
Quartile 1	4	13.8	21	72.4	4	13.8
Quartile 2	2	10.5	14	73.7	3	15.8
Quartile 3	1	6.3	15	93.7	0	0.0
Quartile 4	1	8.3	8	66.7	3	25.0
Total	8	10.5	58	76.3	10	13.2

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

**Immediate = a bond issue was anticipated in the years 1990-91; imminent = a bond issue was anticipated in the years 1992-95; and future = a bond issue was anticipated in the years 1995 and beyond.

Table 99

Urgency for Presentation of Bond Issues as Perceived by Nebraska Superintendents of Districts Anticipating Bond Issues by Time Categories and Percentage Categories of County Population Change in the 1990 Census

Population Change Category*	Time Category					
	Immediate**	Percent	Imminent**	Percent	Future**	Percent
Major decline	3	14.3	15	71.4	3	14.3
Decline	3	8.8	27	79.4	4	11.8
Growth	1	7.1	11	78.6	2	14.3
Major growth	1	14.3	5	71.4	1	14.3
Total	8	10.5	58	76.3	10	13.2

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

**Immediate = a bond issue was anticipated in the years 1990-91; imminent = a bond issue was anticipated in the years 1992-95; and future = a bond issue was anticipated in the years 1995 and beyond.

change responses were consistent with the previous responses of the urgency for a bond issue responses. The majority of responses in each population change category were considered "Imminent." The "Immediate" time category need for a bond referendum contained six districts in the population decline categories and compared to two in the growth categories.

Finally, the responses regarding bond issue urgency were sorted into the index "Periods of Facility Construction." The results of this analysis are presented in Table 100. The responses of superintendents of districts in which the majority of the buildings were originally constructed in the "Baby boom era" (77.6%) and "World War II and prior" (79.2%) were in the "Imminent" time category for bond issue urgency. The "Recent" category contained only two responses; there was one response in each of the categories "Imminent" and "Future."

Superintendent Questionnaire Item 13.

"Do you consider your district fiscally capable of meeting your facility needs over the next ten years without raising the property tax levy rate?" (Yes or No).

To build new school facilities or to remodel existent facilities to meet the current demand of instructional programs and comply with state and federally mandated safety and accessibility programs, requires significant fiscal resources. Currently, Nebraska public school district decision makers and administrators must rely upon their district's property tax revenues for major facility improvements. Nebraska superintendents were asked for their opinions regarding their districts' fiscal capability to meet

Table 100

Urgency for Presentation of Bond Issues as Perceived by Nebraska Superintendents of Districts Anticipating Bond Issues by Time Categories and Periods of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges

Periods of Facility Construction*	Time Categories					
	Immediate**	Percent	Imminent**	Percent	Future**	Percent
World War II and prior	3	12.5	19	79.2	2	8.3
Baby boom era	5	10.2	38	77.6	6	12.2
Recent	0	0.0	1	50.0	1	50.0
Total	8	10.7	58	77.3	9***	12.0

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Immediate = a bond issue was anticipated in the years 1990-91; imminent = a bond issue was anticipated in the years 1992-95; and future = a bond issue was anticipated in the years 1995 and beyond.

***Districts not categorized = 1.

these facility demands without raising the property tax rate. In order for there to be no property tax increase, one or both of the following taxing situations would have had to be in place. First, a special building or sinking fund levy adequate to meet future facility needs would have to be in place. The second possible alternative possible would be to issue new bonds to replace existing bonds at the time of the existing bonds' retirement, without changing the tax rate.

The superintendents' perceptions of their district's fiscal capacity to meet facility needs the ten years following 1991 without raising the property tax levy were sorted into the descriptive analysis indexes used in this study.

The analysis of the superintendents' responses by "Class" of district are presented in Table 101. Statewide, only 19.4 percent of Nebraska's superintendents perceived their districts were fiscally capable to meet their facility needs. The only classes of districts reported fiscally capable for facility needs by their superintendents at a rate above the statewide average were Class II (21.6%) and Class VI (42.9%).

The analysis of differences in reported fiscal capability for districts when valuation per pupil or wealth was considered is shown in Table 102. The superintendents' responses are shown by the category "Quartile of Valuation/Pupil." Superintendents in quartile one (18.7%) and quartile two (12.0%) reported their districts as fiscally capable of meeting their facility needs at percentage rates less than the statewide average. Quartile three (20.0%) and quartile four (27.0%), representing the districts considered more wealthy, were reported by their superintendents to be fiscally capable

Table 101

Frequency of Fiscal Capability Perceived by Superintendents to Meet Facility Needs by Class of District in Nebraska

District Class*	Perceived Fiscal Capability				Total
	Yes	Percent	No	Percent	
II	11	21.6	40	78.4	51
III	38	16.9	187	83.1	225
IV	0	0.0	1	100.0	1
V	0	0.0	1	100.0	1
VI	9	42.9	12	57.1	21
Total	58	19.4	241	80.6	299

*Class I = elementary grades only; Class II = 1,000 or less inhabitants; Class III = 1,000 to 100,000 inhabitants; Class IV = 100,000 to 200,000 inhabitants; Class V = 200,000 or more inhabitants; and Class VI = high school grades only.

Table 102

Frequency of Fiscal Capability Perceived by Nebraska School Superintendents to Meet Facility Needs by Quartile of Increasing Valuation Per Pupil

Quartile of Valuation/Pupil*	Perceived Fiscal Capability				Total
	Yes	Percent	No	Percent	
Quartile 1	14	18.7	61	81.3	75
Quartile 2	9	12.0	66	88.0	75
Quartile 3	15	20.0	60	80.0	75
Quartile 4	20	27.0	54	73.0	74
Total	58	19.4	241	80.6	299

$X^2 = 5.427$; contingency coefficient = 0.133

*Quartile categories of Nebraska school districts when ranked by each district's total dollars of taxable property valuation divided by the numbers of pupils reported in average daily membership (ADM). Range of wealth per pupil by quartile: Quartile 1 = \$9,071 to \$165,607; quartile 2 = \$167,284 to \$230,989; quartile 3 = \$231,939 to \$321,624; and quartile 4 = \$323,377 to \$2,416,676.

for facility needs at rates above the statewide average. These real proportional differences were not considered statistically significant.

The responses regarding reported fiscal capability for facility needs by the index change in county population census were analyzed and are presented in Table 103. Proportional differences of districts reported fiscally capable for facility needs in categories of population change were not statistically significant. The two categories of major change, both decline and growth, contained the highest percentage of districts reported as fiscally capable to meet their facility needs.

The index "Periods of Facility Construction" was used to determine if there were significant differences in fiscal capability for facility needs by categories of original facility construction date ranges. The analysis of these differences is presented in Table 104. The category "World War II and prior" contained the lowest percentage (16.8%) of districts whose superintendents perceived them fiscally capable to meet the facility needs. Districts categorized in the "Baby boom era" (20.2%) and "Recent" (22.2%) were perceived by superintendents to be fiscally capable at a rate higher than the statewide average (19.3%). The proportional differences were not considered significant.

Summary

The descriptive analysis of the fiscal portion of the superintendents' questionnaire was presented in this section. Responses were analyzed and presented by the indexes for "Class," "Quartile of Valuation/Pupil," "Population Change Category," and "Periods of Facility Construction." Each index was used to describe the fiscal condition of Nebraska's school

Table 103

Frequency of Fiscal Capability Perceived by Nebraska Superintendents to Meet Fiscal Needs by Percentage Categories of County Population Change in the 1990 Census in Nebraska

Population Change Category*	Perceived Fiscal Capability				Total
	Yes	Percent	No	Percent	
Major decline	29	23.4	95	76.6	124
Decline	20	15.6	108	84.4	128
Growth	7	18.4	31	81.6	38
Major growth	2	22.2	7	77.8	9
Total	58	19.4	241	80.6	299

$X^2 = 2.497$; contingency coefficient = 0.091

*Major decline = a county population decrease of -10 percent or more; decline = a county population decrease from 0 percent to -10 percent; growth = a county population increase from +0.01 percent to +10 percent; and major growth = a county population increase of +10 percent or more.

Table 104

Frequency of Fiscal Capability Perceived by Nebraska Superintendents to Meet Fiscal Needs of Facility Construction of the Majority of a District's Facilities by Construction Date Ranges in Nebraska

Periods of Facility Construction*	Perceived Fiscal Capability				Total
	Yes	Percent	No	Percent	
World War II and prior	17	16.8	84	83.2	101
Baby boom era	36	20.3	141	79.7	177
Recent	4	22.2	14	77.8	18
Total	57	19.3	239	80.7	296**

$X^2 = 0.617$; contingency coefficient = 0.046

*World War II and prior = the majority of the district's facilities were reported built in one of the date ranges, prior to 1920, 1920-39, or 1940-49; baby boom era = the majority of the district's facilities were reported built in one of the date ranges, 1950-59, 1960-69, or 1970-79; and recent = the majority of the district's facilities were reported built in one of the date ranges, 1980-89 or 1990-91.

**Districts not categorized = 3.

facilities through the responses from district superintendents for each of the six fiscal survey questions. Fiscal questions were asked concerning the existence and rate of a district building fund levy, existence and amounts of a district bond debt, and the superintendent's opinion regarding the anticipation of success, optimism for success, and urgency of a bond referendum. The final question analyzed was the superintendents' perceptions of their district's fiscal capacity to meet future facility needs without raising taxes.

To be congruent with the analysis conducted in the previous sections, superintendents' responses to each question were analyzed for proportional differences by the use of chi square. The effect size of these differences was determined by calculating a contingency coefficient for each chi square. The descriptive results of the analysis of significance were presented and discussed for each question.

Summary

The descriptive presentation of the "Nebraska Public Schools Facilities Survey Building Questionnaire" responses contained diverse perspectives regarding the condition of the state's public school facilities. Specifically, an analysis was made of the facilities' demographics and their physical condition, safety, and utilization. The "Superintendent Questionnaire" responses were equally complex in the variety of information provided. This questionnaire provided superintendents' responses which were analyzed in reference to questions regarding opinions of the current condition of a district's facilities; the educational

buildings; and the fiscal ability of the district to maintain current buildings, the need for new buildings, and the urgency to construct new educational facilities.

The survey responses and their analyses were used to create a baseline data base to assist decision makers in their efforts to plan and determine the direction for school facility needs in Nebraska. A listing of the complete data set and responses is shown in Appendix C.