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# Financing public infrastructure: A case study on whether development impact fees & exactions or property taxes should be used to support the financing of new public infrastructure

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# FINANCING PUBLIC INFRASTRUCTURE: A CASE STUDY ON WHETHER DEVELOPMENT IMPACT FEES & EXACTIONS OR PROPERTY TAXES SHOULD BE USED TO SUPPORT THE FINANCING OF NEW PUBLIC INFRASTRUCTURE

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# CHAPTER I

## INTRODUCTION:

Development impact fees and exactions are financing mechanisms that local governments increasingly use to finance the cost of public infrastructure. The primary reason that local governments favor development impact fees and exactions to finance public infrastructure is that the costs associated with growth falls on developers. Two legal cases --Golden v. The Planning Board of The Town of Ramapo, New York and the Construction Industry Association of Sonoma County v. The City of Petaluma, California-- serve as the basis for the support of development impact fees and exactions as a method to manage growth (So & Getzels: 53, 1988).

Local governments began the use of development exactions for infrastructure as early as the 1920s (Stein: 117, 1988). Due to the high costs associated with extending water and sewer lines, as well as streets, local governments began to adopt development exactions. The introduction of exactions to defray the cost of schools and parks began in the 1940s (Stein: 117, 1988). Since capital spending has not kept pace with inflation, local governments have used exactions to manage growth (Stein: 118, 1988).

From 1978 forward, local governments have increasingly turned to impact fees to fund the capital expenditures needed for schools, parks, sewer and water lines, streets, and other public infrastructure. When California taxpayers voted to approve Proposition 13 in 1978, local governments experienced a substantial decline in their tax base, which resulted in a reduction of money available for public infrastructure. The passage of Proposition 13 also linked California's burgeoning anti-tax movement to the use of development impact fees.

Frank and Downing (1986, 5-6) indicate impact fees and exactions have gained favor among local governments for the following reasons:

- Existing taxpayers are protected from costs associated with new development.
- Communities can synchronize the development with the installation of new infrastructure.
- Price discipline is imposed on development because it forces development to internalize infrastructure costs in finished development prices.
- Quality of life within communities is enhanced since communities with deficient facilities can, to some extent, assess new development to make-up some of those deficiencies.
- Local anti-or slow-growth sentiments are mollified (Stein: 117, 1988).

Arthur C. Nelson indicates that impact fees are the latest step in the evolution of financing public infrastructure. As late as the 1920s governments readily extended public infrastructure to support new developments in an effort to promote economic growth. This infrastructure even included on-site infrastructure. By the 1940s local governments were using exactions to establish public parks and infrastructure. The primary reason for this change was the inability of the government to continue to support the high costs of infrastructure (Stein: 117-118, 1988). This change continued in California through a referendum that was placed on the ballot and approved on June 6, 1978, although this time, the citizenry spearheaded the change. This referendum was sponsored by Howard Jarvis and is known as Proposition 13 (Richter: 70, 1984). The passage of Proposition 13 substantially, and forever, changed the way governments financed public infrastructure,

especially schools. The approval of Proposition 13 in California reduced the property tax base by $7 billion dollars the year it went into effect that resulted in a 57 percent decline in the property tax base (Kaufman & Rosen: 44, 1981).

A similar property tax measure was placed on the Massachusetts ballot, Proposition 2½, which was passed in November 1980, (O'Sullivan, Sexton, Sheffrin: 1, 1995). In California the property tax was rolled back to 1975, the base year, and limited to a maximum increase of one percent per year (O'Sullivan, Sexton, Sheffrin: 12, 1995). In Massachusetts, however, property taxes rebounded due to reassessments that were not limited to a one percent per year increase regardless of the increase in property valuation (O'Sullivan, Sexton, Sheffrin: 96, 1995).

With the loss of a substantial portion of the revenue generated by the property tax, state and local governments needed to find alternative methods to finance public infrastructure. Local governments began to supplement fees to partially offset the losses in property tax revenues (O'Sullivan, Sexton, Sheffrin: 13, 1995). Providing public infrastructure was originally thought of as the responsibility of government; this view changed when the Supreme Court sided with the Town of Ramapo in Golden v. The Planning Board of the Town of Ramapo. Again, the Supreme Court sided with the City of Petaluma, California in a case brought forth by the Construction Industry Association of Sonoma County, California v. the City of Petaluma, California (Porter: 31-32, 1997). In siding with Ramapo and Petaluma, the Supreme Court ruled that communities could limit growth based on the public's ability to develop the public infrastructure. Therefore, a developer that wanted to develop property beyond the extent of the existing public

infrastructure would be required to extend the infrastructure to the proposed development.

Along with the property tax revolts of the 1970s, Ramapo and Petaluma began to shift the burden of financing new infrastructure on the developer (Snyder & Stegman: 6, 1986). The reduction in federal monies derived from intergovernmental aid and the elimination of categorical grants to state and local governments during the Reagan Administration (Gordon & Milakovich: 102, 1995) continued the trend of shifting the burden of financing public infrastructure to the developer.

This brings us to the question of what constitutes development impact fees and exactions. A development impact fee is a fee imposed by a government on a developer to cover the projected costs his project will have on the public facilities. A development exaction is the dedication of land and/or infrastructure as a condition of approval to develop. In imposing development impact fees and exactions, a rational nexus must be established between the fees imposed and the impact of a development on the existing infrastructure. A rational nexus can be defined as a *reasonable* relationship between the fees imposed on a development and the impact that development has on the existing infrastructure.

**PURPOSE OF THIS STUDY:**

The primary question sought in this paper, one not covered by Frank and Rhodes, is the public's perception of how public infrastructure should be financed through the use of impact fees and exactions or the property tax. The goal of this paper will be to determine the public's perception on the use of development impact fees and exactions to finance public infrastructure by developing and conducting a survey aimed at eliciting

responses from survey subjects in Ward Two of the City of Las Vegas, Nevada. This study will also use a survey developed by Frank to determine what types of development impact fees and exactions are being used the by City of Las Vegas (Frank: 61-64, 1989).

To date, the research associated with development impact fees and exactions has been limited to surveying which governments impose them, how to implement them, and the legality of their use. Additionally, there is a growing need in Southern Nevada to manage growth and find alternative methods of financing public infrastructure.

There have been two tax increases associated with the financing of public infrastructure in Clark County that have been at odds with the anti-tax sentiment associated with Proposition 13 in California, and Proposition 2½ in Massachusetts. The tax increases were the approval of the ¼ cent sales tax increase to support the Southern Nevada Water Authority's water line upgrades, and the continuation of the increased property tax to support general obligation bonds for school infrastructure.

One of the most difficult problems associated with the use of development impact fees and exactions in Clark County is the limited flexibility the State of Nevada provides for their use. In order for a local government to impose an impact fee, the Nevada Revised Statutes (NRS) require the local government to have a capital improvements plan in place. The Nevada Revised Statutes define capital improvements as a drainage project, a sanitary sewer project, a storm sewer project, a street project, or a water project. However, the NRS definition of capital improvements creates a unique hardship for local governments because schools are not included in this definition. This omission results in the Clark County School District obtaining its primary financing through property taxes. The Clark County School District is expanding beyond its ability to finance the

expansion of its infrastructure without increasing property taxes. By excluding schools from the definition of capital improvements, a general obligation bond due to be retired in the year 2000 had to be extended for an additional ten years. Voters approved this extension to pay for needed school infrastructure.

**RESEARCH QUESTIONS:**

This study will seek to answer several research questions. The questions this study will answer are:

1. What development impact fees does the City of Las Vegas impose on development?
2. Do the citizens within Ward Two of the City of Las Vegas support the use of development impact fees and exactions to support the financing of public infrastructure? See Appendix "H" on page 91 for a map delineating the boundaries of Ward Two of the City of Las Vegas.
3. Do the citizens within Ward Two of the City of Las Vegas support the use of the property tax to support the financing of public infrastructure?
4. Are the independent variables of household income, education level, political party affiliation, and homeownership predictive of whether the respondents in the survey would: (1) support the use of impact fees, (2) support the use of impact fees if their use increased housing costs, (3) support the use of property taxes for new infrastructure, (4) support higher property taxes for new infrastructure, (5) vote for the school bond, (6) vote for the sales tax increase, (7) favor developers or new homeowners paying for new infrastructure.

**SIGNIFICANCE OF THIS STUDY:**

This study is significant in furthering the research of development impact fees and exactions because there have been no public opinion studies on the use of development impact fees and exactions. Not only will this study use existing sampling methods to survey the City of Las Vegas on what development impact fees and exactions the City of Las Vegas uses, but this study will develop new a methodology that can be used by governments and researchers for assessing public opinion on the use of development impact fees and exactions. Moreover, this study will identify the direction in which Southern Nevada residents want local governments to turn when financing new public infrastructure.

## CHAPTER II

### LITERATURE REVIEW:

In chapter one the significance of this study was discussed which brings up several questions. Why do we need to study development impact fees and exactions? Frank and Rhodes (1-2, 1987) provide four reasons for studying development impact fees and exactions.

- They indicate that very little systematic research has been conducted in this area. This, however, has changed since the publication of Development Exaction (1987).
- Exactions of one type or another are now used by thousands of cities and counties across the United States, and it is clear that under appropriate circumstances exactions can have a significant impact on both the local government's budget as well as the land development process.

Frank and Rhodes also maintain little is known about the effect development fees and exactions have on development costs.

- Another reason (Frank and Rhodes: 1-2, 1987) establish as a basis for studying development impact fees and exactions relates to the political climate that occurs when a government imposes development impact fees and exactions.

Snyder & Stegman (96, 1986) assert that a Colorado Springs developer paid $6,170 in development fees which he marked up 28 percent to cover all of the developer's associated costs. Snyder & Stegman further state that while the development fees accounted for 8.2 percent of the sales price; when fully marked up, the fees accounted for 10.5 percent of the sales price.

This information, however, is disputed by (Freilich & Bushek, 1995). An article written by Arthur C. Nelson for Freilich & Bushek corrects seven myths associated with impact fees. The first myth Nelson rectifies is the notion that the impact fees will be passed on to homebuyers. Nelson does this by looking at two market factors associated with home sales: competitive markets and noncompetitive markets. In a competitive market, like Las Vegas, housing prices are kept in check by what the market will bear within all segments of the housing market. Nelson contends that in a competitive market it is difficult for a developer to pass on the cost of impact fees. Nelson further states that impact fees are viewed as a form of tax, which is internalized in keeping with classic economic theory of supply and demand. Because there isn't as much market demand for new housing in noncompetitive markets, Nelson does conclude that housing prices would increase. This type of market condition, according to Nelson, is common in affluent mountain communities like Aspen, Vail, and Beaver Creek (Freilich & Bushek, 1995).

Nelson disputes the notion that impact fees are bad for low-income and moderate-income housing. Low-income and moderate-income housing costs wouldn't increase unless the cost of undeveloped land was nearly zero. Nelson argues that impact fees actually do more to facilitate the production of this type of housing than inhibit it because the infrastructure created through the use of impact fees actually increases the supply of available land to develop. Another argument Nelson shows to support his position is supply and demand. If supply exceeds demand, prices will be lower than in a situation in which demand exceeds supply (Freilich & Bushek, 1995).

The third myth Nelson supplants is the notion that impact fees have a border effect on parcels within a jurisdiction that utilizes impact fees as opposed to a

neighboring jurisdiction that doesn't impose impact fees. Here, Nelson contends that the property owner must sell the land to a developer at a lower cost in order to compete with the neighboring jurisdiction (Freilich & Bushek, 1995).

Impact fees are bad for economic development is the fourth myth that Nelson corrects. Nelson does this by asserting impact fees will be offset by reduced land prices. Additionally, Nelson contends that economic development needs skilled labor, access to markets, and land with adequate infrastructure.

Impact fees are too high is the fifth myth that Nelson dispels. Nelson is able to do this by presenting three arguments.

(1) Impact fees merely reflect the real cost of providing the very infrastructure to new development that development needs. (2) Impact fees rarely exceed one quarter of the total cost of new facilities needed to accommodate new development; the larger share of that cost is paid from intergovernmental sources and existing tax structures. (3) Impact fees (other than utility connection fees) usually run less than five percent of the total sales price of a new home, which is less than the customary seven percent charged by real estate professionals (Freilich & Bushek, 1995).

In the sixth myth, it is thought that impact fees are difficult and costly to administer. Nelson purports that administration of impact fees account for one to five percent of the total receipts. In fact, Nelson cites a Georgia Institute of Technology study that found negotiated development exactions is four times more costly to administer than impact fees (Freilich & Bushek, 1995).

The notion that impact fees are just one more bureaucracy developers have to contend with is the final myth that Nelson dispels. Because impact fees are based on a

published fee schedule, impact fees are predictable and are less likely to be based on an unfair negotiation process that could be arbitrary and capricious. Unlike development exactions, impact fees are not negotiated; they are based on a rational nexus test.

Nelson does offer six limitations of impact fees and how next generation impact fees solve the limitations of their predecessors. When impact fees were first implemented, they were done so without notice to the development community and they were applied to standing inventory. This situation was corrected by providing advance notice to developers that impact fees would be implemented and would be phased in over a period of time. This phasing allows the developer to account for their effect on the developer's financial situation (Freilich & Bushek, 1995).

Nelson contends the second limitation associated with impact fees is that they tend to be regressive. Because impact fees are assessed on a per person basis, (a requirement of the rational nexus test) lower cost homes have a higher percentage of their cost attributed to impact fees than higher cost homes. The next generation impact fees will counter the regressive nature of impact fees by being based on home size, which is reflective of income (Freilich & Bushek, 1995).

Nelson identifies a negative land value effect as the third limitation of impact fees. The negative land value effect is associated with what the market will bear. Nelson suggests that landowners may not be willing to develop their property because the cost of the impact fees will be internalized. Nelson coins this internalization of land the "reservation price problem." The solution that Nelson offers for this situation is to waive impact fees for low-income housing and possibly for moderate-income housing. Again, Nelson suggests basing impact fees on the size of the home. Additionally, enterprise

zones with dedicated accounts would pay for the impact fee costs in low-income areas. Nelson offers the following as a final solution to the "reservation price problem:" He states: "Multiple service areas may be devised to account for special circumstances affecting community development patterns and development policy" (Freilich & Bushek, 1995). By this, Nelson is suggesting that new development in areas with adequate facilities or additional revenues in an account targeted for a low-income area would be relieved from paying impact fees.

A fourth limitation Nelson provides on impact fees is that of low-income areas subsidizing higher income areas. Here, Nelson states: "Impact fees tend to be assessed across large areas without sensitivity to the variability in the cost of providing service to particular areas or in particular development configurations" (Freilich & Bushek, 1995). This results in lower income sub-areas with higher densities paying proportionately more than higher income sub-areas. The inequitable cost to lower income areas reinforces the perception of impact fees because they are similar to a flat tax, which is considered to be regressive in nature. Again Nelson falls back on his argument for combating the third limitation of impact fees, in which fees are based on house size, and providing an alternative means of financing low-income housing. Additionally, Nelson also states: "Being proactive in separating areas of substantially low cost from areas of substantially high cost but keeping the number of service areas small," such as a tiered system (Freilich & Bushek, 1995). Two cities offer such a system, San Diego, California, which uses a three-tier system and Columbus, Georgia, which has a two-tier system (Freilich & Bushek, 1995).

Nelson identifies high cost services everywhere as the fifth limitation of impact fees. In this area Nelson looks at the costs of park development and road service levels. The cost of park development is considerably higher in some areas than in other areas. With respect to level of service (LOS) for roads, suburban areas may be willing to pay for a higher LOS than an inner city area. The next generation of impact fees, Nelson purports will be based on the LOS that people living within an area are willing to pay for (Freilich & Bushek, 1995).

The sixth and final limitation associated with impact fees according to Nelson concerns local officials and existing service level deficiencies. In this situation, impact fees cannot be used to finance improvements and expansion of the existing infrastructure. Nelson indicates this is most common among road systems. The next generation impact fees, however, will be more broad based to ensure that the system as a whole is operating at, above, or below desired levels. Nelson suggests that planning policy can direct new development away from the over burdened infrastructure (Freilich & Bushek, 1995).

Understanding the changing nature of the players involved in the development process is the fourth, and final reason for which Frank and Rhodes (1-2, 1987) predicated a need for studying development fees and exactions. Prior to the establishment of impact fees and exactions, the developer determined the direction of development, and public sector governments followed the developer with the necessary infrastructure Frank and Rhodes (1-2, 1987).

Altshuler and Gómez-Ibáñez (78, 1993) profess the cost/revenue analysis studies of the 1940s and 1950s for residential developments and the fiscal impact analysis studies of the 1970s that included commercial and industrial developments occasioned a

conventional wisdom that stated housing for low- and moderate-income families didn't pay for themselves with respect to infrastructure. The conventional wisdom of the time, however, believed most other forms of development would pay for themselves.

The notion that commercial, industrial, and high-income residential development paid for themselves came about by the assumption that these types of development required fewer public services while providing high tax revenues. Low- and moderate-income residential developments, on the other hand, were thought to place a heavy burden on public services while contributing proportionally insignificant revenues to local governments. Due to reduced federal aid for infrastructure and federal government-imposed environmental restrictions, commercial, industrial, and high-income residential development was no longer viewed as a high revenue producer and low service user. Another complication at work during the 1970s and 1980s was the property tax revolt, which exacerbated revenue deficiencies experienced by local government.

O'Sullivan, Sexton, and Shefferin (71, 1995) indicate the ad valorem property tax (property tax based on market value) is progressive in nature. This is true because land and capital are concentrated among people with higher incomes. O'Sullivan, Sexton, and Shefferin purport that increased property taxes will, in part, be offset by consumers paying rent; but because land is immobile, the brunt of the property tax will be absorbed by the property owner. With respect to an acquisition-value-based property tax, O'Sullivan, Sexton, and Shefferin state this type of property tax decreases household mobility and will increase the likelihood of homeownership for infrequent movers, while decreasing the likelihood of homeownership for frequent movers.

Schwadron and Richter (159-163, 1984) show the effects of Proposition 13 on parks. Humboldt County, in Northwestern California, was unable to support the $205,000 annual budget for its park system. Approximately $40,000 of this budget was used for park maintenance. Schwadron and Richter declare that Humboldt County was unable to continue to maintain several parks due to the passage of Proposition 13. This lack of funding resulted in the parks being transferred to a community park service district, the National Park Service, and the Bureau of Land Management. Other examples of reductions in park services provided by Schwadron and Richter include the City of Los Angeles, which closed 24 small community centers and an increase in user fees in the San Francisco Bay area. Additionally, Schwadron and Richter state 41 percent of the parks statewide either eliminated facilities or reduced hours of operation.

Webb & Hatry (17-27, 1973) provide seven uses for surveys in government. The following is a list of these uses:

1. Provide citizen perceptions of the effectiveness of public services including the identification of problem areas.
2. Provide selected factual data.
3. Help identify reasons for dislike or non-use of services.
4. Pretests of citizen demand for new services.
5. Citizen opinion surveys.
6. Provide data on citizen awareness of local government programs.
7. Provide a means for increasing citizen participation in government planning and policy foundation, and reduce isolation or alienation from their government.

The survey used in this study will be useful in determining the following perceptions discussed by Webb & Hatry:

1. Provide factual data from constituents within Ward Two of the City of Las Vegas.
2. Identify like or dislike of development impact fees and exactions.
3. Elicit citizen opinions.
4. Provide awareness on the use of the property tax to finance public infrastructure.

Miller and Miller (7-8, 1991) indicate that citizen surveys change public perception by focusing the survey on particular segments of the population. Additionally, citizen surveys provide opinions that are central to the policy question. Moreover, citizen surveys give a voice to all segments of the population, including those people who might not otherwise become involved.

According to Miller and Miller (75, 1991) there are three general principles when constructing a citizen questionnaire. These principles are clarity, simplicity, and fairness. To achieve clarity, a survey should not include vague phrasing of questions, double-barreled questions, false assumptions, and overlapping categories. "Simplicity can be achieved through specificity, brevity, logic, and security" (Miller and Miller 1991, p. 71). Finally, a survey is considered fair when the survey avoids option bias, promotes option completeness, balances option order, and considers question context.

## CHAPTER III

## METHODOLOGY:

Two methodological approaches will be used in this paper. The first methodology used in this thesis will be taken from (Frank: 61-64, 1989). The methodology used by Frank is a survey of government jurisdiction's use of impact fees and exactions. The survey will be administered to The City of Las Vegas Planning Department to determine which impact fees and exactions are utilized because impact fees and exactions are typically imposed upon issuance of a building permit or land-use application approval process. Because the survey will involve an entire population, and the survey will ask questions specifically related to what impact fees and exactions are used by the City of Las Vegas, there will be no sampling bias.

Because no public opinion surveys have been conducted on the use of development impact fees and exactions, a new methodological approach will be developed to measure public opinion on the use of development impact fees and exactions as the second methodological approach in this paper. This methodology will be used to support the thesis that citizens within Ward Two of the City of Las Vegas are more likely to support development impact fees and exactions as opposed to the use of the property tax as a means of supporting the expansion of public infrastructure. For guidance in developing a public opinion survey, two examples will be used from the Urban Land Institute's publications on the development of public opinion sampling (Webb & Hatry: 1973) (Weiss & Hatry: 1971).

The public opinion survey will involve 101 residents living within Ward Two of the City of Las Vegas. Due to the extensive cost of mail and telephone surveys, this

survey will be conducted in person at the Summerlin Trails Village Center and will survey residents living within the Summerlin area of Ward Two. Chi-square cross tabulations will be used to measure the relationships between the independent variables and dependent variables. A sample of 101 people will be used to allow for a normal distribution.

## CHAPTER IV

## RESEARCH ANALYSIS:

The first of the two surveys to be analyzed in the paper will be a survey modified from Frank (1989). This survey is a comprehensive examination of the use of development impact fees and exactions used within the City of Las Vegas, Nevada. The survey identifies nine infrastructure and environmental areas where the City of Las Vegas would logically use impact fees to support new public infrastructure or negotiates exactions to mitigate the environmental impacts caused by development. The nine areas identified are: water, sewer, fire/EMS, police, schools, roads, desert tortoise, and other fees. Each of the aforementioned impact fee areas was paired with a list of 12 questions. The City of Las Vegas uses development impact fees and exactions for sewer connections, parks, roads, and to mitigate environmental degradation of the desert tortoise habitat. The impact fees are assessed at the issuance of a building permit, and credits are made for other developer contributions. The impact fee ordinance allows for recalculation of the fees based on an index, and the fees are accounted for by type, e.g. sewer, park, etc.

The City of Las Vegas expends its impact fee revenues by building new facilities for new development. The city has used impact fees for more than 35 years for sewer connections, 12 years for desert tortoise mitigation, 11 years for park development and maintenance, and nine years for transportation purposes. The city provides no allowance of fee deferment by securing a lien on the property. Fees for sewer connections within the City of Las Vegas are $1200 per unit. The desert tortoise fee is calculated by acreage, which is set at $550 per acre. Park and transportation impact fees within the City of Las

Vegas are calculated at $0.36 per square foot and $500 per unit respectively. To date, no court actions have taken place within the City of Las Vegas with respect to the levying impact fees, and the fees aren't used to secure bond issues for financing capital improvements. Finally, fees can be waived through City Council approval for affordable/low-income housing projects. (For a complete list of the impact fees levied and the questions asked see Appendix A, Page 43).

The second area of analysis reviewed in this paper is the statistical data obtained in a public opinion survey. Appendices "B" through "F" (Page 44-89) provide a graphical representation about the distribution of the data. The first data analyzed will be related to the descriptive statistics for each of the 15 questions asked in the survey. Finally, a Chi-square analysis of the independent and dependent variables will be analyzed to identify if any significant relationships exist between the independent and dependent variables.

In an effort to determine public opinion on the use of development impact fees and exactions, a survey tool of fifteen questions has been developed. The questions are based on a five-level Likert scale for ordinal data with a few yes/no questions used for nominal data. The data was collapsed to a two-level or three-level Likert scale in order to minimize errors due to the sample size. The data was analyzed using the student version of SPSS 9.0 software to analyze a T-test and Chi squared cross tabulations.

Using a statistical calculator, called a webulator, developed by William J. Montelpare to calculate sample sizes, a sample size of 101 people was calculated. The sample size was calculated using a z-score of 1.72, an expected proportion of 0.5, a population of 80,554, and an 8.54 percent error rate. The sample size can be calculated

by using the following formula: $n = (Z * \sigma E)^2$ where "n" is the sample size, Z is the Z-score, "σ sigma" is the standard deviation for a population, and E is the percentage error. The population was based on the City of Las Vegas Planning Department's information of Ward Two's population being 77,905 people as of July 1, 1999, and a growth rate of 6.8 percent to obtain an 8.54 percent error. Accounting for six months' additional growth at 6.8 percent, the population of Ward Two is 80,554. While no statistics were kept on gender, approximately 75 percent of the respondents were women, and the response rate was approximately 60 percent.

The following data represents the raw statistical data prior to collapsing the data in the Chi-square contingency table analysis. Approximately sixty percent of the people surveyed strongly agree impact fees and exactions should be used to support new infrastructure such as schools, parks, drainage basins, and traffic mitigation. However, only 50.5 percent of the people surveyed would support the use of impact fees and exactions if their use increased the cost of housing, a slightly higher percentage than those opposing the use of development impact fees and exactions if their use increased housing costs.

More than seventy-six percent of the responses strongly agree or agree that existing property taxes should be used to support new infrastructure such as schools, parks, drainage basins, and traffic mitigation. While the people surveyed are willing to have existing property taxes support new infrastructure, 63.4 percent of the people surveyed are opposed to increasing property taxes to support new infrastructure, which is consistent with the anti-tax sentiment that Richter (1984) describes.

More than 40 percent of the of the respondents believe the quality of and availability of school facilities in the Clark County School District compared to schools outside of Clark County are worse than average.

Greater than 76 percent of the people surveyed believe that the amount of parkland within the Las Vegas Valley is better than average, or average.

Only 24.8 percent of the respondents indicate that they believe drainage facilities used to control flooding in the Las Vegas Valley are better than average compared to 44.6 percent who believe that drainage facilities were worse than average or much worse than average.

Almost 42 percent of the people surveyed agree that new infrastructure should be paid for by the developer. Surprisingly, 50.5 percent of the respondents believe that everybody should pay for new infrastructure.

The majority of people surveyed, 31.7 percent didn't vote and another 17.8 percent didn't live within Clark County to vote for the school bond or the ¼ cent sales tax increase for the Southern Nevada Water Authority's Lake Mead water line expansion. Of those respondents who voted, almost 40 percent of the people surveyed voted in favor of continuing the general obligation bond to support the Clark County School District's facility expansion, while only 10.9 percent voted in opposition of the school bond. Similarly, 29.7 percent supported the sales tax increase, while 20.8 percent voted in opposition to the sales tax increase.

More than 63 percent of the people surveyed indicated they had a household income over $60,000, of which approximately 29 percent indicated their household income was over $100,000.

A little more than 25 percent of the people are high school graduates, 50.5 percent are college graduates, and nearly 24 percent of the people have a graduate degree.

Nearly 46 percent of the respondents indicate they are members of the Republican Party, 39.6 percent are members of the Democratic Party, and 14.9 percent state they are in a category listed as other.

Of the people surveyed, 88.1 percent are homeowners, while 11.9 percent are not homeowners.

A T-test was performed to calculate the descriptive statistics for fourteen of the questions in the survey. In question number one, the mean in support of the use of impact fees is 1.6040 with a standard deviation of 0.4915, a score of two represents an answer of strongly agree. The mean and standard deviation for question number two, asking whether property taxes should be used for new infrastructure, is 1.4158 and 0.4953, a score of one represents an answer of agree/strongly disagree. The third question, which dealt with the quality and availability of school facilities, has a mean of 1.1980 with a standard deviation of 0.4005, a score of one represents an answer of average/worse than average. A mean of 1.3366 and a standard deviation of 0.4749 occurred for question four, which asks about the availability of parkland, a score of one represents an answer of average/worse than average. The quality of drainage facilities, question five, had a mean of 1.2475 with a standard deviation of 0.4337, a score of one represents an answer of average/worse than average. In the sixth question, who should pay for new infrastructure, the mean is 1.4752 and the standard deviation is 0.5019, a score of one represents an answer of everybody.

Two questions relating to voting on tax measures in 1998 (extending the school bond and the ¼ cent sales tax increase) were the seventh and eighth questions in the survey. The mean for each question is 1.9010 and 1.8020 with a standard deviation of 0.9435 and 0.8720 respectively, a score of two represents an answer of no in each question. This is misleading because of the high number of people not voting or living in Las Vegas in 1998, which lowers the mean. In fact, more people living in Las Vegas in 1998 that were surveyed voted for both tax measures. The ninth and tenth questions related to supporting higher property taxes or higher housing costs through the use development impact fees and exactions for new infrastructure. Question nine, supporting higher property taxes for new infrastructure has a mean of 1.3663 and a standard deviation of 0.4842, a score of one represents an answer of no. Question ten, supporting higher housing costs due to impact fees has a mean of 1.5050 and a standard deviation of 0.5025, a score of one represents an answer of no. In question eleven, the mean household income range was $68,118.81 with a standard deviation of $9870.45. Education level was the twelfth question in the survey, and the mean is 2.02 with a standard deviation of 0.71, a score of two represents an answer of having a college degree. The thirteenth question asked about political party affiliation. The mean for this category is 2.31 and the standard deviation is 0.72, a score of two represents a political party affiliation with the Democratic Party. This is misleading because there were more Republican Party members than Democratic Party members surveyed. The fourteenth and final question in the survey asked about homeownership, and has a mean of 1.88 and a standard deviation of 0.33, a score of two equates to being a homeowner.

It was theorized at the beginning of the survey, that there would be a significant relationship between the independent and dependent variables. However, in analyzing the Chi-Square cross tabulations, some unexpected results appeared. In the survey there were four independent variables: income range, education level, political party affiliation, and homeownership. Seven dependent variables were identified in the survey. The dependent variables were: supporting the school bond, supporting the ¼ cent sales tax increase, who should pay for new infrastructure, supporting impact fees for new infrastructure, supporting impact fees if housing prices increased, supporting property taxes to fund new infrastructure, and supporting higher property taxes to fund new infrastructure. Using SPSS 9.0, a significant relationship is said to exist when the asymptotic significance reaches a value of 0.05. In the survey no asymptotic value was less than 0.082; therefore, an asymptotic value 0.10 is being used to show whether a relationship is approaching significance. Additionally, with an error rate of approximately eight and one half percent, using an asymptotic significance of 0.10 would be more in line with the error rate used in the survey. No significant relationship was identified between each of the independent and dependent variables in the Chi-square analysis. A minor relationship may exist between the independent variable of income level and the dependent variable supporting impact fees if their use increased housing costs. A few of the independent variables are approaching a relationship as indicated by asymptotic significance levels between 0.146 and 0.167. Education level is approaching a relationship with supporting impact fees if their use increased housing costs. Political party affiliation is also approaching a relationship with the dependent variable in voting

to support the school bond. Finally, homeownership is approaching a relationship with voting to support both the school bond and the sales tax increase.

In reviewing the independent variable household income level with each of the seven dependent variables the following results were observed, starting with household income.

1. Should impact fees be used to support new infrastructure? A Chi-square value of 0.010 was observed with an asymptotic significance of 0.992. Here, the null hypothesis that people with a household income less than $80,000 a year are as likely to support impact fees as people with a household income greater than $80,000 cannot be rejected. In this category, 60 percent of the people with a household income below $80,000 a year strongly agree that impact fees should be used to support new infrastructure. This is not significantly different than the 61 percent of the people with a household income greater than $80,000 strongly agreeing that impact fees should be used to support new infrastructure.
2. Would you support the use of impact fees if their use increased the cost of housing? The Chi-square value observed between the independent variable and dependent variable is 3.033, and the asymptotic significance is 0.082. The null hypothesis that people with a household income less than $80,000 a year are as likely to support impact fees if their use increased housing costs as people with a household income greater than $80,000 can be rejected at the 0.10 level. There is a significant difference between the 61 percent of the people with a household income greater than $80,000 per year, and the 43.3 percent with a household income below $80,000 per year supporting the use of impact fees if their use increased housing costs.

3. Should property taxes be used to support new infrastructure? There was a Chi-square value of 0.153, and an asymptotic significance of 0.696 observed between these variables. The null hypothesis that people with a household income below $80,000 a year are just as likely as people with a household income greater than $80,000 a year to support using property taxes to fund new infrastructure cannot be rejected. In this case, 40 percent of the people with a household income below $80,000 a year compared to 43.9 percent of the people with a household income greater than $80,000 a year supported the use of property taxes being used to fund new infrastructure.
4. Would you support higher property taxes to support new infrastructure? The Chi-square value between the independent variable and the dependent variable is 0.000, and the asymptotic significance is 0.993. It can be no more clear that the null hypothesis that people with a household income less than $80,000 a year are equally as likely as people with a household income greater than $80,000 a year to support higher property taxes to fund new infrastructure cannot be rejected. The difference between people with a household income below $80,000 a year and people with a household income greater than $80,000 a year was 0.01 percent.
5. Did you vote for the school bond? A Chi-square value of 3.210 and an asymptotic significance of 0.201 were observed. Again, the null hypothesis that people with a household income below $80,000 a year are as likely as people with a household income greater than $80,000 a year to vote for the school bond cannot be rejected. A greater percentage of people in the household income level greater than $80,000 a year voted to support the school bond. However a greater percentage of people in the same income level voted against the school bond. This occurred because there were

more people that either didn't vote or didn't live in Clark County during the last election.

6. Did you vote for the sales tax increase? Not surprisingly, the null hypothesis that people with a household income less than $80,000 a year are just as likely as people with a household income greater than $80,000 a year to vote for the sales tax increase cannot be rejected. Here, the Chi-square value is 3.062, and the asymptotic significance is 0.216. A similar occurrence appeared in this category as the school bond category where a greater percentage of people with a household income greater than $80,000 a year voted to support increasing the sales tax. A greater percentage of people within the same income level also voted against increasing the sales tax. Again, this can be attributed more to people not voting or not living within Clark County during the last election.
7. Who should pay for new infrastructure? This category, not unlike five of the other categories, shows similar results with respect to the null hypothesis. The null hypothesis that people with a household income less than $80,000 a year are equally as likely as people with a household income greater than $80,000 a year to favor the developer and new residents paying for new infrastructure. A Chi-square value of 0.378 and an asymptotic significance of 0.539 were observed. Forty-five percent of the people with a household income less than $80,000 and 51.2 percent of the people with a household income greater than $80,000 a year favored the developer and new residents to pay for new infrastructure.

The following results occurred between the second independent variable, education level, and each of the seven dependent variables.

1. Should impact fees be used to support new infrastructure? This category resulted in a Chi-square value of 1.687 and the asymptotic significance is 0.430. Therefore, the null hypothesis that people with less education are as likely as people with a college or graduate school education to support the use of impact fees to fund new infrastructure cannot be rejected. People with a graduate school education (66.7 percent), college education (62.7 percent), and high school education (50 percent) strongly agree that impact fees should be used to fund new infrastructure.
2. Would you support the use of impact fees if their use increased the cost of housing? The Chi-square value of 3.579 and asymptotic significance level of 0.167 between these variables is approaching significance. However, an asymptotic significance level of 0.10 has been used which is more in line with the error rate determined to be acceptable for this study. Because the asymptotic significance did not reach 0.10, the null hypothesis that people with less education are equally as likely as people with a college or graduate school education to support impact fees if their use increased housing costs cannot be rejected. This is surprising because 65.4 percent of the people surveyed with a high school education would not support impact fees if they increased the cost of housing compared to 43.1 percent of the people with a college education, and 45.8 percent of the people with a graduate school education.
3. Should property taxes be used to support new infrastructure? The null hypothesis that people with less education are just as likely as people with a college or graduate school education to support the use of property taxes to fund new infrastructure cannot be rejected. The reason the null hypothesis cannot be rejected is because the asymptotic significance value of 0.367, which relates to the Chi-square value of

2.002, has not reached the necessary significance value of 0.10. Only 30.8 percent of the people surveyed with a high school education, 43.1 percent of the people with a college education, and 50 percent of the people with a graduate school education strongly agree that property taxes should be used to fund new infrastructure.

4. Would you support higher property taxes to support new infrastructure? The Chi-square value of 0.513 and the asymptotic significance value of 0.774, again prevent rejecting the null hypothesis that people with less education are as likely as people with a college or graduate school education to support the use of higher property taxes to fund new infrastructure. More than 66 percent of people surveyed with a graduate school education, 64.7 percent of people with a college education, and 57.7 people with a high school education would not support higher property taxes to fund new infrastructure.
5. Did you vote for the school bond? In comparing these variables, a Chi-square value of 2.159 and an asymptotic significance of 0.707 were observed. Similar to the other dependent variables in this category, the null hypothesis that people with less education are just as likely as people with a college or graduate school education to have voted in favor of the school bond cannot be rejected. Fifty percent of the people surveyed with a graduate school education, 35.3 percent of the a college education, and 38.5 percent of the people with a high school education voted in favor of the school bond. While these percentages are less than or equal to 50 percent, almost 50 percent of the people surveyed didn't vote or didn't live in Clark County during the last election.

6. Did you vote for the sales tax increase? The results in this category parallel the results of the previous categories in that the Chi-square value of 0.975 and the asymptotic significance value of 0.914. Because the asymptotic significance is not 0.10 or less, the null hypothesis that people with less education are equally as likely as people with a college or graduate school education to have voted in favor of the sales tax increase cannot be rejected. Almost 30 percent of the people surveyed with a graduate school education, 27.5 percent of the a college education, and 29.2 percent of the people with a high school education voted in favor of the sales tax increase. Not unlike the previous question, these percentages are less than 50 percent, but almost 50 percent of the people surveyed didn't vote or didn't live in Clark County during the last election. It should be noted that collapsing the data to include both not voting and not living in Clark County during the last election accounts for the discrepancy in the count between this question and the previous question in the Chi-square contingency tables. Some of the respondents voted for the school bond while not voting for the sales tax and visa-versa.
7. Who should pay for new infrastructure? Finally, the question asking who should pay for new infrastructure is compared with education level. Again, the results of this category prevent rejecting the null hypothesis that people with less education are just as likely as people with a college or graduate school education to agree that developers and new residents should pay for new infrastructure. Here, the Chi-square value is 1.538 and the asymptotic significance is 0.464. In this category, quite surprisingly, the majority of people surveyed, 41.7 percent with a graduate school education, 56.9 percent of the people with a college education, and 53.8 percent of the

people with a high school education stated that everybody should pay for new infrastructure.

The next independent variable studied in the survey was political party affiliation. The following results were observed with each of the seven dependent variables.

1. Should impact fees be used to support new infrastructure? We cannot reject the null hypothesis that a member of the Democratic Party is equally as likely as a member of the Republican Party or another political party to support the use of impact fees to fund new infrastructure. The reason we cannot reject the null hypothesis is because the asymptotic significance value of 0.871 related to the Chi-square value of 0.276 means there is an 87.1 percent chance of incorrectly rejecting the null hypothesis. Sixty-three percent of the Republicans surveyed, 57.5 percent of Democrats, and 60 percent of the members classified in another political party strongly agree that impact fees should be used to fund new infrastructure.
2. Would you support the use of impact fees if their use increased the cost of housing? When asked this question, 52.2 percent of the Republicans surveyed, 47.5 percent of Democrats, and 53.3 percent of the members classified in another political party supported the use of impact fees if their use increased housing costs. The Chi-square value in this case is 0.244 and the asymptotic significance is 0.885. Therefore, the null hypothesis that a member of the Democratic Party is equally as likely as a member of the Republican Party or another political party to support impact fees if their use increased the cost of housing cannot be rejected.
3. Should property taxes be used to support new infrastructure? In this category, only 39.1 percent of the Republicans surveyed, 40 percent of the Democrats, and 53.3

percent of the members of another political party strongly agree that property taxes should be used to fund new infrastructure. A Chi-square value of 1.008 and an asymptotic significance of 0.604 were observed in this category. Therefore, there would be a 60.4 percent chance of incorrectly rejecting the null hypothesis that a member of the Republican Party is just as likely as a member of the Democratic Party or another political party to support the use of property taxes to fund new infrastructure.

4. Would you support higher property taxes to support new infrastructure? Once again, the Chi-square value of 2.576 and the asymptotic significance of 0.276 prevent rejecting the null hypothesis that a member of the Republican Party is as likely as a member of the Democratic Party or another political party to support higher property taxes to fund new infrastructure. Nearly 70 percent of the Republicans surveyed, 62.5 percent of the Democrats, and 46.7 percent of the members of another political party were opposed to increasing property taxes to fund new infrastructure.
5. Did you vote for the school bond? Looking at the results of this category, the Chi-square value is 6.823, which relates to an asymptotic significance of 0.146. While a significant relationship between the independent variable and independent variable is not observed in this case because the asymptotic significance is not 0.10 or less, the independent variable and dependent variable are approaching significance. The null hypothesis that a member of the Republican Party is equally as likely as a member of the Democratic Party or another political party, however, still cannot be rejected. Fifty percent of the Republicans surveyed, 35 percent of the Democrats, and 20 percent of the members of another political party voted if favor of the school bond.

6. Did you vote for the sales tax increase? The null hypothesis that a member of the Republican Party is equally as likely as a member of the Democratic Party or another political party to vote in favor of the sales tax increase cannot be rejected in this category because the asymptotic significance is not 0.10 or less. The Chi-square value for this question is 4.798 and the asymptotic significance is 0.309. Thirty-seven percent of the Republicans surveyed, 27.5 percent of the Democrats, and 13.3 percent of the members of another political party voted in favor of the sales tax increase. The reason that none of the political parties had a percentage over 37 percent is because almost 50 percent of the people surveyed didn't vote or didn't live in Clark County during the last election. It should be noted that collapsing the data to include both not voting and not living in Clark County during the last election accounts for the discrepancy in the count between this question and the previous question in the Chi-square contingency tables. Some of the respondents voted for the school bond while not voting for the sales tax and visa-versa.
7. Who should pay for new infrastructure? The final dependent variable paired with political party affiliation, the null hypothesis that a member of the Democratic Party is equally as likely as a member of the Republican Party or another political party to agree that developers and new residents should pay for new infrastructure cannot be rejected. In this case the Chi-square value is 0.703 and the asymptotic significance is 0.703. More than 56 percent of Republicans surveyed, 47.5 percent of Democrats, and 53.3 percent of the members of another political party indicated that everybody should pay for new infrastructure.

The fourth and final independent variable analyzed in the survey was homeownership. In this case, the following results were witnessed between homeownership and each of the independent variables.

1. Should impact fees be used to support new infrastructure? The Chi-square value between these variables is 0.024 and the asymptotic significance is 0.876. The null hypothesis that non-homeowners are just as likely as homeowners to support the use of impact fees cannot be rejected. Nearly 61 percent of the homeowners surveyed supported the use of impact fees, compared to 58.3 percent of non-homeowners.
2. Would you support the use of impact fees if their use increased the cost of housing? . The null hypothesis that non-homeowners are as likely as homeowners to support the use of impact fees if their use increased the cost of housing cannot be rejected. While 52.8 percent of the homeowners surveyed supported the of impact fees if their use cost of housing increased, 66.7 percent of the non-homeowners surveyed did not support the use of impact fees if their use increased the cost of housing. Although there appears to be a significant disparity between homeowners and non-homeowners, the Chi-square value of 1.604 relates to an asymptotic significance of 0.205, which prevents rejecting the null hypothesis.
3. Should property taxes be used to support new infrastructure? Almost an identical percentage of homeowners and non-homeowners, 41.6 percent to 41.7 percent respectively, strongly agree that property taxes should be used to support new infrastructure. The expected and observed counts in the Chi-square cross tabulation were identical for each column and row. This resulted in a Chi-square value of 0.000 and an asymptotic significance of 0.995, which means the null hypothesis that non-

homeowners are equally as likely as homeowners to support the use of property taxes to fund new infrastructure cannot be rejected. In other words, if the null hypothesis was rejected, it would be rejected incorrectly 99.5 percent of the time.

4. Would you support higher property taxes to support new infrastructure? The results for this dependent variable are not significantly different from the previous dependent variable. Here, the Chi-square value is 0.064 and the asymptotic significance is 0.800. Approximately 63 percent of the homeowners surveyed compared to 66.7 percent of the non-homeowners would not support higher property taxes to fund new infrastructure. Similarly, the null hypothesis that non-homeowners are as likely homeowners to reject increasing property taxes to fund new infrastructure cannot be rejected.
5. Did you vote for the school bond? Roughly 43 percent of the homeowners and 16.7 percent of the non-homeowners voted in favor of the school bond. A Chi-square value of 3.679 and an asymptotic significance of 0.159 were observed between these variables. The independent and dependent variables are approaching significance. However, the null hypothesis that non-homeowners are as equally as likely as homeowners to vote in favor of the school bond cannot be rejected because the asymptotic significance did not reach the 0.10 threshold. Because 49.5 percent of the people didn't vote or didn't live in Clark County during the last election, the majority of people that did vote is less than 50 percent.
6. Did you vote for the sales tax increase? The results in this grouping are not that different from the previous pairing. The Chi-square value for these variables is 3.584 and the asymptotic significance is 0.167. Here too, the variables are approaching

significance, but are not able to show a relationship because the asymptotic significance is not 0.10 or less. More than 31 percent of the homeowners surveyed and 16.7 percent of the non-homeowners voted in favor of the sales tax increase. Similar to the previous question, 49.5 percent of the people didn't vote or didn't live in Clark County during the last election, resulting in a majority of people that is less than 50 percent.

7. Who should pay for new infrastructure? The final variables surveyed also show no significant relationship. The Chi-square value between the dependent and independent variable is 0.187 and the asymptotic significance is 0.665. The null hypothesis that non-homeowners are equally as likely as homeowners to agree that developers and new residents should pay for new infrastructure cannot be rejected. Nearly 52 percent of the homeowners and 58.3 percent of the non-homeowners indicated that everybody should pay for new infrastructure.

# CHAPTER V

## SUMMARY AND CONCLUSIONS:

The study of development impact fees and exactions has gained a significant amount of academic attention since the 1980s. Urban planning professors like James Frank, Arthur Nelson, etal. have contributed a significant body of scholarly research to the study of development impact fees and exactions. However, these studies have been limited to surveying which governments impose development impact fees and exactions, how to implement them, and the legality of their use. This study has helped to develop a new area within the study of development impact fees and exactions, that being public opinion on their use. With intergovernmental grants in aid dwindling since 1980, local governments have been forced to identify new funding mechanisms to support public infrastructure. Moreover, many states like Nevada have a taxpayer bill-of-rights, which requires the state and local governments to spend tax revenues responsibly. The use of development impact fees and exactions has been an important method of funding public infrastructure in California since the passage of Proposition 13 in 1978 and will likely become an important method of funding public infrastructure in Southern Nevada in the future.

Surveying the impact fees used by the City of Las Vegas has identified four areas in which the city assesses impact fees. The impact fees that the City of Las Vegas imposes to support public infrastructure are applied toward sewer connections, park development, road expansion and improvements, and desert tortoise habitat mitigation. Like all cities and counties within the State of Nevada, the City of Las Vegas cannot impose impact fees for school development. Unfortunately, the public infrastructure

most impacted by growth in Southern Nevada is adequate school infrastructure, which has been augmented by taxpayers supporting an extension of a school bond. This, however, is the type of property tax increase that spurred voters in California to approve Proposition 13 in 1978. If the history of California is not going to be repeated in Southern Nevada, the City of Las Vegas, needs to be an instrumental participant in lobbying the Nevada State Legislature to allow impact fees to be imposed for public school infrastructure.

One of the research questions outlined in this thesis was: Do the citizens within Ward Two of the City of Las Vegas support the use of development impact fees and exactions to support the financing of public infrastructure?

This study has identified that the majority of people surveyed within Ward Two of the City of Las Vegas are in favor of the use of development impact fees and exactions, but not at the expense of increased housing costs.

Another question asked in this thesis was: Do the citizens within Ward Two of the City of Las Vegas support the use of the property tax to support the financing of public infrastructure?

Not surprisingly, this thesis has shown that people are willing to use property taxes to support public infrastructure, unless property taxes have to be increased to support *new* infrastructure.

A third question identified in this survey was: Are the independent variables predictive of the dependent variables?

With the exception of the relationship between the independent variable, household income, and the dependent variable, would you support the use of impact fees

if their use increased housing costs, none of the other independent variables was predictive of the dependent variables, although there were four other independent/dependent variables that approached significance with asymptotic significance levels between 0.146 and 0.167.

It is interesting to find that residents within Ward Two perceive school facilities and drainage facilities as worse than average or much worse than average, yet they are unwilling to support either development impact fees and exactions or higher property taxes to fund public infrastructure. Equally confusing is the fact that the majority of people surveyed living in Southern Nevada during the last election voted for the school bond and sales tax increase.

An unexpected result in this study is the fact that constituents within Ward Two believe that the cost of financing public infrastructure should be absorbed by all segments of the population: developers, new residents, and long-time residents.

Finally, the results of this study may be skewed due to the fact that the area where the survey was taken may have been more homogeneous than the general population. Therefore, it is suggested that a telephone survey or a mail survey be conducted to obtain a sample from a greater diversity of the population. Due to the high cost of telephone and mail surveys, approximately $10,000 to $15,000 through the Cannon Center at the University of Nevada, Las Vegas, this survey was conducted as a walk-up survey. Additionally, the gender of the respondent should be studied because there may be a significant difference in the responses of men and women.

| **City of Las Vegas Impact Fee**<br>Adapted From: James E. Frank, 1989. Survey<br>**APPENDIX A** | Water | Sewer | Fire/ | Police | School | Parks | Roads | Desert Tortoise | Other |
|---|---|---|---|---|---|---|---|---|---|
| 1. Check the box under each impact fee now used by your city. | **N** | **Y** | **N** | **N** | **N** | **Y** | **Y** | **Y** | **N** |
| 2. At what point in the development process is each impact fee assessed?<br>a. Subdivision plat approval.<br>b. Building permit issuance.<br>c. Zoning change approval.<br>d. Certificate of occupancy.<br>e. Other_____. | | **B** | | | | **B** | **B** | **B** | |
| 3. Indicate if credits are made for other contributions made by the developer.<br>a. Land donations (Exactions).<br>b. Gasoline taxes paid by new development.<br>c. Ad valorem taxes paid by new development.<br>d. Other_____.<br>e. No credits are allowed. | | **Y** | | | | **Y** | | | |
| 4. Does your impact fee ordinance require or allow recalculation of the impact fee amount based on:<br>a. An index.<br>b. Levels of service in the comprehensive plan.<br>c. The capital improvement of the comprehensive plan.<br>d. Impact fees are not recalculated. | | **A** | | | | **A** | **A** | **A** | |
| 5. How are impact fees accounted for?<br>a. By fee type.<br>b. By zone and fee type.<br>c. Both (1) and (2).<br>d. None of the above. | | **B** | | | | **B** | **B** | **B** | |
| 6. How are impact fee revenues expended?<br>a. Building new facilities for new development.<br>b. Upgrading existing facilities to serve new development.<br>c. Both (1) and (2). | | **B** | | | | **B** | **B** | **B** | |
| 7 a. Please indicate the time limits (# of years) within which the impact fee revenues must be spent, if applicable.<br>b. Have any refunds been made because the time limits have been exceeded. (Yes/No) | | **35+**<br>**No** | | | | **11 No** | **9 No** | **12**<br>**No** | |
| 8. Indicate the impact fees for which payment can be deferred if the impact fee payment is secured by a lien on the property. | | **N/A** | | | | **N/A** | **N/A** | **N/A** | |
| 9. What is the impact fee amount the city charges per square foot for single family residential homes? | | **$1200 Per Unit** | | | | **$0.36 Sq. Ft.** | **$500 Per Unit** | **$550 Per Acre** | |
| 10. Has there been any court actions involving the validity of the city's authority to levy impact fees? | | **N** | | | | **N** | **N** | **N** | |
| 11. Are impact fees being used to secure bond issues that are financing capital improvements? (Yes/No) | | **N** | | | | **N** | **N** | **N** | |
| 12. Do any of your impact fees include some provision for "affordable" or low-income housing? Indicate all that apply.<br>a. Fees are waived.<br>b. Fees are set lower.<br>c. Fees are subsidized by the city.<br>d. Other. **Waived with City Council Approval** | | **D** | | | | **D** | **D** | **D** | |

**APPENDIX B**

Hello, I am a graduate student at the University of Nevada Las Vegas. I am conducting a survey to determine what the public's opinion is on the use of development impact fees and exactions. Let me define what development impact fees and exactions are before we start. A development impact fee is a monetary charge placed upon a developer to expand the public facilities such as water and sewer lines, and roads. A development exaction is the dedication of land by a developer to expand facilities such as parks, police and fire stations, and schools. Please choose only one answer per question.

1. Should impact fees and exactions be used to support new infrastructure such as schools, parks, drainage basins, and traffic mitigation?

# Very strongly agree # Strongly agree #Agree # Strongly disagree #Very strongly disagree

2. Should property taxes be used to support new infrastructure such as schools, parks, drainage basins, and traffic mitigation?

# Very strongly agree # Strongly agree #Agree # Strongly disagree #Very strongly disagree

3. Based on your knowledge, the quality of and availability of school facilities in the Clark County School District compared to schools outside of Clark County are?

# Much better than average # Better than average # Average # Worse than average
# Much worse than average

4. Compared to other places, the amount of parkland within the Las Vegas Valley is?

# Much better than average # Better than average # Average # Worse than average
# Much worse average

5. Compared to other places, the drainage facilities used to control flooding in the Las Vegas Valley are? # Much better average # Better than average # Average # Worse than average
# Much worse than average

6. New infrastructure should be paid for by?

# Developers # New residents # Long time residents # All of the above

7. Did you vote for the continuation of the general obligation bond to support the Clark County School District's facility expansion?

# Yes # No # Didn't Vote # Didn't Live in Clark County

8. Did you vote for the ¼ cent sales tax increase for the Southern Nevada Water Authority's Lake Mead water line expansion?

# Yes # No # Didn't Vote # Didn't Live in Clark County

9. Would you support higher property taxes to support new infrastructure?

# Yes # No

10. Would you support use of impact fees and exactions if their use increased the cost of housing?

# Yes # No

11. What year were you born?

12. What is your household income range? # Under 19,999 # 20,000-39,999 # 40,000-59,999
# 60,000-79,999 # 80,000-99,999 # 100,000 +

13. What is your educational level? # Elementary School # High school Graduate
# College Graduate # Graduate School

14. What is your political party affiliation? # Republican # Democrat # Libertarian
# Reform # Other

15. Are you a homeowner? # Yes # No

# APPENDIX C

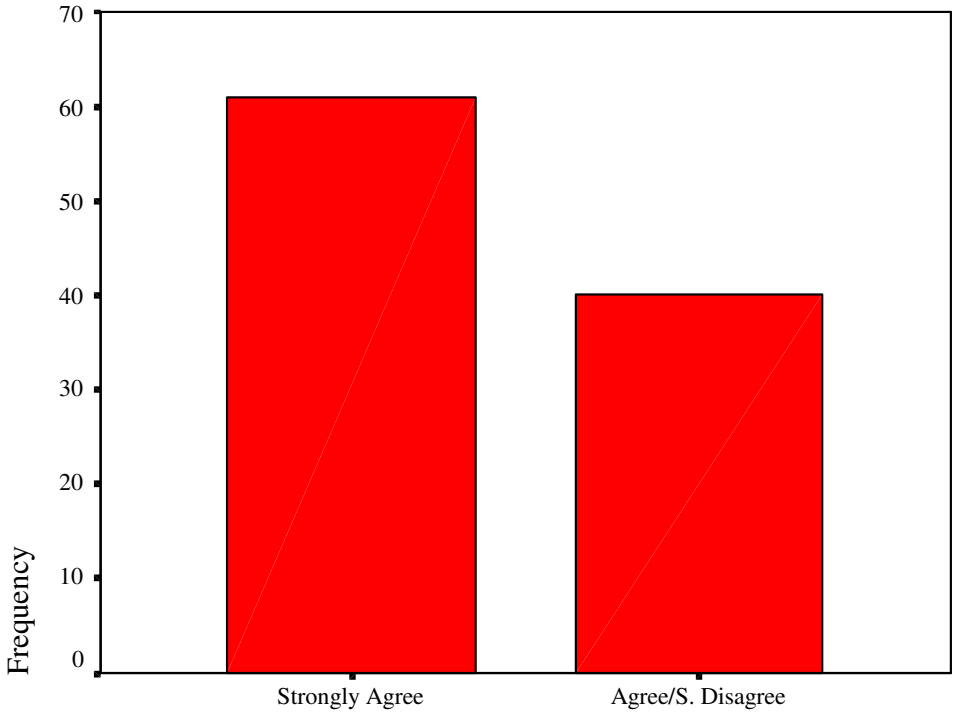
**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Should impact fees be used to support new infrastructure? | 101 | 1.00 | 2.00 | 1.6040 | .4915 |
| Should property taxes be used to support new infrastructure? | 101 | 1.00 | 2.00 | 1.4158 | .4953 |
| What is the quality of school facilities in Clark County? | 101 | 1.00 | 2.00 | 1.1980 | .4005 |
| What is the quality of parkland within the Las Vegas Valley? | 101 | 1.00 | 2.00 | 1.3366 | .4749 |
| What is the quality of drainage facilities within the Las Vegas Valley? | 101 | 1.00 | 2.00 | 1.2475 | .4337 |
| Who should pay for new infrastructure? | 101 | 1.00 | 2.00 | 1.4752 | .5019 |
| Did you vote for the school bond? | 101 | 1.00 | 3.00 | 1.9010 | .9435 |
| Did you vote for the sales tax increase? | 101 | 1.00 | 3.00 | 1.8020 | .8720 |
| Would you support higher property taxes to support new infrastructure? | 101 | 1.00 | 2.00 | 1.3663 | .4842 |
| Would you support the use of impact fees if their use increased the cost of housing? | 101 | 1.00 | 2.00 | 1.5050 | .5025 |
| What year were you born? | 101 | 1919 | 1978 | 1953.11 | 12.57 |
| What is your household income level? | 101 | < $80,000 | > $80,000 | 68118.81 | 9870.45 |
| What is your education level? | 101 | 1 | 3 | 2.02 | .71 |
| What is your political party affiliation? | 101 | 1 | 3 | 2.31 | .72 |
| Are you a homeowner? | 101 | 1 | 2 | 1.88 | .33 |
| Valid N (listwise) | 101 | | | | |

## APPENDIX D

**Should impact fees be used to support new infrastructure?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Agree | 61 | 60.4 | 60.4 | 60.4 |
| | Agree/ Strongly Disagree | 40 | 39.6 | 39.6 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

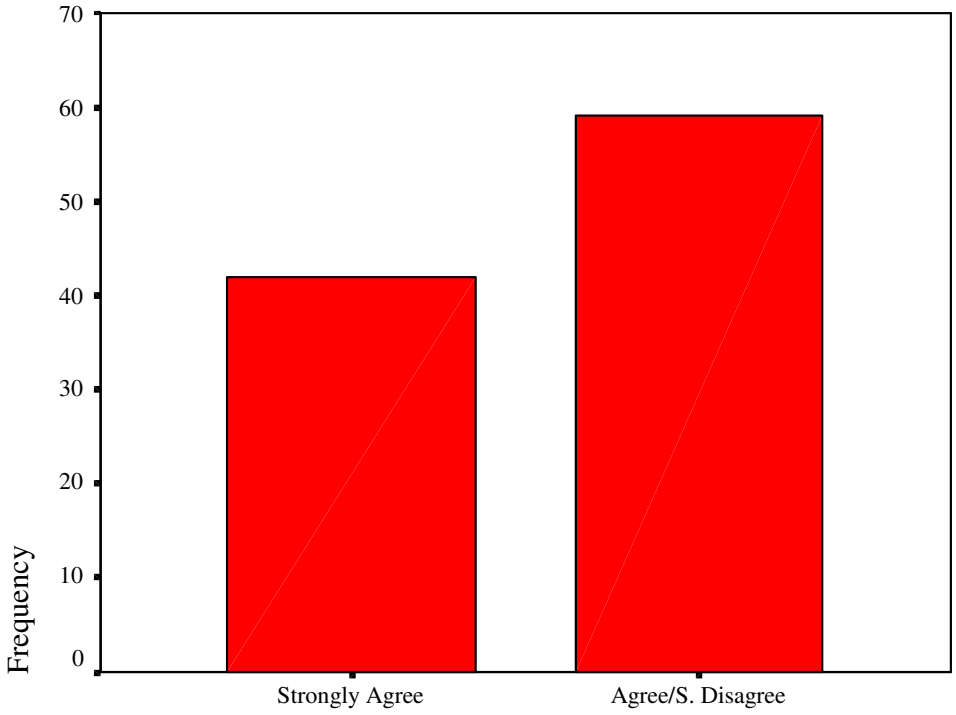



Should impact fees be used to support new infrastructure?

## APPENDIX D

**Should property taxes be used to support new infrastructure?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Strongly Agree | 42 | 41.6 | 41.6 | 41.6 |
| | Agree/ Strongly Disagree | 59 | 58.4 | 58.4 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

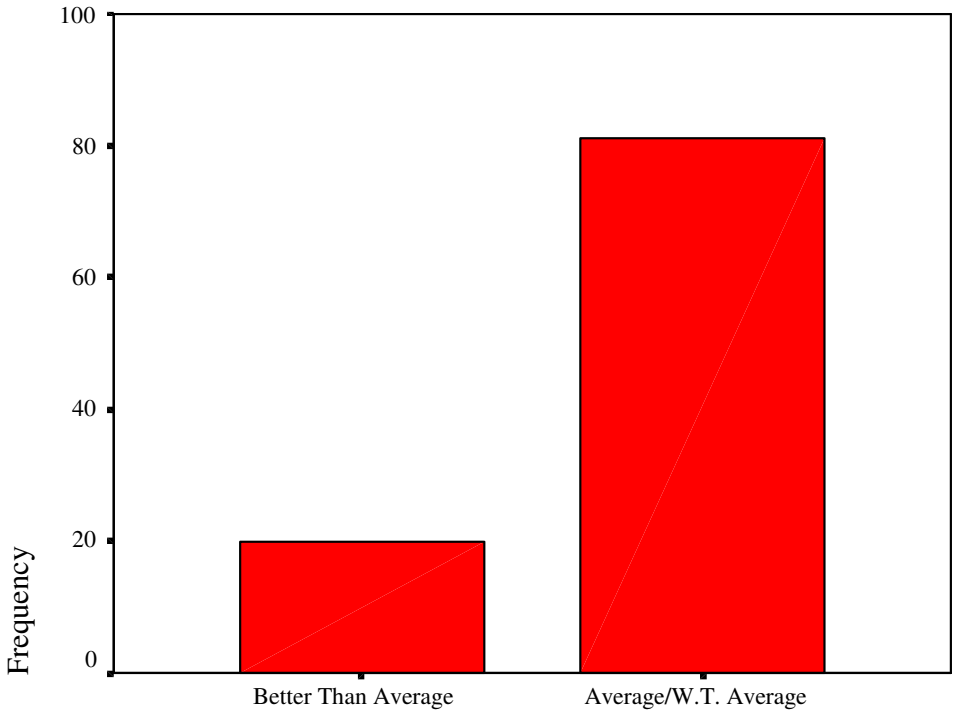



Should property taxes be used to support new infrastructure?

## APPENDIX D

**What is the quality of school facilities in Clark County?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Better Than Average | 20 | 19.8 | 19.8 | 19.8 |
| | Average/ Worse Than Average | 81 | 80.2 | 80.2 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

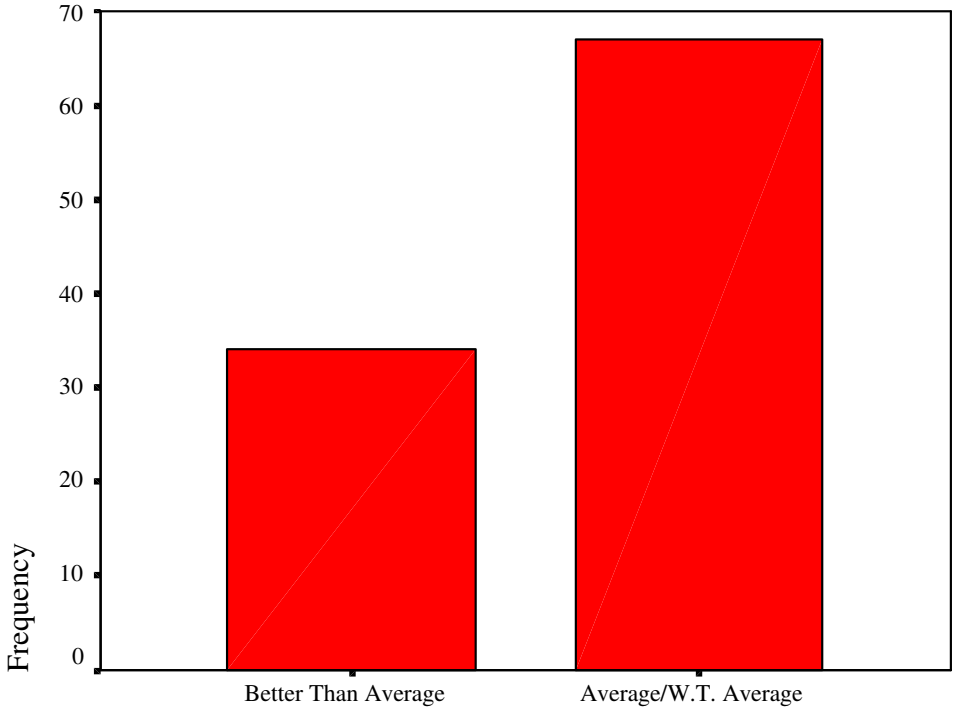



What is the quality of school facilities in Clark County?

## APPENDIX D

**What is the quality of parkland within the Las Vegas Valley?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Better Than Average | 34 | 33.7 | 33.7 | 33.7 |
| | Average/ Worse Than Average | 67 | 66.3 | 66.3 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

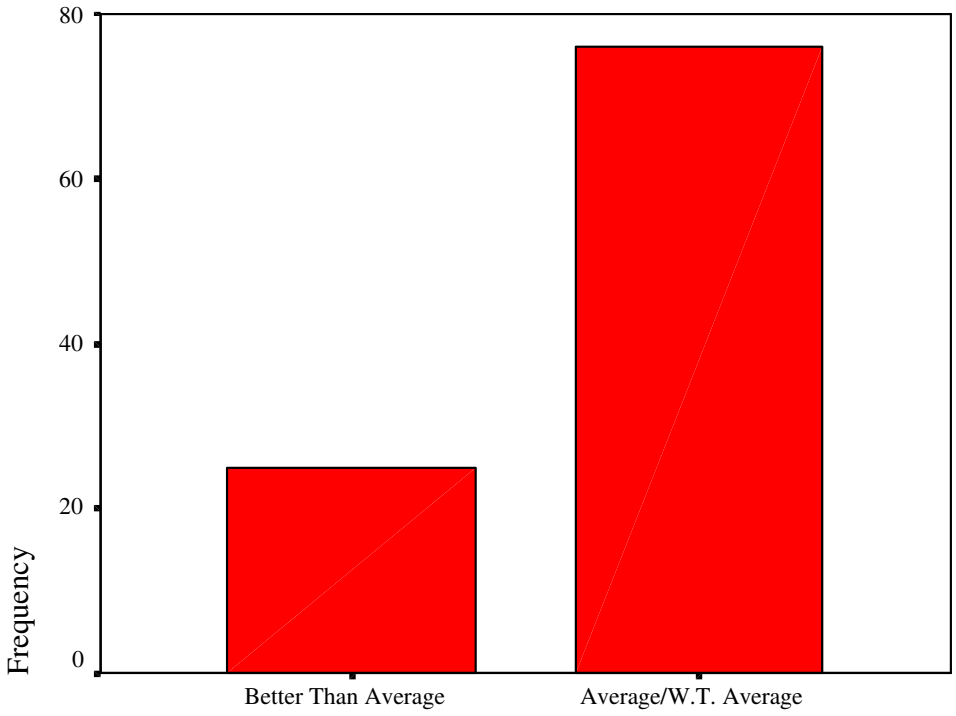



What is the quality of parkland within the Las Vegas Valley?

## APPENDIX D

**What is the quality of drainage facilities within the Las Vegas Valley?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Better Than Average | 25 | 24.8 | 24.8 | 24.8 |
| | Average/ Worse Than Average | 76 | 75.2 | 75.2 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

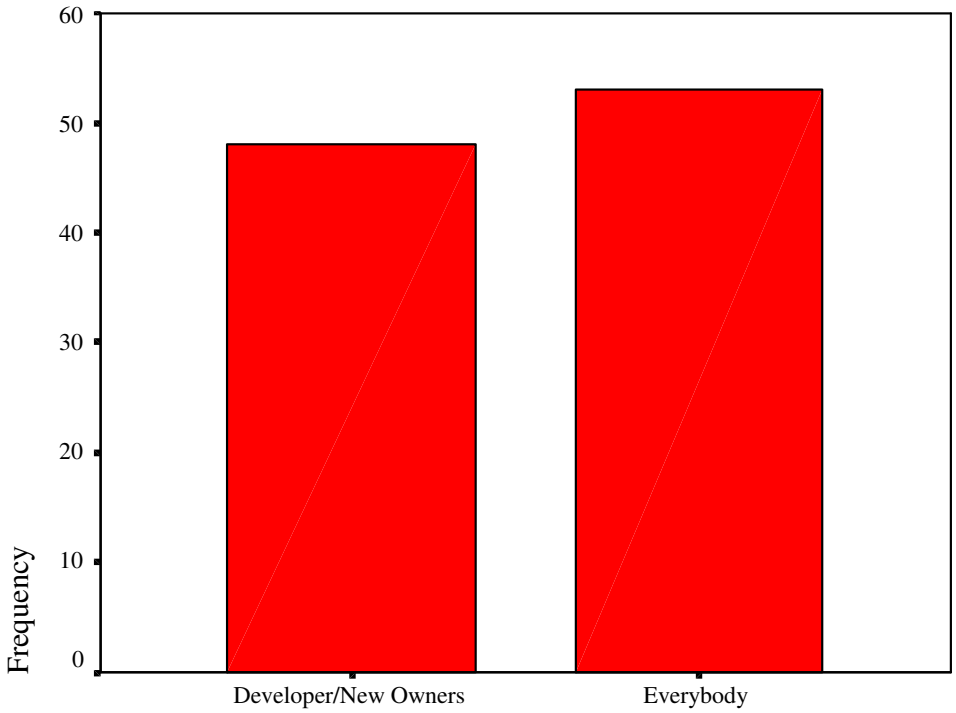



What is the quality of drainage facilities within the Las Vegas Valley?

## APPENDIX D

**Who should pay for new infrastructure?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Developer/ New Residents | 48 | 47.5 | 47.5 | 47.5 |
| | Everybody | 53 | 52.5 | 52.5 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

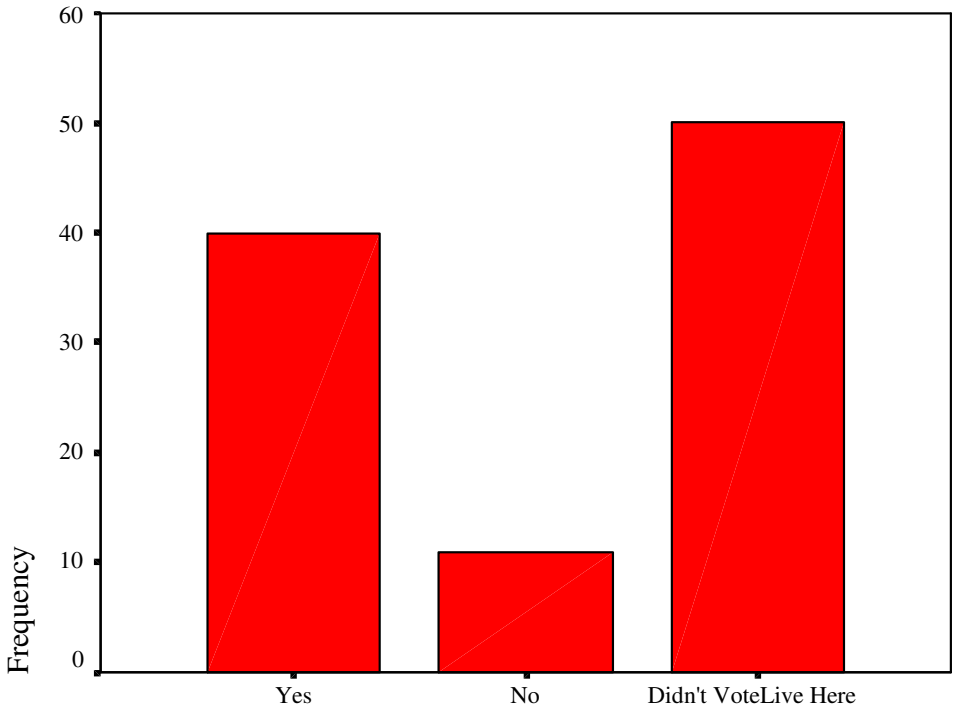



Who should pay for new infrastructure?

## APPENDIX D

**Did you vote for the school bond?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 40 | 39.6 | 39.6 | 39.6 |
| | No | 11 | 10.9 | 10.9 | 50.5 |
| | Didn't Vote/ Live Here | 50 | 49.5 | 49.5 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

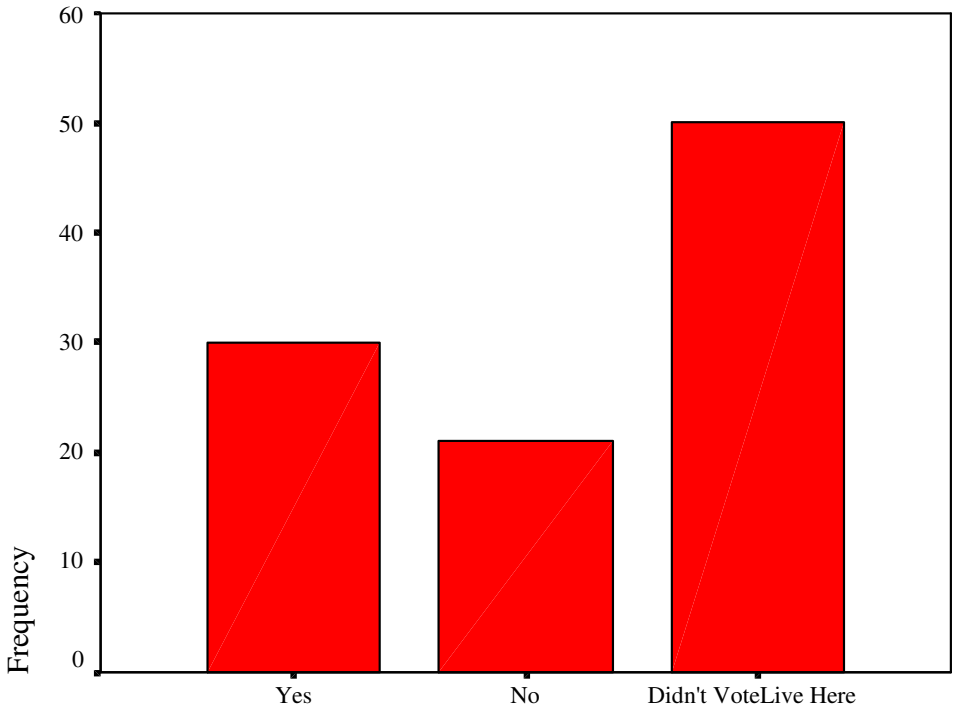



Did you vote for the school bond?

## APPENDIX D

**Did you vote for the sales tax increase?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 30 | 29.7 | 29.7 | 29.7 |
| | No | 21 | 20.8 | 20.8 | 50.5 |
| | Didn't Vote/ Live Here | 50 | 49.5 | 49.5 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

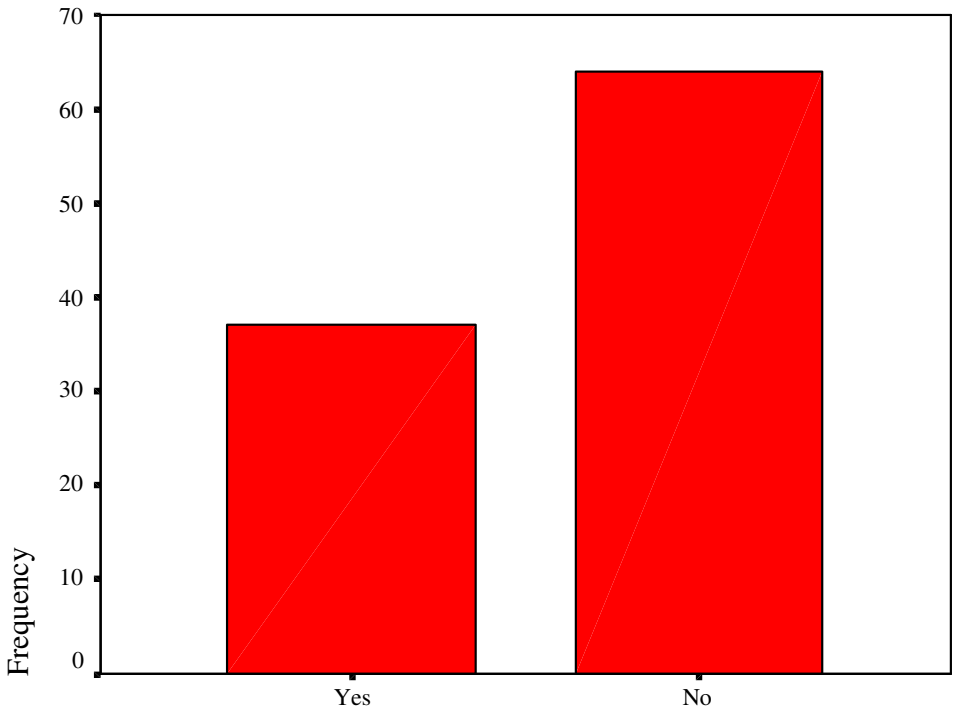



Did you vote for the sales tax increase?

## APPENDIX D

**Would you support higher property taxes to support new infrastructure?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 37 | 36.6 | 36.6 | 36.6 |
| | No | 64 | 63.4 | 63.4 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

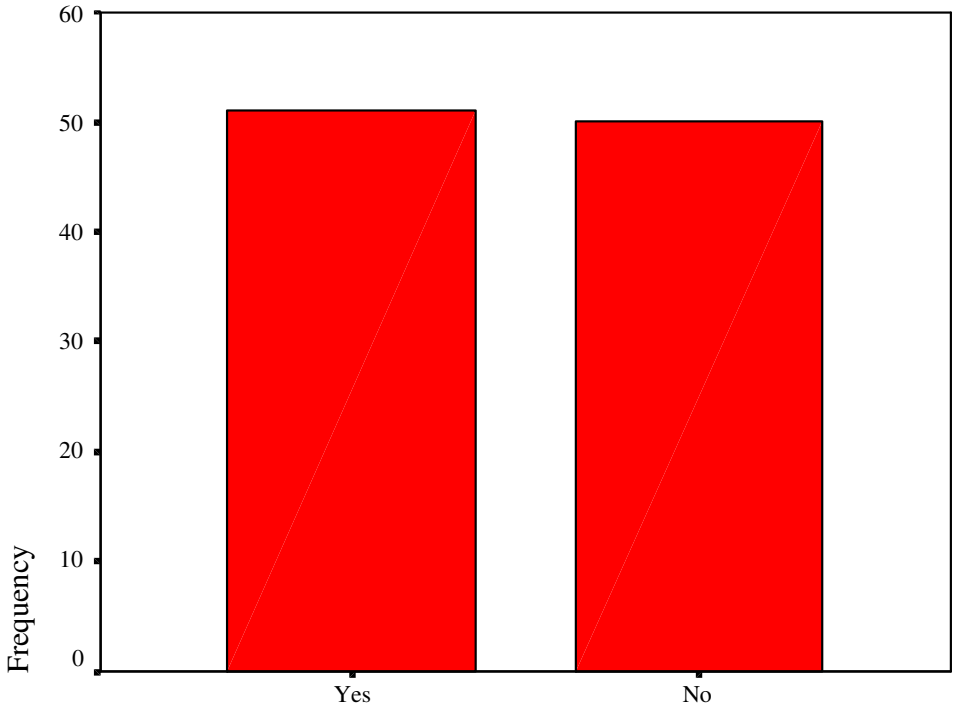



Would you support higher property taxes to support new infrastructure?

## APPENDIX D

**Would you support using impact fees if they increased housing costs?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 51 | 50.5 | 50.5 | 50.5 |
| | No | 50 | 49.5 | 49.5 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

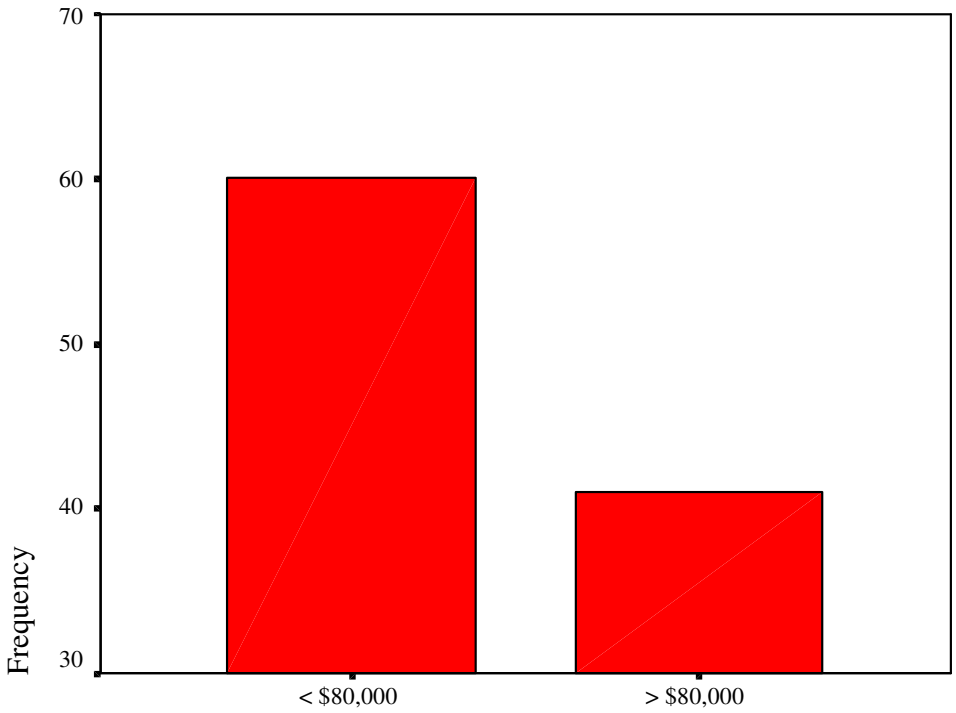



Would you support using impact fees if they increased housing costs?

## APPENDIX D

**What is your household income level?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | < $80,000 | 60 | 59.4 | 59.4 | 100.0 |
| | > $80,000 | 41 | 40.6 | 40.6 | 40.6 |
| | Total | 101 | 100.0 | 100.0 | |

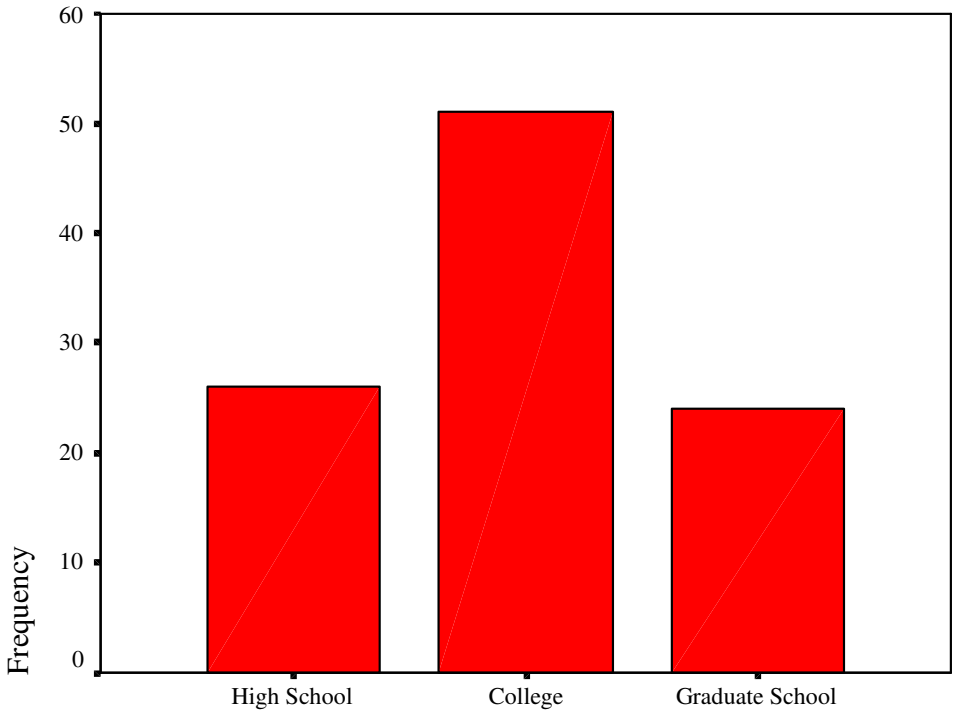



What is your household income level?

## APPENDIX D

**What is your education level?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | High School | 26 | 25.7 | 25.7 | 25.7 |
| | College | 51 | 50.5 | 50.5 | 76.2 |
| | Graduate School | 24 | 23.8 | 23.8 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

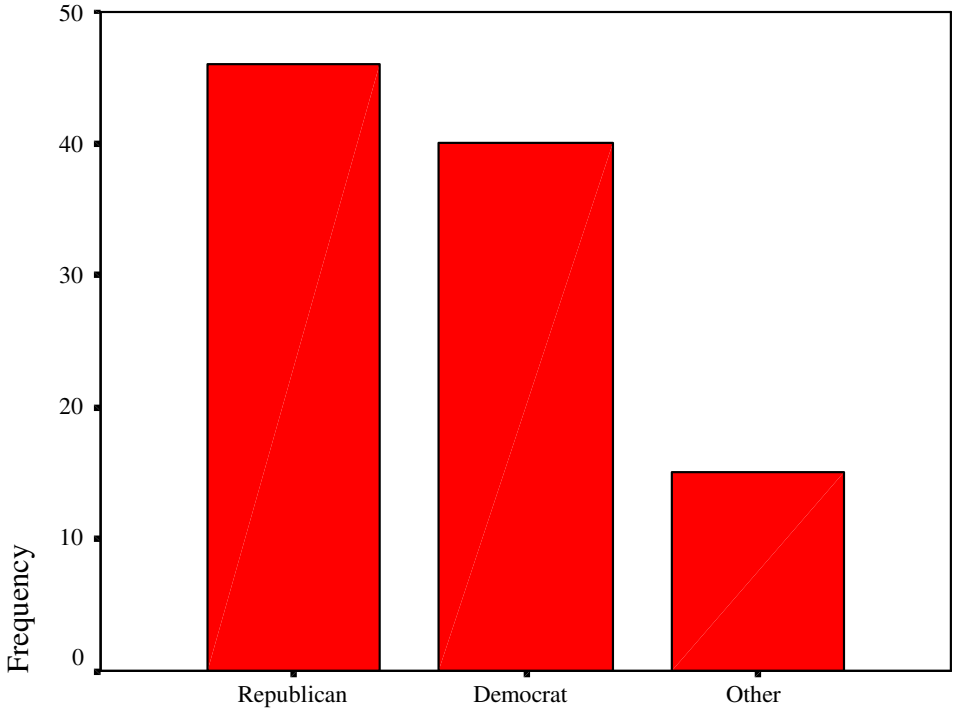



What is your education level?

## APPENDIX D

**What is your political party affiliation?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Republican | 46 | 45.5 | 45.5 | 45.5 |
| | Democrat | 40 | 39.6 | 39.6 | 85.1 |
| | Other | 15 | 14.9 | 14.9 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |

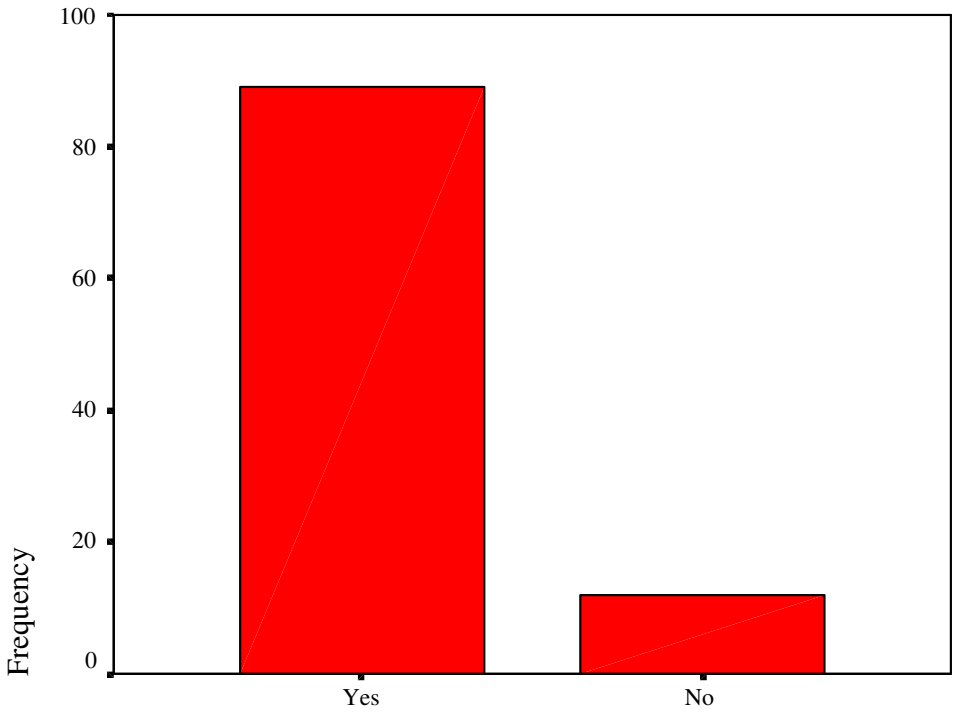



What is your political party affiliation?

## APPENDIX D

**Are you a homeowner?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 89 | 88.1 | 88.1 | 88.1 |
| | No | 12 | 11.9 | 11.9 | 100.0 |
| | Total | 101 | 100.0 | 100.0 | |




Are you a homeowner?

## APPENDIX E

| **Asymptotic Significance Levels** | Should impact fees be used to support new infrastructure? | Would you support the use of impact fees if their use increased housing costs? | Should property taxes be used to support new infrastructure? | Would you support higher property taxes to support new infrastructure? | Did you vote for the school bond? | Did you vote for the sales tax increase? | Who should pay for new infrastructure? |
|---|---|---|---|---|---|---|---|
| Household Income Level (Asymptotic Significance) | 0.922 | **0.082** | 0.696 | 0.993 | 0.201 | 0.216 | 0.539 |
| Education Level (Asymptotic Significance) | 0.430 | **0.167** | 0.367 | 0.774 | 0.707 | 0.914 | 0.464 |
| Political Party Affiliation (Asymptotic Significance) | 0.871 | 0.885 | 0.604 | 0.276 | **0.146** | 0.309 | 0.703 |
| Are You A Homeowner (Asymptotic Significance) | 0.876 | 0.205 | 0.995 | 0.800 | **0.159** | **0.167** | 0.665 |

# APPENDIX F

**Should impact fees be used to support new infrastructure? * What is your household income level?**

| | | | What is your household income level? | | |
|---|---|---|---|---|---|
| | | | < $80,000 | > $80,000 | Total |
| Should impact fees be used to support new infrastructure? | Strongly Agree | Count | 36 | 25 | 61 |
| | | Expected Count | 36.2 | 24.8 | 61.0 |
| | | % within What is your household income level? | 60.0% | 61.0% | 60.4% |
| | Agree/ Strongly Disagree | Count | 24 | 16 | 40 |
| | | Expected Count | 23.8 | 16.2 | 40.0 |
| | | % within What is your household income level? | 40.0% | 39.0% | 39.6% |
| Total | | Count | 60 | 41 | 101 |
| | | Expected Count | 60.0 | 41.0 | 101.0 |
| | | % within What is your household income level? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .010[b] | 1 | .922 | | |
| Continuity Correction[a] | .000 | 1 | 1.000 | | |
| Likelihood Ratio | .010 | 1 | .922 | | |
| Fisher's Exact Test | | | | 1.000 | .544 |
| Linear-by-Linear Association | .010 | 1 | .922 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.24.

# APPENDIX F

**Should impact fees be used to support new infrastructure? * What is your education level?**

| | | | What is your education level? | | | |
|---|---|---|---|---|---|---|
| | | | High School | College | Graduate School | Total |
| Should impact fees be used to support new infrastructure? | Strongly Agree | Count | 13 | 32 | 16 | 61 |
| | | Expected Count | 15.7 | 30.8 | 14.5 | 61.0 |
| | | % within What is your education level? | 50.0% | 62.7% | 66.7% | 60.4% |
| | Agree/ Strongly Disagree | Count | 13 | 19 | 8 | 40 |
| | | Expected Count | 10.3 | 20.2 | 9.5 | 40.0 |
| | | % within What is your education level? | 50.0% | 37.3% | 33.3% | 39.6% |
| Total | | Count | 26 | 51 | 24 | 101 |
| | | Expected Count | 26.0 | 51.0 | 24.0 | 101.0 |
| | | % within What is your education level? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 1.687[a] | 2 | .430 |
| Likelihood Ratio | 1.671 | 2 | .434 |
| Linear-by-Linear Association | 1.467 | 1 | .226 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.50.

# APPENDIX F

**Should impact fees be used to support new infrastructure? * What is your political party affiliation?**

| | | | What is your political party affiliation? | | | |
|---|---|---|---|---|---|---|
| | | | Republican | Democrat | Other | Total |
| Should impact fees be used to support new infrastructure? | Strongly Agree | Count | 29 | 23 | 9 | 61 |
| | | Expected Count | 27.8 | 24.2 | 9.1 | 61.0 |
| | | % within What is your political party affiliation? | 63.0% | 57.5% | 60.0% | 60.4% |
| | Agree/ Strongly Disagree | Count | 17 | 17 | 6 | 40 |
| | | Expected Count | 18.2 | 15.8 | 5.9 | 40.0 |
| | | % within What is your political party affiliation? | 37.0% | 42.5% | 40.0% | 39.6% |
| Total | | Count | 46 | 40 | 15 | 101 |
| | | Expected Count | 46.0 | 40.0 | 15.0 | 101.0 |
| | | % within What is your political party affiliation? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | .276[a] | 2 | .871 |
| Likelihood Ratio | .276 | 2 | .871 |
| Linear-by-Linear Association | .131 | 1 | .717 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.94.

# APPENDIX F

**Should impact fees be used to support new infrastructure? * Are you a homeowner?**

| | | | Are you a homeowner? | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Should impact fees be used to support new infrastructure? | Yes | Count | 54 | 7 | 61 |
| | | Expected Count | 53.8 | 7.2 | 61.0 |
| | | % within Are you a homeowner? | 60.7% | 58.3% | 60.4% |
| | No | Count | 35 | 5 | 40 |
| | | Expected Count | 35.2 | 4.8 | 40.0 |
| | | % within Are you a homeowner? | 39.3% | 41.7% | 39.6% |
| Total | | Count | 89 | 12 | 101 |
| | | Expected Count | 89.0 | 12.0 | 101.0 |
| | | % within Are you a homeowner? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .024[b] | 1 | .876 | | |
| Continuity Correction[a] | .000 | 1 | 1.000 | | |
| Likelihood Ratio | .024 | 1 | .877 | | |
| Fisher's Exact Test | | | | 1.000 | .556 |
| Linear-by-Linear Association | .024 | 1 | .877 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.75.

# APPENDIX F

**Would you support the use of impact fees if their use increased the cost of housing? * What is your household income level?**

| | | | What is your household income level? | | |
|---|---|---|---|---|---|
| | | | < $80,000 | > $80,000 | Total |
| Would you support the use of impact fees if their use increased the cost of housing? | Yes | Count | 26 | 25 | 51 |
| | | Expected Count | 30.3 | 20.7 | 51.0 |
| | | % within What is your household income level? | 43.3% | 61.0% | 50.5% |
| | No | Count | 34 | 16 | 50 |
| | | Expected Count | 29.7 | 20.3 | 50.0 |
| | | % within What is your household income level? | 56.7% | 39.0% | 49.5% |
| Total | | Count | 60 | 41 | 101 |
| | | Expected Count | 60.0 | 41.0 | 101.0 |
| | | % within What is your household income level? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 3.033[b] | 1 | .082 | | |
| Continuity Correction[a] | 2.368 | 1 | .124 | | |
| Likelihood Ratio | 3.052 | 1 | .081 | | |
| Fisher's Exact Test | | | | .106 | .062 |
| Linear-by-Linear Association | 3.003 | 1 | .083 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 20.30.

# APPENDIX F

**Would you support the use of impact fees if their use increased the cost of housing? * What is your education level?**

| | | | What is your education level? | | | |
|---|---|---|---|---|---|---|
| | | | High School | College | Graduate School | Total |
| Would you support the use of impact fees if their use increased the cost of housing? | Yes | Count | 9 | 29 | 13 | 51 |
| | | Expected Count | 13.1 | 25.8 | 12.1 | 51.0 |
| | | % within What is your education level? | 34.6% | 56.9% | 54.2% | 50.5% |
| | No | Count | 17 | 22 | 11 | 50 |
| | | Expected Count | 12.9 | 25.2 | 11.9 | 50.0 |
| | | % within What is your education level? | 65.4% | 43.1% | 45.8% | 49.5% |
| Total | | Count | 26 | 51 | 24 | 101 |
| | | Expected Count | 26.0 | 51.0 | 24.0 | 101.0 |
| | | % within What is your education level? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 3.579[a] | 2 | .167 |
| Likelihood Ratio | 3.623 | 2 | .163 |
| Linear-by-Linear Association | 1.990 | 1 | .158 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.88.

# APPENDIX F

**Would you support the use of impact fees if their use increased the cost of housing? * What is your political party affiliation?**

| | | | What is your political party affiliation? | | | |
|---|---|---|---|---|---|---|
| | | | Republican | Democrat | Other | Total |
| Would you support the use of impact fees if their use increased the cost of housing? | Yes | Count | 24 | 19 | 8 | 51 |
| | | Expected Count | 23.2 | 20.2 | 7.6 | 51.0 |
| | | % within What is your political party affiliation? | 52.2% | 47.5% | 53.3% | 50.5% |
| | No | Count | 22 | 21 | 7 | 50 |
| | | Expected Count | 22.8 | 19.8 | 7.4 | 50.0 |
| | | % within What is your political party affiliation? | 47.8% | 52.5% | 46.7% | 49.5% |
| Total | | Count | 46 | 40 | 15 | 101 |
| | | Expected Count | 46.0 | 40.0 | 15.0 | 101.0 |
| | | % within What is your political party affiliation? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | .244[a] | 2 | .885 |
| Likelihood Ratio | .244 | 2 | .885 |
| Linear-by-Linear Association | .009 | 1 | .923 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.43.

# APPENDIX F

**Would you support the use of impact fees if their use increased the cost of housing? * Are you a homeowner?**

| | | | Are you a homeowner? | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Would you support the use of impact fees if their use increased the cost of housing? | Yes | Count | 47 | 4 | 51 |
| | | Expected Count | 44.9 | 6.1 | 51.0 |
| | | % within Are you a homeowner? | 52.8% | 33.3% | 50.5% |
| | No | Count | 42 | 8 | 50 |
| | | Expected Count | 44.1 | 5.9 | 50.0 |
| | | % within Are you a homeowner? | 47.2% | 66.7% | 49.5% |
| Total | | Count | 89 | 12 | 101 |
| | | Expected Count | 89.0 | 12.0 | 101.0 |
| | | % within Are you a homeowner? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 1.604[b] | 1 | .205 | | |
| Continuity Correction[a] | .920 | 1 | .337 | | |
| Likelihood Ratio | 1.630 | 1 | .202 | | |
| Fisher's Exact Test | | | | .234 | .169 |
| Linear-by-Linear Association | 1.589 | 1 | .208 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.94.

# APPENDIX F

**Should property taxes be used to support new infrastructure? * What is your household income level?**

| | | | What is your household income level? | | |
|---|---|---|---|---|---|
| | | | < $80,000 | > $80,000 | Total |
| Should property taxes be used to support new infrastructure? | Strongly Agree | Count | 24 | 18 | 42 |
| | | Expected Count | 25.0 | 17.0 | 42.0 |
| | | % within What is your household income level? | 40.0% | 43.9% | 41.6% |
| | Agree/ Strongly Disagree | Count | 36 | 23 | 59 |
| | | Expected Count | 35.0 | 24.0 | 59.0 |
| | | % within What is your household income level? | 60.0% | 56.1% | 58.4% |
| Total | | Count | 60 | 41 | 101 |
| | | Expected Count | 60.0 | 41.0 | 101.0 |
| | | % within What is your household income level? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .153[b] | 1 | .696 | | |
| Continuity Correction[a] | .034 | 1 | .853 | | |
| Likelihood Ratio | .152 | 1 | .696 | | |
| Fisher's Exact Test | | | | .837 | .426 |
| Linear-by-Linear Association | .151 | 1 | .697 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.05.

# APPENDIX F

**Should property taxes be used to support new infrastructure? * What is your education level?**

| | | | What is your education level? | | | |
|---|---|---|---|---|---|---|
| | | | High School | College | Graduate School | Total |
| Should property taxes be used to support new infrastructure? | Strongly Agree | Count | 8 | 22 | 12 | 42 |
| | | Expected Count | 10.8 | 21.2 | 10.0 | 42.0 |
| | | % within What is your education level? | 30.8% | 43.1% | 50.0% | 41.6% |
| | Agree/ Strongly Disagree | Count | 18 | 29 | 12 | 59 |
| | | Expected Count | 15.2 | 29.8 | 14.0 | 59.0 |
| | | % within What is your education level? | 69.2% | 56.9% | 50.0% | 58.4% |
| Total | | Count | 26 | 51 | 24 | 101 |
| | | Expected Count | 26.0 | 51.0 | 24.0 | 101.0 |
| | | % within What is your education level? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 2.002[a] | 2 | .367 |
| Likelihood Ratio | 2.036 | 2 | .361 |
| Linear-by-Linear Association | 1.905 | 1 | .168 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.98.

# APPENDIX F

**Should property taxes be used to support new infrastructure? * What is your political party affiliation?**

| | | | What is your political party affiliation? | | | |
|---|---|---|---|---|---|---|
| | | | Republican | Democrat | Other | Total |
| Should property taxes be used to support new infrastructure? | Strongly Agree | Count | 18 | 16 | 8 | 42 |
| | | Expected Count | 19.1 | 16.6 | 6.2 | 42.0 |
| | | % within What is your political party affiliation? | 39.1% | 40.0% | 53.3% | 41.6% |
| | Agree/ Strongly Disagree | Count | 28 | 24 | 7 | 59 |
| | | Expected Count | 26.9 | 23.4 | 8.8 | 59.0 |
| | | % within What is your political party affiliation? | 60.9% | 60.0% | 46.7% | 58.4% |
| Total | | Count | 46 | 40 | 15 | 101 |
| | | Expected Count | 46.0 | 40.0 | 15.0 | 101.0 |
| | | % within What is your political party affiliation? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 1.008[a] | 2 | .604 |
| Likelihood Ratio | .994 | 2 | .608 |
| Linear-by-Linear Association | .662 | 1 | .416 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.24.

# APPENDIX F

**Should property taxes be used to support new infrastructure? * Are you a homeowner?**

| | | | Are you a homeowner? | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Should property taxes be used to support new infrastructure? | Strongly Agree | Count | 37 | 5 | 42 |
| | | Expected Count | 37.0 | 5.0 | 42.0 |
| | | % within Are you a homeowner? | 41.6% | 41.7% | 41.6% |
| | Agree/ Strongly Disagree | Count | 52 | 7 | 59 |
| | | Expected Count | 52.0 | 7.0 | 59.0 |
| | | % within Are you a homeowner? | 58.4% | 58.3% | 58.4% |
| Total | | Count | 89 | 12 | 101 |
| | | Expected Count | 89.0 | 12.0 | 101.0 |
| | | % within Are you a homeowner? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .000[b] | 1 | .995 | | |
| Continuity Correction[a] | .000 | 1 | 1.000 | | |
| Likelihood Ratio | .000 | 1 | .995 | | |
| Fisher's Exact Test | | | | 1.000 | .615 |
| Linear-by-Linear Association | .000 | 1 | .995 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.99.

# APPENDIX F

**Would you support higher property taxes to support new infrastructure? * What is your household income level?**

| | | | What is your household income level? | | |
|---|---|---|---|---|---|
| | | | < $80,000 | > $80,000 | Total |
| Would you support higher property taxes to support new infrastructure? | Yes | Count | 22 | 15 | 37 |
| | | Expected Count | 22.0 | 15.0 | 37.0 |
| | | % within What is your household income level? | 36.7% | 36.6% | 36.6% |
| | No | Count | 38 | 26 | 64 |
| | | Expected Count | 38.0 | 26.0 | 64.0 |
| | | % within What is your household income level? | 63.3% | 63.4% | 63.4% |
| Total | | Count | 60 | 41 | 101 |
| | | Expected Count | 60.0 | 41.0 | 101.0 |
| | | % within What is your household income level? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .000[b] | 1 | .993 | | |
| Continuity Correction[a] | .000 | 1 | 1.000 | | |
| Likelihood Ratio | .000 | 1 | .993 | | |
| Fisher's Exact Test | | | | 1.000 | .581 |
| Linear-by-Linear Association | .000 | 1 | .993 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 15.02.

# APPENDIX F

**Would you support higher property taxes to support new infrastructure? * What is your education level?**

| | | | What is your education level? | | | |
|---|---|---|---|---|---|---|
| | | | High School | College | Graduate School | Total |
| Would you support higher property taxes to support new infrastructure? | Yes | Count | 11 | 18 | 8 | 37 |
| | | Expected Count | 9.5 | 18.7 | 8.8 | 37.0 |
| | | % within What is your education level? | 42.3% | 35.3% | 33.3% | 36.6% |
| | No | Count | 15 | 33 | 16 | 64 |
| | | Expected Count | 16.5 | 32.3 | 15.2 | 64.0 |
| | | % within What is your education level? | 57.7% | 64.7% | 66.7% | 63.4% |
| Total | | Count | 26 | 51 | 24 | 101 |
| | | Expected Count | 26.0 | 51.0 | 24.0 | 101.0 |
| | | % within What is your education level? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | .513[a] | 2 | .774 |
| Likelihood Ratio | .508 | 2 | .776 |
| Linear-by-Linear Association | .439 | 1 | .508 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.79.

# APPENDIX F

**Would you support higher property taxes to support new infrastructure? * What is your political party affiliation?**

| | | | What is your political party affiliation? | | | |
|---|---|---|---|---|---|---|
| | | | Republican | Democrat | Other | Total |
| Would you support higher property taxes to support new infrastructure? | Yes | Count | 14 | 15 | 8 | 37 |
| | | Expected Count | 16.9 | 14.7 | 5.5 | 37.0 |
| | | % within What is your political party affiliation? | 30.4% | 37.5% | 53.3% | 36.6% |
| | No | Count | 32 | 25 | 7 | 64 |
| | | Expected Count | 29.1 | 25.3 | 9.5 | 64.0 |
| | | % within What is your political party affiliation? | 69.6% | 62.5% | 46.7% | 63.4% |
| Total | | Count | 46 | 40 | 15 | 101 |
| | | Expected Count | 46.0 | 40.0 | 15.0 | 101.0 |
| | | % within What is your political party affiliation? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 2.576[a] | 2 | .276 |
| Likelihood Ratio | 2.522 | 2 | .283 |
| Linear-by-Linear Association | 2.377 | 1 | .123 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.50.

# APPENDIX F

**Would you support higher property taxes to support new infrastructure? * Are you a homeowner?**

| | | | Are you a homeowner? | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Would you support higher property taxes to support new infrastructure? | Yes | Count | 33 | 4 | 37 |
| | | Expected Count | 32.6 | 4.4 | 37.0 |
| | | % within Are you a homeowner? | 37.1% | 33.3% | 36.6% |
| | No | Count | 56 | 8 | 64 |
| | | Expected Count | 56.4 | 7.6 | 64.0 |
| | | % within Are you a homeowner? | 62.9% | 66.7% | 63.4% |
| Total | | Count | 89 | 12 | 101 |
| | | Expected Count | 89.0 | 12.0 | 101.0 |
| | | % within Are you a homeowner? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .064[b] | 1 | .800 | | |
| Continuity Correction[a] | .000 | 1 | 1.000 | | |
| Likelihood Ratio | .065 | 1 | .799 | | |
| Fisher's Exact Test | | | | 1.000 | .535 |
| Linear-by-Linear Association | .063 | 1 | .801 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.40.

# APPENDIX F

**Did you vote for the school bond? * What is your household income level?**

| | | | What is your household income level? | | |
|---|---|---|---|---|---|
| | | | < $80,000 | > $80,000 | Total |
| Did you vote for the school bond? | Yes | Count | 21 | 19 | 40 |
| | | Expected Count | 23.8 | 16.2 | 40.0 |
| | | % within What is your household income level? | 35.0% | 46.3% | 39.6% |
| | No | Count | 5 | 6 | 11 |
| | | Expected Count | 6.5 | 4.5 | 11.0 |
| | | % within What is your household income level? | 8.3% | 14.6% | 10.9% |
| | Didn't Vote Or Live Here | Count | 34 | 16 | 50 |
| | | Expected Count | 29.7 | 20.3 | 50.0 |
| | | % within What is your household income level? | 56.7% | 39.0% | 49.5% |
| Total | | Count | 60 | 41 | 101 |
| | | Expected Count | 60.0 | 41.0 | 101.0 |
| | | % within What is your household income level? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 3.210[a] | 2 | .201 |
| Likelihood Ratio | 3.223 | 2 | .200 |
| Linear-by-Linear Association | 2.299 | 1 | .129 |
| N of Valid Cases | 101 | | |

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.47.

# APPENDIX F

**Did you vote for the school bond? * What is your education level?**

| | | | What is your education level? | | | |
|---|---|---|---|---|---|---|
| | | | High School | College | Graduate School | Total |
| Did you vote for the school bond? | Yes | Count | 10 | 18 | 12 | 40 |
| | | Expected Count | 10.3 | 20.2 | 9.5 | 40.0 |
| | | % within What is your education level? | 38.5% | 35.3% | 50.0% | 39.6% |
| | No | Count | 2 | 6 | 3 | 11 |
| | | Expected Count | 2.8 | 5.6 | 2.6 | 11.0 |
| | | % within What is your education level? | 7.7% | 11.8% | 12.5% | 10.9% |
| | Didn't Vote Or Live Here | Count | 14 | 27 | 9 | 50 |
| | | Expected Count | 12.9 | 25.2 | 11.9 | 50.0 |
| | | % within What is your education level? | 53.8% | 52.9% | 37.5% | 49.5% |
| Total | | Count | 26 | 51 | 24 | 101 |
| | | Expected Count | 26.0 | 51.0 | 24.0 | 101.0 |
| | | % within What is your education level? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 2.159[a] | 4 | .707 |
| Likelihood Ratio | 2.201 | 4 | .699 |
| Linear-by-Linear Association | 1.040 | 1 | .308 |
| N of Valid Cases | 101 | | |

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 2.61.

# APPENDIX F

**Did you vote for the school bond? * What is your political party affiliation?**

| | | | What is your political party affiliation? | | | |
|---|---|---|---|---|---|---|
| | | | Republican | Democrat | Other | Total |
| Did you vote for the school bond? | Yes | Count | 23 | 14 | 3 | 40 |
| | | Expected Count | 18.2 | 15.8 | 5.9 | 40.0 |
| | | % within What is your political party affiliation? | 50.0% | 35.0% | 20.0% | 39.6% |
| | No | Count | 6 | 4 | 1 | 11 |
| | | Expected Count | 5.0 | 4.4 | 1.6 | 11.0 |
| | | % within What is your political party affiliation? | 13.0% | 10.0% | 6.7% | 10.9% |
| | Didn't Vote Or Live Here | Count | 17 | 22 | 11 | 50 |
| | | Expected Count | 22.8 | 19.8 | 7.4 | 50.0 |
| | | % within What is your political party affiliation? | 37.0% | 55.0% | 73.3% | 49.5% |
| Total | | Count | 46 | 40 | 15 | 101 |
| | | Expected Count | 46.0 | 40.0 | 15.0 | 101.0 |
| | | % within What is your political party affiliation? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 6.823[a] | 4 | .146 |
| Likelihood Ratio | 6.999 | 4 | .136 |
| Linear-by-Linear Association | 6.358 | 1 | .012 |
| N of Valid Cases | 101 | | |

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 1.63.

# APPENDIX F

**Did you vote for the school bond? * Are you a homeowner?**

| | | | Are you a homeowner? | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Did you vote for the school bond? | Yes | Count | 38 | 2 | 40 |
| | | Expected Count | 35.2 | 4.8 | 40.0 |
| | | % within Are you a homeowner? | 42.7% | 16.7% | 39.6% |
| | No | Count | 10 | 1 | 11 |
| | | Expected Count | 9.7 | 1.3 | 11.0 |
| | | % within Are you a homeowner? | 11.2% | 8.3% | 10.9% |
| | Didn't Vote Or Live Here | Count | 41 | 9 | 50 |
| | | Expected Count | 44.1 | 5.9 | 50.0 |
| | | % within Are you a homeowner? | 46.1% | 75.0% | 49.5% |
| Total | | Count | 89 | 12 | 101 |
| | | Expected Count | 89.0 | 12.0 | 101.0 |
| | | % within Are you a homeowner? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 3.679[a] | 2 | .159 |
| Likelihood Ratio | 3.917 | 2 | .141 |
| Linear-by-Linear Association | 3.589 | 1 | .058 |
| N of Valid Cases | 101 | | |

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.31.

# APPENDIX F

**Did you vote for the sales tax increase? * What is your household income level?**

| | | | What is your household income level? | | |
|---|---|---|---|---|---|
| | | | < $80,000 | > $80,000 | Total |
| Did you vote for the sales tax increase? | Yes | Count | 15 | 15 | 30 |
| | | Expected Count | 17.8 | 12.2 | 30.0 |
| | | % within What is your household income level? | 25.0% | 36.6% | 29.7% |
| | No | Count | 11 | 10 | 21 |
| | | Expected Count | 12.5 | 8.5 | 21.0 |
| | | % within What is your household income level? | 18.3% | 24.4% | 20.8% |
| | Didn't Vote Or Live Here | Count | 34 | 16 | 50 |
| | | Expected Count | 29.7 | 20.3 | 50.0 |
| | | % within What is your household income level? | 56.7% | 39.0% | 49.5% |
| Total | | Count | 60 | 41 | 101 |
| | | Expected Count | 60.0 | 41.0 | 101.0 |
| | | % within What is your household income level? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 3.062[a] | 2 | .216 |
| Likelihood Ratio | 3.080 | 2 | .214 |
| Linear-by-Linear Association | 2.736 | 1 | .098 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.52.

# APPENDIX F

**Did you vote for the sales tax increase? * What is your education level?**

| | | | What is your education level? | | | |
|---|---|---|---|---|---|---|
| | | | High School | College | Graduate School | Total |
| Did you vote for the sales tax increase? | Yes | Count | 9 | 14 | 7 | 30 |
| | | Expected Count | 7.7 | 15.1 | 7.1 | 30.0 |
| | | % within What is your education level? | 34.6% | 27.5% | 29.2% | 29.7% |
| | No | Count | 4 | 11 | 6 | 21 |
| | | Expected Count | 5.4 | 10.6 | 5.0 | 21.0 |
| | | % within What is your education level? | 15.4% | 21.6% | 25.0% | 20.8% |
| | Didn't Vote Or Live Here | Count | 13 | 26 | 11 | 50 |
| | | Expected Count | 12.9 | 25.2 | 11.9 | 50.0 |
| | | % within What is your education level? | 50.0% | 51.0% | 45.8% | 49.5% |
| Total | | Count | 26 | 51 | 24 | 101 |
| | | Expected Count | 26.0 | 51.0 | 24.0 | 101.0 |
| | | % within What is your education level? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | .975[a] | 4 | .914 |
| Likelihood Ratio | .991 | 4 | .911 |
| Linear-by-Linear Association | .004 | 1 | .949 |
| N of Valid Cases | 101 | | |

a. 1 cells (11.1%) have expected count less than 5. The minimum expected count is 4.99.

# APPENDIX F

**Did you vote for the sales tax increase? * What is your political party affiliation?**

| | | | What is your political party affiliation? | | | |
|---|---|---|---|---|---|---|
| | | | Republican | Democrat | Other | Total |
| Did you vote for the sales tax increase? | Yes | Count | 17 | 11 | 2 | 30 |
| | | Expected Count | 13.7 | 11.9 | 4.5 | 30.0 |
| | | % within What is your political party affiliation? | 37.0% | 27.5% | 13.3% | 29.7% |
| | No | Count | 11 | 7 | 3 | 21 |
| | | Expected Count | 9.6 | 8.3 | 3.1 | 21.0 |
| | | % within What is your political party affiliation? | 23.9% | 17.5% | 20.0% | 20.8% |
| | Didn't Vote Or Live Here | Count | 18 | 22 | 10 | 50 |
| | | Expected Count | 22.8 | 19.8 | 7.4 | 50.0 |
| | | % within What is your political party affiliation? | 39.1% | 55.0% | 66.7% | 49.5% |
| Total | | Count | 46 | 40 | 15 | 101 |
| | | Expected Count | 46.0 | 40.0 | 15.0 | 101.0 |
| | | % within What is your political party affiliation? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 4.798[a] | 4 | .309 |
| Likelihood Ratio | 5.078 | 4 | .279 |
| Linear-by-Linear Association | 4.409 | 1 | .036 |
| N of Valid Cases | 101 | | |

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 3.12.

# APPENDIX F

**Did you vote for the sales tax increase? * Are you a homeowner?**

| | | | Are you a homeowner? | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Did you vote for the sales tax increase? | Yes | Count | 28 | 2 | 30 |
| | | Expected Count | 26.4 | 3.6 | 30.0 |
| | | % within Are you a homeowner? | 31.5% | 16.7% | 29.7% |
| | No | Count | 20 | 1 | 21 |
| | | Expected Count | 18.5 | 2.5 | 21.0 |
| | | % within Are you a homeowner? | 22.5% | 8.3% | 20.8% |
| | Didn't Vote Or Live Here | Count | 41 | 9 | 50 |
| | | Expected Count | 44.1 | 5.9 | 50.0 |
| | | % within Are you a homeowner? | 46.1% | 75.0% | 49.5% |
| Total | | Count | 89 | 12 | 101 |
| | | Expected Count | 89.0 | 12.0 | 101.0 |
| | | % within Are you a homeowner? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 3.584[a] | 2 | .167 |
| Likelihood Ratio | 3.764 | 2 | .152 |
| Linear-by-Linear Association | 2.659 | 1 | .103 |
| N of Valid Cases | 101 | | |

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.50.

# APPENDIX F

**Who should pay for new infrastructure? * What is your household income level?**

| | | | What is your household income level? | | |
|---|---|---|---|---|---|
| | | | < $80,000 | > $80,000 | Total |
| Who should pay for new infrastructure? | Developer/ New Residents | Count | 27 | 21 | 48 |
| | | Expected Count | 28.5 | 19.5 | 48.0 |
| | | % within What is your household income level? | 45.0% | 51.2% | 47.5% |
| | Everybody | Count | 33 | 20 | 53 |
| | | Expected Count | 31.5 | 21.5 | 53.0 |
| | | % within What is your household income level? | 55.0% | 48.8% | 52.5% |
| Total | | Count | 60 | 41 | 101 |
| | | Expected Count | 60.0 | 41.0 | 101.0 |
| | | % within What is your household income level? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .378[b] | 1 | .539 | | |
| Continuity Correction[a] | .170 | 1 | .681 | | |
| Likelihood Ratio | .378 | 1 | .539 | | |
| Fisher's Exact Test | | | | .551 | .340 |
| Linear-by-Linear Association | .374 | 1 | .541 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.49.

# APPENDIX F

**Who should pay for new infrastructure? * What is your education level?**

| | | | What is your education level? | | | |
|---|---|---|---|---|---|---|
| | | | High School | College | Graduate School | Total |
| Who should pay for new infrastructure? | Developer/ New Residents | Count | 12 | 22 | 14 | 48 |
| | | Expected Count | 12.4 | 24.2 | 11.4 | 48.0 |
| | | % within What is your education level? | 46.2% | 43.1% | 58.3% | 47.5% |
| | Everybody | Count | 14 | 29 | 10 | 53 |
| | | Expected Count | 13.6 | 26.8 | 12.6 | 53.0 |
| | | % within What is your education level? | 53.8% | 56.9% | 41.7% | 52.5% |
| Total | | Count | 26 | 51 | 24 | 101 |
| | | Expected Count | 26.0 | 51.0 | 24.0 | 101.0 |
| | | % within What is your education level? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 1.538[a] | 2 | .464 |
| Likelihood Ratio | 1.540 | 2 | .463 |
| Linear-by-Linear Association | .692 | 1 | .406 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.41.

# APPENDIX F

**Who should pay for new infrastructure? * What is your political party affiliation?**

| | | | What is your political party affiliation? | | | |
|---|---|---|---|---|---|---|
| | | | Republican | Democrat | Other | Total |
| Who should pay for new infrastructure? | Developer/ New Residents | Count | 20 | 21 | 7 | 48 |
| | | Expected Count | 21.9 | 19.0 | 7.1 | 48.0 |
| | | % within What is your political party affiliation? | 43.5% | 52.5% | 46.7% | 47.5% |
| | Everybody | Count | 26 | 19 | 8 | 53 |
| | | Expected Count | 24.1 | 21.0 | 7.9 | 53.0 |
| | | % within What is your political party affiliation? | 56.5% | 47.5% | 53.3% | 52.5% |
| Total | | Count | 46 | 40 | 15 | 101 |
| | | Expected Count | 46.0 | 40.0 | 15.0 | 101.0 |
| | | % within What is your political party affiliation? | 100.0% | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | .703[a] | 2 | .703 |
| Likelihood Ratio | .704 | 2 | .703 |
| Linear-by-Linear Association | .232 | 1 | .630 |
| N of Valid Cases | 101 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.13.

# APPENDIX F

**Who should pay for new infrastructure? * Are you a homeowner?**

| | | | Are you a homeowner? | | |
|---|---|---|---|---|---|
| | | | Yes | No | Total |
| Who should pay for new infrastructure? | Developer/ New Residents | Count | 43 | 5 | 48 |
| | | Expected Count | 42.3 | 5.7 | 48.0 |
| | | % within Are you a homeowner? | 48.3% | 41.7% | 47.5% |
| | Everybody | Count | 46 | 7 | 53 |
| | | Expected Count | 46.7 | 6.3 | 53.0 |
| | | % within Are you a homeowner? | 51.7% | 58.3% | 52.5% |
| Total | | Count | 89 | 12 | 101 |
| | | Expected Count | 89.0 | 12.0 | 101.0 |
| | | % within Are you a homeowner? | 100.0% | 100.0% | 100.0% |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | .187[b] | 1 | .665 | | |
| Continuity Correction[a] | .016 | 1 | .901 | | |
| Likelihood Ratio | .188 | 1 | .664 | | |
| Fisher's Exact Test | | | | .764 | .452 |
| Linear-by-Linear Association | .186 | 1 | .667 | | |
| N of Valid Cases | 101 | | | | |

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.70.

## APPENDIX G

**DEFINITION OF TERMS:**

Chi-square: A statistic that is the sum of the quotients obtained by dividing the square of the difference between the observed and the theoretical values of a quantity by the theoretical value (Webster's 3rd New International Dictionary, 1981).

Development exaction: A negotiated dedication of land or infrastructure by a developer.

Development impact fee: A monetary fee imposed on a developer in order to pay for public infrastructure.

Dependent variable: The variable that is caused or predicted by the independent variable.

Gamma: An ordinal measure of association sensitive to curvilinear relationships. Gamma helps identify the strength of association.

Independent variable: The variable that causes or predicts the dependent variable.

Mean: The arithmetic average for a group of data.

NRS: The Nevada Revised Statutes are the laws set forth by the State of Nevada.

Null hypothesis: The hypothesis that there is no impact or change (nothing happened); the working hypothesis phrased negatively.

Public infrastructure: Public infrastructure includes water lines, sewer lines, roads, schools, parks, etc.

Proposition 2 ½: A tax reduction initiative in the state of Massachusetts.

Proposition 13: A tax reduction initiative in the state of California.

Rational nexus: A reasonable relationship between the fees or dedications imposed on a development and the impact that development has on the existing infrastructure.

Survey sample: A representative group of people from within the population.

Standard deviation: A measure of dispersion, the square root of the average squared deviation from the mean.

Z-score: The number of standard deviations an item is from the mean.

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