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Abstract

Many college campuses across the country have implemented U-Pass transit programs to mitigate transportation costs for students. However, urban university U-pass programs fall short for suburban students who cannot get to the urban metro area without connecting public transportation. As urban universities rely on suburbs as feeder communities, this study looked at the relationship between suburban commuter ridership and the price of gas as an indicator of college affordability and accessibility. The findings revealed that ridership on suburban transit into an urban university area was significantly sensitive to the price of gas, thereby substantiating the need for partnerships to be developed and sustained to ensure transportation equity.

Introduction

The economic environment of 2009 provides compelling motivation for institutions of higher education to pay close attention to the need for collaboration with regional transit systems as a primary means for students to access college campuses. Affordable transportation can play a determining role in a student's decision to attend college. The cost of a private automobile is prohibitive for many students, especially following 2008 gas prices in excess of $4 per gallon—an unprecedented price in the United States. The importance of partnerships between colleges and transit systems in mitigating costs and improving access has made news recently in Cleveland, Ohio as students at Tri-C Metro campus protested to the media about the costs of getting to campus paying standard transit fares (Farkas, 2009). Institutions of higher education, that maximize their relationships with local and suburban transit systems to ensure affordable access for students from diverse socio-economic backgrounds, may find themselves at the forefront of best practices in land management, student attraction and retention, the greening of America and equity in education access.

Literature Review

Sustainability has become a key concept in the United States. Education and public transportation are recognizing their interdependence in this responsibility as campuses across the country are adding transportation demand management (TDM) to their strategic and operational planning. TDM is a coordinated set of policies and operating practices that include both incentives for alternative modes of travel and disincentives for single occupancy vehicle (SOV) use [Transit Cooperative Research Program (TCRP), 2001]. This relationship is especially important for urban colleges and universities where land constraints are forcing choices in land use (TCRP, 2008). The opportunity cost to use land for parking rather than academic buildings, housing, or recreational or green space is of growing concern for land-locked urban universities (Toor & Havlick, 2004; Brinkman, 2000). These competing demands for prime space underscore the dilemma of providing consistent access to campus (TCRP, 2008). Just over half of college campuses participating in a study by the Transportation Cooperative Research Program (TCRP) limit parking (TCRP, 2008). Many universities have rethought land use, parking and transportation policies and have integrated them with local public transit services (TCRP, 1999). The change in travel behavior patterns needed to realize the benefits of TDM programs is dependent on institutional support and coordinated promotion by the college and transit system (Cain, 2006; Petrone, 2008).

Many college campuses across the country have implemented transit initiatives for one or more of five primary reasons: reduce demand for parking, increase student access to housing and employment, increase the university's ability to attract and retain students, reduce the cost of attending college for students, and increase transportation equity (TCRP, 2001; Toor & Havlick, 2004). An important goal of transit policies is to link the campus to the surrounding community and to provide on-campus articulation for students (TCRP, 2008).

Parking Demand Management

The development and maintenance of parking has grown increasingly costly, spurring administrators to contemplate alternative options. Four themes emerge in alternative considerations: transit funding/fares and community partnerships; sustainability and the focus on environmental issues; parking and parking pricing; and promotion of alternate travel modes such as walking, biking or carpooling (TCRP, 2008).

Partnerships with local transit agencies not only produce a solution to the campus parking dilemma, they also help contribute to the efficiency of the local transit system by improving ridership along the routes serving campuses (TCRP, 2007). Across the nation, there are more than 50 universities offering transit passes to more than 800,000 students and employees (Toor & Havlick, 2004, p. 6). Access to transit services can replace the need for additional parking spaces and is a lower cost solution to increased pressure for more parking (TCRP, 2001). From a community perspective, these partnerships with transit agencies benefit the entire community in the form of reduced traffic congestion and pollution—so even non-users benefit (TCRP, 2001; Toor & Havlick, 2004).

The reduction of land space needed for parking spaces benefits both the campus and the local transit system. University parking decisions affect the level of impervious surface area, the amount of land available for buildings and the green space options for a campus (Toor & Havlick, 2004). Although parking cost was the most frequently cited reason for universities to enter into transit agreements, these agreements also allowed campuses, transit systems and communities to apply for Congestion Mitigation Air Quality (CMAQ) grants for transit operating costs under the Clean Air Act of 1990 (TCRP, 2001). Commuters into urban areas who choose to use public transportation can spend sixty percent less on their transportation costs than those who choose to drive a personal automobile and save an estimated $1,400 on gasoline alone [American Public Transportation Association (APTA), 2007]. In communities where options exist for walking, bicycling, or riding transit exist, the percentage of gross domestic product (GDP) spent on transportation is half of what residents in other cities spend (APTA, 2007, p. 3). The National Safety Council concludes that riding mass transit is 25 times safer than traveling by car (APTA, 2008, p. 4). Strategically connected commuter transportation systems offer potential for reduced pollution and traffic congestion, reduced demand on land use for parking, and a boost to the American goal of energy independence (APTA, 2007). Of special importance during this time in American economic history is the role interconnected public transportation systems can play in creating access to education and jobs to help relieve unemployment.

In 2008, APTA sponsored a competition among college campuses to develop a green message and public relations campaign for the transit industry for marketing to that demographic group (APTA Marketing & Communications Committee, 2008). Transit systems are appealing to college students as they are more technically savvy and likely to use transit as a green initiative (TCRP, 2008). To that end, transit systems are engaging in the use of information technology such as real time information at stops that minimize riders' waiting time and automated stop announcements on board the bus or train which increase ease of use and customer satisfaction (TCRP, 2008, p. 29; Toor & Havlick, 2004).

The cost of parking at a university can be viewed through both a political and economic lens (TCRP, 2008). From a political standpoint, limited parking access has resulted in the development of a social pecking order for parking access as universities allocate parking access by rank or need—or create a hierarchy of access based on price one can pay for a spot (TCRP, 2008; Toor & Havlick 2004). It is not uncommon for universities to ban first and second year students from bringing a car to campus (Toor & Havlick, 2004). In a study of students at the University of Illinois at Champagne-Urbana, freshman parking, although not prohibited, was so far from the residence halls that a vehicle was of limited practical utility thereby spurring interest in transit ridership (Clark, 2007).

The economic framework addresses the building and maintenance costs of parking spots. Universities can expect to the capital costs of a net new parking space to range between $3,000 for a surface lot space and up to $30,000 for a parking structure space, not including annual maintenance (TCRP, 2008; TCRP, 2001; Toor & Havlick, 2004). For land-locked universities, this may mean the cost to purchase existing buildings and tear them down to get at the underlying land (Toor & Havlick, 2004). An acre of land can yield only 124 surface parking spaces; structures can increase the number of spaces per acre, but lose significant space to access ramps, stairwells and elevators (Toor & Havlick, 2004). These costs and spatial realities force universities to seriously consider best and highest land use options. Additionally, if a university must borrow money to construct a parking lot or structure, it can negatively impact the institution's financial risk through increased debt ratios and higher interest rates (Toor & Havlick, 2004). Maintenance costs should be added to the capital cost of the space—costs such as snow plowing, cleaning and repairs, administration and related employment costs, and parking enforcement costs (Toor & Havlick, 2004). At Cleveland State University, a single parking space will generate $480 annually if a student pays for a semester pass for fall, spring and summer; the same space can generate $840 per year in daily parking fees for two 15-week semesters and one 12-week semester. Generally, the cost charged for a parking permit does not offset the cost to maintain the space, thereby requiring the use of general funds or other revenue sources to subsidize parking costs (TCRP, 2008). It is estimated that it cost two and one-half times as much to accommodate an additional person parking on campus than to transition one person from driving to riding public transit (Toor & Havlick, 2004, p. 80). Universities that adopt TDM policies can tie their parking policies to transit use by utilizing parking revenues to fund or offset transit partnership costs thereby effectively providing an incentive to use transit and a disincentive for parking (TCRP, 2001).

Another TDM policy that is tied to the reduction of SOV driving is the provision of incentives for carpooling (TCRP, 2001; Toor & Havlick, 2004). Carpooling implies that there at least two individuals sharing a common vehicle, origin, route and destination—and it tends to be most attractive when the trip is of a distance of at least ten miles or 30 minutes (Toor & Havlick, 2004). Some universities, such as Washington State University, have enhanced their TDM programs with benefits such as free parking for students who carpool (TCRP, 2001).

Student Issues

Three of the five main reasons universities enter into transit agreements focus on student issues – the need for affordable access to jobs and housing, the ability to attract and retain students and the reduction of the cost to attend college.

It is estimated that the demand for housing adjacent to transit lines will double by 2025 (APTA, 2008, p.4). Students often rely on transit to commute to and from campus from areas where housing is most affordable (Avent, 2007). As campuses and transit systems seek to increase the appeal of transit use, they partner on the provision of amenities such as transit shelters and dedicated lighting that enhance transit access on campus and extending into surrounding residential areas (TCRP, 2008).

As students are beginning college, the timing is ideal to encourage public transportation use as they are, by necessity, going through the process of travel behavior change in the transition from secondary to higher education (Rose, 2008, p. 87). Of critical importance to facilitating this behavior change among college freshman is the provision of information about bus routes and free ride tickets to try the service (Cain, 2006; Rose, 2008). Nearly one in four students participating in a TravelSmart initiative in Melbourne Australia reported being influenced to consider alternative modes of travel by the initiative (Rose, 2008).

Administration can begin this marketing process by including transit information in the admissions materials it sends to prospective students and their families (Toor & Havlick, 2004). In a study by the TCRP, 92% of participating universities identified orientation as the most effective time to promote transit services (TCRP, 2008, p. 17). The orientation process provides an environment to present transit information in an interpersonal, unpressured setting (Rose, 2008). The tools most frequently used to promote transit services are brochures and the schools website (TCRP, 2008; Toor & Havlick, 2004). Laketran, the regional transit authority for Lake County, Ohio was included in a study on teenage mobility for promoting transit use to young adults to college and including free rides tickets as incentive in their ads (Cain, 2006). Beyond brochures, ads and website, the most effective strategies to prompt changes in travel behaviors is face-to-face contact with dialog aimed at providing the student with information tailored to his/her individual needs (Cain, 2006; Petrone, 2008; Rose, 2008).

Many college campuses across the country have implemented a University Pass, or U-Pass, transit programs to mitigate students' personal transportation costs. Students spend an average of $10,000 to purchase a car and more than $8,500 to drive it each year (Avent, 2007). Due to these costs, public transit as a primary mode of travel was identified as having a significant advantage over the automobile, thereby allowing students to use money for other purchases (Cain, 2006). In 2008, the American Public Transportation Association released a report stating that a public transit user could save more than $8,000 per year in transportation costs compared to a private vehicle (Miller & Williams, 2008).

Transit partnerships are often established as a result of student referendums (TCRP, 2001). Students who are trying to promote a transit initiative can garner administrative support by documenting the benefits to the university—decreased parking costs and increased options for future housing and academic building expansion (TCRP, 2001). Student support for these referendums is also critical. Otherwise, the imposition of a transit fee may be perceived as the equivalent of a tuition increase (TCRP, 2001). Most often, these referendums result in the creation of a U-Pass that allows students unlimited access on the local transit system (TCRP, 2001; Toor & Havlick 2004). Fees for a U-Pass vary based on location of the university and the length of the pass, and range from $8 to more than $50 per semester (TCRP, 2001). For example, at the University of North Carolina at Chapel Hill, a transit pass is $92.25 per year, and at the University of Washington it is $44 per quarter (TCRP, 2008, p. 21). At Cleveland State University, the cost is $25 per semester (Farkas, 2009).

Transportation Equity

A May 2008 Gallup Poll of 1,017 adults with a +3% margin of error, revealed that 71 % of respondents said that rising gas costs have cause financial hardship (USA Today/Gallup Poll, 2008). Although student financial aid may assist in tuition and housing costs, the cost of transportation remains a barrier to education and sustains the reality that individuals from low-income families remain less likely to participate in higher education (Brinkman, 2000, p. 7).

Transit benefits promote equity as they accrue to the entire community, not only directly to those who use them (Toor & Havlick, 2004). Similar to health insurance, the rates for campuses with a U-pass program are lower for the entire population to participate than smaller numbers of individuals (Toor & Havlick, 2004). This risk mitigation is at the heart of the Tri-C student controversy—RTA will not allow only the Metro campus to participate without the peripheral campuses (Farkas, 2009). Although the program would be welcome and benefit the Metro campus students, the RTA would receive such a reduced rate per trip that it could not sustain the service (Toor & Havlick, 2004). Since students who use transit are likely to have lower incomes than those who drive, they are also likely to tolerate only small price elasticity if transit fares increase on a regular basis (Toor & Havlick, 2004). One possible solution for Tri-C is to implement TDM policies that charge for parking and invest the new revenue in alternative modes, thereby improving transportation equity (TCRP, 2008; Toor & Havlick, 2004).

Statement of the Problem

The student body of the Cleveland State University largely resides within the same county as the campus. However, seven percent of student body resides in Lake County, an adjacent suburban county that offers commuter express service to the urban business district (Cleveland State University, 2009). Laketran, the regional transit system for Lake County, offers service which originates from five different communities within the suburban county, with one-way commuting distances varying between 18 and 52 miles. Of Laketran's 20 daily departures to the urban business district, 11 departures have direct stops at Cleveland State University campus, thereby potentially playing an important role in enhancing transportation access to higher education. For the spring 2009 semester at Cleveland State University, there were 557 undergraduate and 290 graduate students enrolled who reside in the Lake County communities directly served by a Park-n-Ride lot with express service to Cleveland (Chen, personal communication, March 12, 2009).

For students who reside outside of Cuyahoga County, the Cleveland State University U-Pass program falls short as it is applicable only to the partnership between the university and the local urban transit system, Greater Cleveland RTA. Partnerships for transit benefits are uncommon beyond the service area of urban systems, thereby leaving suburban students burdened with paying full costs of transit fares or car ownership—or having to forego attending college due to lack of affordable access (Fraser & Baginski, 2005). To mitigate this expense, Laketran offers an 11-Ride student ticket to CSU students with a current RTA sticker for $12.50—a price that is approximately a 58 % discount off the regular 11-ride ticket rate of $30. Within the six primary zip codes assigned to Lake County, Ohio the percentage of families living with income below the poverty level in 2007 ranges from 3.8 to 9.8 % (City-data.com, 2008). Within those same zip codes, the median household income for 2007 ranged from $49,600 in Eastlake to $53,300 in Painesville to $63,400 in Mentor (City-data.com, 2008). In the current economy, unemployment, home foreclosures and financial hardship are at record levels, thereby increasing the potential that these numbers of families in poverty may increase and median income may decrease. Partnerships between transit and education will be important to those in need of education and employment.

The purpose of this study was to examine the relationship between the price of gas and suburban transit commuter ridership into the urban center and consider the implications the potential relationship may have on student attraction, access, retention and campus operations and policies.

Hypothesis/Aims

- Null Hypothesis 1: There is no relationship between suburban ridership by community and the price of gas.
- Null Hypothesis 2: There is no relationship between the suburban county ridership as a whole and the price of gas.
- Alternative Hypothesis 1: There is a relationship between suburban ridership by community and the price of gas.
- Alternative Hypothesis 2: There is a relationship between the suburban county ridership as a whole and the price of gas.
- Aim 1: Based on the acceptance or rejection of the above hypotheses, what are the implications for urban universities in attracting and retaining suburban students?

Method

This study first employed a correlational design to determine if a relationship exists between ridership and the price of gas. Following the bivariate correlation, a one-way ANOVA was employed to test the differences in the mean number of riders in each community and in the county as a whole based upon gas prices falling above or below $2 per gallon.

For the bivariate correlation, the independent variable was the daily price of gas and the dependent variable was daily ridership count for each of the five communities where park-n-ride lots are located and the county as a whole. Both were continuous variables.

Data for the suburban transit ridership was based on a convenience sampling of ridership gathered from ridership reports by route from Laketran for August 1, 2008 to January 31, 2009. August 1 was selected as the start date as it was the first date for which retail gas prices could be tracked back to on a daily basis. Gas pricing was gathered from a single gas station in the suburban area for consistency in pricing structure.

The data were entered into SPSS. A bivariate correlation, which is used to test the strength of a relationship between two variables, was conducted between ridership at each commuter express transit service location and for the suburban county as a whole in relationship to gas prices. The resulting Pearson's r values range between –1 and +1, and tells us the strength of the relationship. Using a critical r table at a significance level of 0.01 we can determine if the correlation is an important one in that a significance level of $p < .01$ means that we are 99 % confident that a relationship does exist.

To take the study one step further, the r^2 value, the coefficient of determination value, was also calculated. Calculating the r^2 value can explain what amount of variation in one variable is shared by another variable—in this study, what amount of variation in ridership at each location can be explained by the variance in the price of gas.

Following the bivariate correlation analysis, the gas prices were categorized into two price groups—when gas prices were above $2 per gallon, and when gas prices dropped below $2 per gallon. A one-way analysis of variance (ANOVA) was conducted for each community location and for the suburban county as a whole to measure if ridership had changed in relation to gas prices.

The ANOVA allowed for comparison of the ridership means of each location with gas prices categorized by two price points—above or below $2 per gallon. The study included 65 days with gas prices above $2 per gallon and 62 days with gas prices below $2 per gallon. The ANOVA was used instead of a t-test as the study compared more than two groups. Utilizing multiple t-tests could compound the probability of Type I error, rejecting a null hypothesis when it should be accepted—in this study, a Type 1 error would be to reject the statement that there is no relationship between ridership and the price of gas, if there was in fact a relationship between these two variables. Significant *F*-values indicate the extent to which the independent variable, gas prices, affected the variance in the model compared to the individual error of the data. An *F* value that is above the Critical *F* value for a given study indicates a robust and accurate model. Eta squared (η^2) was calculated to measure the effect size and provide us with a measure of the proportion of the variance in our ridership (DV) that can be explained by the price of gas (IV).

Results

The correlation between ridership and gas prices was found to be significant in four of the five communities and for Lake County as a whole. Table A1 shows the Pearson's *r* value, observed significance level (*p*) and coefficient of determination (r^2) for each location and the county as a whole for the 127 days of tracking gas prices and ridership in this study.

Referring to a Critical *r* Value table for Pearson's Product Moment Correlation Coefficient, the critical *r* value for a two-tailed test with $df = 125$ and $p =. 01$ is $r = .254$. As the *r* values in all communities and Lake County as a whole, except for Willoughby Hills are greater than .254, the null hypotheses can be rejected and the alternative hypotheses accepted for Madison, Mentor, Wickliffe, Eastlake and Lake County. However, as $r = .081$ for Willoughby Hills, we would accept the null hypothesis that there is no relationship between ridership and the price of gas for this location only.

Although the Person's *r* values for several groups ranged between .3 and .6, which is considered a moderate strength of correlation, the r^2 value can describe what proportion of the variance within the data can be explained by the relationship between the two variables—ridership and the price of gas. For ease of interpretation, we convert this value into a percentage (multiply by 100), then we can say in Madison 10.6 % of the variation in ridership can be explained by the variability in the price of gas. For Eastlake, Mentor, Wickliffe and Lake County, the variance in ridership that can be explained by variances in gas prices range from 10.2% to 12.5%. Consistent with the finding that the relationship between the price of gas and ridership in Willoughby Hills is not very strong, the variance in ridership variability at that location that can be explained the variance in gas prices is only 0.06%. Therefore, this also tells us that more than 87.5% of variation at each location is not accounted for by the price of gas.

The ANOVA results indicated significant changes in mean ridership at four locations and for the county as a whole ($p < .01$). Table 2 allows us to see the changes in mean ridership at each location and to identify Willoughby Hills as the only location where there is no significant change in mean levels of ridership in relation to gas being above or below \$2 per gallon based on a critical $F(2, 125) = 4.79$, $p = .01$. Therefore, we reject the null hypotheses that there is no significant difference between ridership and gas prices at Madison, Mentor, Wickliffe, Eastlake and Lake County as a whole and we can accept the alternative hypotheses for these same locations. We accept the null hypothesis that there is no significant difference between ridership and gas prices at Willoughby Hills.

Eta squared (η^2) provides a measure of the proportion of the variance in ridership (DV) at each location that can be attributed to the price of gas (IV). Similar in treatment for interpretation to the r^2 value found in the correlation, the η^2 value can be multiplied by 100 to express the effect size of the ANOVA—the proportion of the variance in ridership explained by changes in gas prices. These range from a low of 1.8% in Willoughby Hills to a high of 12% in Wickliffe.

These statistical results suggest that transit riders in Lake County respond to fluctuations in gas prices when making transportation decisions. The implications for colleges will be further discussed relative to the cost of attending college, the parking demands for the college and equity in college access.

Discussion

The bivariate correlation revealed moderate strength in the relationship between ridership and the price of gas at most commuter express location and the county as a whole. The coefficients of determination allow us to explain a range of 0.06% up to 12.5% of the variation in ridership by the variability in gas prices. Conversely, this allows us to interpret the study result to indicate that the remaining variance in ridership at each location, which ranges from 87.5% to 99.04% of variance in ridership, is explainable by factors other than gas prices.

Employing an ANOVA allowed us to consider some practical considerations relative to the relationship between ridership and the price of gas by considering the mean ridership levels for each location with gas prices categorized as above or below \$2 per gallon. The tests indicate a drop in ridership in relationship to the drop in gas prices. In particular, when gas prices dropped below \$2 per gallon, mean daily ridership at Mentor and Wickliffe, the two busiest commuter express service locations in the study, dropped by 31 and 22 riders, respectively. As most buses used for commuter express service seat 48 passengers, these numbers have practical significance as they represent almost or greater than 50% of capacity on a single bus. When ridership falls below 50% on any given departure, that run is watched for further declines and evaluated for elimination. Should this occur, this could affect the number of opportunities student have to access campus by transit. In turn this could require owning an automobile or foregoing college attendance. Whether more students begin to drive by choice or necessity, the demand for parking spaces will increase and CSU parking capacity is already strained on many days.

To promote suburban transit use and potentially sustain a route, CSU could allow suburban systems to participate in orientation days on campus. This would not replace the RTA U-Pass but complement it—if you cannot get to Cuyahoga County, the U-pass is of no value. Once in Cuyahoga County, a student's RTA U-Pass would get him around campus and to local destinations. Additionally, the admissions and recruiting offices could provide suburban transit information to new and prospective students with materials sent out or at college fairs.

To sustain the existing U-pass program, CSU students and administration could promote the fact that all students benefit even if they do not use it in terms of reduced parking demand. A larger student body similarly distributes all of the costs of education, thereby making college more affordable for everyone, so access for more students affects everyone. For those students who cannot be served by transit, CSU could offer premium parking spaces for those who carpool, again promoting education equity in the shared costs of transportation.

Student advocates and administration should speak out and write to legislators regarding the importance of public transit in accessing higher education. Individual stories are often more compelling than numbers and charts.

Limitations

The study was subject to several limitations. Gas prices were gathered from a single gas station for consistency in pricing structure. However, it may not have represented the lowest available local price. The CSU Trends report provides information about the county of residence, but then it does not break down by college, level, hour studied, or times of classes within the county heading. The CSU Office of Institutional Research and Analysis could provide information on the number of students by zip code and status, but not about course times to assist in understanding travel patterns. This makes it difficult to determine the potential for new ridership in any given county.

Laketran data and fares are collected manually by drivers each day so the count of students versus working adults is subject to error. The ridership numbers in this study also include the time span from mid-December to mid-January, a time period when colleges are closed for several weeks and many business riders take off for the holidays. January of 2009 was one of the snowiest on record and the severe weather may have impacted the number of riders who chose simply not to go to work or who had to remain home with children due to school closings. Ridership numbers may also reflect a number of corporate layoffs occurring during the current economic downturn.

Future Studies

The fluctuations in ridership warrant continued monitoring as gas prices begin to rise again and as transit efficiencies will be mandated by budget constraints. A survey of suburban systems could provide best practices in "feeder" campus partnerships as these were not found in existing studies.

Future studies should segment student behaviors in terms of number of credit hours being taken and the times of classes to better understand potential parking demand and access needs. Studies should also include consideration of carpooling in return for better parking access. Although both the r^2 and η^2 values indicate percentages in variance in ridership of up to 12.5% based on the price of gas, these values remind us that a much larger percentage of variation in ridership can be attributed to reasons outside of gas prices. Weather patterns, employment levels, service satisfaction levels and holiday dates should be included in future data studies as they may affect the ridership levels independent of the price of gas.

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Appendix

Table 1
Correlation of Gas Prices to Daily Ridership and Coefficients of Determination

Area	*r*	*p*	r^2
Madison	.326	0.00*	.106
Mentor	.354	0.00*	.125
Wickliffe	.352	0.00*	.123
Eastlake	.319	0.00*	.102
Willoughby Hills	.081	.365	.006
Lake County	.353	0.00*	.124

*$p < .01$

Table 2
Mean Ridership and Effect Size

	Above $2			Below $2					
Area	*M*	*SD*	*n*	*M*	*SD*	*n*	*F*	*p*	η^2
Madison	55.95	8.48	65	47.50	14.20	62	16.77	.000*	.118
Mentor	237.88	37.21	65	206.48	54.63	62	14.437	.000*	.104
Eastlake	52.66	9.56	65	46.10	14.50	62	9.166	.003*	.068
Wickliffe	161.22	19.16	65	139.39	37.79	62	17.090	.000*	.120
Willoughby Hills	31.71	11.84	65	28.34	13.00	62	2.335	.129	.018
Lake County	539.42	63.09	65	467.81	128.11	62	16.195	.000*	.115

*$p < .01$