Perceptions of Public Transportation in a Major Southeastern Population Hub
PERCEPTIONS OF PUBLIC TRANSPORTATION

Abstract

Public transportation is a critical way for cities around the globe to help to relieve congestion on their streets and pollution in their air. Public transportation is often quicker and more convenient than personal vehicles in some cases. This is a well understood fact in most areas of the globe causing massive amounts of the populous in major cities to use public transportation. The United States is an exception, especially its southeastern region. In this region funds for better systems of public transportation are hard to come by as fierce and entrenched opposition prevents money from making it into the hands of mass transit operators. This study concludes that this is due, to some extent, a negative perception of public transportation as seen in a major southeastern population hub.

Review of Literature

As the United States becomes more self-conscious of its reliance on a massive amount of fossil fuels a greater emphasis is being placed on not only new fuel sources but also how to better manage current systems to greater benefit. Commute times are also skyrocketing and it is becoming obvious that a solution is needed. Public transportation is widely accepted to be integral in allowing a city to function properly and efficiently. When used properly public transportation has the ability to reduce emissions and therefore pollution, reduce congestion and travel times all while helping to reduce social inequality. The main negative aspects of public transportation are reduced flexibility for the rider as an individual along with an overall greater inconvenience for an individual. Despite these drawbacks there are overwhelming positive effects that public transportation has on a city and yet many still residents oppose its implementation. The scholarly articles in this review of literature all contain information that can
contribute to improving the perception of public transportation by its riders and how to determine how negative public perception may be and how it may impact a given rapid transit system.

This could be due, in part, to their social value orientation as seen in a 1996 study published in the European Journal of Social Psychology entitled “Car Versus Public Transportation? The Role of Social Value Orientations in a Real-Life Social Dilemma.” (Van Vugt, M., Meertens, R. M., & Van Lange, P. M. (1995) The study, which was conducted in the Netherlands, consisted of fifty six participants being told information on traffic, pollution, and how their decision would affect those things. It also took into account their social value orientation which is essentially how much an individual prioritizes their needs over the perceived needs of others or of society as a whole. The results of the experiment were as the researchers had hypothesized them to be. The data revealed that those who were more self-centered with their social value orientations were always less likely to use public transit as a means of commuting to and from their places of work. The only exceptions where a person with a more self-centered social value orientation would use public transit was when it suited their interests best. For example a man with a more self-centric social value orientation who faced a forty minute commute would always choose that over an hour commute by train. A less self-centered participant would be more likely to change that if it would help lower pollution or cut back on congestion for others while those things would not be as likely to phase the self-centered man. However were the self-centered man in the same situation where there was a forty minute commute and an hour train ride also told there would be a half an hour of traffic he would very likely choose to use public transit. The weaknesses of this study were a possible sample bias due to participants having a possible desire to look like better people by making the so called sacrifice of using public transportation for their commute. Participants were also paid the
equivalent of fourteen dollars each by researchers for taking the time to participate in the study which in theory could contribute to a possible skew in the results. What can be gathered from this data is that in order to achieve a greater level of use of public transportation it is necessary to so more than only present the use of public transportation as a way to better a person’s community. It is also necessary to present it as a possible means of benefiting the individual since it appears that for some the draw of helping others and their community is simply not enough motivation to convince them to utilize any form of public transportation.

Attempting to improve a person’s experience is important for rapid transit systems, especially those such as MARTA(The Metro Atlanta Rapid Transit Authority) who subside on a penny sales tax that is approved by the voters in every county that they operate in. It is required for a voter to have a positive view of public transit to want to continue to fund it over time. Any viable rapid transit system that may function under such a way of obtaining funds must appear to be progressing while also not allowing their more established lines to degrade. The issue of balancing maintenance versus expansion is ever present to those who manage transit systems throughout the United States and other industrialized countries and is researched more thoroughly in the article titled “Evaluating the Regional Benefit/Cost Ratio for Transit State of Good Repair Investments” recently published in the Journal of Public Transportation in 2015. (Paterson, Liz & Vautin, David, 2015) The study was conducted in the San Francisco Bay Area and attempts to evaluate both the costs and benefits of either maintaining current public transportation systems in a state of good repair or constructing new systems and expanding existing ones. They took data on all twenty five of the major transportation systems in the nine county Bay Area and used factors such as the rate at which existing systems and machines break down and the delays associated with that aging, increasingly failure prone technology. Other
factors, such as safety and cost, were not directly measured as they contributed to delay time in the model set up by researchers. The model used the quality of the rider’s experience and the rider’s likelihood to continue using that public transit system based on the delay caused by deteriorating systems without the proper repair funding to determine how beneficial it may or may not be to the system’s ridership and quality. The researchers were able to determine that it is a far better decision by transit system operators to allocate existing funds into maintaining current systems in a state of good repair rather than diverting funds to create new systems and expand existing ones. From this study it can be determined that in order to improve public perceptions of rapid transit systems it is of much higher priority to keep current systems in a state of good repair than to create new systems without additional funds. In order to obtain additional funds however it is often necessary for a voter to approve it as mentioned earlier. To convince a voter to approve of a new tax is no easy task. A study from the American Society Of Transportation & Logistics attempts to determine how to best articulate the necessity of a new transportation related tax to a voter. (Krishen, A., Raschke, R., & Mejza, M. (2010) The study is title “Guidelines for Shaping Perceptions of Fairness of Transportation Infrastructure Policies: The Case of a Vehicle Mileage Tax” and it found that in order to convince a voter you must do a number of things. Anyone attempting to convince a voter must frame the message properly and ensure that the benefits most closely aligned with the goals of the voter are highlighted. The message should be customized to the voter’s demographic to ensure it is articulated in a way that will ensure the voter that the tax is fair and necessary. When public outreach such as this is preformed the results could aid the budgets of rapid transit authorities across the United States, especially those who rely on a vehicle mileage tax or penny sales tax for the majority of their funding.
The public perception of a rapid transit system is also required to be taken into account when expanding a system or creating a new one. This is exhibited in the Atlanta Beltline Corridor Environmental Impact Study where a great deal of effort was put into determining how to garner more support from the public. This study was implemented in order to collect data on how the public felt about not only the Metro Atlanta Rapid Transit Authority (MARTA) in general but as a part of a larger plan to implement a Beltline corridor of new public transit systems and walkways encircling the city of Atlanta. Public input was needed in order to determine where to place new stops, compare the beltline system to other possible alternatives, and also to gauge how much such a project would improve the public perception of MARTA. The Rapid Transit Agency held forty six meetings and presentations with attendance ranging from two people for a small meeting with a sub committee chair to ninety four people attending both a briefing and a study group. Total attendance totaled 1,928 plus people during the nearly two month comment period. One large concern was over construction duration, safety and overall inefficiency.

The issue of construction inefficiency in U.S transportation projects is something that may contribute to a negative stigma placed upon the transit system as a whole by the general public. In the study “Schedule Effectiveness of Alternative Contracting Strategies for Transportation Infrastructure Improvement Projects” researchers used a pool of 1,372 transportation projects to determine the cause of its inefficiency. From the research it was concluded that the current system of contracting used by most public transportation and other infrastructure projects is very inefficient and can be easily replaced with better existing methods. The Metro Atlanta Rapid Transit Authority also found that many people believe that the addition of walking trails and other modes of public transit that would come with the Beltline project
would bring vagrants and crime throughout Atlanta originating from the southern end of the loop. Many more were also concerned for security and concerned that additions to the transit system would drop property values in those areas. This final concern however is merely a negative public perception and not a reality. This is exhibited in the study “LEED Public Transportation Accessibility and Its Economic Implications” that was published in the Journal of Construction, Engineering & Management (Choi, K., Son, K., Woods, P., & Park, Y. J. (2012). This study took place in another major population center in the southern United States, Huston, Texas. Researchers compared a large quantity of properties that were in close proximity to two modes of public transportation with similar properties that were not near public transportation. The specific requirements were rail access within a half a mile of the building and a bus station within a quarter of a mile. It was concluded that public transit, especially rail components have a strong positive impact on property values. As exhibited by this evidence and the concern expressed by several Atlanta residents it is very likely that a negative public perception of public transit does impact it negatively as the system may lose riders from such unmerited fears. As for the concern over vagrants however is a harmful one to the public transportation systems of the United States. There are conflicting interests as public transit administrators look to administer Social Justice (WELLMAN, G. C. (2015) whilst many others look to keep low income residents away from them as exhibited by those concerns.

Another fear among those who participated in MARTA’s Beltline feedback system was a general disruption of the flow of traffic by additional busses and the stops that coincide with them. Several studies attempt to find ways in which busses may become better integrated with general traffic. A study was conducted in China that attempts to determine how busses can be given priority in traffic, especially large intersections, without disrupting any other traffic to any
major degree. (Hongfeng, X., & Mingming, Z. (2009) For the experiment a complicated series of timers were set at different points in the immediate vicinity of a major intersection. From these the researchers were able to test extensively to tweak the timing of the traffic signal based upon these sensors and find an ideal timing system that comes close to maximizing the efficiency of the intersection’s performance. Another study from China also tested signal priority with busses and seconded the prior study’s conclusion that it is a very efficient and readily viable means of managing busses in traffic. (Min, Y., Wei, W., Bo, W., & Jing, H. (2013) Yet another study that was conducted regarding busses in traffic discussed a different solution. This Indian study examined the implementation of bus only lanes rather than the mixed use ones that are mainly in use today. It found that bus only lanes had a positive impact on the overall mobility of all types of traffic in areas that they were implemented.

An additional study on the actual quality of a public transit system versus the quality perceived by the public was conducted in the Campania region of Italy, which is Italy’s second largest region, and was published in the International Journal of Sustainable Transportation in 2014. (Cascetta, E., & Cartenì, A. (2014) It measured factors that indicated quality in a transit system on a new high speed rail line and compared that data to how people believed the line was. They also conducted the same line of inquiry on an older line. They found that the largest factor that effected the perceived quality was surprisingly the aesthetic quality. Researchers found that the increased aesthetic quality of the new line resulted in an over exaggerated perceived quality, higher than it actually was. Meanwhile when asked about the older line the perceived quality was actually much lower than the actual service quality. A study titled “Non-Linearity in Public Transportation Service Quality Evaluation” also examined what does and does not deter riders from using public transit. (Stathopoulos, A., & Marcucci, E. (2014) This study examined the
perceived quality of rapid transit service and its implications with their decision making. Several interviews and focus groups were held with transit riders in the study area and from that several attributes to measure were found, such as delays and fare price. The conclusion was that daily users are more concerned with price and travel time but also more patient with delays than those who may be tourists or for some other reason do not usually use public transportation as a means with which to commute. They also found that if an aspect degrades in quality a different improvement will not make up for the initial loss of quality in the rider’s perception.

A myriad of impacts effect a rider’s perception of a public transportation system and many may not even actually effect their overall experience. The negative perception that is attached to public transportation in many areas may very well hurt its reality.

Methods

The approach chosen to determine exactly how negative or positive the public’s perception of rapid transit in a major southeastern United States population hub may be was an online survey. The responses of an online survey can be analyzed to find many valuable statistics regarding metro Atlanta’s citizen’s perception of their public transportation system. Using Google Documents a three part survey was created to gauge the participant’s perception of public transportation. The first segment was simply used to determine the participant’s background and views. The inquiry selected required those eighteen and over who live or work in the metropolitan Atlanta area. It was also important to get responses from counties that, while within the bounds of metro Atlanta, do not yet have functioning MARTA systems to service their citizens. This first segment of the survey contained questions to elicit the race, age group, gender, and political stance of the survey participant. There was also a question requesting which
county the participant lived within along with a drop down selection which contained all of the
metro Atlanta counties for the participant to select from.

The next segment is a series of questions that the participant responds to on a scale of one
to five. The purpose of the second section is to gauge the participant’s personal experience with
MARTA and their opinions about MARTA specifically. There are questions that ask if the
participant has ever ridden MARTA, if they will ride MARTA in the future, how frequently they
ride MARTA, how safe they feel riding MARTA, and the convenience of MARTA. The most
important question in this segment however is a question that asks the participant how likely they
would be to vote in favor of a one cent sales task for the expansion of MARTA into their county.
This truly tests to see if the participant believes enough in local rapid transit to, in essence, invest
their own capital into it.

The final section was intended to gauge the participant’s overall view of public
transportation. This final section consisted of several very frank statements that the participant
was requested to state their level of approval of. They expressed their approval on a scale of one
to five with one being strongly agree and five being strongly disagree. There were six statements,
the first simply read “Public transportation causes crime.” the second read “Public transportation
is a just way of assisting the poor.” and so on. The third statement dealt with the idea that public
transportation lowers property values, the fourth was the convenience of public transportation
and the fifth and sixth statements had more to do with metro Atlanta again rather than the broad
statements the segment began with. These statements were also the most lengthy of the six. The
fifth statement was “Atlanta Public Transportation is mismanaged and a waste of taxpayer
money.” And the final statement participants judged was this “Atlanta Public Transportation
helps relieve congestion, reduce commutes and positively impacts the environment.” From these
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statements it can be determined the participant`s overall conception of public transportation and a local conception as well.

In order to obtain responses the poll would be spread on the internet. It would, more specifically, be released onto Facebook. It is hoped that through users “liking” and “sharing” the google form it may spread throughout the metro Atlanta region. Ideally the pool of respondents would have an overall demographic makeup similar to that of metro Atlanta. This however is not likely to happen as Facebook`s setup does not favor geography but rather posts are seen by those who are “Friends” with the person who “shared” the post. If this is how the responses tend to be then the data will be less generalizable though still viable.

Results

The Google form that contained the survey was released onto Facebook and received a total of 246 responses over a period of five days. In the first day the poll received the most responses, at 105. The survey was completed seventy seven times the second day, with fifty one responses coming in on the third, and with the fourth and fifth days garnering a combined total of eleven responses. Two responses were entirely blank and immediately thrown out. The demographic makeup was even more lopsided than expected. 79.3% of respondents identify as female and 92.1% responded as being white. According to data from the United States Census Bureau the population of metro Atlanta is only around 55% white making the survey respondents far more racially homogenous than actual metro Atlanta. Gender is also an issue as females should make up just over 50% of the respondents rather than 79%. The geography of the respondents also did not align with the census data. Of the respondents to the survey on Facebook 55.3% marked themselves as living in Douglas County. Census Bureau data reveals
that Douglas county should not make up nearly such a large proportion of the respondents as Douglas County’s 138,776 people only comprise 3% of metro Atlanta’s total population.

This data however still presents an opportunity as Douglas County is a fringe county that does not have MARTA service. Somewhere in the future a MARTA stop in the county would make logical sense to take commuters into Atlanta for their jobs. Those limitations being said it is best to now actually break down and analyze the results. As a whole 84.5% of the respondents had ridden MARTA at some point in their lives. As far as frequency goes the vast majority, 73.9% rarely rode MARTA with the second largest proportion being 22.4% who said that they never ride MARTA. Only two of those who rode MARTA somewhat frequently were from Douglas County. A higher percentage of liberal respondents also used MARTA on a semi regular basis than their conservative counterparts. Male and female respondents had very nearly the same likelihood of riding MARTA somewhat frequently or very frequently. Respondents were generally not at all likely to believe that they would ride MARTA in the future. This could be due to their general sense of danger and nervousness that they associate with MARTA. While only 16.1% of respondents reported that they would not feel at all safe using Atlanta rapid transit an even smaller percentage, at 4.1% reported that they would feel very safe using MARTA. Most responded that they would not feel generally secure on MARTA, with 33.9% of respondents picking that option.

The next several questions were very lopsided in their responses with the respondents never favoring MARTA. Respondents were in a sense of overwhelming agreement about the inconvenience of MARTA to them. 51.2% of respondents rated MARTA as not at all convenient with every answer choice closer to convenient becoming more and more unpopular. Respondents were in even more mutual solidarity against MARTA in how favorable the transit authority is
when pitted against their personal vehicle. On a scale of one to five, with one being much more favorable and five being not at all favorable 59.3% of respondents picked that last option. Only 2.1% of respondents believed MARTA to be much more favorable than their personal vehicle.

The survey takers then also overwhelmingly rejected the prospect of bringing MARTA into their county via a one cent sales tax. 52.3% of respondents revealed that they were not at all likely to vote in favor of a one cent sales tax to bring public transportation into their county. This question was very highly in favor of not putting a tax for transit however it was not as off balance as the last two questions. The second most popular choice only had 16.6% of the respondents but it was in full support of bringing MARTA to the respondent’s county.

The final section, where respondents agreed or disagreed with a statement on a scale of one to five, was in stark contrast to the last response of the several preceding questions. In the final section respondents were in strong support of public transportation and defended it on several occasions. More than 75% of respondents did not agree with the statement “Public transportation causes crime.” A similar response also came to the statement “Public transportation lowers property values” with most participants disagreeing yet again. However a similar majority also disagreed with the statement “Public transportation is a just way of assisting the poor.” A stronger majority agreed that public transportation provides a simple and convenient alternative to driving. This is in total disagreement with the earlier common held belief among respondents that their personal vehicles were favorable over MARTA. The statement “Atlanta public transportation is mismanaged and a waste of taxpayer money.” Drew controversy. A very slim majority agreed but it was more than anything locked in a stalemate with 46.3% of respondents picking the most neutral, or conflicted, option. The final statement of “Atlanta public transportation helps relieve congestion, reduce commutes and positively impacts the
“...went in support of public transportation. A slight majority remained neutral but 42.8% either agreed or strongly agreed with the statement as compared to 25.1% deciding to disagree or strongly disagree.

Conclusion

Based upon the findings it can be concluded that a negative perception of public transportation in Atlanta, a major southeastern population hub, does indeed harm its reality. The opinions of citizens of the metropolitan Atlanta area show an overall understanding of the benefits that public transportation can have on a city, however when specified to themselves and their region these same citizens are staunch critics of existing systems of public transportation and of proposed expansion. Future research could focus on the rationale behind this belief, whereby it be taught to them by their parents or ingrained by some other less obvious source.
References

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