

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.0 INTRODUCTION

This study has shed light on how the Portland streetcar system and its impacts are perceived, post-construction, by affected residents and retailers. This process has been an effort to help educate people about the Portland streetcar system - and its perceived effects. It is hoped that this study has reinforced the notion that perceptions are an important aspect to investigate when considering phenomena related to public transportation. It is also hoped that this study will educate other municipalities currently considering the streetcar mode as a transit option.

Freudenburg states the fundamental purpose of impact studies such as this is to answer the question “Will there be a measurable difference in the quality of life in the community as a result of what the project is doing or might do in the future?”¹ As revealed through interview sessions with study participants, it can be said that no aspects of this investigation were largely perceived as being negatively affected by the streetcar system. In fact, responses to the general question (Qv) reveal that participants overwhelmingly regard the system as making a positive contribution to the local area. Thus, while this new public transit system is only one of many complex variables contributing to the community’s “quality of life”, it must be said that this system is not having a measurable negative impact on the community. At best, because it is perceived to bring some positive benefits to an area with a price tag that is forty percent the cost of Light Rail, this transportation alternative should be considered by municipalities hoping to improve the quality of their public transit systems.

¹ Freudenburg, William R., “Social Impact Assessment,” Annual Review of Sociology, Vol. 12, 1986, p. 470.

The generalities provided through participant response breakdown into ordinal categories can be summarized as follows. More than three-quarters of participants felt the streetcar was having little or no impact on six local issues. These are: noise, vibration, crime, personal safety, density, and parking. With the alleviation of parking pressures in adjacent neighborhoods described as one Project goal of the system, any positive impact from the new system on this local issue is perceived to be modest at best.

The streetcar is perceived as positively affecting, to a lesser or greater degree, four aspects of the neighborhood. These four aspects are: access, neighborhood desirability, traffic, and neighborhood aesthetics.

The biggest perceived change stemming from the streetcar's presence was on local land use. This impact was perceived by more than forty-five percent of the sample population.

The relationships between participant characteristics and their perceptions provided another subject for analysis in this research. Given that they perform different roles within the community, tension can exist at times between residents and retailers in the area. Despite this, results from the Fisher's Exact Test revealed a significant difference between resident and retailer participant perceptions for only two of the eleven issues investigated. These impacts are: traffic and neighborhood desirability. Given that this resident-retailer breakdown is meaningful for only two aspects of the study, it must be said that overall, residents and retailers hold relatively similar views regarding the issues investigated here.

Further, the qualitative nature of participant responses was revealed through their nominal, open-ended responses to the interview schedule. The reporting of these responses, often from an individual or small number of participants, added depth to the analysis and offered reasons behind participant attitudes. Along with giving voice to

those often unheard, the incorporation of this vast array of participant responses provided this researcher a vault of insights to subsequently draw conclusions from. Thus, the learnings identified and recommendations that have been developed in the following sections have been presented purposefully with the intention of giving legitimacy to insights revealed by even a small number of participants. As this study was not meant to have enough participants to be considered statistically significant, the intent was to allow many voices to be heard, and then to *listen* to all those voices, even if they were not conforming to the generalities or even if they were saying something unique. As the reader will see in the following sections, this approach to research dictates that many forms and sizes of participant sentiments should be used to help identify areas of learning. In other words, learnings should not just be gleaned from an enormity of responses or generalities, but also from participant insights into the implications of the phenomena being studied. At times, insight may be derived from the voice of only one.

The reader should also be reminded that this study is a “snapshot” of current perceptions. It should be noted that given a different time, attitudes could change based on a number of factors or trends that could affect current perceptions of the neighborhood and the streetcar system. Although this again limits the generalizability of the findings, this temporal base of research needs to be admitted. This reinforces the relativism of *truth*, as it is not objective, but spoken from somewhere, by someone, and at sometime.

The reader should be reminded that decisions made in Portland are made within a particular context and culture. Thus, when investigating this particular transit system, it is vitally important to understand the context that has been described here. Other decision-makers should be cautious of the cultural sensitivities that exist in their own areas. Dueker and Bianco reinforce this cautious approach by reminding us that

Portland initiatives often do not transfer to other locations.² Edward T. Hall advises us, “You can’t shed culture” as it is the medium in which we interact.³ However, culture, like our cities, is dynamic and malleable. Since we are a dynamic culture, there is no reason why we cannot reconsider some of our own assumptions about the tools we have chosen.⁴ By maintaining a constant awareness of different transportation options and their implications, values so esteemed by writers such as Barbara C. Richardson, planners can play a pivotal role in effecting cultural change. As transportation choices play such a large role in the shaping of our cities and the human behavior that results in those forms and modes, planners have an obligation to remain aware of innovative alternatives to city building. When doing so within the North American context, planners should often look to examples implemented in Portland, as it appears to be leading the way in rethinking how we build our cities.

6.1 LESSONS LEARNED

Several lessons learned have been identified through analysis of this study’s findings. More specific than the study recommendations that follow, the following three sections describe possible changes that could be made to the Portland streetcar system in order to improve its perception. Although these lesson learned may be particularly beneficial to Portland officials, they may also prove helpful to other communities who may be considering the development of streetcar routes in their city. The three lessons learned identified from the findings of this study are described in the following sections.

1) Track Configuration – Many participants indicated the streetcars are “bad to be behind” (N=16) as a driver. Richards states that one of the reasons that streetcars

² Dueker and Bianco, p. 172.

³ Hall, Edward T., The Hidden Dimension, 1966, p. 177.

⁴ Rybczynski, p. 211.

were removed from most North American streets in the first place was because they “got in the way” of traffic.⁵ As many participants of this study echo a sentiment that helped lead to the initial demise of streetcar systems, this issue should certainly be noted and mitigation efforts should be considered.

One possible improvement to the streetcars’ relationship with automobiles would involve configuring streetcar tracks in such a way that they move onto what was once an on-street parking lane to pick up passengers from sidewalk stops. Although there would undoubtedly be a cost factor to consider, as well as trade-offs in terms of even more lost parking stalls and possibly less space for those waiting at stops, this track configuration option could do much to ease driver (and even cyclist) perceptions that the streetcar is something you do not want to get behind. This in turn would improve overall perceptions of such a system, especially from the driving public.

Further, the reader should be reminded at this point that the Portland streetcar system is essentially a one-way loop, with streetcar infrastructure subsequently configured in only one direction on any given street the streetcars operate on. Perceptions could have been quite different if the study area had been configured with a two-way streetcar system. Within the context of such a situation, impacts may be generally perceived differently.

As well, drivers would ultimately perceive the system differently if tracks were aligned along one-way streets with adjacent lanes free of streetcar tracks or simply on two-way roads with more than one lane of traffic flowing in each direction.

The particular physical interface the Portland streetcar system has with the Northwest District directly influences this study’s findings. Different track configurations and even other street types chosen for streetcar tracks could allow for a different range of perceptions, perhaps viewed even more favorably by drivers. One other possible way

⁵ Richards, Brian, Future Transport in Cities, 2001, p. 13.

to improve the streetcar interface with the driving public has been successfully implemented in many cities in Europe and Toronto. In these cities where roads are wide enough, streetcars run in two directions along a central “reservation” with one or two lanes of auto traffic moving freely on each side.⁶ Such a track configuration would offer the advantage of Light Rail in that cars and rail vehicles are somewhat independent of one another; without the barrier that a Light Rail right-of-way often brings to a neighborhood.

2) Speed Trade-Offs – Several participants (N=7) indicated that the streetcar system is too slow. Again, the streetcar does not run along a separate right-of-way and must operate within the confines of inner-city neighborhoods. Thus, for all the positive benefits that come with the streetcars running amongst traffic and maximizing the use of existing street infrastructure, this set-up ultimately reduces the streetcars’ speed through inner city Portland. Newman and Kenworthy state that the biggest factor in attracting “choice” riders to transit is relative speed.⁷ And, as use is ultimately a key consideration in increasing public acceptance of such a system, this is an important variable to consider.

The speed of the system could be increased in at least two ways. First, one local official felt that too many stops were located in the Northwest District and perhaps along the entire line. It is his opinion that there should have been one or even two less stops constructed in the neighborhood, with the remaining stops spread slightly further apart.⁸ Although this strategy should be balanced with rider preferences, it would effectively cut down on the overall loading and unloading times of a streetcar’s journey through the neighborhood.

⁶ Richards, 1990, p. 115.

⁷ Newman and Kenworthy, 1999, p. 90.

⁸ Goff, Phil, personal communication, April 2, 2004.

Second, similar to MAX Light Rail system capabilities when traveling through the Downtown, Intelligent Transportation System (ITS) technology could coordinate the streetcars' GPS units to local traffic signals, giving the streetcars priority at traffic lights. Further, when platforms are located just before traffic signals, the system could coordinate with passenger loading and unloading. This would result in more efficient exchanges at platforms located just before signaled intersections. Such increases to system speed could result in increased ridership, which could then allow shorter "headways" or waiting periods between vehicles.

Ultimately, an enhancement to streetcar travel time, whether it be from GPS technology, track configuration, or platform spacing, would certainly have a positive impact, especially when considering some drivers' perceptions noted in the previous learned lesson.

3) Fare Monitoring – The lack of a consistent fare monitoring system was perceived to be a problem by twelve study participants (N=12). This issue is producing local reactions, with one local resident succinctly summarizing the ambiguity with the statement, "You feel stupid if you pay and guilty if you don't."⁹ Further, five (N=5) participants noted a perceived increase in the number of transients now frequenting the neighborhood. Several of these participants contend that the streetcar system, due to its unsupervised fare payment system, is allowing these transients to get a free ride into the neighborhood. Although this relationship is not certain, it is the opinion of this researcher that a consistent means of ensuring fare payment should be developed. Not only would this measure decrease the ambiguous feelings surrounding fare payment, it would certainly diminish any perceptions that the system is delivering transients into the neighborhood.

⁹ Local Resident, personal communication, March 16 to April 4, 2004.

One possible solution to this issue would increase the number of transit officials monitoring fare payment on streetcars in operation. Although offender punishment should fit the crime, this increased presence could also do much to alleviate feelings of nervousness on the system. These officials could also coordinate litter removal at stops. The increased cost from this presence could possibly be offset by an increase in ridership and it would surely lighten the negative feelings stemming from the current supervision void.

Next, study recommendations are given, starting from that of highest priority. These recommendations have been developed with the view that in order to minimize the negative, and to maximize the positive impacts brought about by the implementation of a new streetcar system in an area, a complex multitude of phenomena need to be addressed in as comprehensive and holistic a manner as possible. With this in mind, it should be noted that the processes associated with Recommendations 1, 2, and 3 below are meant to be completed prior to any future streetcar construction. Of course, the implementation of these recommendations would require a long term, consistent approach in order to achieve success. In order to fully realize Recommendation 4, while an implementation framework would ideally be developed prior to any future streetcar construction, the process itself would be an ongoing one that would require a sustained effort for many years after streetcar construction in order to be fully realized.

6.2 RECOMMENDATION 1 – LAND USE AND URBAN DESIGN STUDIES

The streetcar system is perceived by almost one-half of resident participants and almost one-third of retailer participants as assisting land use changes in the neighborhood. The transportation and land use connection, so esteemed in Portland, is reinforced by the perceptions of these study participants. However, awareness of the land use changes approved for the area in November 2003 may also be affecting these

responses. It is recommended that any such land use changes, made in close collaboration with local communities, be coordinated with neighborhood redevelopment plans, or updates of existing plans. These processes will further educate those involved about local land use issues and concerns, while providing a forum for citizens to provide input regarding possible future streetcar routes. This forum will provide an opportunity to achieve the best results regarding the future interplay between this type of transit mode and the surrounding built environment.

Further, as a relationship exists between study participants' visual approval of the system infrastructure and system use, determining the aesthetic qualities of such systems should be included in urban design studies. In doing so, apart from the simple desire to make the system visually appealing, system use may increase. Further, local preferences would become part of this decision making process.

Again, policy planners, designers, and members of the local community would implement this recommendation. Initiated by the local Planning department, a series of community engagement events would crystallize the existing situation and create a community vision for the future. This process would result in a neighborhood land use and redevelopment plan. Providing a firm foundation on which to proceed with streetcar construction, this plan would document the community vision for future neighborhood streetcar alignment (or alignment scenarios). This document would also provide valuable background information that could feed into the post-construction monitoring process. More specific aspects of the content of this public engagement process could include but would not be limited to:

- **identification of future commercial or mixed land use zones.** As mentioned previously, some participants perceived that an increased number of retail shops recently opened on 23rd Avenue north of Northrup Street. Ultimately, a streetcar system could assist “commercial creep” due to the increased access

it provides to an area. Although a mix of land uses may be desirable, a community may want to maintain strictly residential zones within their neighborhood. Thus, a community-based land use study would provide a valuable framework for locally appropriate future commercial or mixed land use. These studies could also identify favorable areas where longer-term intensification of an area should occur.

- **street typology classifications.** Although land use studies often focus on parcels of land and their current uses, one should look to the past for inspiration here. As mentioned previously in Section 2.5.1, Streetcar Main Streets historically developed as mixed use strips with similar land use regulations for both sides of the street. Consisting of a slightly different urban fabric, these streetscapes in the Northwest District are still the activity spines of the neighborhood. Further, not all streets in a neighborhood will be appropriate for the infrastructure required for streetcars or the immediate impacts stemming from them. Therefore, it would be advisable through such land use and urban design studies to identify desired street typologies and to develop community plans accordingly. Streetscape requirements such as platform shelters or cycling lanes could also be identified. The result of this work could lead to modern “streetcar main streets”.

- **dialogue-based implementation agreements.** A small minority of responses indicated feelings of deception (N=2) and others felt unhappy about an increase in taxes and levies (N=3) to help pay for the streetcar’s construction. Through public engagement, implementation issues could be worked out through a communicative process with ideas and input being provided from all interested parties.

6.3 RECOMMENDATION 2 – NEIGHBORHOOD DESIRABILITY AND HOUSING AFFORDABILITY

More than half of resident participants felt the streetcar's presence was, at least in part, attracting people to move to the neighborhood. Assuming that increased desirability will create a shortened housing supply, thus driving land and rent prices higher, the effects of this possible impact should be considered. In Portland, researchers have argued that current land use allocations will not meet expected population forecasts.¹⁰ This situation could exacerbate housing affordability in neighborhoods the streetcar runs through. Thus, prior to new streetcar line construction and perhaps part of the land use and redevelopment plans recommended above, the topic of affordable housing should be addressed by each community, or perhaps the community at large. Certainly, redevelopment and intensification should be sensitive to the neighborhood context and congruent with community goals.

This process would need to be initiated and carried out at different levels of government, along with local housing agencies. Coordination among various levels of government, housing agencies, affected communities, and Portland Streetcar, Inc. would enable a comprehensive strategy to be developed and implemented. At the community level, affordable housing options could be built into area redevelopment plans. As the encouragement of affordable housing is the fourth goal of the Streetcar Project, affordable housing could become an integral part of the streetcar planning process, initiated by non-profit Portland Streetcar, Inc. In fact, future funding initiatives from the Federal Housing and Urban Development (HUD) Department could be aimed specifically at the provision of affordable housing within proximity to the streetcar line.

¹⁰ City Club of Portland, Increasing Density in Portland, 1999, p. 46.

However, as Juri Pill suggests, decisions related to creating affordable housing must consciously be tied to overarching goals of the transit system. Pill insightfully advises:

Is the transit system intended mainly as a social service, that is, as a charity operation in the crassest sense, or as a business operation? If it is intended purely as a social service, then joint development and land development must be based on this role, for example, with low income housing related to the transit system. In that case, the overall joint development options are going to be very limited. With [such] a transit captive-only system, there is not much point in integrating overall transit planning and land use because that type of land use planning affects only a small portion of the entire community. The transit system becomes peripheral and the community will be almost totally auto-oriented.¹¹

Further, Pill insists that a transit system must strive for quality and aim at the “by choice” riders in order to not have this negative outcome.¹² Ultimately, developing a quality transit system, used by both “choice” and “captive” riders would do much to negate the possible stigma that could become associated with a recommendation such as this one.

6.4 RECOMMENDATION 3 – PARKING STUDIES

As mentioned previously, study participants perceived the streetcar system to be having relatively little impact on the local parking situation. However, a small percentage (3%) of the overall multiple responses (see Appendix 4.6) implied that the on-street parking situation was negatively affected by Downtown workers parking in the neighborhood and using the streetcar to finish their commute. Although it is certain that the perceived scarcity of on-street stalls is not entirely due to these Downtown commuters, the problem is certainly linked to a general perception that there is a shortage of stalls, both on-street and off-street. Although the commuter parking problem may have existed prior to the streetcar’s presence in the neighborhood as one local

¹¹ Pill, p. 62.

¹² Ibid.

stakeholder contends¹³, the streetcar may be a more attractive means for Downtown workers to finish their commute, thus exacerbating a pre-existing problem.

The parking topic is a fairly heated one in the area with stakeholders holding differing perspectives on how to solve the problem.¹⁴ With the existing high demand for spots in such a fine-grained mix of uses, tensions stemming from parking concerns could escalate in the neighborhood, leading perhaps to communication breakdowns or increased mistrust between interested parties. The most obvious of these tensions would arise between area residents and retailers. Seemingly, the problem has no simple answers, but should be addressed in a comprehensive fashion.

Thus, it is recommended that prior to any new streetcar line construction, a parking study of the affected neighborhoods be conducted. This study could be initiated by the local Office of Transportation, coordinated with local policy planners, and involve the affected community – residents and retailers alike. Further, parking studies would ideally be coordinated with the neighborhood land use studies recommended in Section 6.2. Seemingly, non-residents will take advantage of free parking in a neighborhood near Downtown, perhaps using public transit to end their commute (especially if the fare of this mode is not consistently supervised). With local concerns in mind, the study and community consultation process would hopefully result in a positive outcome for locals, while keeping on-street parking stalls free of Downtown workers' automobiles.

6.5 RECOMMENDATION 4 – ONGOING MONITORING

The fourth and final recommendation of this study first involves the development of an impact monitoring framework that would ideally be developed prior to any future streetcar construction. After the development of such a framework, monitoring system

¹³ Singer, Don, Principal, Singer Properties, personal communication, March 30, 2004.

¹⁴ Classen, "FED UP and Petitioning For Parking Relief," p. 4.

impacts would occur post-construction and on a long term basis. Although most of the emphasis here could be placed on the post-construction monitoring, the effectiveness of this long term exercise will largely be reflected in the thought and effort placed in the development of the pre-construction framework. In other words, the development of a broad-based, well-researched monitoring framework will greatly influence the usefulness of the data that is ultimately collected and is thus of the utmost importance.

With this in mind, monitoring of any streetcar system's impacts should be a long term exercise and be based on two main objectives. First, monitoring would assist in the ongoing evaluation and improvement of the system. Second, ongoing monitoring should inform policy recommendations regarding new streetcar tracks.

Ongoing monitoring would help pinpoint certain negative effects of the system, such as an increased fear of crime or an increase in spillover traffic on a particular street due to the system's presence in the area. These effects would become known through a monitoring system, and could thus be mitigated. It is recommended that ongoing monitoring should be undertaken in a comprehensive fashion, since many of the phenomena associated with the system's newfound presence in the area are of an interrelated nature. Further, as a major objective of this monitoring would be to understand previously unknown negative affects of the system, the process should in a sense "cast a wide net" over the study area. The means and techniques to be used for such monitoring should be developed locally, through a collaborative effort involving public administrators, planners, community association members, business owners, and citizens. The monitoring should be driven by the need to better understand system interrelationships based on local contexts.

Further, although this study focused on impact perceptions, monitoring could also include the collection of empirical data such as the decibel level emitted from the streetcars. These two sets of data could then be explored and compared. Attitudinal

data and technical data can differ, as was the case in the BART study's noise impact question.¹⁵ Through ongoing monitoring, there exists an opportunity to evaluate perceptions and empirical data to compare the two and thus engage in education.

Ongoing monitoring would also inform future policy recommendations regarding new streetcar tracks. This monitoring would be extremely valuable to politicians, communities, and the streetcar organizers in Portland. Further, with the current level of interest brewing for this transit mode, information gathered through monitoring could also be valuable for such groups in other cities across North America. Although learnings gleaned from monitoring will often be context specific, post-construction monitoring would be crucial in determining the impacts, both real and perceived, such a transit system is having and could provide valuable lessons for others hoping to embark on just such a project.

An implementation strategy for this ongoing monitoring would be essential. Such a strategy should be developed through a consultative process between policy planners and the affected communities. Once developed, planners and community representatives should administer systematic monitoring. The results from such a process should be presented periodically to local politicians and Portland Streetcar, Inc., to help inform future expansion of the streetcar system. In this way, a positive feedback loop would be initiated, whereby monitoring, conducted by community members and planners, would inform future streetcar development and help mitigate existing problems.

¹⁵ Baldassare, p. 225.

6.6 SUMMARY OF RECOMMENDATIONS

The findings of this study have illuminated many issues related to the development of new streetcar systems in other North American cities. It is believed the process undertaken here will help educate other municipalities looking at the streetcar transit mode as an alternative or supplement to their existing systems. An analysis of the findings uncovered in the Northwest District of Portland, Oregon has led to the development of three lessons learned and four recommendations. The lessons learned identified here may be most beneficial to Portland officials by improving the existing situation, yet it is hoped that these lessons may also prove insightful to other cities looking to construct a streetcar system in their community. Conversely, study recommendations are mainly intended to assist those municipalities planning to construct a new streetcar system in their city, yet these recommendations could also prove useful as the Portland streetcar system expands into new communities.

Again, the first three recommendations can be viewed as processes occurring pre-construction, while the process associated with the last recommendation would be initiated pre-construction and then be followed through on a long term, post-construction basis. A summary of these recommendations, starting from that of highest priority, is as follows:

1 – LAND USE AND URBAN DESIGN STUDIES

2 – NEIGHBORHOOD DESIRABILITY AND HOUSING AFFORDABILITY

3 – PARKING STUDIES

4 – ONGOING MONITORING

These recommendations should serve as a guide, assisting other municipalities in the preparation and ongoing evaluation of future streetcar tracks within their jurisdiction. These four items should be addressed in order to minimize the negative

consequences that may be associated with new streetcar system implementation. Studies and evaluations beyond these offered may also be necessary, depending on the particular context and conditions associated with new streetcar proposals. Further, findings and learnings of this study not developed into full recommendations may also prove useful to other municipalities considering the streetcar mode. Most importantly, any findings reported here should be considered contextually. Findings elucidated here should be viewed through an adaptative lense, with the specific conditions and characteristics of potential neighborhoods serving as guideposts for the way future streetcar systems will be developed.

6.7 CONSIDERATIONS FOR FUTURE RESEARCH

During the course of this study, a number of interesting future research topics have arisen. Fruitful studies could be undertaken on the following topics:

- *A comparative impact study between Light Rail and streetcars.* Within a study area where LRT and streetcars both serve a local population, research could shed light on how the two modes are perceived differently. Such a study could also help distinguish the two modes from one another.
- *A comparative impact study between buses and streetcars.* Within a study area where buses and streetcars both serve a local population, research could shed light on how the two modes are perceived differently and how their impacts vary. Such a study could also help shed light on the question, “Is a streetcar really necessary?” A small minority in this study felt the streetcar was an unnecessary luxury. One might assume that they feel that much cheaper and more mobile buses could fulfill the service a streetcar system provides. A comprehensive study comparing a bus route to a streetcar line would provide valuable insight into how the two modes are

perceived differently, what their broader impacts might be, and what the true difference in their life-cycle costs and benefits might be.

- From the Fisher's Exact Test, *a significant relationship was discovered between system "users / non-users" and the ordinal breakdown of the visual impact question.*

Seemingly, those that do not use the system seem to like the looks of it less, and vice versa. A surprising outcome of the FET, this relationship could be investigated in greater detail.

- Along the same lines, 7.3 percent of multiple responses indicated *the streetcar's infrastructure enhanced the physical environment of the neighborhood.* This topic is of particular interest to this researcher and many studies could arise from this aspect of the system.

- Atkinson states that *transit systems may reinforce neighborhood desirability.* Investigating the extent of this influence on people's locational decisions, and what transit variables are most important in these decisions, could prove to be a worthwhile study.

- Multiple responses to this study indicated *locals perceived the streetcar to be assisting in the intensification of the retail strip along 23rd Avenue, north of the Grace Legacy Hospital complex.* The historical relationship of streetcars to commercial streets surely exists, but an interesting economic development study could be initiated that examines the contemporary link between this type of transit mode and commerce.

- U.S federal funds paid almost one-tenth the cost of the Portland streetcar. A study could be completed determining *how the American federal transportation funding process could possibly be adapted to the Canadian context,* and what barriers there may be to the creation of such a system.

- Several car-sharing branches are located in the Northwest District. As this vehicle service is known to work well in conjunction with public transit,¹⁶ a study could be conducted on the *potential symbiosis that may exist between streetcar transit and car-sharing*.
- Geographic scope seems to be just as important as quality and relative speed when attempting to get “choice” riders to use transit. This scope relates to the ability of citizens to reach most of the urban places they need – and want – to reach on a high quality, relatively fast transit service. What scope needs to be covered in order to get “choice” riders to get rid of their cars? Future study could attempt to shed light on *the importance of critical geographic scope* of quality transit.
- Economically, there are some who will reap the benefits of this system. It would be extremely valuable to conduct a study on this process in order to determine *who the economic winners here are*. This knowledge could go a long way toward assisting other municipalities in setting up future cost-sharing agreements.

These are just a few possible examples of future research that could be conducted on this topic. Research on any of these ideas would surely provide helpful information, which will enhance the process of creating more dynamic cities.

6.8 CONCLUSION

Researcher Mark Baldassare stresses the importance of understanding perceptions in determining transit systems’ impacts on the local environment and “in analyzing specific attributes that have had a negative impact” on a system’s

¹⁶ Craig, Matt, Translink Transit Planner and Car-Sharing Researcher, personal communication, October 22, 2004.

surroundings.¹⁷ In line with Baldassare's thinking, this study has investigated eleven possible impacts of the Portland streetcar system. It has done so utilizing an eclectic mix of information gathering and analysis. Through this approach, this researcher has intended to give voice to those with whom this research has been undertaken, voices often unheard by those in decision-making positions. The goal in doing this has not been to discover the *truth* about the complex interrelationships that exist in the local area, but to elucidate local perceptions through a variety of means.

The purpose of this research was to investigate how affected residents and retailers perceive the Portland streetcar system and its impacts, post-construction. Although some critics of the Portland streetcar system may see it as a rather slow and expensive medium of public transport, this study's participants largely perceive the impacts investigated here to be positive or neutral. The findings of this study, including the lessons learned and final recommendations, have identified the somewhat negatively perceived aspects of the system in its interface with existing communities. It is hoped that these findings provide insight into the perceived ramifications of such a system and assist in enhancing future scenarios where streetcar tracks may be laid, thereby helping future streetcar system builders learn from Portland's example. In conclusion, it was Lewis Mumford that advised us to create transportation systems that offer a change of speed and mode to fit a diversity of human purposes.¹⁸ To follow along this path that Portland is blazing will require political will, courage, and commitment, but the resulting transportation systems that get built would certainly have been looked favorably upon by one of the most influential thinkers of our time.

¹⁷ Baldassare, p. 205.

¹⁸ Mumford, Lewis, The Highway and the City, 1964, p. 178.