

Research on Citizen's Evaluation of Urban Public Service in Curitiba

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クリチバの都市政策に関する市民評価

Abstract

Curitiba, the capital of state of Parana and its largest city, has been known for its innovative urban planning policy and has been praised for its success in urban planning world-wide. However, its innovativeness seems to peak in early 1990s, when Jaime Lerner was the mayor for the third term. Curitiba is still perceived as the international brand in the city planning circle to this day, however, there were some factors that were starting to undermine its planning and governance model in Curitiba. How do people in Curitiba perceive today's planning policy? Do they still appreciate, or do they despair its current planning policy? To answer this question, questionnaire survey was conducted to the citizen of Curitiba. The objective of this research is to clarify how people in Curitiba evaluate the current planning policy and to comprehend the level of its erosion if there are any.

The questionnaire survey was conducted in August of 2016. The questionnaire asked several questions to understand what citizen of Curitiba appreciated and what they did not appreciate in terms of urban policy of Curitiba. It also tried to grasp how people saw the recent change of urban condition, whether positive or negative. The actual questionnaire is attached in the appendix. Overall, there were 394 responses. 49.9% of respondents evaluated the overall policy "very good" or "good," compared to 15.8% of respondents evaluated "bad" or "very bad."

According to policies, "Park Management" was the highest evaluated public service, and "Traffic Management" was the lowest evaluated public service. The issues with "Traffic Management" that mentioned were "lack of planning," "lack of respect toward public transport," "increase in the number of private vehicles," "poor administration by URBS." The respondents were asked how they evaluate the change of the nine public services since they first came to Curitiba. More than 50% of respondents replied that "park management" has been improving. The services that many people perceived as getting worse are "Traffic Management" and "Road Maintenance."

The study also analyzed the difference among respondents' attributes. There are differences between Age Structure for five nine public services that were surveyed. There are no differences between their opinion toward public services depending on respondents' birthplace besides Historical Preservation. The research found that citizens were quite satisfied and recognize the improvement with public services regarding urban design, however, it also revealed that they are not satisfied and recognize the retrogression with management of public services.

Keywords

Curitiba, Questionnaire Survey, Evaluation of Public Services

要 旨

パラナ州の州都であり、同州最大の都市であるクリチバは、革新的な都市計画政策で知られ、その都市計画の成功は世界的に高く評価されている。しかし、その革新性はジャイメ・レルネル市長が3期目を務めた1990年代初頭にピークを迎えた。クリチバの都市計画政策は今日に至るまで国際的にも高く評価されているが、果たして、現在でもそのように実際の市民は捉えているのであろうか。この問いに答えるために、本調査ではクリチバ市民を対象にアンケート調査を実施した。その目的は、クリチバの人々が現在の計画政策をどのように評価しているかを明らかにすることである。

アンケート調査は2016年8月に実施された。全体では394の回答数があった。政策全体に対する評価は、「非常に良い」、「良い」が49.9%であったのに対し、「悪い」、「非常に悪い」は15.8%であった。政策別では、「公園管理」が最も評価が高く、「交通管理」が最も評価が低かった。クリチバに住んで、公共サービスがどのように変化したかの評価では、回答者の50%以上が「公園の管理」が改善されていると回答し、多くの人が悪化したと上げたのは「交通管理」と「道路整備」であった。

キーワード

クリチバ, 政策評価, アンケート調査

1 Introduction

1.1 Objective of the Research

Curitiba, the capital of state of Parana and its largest city, has been known for its innovative urban planning policy and has been praised for its success in urban planning world-wide (Rabinovitch, 1996; Hattori, 2004; Macedo, 2004; Irazábal, 2005; Santos, 2011). Especially in 1990s, Curitiba became as a poster-child of good planning makes good cities. Jaime Lerner, the mayor of Curitiba from 1989 to 1992 became a prominent figure in urban planning circle which led him to become the president of the International Union of Architects in 2002.

However, there has been more than 20 years since Jaime Lerner has withdrawn from political arena. A lot has changed regarding the Curitiba's policies since then. Curitiba is still perceived as the international brand in the city planning circle to this day, however, Irazábal indicated that there were some factors that were starting to undermine its planning and governance model in Curitiba (Irazábal, 2005, p.9). Her assumption was

based on observation, participant observation, structured and semi-structured interviews, media content analysis, but how do people in Curitiba perceive today's planning policy? Do they still appreciate, or do they despair its current planning policy? To answer this question, questionnaire survey was conducted to the citizen of Curitiba. The objective of this research is to clarify how people in Curitiba evaluate the current planning policy and to comprehend the level of its erosion if there are any.

1.2 Methodology

The questionnaire survey was conducted in August of 2016 by the author with the help of Sandra Nakamura of Ecotechnica Institute. The questionnaire was distributed by two approaches. One approach was distributing them on several communal meetings. The questionnaire that was printed on paper was distributed and collected at the meetings. The other approach was through the Internet. The questionnaire was posted on the internet and the students in Catholic Panama University was asked to participate in the questionnaire with help from its professors.

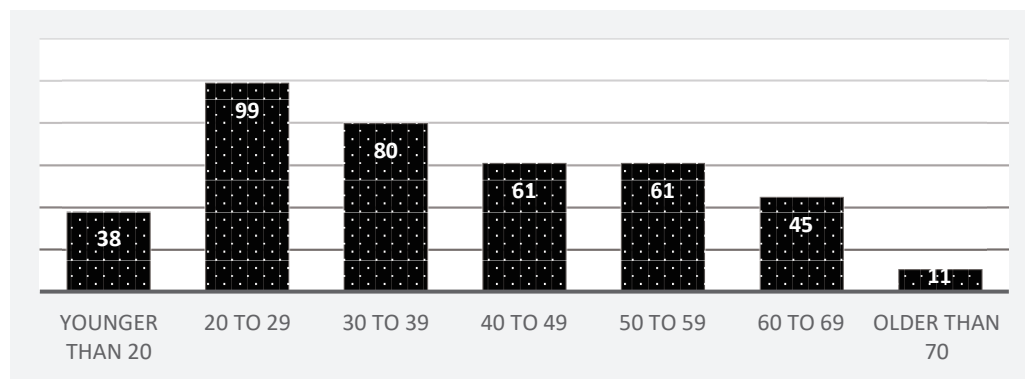


Figure 2-1 Number of respondents by their age

The questionnaire asked several questions to understand what citizen of Curitiba appreciated and what they did not appreciate in terms of urban policy of Curitiba. It also tried to grasp how people saw the recent change of urban condition, whether positive or negative. The actual questionnaire is attached in the appendix.

1.3 Curitiba

Curitiba is the capital city of the Parana state in southern Brazil and is widely regarded as a global model for urban planning and sustainable development. It has a population of 1.74 million people in 2022.

The city is known for its innovative approaches to urban challenges. Curitiba has implemented policies and systems that prioritize environmental sustainability, public transport, and quality of life for its residents (Rabinovitch, 1996; Hattori, 2004; Macedo, 2004; Irazábal, 2005; Santos, 2011; Hattori, 2024). Especially, in the field of public transport, Curitiba has introduced Integrated Transportation System that later became to be known as Bus Rapid Transit (BRT) System. The first of its kind, the BRT features dedicated bus lanes, pre-paid boarding stations, and bi-articulated buses that operate like a surface subway, efficiently moving large numbers of passengers with much lesser cost than actual subway (Hattori, 2004). The land use planning has been integrated with the BRT system, with

high-density residential and commercial areas only permitted to be developed along major BRT corridors. For the sustainable aspects of its policy, Curitiba has been creating green spaces and parks to prevent urban sprawl and protect the environment. This policy has resulted in providing over 50 square meters of green space per habitant, one of the highest even in a global scale (Hattori, 2004). These innovative policies and their implementation have resulted in high quality of life, economic growth, and citizens' high satisfaction (Hattori, 2004; Irazábal, 2005). Curitiba's model has been studied and replicated in cities across the globe, particularly its BRT system (Nakamura, 2006; Henschler 2008; Toyama, 2012; Rogat, 2015). Curitiba's planning policies demonstrate how innovative and holistic urban management can create a sustainable and equitable city, even in the face of limited resources (Hattori, 2004).

2. Result of Questionnaire Survey

2.1 Profile of Respondents

Overall, there were 394 responses. 329 responses were by paper and 65 by the Internet. Of all the respondents, 234 were female and 157 were male. In terms of age structure, it was fairly evenly distributed (Figure 2-1). 47% of the respondents were born in Curitiba. 27% of the respondents were born out of Parana State.

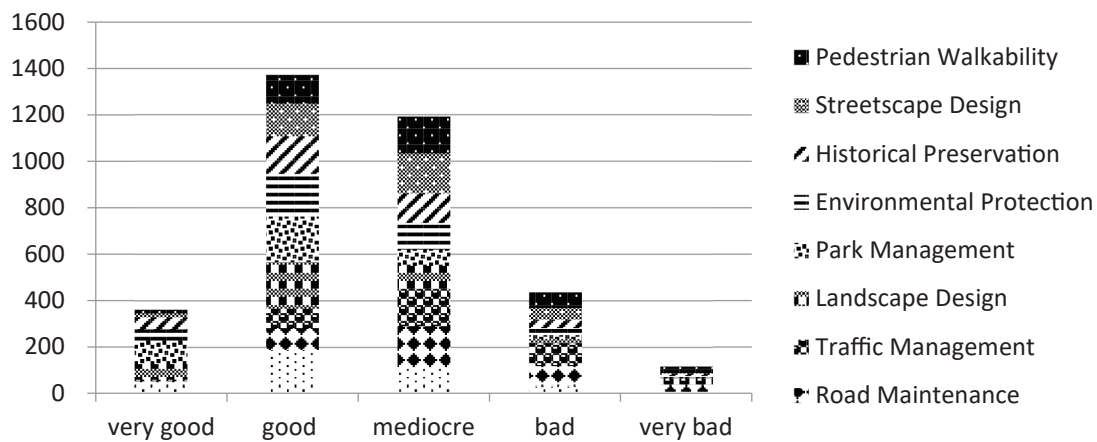


Figure 2-2. Overall evaluation of Curitiba's Public Service

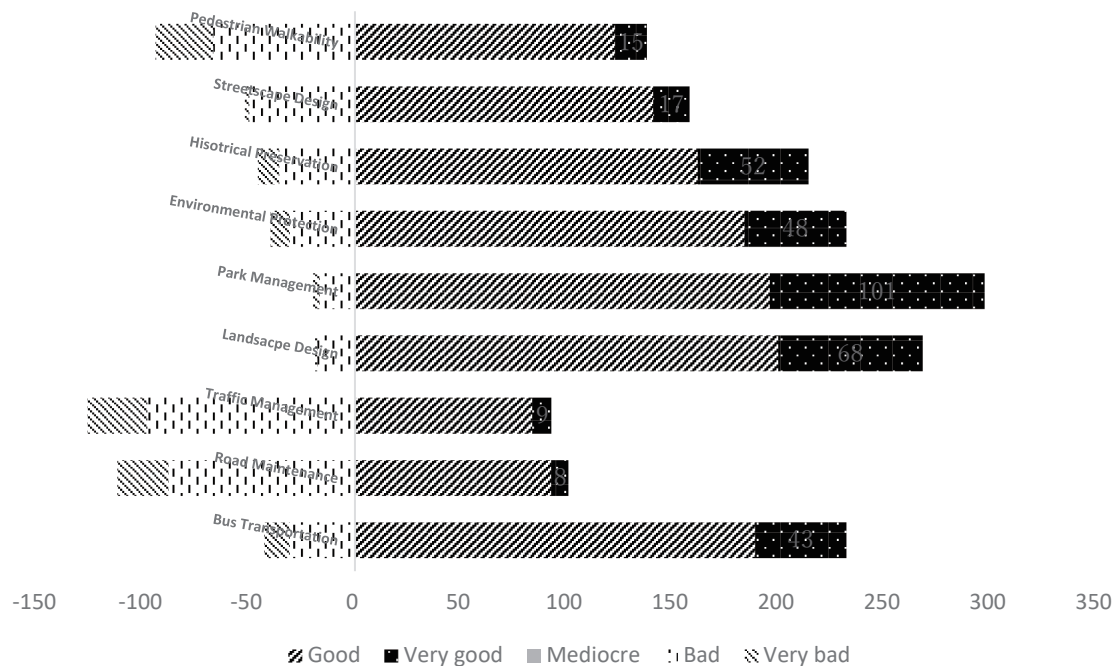


Figure 2-3. The respondents' evaluation of the nine public services

2.2 Overall Evaluation

2.2.1 Respondents' evaluation

Respondents were asked to grade nine public services into five categories: very good; good; average; bad; and very bad. Overall, people have positive evaluation toward Curitiba's urban policy. 49.9% of respondents evaluated the overall policy "very good" or "good," compare to 15.8% of respondents evaluated "bad" or "very bad." (Figure 2-2).

Figure 2-3 and Figure 2-4 indicates the respondents' evaluation of the nine public services and its ratio, respectively. Table 2-1 depicts how each public service is evaluated.

"Park Management" is the highest evaluated public service with 76.5% of respondents evaluating it as "very good" or "good" and only 5.2% evaluating it as "bad" or "very bad." Landscape Design is the second highly evaluated public service.

"Traffic Management" is the lowest evaluated public service with 33.2% of respondents evaluating it as "bad" or "very bad." "Road Maintenance" is the second lowly evaluated public service.

Overall, respondents recognize that the city of Curitiba has been conducting fairly well in the field of environmental and land-

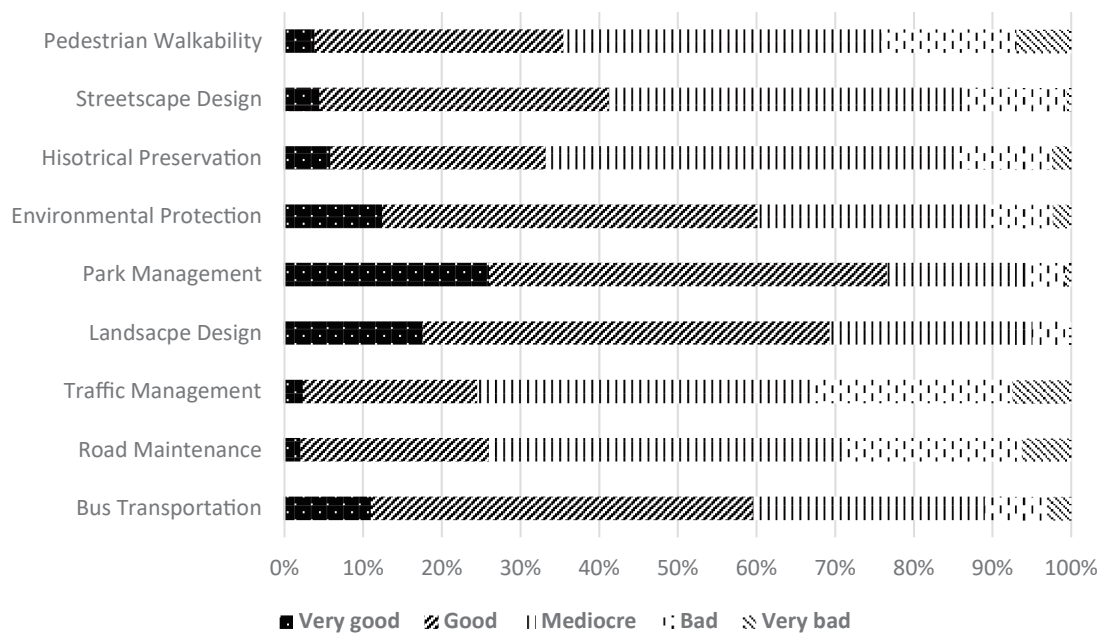


Figure 2-4. The respondents' evaluation of the nine public services (ratio)

Table 2-1. Evaluation of each public service

Overall Evaluation	Public Service	The ratio of "Very Good and Good"	The ratio of "Very Bad and Bad"
Highly evaluated	Park Management	76.5%	5.15%
	Landscape Design	69.2%	4.91%
Overall good evaluation	Environmental Protection	60.1%	10.3%
	Bus Service	59.5%	11.0%
	Historic Preservation	55.3%	11.9%
Relatively good evaluation	Streetscape Design	41.2%	13.6%
Split of opinions	Pedestrian Walkability	35.5%	24.1%
	Road Maintenance	26.0%	28.9%
	Traffic Management	24.5%	33.2%

scape design, but poorly in the field of traffic issues including the walkability of pedestrians.

2.2.2 How they evaluate the change

The respondents were asked how they evaluate the change of the nine public services since they first came to Curitiba. Figure 2-5 shows respondents' evaluation of how public services have changed since they first came to Curitiba. Majority of respondent answered there has been no change or a little

bit of improvements in terms of public services.

Figure 2-6 and Figure 2-7 indicates how the change of each public service has been evaluated and its ratio by respondents. More than 50% of respondents replied that "park management" has been improving. The services that many people perceived as getting worse are "Traffic Management" and "Road Maintenance." In terms of "Bus Service," their opinion splits. 45% of respondents answered,

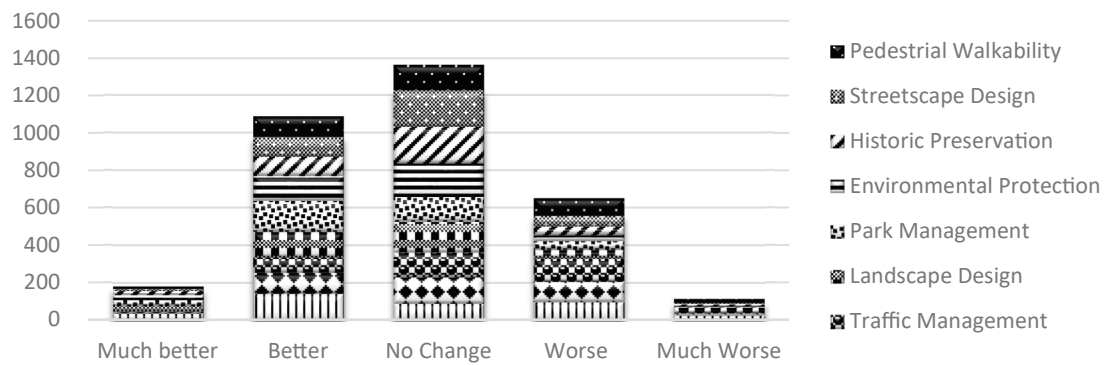


Figure 2-5 Evaluation of how public services have changed

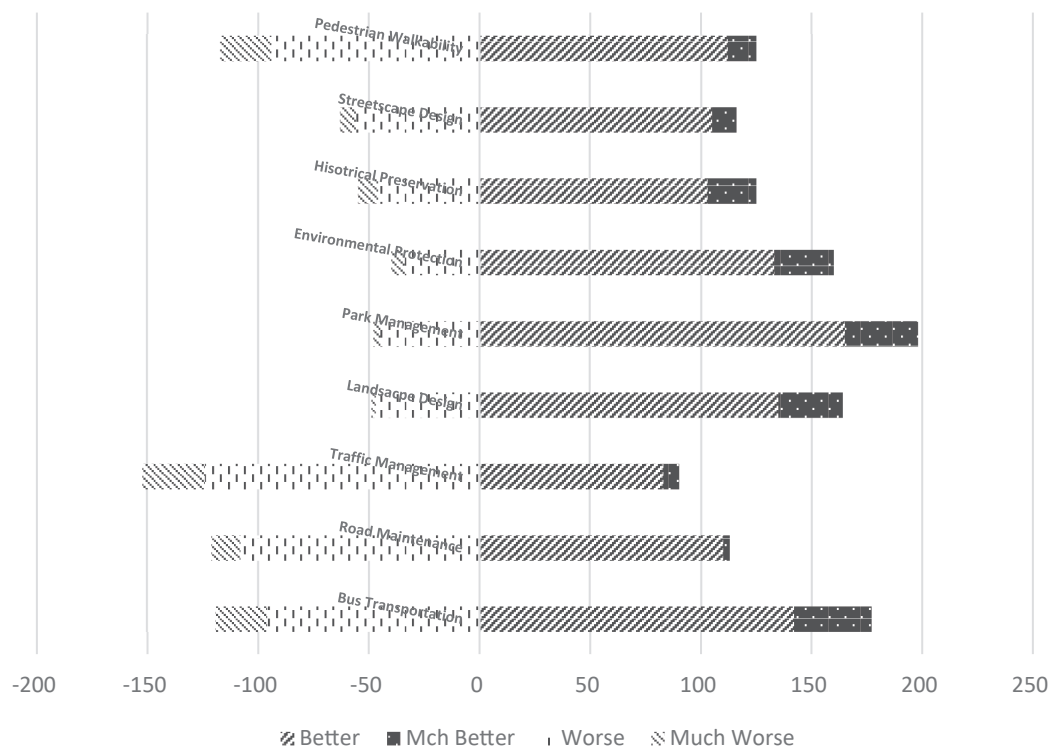


Figure 2-6 How the change of each public services been perceived

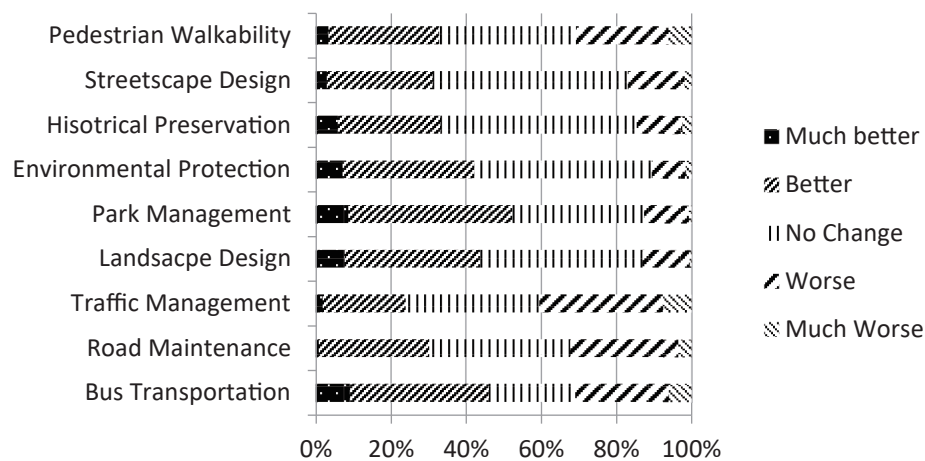


Figure 2-7. How the change of each public services been perceived (ratio)

Table 2-2. The evaluation of change of public services into four categories

	Public Service	The ratio of "Much Better and Better"	The ratio of "Much Worse and Worse"
Improved significantly	Park Management	52.2%	12.7%
	Landscape Design	43.7%	13.1%
	Environmental Protection	42.2%	10.6%
Improved Somewhat	Historic Preservation	33.2%	14.6%
	Streetscape Design	31.2%	16.9%
Split of Opinions	Bus Service	46.1%	31.0%
	Pedestrian Walkability	32.9%	30.8%
	Road Maintenance	30.2%	32.4%
Deteriorated somewhat	Traffic Management	24.0%	40.5%

Table 3-1. P-value by gender

Public Services	P-Value
Bus Transportation	0.157
Road Maintenance	0.712
Traffic Management	0.018
Landscape Design	0.123
Park Management	0.260
Environmental Protection	0.338
Historical Preservation	0.664
Streetscape Design	0.003
Pedestrian Walkability	0.838

"it has improved," whereas 30% answered "it has receded."

Table 2-2 categorized the evaluation of public services to four categories. Out of nine services, respondents evaluated the change of three services quite positively (Park Management, Environmental protection, and Landscape Design), two service improved somewhat (Historic Preservation, Streetscape Design), and "traffic management" receded. Three services had split of opinions (Bus Service, Pedestrian Walkability, and Road Maintenance).

3. Analysis

This chapter intends to find if there is

any difference by respondent's attribute regarding their evaluation of the nine public services.

3.1 By Gender

3.1.1 P-Value by Gender

Table 3-1 shows the P-value on the nine public service evaluation by gender. The topics that are evaluated differently by gender are "Streetscape Design" and "Traffic Management." The two public services are delved deeper into their differences.

3.1.2 Traffic Management

Figure 3.1 shows the evaluation of "Traffic Management" by gender. Male respondents have both negative and positive opinion

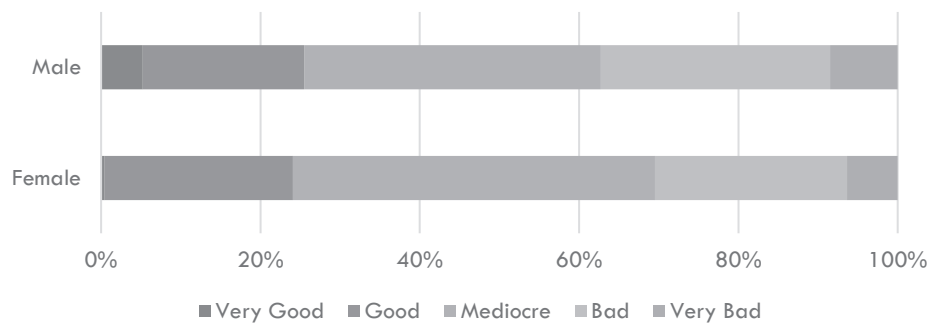


Figure 3-1. The evaluation of "Traffic Management" by gender

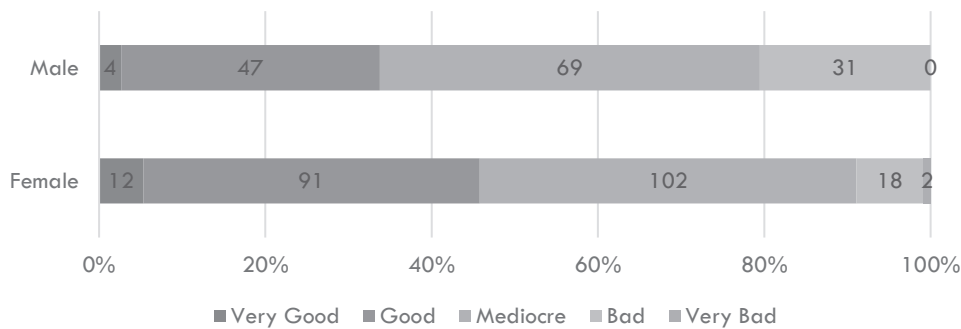


Figure 3-2. The evaluation of "Streetscape Design" by gender

Table 3-2. P-value by age structure

Public Services	P-Value
Bus Transportation	0.003
Road Maintenance	0.000
Traffic Management	0.002
Landscape Design	0.074
Park Management	0.010
Environmental Protection	0.230
Historical Preservation	0.077
Streetscape Design	0.312
Pedestrian Walkability	0.000

regarding this matter than female respondents. It can be assumed that male respondents are more opinionated than female respondents regarding traffic management.

3.1.3 Streetscape Design

Figure 3-2 shows the evaluation of "Streetscape Design" by gender. Male respondents have a much more negative opinion regarding this matter than female respondents.

3.2 By Age Structure

3.2.1 P-Value

Table 3-2 shows the P-value on the nine

public service by age structure. There are differences between Age Structure for "Bus Transportation," "Road Maintenance," "Traffic Management," "Park Management," and "Pedestrian Walkability." Overall, public policies regarding management issues see the disparity among opinions by age structure. Urban design policies seem to have similar opinions among all ages. The following sections will dissect the difference by age structure for public services that have different opinions by age structure.

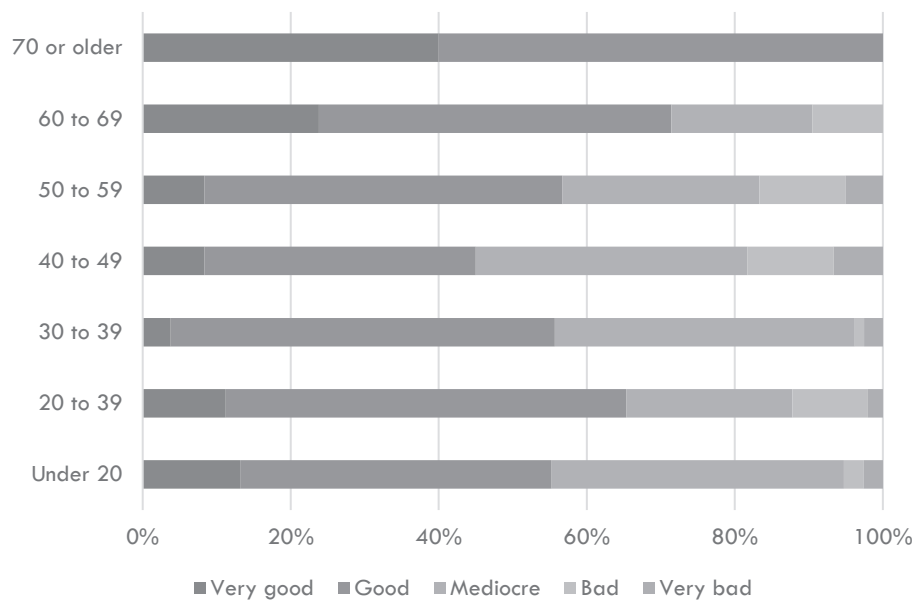


Figure 3-3. The evaluation of "Bus Transportation" by age structure

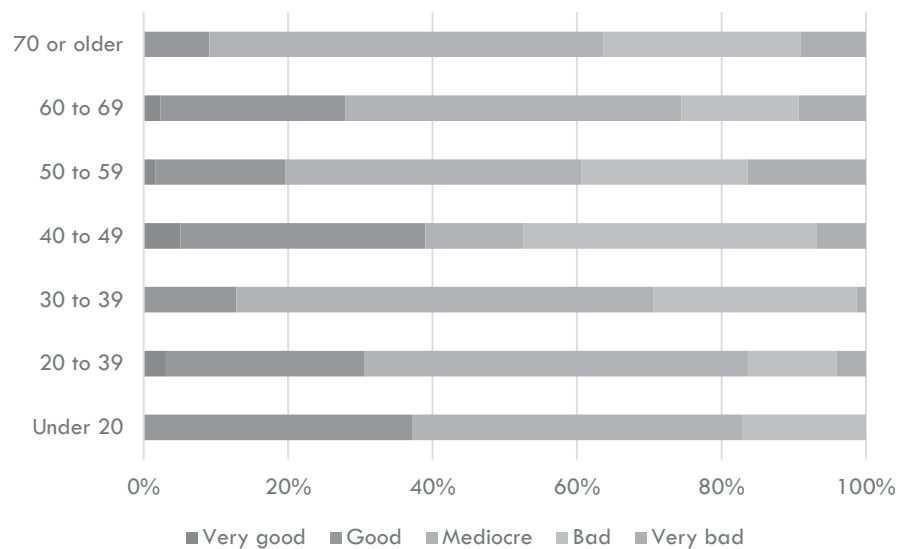


Figure 3.4 The evaluation of "Road Maintenance" by age structure

3.2.2 Bus Transportation

Figure 3-3 shows that older generation (older than 50 years old) tend to evaluate "bus transportation" service higher than that of younger generation. The most severe evaluation came from 40 to 59.

3.2.3 Road Maintenance

Figure 3.4 shows that nearly 50% of respondents whose age are 40 to 50 years old have answered that "road maintenance" is "bad" or "very bad", followed by the age group of "50 to 60 years old." 16% of respon-

dents whose age are 50 to 60 years old answered that "road maintenance" is "very bad." This is few public services that "70 or older" has a harsh opinion.

However, why such a disparity among age groups? There was also a significant statistical difference between these two factors comparing relation between age groups and car ownership. It indicates that certain age groups have higher car ownership than others. If you calculate the P-value of car-ownership by each age group for the evaluation of "road maintenance", there seems to be that

Table 3-3. P-Value of car-ownership for the evaluation of “road maintenance by age group

Age Group	P-Value
20 or younger	0.968
20-30	0.020
30-40	0.052
40-50	0.047
50-60	0.150
60 years or older	0.106

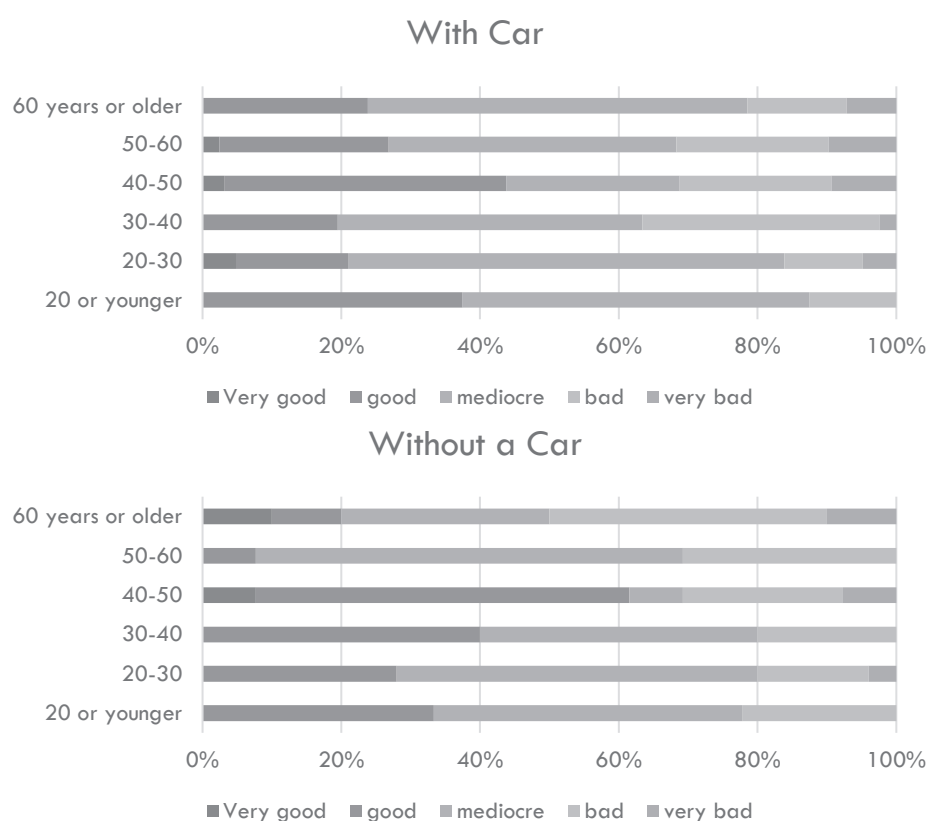


Figure 3-5. The evaluation of “road maintenance” by age group with car and without a car.

not much of a difference except age between 20 to 40 (Table 3-3).

Figure 3-5 shows the evaluation of “road maintenance” by age group with car and without a car. As these figures indicate, respondents under age 50 tends to evaluate “road maintenance” generously when they do not own a car, but this tends to turn around when respondents are older than 50 years old. When respondents are older than 50 years old, respondents who do not own a car tend to have severe opinion than who owns a car.

3.2.4 Traffic Management

Figure 3-6 shows that “50 to 59 years old” has the highest percentage of “very bad” respondents. Overall, this generation and “40 to 49 years old” has 40% or more negative response (“bad” or “very bad”). Only “70 or older” has some positive response for “traffic management.” Respondents that are older than 60 years old tend to have a positive view of traffic management.

3.2.5 Park Management

Figure 3-7 shows that 39 years old and

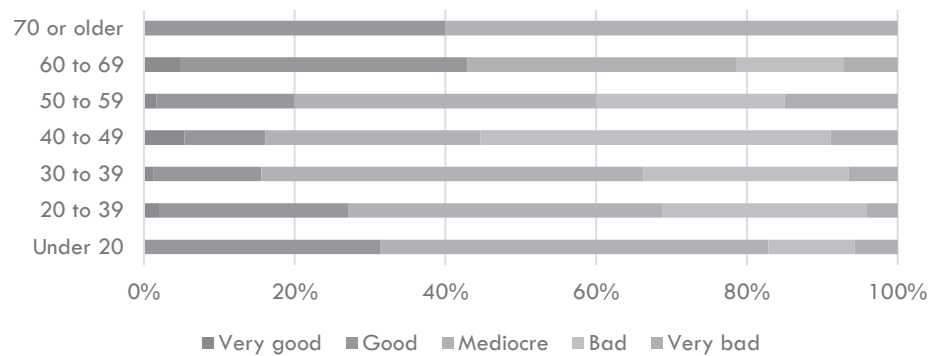


Figure 3-6 The evaluation of "Traffic Management" by age structure

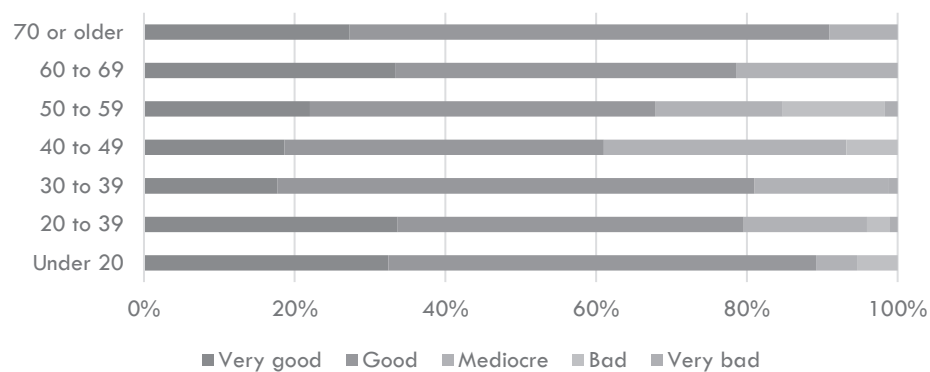


Figure 3-7 The evaluation of "Park Management" by age structure

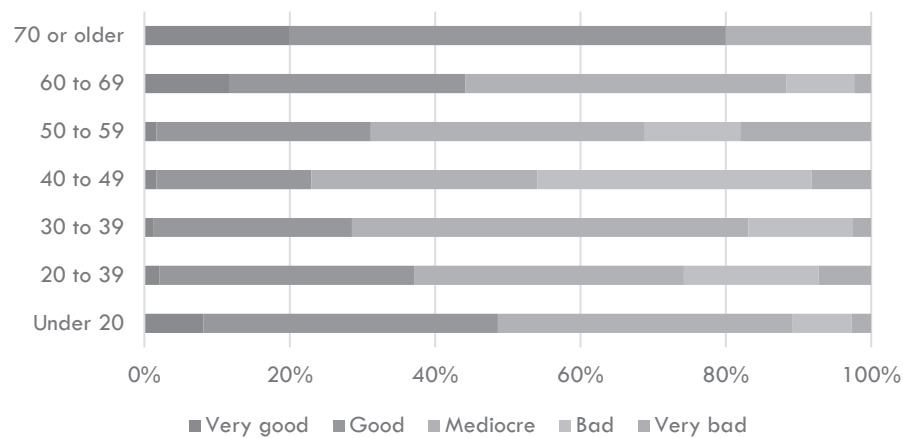


Figure 3-8 The evaluation of "Pedestrian Walkability" by age structure

younger has much more positive view of "park management" than others. 40 to 59 years old has a relatively most negative opinion regarding "park management."

3.2.6 Pedestrian Walkability

Figure 3-8 shows that "40 to 49 years old" have the negative opinion regarding "pedestrian walkability." Nearly 20% of "50 to 59 years old" respondents have answered that they are "very bad." "70 or older," "60 to 69

years old," and "under 20" have a positive opinion. "70 or older" have no negative opinion at all.

3.3 By Respondent's Birthplace

3.3.1 P-Value

Table 3-4 shows the P-value on the nine public service by respondent's birthplace. There are no differences between their opinion toward public services depending on Birthplace besides Historical Preservation.

Table 3-4. P-value by respondent's birthplace

	P Value
Bus Transportation	0.485
Road Maintenance	0.088
Traffic Management	0.785
Landscape Design	0.277
Park Management	0.130
Environmental Protection	0.213
Historical Preservation	0.068
Streetscape Design	0.804
Pedestrian Walkability	0.677

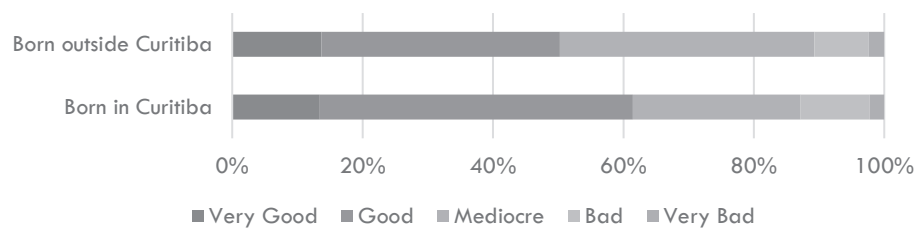


Figure 3-9. The evaluation of "Historical Preservation" by respondent's birthplace

Table 3-5. P-value by where people live

Public Services	P Value
Bus Transportation	0.033
Road Maintenance	0.009
Traffic Management	0.006
Landscape Design	0.062
Park Management	0.000
Environmental Protection	0.108
Historical Preservation	0.002
Streetscape Design	0.003
Pedestrian Walkability	0.001

3.3.2 Historical Preservation

Figure 3-9 indicates that respondents' opinion regarding "historical preservation" in Curitiba. Respondents who are born in Curitiba is much more opinionated than respondents who were born outside of Curitiba.

3.4 Where Respondents Live

3.4.1 P-Value

Table 3-5 shows the P-value on the nine public service by where respondents live. Beside "landscape design" and "environmental protection," the evaluation of public policies

differs depending on where respondents live. This indicates that public service differs by the area and there may be a discrimination in terms of geography. If so, it should be modified.

Figure 3-10 shows the evaluation of "Bus Transportation" on where respondents live. Respondents living in Cajuru district stand out in a sense that they have the most negative view regarding bus transportation service. Respondents living in Matriz, and CIC seem to be content with the service.

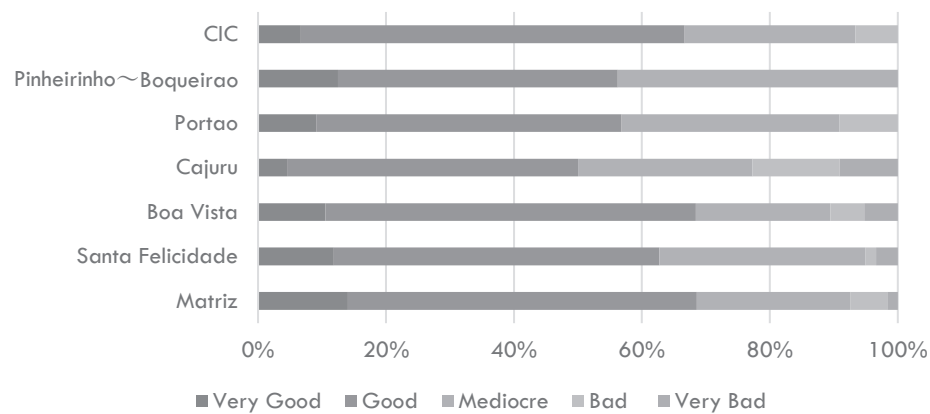


Figure 3-10. The evaluation of "bust transportation" by where people live

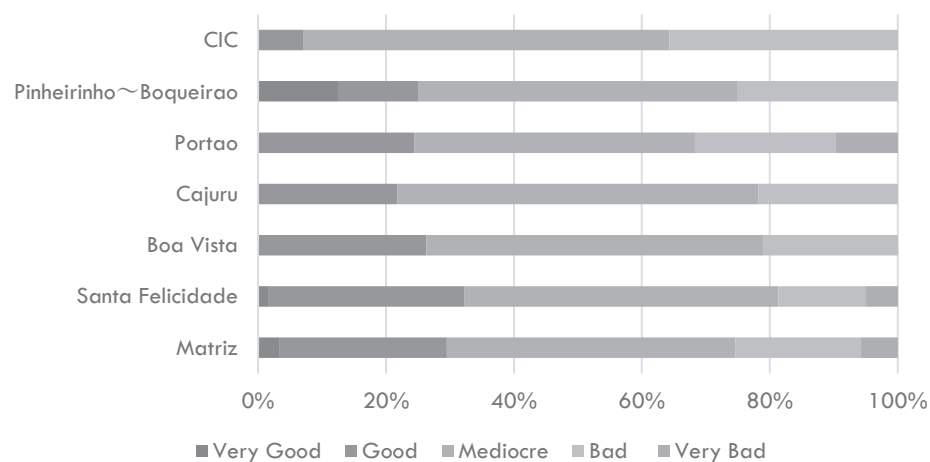


Figure 3-11. The evaluation of "Road Maintenance" by where people live

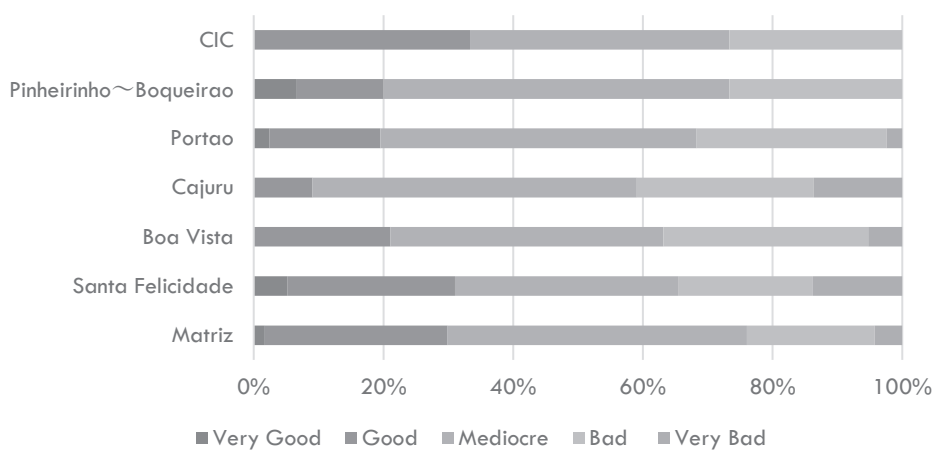


Figure 3-12. The evaluation of "traffic management" by where people live

3.4.2 Road Maintenance

Figure 3-11 shows the evaluation of "Road Maintenance" on where respondents live. Respondents living in southern suburban neighborhoods of Pinheirinho, Boqueirao, and Barrio Novo have a relatively positive opinion regarding "road maintenance" than the other

part of the city. Respondents living in CIC and Portao has a relatively negative opinion.

3.4.3 Traffic Management

Figure 3-12 shows the evaluation of "Traffic Management" on where respondents live. Certain number of respondents living in

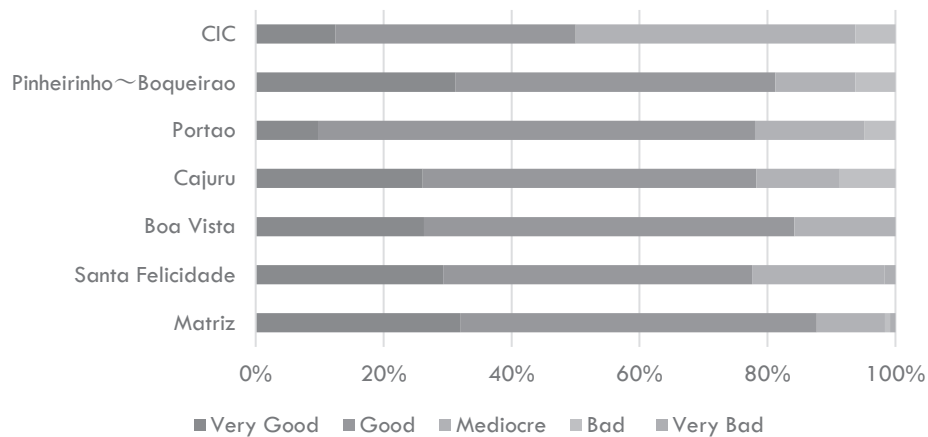


Figure 3-13. The evaluation of "traffic management" by where people live

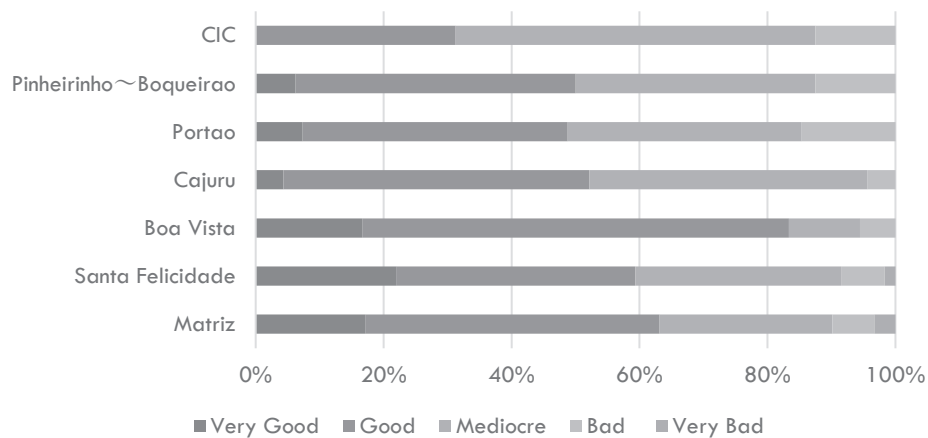


Figure 3-14 The evaluation of "historical preservation" by where people live

Cajuru, and Santa Felicidade have a quite negative opinion regarding traffic management. 14% of Respondents living in both neighborhoods evaluated the city's traffic management being "very bad." In contrast, respondents living in suburban neighborhood of Pinheirinho, Boqueirao, and Bairro Novo has a more positive view of traffic management than the rest of the neighborhood.

3.4.4 Park Management

Figure 3-13 shows the evaluation of "Park Management" on where respondents live. Three neighborhoods (Boa Vista, Santa Felicidade, and Matriz) have a fairly positive opinion. On contrary, respondents living in CIC seem not to be impressed with "park management" service as much as respondents living in the other area.

3.4.5 Historical Preservation

Figure 3-14 shows the evaluation of "historical preservation" on where respondents live. There is a difference of opinion depending on where respondents live. Respondents living in Santa Felicidade and Matriz, where a lot of historical buildings are located, have both positive and negative opinions. Respondents living in Boa Vista have an overall good evaluation. Residents living in CIC seems to be disinterested.

3.4.6 Streetscape Design

Figure 3-15 shows the evaluation of "streetscape design" on where people live. There is a difference of opinion depending on where people live. Respondents living in Boa Vista has a quite good evaluation, followed by Santa Felicidade and Matriz.

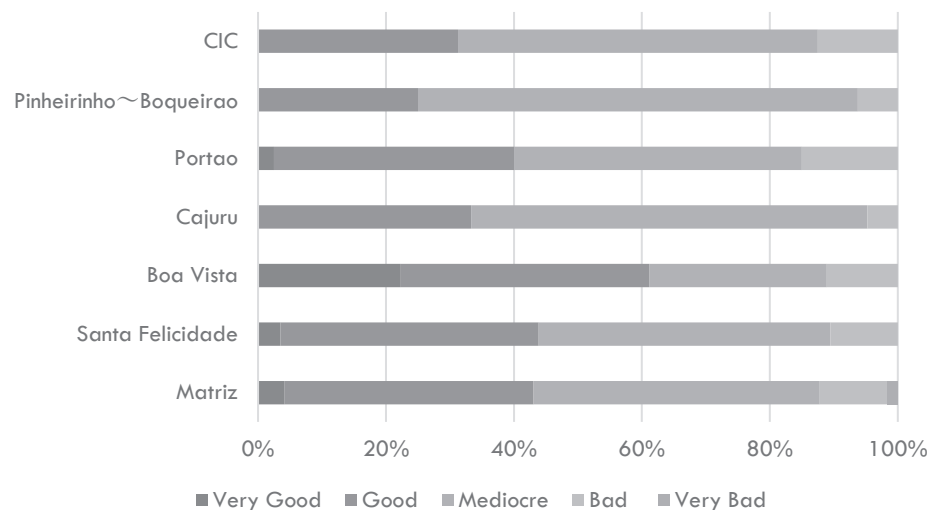


Figure 3-15 The evaluation of "streetscape design" by where people live

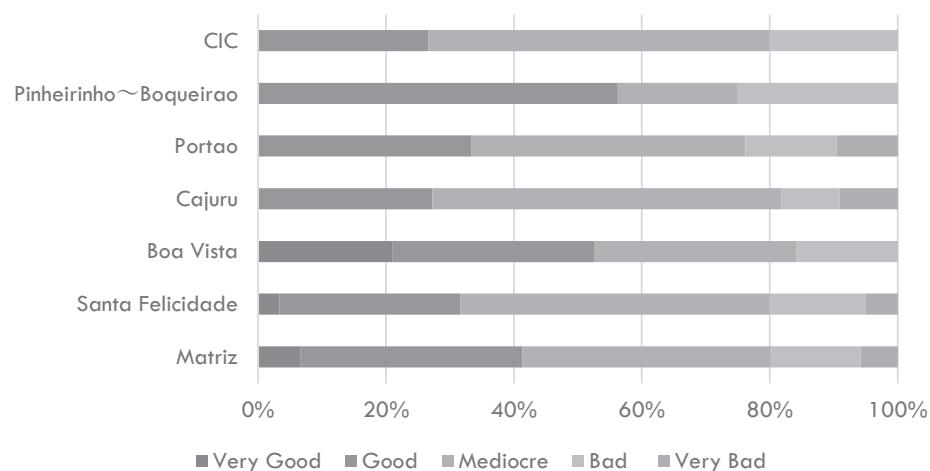


Figure 3-16 The evaluation of "pedestrian walkability" by where people live

3.4.7 Pedestrian Walkability

Figure 3-16 shows the evaluation of "pedestrian activity" on where people live. There is a difference of opinion depending on where people live. Respondents living in Boa Vista has a quite good evaluation, followed by Santa Felicidade and Matriz. Respondents living in Cajuru and Portão have a relatively negative opinion in terms of pedestrian walkability.

3.5 Summary of the Analysis

Table 3-6 indicates the P-Value of each nine public service by respondent's attributes. The strongest disparity of the evaluation is manifested in where respondents live. This indicates that there is a disparity among regions in providing public services, especially

in park management. There is also a disparity among age differences, especially in road maintenance and pedestrian walkability. Overall, 40 to 49 years old are more critical with public services than other age groups. There is only a small difference in gender and there is little difference in birthplace. From public service standpoint, there is no difference in respondent's attribute in landscape design and environmental protection, but strong difference in road maintenance, park management and pedestrian walkability.

4. Conclusion

The author has conducted questionnaire survey to the residents of Curitiba to under-

Table 3-6 P-Value of each nine public service by respondent's attributes

	<i>Gender</i>	<i>Age Structure</i>	<i>Birthplace</i>	<i>Address</i>
Bus Transportation	0.157	0.003	0.485	0.033
Road Maintenance	0.712	0.000	0.088	0.009
Traffic Management	0.018	0.002	0.785	0.006
Landscape Design	0.123	0.074	0.277	0.062
Park Management	0.260	0.010	0.130	0.000
Environmental Protection	0.338	0.230	0.213	0.108
Historical Preservation	0.664	0.077	0.068	0.002
Streetscape Design	0.003	0.312	0.804	0.003
Pedestrian Walkability	0.838	0.000	0.677	0.001

stand how the residents evaluate the city's nine urban policies since the departure of Jaime Lerner.

Overall, the public services have been evaluated highly. However, "traffic management," "road maintenance," and "pedestrian-walkability" has lower evaluation than "park management," "landscape design" and "environmental protection." There is an issue regarding "management" of the public services. These management services were also perceived to be retrogressing rather than improving. "Traffic Management," "Road Maintenance," and "Pedestrian Walkability" should be improved to better the situation.

By conducting analysis with the respondent's attributes, the research found that there is a strong disparity in the evaluation of "road maintenance," "traffic management," "park management," "streetscape design," and "pedestrian walkability." The strongest disparity of the evaluation is manifested in where respondents live. This indicates that there is a disparity among regions in providing public services and should be improved.

Author hopes that the data provided in this paper may contribute to making the public policies of Curitiba in some ways.

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