

Revitalizing the Sidewalks of España Boulevard through a Street Management Plan vis-à-vis Community Empowerment from Welcome Rotunda, Quezon City to Lerma/Morayta, City of Manila

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Abstract

Roads are very critical in the progress of any city or community like the City of Manila. The scope of the study will be along the stretch of España Boulevard, a 2-kilometer secondary road. Through community engagement, stakeholders of España Boulevard validated the concerns for pedestrianization, sustainability, and heritage. The study resulted in conceptual designs of the sidewalks of España Boulevard, which were presented to stakeholders.

Keywords

España Boulevard, Flooding, walking, heritage, community empowerment

1. Introduction

1.1. Background and Nature of the Project

Streets and sidewalks are important systems for access, exchanges, and progress. Similar to the human body, streets are arteries that ensure the efficient flow and function of the various systems. These allow people and goods to be transported from one place to the next. Aside from access to basic services, utility lines like power and water may run along these engineering infrastructures. On the other hand, while roads have also brought development, unregulated urbanizations also resulted in traffic congestion, environmental degradation, and poor quality of living. (Mehanna, 2019)



Figure 1. Points of Interest Map of España Boulevard. Compiled through GoogleMaps: Tejuco

The City of Manila – one of the oldest cities, the political capital of the Philippines, and home to numerous educational institutions – has made attempts to address these concerns. Named after the tamarind fruit, the district of Sampaloc has an area of 12.00 hectares. District are further sub-divided into small units called *barangay*.

Existing land use is mostly residential and mixed-use, wherein lower spaces have been converted into commercial spaces while the upper floors are for private or bedroom areas. It should also be noted that high-rise residential developments have sprouted along educational facilities and major thoroughfares of Sampaloc district. It is home of the “Northern side” University Belt and connects Manila with other cities via train through the Philippine National Railways (PNR) train and via buses and other PUJs through España Boulevard. (MANILA-CLUPZO, 2010)

Within the six districts in the City of Manila, Espana Boulevard is one of the busiest thoroughfares. Named after the country’s first colonizers, España Boulevard, is a 2-kilometer secondary road that stretches from the Welcome Rotunda of Quezon City to the Lerma Street and Quezon Boulevard Extension of Manila. More important, it connects the City of Manila to various cities: the north like Quezon City; east like Marikina and Rizal, and south like Pasay and Makati. Usual public utility vehicles are buses, FX, jeepneys, and tricycles. In strategic areas along España, overpass walks were provided for pedestrians. (MANILA-CLUPZO, 2010)

1.2. Research Objectives

Environmentalists and experts have reasserted that rapid urbanization and climate change has contributed to the worsening situation in cities like Manila. For the study, the research aims to respond to the following objectives:

- 1) Determine the present state and maintenance programs of the España Boulevard;
- 2) Identify the environmental concerns and community resources; and
- 3) Evaluate the walkability of the area.

1.3. Theoretical Framework

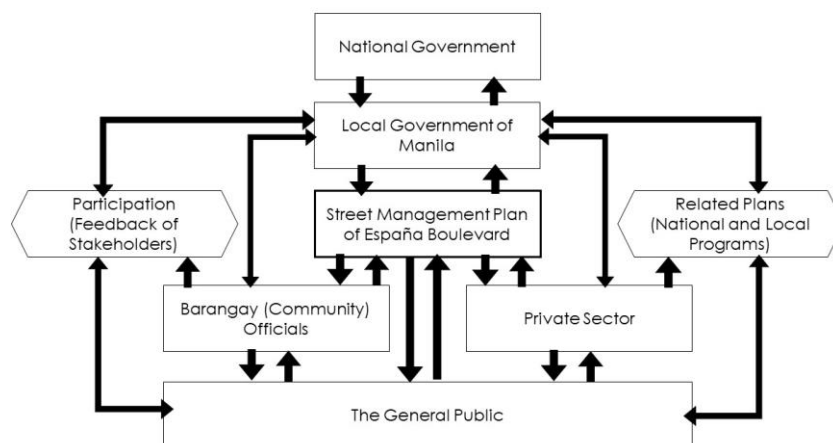


Figure 2. Community Development Framework. Source: Greater Shepparton

The Research has adopted this as its theoretical framework:

1. PEOPLE – the users, young and old alike and even those with disability. Represented by the stakeholders and the technical people engaged during the Stakeholders’ Consultation Meeting and Workshop held in March 18, 2016.

2. PLACE – livable spaces where people engage, socialize and have recreational activities. Symbolized by the proposed elevated walkway that would be a new location, or accessway for the community and the transient people taking the same route going about their own everyday life.

3. PARTICIPATION – community actively involved in decision making. The people living in the area are the priority in getting a consensus for the study at hand. Each representation was heard. Each idea was discussed. Each one’s contribution is a big factor in pursuing a possible solution to the current issues of heavy traffic, flooding, safe and secured walkways, an alternative means to go around the vicinity.

4. PARTNERSHIP – between all stakeholders in the private and public sector. The private and public sector’s cooperation, coordination, and support will make this proposal a viable strategy. Such that would not leave behind the social, historical, environmental, and economical factors that comprises the theoretical framework.

1.2. Conceptual Framework

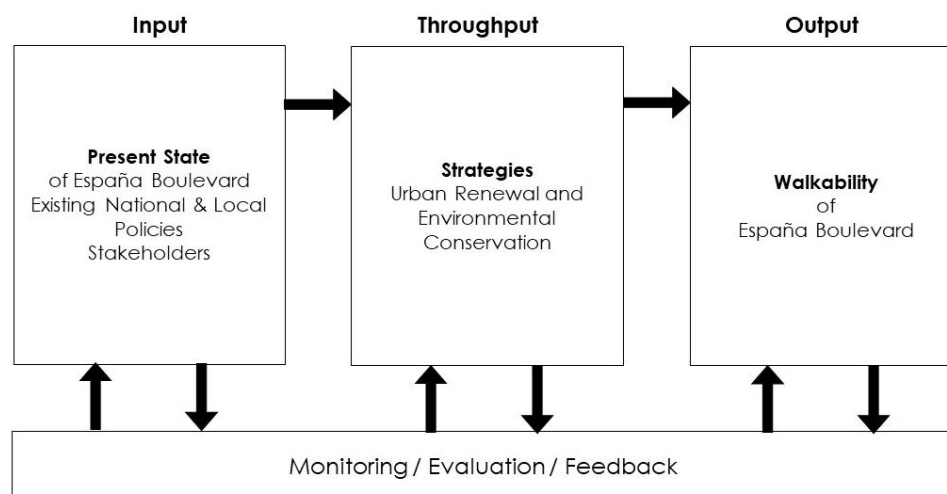
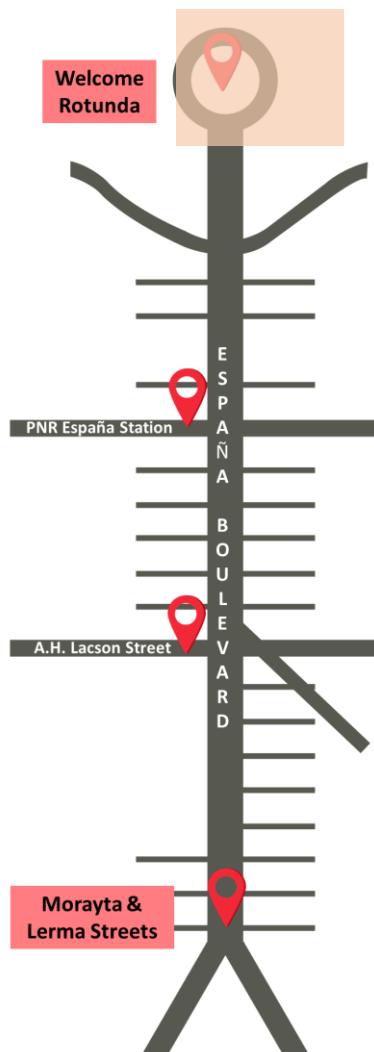


Figure 3. Input-Throughput-Output. Source: Tejuco

The proposed study will be guided by a cyclic framework, which aims to reconcile archival and online data with collective inputs and feedback from public officials and stakeholders. Methods included quantitative approaches through survey questionnaires and site documentation. It will be complemented by qualitative tools like interviews, focused group discussions, public consultation workshops.

3. Findings and analysis

3.1. Physical Assessment



For easy profiling and further discussion specific concerns along the 2.00-kilometer stretch, the study area has been divided into three segments:

The first segment (S-1) runs from Welcome Rotunda to the train station of the Philippine Railway (PNR) along España.

The second segment (S-2) will be from the PNR- España station until A. H. Lacson (formerly Gov. Forbes) Street.

The last segment (S-3) from A. H. Lacson Street until Morayta.

S-1 is home to the iconic linear gateway “Mabuhay-Rotunda” completed in 1948 by architect Luciano V. Aquino. Aside from establishing the boundaries between Manila and Quezon City, it is also a strategic geographic reference between the Monument of Rizal in Luneta Park and the Memorial Shrine of President Quezon, the Father of the Filipino language. España Boulevard splits to roads both leading to two districts in Quezon City: Quezon Avenue and Eulogio Rodriguez, Sr.



Figure 4. The Welome Rotunda (Quezon City side) at the end of España Boulevard. Source: Tejuco.

Because of this, the area is also the most traffic prone during the rush hours in the morning and late afternoon along España Boulevard. Notable structures include the office of the Philippine Long Distance Telecommunications (PLDT), United Doctors Medical Center, and the Sun Residences condominium with its two residential towers.

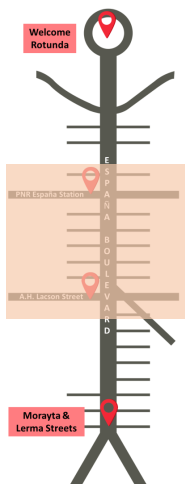


Figure 5. The intersection of Ferdinand Blumentritt Street and España Boulevard. Source: Tejuco

One busy intersection is Ferdinand Blumentritt Street that links Quezon City and Sta. Cruz, Manila. Along this stretch, commercial activities include fastfood establishments and gasoline stations. Sidewalk clearances range between 5.30 to a maximum of 6.34 meters. Its wide clearance usually provide tree covers for both people and vehicles. Common pedestrian obstructions include cars and motorcycles.

S-2 links two arteries that runs from north to south of Metro Manila. The PNR- España station connects the 48.00-kilometer railway length from Caloocan City to Alabang, Muntinlupa.

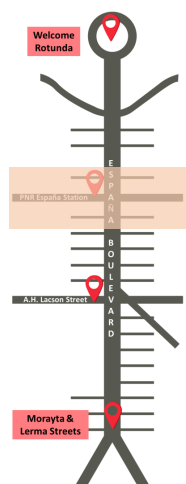


Figure 6. The railways of the PNR Station along España station. Source: Tejuco.

The Arsenio H. Lacson Avenue is a 3.00-kilometer road that runs between Tayuman Avenue in Santa Cruz until the Nagtahan Bridge in Santa Mesa. It further connects to Quirino Avenue, and Osmena Highway. Activities along this segment are varied. Near the PNR station is a Maynilad water treatment facility while on the opposite end is the Ramon Magsaysay High School.



Figure 7. The intersection of A.H. Lacson Avenue along España Boulevard. Source: Tejuco.

Commercial activities include market and grocery stores, fastfood and eateries, and commercial banks. Minor roads along this stretch are usually named after figures associated to the national hero Dr. Jose Rizal like fictional book characters Maria Clara and Elias. Sidewalk widths range between 4.40 to 6.30 meters. Aside from strong presence of ambulant vendors and street dwellers, traffic and flooding are the usual complaints.

S-3 is the busiest and most dense among the three segments. It splits between Lerma Street, which leads to Quiapo and Nicanor Reyes Street, which leads to Claro M. Recto Avenue. As home to top universities and schools, the area has significantly grown with the rise of mid to high-rise condominium buildings and commercial activities.



Figure 8. The opposite end of España Boulevard (Morayta and Lerma). Source: Tejuco.

Three established private schools within the area include the Far Eastern University, the National University, and the University of Santo Tomas. Sidewalk widths range between 3.50 to 6.30 meters. Sidewalk obstructions, vehicular traffic, and flooding are prevalent problems in the area.



Figure 9. The Arch of the Centuries (along España Boulevard) of the University of Santo Tomas. Source: Tejuco.

There have been a number of project proposals along this major thoroughfare. These include:

- 1) Proposed Underpass similar to that along Quezon Avenue and Quezon Boulevard Extension – a project to be secondarily used as catch basin of flood water;
- 2) Proposed Flyover from the corner of J. Fajardo Street towards the corner of Dapitan Street which was later extended farther across Dimasalang and Laon-Laan Streets – a project that was opposed by the University of Santo Tomas;
- 3) Proposed Extension of the Metro Rail Transit 7 from West Avenue and Quezon Avenue, Quezon City then España Boulevard towards its proposed link to the Light Rail Transit 1 and 2 at the Recto Avenue and Rizal (formerly Avenida) Avenue Stations;
- 4) The Proposed Catch Basin inside the UST, specifically, the Athletic Field and Open Spaces including the Grandstand. They were declared National Cultural Treasure in 2010 by the National Museum of the Philippines, together with the Arch of Centuries, the Main Building and the Central Seminary.

Total of sidewalks of the road right of ways were also documented. Existing obstructions like encroachment of structures, plant boxes and other barriers reduced the clearances of the sidewalks. The widest sidewalk is 6.80 meters while the narrowest is at 3.50 meters. Because of obstructions, the narrowest sidewalk is 2.72 meters.

Sidewalks	Total Width Sidewalk (m)	Clearance of Sidewalks (Left Side)		Total Width Sidewalk (m)	Clearance of Sidewalks (Right Side)	
		Min.	Max.		Min.	Max.
Rotunda to Macaraig Street	5.66	5.66	-	5.78	5.78	-
Macaraig to Josefina Street	5.69	5.29	-	6.13	5.34	6.13
Josefina to Blumentritt Road	5.10	4.63	4.74	6.34	5.50	6.34
Blumentritt Road to Sisa Street	5.40	4.90	-	6.00	5.46	-
Sisa to Instruccion Street	5.30	4.77	-	6.00	5.46	-
Instruccion to Basilio Street	5.40	4.90	-	6.00	5.46	-
Basilio to Metrica Street	5.30	4.77	-	6.00	5.46	-
Metrica to Craig Street	5.40	4.90	-	6.00	5.46	-
Craig to Kundiman Street	5.30	4.77	-	6.00	5.46	-
Kundiman to Quintos Sr. Street	5.40	4.90	-	6.00	5.46	-
Quintos Sr. to San Diego Street	5.30	4.77	-	6.00	5.46	-
San Diego to Antipolo Street	5.40	4.97	5.10	5.46	4.96	-
Antipolo to Algeciras Street	5.30	4.80	-	6.10	5.60	-

Algeciras to Prudencio Street	5.30	4.80	-	6.10	5.60	-
Prudencio to Cristobal Street	5.60	4.88	5.08	5.70	5.20	-
Cristobal to Miguelin Street	5.30	4.65	4.80	5.90	5.40	-
Miguelin to Vicente Cruz Street	5.40	4.84	-	6.80	5.54	6.80
Vicente Cruz to Marzan Street	4.20	3.72	4.75	6.80	5.54	6.80
Marzan to M. dela Fuente Street	5.20	3.27	4.70			
M. dela Fuente to Maria Cristina Street	5.20	3.27	4.70	6.00	5.50	-
Maria Cristina to Don Quijote Street	5.40	4.90		6.10	5.30	5.60
Don Quijote to Dos Castillas Street	6.30	3.20	5.80			
Dos Castillas to Earnshaw Street						
Earnshaw to Arsenio Lacson Street	4.40	3.95	4.80			
Arsenio Lacson to Extremadura Street	5.50	3.60	4.80	6.10	5.35	5.60
Extremadura to Cayco Street	5.50	3.60	4.80	5.90	5.40	-
Cayco to M. F. Jhocson Street	5.50	3.60	4.80	6.30	2.72	5.50
M. F. Jhocson to Centro Street	5.50	3.60	4.80	6.10	5.60	-
Centro to Moret Street	5.50	3.60	4.80	6.00	5.50	-
Moret to Galicia Street	5.50	3.60	4.80	5.90	5.40	-
Galicia to P. Noval Street	5.50	3.60	4.80	5.90	4.65	5.40
P. Noval to Eloisa Street	5.50	5.00	-			
Eloisa to Tolentino Street	5.50	5.00	-			
Tolentino to Adelina Street	5.00	3.10	4.55	6.30	5.20	5.78
Adelina to P. Campa Street	3.50	2.27	3.00			
P. Campa to Paquita Street	3.50	2.27	3.00	6.40	2.90	4.00

Table 1. Documentation of Sidewalk Clearances of España Boulevard. Source: Tejuco.

3.2. Heritage Aspect of the site.

It should also be noted that the Sampaloc area is one of the oldest districts in Manila. Among the notable heritage institutions along Espana Boulevard include the University of Santo Tomas (UST) and Far Eastern University (FEU). UST is the oldest Catholic universities in Asia. Originally built in the walled city of Intramuros, it relocated in the present site in 1927. It is expected to celebrate its centennial year soon. In addition, four of its built structures have been declared national cultural treasures. On the other hand, FEU is located at the tailend of Espana Boulevard along Morayta. It is reputed for its Art Deco structures. Along the main artery and its inner streets are low-rise houses that survived the Second World War.

Even most of the streets and roads intersecting along España have historical references. Below are these streets:

Streets		Relation	Description
1	Quezon Avenue	American-colonial period - Personality	Manuel Quezon: First Filipino president during Commonwealth period
2	Macaraig Street	Jose Rizal - Works	Macaraig: Character from Jose Rizal's second novel, El Filibusterismo
3	Josefina Street	American-colonial period - History	Name given in the Sulucan Estate
4	Blumentritt Road (formerly Calle Sangleyes)	Jose Rizal - Personality	Ferdinand Blumentritt (1853-1913): Bohemian professor and author
		Precolonial period - History	Sangleyes: Old term of pure Chinese ancestry, "sangle"y
5	Sisa Street	Jose Rizal - Works	Sisa: Character from Jose Rizal's first novel, Noli Me Tangere
		American-colonial period - History	Name given in the Sulucan Estate
6	Instruccion Street	Jose Rizal - Works	Instruccion: One of Jose Rizal's writings
		American-colonial period - History	Name given in the Sulucan Estate
7	Basilio Street	Jose Rizal - Works	Basilio: Character from Jose Rizal's first novel, Noli Me Tangere
8	Metrica Street	Jose Rizal - Works	Metrica: One of Jose Rizal's writings
		American-colonial period - History	Name given in the Sulucan Estate
9	A. Maceda Street (formerly Washington Street)	Postcolonial period - Personality	Antonio Maceda: Schools Division Superintendent from 1949 to 1954
10	Craig Street	Jose Rizal - Personality	Austin Craig: American historian, one of the first biographers of Jose Rizal
		American-colonial period - Personality	Ausin Craig: Teacher under the Bureau of Education in 1904
		American-colonial period - History	Name given in the Sulucan Estate
11	Kundiman Street	Jose Rizal - Works	Kundiman: One of Jose Rizal's writings
		American-colonial period - History	Name given in the Sulucan Estate
12	Quintos Sr. Street		
13	San Diego Street	Jose Rizal - Works	San Diego: A town in Rizal's novels, Noli Me Tangere and El Filibusterismo
		American-colonial period - History	Name given in the Sulucan Estate
14	Antipolo Street	Jose Rizal - Works	Antipolo: One of Rizal's literary works
15	Algeciras Street	American-colonial period - History	Name given in the Sulucan Estate
16	Prudencio Street	American-colonial period - Personality	Named in honor of lawyer Alfredo Chicote's child; Chicote bought lands in Sampaloc with Don Antonio de la Riva and created Sulucan Development Company, Ltd. in 1905
		American-colonial period - History	Name given in the Sulucan Estate

17	R. Cristobal Street (formerly Calle Constancia)		
18	Miguelin Street	American-colonial period - Personality	Named in honor of businessman Don Antonio de la Riva's child; de la Riva bought lands in Sampaloc with Alfredo Chicote and created Sulucan Development Company, Ltd. in 1905
		American-colonial period - History	Name given in the Sulucan Estate
19	Vicente Cruz Street (Calle Economica / Economia)		
20	J. Marzan Street (formerly Calle Pepin)	American-colonial period - Personality	Pepin: Father of former actress, Maggie dela Riva, whose grandfather is Antonio de la Riva (co-owner of Sulucan Development Company, Ltd.)
		American-colonial period - History	Name given in the Sulucan Estate (Pepin Street)
21	M. Dela Fuente Street (formerly Calle Trabajo)	Personality - Postcolonial period	Manuel de la Fuente: Chief of Police, later became mayor of Manila
22	Maria Cristina Street	American-colonial period - History	Name given in the Sulucan Estate (Cristina Street)
23	Don Quijote Street	American-colonial period - History	Name given in the Sulucan Estate
24	Carola Street	American-colonial period - History	Name given in the Sulucan Estate
25	Dos Castillas Street (formerly Yeyeng)	Spanish-colonial period - History	Memorialize unification of two kingdoms in Castille region in 1469, Spain, Leon and Aragon, with the marriage of Leon's princess Isabel to Ferdinand, heir to the throne of Aragon; Union marked emergence of modern Spain
		American-colonial period - History	Name given in the Sulucan Estate
26	Earnshaw Street		
27	Arsenio Lacson Avenue (formerly Governor Forbes Street / Sampaguita Street)	American-colonial period - Personality	William Cameron Forbes: American governor-general of the Philippine Islands from 1903 to 1913, renamed to Lacson Avenue after Manila mayor from 1952 to 1962 Arsenio Lacson
		Postcolonial period - Personality	Arsenio Lacson: Former Manila mayor from 1952 to 1962
28	Extremadura Street	Spanish-colonial period - History	Place in Spain
		American-colonial period - History	Name given in the Sulucan Estate
29	F. Cayco Street (formerly Calle Isabel)	Postcolonial period - Personality	Florentino Cayco: Founder of Arellano University

30	M. F. Jhocson Street (formerly Calle Lipa / Calle Sobriedad)	-	M.F. Jhocson: Founder of National University
31	Centro Street	-	-
32	Moret Street	American-colonial period - History	Name given by Sulucan Development Company (Sulucan Estate)
33	Galicia Street	Spanish-colonial period - History	Place in Spain
		American-colonial period - History	Name given in the Sulucan Estate
34	Padre Noval Street (formerly Calle Quezon)	American-colonial period - Personality	Rector of University of Santo Tomas from 1910-1914 when Dominicans acquired land for the University of Santo Tomas Sampaloc campus
		American-colonial period - History	Name given in the Sulucan Estate
35	Eloisa Street	American-colonial period - History	Name given by Sulucan Development Company (Sulucan Estate)
36	G. Tolentino Street (formerly Calle Cataluña)	Spanish-colonial period - History	Place in Spain
		American-colonial period - History	Name given by Sulucan Development Company (Sulucan Estate)
37	Adelina Street	American-colonial period - History	Name given by Sulucan Development Company (Sulucan Estate)
		American-colonial period - Personality	Named in honor of lawyer Alfredo Chicote's child; Chicote bought lands in Sampaloc with Don Antonio de la Riva and created Sulucan Development Company, Ltd. in 1905
38	Padre Campa Street	American-colonial period - History	Name given in the Sulucan Estate
39	Paquita Street	American-colonial period - History	Name given by Sulucan Development Company (Sulucan Estate)
40	Lerma Street	Postcolonial period - Personality	Juana Lerma: Landowner and grandmother of Benito Legarda
41	Nicanor Reyes Street (formerly Calle Morayta)	Spanish colonial period - Personality	Miguel Morayta Sagrario: Spanish republican politician, founder of Grande Oriente Español, member of La solidaridad
		Jose Rizal - Personality	Miguel Morayta Sagrario: History professor at Complutense University of Madrid
		Postcolonial period - Personality	Nicanor Reyes: First president of Far Eastern University

Table 2. Origins of the Street Names along ome Rotunda (Quezon City side) at the end of España Boulevard.

Source: Ira & Medina, 1977

3.2. Community Perception

Despite the challenges of urbanization, stakeholders of Espana Boulevard realize the positive features and opportunities within the area. A survey was conducted with a total respondent of 1,280. Responses to the questionnaire were coded and entered into MS Excel. Data were presented as frequency counts and percentages in appropriate tables and graphs.

Assumptions included:

1. 95% confidence level (Z score of 1.96)

2. Margin of error of 3%

3. Standard deviation of 50% or 0.50

$N = (Z \text{ score})^2 \times SD^2 / (\text{margin of error})^2$

$N = 3.84 \times 0.50 \times 0.50 / 0.0009$

$N = 1,067$ (minimum)

The respondents were majority between the ages of 19-59 years old and were mostly residents (81%). At least 34% have stayed within their place of residence for at least 10 years. They are mostly college graduates (69%) and are employed (71%).

AGE	
	N = 1,280 Respondents
15 – 18 years old	174
19 – 59 years old	902
60 years old & over	204

Table 3. Results of Age of Respondents. Source: Tejuco.

RESIDENCY		
	N = 1,280 Respondents	Percentage (%)
Resident	1,043	81.48%
Transient	132	10.31%
Visitor	31	8.21%

Table 4. Results of Residency of Respondents. Source: Tejuco.

LENGTH OF RESIDENCY		
	N = 1,280 Respondents	Percentage (%)
< 5yrs	16	1.26%
5-10 yrs	178	13.90%
> 10, <= 15	437	34.14%

Table 5. Results of Length of Residency of Respondents. Source: Tejuco.

EDUCATION LEVEL		
	N = 1,280	(%)
Grade School	37	2.89%
High School	180	14.06%
College	881	68.82%
Post-Graduate	33	2.58%
Tech/Voc	149	11.65%

Table 6. Results of Employment of Respondents. Source: Tejuco.

EMPLOYMENT		
	N = 1,280	(%)
Un-employed	126	9.84%
Unemployed. Student	159	12.42%
Employed, salaried	917	71.64%
Employed, self	78	6.10%

Table 7. Results of Employment of Respondents. Source: Tejuco.

MONTHLY INCOME (Philippine peso converted to US Dollars)		
PHP	N = 1,280	(%)
<= 200	259	20.23%
>200 <=500	449	35.08%
>500 <=800	301	23.52%
>800 <=1,200	32	2.50%
>1,200	1	0.08%

Table 8. Results of Monthly Income of Respondents. Source: Tejuco.

In the survey, concerns of the respondents focused on flooding, the existing conditions of the streets and sidewalks to pedestrians, including persons with disabilities, and traffic congestion.

Negative Features of España Boulevard	Number	Percentage (100%)
Flash floods do not subside easily	1018	79.53
A few to none suitable Landscaping	743	58.05
Too many unleveled sidewalk pavements	730	57.03
Heavy Traffic of Vehicles during rush hours	708	55.31
PWD Ramps are not PWD-friendly	682	53.28
No Proper Access for pedestrians to Philippine National Railways (PNR) Espana Station	377	29.45
Without Peace and Order. Crime-prone area.	371	28.98

Table 9. Results of the Survey of the Negative Features of Espana Boulevard. Source: Tejuco.

Despite the challenges of urbanization, stakeholders of Espana Boulevard realize the positive features and opportunities within the area. These include the presence of basic services, wide accessible roads, and peaceful area.

Positive Features of España Boulevard	Number	Percentage (100%)
Accessible to schools, markets/ groceries, hospitals, churches, banks, other business and commercial Establishments.	952	74.37
Wide street and sidewalks	872	68.13
With Appropriate Bus/ Jeepney/ Public Utility Vehicle Stops	860	67.19
Accessible to Philippine National Railways (PNR) Station	808	63.13
With a lot of Business opportunities for residents and non-residents	797	62.27
With Peace and Order. No Crime in the vicinity.	581	45.39
Others	80	6.26

Table 10. . Results of the Survey of the Positive Features of Espana Boulevard. Source: Tejuco.

This optimism was further strengthened during the Visioning exercise. Participated in by residents, community and local officials, the group agreed on the collective vision of: “España Boulevard: to be safe, flood-free, a well-maintained major road, with disciplined pedestrians and drivers, unobstructed sidewalks, green landscaping, efficient utilities, and police visibility.”

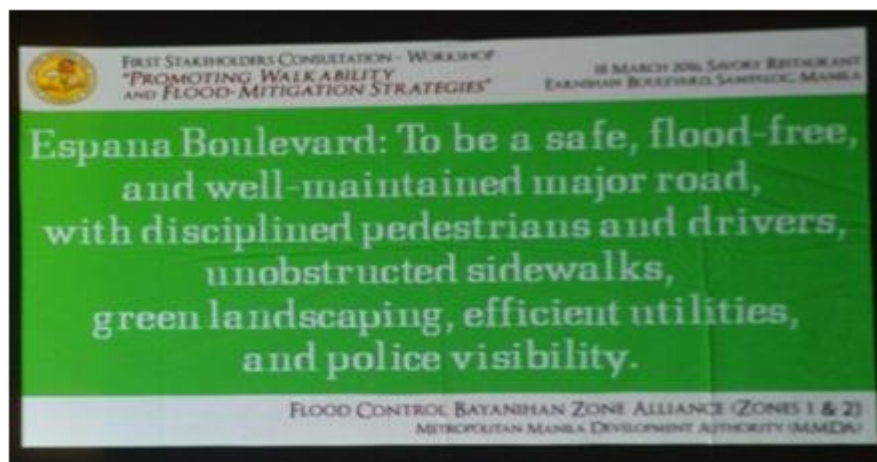


Table 11. Collective Vision of the Participants of the Public Consultation-Workshop. Source: Tejuco.

Guided by the collective vision of the participants, the list of SWOT were summarized and analyzed to come up with recommendations in the development of plans for the improvement of the existing streetscapes, which will be complemented by the community’s participation. Summary of the SWOT analysis and recommendations are indicated below:

Strengths	Weaknesses	
• Accessibility • Strong community participation • High-rise development • Presence of heritage structures • Presence of educational institutions	• Presence of ambulant vendors and informal settlers • Poorly maintained, unlevelled, and obstructed sidewalks and other facilities • Limited landscaping • Limited police visibility • Heavy traffic along major and adjacent roads	Strong community participation can complement the presence of ambulance vendors by having discussions on appropriate areas or spaces for their livelihood. Maintained sidewalks will encourage pedestrians to use walk instead of using private vehicles for short-distance commute. Promoting walkability along España Boulevard would ease heavy traffic during rush hour.
Opportunities	Threats	
• Proposed flyover • On-going high-rise development	• Climate change • Flooding • Unregulated development	Proposed developments along España Boulevard should assist in the mitigation of flooding and propagate answers to existing problems of climate change.
The presence of heritage structures, high-rise development, and proposed built spaces can be connected and unified by the	Landscaping should be improved, sidewalks must be maintained, and adequate lighting is needed to	

España walkway. España Boulevard can even be more accessible and safer for pedestrians, especially for students as there are also a number of educational institutions within its two-kilometer length.	encourage pedestrians to use the walkways. The elevated walkway supports free movement of pedestrians during the rainy season when flooding is rampant.	
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Table 12. Summary of the SWOT Analysis. Source: Tejuco.

Thus, conceptual plans and ideas of the streetscape were prepared and presented to the stakeholders, which include residents, barangay and local officials. Generally, the plan and designs are focused on resilient, easy to maintain, and non-obtrusive materials.



Figure 10. Photo Documentation of the Presentation of Workshop Outputs. Source: Tejuco.



Figure 11. Typical Plan and section of proposed sidewalk improvements. Source: Tejuco.

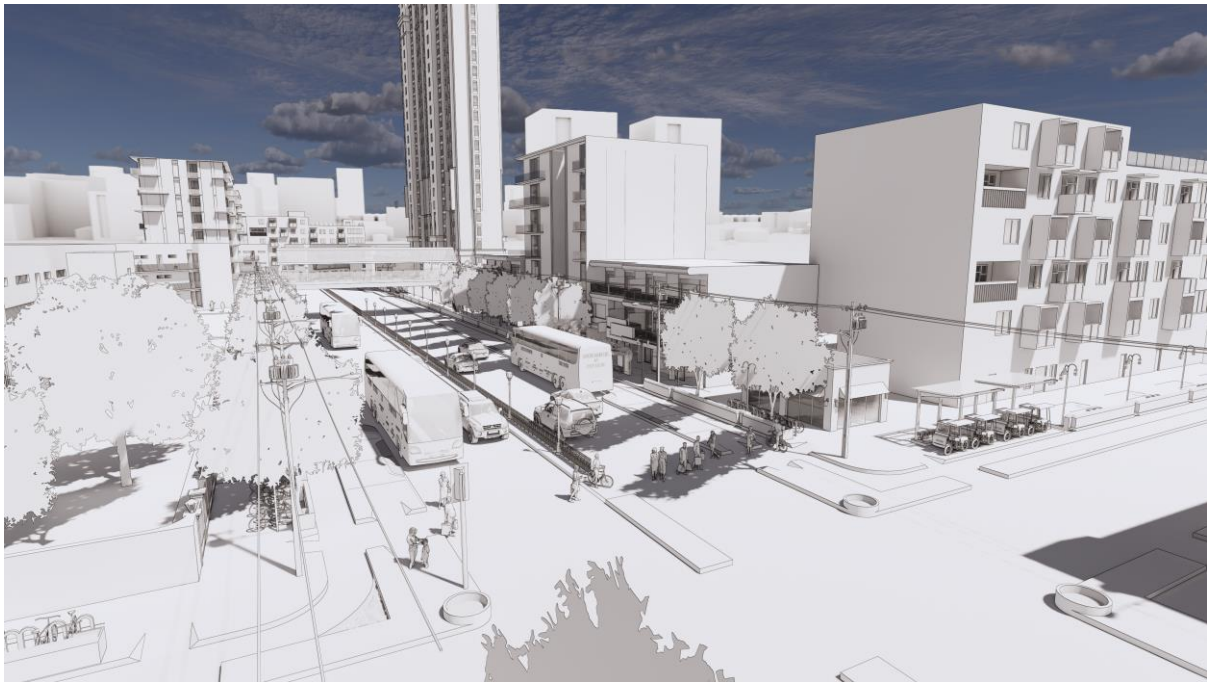


Figure 12. Conceptual Render of the Espana Boulevard. Aerial view reflecting the redeveloped sidewalks and landscaping. Source: Tejuco.

In consultation with other technical experts and case studies of tropical cities, urban design recommendations include:

- Less-maintenance waiting shed design for loading and unloading of passengers and provision of trash bins @ every 500 meters;
- Bicycle lanes and racks to encourage alternative transportation;
- Better paving and tactile materials, including ramps for the PWD;
- Innovations like solar lamps, CCTV camera
- Use of endemic, drought-tolerant plants complemented by low maintenance paving materials
- Low-lying shrubs: bougainvillea, agave, santan, bandera, espanola, lantana or zigzag plants
- Trees (@ every 5 to 8 meters): agoho, betel nut palm, palmera, indian tree, or fire tree.



Figure 13. Conceptual image of Espana Bouelvard. Normal view showing the bike lanes. Source: Tejuco



Figure 14. Conceptual image of Espana Bouelvard. Normal view showing the sidewalks with tree shades. Source: Tejuco.

Discussions and presentations were also held with other stakeholders to validate and refine the recommendations.

Date	Activity	Profile of Participants	Key Takeaways
February 2016	Consultation Workshop	Community residents of Sampaloc	Vision of Espana Boulevard and SWOT
March 2016	FGD with DPWH officials and representatives from the Academe	Stakeholders	Approval of Conceptual Design
February 2017	Annual Research Fortnight, UST Research Center for Culture, Arts, and Humanities (RCCA)H)	Researchers and Students	Planning and design recommendations were accepted.
July 2017	Research Proposal Presentation, UST RCCAH	Academicians and Researchers	Planning and design recommendations were accepted.
December 2017	1st Architects' Academic Colloquium, UAP	Academicians and Researchers	Recommendations on how to encourage Walking and making the experience Memorable
January 2018	FGD with Barangay Officials	Stakeholders	Approval of Conceptual Design
February 2019	Annual Research Fortnight, UST Research Center for Culture, Arts, and Humanities (RCCA)H)	Academicians and Researchers	Planning and design recommendations were accepted.
October 2019	Presentation to the City Administrator	Local Officials	Recommendations on how to encourage Walking and making the experience Memorable

Table 13. Compiled: Summary of Stakeholder's Inputs. Source: Tejuco



Figure 15. Consultation with officials of public works (2016) and presentation to city government of Manila (2019). Source: Tejuco

3.1. The Street Management Plan of Espana Boulevard

In response to the challenges of congestion, and climate change, a Street Management Plan of Espana Boulevard has been proposed. It should be noted that 33 barangays are linked together by this main artery. The collaboration of these communities can be integrated as a committee to better manage the street. Police personnel provide the security and monitoring against criminal activities. The local community leaders add to the security manpower and cleanliness of the area. Through this, resources can efficiently be maximized. City officials can also review present plans and programs to consider the following:

- Strict implementation of ordinance on unobstructed sidewalks, illegal vending and parking
- Unified efforts of police and barangay officials in maintaining the cleanliness, safety and security of streets
- Incentives to business and home owners in the maintenance and upkeep of their properties

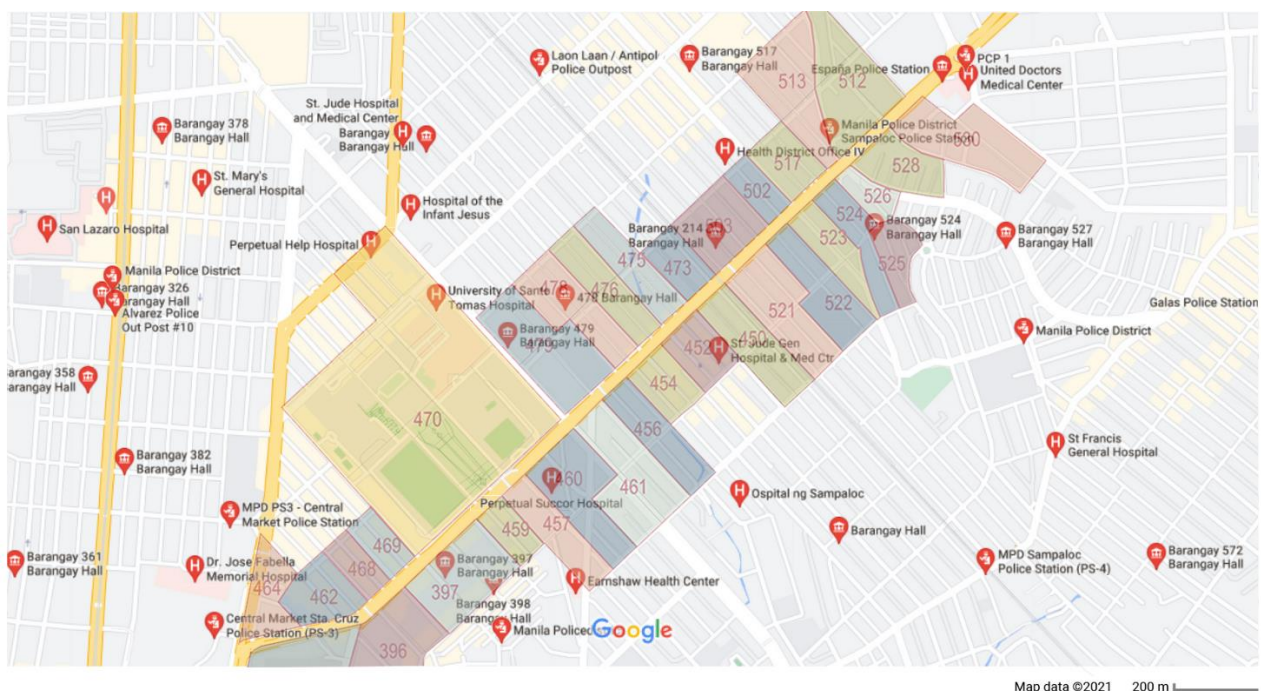


Figure 16. Plan of Espana Boulevard showing the 33 barangays. Source and compiled through GoogleMaps.

4. Conclusion and Recommendations

4.1. Conclusion

Issues on pedestrianization, flooding, and safety are community concerns that should be coordinated to both public and private sectors. Ongoing projects of the city government can be supported by private sector and investors. Empowering the community and partnering with them can help revitalize public spaces like the streets and sidewalks of España Boulevard.

4.2. Recommendations

Future studies on creating a tourism trail for Espana Boulevard can complement the study in making the street walkable and memorable for visitors and residents.

4.3. Acknowledgements

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through a Street Management Plan vis-à-vis
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Rotunda, Quezon City to Lerma/Morayta, City of
Manila**
