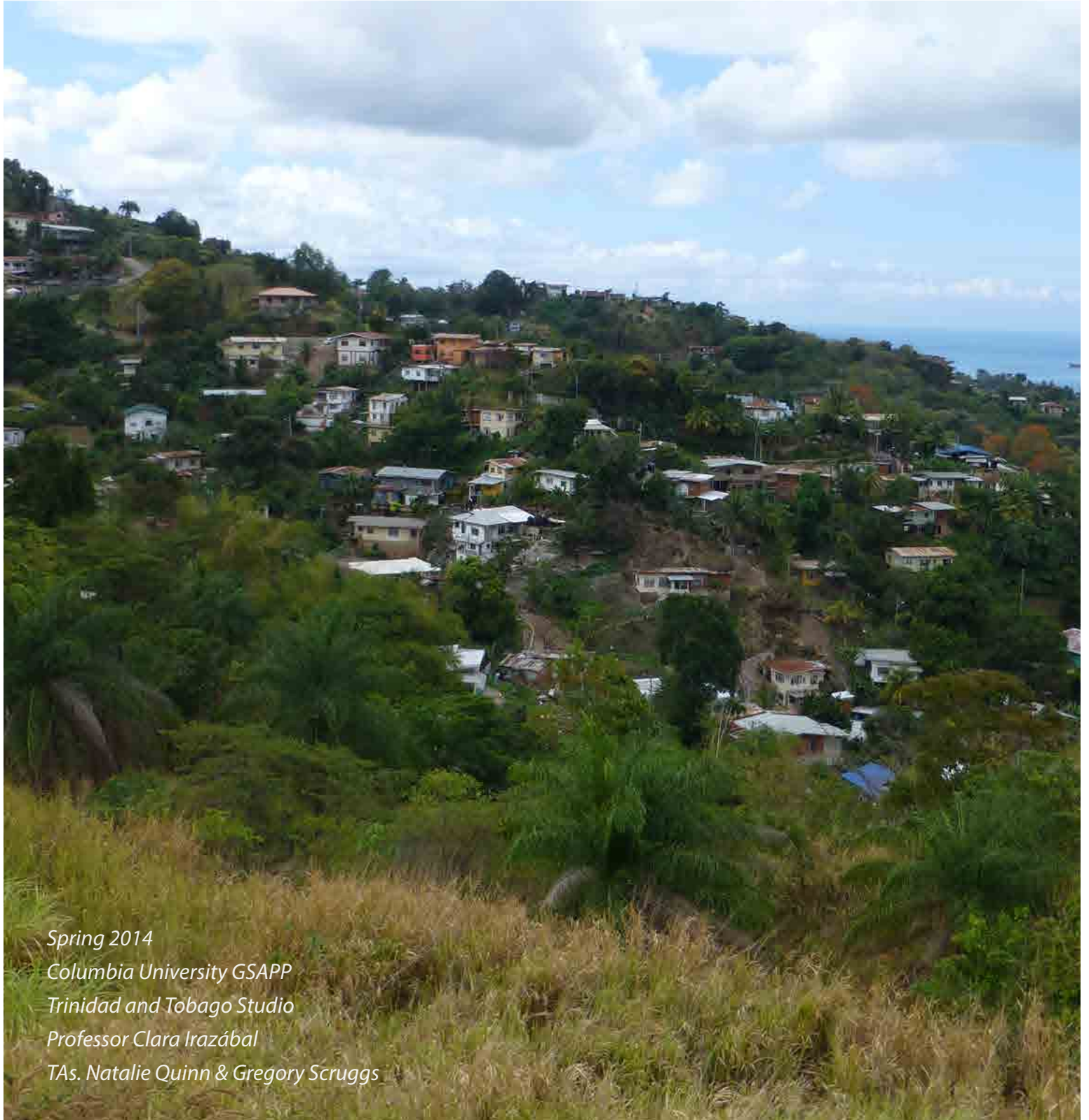


GUIDING SUSTAINABLE DEVELOPMENT IN EAST PORT OF SPAIN FROM TOP-DOWN PLANS TO BOTTOM-UP NEEDS



Spring 2014

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Disclaimer

The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.

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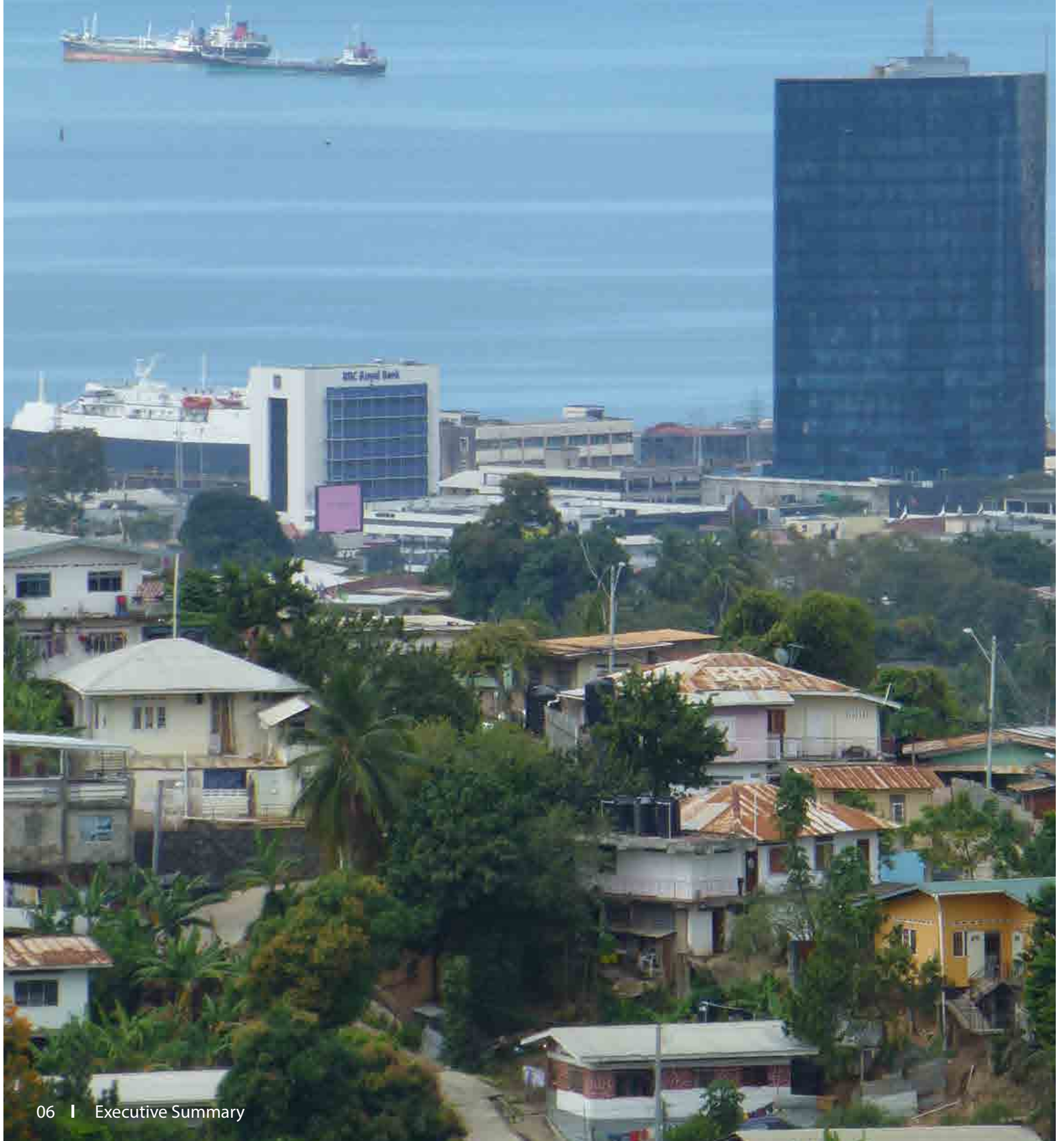
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Figure 1. Port of Spain

Source: Trinidad and Tobago Studio



Executive Summary

As one of IDB's newest corporate initiatives, the Emerging and Sustainable Cities Initiative (ESCI)^f is a technical assistance program that helps intermediate cities in Latin America and the Caribbean identify, prioritize, and structure projects to improve their environmental, urban, and fiscal sustainability, and improve governance. Port of Spain is one of the pilot projects of ESCI. In that context, this Columbia University's Planning Studio in the Graduate School of Architecture, Planning and Preservation was invited as academic consultants to evaluate the socio-economic viability of some IDB's ESCI proposals in East Port of Spain, specifically examining:

- 1) Institutional coordination for improved urban planning;***
- 2) Community engagement in planning;***
- 3) Cultural preservation planning;***
- 4) River revitalization and the creation of a linear park; and***
- 5) An aerial cable car project.***

We restructured the original five requests presented to us into assessments of three physical interventions complemented by assessments of the broader goals of improved institutional coordination and community engagement, two process-oriented focus areas that ought to support the three urban investment projects. After a semester-long study in spring 2014 and a field work conducted in East Port of Spain in March 2014, we finally offer a reframing of the conceptualization of the three physical interventions and a series of phased proposals. They synergistically support the preservation of cultural heritage, including heritage walks; a series of connected pocket parks lining and permeating the East Dry Rive; and an integrated, multi-modal transit system supported by a data gathering process; along with strategies for enhancing the broader goals of institutional coordination and community engagement. Our goal was to prioritize the residents of East Port of Spain in the development of planning initiatives. In each of the project areas, we are recommending a process rather than specific design recommendations, because we feel it is critical that the community members should be the ones that drive these interventions.²⁾

Background

Trinidad & Tobago is located in the Caribbean, seven miles off the Venezuelan coast. Comprised of two islands, Tobago is 51 miles northeast of the main island and contains 4.3% of the country's population. The capital city of this dual-island nation is Port of Spain, located in the northwest portion of the island of Trinidad. It is a developing city that is home to the central government, and some corporate offices for international banks and oil companies, with a total population of approximately 140,000.

Port of Spain is comprised of two regions that overlap geographically and governmentally with a natural division created by a river, historically the St. Ann's River, now known as the East Dry River. This river bed, which is dry for most of the year, creates a significant gap between the wealthier residents of downtown, Port of Spain and the disenfranchised residents on the hills of East Port of Spain. However Port of Spain (POS) and East Port of Spain (EPOS) are functionally one city. Furthermore, Port of Spain supports on a daily basis up to approx-



Figure 2.
Trinidad and Tobago Location Map

Source: Google Map

imately 200,000 commuters from other cities and towns in the islands. The flexible demographic pattern of Port of Spain poses an interesting challenge for urban mobility and accessibility.

“Discovered” by Columbus in 1498, Trinidad and Tobago remained a Spanish colony until the late 1790s when it was captured by the British.¹⁾ Both the Spanish and the British colonial regimes used African slave labor to operate sugar plantations. When slavery was abolished in 1834, colonists were forced to find a new source of cheap labor, so they turned to another outpost of the British empire, India. Between 1845 and 1917, almost

150,000 Indians came to the island as indentured workers, and most remained in Trinidad after their period of indentureship. Since Trinidad gained independence in 1962, political power has bounced back and forth between the Afro-Trinidadians and Indo-Trinidadians, but the governmental structure remains as a legacy of the British political system with a parliamentary democracy as its core.

Reporting directly to the prime minister, the government is structured into 30 ministries that often have duplicative roles and responsibilities, while the municipal corporations, or local governments, hold little

power. For this research we identified eight ministries that should have a direct linkage to the urban proposals been considered. These are the Ministry of Planning and Sustainable Development, the Ministry of the Environment and Water Resources, the Ministry of Local Government, the Ministry of Arts and Multiculturalism, the Ministry of Tourism, the Ministry of National Diversity and Social Integration, the Ministry of Transport, and the Ministry of Works and Infrastructure.

With a population of 1.3 million, the country is not densely populated.³⁾ The public school system is strong and includes free tertiary education, which has resulted in an adult literacy rate of 99%, which is even slightly higher than the United States.⁴⁾ The GDP is over \$23 billion US dollars and the GDP per capita is over \$17,000 US dollars.⁵⁾ In comparison, the average Caribbean GDP per capita is about \$9,000 US dollars.⁶⁾ Thus, Trinidad is not a poor country. In fact, for a country that is considered “developing,” it is fairly wealthy in relation to its Caribbean neighbors due to natural resources such as oil and gas, which account for 60% of the country’s exports.⁷⁾ The oil and gas capital-intensive industry generates little labor need and few jobs. Despite large revenues, a large inequality reflects a historically unequal distribution of oil rents. Despite the wealth of the country, there is still a high level of inequality between the rich and poor. Statistically, UN R/P 10% (The ratio


Flag	
Total Population	1,324,699
Trinidad Population	1,267,889
Official Language	English
Adult Literacy Rate	99%
Area	5,131 km²
GDP	\$23,578 billion
GDP per Capita	\$17,686

Figure 3. Key Facts of Trinidad and Tobago

Source: Central Statistical Office, Trinidad and Tobago, 2011



Figure 4. Indentured Indian Laborers, 1924

Source: Flickr Website

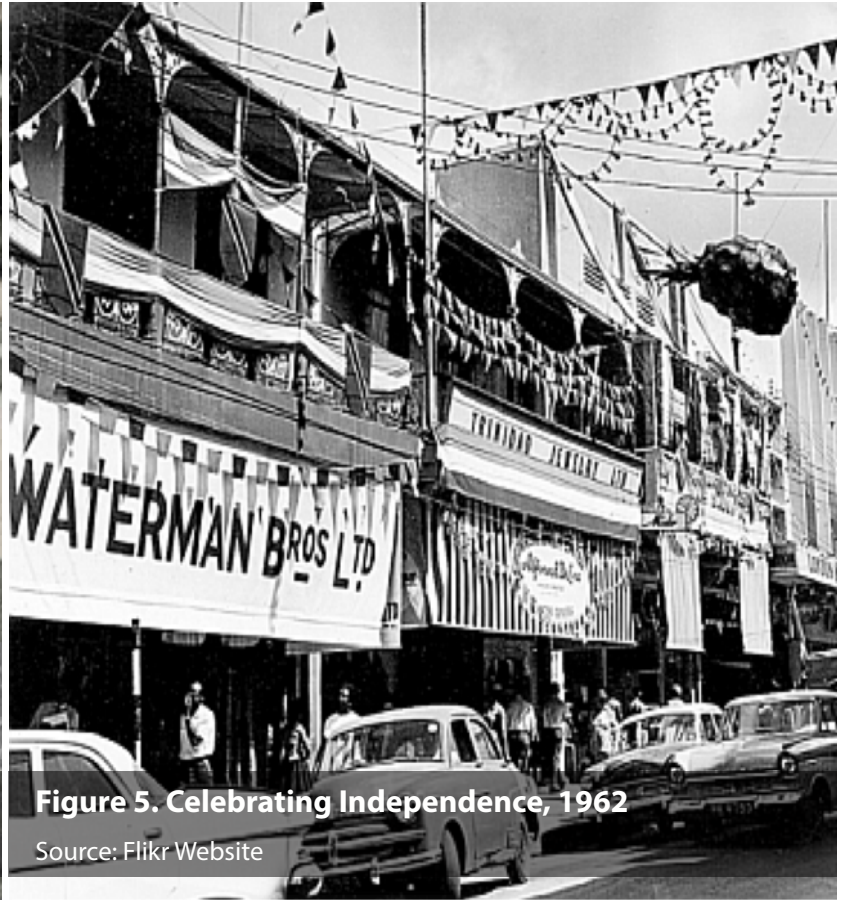


Figure 5. Celebrating Independence, 1962

Source: Flickr Website

of the average income of the richest 10% to the poorest 10%) indicates 12.9, which is quite higher than what other developed countries do such as Japan (4.5), Finland (5.6), Norway (6.1) and etc.⁸⁾

For this research, we have focused on the communities and the people living in East Port of Spain. While the ethnic makeup of Trinidad and Tobago is fairly diverse, with roughly 37% Indo-Trinidadian, 32% Afro-Trinidadian, and less than 1% European and Chinese populations, the area of focus in East Port of Spain is almost entirely Afro-Trinidadian. While within the city limits of Port of Spain the population is roughly 49,000, the total population of East Port of Spain is nearly double, with 72,000 people.⁹⁾ The metropolitan area is divided into two governments with overlapping jurisdictions. The East Dry River separates the colonial-era, gridded section of the city from the informal, organic settlement of East Port of Spain. This spatial division is further reinforced by a social division that has created a general stigmatization of the area of East Port of Spain, despite its historical importance within the country's cultural identity.

This marginalized community has been the birthplace of much of the Caribbean customs and music, such as steelpan and calypso, and these contributions have helped to shape Trinidadian culture. For this reason, East Port of Spain is culturally significant not only to the city or country, but to the Caribbean region as a whole. Nationally flaunted as the only acoustic instrument invented in the 20th Century, the steel pan has defined the sounds of the Caribbean. The music also has ties back to the 1700s and the country's slave history. These two intersecting histories—colonial era and modern day steel pan band battles—form the basis for the country's Carnival tradition. The Trinidadian carnival is seen as one of the few pure forms of the festival and a major export for the nation. This rich cultural history all has its roots in East Port of Spain.

East Port of Spain is comprised of 19 distinct communities: Beetham Gardens, Belmont, East Port of Spain, Eastern Quarry, Gonzales, Laventille, Lady young (Marie Road, Romaines Lands), Mon Repos, Morvant, Never Dirty, Picton, Sea Lots, St. Barbs, Upper Belmont, and Port of Spain Proper. Each community faces a variety of challenges, from steep topography to crime. The densest communities are situated along the western portion of the area, which are those neighborhoods that border the Dry River and the formal city. There is another concentration of people living toward the center of East Port of Spain, which are communities built along steep inclines. Because of this mountainous terrain, basic infrastructure is challenging and costly to install. Some neighborhoods within East Port of Spain have very limited accesses to indoor plumbing. One of these in the northern edge, Marie Road, has no homes with indoor plumbing; and in the southern portion, the waterfront community of Sea Lots has 98% of homes relying on standpipes or other forms of water supply.¹⁰⁾ As a whole, the majority of people within East Port of Spain suffer from having running water within their homes. Within these same neighborhoods, the majority of the population is living on the equivalent of approximately US\$313 per month.¹¹⁾ That comes to just over US\$3,700 per year as compared to the GDP per person of just over US\$17,000.¹²⁾ In addition, with a national literacy rate of 99%, creating job opportunities for this educated but underemployed community is a critical challenge.

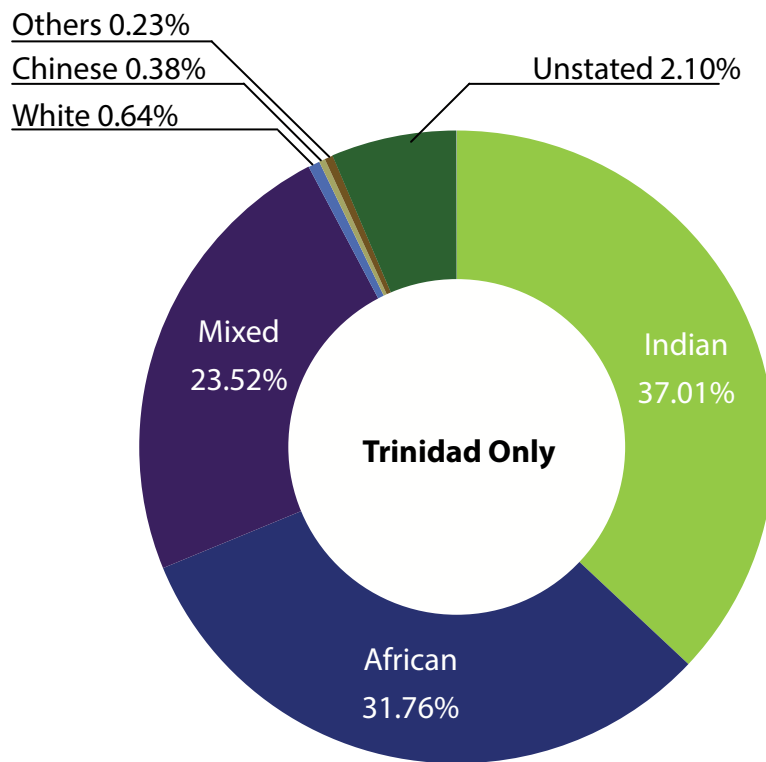
The poverty and lack of infrastructure in East Port of Spain contributes to the stigmatization of the area. This stigma, coupled with crime both actual and perceived, makes it difficult to address the social issues the community faces. Poverty related challenges in the area center mostly around the right to work, stable and well-paying jobs, and what could be seen as exclusionary labor gangs.¹³⁾ Murders and other violent crimes are

relatively high in the area, but they are almost always related to labor disputes or other turf wars, not random acts of violence.¹⁴⁾ Yet, the overwhelming fear of danger to outsiders has stopped much needed interventions from happening within East Port of Spain.

Given these challenges, and the requests of our client, our goal within this research project was to prioritize the residents of East Port of Spain in the development of planning initiatives. In each of the project areas, we recommend a process rather than specific design recommendations, because we feel it is critical that the community members should be the ones that drive these interventions.

Figure 6.
Ethnic makeup of Trinidad and Tobago

Source: Central Statistical Office, Trinidad and Tobago, 2011



Client Overview

Inter-American Development Bank



Figure 7. IDB Logo

Source: IDB Website

The Inter-American Development Bank (IDB) is a multilateral bank created in 1959 to serve as a source of financing for development projects in Latin America and the Caribbean to eliminate poverty and inequality, promote sustainable economic growth in this region, and foster development through the private sector. The IDB designs projects, provides financing, and gives technical assistance and knowledge services to its clients in an array of programs dealing with climate change and sustainability, water and sanitation, and education initiatives.

The IDB has 48 member countries, considered shareholders, 26 of which are regional member countries that are the borrowers, and 22 non-regional, non-borrowing member countries who as share holders, support the capital structure of the Bank; recent non-borrowing member countries include South Korea and China. The United States is a 30% shareholder. Only member countries can bid for IDB-financed contracts to provide goods and services, a major incentive for non-borrowing members. As of 2014, the IDB has a capital base of US\$171 billion in addition to approximately US\$300 million available for grants. Annual lending averages US\$12 to 13 billion and grants average US\$40 to 50 million.¹⁴⁾

Emerging and Sustainable Cities Initiative

Port of Spain was chosen as one of the five pilot cities for the Emerging and Sustainable Cities Initiative (ESCI). ESCI is a technical assistance program that helps intermediate cities in Latin America and the Caribbean identify, prioritize, and structure projects to improve their environmental, urban and fiscal sustainability, and improve governance.¹⁶⁾ Other pilot cities in addition to Port of Spain are Goiana, Brazil; Montevideo, Uruguay; Trujillo, Peru; and Santa Ana, El Salvador.

Under ESCI, the IDB has assessed primary issue areas for Port of Spain. **(Figure 8.)**

The greatest challenge Port of Spain faces in achieving sustainable development is in the fast-growing, more densely populated, congested, and vulnerable neighborhoods that lie to the east of the city which are under the mandate of the East Port of Spain Development Company. The ESCI action plan for Port of Spain to address these challenges is focused on three areas of intervention: environment and infrastructure, cultural heritage, and social and economic development.

Trinidad has a low debt to GDP ratio, standing at 37.1% of GDP (2013 est.), due to large oil revenues from recent high oil prices so from the IDB’s analysis the country is solvent and capable to invest in urban sustainability projects. The total necessary urban investments under the three of the Action Plan areas were estimated at US\$196,496,000¹⁷⁾ broken down as follows (**Figure 9.**):

Figure 8. Primary Issue Areas for Port of Spain

Source: Emerging and Sustainable Cities Initiative, Inter-American Development Bank, Action Plan

Public Safety	Urban Mobility
Managing Growth Protecting the Environment	Economic Development
Vulnerability	Participatory Planning and Enforcement
Appropriate Urban Infrastructure and Facilities	Heritage and Culture
Waste Management	

Figure 9. Total Investment by Source

Source: Emerging and Sustainable Cities Initiative, Inter-American Development Bank, Action Plan

IDB Investment Streams	US\$50,351,000
Local T&T bodies- WASA* & NIDCO*	US\$2,600,000
Multiple Sources (not yet secured)	US\$143,545,000
Total Investment	US\$196,496,000

*WASA: Trinidad and Tobago Water and Sewage Authority

*NIDCO: Trinidad and Tobago National Infrastructure Development Company

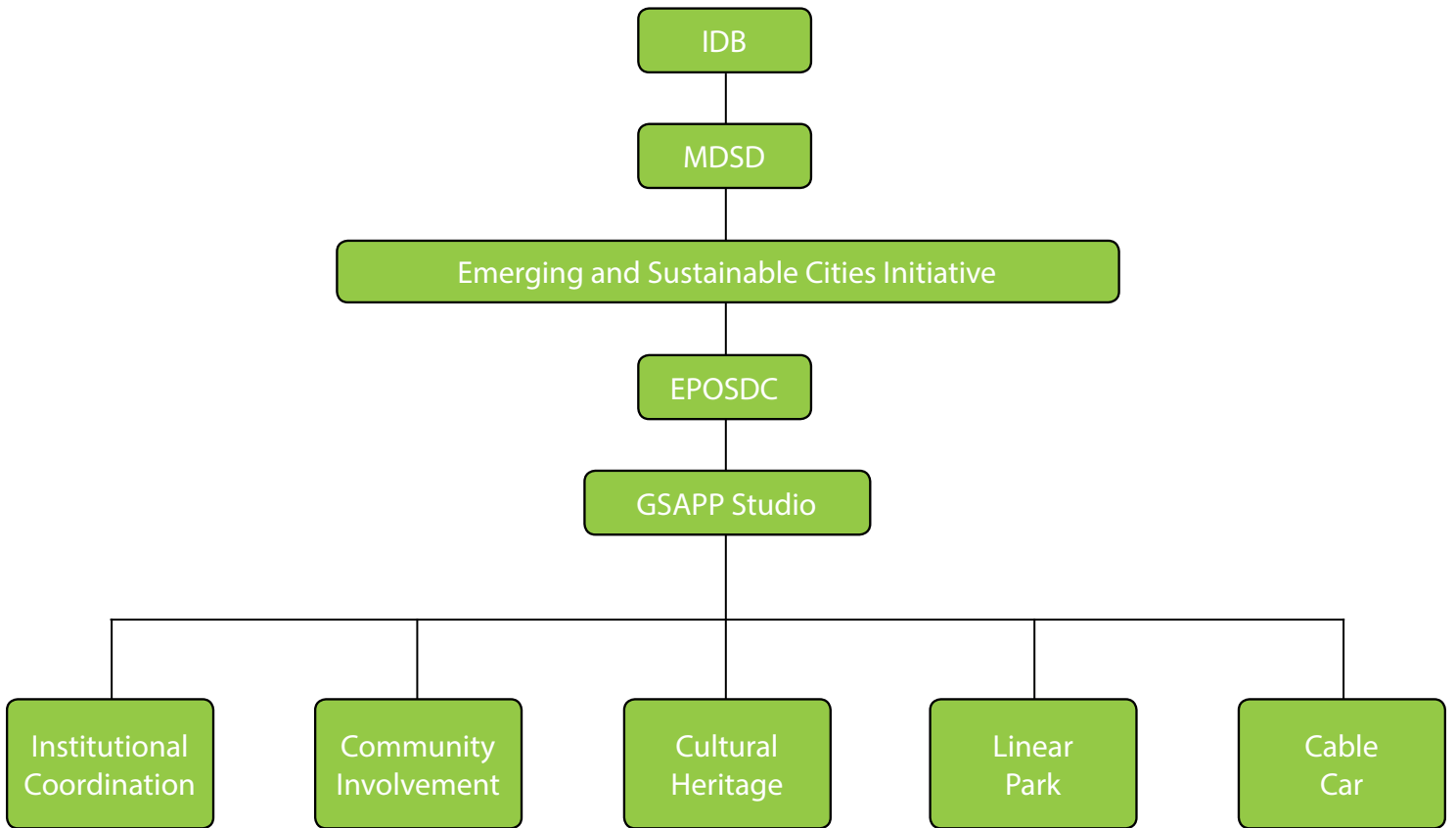


Figure 10. Memorandum of Understanding

Source: Trinidad and Tobago Studio

Memorandum of Understanding

For our engagement, the IDB solicited from us analytical input on the potential ESCI program in Port of Spain for five project components.

These are:

- 1. Institutional Coordination***
- 2. Community Involvement***
- 3. Cultural Heritage Preservation***
- 4. Linear Park***
- 5. Cable Car***

We refocused the first two project areas, institutional coordination and community involvement, as necessary support functions for successful implementation of the three proposed physical interventions, cultural heritage preservation in East Port of Spain, a linear park to revitalize the East Dry River, and an aerial cable car to improve mobility and accessibility within and from East Port of Spain to the rest of the city for residents and visitors alike.

Together, the three projects address the ESCI goals to improve the environmental, economic, and social sustainability and mobility of East Port of Spain. Throughout these projects, we recommend local community involvement in each process and to do so, institutional renovation is a requirement. We focused on anchoring the main three projects with the two process-supportive projects. Additionally, these projects gain strength from each other and connecting them spatially and institutionally will bring added value to their potential implementation and magnify their positive effects.

Methodology



Figure 11. Symposium
Source: Trinidad and Tobago Studio

Our methodology was divided into three parts:

- 1. *Our Pre-site Visit Research***
- 2. *The In-country Site Visit***
- 3. *Our Post-trip Data Synthesis***

Each of these phases had separate goals and methodology with the aim of helping us to understand the current conditions and challenges facing East Port of Spain and the country as a whole, and the strengths and opportunities of the area. Additionally, we wanted to understand international precedents of similar projects related to those we were tasked with investigating for East Port of Spain. By understanding the landscape of the country and what worked well in other international contexts, we offer proposals that, in our view, combine the appropriate components for the people of Trinidad, and specifically East Port of Spain.

In the first phase, we researched the history, socio-political context, and governmental and planning structure of Trinidad and Tobago. Cultural research was done through literature and film critical review, including among others films like *Calypso Rose: The Lioness of the Jungle* (2011), a documentary on the self-proclaimed Queen of Calypso music; and the works of five poets inspired by East Port of Spain, including an excerpt from *The Dragon Can't Dance*, by Earl Lovelace.

During this phase we also researched precedent analysis for cultural heritage, aerial cable car systems, and linear parks projects in deal execution. For these, we looked at projects in Cuba, the United States, Colombia, Brazil, and Bermuda to find good ideas and principles for a variety of different conditions. While some of the cases were not directly applicable to the proposals for East Port of Spain, they provided insights into what made certain investments more successful than others, and the types of processes related to community engagement and governmental support that worked or did not work well in other places.

While in Port of Spain, we embarked on the most intense phase of our study. We had the opportunity to travel throughout East Port of Spain to observe the conditions in different areas of the territory. We also met with representatives from various national ministries, took part in several site visits to key locations related to the proposed projects, and met with local residents, activists, and academics to gain a deeper perspective on the community and place. These focused interviews and visits strategies allowed us to gain a better understanding of the challenges facing the physical environment as well as those social and political challenges to progress in East Port of Spain. After we collected these data, we hosted a day-long symposium, co-sponsored by the East Port of Spain Development Company and our client, the Inter-American Development Bank, to share our outsiders' perspective and engage with the community around specific developmental topics. This interaction allowed us to both share our research on the international cases we studied, and also to get immediate feedback from academics, ministry representatives, and local community leaders on the proposed projects for East Port of Spain.

Following the trip, we were able to coalesce our findings from both our pre-trip and during-trip research and begin to analyze the proposals for socio-political and spatial feasibility. As a result of that analysis, we have produced maps and graphics as a means of synthesizing the current state of the city and formulate recommendations for the conceptualization of an integrated, holistic sustainability and mobility network. By overlapping all of the proposals onto one map, we were able to visualize the potential inter-connectivity and synergy of the proposed interventions. This exercise demonstrated to us the complexities and the supportive inter-related nature we envision for these projects. Our primary takeaway is that the main strength in these projects comes from connecting them and having each support one another.

Stakeholders

Stakeholders

We identified the stakeholders relevant to our engagement in East Port of Spain and the five project components.

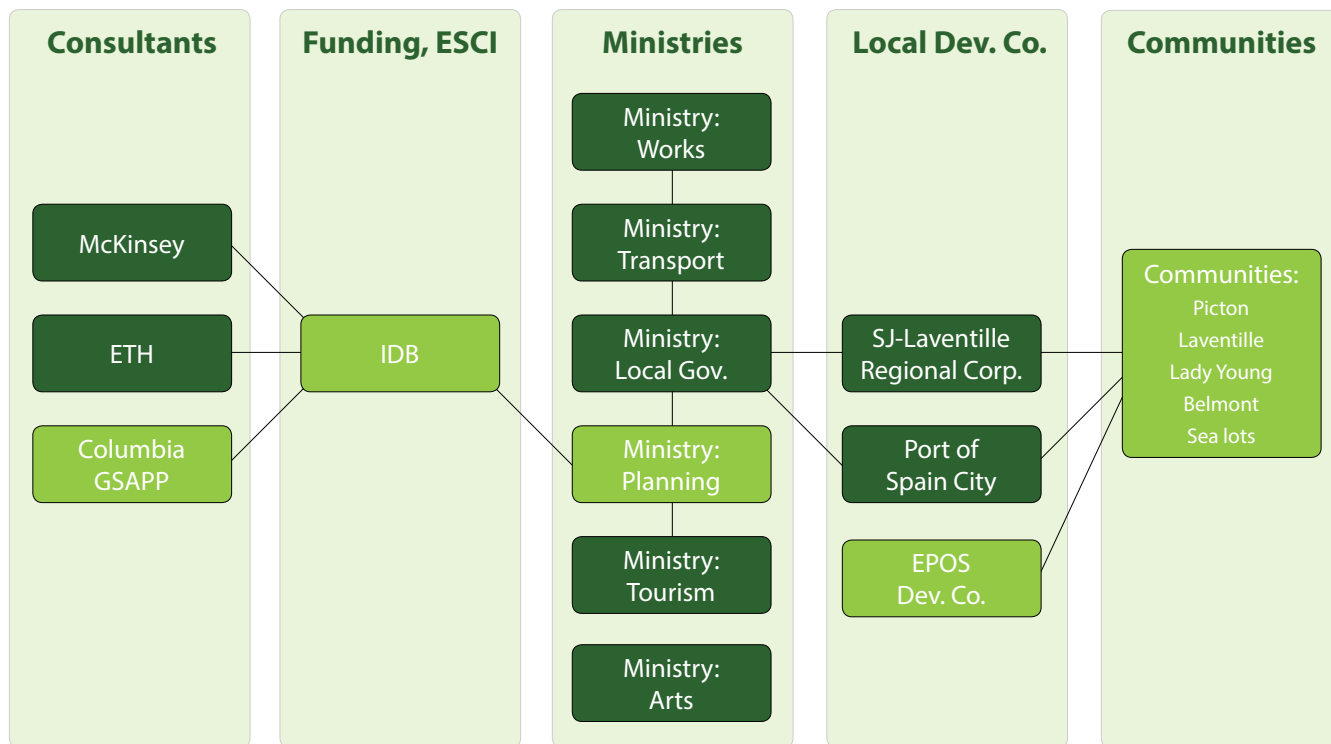
The Inter-American Development Bank is the key participant, initiating the ESCI program with the national Ministry of Planning and Sustainable Development. To support on the formulation of the ESCI Action Plan for Port of Spain, there were several consultants hired by the IDB. McKinsey & Company, a global management consulting firm, created an in-depth analysis of the current conditions in Port of Spain. The ETH, a prestigious technical and science university based in Switzerland, worked on urban designs for a linear park and cable car stations. Our studio, Columbia University, was brought in as a new academic consultant tasked with tying the ETH urban design proposals together with a more socio-economic policy framework.

While the ESCI is officially between the IDB and the Ministry of Planning, the other ministries related to our studio—the Ministry of Works and Infrastructure, the Ministry of Transport, the Ministry of Arts and Multiculturalism, the Ministry of Tourism, the Ministry of the Environment and Water Resources, the Ministry of National Diversity and Social Integration, and the Ministry of Local Government—hold important roles in the proposed project areas involved. Under the Ministry of Local Government are the Port of Spain City Corporation and the San Juan-Laventille Regional Corporation, in charge of executing the local governing functions in Port of Spain and its surrounding areas. These two corporations overlap in jurisdiction in East Port of Spain. The East Port of Spain Development Company was created under the Ministry of Planning in 2005 by legislative order and is in charge of redeveloping the communities of East Port of Spain. It has established a Strategic Development Plan for East Port of Spain, which identifies the needs of each community and creates Comprehensive Development Areas to address their vulnerabilities.

The San Juan-Laventille Regional Corporation, the Port of Spain City Corporation, and especially the East Port of Spain Development Company have the most direct contact with the communities of East Port of Spain. The ones we have highlighted are the stakeholders we feel would be the most directly involved with our proposals.

Figure 12. Stakeholder Analysis

Source: Trinidad and Tobago Studio



Power-Impact Analysis

After we identified the key players, we analyzed the power dynamics that relate them to our project. In this power-impact analysis, we have power on the y-axis, which we define as monetary, institutional, and legal power; and potential to impact on the x-axis, which is the ability to have a direct impact on how the project is designed and implemented.

In our analysis, the Ministry of Planning and Sustainable Development holds the most power, more than the Inter-American Development Bank, though the latter has more potential to impact than the Ministry of Planning as they design the projects and channel the funds.

The Ministries of Works and Infrastructure, Transport, Arts and Multiculturalism, and Tourism have institutional power but our current analysis is that they're not having a lot of direct impact at this stage. The Ministry of Local Government has the potential to coordinate and integrate cooperation and policy-making between the

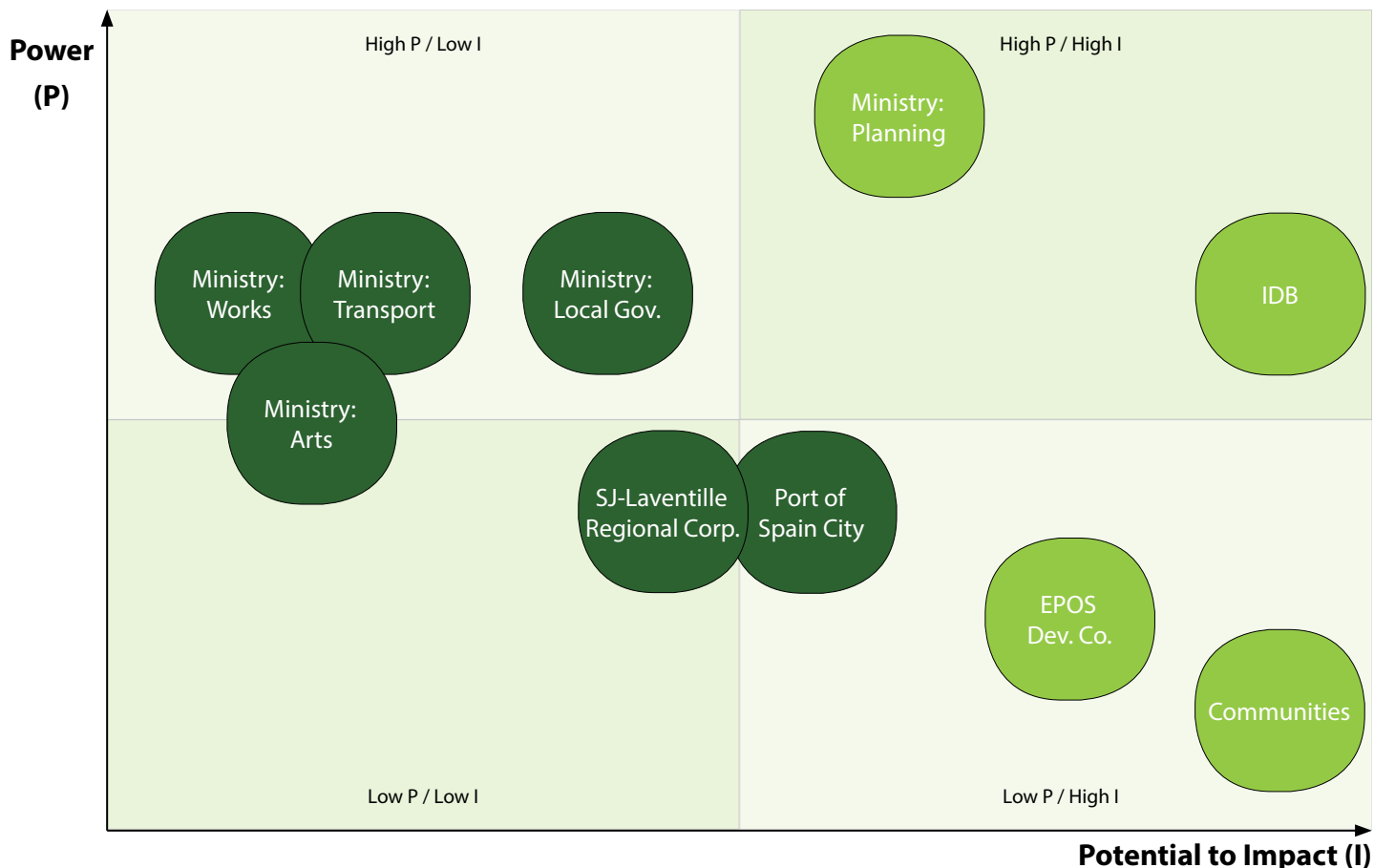


Figure 13. Power Dynamics

Source: Trinidad and Tobago Studio

Port of Spain City Corporation and the San Juan-Laventille Regional Corporation local governments that share jurisdiction over East Port of Spain, but have no fiscal autonomy and presently very little communication between them.

The East Port of Spain Development Company has a high potential to impact the project as it has development jurisdiction over East Port of Spain as well as the most direct interaction with the communities. It, however, has little power as it is under the Ministry of Planning, making it not autonomous, and its funding comes directly from an infrastructure development fund which only provides funds for physical development, not social and economic development projects.

The East Port of Spain communities, while they hold little power, have the greatest potential to impact the

plan when properly involved in the planning process from the beginning, and in all its subsequent phases of design, implementation, and management.

Currently, there is a proposed bill before the Parliament of Trinidad and Tobago since September 2013, known as “The Planning and Facilitation of Development Bill,” that seeks to reform the planning laws of Trinidad and Tobago by devolving more power to local planning authorities in the preparation and approval of sub-national development plans. If this bill were to pass as is, it would change the power relations between the stakeholders as they relate to our project; more power could be granted to the East Port of Spain Development Company by possibly becoming a planning authority or to the San Juan-Laventille Regional and Port of Spain City Corporations by allowing them to raise local revenues, in turn empowering the communities. The outcome of this bill and its impact are unknown as of August 2014.

Project Deliverables

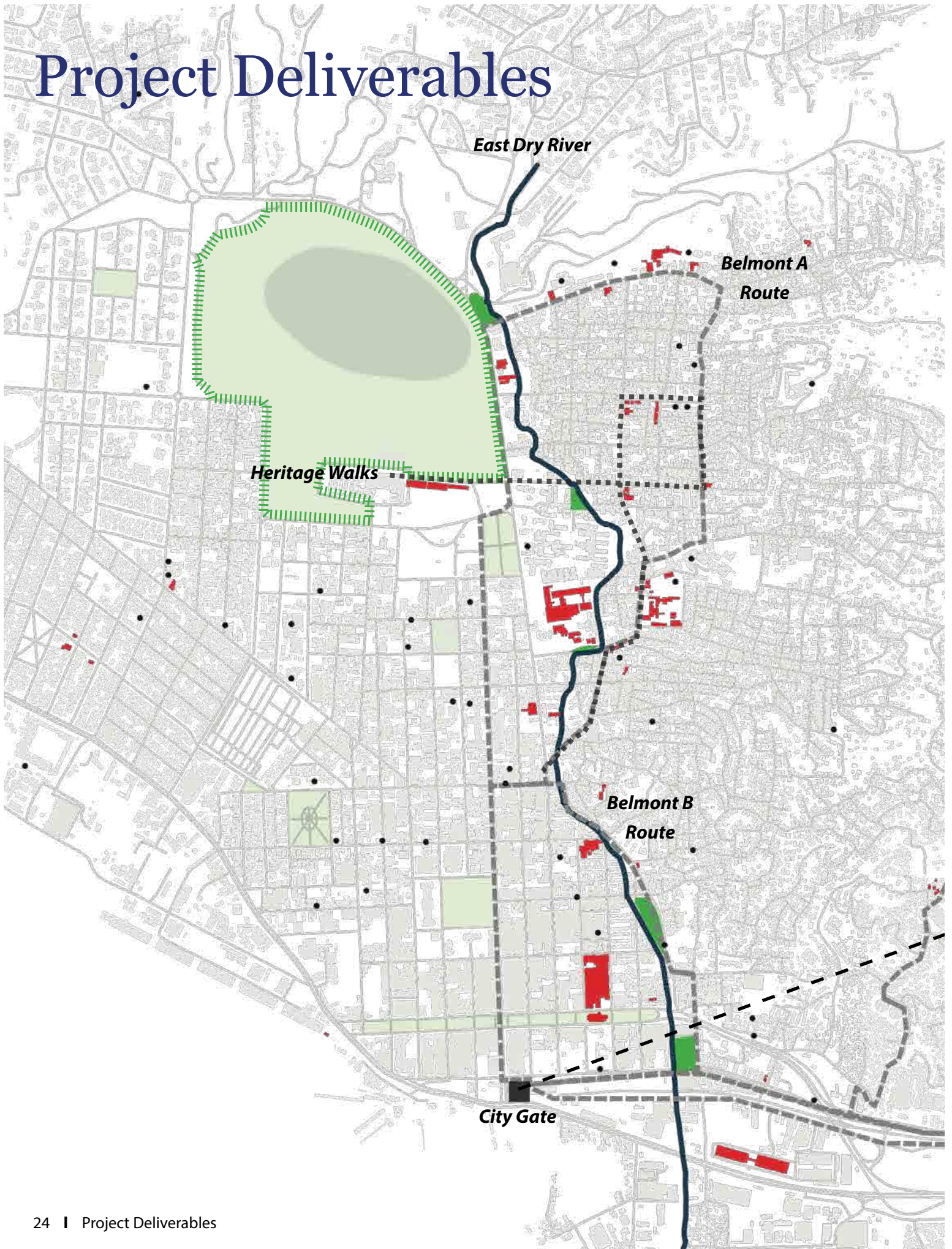







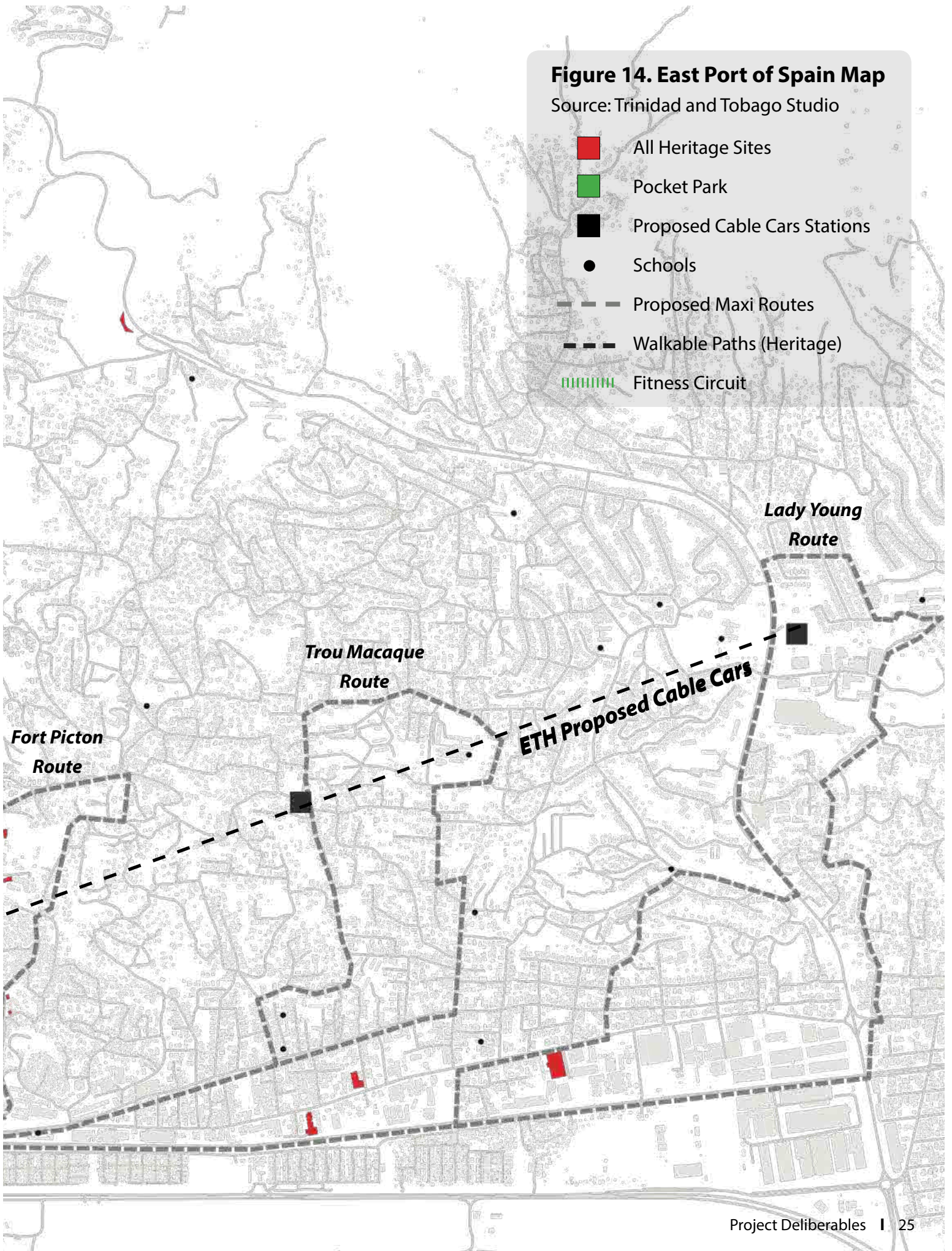


Figure 14. East Port of Spain Map

Source: Trinidad and Tobago Studio

-  All Heritage Sites
-  Pocket Park
-  Proposed Cable Cars Stations
-  Schools
-  Proposed Maxi Routes
-  Walkable Paths (Heritage)
-  Fitness Circuit



I. Institutional Coordination

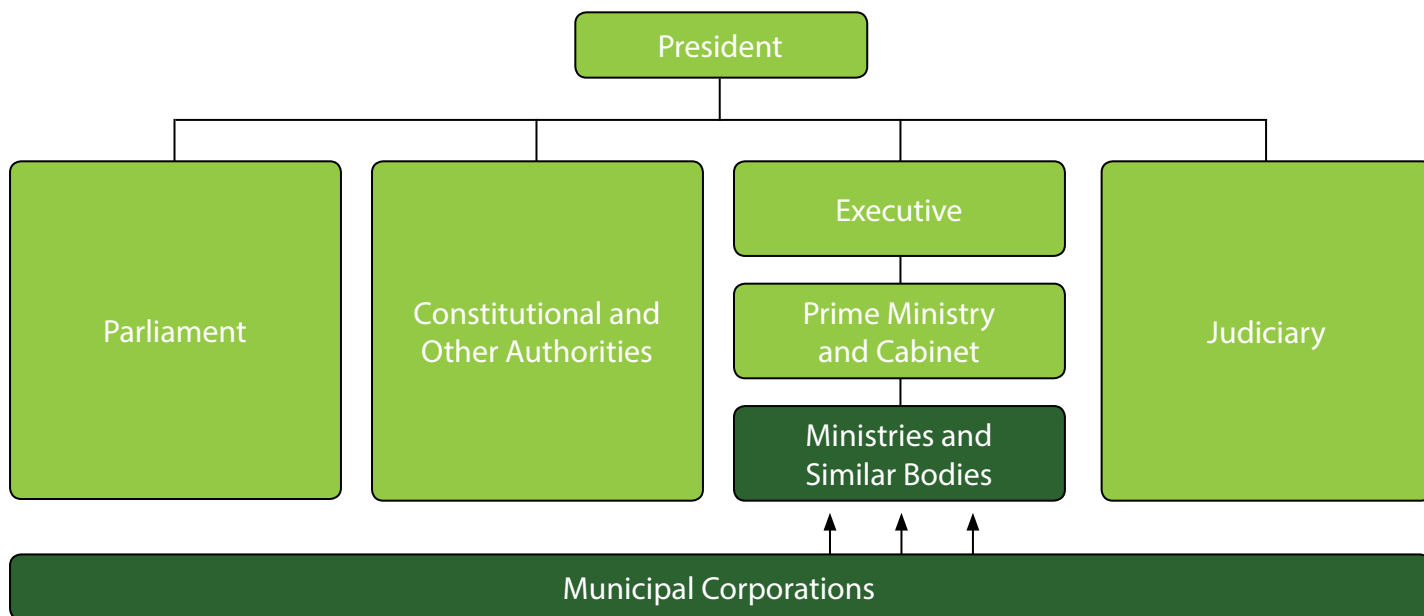


Figure 15. Government Structure

Source: Trinidad and Tobago Central Government Website

Introduction

The current planning landscape in Trinidad and Tobago is somewhat fragmented, characterized by duplicative governmental agencies and constantly changing responsibilities with little inter-agency communication. Some government agencies have overlapping responsibilities. For example, two separate ministries handle historic preservation in Trinidad and Tobago. The Ministry of the Arts and Multiculturalism oversees preservation of intangible culture, while the Ministry of National Diversity and Social Integration handles preservation of built heritage. This system might function if the two agencies coordinated with one another, but this did not seem to be the case.

Similar issues can be seen at the municipal level. The local government in Port of Spain is overseen by the Port of Spain City Corporation, while in East Port of Spain is mostly overseen by the San Juan- Laventille Regional Corporation. The two jurisdictions actually overlap each other around the East Dry River. An illustrative example was shared by a government representative at a stakeholder meeting: one of the agencies was paving a road and when they reached their jurisdictional boundary, they simply stopped paving the road without coordinating with the other agency, leaving only half of the road paved.

Furthermore, the East Port of Spain Development Company has legislative mandate over East Port of Spain after being declared a Special Development Zone by the Prime Minister in 2005. The Development Company is tasked with ameliorating the economic and social disparities between these communities and Port of Spain and revitalizing these into sustainable communities. While its mandate reaches across socio-economic necessities, its financing only covers physical infrastructure projects such as road repair and construction.

Challenges & Opportunities

The main governance challenge lies in the existing governmental structure that concentrates the majority of the power, even at the local level, in the national government. The Town and Country Planning Division under the Ministry of Planning is in charge of planning for the entirety of Trinidad, both at a country and city level, and responsible for administering the Town and Country Planning Act. This Act, which governs the development of land and its planning, was passed in 1960 and last amended 24 years ago in 1990. All approvals of planning and development applications, even at the city level have to go through the Town and Country Division. This makes moving forward with construction, development of land, and planning decisions at the city level a slow and cumbersome process, as the Division processes a high number of applications and is not necessarily in-tune with city residents' needs, business needs, and land or real estate market trends.

The proposed "Planning and Facilitation of Development Bill" before Parliament seeks to replace the Town and Country Planning Act as well as the Town and Country Division with the National Physical Planning Authority. This Authority would work with the Environmental Management Authority to ensure preservation of the environment and develop a National Spatial Development Strategy, that instead of creating regional plans, would form a policy framework in which regional and local plans can be developed by a municipal planning authority.

The Minister of Planning can appoint a municipal planning authority or delegate an already-existing authority, or appoint two or more municipal planning authorities to be one joint planning authority to prepare a development plan for its limited area. A joint planning authority created between the East Port of Spain Development Company, the Port of Spain City Corporation, and the San Juan-Laventille Regional Corporation

would ensure complete and holistic development of the East Port of Spain communities and surrounding areas, whose sustainable development depends on each other, creating and enriching coordination and communication that is currently very limited between these entities.

Overall, this bill, which is still under deliberation as of August 2014, looks to decentralize planning functions to local authorities and could create a good framework and precedent for delegating other functions as well and promoting institutional coordination.

Recommendations

While this bill offers a great opportunity to enhance the efficiency of planning and give more power to local authorities, there are crucial areas we see where this bill can be improved to create a more inclusive and sustainable planning model. The bill, specifically Clause 22 allows for community involvement in the preparation of a development plan, but the community involvement amounts to little more than consultation, which is not much different from what currently takes place. The notification of preparing the plan is to be published in at least two daily circulating newspapers in Trinidad and Tobago asking the public to participate. While a proper step, this mode excludes those who are illiterate and have limited mobility, like many residents of East Port of Spain. We strongly recommend the community be given more of an active and partnership role in the development of these plans through open public forums held in the areas where the population that would be most affected resides and in conditions that are sensitive to their needs regarding schedules, formats, childcare needs, etc.

The proposed bill should take steps to improve the process of compulsory acquisition in matters of implementing development plans. The notifications of compulsory acquisition are also announced in local papers and notices are posted on residents' homes. A judge is the one who makes the assessment of the market price value of the land at the moment of the announcement of acquisition, of which only up to 80% of this value is awarded to the landowner. For East Port of Spain residents, including renters, who live in areas with insecure land tenure, little present value of land, and few options of relocating nearby and near employment opportunities if compensated at 80% of the market value of property, the laws of compulsory acquisition as they

currently stand for the purpose of implementing proposals of a development plan are inequitable.

Delegating planning power to local authorities should occur hand in hand with enhancing their financial ability to implement plans and go beyond the physical and environmental aspects of planning and infrastructure improvements to cover socio-economic plans and programs.

Furthermore, we recommend the inclusion of specific gender and age perspectives and sensitivity into planning in Port of Spain and Trinidad. Neither the proposed Planning and Facilitation of Development Bill nor the East Port of Spain Development Company's Strategic Plan include planning to address the inequality and social ills such as violence, lack of education, health problems, and unemployment that plague women, despite the fact that 70% of households in East Port of Spain are female-headed with needs for child care and employment opportunities;¹⁸⁾ or the differential ways that the proposed interventions of a linear park, cultural heritage, and cable car will affect women and men, and people at different ages, particularly children, youth, and the elderly.

II. Community Engagement

Figure 16. Symposium

Source: Trinidad and Tobago Studio



Introduction

One of the requirements of the ESCI is community participation. Requiring community participation is not, however, a simple directive. “Community participation” may encompass a variety of interactions, from the meaningful to the oppressive.¹⁹⁾ When we speak of community participation, or community engagement, we are speaking of partnership between people and the government, where the communities have real power to negotiate with decision makers in meaningful ways.

The communities want to ensure that community participation is not simply community placation or consultation—where they are permitted to voice their concerns in the presence of officials, but with usually no real impact on the design, implementation, or management of projects that impact them; we want to ensure that the people of EPOS and POS have the ability to influence the decisions that will affect their communities.

Challenges & Opportunities

In the first stage of our project, we held meetings (remotely) with government workers, academics, and community activists, who made it clear that we should expect consultation fatigue among the residents of EPOS. Therefore, we expected to listen to criticisms of these past consultations and community meetings during our fieldwork, so that the communities' concerns with previous planning engagements could inform our recommendations.

While our group size and police escort made it challenging to use some of our site visits as an opportunity to speak candidly with community members, we did get a chance to speak to a selection of people from EPOS during and after the symposium hosted by EPOSDC, both during the formal event as well as one-on-one afterwards. While this group was not a representative sample of the 19 communities of EPOS in terms of how they felt about the three types of planning interventions discussed at the symposium, these conversations, together with the casual conversations we had with POS and EPOS residents outside of the event, made it clear that there is still willingness to participate in the planning process. What was driving the fatigue was seeing no evidence of community feedback taken into consideration for actual transformations in EPOS. For planning agents in Trinidad and Tobago, it is important to make efforts to avoid feeding this community frustration.

Recommendations

In the three physical intervention sections of this report, we try to integrate the importance of meaningful community input at an early stage, and throughout the implementation and management of the project. Site and spatial recommendations are offered only as a means of visualizing our analysis and demonstrating the process of planning. We feel that exact locations and design details for the particular projects should be determined through a community-driven process of analysis and design. In general, we recommend taking the following steps to improve processes of community engagement in EPOS and POS.

1 Build Rapport through Community Leaders

One of the biggest challenges in meaningful community engagement is acquiring the trust of a community



Figure 17. Build Rapport

Source: Trinidad and Tobago Studio

that has been historically marginalized. It is hard to believe that people in power will take your input into consideration if you have never been involved in a participatory planning process and seen the good that can come out of difficult conversations and negotiations or worse yet, if you have participated and seen our input not taken into account. Focus on building relationships with community leaders and established, respected institutions first. Communicate openly with them about the motivations for a shift in standard procedure. Acknowledge where and how communication and participation has been less than adequate in the past, and together discuss strategies for ameliorating these hurts and creating a more meaningful relationship between the community and the government. How do they think the processes for communication and participation in planning could be improved? How do their communities think these processes could be improved? Building trust will be an ongoing process, and relationships with community leaders must be given attention and care regularly, not just when there is a difficult decision on the horizon.

2 Make Meeting More Accessible

The timing of important meetings should cater to the needs of the communities who should be present. Planning meetings should be held at the site of the proposed intervention—or as close to this site as possible—so that the meeting’s focus is more tangible and it is easier for the communities who will be impacted to travel to the meeting site.²⁰ Childcare should be

provided at the event, so that parents who would otherwise be unable to attend community meetings will be able to participate in the decision making process as well. Information needs to be presented and input collected in manners that are accessible to the particular audiences targeted.

3 Improve Meeting Formats

Our only experience with government-community meeting in EPOS was the symposium, which we suspected would be atypical because of the academic nature of the event. We were told by a number of attendees, however, that the symposium was in fact representative of community meetings. The level of formality that characterized the event, while appropriate for academic conferences, is not the most conducive way to create a collaborative environment. The event was an example of consultation, where community members and officials could speak and be heard at turns, but there was no extensive dialogue, and no evidence that the difficult issues being brought up would be grappled with by the governments and organizations represented there. A better format we recommend would have the head table versus audience dichotomy last only long enough to disseminate information and frame the purpose of the day's meeting, after which officials and planners should spread out into breakout groups, where community members can engage with the government in a meaningful way. Notes should be taken at each breakout session, and one representative from the table should summarize the discussion to the remainder of the room. This way, the concerns, contentions, and agreements of each breakout group will be shared with all participants and officials in other breakout sessions. Minutes, explicit follow up tasks, and responsible agents need to demonstrate that the meetings were productive.

4 Approach Community in Early Stages of Planning

Lastly, we must stress that community engagement is only meaningful if it is done from the earliest stages of a planning intervention, before an agency has committed to a project and before funding has been appropriated. For a project to be sustainable in time and contribute to community development and economic wellbeing, community members need to be engaged in all phases of it, including design, implementation, and management.

III. Heritage Preservation



Figure 18. Fort Picton
Source: Trinidad and Tobago Studio

Introduction

Trinidad and Tobago and especially East Port of Spain have a very rich cultural heritage. EPOS is the birthplace of some of the Caribbean most esteemed customs and music, such as the steel pan and calypso. Before our trip to Trinidad and Tobago, our research on its cultural heritage was mainly limited to testimonies, documentaries, audio records, and secondary literature. While we were there ourselves, we could experience the cultural richness that we had studied the previous weeks. However, we were also confronted with the challenges that are posed towards the tangible and intangible cultural heritage of Port of Spain.

Mission

We see historic preservation as an approach that can function as a catalyst and have positive impacts on the city in general and the other project components in particular. Just as ecosystems provide services to our natural and built environments, cultural heritage has the potential to provide important social services, like the strengthening of group cultural identity and social standing, reducing socioeconomic inequalities, and improving social justice.²¹⁾ In the following paragraphs, we will discuss and critically analyze opportunities, challenges and finally make recommendations to leverage East Port of Spain's tangible and intangible culture.

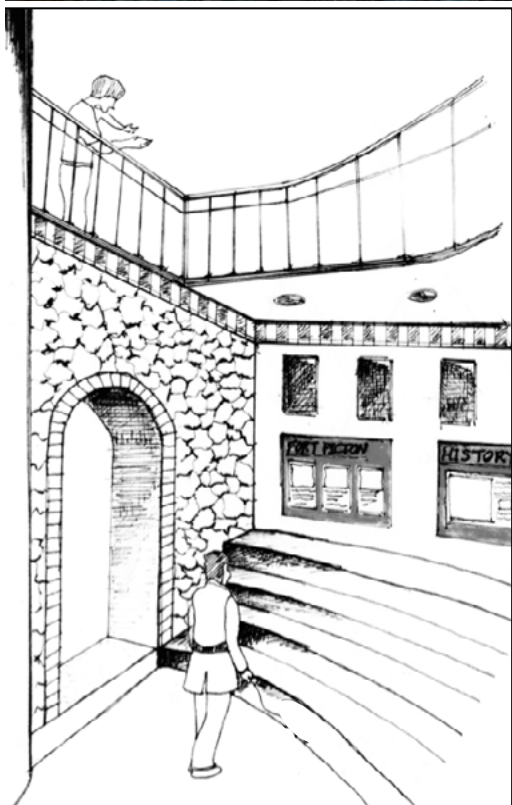
Opportunities & Challenges

During our trip we had the chance to meet with several stakeholders of Trinidad and Tobago's cultural heritage preservation. Amongst these were the Ministry of Arts and Multiculturalism, the Ministry of National Diversity and Social Integration, several community organizations like the Citizens for Conservation, as well as individual community members who were passionate about the future of Trinidad's rich cultural heritage. We were positively surprised and impressed by the cultural heritage and the appreciation of both tangible and intangible heritage that we could sense while we were there.

However, this manifold spirit and support illustrates at the same time one of the major challenges to historic preservation as there is no single, overarching heritage preservation strategy in place. Various heritage stakeholders hold multiple lists and inventories of the city's heritage sites and intangible cultural assets, and follow

Figure 19. Before/After, Fort Picton

Source: Trinidad and Tobago Studio



largely different approaches when it comes to creating and working with those lists. These efforts are largely unconnected and do not necessarily include existing information of other lists. This fragmented nature of governing bodies and stakeholders of cultural heritage preservation can also be observed in the physical locations of Port of Spain's cultural heritage sites that appear to be scattered throughout the city without any clear recognitions or connections. For example, East Port of Spain has the highest concentration of gingerbread houses in the country.²²⁾ The term "gingerbread house" refers to a vernacular building style of the colonial era defined by intricate wooden fret work along the roof line. However, many of them are in desperate need of repair. A lack of funding and unclear ownership contribute to their condition.

This lack of preservation does not only apply to Port of Spain's precious gingerbread houses. Even major historic sites like Fort Picton, a British defense tower built in 1797 and located in Laventille, East Port of Spain, and one of the only few remaining Martello Towers in the world, have been neglected and are currently deteriorating. The lack of technical skills for restoration and preservation further aggravates the problem of disrepair.

To sum up, cultural heritage and its preservation has not been prioritized over the last decades in Port of Spain and the results are deteriorating monuments and a deteriorating housing stock in a city where there is actually a housing shortage. Rotting cultural sites, difficult access, and no financial support to leverage heritage assets add to the challenges. Yet the area's unique and multi-layered heritage is a defining feature of the country and could provide community and economic development opportunities in the long-term.

Recommendations

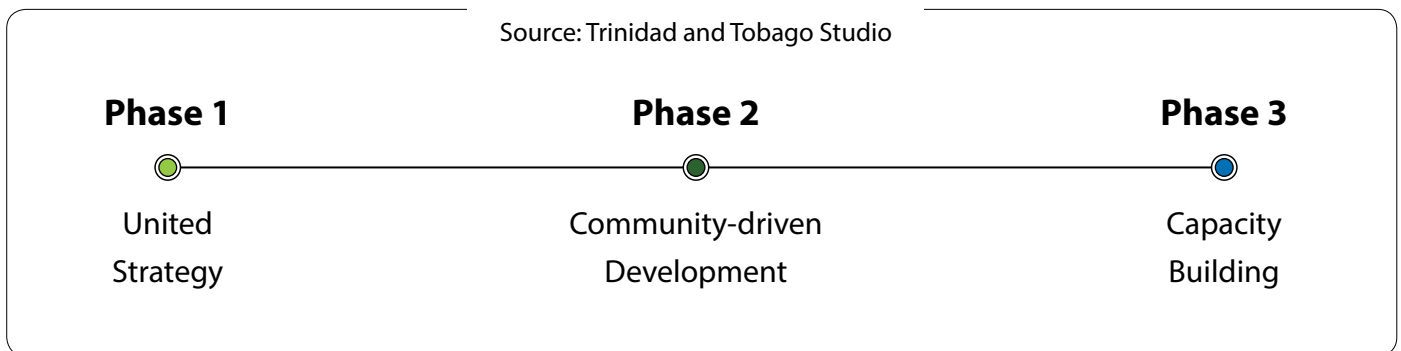
Thorough analysis and assessment of the opportunities and challenges that are posed towards Port of Spain's cultural heritage, we derived several recommendations on how to positively impact and lead Port of Spain's strategy in historic preservation.

We structured our recommendations into a three-phased process:

- 1. Unified strategy and a city preservation plan**
- 2. Community driven development to make connections between heritage sites**
- 3. Capacity building through educational programs and institutional support**

Figure 20. Phased Approach

Source: Trinidad and Tobago Studio



Phase 1

We recommend the creation of a national over-arching plan for historic preservation with a special chapter for Port of Spain. Drawing from international experiences, some key recommendations for the creation of such a plan include the identification of periods of historical significance for which key points for preservation will be defined and documented. Without a clear strategy, the historic fabric could be permanently damaged or lost. According to international best practices in preservation, it is essential to ensure that all alterations, restorations, or stabilizations of built heritage are clearly identifiable. In general, reconstruction should be avoided unless there is clear documentation about the original details of the structure and a clear way to physically mark what is original versus reconstructed.

Figure 21. Intangible Heritage and University of the West Indies

Source: Trinidad and Tobago Studio



Our assessment of existing documents, inventories, as well as our site visits and local stakeholder meetings made us realize that there were differences regarding scope and approaches of heritage preservation in Port of Spain. For example, none of the heritage inventories seemed to be “complete” as all of them focused on different physical areas of Port of Spain or differed in the characteristics of heritage they were focused on. For this reason, we think that a streamlining of governance, or at least a clear agreement on roles and responsibilities of different actors is necessary to be able to overcome the problem of fragmented, incomplete, and unfocused attempts at preservation since they have not resulted in consolidated and comprehensive efforts to preserve the city’s cultural heritage.

As for the intangible heritage, the wealth of knowledge and skills passed on from generation to generation like food traditions or carnival costume making, we recommend their inclusion on international heritage lists, like UNESCO, for the purposes of safeguarding, getting access to incentives, and marketing. Intangible culture does not only include inherited traditions from the past but also contemporary urban practices exercised by the communities and can have high social and economic value for community groups. However, it is only true heritage if community members recognize it as such.

Similar to Trinidad and Tobago, Bolivia is also home to a traditional carnival, the Carnival of Oruro. Their carnival, which takes place every year for a period of ten days, includes a procession and showcases a wide variety of popular arts expressed in masks, textiles and embroidery. In 2008, the famous Carnival of Oruro was

inscribed on the Representative List of the Intangible Cultural Heritage of Humanity.²³⁾ Trinidad and Tobago could try to do the same with its carnival and other intangible assets.

Phase 2

Our proposed second phase focuses on a community-driven approach. This could begin by building on existing, ongoing initiatives like heritage mapping and oral history activities at the neighborhood level. By giving agency to community leaders and groups, and partnering local universities, the work of preservation could come out of the communities themselves, thus empowering them to enhance their sense of pride and ownership and allowing for linkages between various sites and activities through the creation of heritage walks. Preservation Nation (2014) proposes seven steps to plan a heritage walks and to make them more than just a list of historic places along a mapped route.²⁵⁾ These walks can become a journey through time, culture, and traditions by selecting the right sites to tell the story of the area.

First, one should think about the goal and the reason for the heritage trail. Is it to be focused more on a preservation aspect, or on generating economic impact, cultivating community pride, or boosting tourism? After having decided what kind of trail should be created, compelling stories about the community's culture, heritage, and natural resources are to be identified to craft a story that can be shared with visitors. After that, an overarching theme of the heritage trail can be determined—which might also help in creating a name for the heritage walk. Only then a map of the stops that are supposed to weave the story together can be identified and mapped to create a visitor-friendly and easy-accessible tour. Lodging, dining, shopping, and parking/transportation options are to be considered at this point as well. In a fifth step, it should be decided how the story is to be told and what kind of media to include, for example printed materials, audio tours, guidebooks, brochures, maps, guided tours, virtual tours, etc. Another important step is to create a plan to develop, manage, and maintain the trail by integrating potential partner organizations or individuals that are interested in collaborating. Giving ownership to community members and making them an inherent part of the creation and management of the heritage walk will help to maintain them in a sustainable way and incentivize beneficial spillover effects, such as the creation of small entrepreneurial activities along the way. Lastly, a marketing

and promotion strategy of the heritage walk should be developed, which could include the advertisement in local newspapers, usage of social media and, traditionally, via tourism agencies and hotel brochures.

We created several proposals for potential heritage walks as seen on the map (p. 24).

After the creation of a physical heritage walk, virtual connections through smartphone apps could further leverage economic development and stabilize the heritage and cultural tourism industry. Since tourists often-times do not have access to the local internet services with the smartphones, to make this proposal operational, we recommend implementing wifi-hotspots on each stop along the heritage walk. Visitors would then be able to look up their next stops and research more information on their specific heritage stop. Wifi-hotspots would be available for local community members as well and could serve as a means to support the attractiveness of public spaces.

Phase 3

In phase 3, occurring simultaneously, we strongly recommend the formation of new educational programs around the field of historic preservation to ensure capacity building and to address the current lack of pertinent skills. The University of the West Indies, just outside of Port of Spain, has the only graduate program in urban planning in the English-speaking Caribbean. We see this as an opportunity for the creation of a preservation program. It could start as a certificate program (shorter than a regular master program), an executive education program (a post-professional, complementary program), or a specialization within the master program in urban planning, to build up interest and test its marketability before committing to a full master program.

Another relevant international best practice is Cuba's Escuelas Taller, which are vocational schools centered around traditional building practices. They offer 2 year educational programs focusing on traditional crafts and skills and at the same time let their students work on real-life projects, Cuba's heritage sites, that are then being restored and renovated. It is internationally known as one of the best examples for heritage preservation, which at the same time tries to help healing social ills by creating opportunities for education and jobs. By providing this well-rounded approach to job training the program fosters multiple opportunities to im-

prove personal living conditions.

Trinidad and Tobago’s Ministry of Tertiary Education and Vocational Training could adapt and expand this program to include other cultural traditions like steel pan construction, which is the creation of a musical instrument from old oil drums, or costume making for their famous carnival—a skill which is increasingly being exported to Chinese markets. The latter has historically been an important skill and job opportunity for the community that the area needs to recapture, not just to keep the skills alive but also for jobs in this community.

Port of Spain suffers from a housing shortage both in quality and quantity. Therefore, one major recommendation of our studio would be to restore the deteriorating gingerbread houses and transform them into affordable housing units. We think that the integration of educational programs modeled after Escuelas Taller could be leveraged and used to alleviate the housing shortage and availability of housing stock in disrepair by carrying out the restoration of the gingerbread houses. Some gingerbread houses could become live-work units, repaired with the “sweat-equity” of residents who can find in them housing, workshop, and commercial space.

Final Thoughts

We see cultural heritage preservation as a way to create jobs and economic stimulus but this should be a natural byproduct of the action of preservation. Instead, the main focus should be on the creation of a stable environment that supports a healthy and vibrant community.

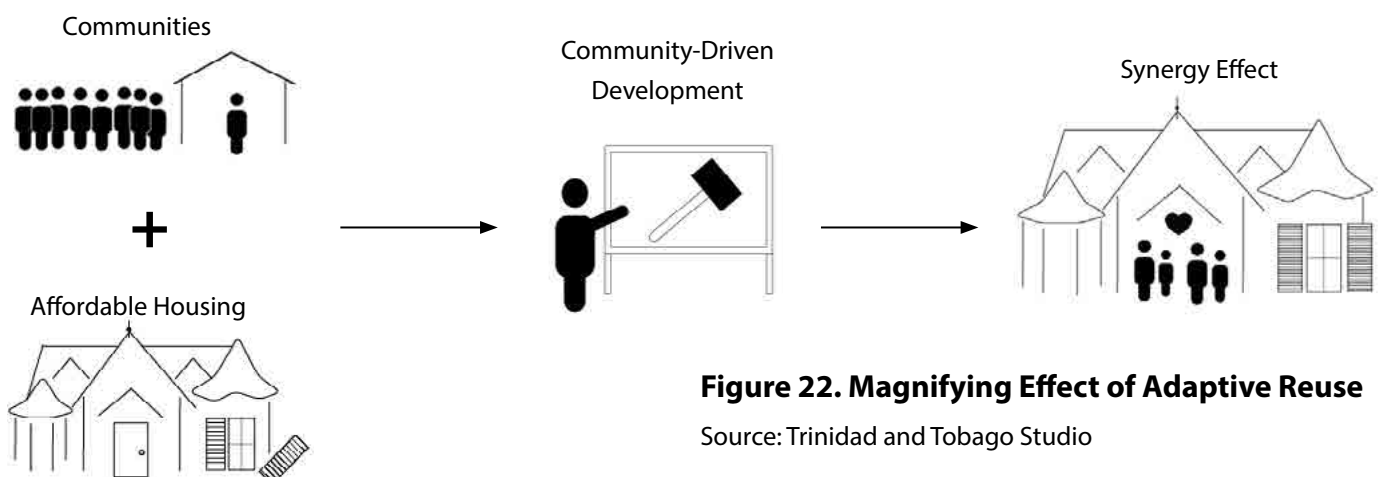


Figure 22. Magnifying Effect of Adaptive Reuse

Source: Trinidad and Tobago Studio

IV. Linear Park



Figure 23. East Dry River
Source: Trinidad and Tobago Studio

Introduction

The second project we were tasked with evaluating was the proposal to create a linear park along the East Dry River (or St. Ann's River). Linear parks are an increasingly common way for cities to carve up a bit of nature and public space out of underutilized urban areas; across the globe, narrow parks are being created from riverbanks, in riverbeds, under highways, or on top of old rail lines, and they are getting a good deal of attention. In conjunction with the Emerging Sustainable Cities Initiative, the IDB has already approved nearly US\$14 million for a 1.4 km linear park along the banks of the river (with more than US\$7.2 million of that set aside for engineering designs, and construction services) as a part of a US\$120 million flood mitigation program for Port of Spain, which also provides for a state of the art flood warning system.²⁴⁾ The linear park segment of the proposal was driven by the architectural designs for the park created by a studio from the Swiss Federal Institute of Technology (ETH), which includes amphitheater cut outs and promenades along the banks of as well as on the riverbed itself. Engineering designs were made by Canadian firm Genivar.

This river is currently a physical and social barrier between Port of Spain and East Port of Spain, which the linear park proposal seeks to partially remedy. The site of the proposed linear park in Port of Spain, however, has challenges unlike the spaces that were transformed into linear parks in some past precedents.

Vision

Our mission for the river project is twofold: 1) to revitalize the river such that it becomes a tangible economic asset for the communities of East Port of Spain and an intangible recreational asset for Port of Spain, and 2) to use the project as an opportunity to strengthen processes of community engagement in the metropolitan region.

Opportunities & Challenges

The East Dry River is dry for the majority of the year, but it is subject to significant flooding during the rainy season. This flooding can paralyze the commercial district of downtown Port of Spain and has taken a number of lives throughout the years.



Figure 24. Flooding

Source: Trinidad and Tobago News

Waste disposal along the river also creates a challenge to the creation of a park. Trash falls into the river from the roadway, and some businesses and residents adjacent to the river toss their trash and sometimes their greywater into the riverbed as well. Trinidad and Tobago's Minister of the Environment and Water Resources has also called attention to the Port of Spain City Corporation's practice of clogging the street drains with garbage, which contributes to flooding.²⁶⁾

While the riverbed itself is often used as a site for waste disposal, the banks of the river could not be considered underutilized, or even underdeveloped. The area that could become the park is presently lined with closely packed residential neighborhoods, not vacant lots or ill-planned highways as often seen in linear park sites elsewhere around the world. The width of the river also

presents a challenge for development, as it is quite narrow in many places, and the riverbed is inaccessible from street level for much of the length of the river. The length of the river, however, is dotted with community assets in close proximity. Within five blocks of the river, there are seventeen primary schools, one cultural center, one health center, one hospital, and six pan yards. These institutions provide an opportunity for organizing around the river. The northern segment of the river also leads to the Queens Park Savannah, the main park and prime social hub for Port of Spain and East Port of Spain, both during and outside of Carnival Season.

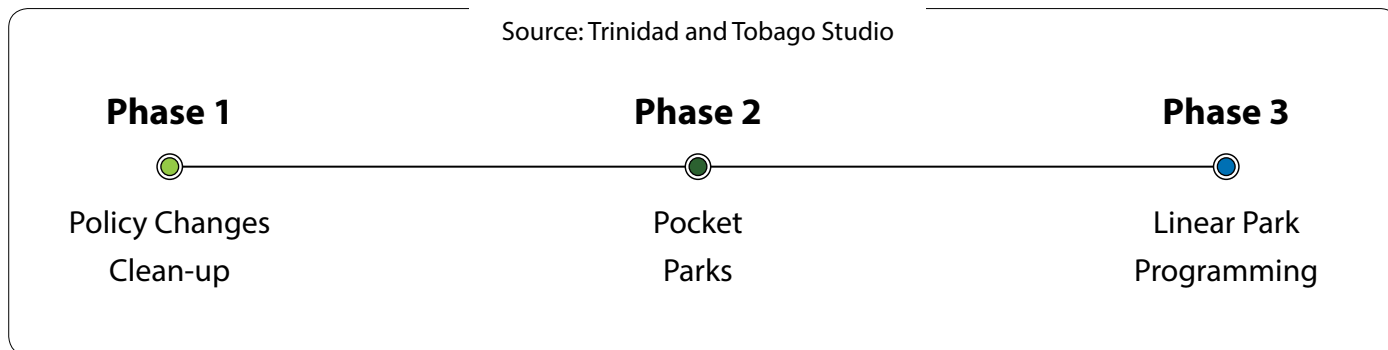
Recommendations

Similar to the heritage component of this project, we structured the recommendations for the linear park into four phases:

- 1. Analysis;**
- 2. Policy changes;**
- 3. Localized physical improvements; and**
- 4. At a later point, the creation of a continuous linear park.**

Figure 25. Phased Approach

Source: Trinidad and Tobago Studio



Phase 1: Analysis, Design, and Programming through Community Engagement

The desired outcomes the Planning Ministry and the IDB have for the linear park are commendable, but we want to challenge the notion that physical interventions will necessarily result in the behavioral changes they are seeking. In the US, physical interventions are sometimes pitched as solutions that will alleviate all manners of social problems—without evidence supporting the connection between the intervention and the problems it is touted as addressing. We recommend exploring the desired outcomes of the linear park more closely and using community engagement as key tool for this analysis, together devising the best ways to ensure the linear park has the desired impact on the city.

Though there is some talk of the potential for the linear park to help mitigate the impact of seasonal flooding, the most frequently cited objective for the linear park project is to knit together East Port of Spain with Port of Spain—in the words of the Minister of Planning, “creating a zone of peace and culture and activity for the communities around East Port of Spain and the Port of Spain area.”²⁷⁾

The people that will have the most insight on what might make this public space succeed in meeting this goal are the people whose habits and concerns are being targeted by this intervention. Therefore, our first recommendation is to consult communities on both sides of the river about the best strategies to realize this goal of East-West community building. A series of roundtable meetings should be used to explore how the linear park could most effectively be used to unite Port of Spain and East Port of Spain. Is it by creating more points of access to the riverfront between the houses? Is it by using the river as a cultural and music venue not just for Canboulay, a popular Carnival event which takes place in East Port of Spain, but throughout the year? Is it

by inviting muralists from all over the city to use the river walls as a canvas? These conversations, facilitated by community leaders and officials involved in the planning of the linear park, could be used to inform park design and programming after its construction.

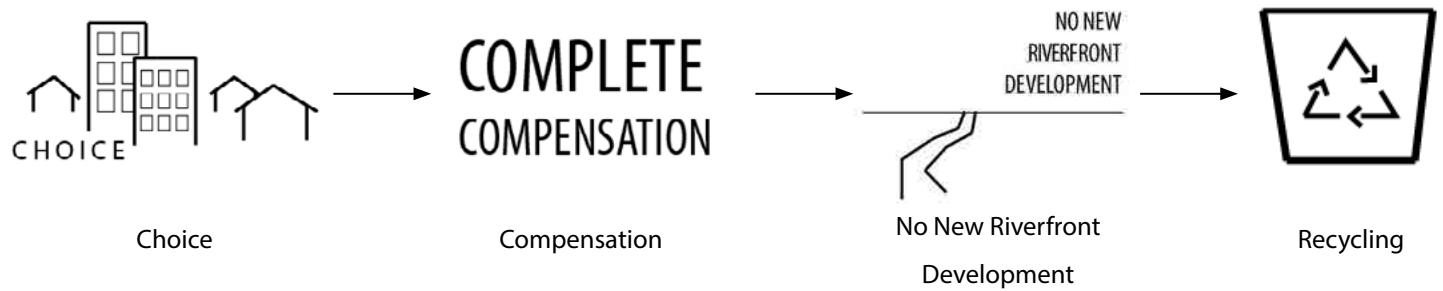


Figure 26. Policy Change Diagram

Source: Trinidad and Tobago Studio

Phase 2: Policy Changes and Participatory Relocation Strategies

Housing Policy

In order for the river project to achieve its social objectives, it must not be looked upon negatively by the communities it will impact. The current designs for the linear park project are evocative of a much wider site than actually exists for much of the river. Should the government seek to expand riverbed or its banks to achieve this vision of the linear park, there must be a just and coherent strategy for dealing with the challenges that will come with expansion. We recommend changes to compulsory acquisition and resettlement policies to cultivate more community buy-in for the linear park project and other planning interventions.

If there is a chance that residents living along the river will be displaced, they must be consulted with early on, properly compensated or assured a new residence at least equivalent to the current one, and given agency in the decisions regarding new housing options. Should the government take ownership of any privately held land in the course of the river revitalization, we recommend that the displaced be compensated at one hundred percent of the market value of the property, rather than the cap of eighty percent mentioned in the constitution.

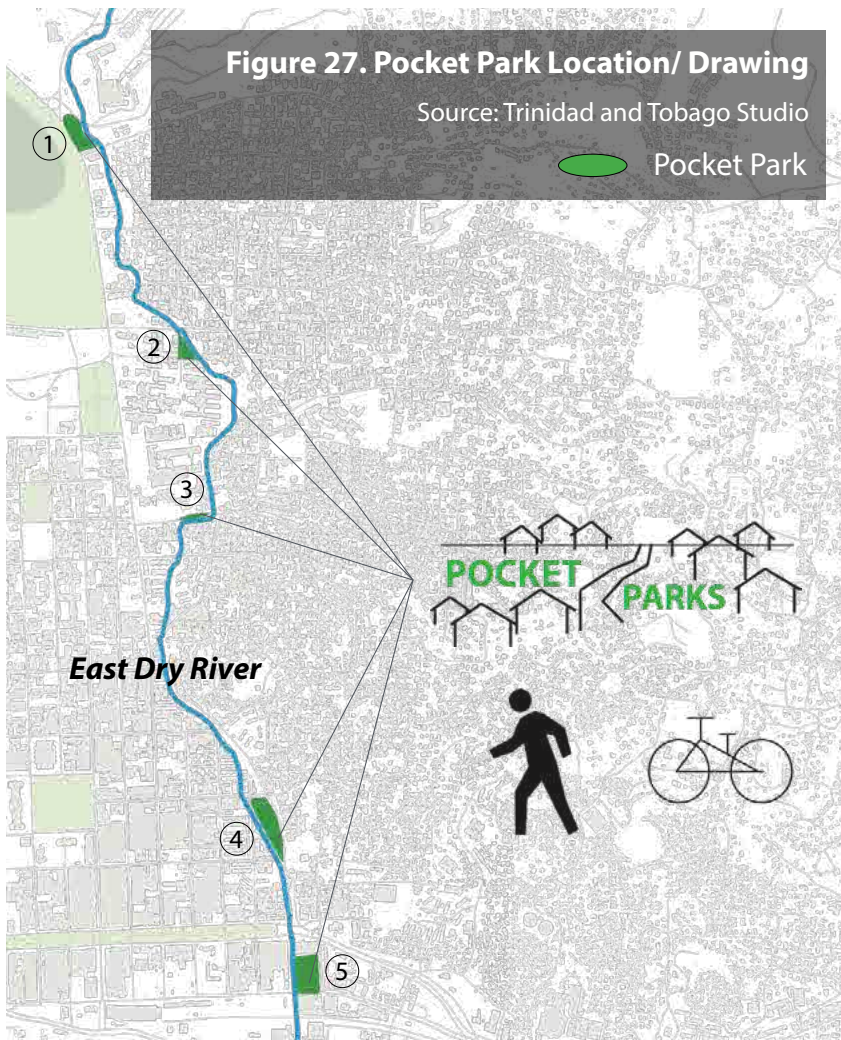
The recent highway construction controversy in Trinidad indicates that there are still some issues with compulsory acquisition (aka eminent domain) and compensation by the government, with some people com-

plaining that they have never received payment for their land. Additionally, there are many tenants who do not own the land on which they reside, but whose lives could be more difficult should they be required to leave. For this reason, we are advocating that a policy be put in place so that tenants be compensated and assisted in their relocation as well. These issues must be addressed before any compulsory land acquisition is permitted to occur, or else the linear park project is at risk of being a source of strife, disenfranchisement, and injustice, rather than a point of pride.

Relocation Strategies

In addition to just compensation for land and forced resettlement, the government should also create a model for relocation that involves and gives agency to the residents who will be impacted considering to minimize displacement. The communities that will be impacted by displacement should be engaged early on in the process. For those who are not property owners and who do not have the capacity to secure new housing for themselves, the government should secure housing for these tenants before it requires anyone to leave their homes. This will of course require an expansion of the availability of public or low-income housing. In a manner similar to Phase 1 of this project, the communities that would be adversely impacted should be consulted to determine the most appropriate relocation strategy for them. Would they prefer to stay in East Port of Spain or Port of Spain, or would they prefer to received funding or a voucher to move outside the city? Would they prefer to move to family units into existing communities, or into new apartments built just for those previously making their homes along the river? Are apartments even desirable, or are townhouses more appropriate? Giving the community the opportunity to discuss and to participate in this critical decision making process is key, not only for the success of the linear park project but also for the relationship between the government and the people in general, and for avoiding the creation of new or exacerbation of existing planning problems and social challenges. If, for example, the government builds large apartment buildings and there is an aversion to this type of housing in the impacted communities, displaced residents may be inclined to squat on more sensitive land, such as the hillside of Port of Spain, rather than live in housing they feel is culturally inappropriate for them.

Lastly, there is a homeless population that live nearby the river and hangs out at the river bed, in addition



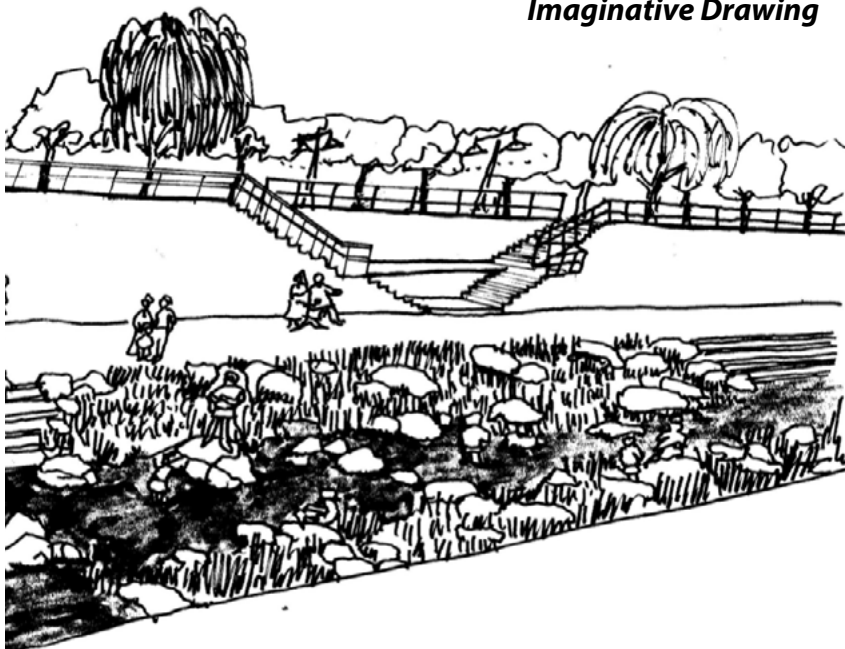
to the homeless shelter habilitated in a section of a multistory building that had been build to function as a park-and-ride structure by the river. This homeless population needs to be sensibly and consistently served with health, housing, and work programs and opportunities. The construction, maintenance, and management of the linear park may open up for the current homeless some of these work opportunities.

Additional Policy Changes

For a park in or along the riverbed to be successful, there needs to be a significant shift in public behavior surrounding waste management. The park must be preceded by basic waste management improvements, such as increased service and presence of trash receptacles along the river, the establishment of a recycling program, and, for the primary schools nearby, the creation of educational programs on proper waste disposal and environmental stewardship.

Since the goals of ESCI are to increase the sustainability of cities in the face of climate change, we are also recommending a moratorium on all new riverfront development to minimize the buildings that would otherwise be built in flood prone waterfronts. This will also alleviate

Imaginative Drawing



some of the concerns of community members, who are wary of potential negative effects of gentrification, i.e., of being displaced simply for the benefit of more affluent residents and businesses.

Looking forward to more severe storm events and the sea level rise associated with climate change, it may become prudent to not only discourage new developments but eventually remove existing developments along the river. Again, any removal of buildings must happen in phases, and only after homes have been secured for the residents who will be displaced.

Phase 3: Localized Intervention and East-West Connectivity

Once the policy and infrastructural groundwork has been laid to head off some of the potential challenges to the linear park's success, we recommend that a series of small, or "pocket" parks be built along the river. While much of the riverbank is occupied by residences, and in some cases by a major roadway, there are some small stretches of vacant land and unoccupied buildings along the river that could be turned in small parks, creating shaded spaces for the neighborhoods along the river and increasingly building a network of public spaces.

This map (p. 24) shows five possible sites for these small parks that we identified during our visit, but for this undertaking to have the most positive impact, the communities along the river must be the ones to identify the most appropriate sites. One possibility is to use one or two of these pocket parks as a means of expanding Brian Lara Promenade into East Port of Spain, which is one of the goals from the East Port of Spain Development Company's Strategic Plan.²⁸⁾ Also, the pocket parks could be part of a series of Wi-Fi hot spots in the city. A necklace of public spaces along the river cannot alone increase East-West mobility. These parks must be supported by pedestrian infrastructure improvements in the streets surrounding the parks. The establishment of small bridges across the river for pedestrians and bicyclists should be considered in order to mitigate the current divisive nature of the river. This is a measure that could be completed with little land, and could be achieved with narrow easements between buildings as opposed to outright acquisition. At this stage, it would also be prudent to plant trees and other vegetation along the streets surrounding the river, especially along east-west connections, as a green and shady right-of-way has been shown to be a significant contributor to people's willingness to walk along a street,²⁹⁾ specially in tropical climates.

While infrastructural improvements are being made adjacent to the river, the number of entrances and exits to the riverbed from the street level must be significantly expanded to improve access, secure emergency service, and prepare for the subsequent stage. This phase should also be a time for general beautification of the river. By allocating resources to painting and cleaning old bridges and walls along the river, the government can demonstrate that real efforts are being made for positive change in East Port of Spain, something that many community members expressed a desire to see proven, and not just spoken to (personal communication 2014).

Phase 4: North-South Connectivity and Park Programming

Lastly, we recommend the final phase of the park project be used to link the pocket parks to each other and to the Queen's Park Savannah through the riverbed bike lane and walking route as featured in the ETH proposal, and to encourage community investment and ownership of the river through park programming.

One common method of creating community ownership of and engagement with a space is through murals. The river walls provide an opportunity for 1.4 kilometers of canvass for local artists and community groups to utilize. Here, the concentration of schools along the river is an incredible asset. The river can provide a point of departure for science and environmental education for primary schools in the area, and the ability for students to contribute to school murals on the river walls offers the potential for a lifetime connection to the river. The proximity of the river to multiple pan yards makes the linear park an opportune musical venue. Since the early days of the park, the government should consider partnering with some of the steel pan bands to draw attendance to key moments in park construction, trail openings, and mural paintings. Connecting with community institutions can only help the government continue to build trust with residents of East Port of Spain, and set a precedent for improved involvement in the future.

We see the revitalization of the river as an opportunity to not only strengthen the connection between Port of Spain and East Port of Spain through innovative public spaces, but also to expand and improve processes for public involvement, education, waste management, and climate change adaptation.

A note on Maintenance & Finance

The flood mitigation loan that provides funding for the linear park has already recognize the department responsible for the establishment of the park. Once built, however, the Drainage Division may not be the most appropriate organization to manage the programming that takes place in parks. Looking to the cities of Los Angeles and San Antonio’s river revitalizations, we recommend that linear park programming be managed by an interagency committee incubated by the Ministry of Arts and Multiculturalism, which is already familiar with educational and recreational programs in the city. All city and national departments and agencies with a stake in supporting programming should come together and meet with one another regularly, to foster cooperation and prevent conflict and miscommunication. A memorandum of understanding should be utilized to make the responsibilities of each party clear. We recommend that the Port of Spain City Corporation and the San Juan-Laventille Regional Corporation also sign an agreement to apportion a certain amount of their yearly budget for park maintenance, unless they together with the Ministry of Planning can devise an alternative financing scheme. Looking again to Los Angeles and San Antonio, what is important in the long term success of the park is consistency, and that funding not be permitted to wane due to the desires of the next administration. The park should be supported well into its future. With the ability of the park to serve as an event venue, and a place for food vending, there is also the possibility to generate small amounts of money to support park programming, through permitting fees for vendors and organized events.



V. Cable Car/Pilot Transportation



Figure 29. Current Transportation Network

Source: Trinidad and Tobago Studio

Introduction

Port of Spain's transportation system is presently made up of combination of maxi taxis, buses, and private informal taxis. Maxi taxis are small buses that come in two different sizes, the smaller ones seat a maximum of 12 passengers and the larger ones seat a maximum of 24. These vehicles are regulated by the Ministry of Works and Infrastructure but are privately owned. In order for an individual to register their private maxi taxi, the driver must complete the necessary paperwork for the Ministry, as well as pay an application fee of \$100 TT. The Trinidad island has a number of fixed routes with fixed prices. These routes are identified by the color on the maxi taxi. While the maxi taxis loosely follow set routes, there is no timetable and after 9:00pm utilizing this form of transportation is unreliable and difficult.

The island is broken into six areas that are each served by a maxi route. The country's main transportation hub, City Gate, is located in Port of Spain and acts as the main terminal where maxi taxis and large buses start their routes. The terminal has six stations for maxi taxis and twelve bus stations. Oversight of this terminal is done by the Public Transport Service Corporation (PTSC), a governmental agency overseen by the Ministry of Transport.

The Public Transport Service Corporation also oversees the bus system that serves various parts of the country. These buses are very different from the maxi taxis, as they have the PTSC's logo along the side of the vehicles and are clearly recognizable. The PTSC has a City Service division as well as Rural Transport Service (RTS) division.

The City Service serves areas within Port of Spain and the area directly north of the city, San Fernando. These buses have a set schedule and run Monday through Friday on a two hour to an hour basis. The price of utilizing these bus routes are TT\$2.50, approximately \$0.39USD.

The Rural Transport Service was implemented in September 2010. This service has seven routes that serve Chaguanas, Couva, and Freeport. The routes vary in frequency and price ranging from TT\$3.00 to TT\$5.00 (US\$0.47 to US\$0.78).

The informal taxi systems consist of two types of vehicles, one being illegal. The informal taxi system is private hired (PH) vehicles. Private hired cars are identifiable by the letter "H" on the vehicle's license plate. These vehi-

cles are owned by private taxi companies and are regulated by various taxi associations. Using personal vehicles for taxi services is the other type of taxi system. While this service is illegal it is widely used throughout the country. Using one's personal vehicle as a taxi goes against the Motor Vehicles and Road Traffic Act Chapter 48:50. This chapter stipulates that "it is an offence for a person to use his/her vehicle for the purpose of hire or reward." Members who use this informal, illegal transportation system are not covered by the vehicles insurance, should an accident occur. These types of vehicles are not regulated by an agency. The Ministry of Works and Transport has proposed implementing regulations to assist in enforcing this restriction more heavily. This has yet to be formalized by the government. aqui

The Ministry of Works and Infrastructure constructed a Priority Bus Route (PBR) in 2010. This route was constructed with the intention of alleviating vehicle congestion while improving mobility in Trinidad. The layout and location of the road was chosen with the intent to ease congestion along Churchill-Roosevelt Highway and Eastern Main Road, both arterial roads that run east to west. The Priority Bus Route connects Arima, located in the eastern portion of the island, to Port of Spain. Registered Maxi Taxis and PTSC buses are the only vehicles that are permitted to use this route, no commercial vehicles nor private vehicles are allowed. This is enforced by fines ranging up to TT\$2,000 (\$310.09USD).

Historical Information Regarding the Electric Tram

Historically, transportation in Trinidad was made up of a network of electric tram lines that served the various areas of the country. The country's first transportation line was established in the 1840s to transport sugar cane from the plantation to San Fernando, an area approximately 30 miles south from Port of Spain. In 1859 four miles of this line began to carry passengers. Port of Spain and San Fernando were not connected by railroad until 1882.

One of the main objectives of the Emerging and Sustainable Cities Initiative program funded through the IDB was to analyze the areas of East Port of Spain that needed upgrading. The current mobility conditions and transportation infrastructure were identified as areas that needed to be developed further. East Port of Spain is not well served by the current transportation infrastructure. The area has such a strong stigma asso-

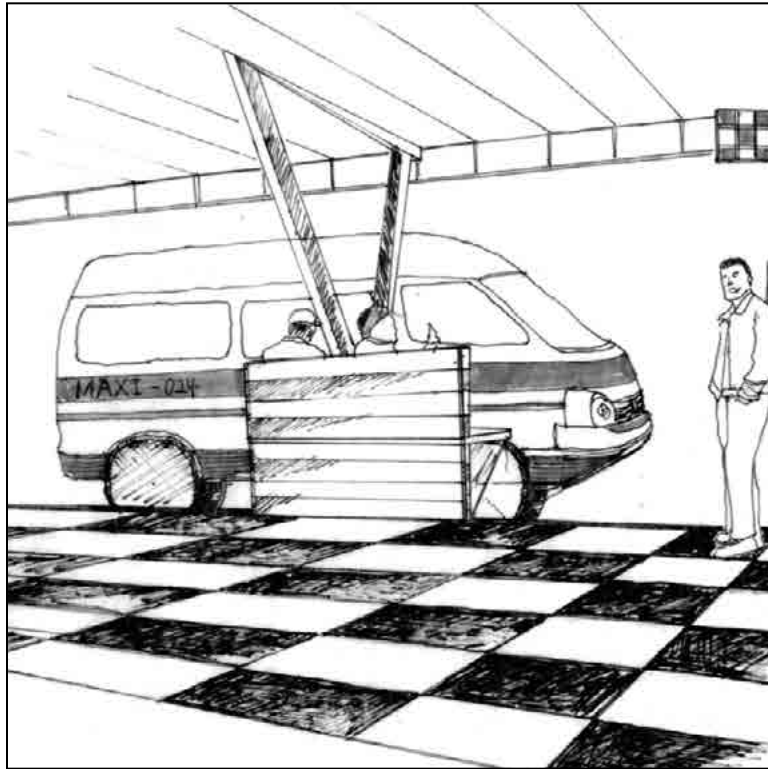


Figure 30. Before/After, Bus Terminal

Source: Trinidad and Tobago Studio

ciated with it, that most PH taxi drivers will not even enter the area. Since there are very few identified maxi taxi routes that go into East Port of Spain, the community is dependent on the private illegal taxi service or personal vehicles.

A proposal of integrating an aerial cable car system into the city’s current network was offered. What avenue this proposal came from is highly debated. While interviewing a community member from East Port of Spain, we heard an account stating that the idea developed from a misunderstanding. The community member stated, that during a community meeting with another consultant group (ETH), the community members were asked to write down ideas for what they wanted to see in their community as well as, what projects could close the gaps that were experienced in East Port of Spain. A community member wrote down the words “cable car”. The Merriam-Webster Dictionary defines the noun cable car as both, “a vehicle moved by an endless cable, one suspended from an overhead cable” as well as, “a vehicle that moves along tracks”. Our interviewee stated that the person who wrote down this suggestion meant the reestablishment of the historical electric trolley car network that ran throughout the city. The consultant group, which has developed aerial cable car projects elsewhere, interpreted the meaning of these two words to be that of an aerial cable car and devel-

oped renderings with such idea; with that, The Ministry of Planning, alongside the IDB, began to carry out the preliminary studies needed to gauge the feasibility of this project.

Part of our mission was to evaluate the appropriateness of the aerial cable car project. We realized that the proposal of this project has been polarizing for the community of East Port of Spain. The contentious project has been criticized for being implemented in an area that does not have the population density to support such infrastructure, i.e., to make it cost-effective. Other community members and local transportation experts expressed concerns about prioritizing this costly project instead of investing in other areas of more pressing needs in the community, such as completing water and sanitation networks, improving security, and expanding jobs, training, and sport opportunities for youth. While in the field, we also heard the communities' concerns surrounding the potential negative repercussions of constructing an aerial cable car. The location of the proposed project is on a steep hill with narrow streets and tightly clustered single-family homes. When visiting the area, it was clear that while the communities located along the steep hill have the challenge of the incline, they are relatively close to downtown and have amazing views of the ocean and the downtown Port of Spain. The public made it very clear that while the construction of a cable car will reduce their commute time to downtown Port of Spain, it will also leave them vulnerable to displacement. This displacement could be a result of gentrification of the area or the need to demolish homes for the land required for the physical cable car posts and stations. Gentrification would follow the increase in accessibility of the area, in turn allowing landowners to increase their home prices and capitalize on the view. Finally, while recognizing the potential opportunities for economic development that tourism could bring to the area, some community members were uneasy at the potential prospects of becoming subjects of "poverty tourism", and again, its ensuing gentrification.

One great challenge to assess the worthiness of this transportation proposal is the lack of data. Trinidad as a whole is lacking the necessary data associated with travel patterns and needs of their residents. It is unclear as to how the previous consultants chose the proposed aerial cable car stations without such data on the current and prospective behaviors and needs of the citizens. Before constructing a costly, invasive transportation network, we recommend that more data be collected on the citizens' current and projected movements and

needs.

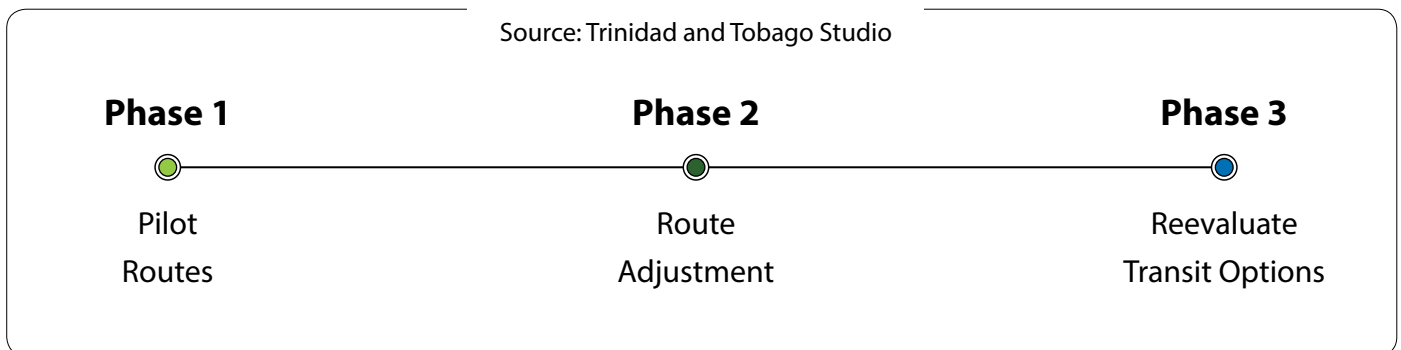
After our fieldwork and research we propose that the country implement a pilot program that would not only collect data on the population's movements but also serve to assess the need for and, if necessary, assist the design of the proposed cable car route and stations. This would be used as a means to support or refute the construction of the cable car as well as see which stations would be necessary, when, and where.

Recommendations

A pilot program is proposed to be implemented in phases, with the goal of providing better transit connections to and within East Port of Spain. These recommendations are a means of demonstrating the process of planning, and not by any means stating that these are neither the exact locations nor the designs for particular transportation and transit projects.

Figure 31. Phased Approach

Source: Trinidad and Tobago Studio



Phase 1

The first phase would be to implement a network of maxi taxis along fixed routes in East Port of Spain that surround the proposed cable car stations. We have drafted four routes using major roads that can both accommodate the maxi taxi vehicles and expand transit access to the various schools in the area. Having the routes in close proximity to educational institutions may also help develop community hubs within the school buildings. The first route would surround Fort Picton, a site that was identified as a cultural heritage site. The next route would serve the communities located in a steep area of East Port of Spain, Trou Macaque. The third route would end around Lady Young Road and serve the public housing facilities located to the east of this

major arterial road. Our last proposed route is located within Belmont. While the previous consultants did not propose a route in this area, we wanted to ensure that all of East Port of Spain would be well served. This route would be comprised of two circulating routes. The northern route would serve the residential area and connect to the southern circular route that would serve the downtown business district. The data collection aspect of our proposal would occur both when the passengers board the maxi taxi, as well as when they sign up for their transit card. The process of signing up for a transit card would occur either online or in person at kiosks located at key locations. By having both options available to the passenger, more of the city's residents would be reached. Since a lot of the population does not have Internet access in their homes, kiosks would make sure that population is being included and able to use the transit system. When filling out the application for the transit card, the applicant would provide their place of residence, along with basic demographic information. Once the applicant has received their transit card, data would be able to be collected on the frequency of the user as well where they board and disembark. Fares for each trip would be tied to the trip's length. Ultimately, this collection of data would illustrate key characteristics of travel patterns in and around East Port of Spain, in turn, allowing the city to better understand transit needs.

Phase 2

Phase two of the provisional pilot program would take place two years after the program is first implemented. The data that was collected from the vehicles and transit card applications would then be aggregated and analyzed. Depending on what the data reveals, the stops, routes, modes, and frequency of service would be adjusted accordingly. Following this analysis and adjustment of transit supply, the city would then have the data either to support or refute the implementation of a cable car. Phase three would depend on what the data reveals and which direction the government along with the community decide to go.

Phase 3

While we recognize that the recommendation of the provisional pilot program is costly, it will be significantly less than the implementation of a cable car. A pre-feasibility study, funded by the IDB, sites the cost of a 3.8

km long cable car at \$45.6 million US to \$55.1 million USD. The proposed pilot program would have a funding source that is structured in such a way that the IDB pay for the fees associated with the initial implementation, such as the cost of purchasing the vehicles, installing the card system readers on each vehicle as well as the signage that the passengers will use to identify the different bus stops, and lastly, the shelters that the passengers would use while waiting for the maxi taxis. The Corporations, such as PTSC, under the Ministry of Transportation would be responsible for the fees associated with the maintenance of the vehicles, hiring and paying the drivers salaries, and the cost of analyzing the data. We recommend that the development corporation utilizes the people from the community. By hiring drivers from the East Port of Spain Community, the corporation would reduce the costs associated with training and would gain more community support for the new services. Also, since the area has such a strong stigma associated with it, by hiring drivers from the area there would be less of a need to incentivize drivers to come into the area. Lastly, utilizing students of urban planning, transportation engineering, and related specializations at the University of the West Indies and other local institutions would allow for the students to gain hands on experience, but also to feel ownership over their community while reducing the current stigma.

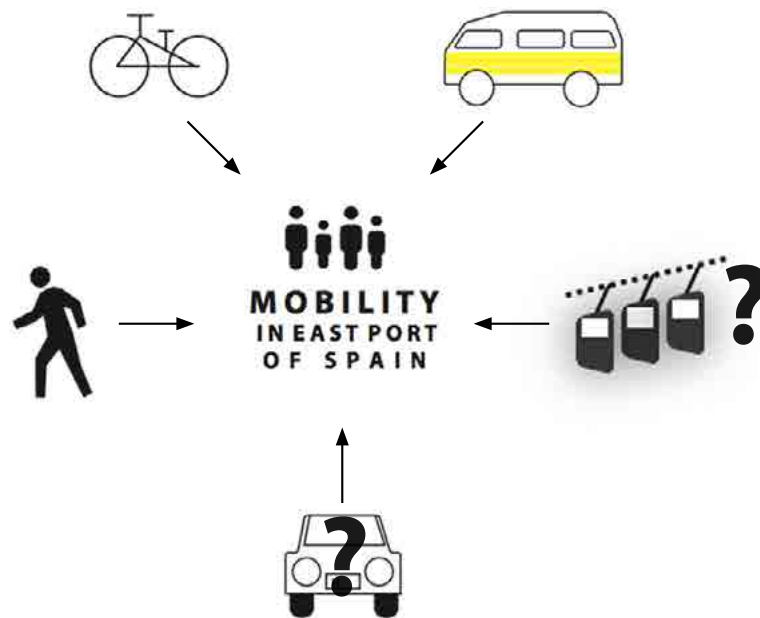


Figure 32. Reevaluate Transit Options

Source: Trinidad and Tobago Studio

Conclusions

Integration

Initially our deliverables were conceived as separate projects, however while we were in POS, we increasingly realized that the IDB's vision of a sustainable EPOS is achievable only through the integration of these projects and the added value created by their connections. After assessing each of the projects separately, we overlaid our spatial and institutional recommendations to create synergies.

On the map (p. 24) you can see how our proposed maxi taxi transit lines tie into the pocket parks and make connection to the transit hub at City Gate. This east-west connection provides access to the rest of downtown Port of Spain and to the rest of the country.

Also, the proposed transit routes connect with the heritage sites you can see in red in our map (p. 24). Heritage walks will add another mode of connectivity for residents and visitors. Ultimately, these connections also help to make the physical boundary of the East Dry River more permeable.

Milestones

As you've seen, we have developed a phased approach for all the projects. This is how we recommend they develop together over the next five years. The length of each phase differs project by project.

To support these connections, we offer a few overarching final recommendations

Recommendations

During our fieldwork, it became clear to us that cultural support operates in a special way in East Port of Spain because so much of Trinidad and Tobago's heritage is attributed to this small area. The interest that exists in the country's rich cultural heritage and the drive to see it flourish once again are really the key for success in any intervention within Trinidad and EPOS in particular.

In addition, many residents and business owners of EPOS are creative and passionate about their community. They have great ideas about the work that could and should happen, therefore consultant groups should integrate them and their input substantively.

Thus our most important recommendation to the IDB and any group investing in the area is to allow more

substantive community involvement in all phases of projects (design, implementation, maintenance, and management). By including their local knowledge and talents the projects will be richer, more pertinent and effective, and tied to an inherent group of owners.

Taking all of this into account, by investing in these initiatives and shifting the process to prioritize the community, our client can create a more sustainable future for East Port of Spain.

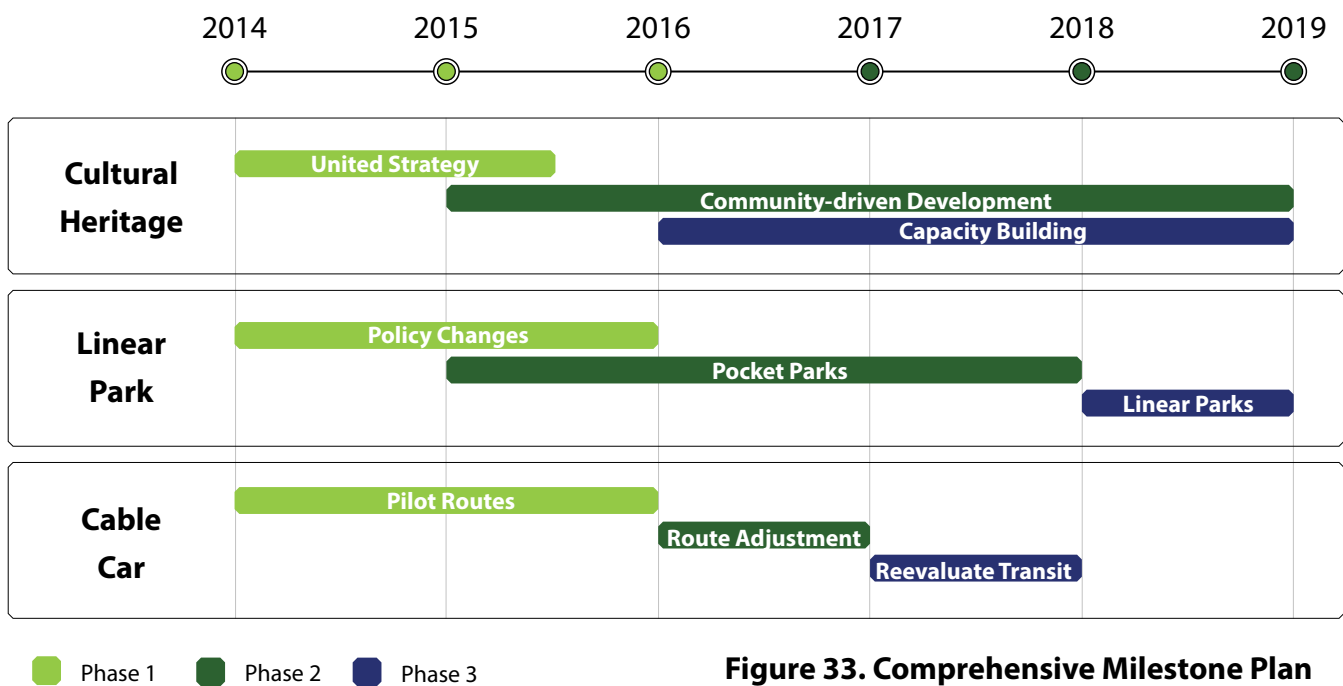


Figure 33. Comprehensive Milestone Plan

Source: Trinidad and Tobago Studio

Appendix 1: Escuelas Taller



Figure 34. Cuba's Escuelas Taller as a Model

Source: EscuelasTaller

Introduction

Escuelas Taller is a Spanish term for vocational school. There are four famous Cuban Escuelas Taller, and their names are as follows: Camaguey (1997), Trinidad (1998), Santiago de Cuba (2002), and Cienfuegos (2008).

Our projection overview is that this precedent analysis is about the so-called “escuelas taller” in Cuba. And Escuelas taller is the Spanish word for a vocational school. There is a network of those schools throughout Latin America and the Caribbean. 11 countries already participate in this form of education. One main intention is to keep traditional craftsmanship alive. Students get a vocational education in traditional craft disciplines and at the same time work on the restoration of Cuba’s built heritage. The Escuelas taller belongs to the model of secondary training education.

As a success in Spain. Escuelas Taller was replicated by the government in 40 cities in 17 countries in Central and South America. Manila is the only Escuelas Taller in Asia. But we are gonna mainly focus on the cases in Cuba.

The Cuba’s built heritage has a historical background

Cuba, as many other Caribbean countries, has many important built heritage, the reason we choose Cuba as our case study is because it is in the Caribbean region and there are so many representative vocational schools and cultural heritages. So the reason for why theseveral escuelas taller were built were the following:

Before, the Soviet Union has been a major funding source for all kind of operations and maintenance of Cuba’s built environment. However, when the Soviet Union fell apart, it resulted in a considerable lack of preservation of Cuba’s built environment. Cuba then had to look for new funding sources to finance the restoration and maintenance of its marvelous built cultural heritage. Besides, Cuba recognized the potential of tourism as a driving force of economic development: Refurbishing the old “la Habana” and giving the city a new and restore face could attract tourists important for funding of further restorations.

The intention of the case study is that summing up, the main intentions behind the formation of the different escuelas taller are the following: need for qualified workforce, conservation of traditional craft and skills and restoration of cultural heritage buildings.

Our project will be described as follows

East Port of Spain has a lot of historical heritage, and the historical buildings in East Port of Spain needs to be revitalized. The schools offer vocational education in 14 disciplines, e.g. plumber, carpenter, plasterer, ceramics, blacksmith etc. It is usually a two years program. In addition to that, the target group is young people between the ages of 17-25. Escuelas Taller was initiated in Spain during the 1980s in response to providing a skill to the large number of unemployed youths and building up a manpower resource for heritage building conservation. So Escuelas taller can provide employment opportunities and job programs for the youth in East Port of Spain. Up until today, there have been 973 graduates.

For the financial part, there is mainly national governmental funding. However, they also try to maintain themselves and create own revenues. For instance, through admission fees or sales in museum stores. Also, they are allowed to build partnerships with other international agencies to work on projects.

Encuentro Nacional de Escuelas Talleres

In 2013, for the first time 19 escuelas taller from 11 different countries got together. Students came with their professors to share experiences, show each other their work and learn from each other.

So what we can learn from the projects? The lessons learned are as follows:

It is one of the best practices for preserving built cultural heritage in Latin America and the Caribbean. The benefits are for both sides: Students receive a vocational education and a degree after attending the program for 2 years. At the same time traditional craft and skills are preserved. As well as the country's built heritage gets restored and preserved. Also, the get-together and sharing of experiences between different served as a motivating factor.

Therefore, the Escuelas Taller can provide skilled manpower needed for conservation of manmade Trinidad and Tobago heritage sites. It also provides out-of-school with skills that lead to future employment.

Multi Sector Skills Training Program

There is already a Multi-Sector Skills Training Program providing training in construction and hospitality and

tourism for eligible citizens in Trinidad and Tobago. And we need to integrate it into Trinidadian actual condition. So maybe we can think of a way to expand the program and add the prospective to preserve traditional craft ship.

Appendix 2: Musicians' Village

Figure 35. Musicians' Village, New Orleans

Source: Socinnovation



New Orleans – Musicians’ Village (2006):

Making Homeownership possible and Preserving New Orleans’ Cultural Heritage

The so-called “Musicians’ Village” is a (affordable) housing development project in New Orleans, Louisiana, in the United States. It was designed to preserve the rich musical heritage of New Orleans’ past, present and future with a special focus on the musical community of New Orleans.

The project started in 2006 as a post-Katrina rebuilding effort with the intention to provide new homes for people who lost their homes through hurricane Katrina and its aftermaths. The Musicians’ Village was constructed in cooperation with NOAHH (New Orleans Habitat for Humanity). It is well known that the region around Greater New Orleans in the State of Louisiana has a unique musical heritage tied to Dixieland jazz, blues and Afro-Caribbean rhythms. The probably most famous style of music that originated in the city was the New Orleans jazz, also known as Dixieland, which started around 1900. When hurricane Katrina hit New Orleans in August 2005, thousands of homes and infrastructure got destroyed and many people were displaced. Even though rebuilding the homes to provide new housing for people that have lived in inadequate housing prior to the catastrophe and who remained displaced in its aftermath was one major intention behind the Musicians’ Village, the core idea behind the Musicians’ Village was the establishment of a community for the city’s several generations of musicians and other families to preserve its cultural heritage. The project provides new affordable housing to a group of musicians and artists, “cultural agents”, that might otherwise not have had the financial resources to get their own homes. A central part of this vision is the creation of a focal point for teaching, sharing and preserving the rich musical heritage of a city that has done a lot in shaping the art of the past century. Therefore, hurricane Katrina can be seen as a catalyst of the project.

The project site is located in the 9th ward of New Orleans close to the French Quarter in New Orleans, which is the oldest neighborhood in New Orleans where the major music venues and live music clubs and bars are located. The 9th ward is typically a disenfranchised, lower income area that was largely destroyed through Katrina and its aftermath.

The village consists of 72 single-family homes, five elder friendly duplexes, a toddler-friendly pocket park and the Ellis Marsalis Center for music - a multi-purpose community center that builds the centerpiece of the

village.

The idea for the construction of the musicians' village came from two New Orleans natives that then approached NOAHH for helping them with an institutional framework.

New Orleans Area Habitat for Humanity (NOAHH) is a non-profit organization, incorporated in 1983 as an independent affiliate of Habitat for Humanity International. NOAHH works in partnership with low-income families in New Orleans to build and finance new, safe, affordable homes. The program makes homeownership possible for families who are unable to qualify for traditional home loans but have a stable job, and the willingness to contribute 350 hours of "sweat equity" to the building of Habitat homes.

This financing model was also applied for the funding of the Musicians' Village: As mentioned before, Habitat humanity requires 350 hours of sweat equity of future residents in helping to construct their own future homes. Besides, each home in the Musicians' Village has a financial sponsor (a corporation or family) donating \$75,000 to build the house. The new owner of the house then gets interest-free loans to build the house and makes monthly mortgage payments of about \$550. This money is then again funneled into building other habitat homes in the area.

However, there were several challenges to overcome on the way. A first challenge was certainly to secure adequate land in a single neighborhood that was within reasonable proximity to the French Quarter and the Frenchmen Street clubs and other music venues of New Orleans. A second challenge was to determine the musicians and future residents' income since musicians tend to get paid in cash or by gig with no "normal" record of income. Thirdly, every government and institutional office and every business was seriously understaffed as people struggled to return and rebuild their own homes. Therefore, everything necessary to build a house, which would have only taken a couple of days before, now took weeks and months.

The Ellis Marsalis Center for Music serves as the centerpiece and "beating heart" of the Musicians' Village and can be seen as a multi-purpose community center of the neighborhood. It includes a 170-seat performance space and is supposed to support the growth of emerging New Orleans musical talents by providing classrooms, technical and administrative support, and producing the accomplishments of its students.

The costs for building the Center were \$7.2 mio. Other than the residential homes located in the Musicians' Vil-

lage, the money to fund the construction was raised by famous Jazz musicians that are home to New Orleans. It can be seen as a way to try and feed back to the community.

Generally, the Musicians' Village has been very positively perceived. This precedent analysis shows a good model for providing affordable housing and making a stigmatized neighborhood attractive again. Important to note is that it is not only about heritage preservation but also about providing the necessary framework, like affordable housing, to be able to preserve cultural heritage.

The musicians in New Orleans' Musicians' Village carry valuable and precious intangible heritage and the creation of the village transformed the livelihoods of its residents in many ways. A new vibrant neighborhood with improved infrastructure and social services was created and the development also spurred the renovation of previously existing homes along its perimeters.

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Appendix 3: Los Angeles River

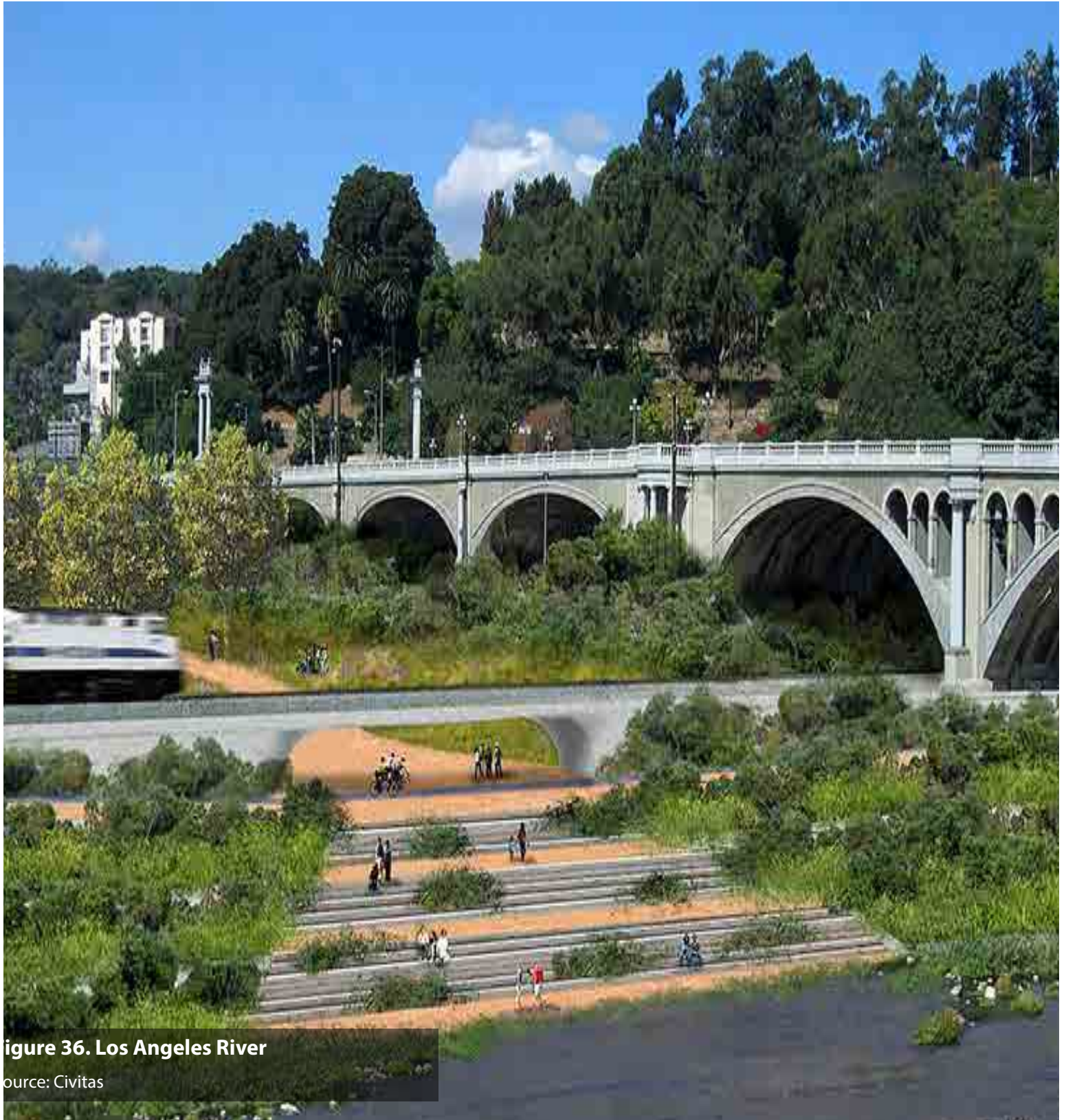


Figure 36. Los Angeles River

Source: Civitas

The Los Angeles River Revitalization Plan

The 32 miles of the Los Angeles (LA) River that run through the City of Los Angeles itself was turned into a concrete channel in the 1930s. The river is typically dry, but it can be filled with fast-moving waters in the rainy months (City of Los Angeles 2014). Since it was channelized, the river became something of a dumping ground and was associated with crime (Friends of the Los Angeles River n.d.). The communities lining the river are very diverse, and many communities suffer from unemployment rates ranging from 13.2 – 22.1%, well above the national and state figures (City of Los Angeles 2014).

Impetus for the Revitalization

For decades, the Friends of the LA River—a group of artists who organized river clean ups—had been advocating for the restoration of the river. In 2002, they found a champion in City Council who created the City Council Ad Hoc Committee on the LA River to coordinate river projects. This committee soon issued a request for proposals for firms to prepare a revitalization plan for the river, and a Los Angeles-based consulting firm was selected to produce governance proposals, zoning proposals, economic analysis, and community outreach strategies that would result in the master plan.

Project Priorities

The purpose of the river revitalization is to recover a waterfront façade for the city. The master plan approved by the city focuses on the creation of trails and recreation spaces, economic development, tourism, and fostering civic pride.

Governance: Implementation & Maintenance

During the creation of the master plan for the river, the City Council and the Ad Hoc Committee on the River had the biggest roles in seeing the project through, but one of the primary recommendations of the master plan was the establishment of three entities to manage different aspects of the river revitalization:

- 1. A joint powers authority (JPA) to manage the river infrastructure itself ;***
- 2. The not-for-profit LA River Revitalization Corporation in charge of economic and development of the land surrounding the river; and***
- 3. A not-for-profit LA River Foundation to facilitate community events, educational, and cultural programming***

The City and County of LA signed a Memorandum of Understanding (MOU) together with the national Army Corps of Engineers that explicitly outlines each individual agency's responsibility as a part of the JPA in project implementation, project maintenance, liability, and security. While the JPA is responsible for capital projects and the river itself, the Revitalization Corporation works to establish special districts around the river, and to acquire land to create new trails, habitats, and connect open spaces. The Corporation also assists with rezoning, redevelopment efforts, and in public-private-partnerships. To allow them to work with community groups across the city on river programming, the LA River Foundation has no geographic boundaries for their work. They seek grants, donations, and partnerships to build support for educational and recreational river programs (not capital projects).

Community Involvement

The City of Los Angeles website states that everyone in Los Angeles is a stakeholder in the river revitalization, asserting the importance of community participation as the project goes forward.

In the development of the master plan, there were a number of committees created to get input from different aspects of the local communities. There was a committee of business groups and homeowners associations, a committee of advocacy organizations like environmental justice groups, and a committee of river experts that met in addition to the general community meetings. Individual projects that make up the river revitalization will be reviewed and brought to the attention of community they impact, so that local needs are reflected in the restoration of that community's piece of the river.

Funding

The river revitalization project is happening in sections. Funding can come from federal, regional, and local sources—both governmental and nongovernmental—but they are secured through the JPA for capital projects and through the Foundation for programming.

Currently, there are twenty-nine on-going capital projects with budgets totaling almost 1.2 billion. Twenty-seven projects have already been completed, at a cost of 173 billion USD.

There is also a permitting process available for nongovernmental groups who wish to implement a project within or adjacent to the river right-of-way.

Additionally, groups may obtain a permit for to host events and programs, or provide services on the river. The funds from these permits go back to finance the programming run by the Foundation (City of Los Angeles 2014).

Project Components

Half of all current projects are improvements to the bridges connecting communities on either side of the river. When existing bridges need to be retrofitted for seismic safety, bike lanes and sidewalks are now included or expanded; there are also pedestrian-only bridges that cross the river (Office of the City Administrative Officer 2014). Biking and walking trails are also being completed along the length of the river, and there will be picnic areas, sports fields, and educational signage incorporated throughout.

The city also wanted to create more habitats for local plants and some wildlife, but for the most part the concrete in the river will remain intact. Rain gardens will be installed so plants can filter street water runoff before it enters the river (Department of Public Works 2007). On projects close to the river mouth and other lower-intensity developed portions of the river, there will be a few projects with concrete removal and habitat restoration (Office of the City Administrative Officer 2014).

The river revitalization will be used to showcase alternative sources of clean energy, and will feature solar energy, water-saving devices, and use of permeable surfaces to preserve underground water. Cultural programs will rive the river as focal point to educate children and other residents on pollution prevention.

Additionally, the City's Cultural Affairs Department is coming up with recommendations for ways to incorporate art into the river revitalization.

Conclusion

While the revitalization of the river is still in the early stages, the process thus far illustrates a number of good practices in embarking on large infrastructure projects. Though this is a sizeable undertaking that involves an extensive list of governmental and quasigovernmental entities, all responsibilities in its planning, funding, and maintenance are clearly laid out in an MOU.

The LA River revitalization also illustrates the importance of community buy-in, through public meetings and nongovernmental partnerships. There were numerous public sessions held to discuss the river, and while hiring consultants is not an ideal way to build a sense of community ownership, those selected to lead these meetings did come from a firm local to the city. It should also be noted that there was a good amount of community interest and stewardship that preceded these revitalization efforts by some years.

Another useful characteristic of the river revitalization plan is that it will be completed piece by piece, with projects that vary by neighborhood needs. It will not be a monolithic revitalization, but will reflect the communities the river travels through and connects.

The greatest strength of LA's River Revitalization plan is the use of the river project as a platform for the city's other goals. The river revitalization plan became an opportunity for educational and cultural programs, like recycling and resource conservation programs, and as an opportunity to investigate ways to improve connectivity and existing transportation networks.

While the master plan identifies many opportunities for the river, plans for achieving its vision are not always so clear. Areas like maintenance and division of responsibilities are plainly outlined, but procedures for meaningful community input, for example, are not so explicit.

Though its goals could be bolstered by more specific procedures for moving forward, the LA River Revitalization Plan is a useful guide, and it is clear that the river is turning sharply away from its reputation as "the world's

largest storm drain” (Friends of the Los Angeles River n.d.)

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Appendix 4: San Antonio River

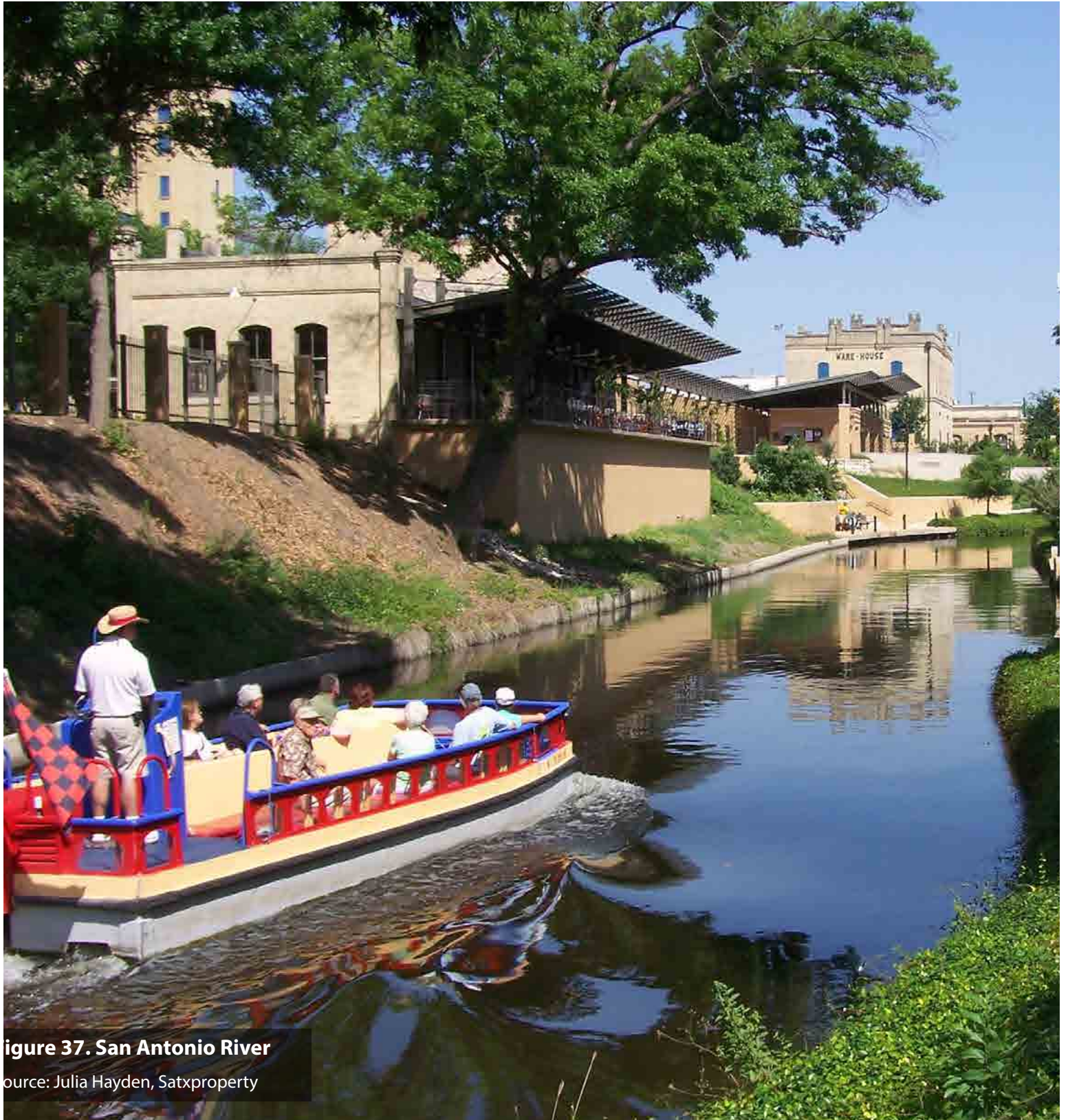


Figure 37. San Antonio River

Source: Julia Hayden, Satxproperty

San Antonio River Revitalization

The river revitalization project in San Antonio, Texas was a multi-year project that aimed to improve the environmental conditions of the river and spur economic development. It followed decades of interventions on the portion of the river that loops through downtown San Antonio, which has become extremely successful in terms of economic revitalization. The goal of this revitalization was to expand on that success of the original two miles and create a longer linear park that spans 15 miles.

The San Antonio River flows from San Antonio and flows out to the Gulf of Mexico. Efforts to protect and conserve the river began as early as the 1920s with concerned citizens forming groups to ensure the river be maintained. Through these engaged citizens' efforts, the river has become the defining feature of San Antonio, the most visited attraction in Texas, and the preeminent case study for river revitalization projects.

The most recent work on the San Antonio River began in 1998 when a group of community members came together and formed an Oversight Committee for the river. This 22-person committee is comprised of 2 co-chairs and 20 locals that represent a diverse cross-section of the community. Members include students, a variety of working professionals and retirees. The committee is empowered by the local government and is charged with planning of revitalization projects and executing their implementation. The committee meets monthly and their meetings are always open to the public. The San Antonio River Authority is a government planning agency that is funded to provide project management, operations and maintenance for the river. In essence, the Oversight Committee determines what needs to happen at the river and how to execute it which the River Authority provides the funding and maintenance for the river.

Completed in multiple phases over a ten year period, each section of the river was named to reflect the area in which the river ran through. Each section was also given separate goals depending on the needs of the existing community and infrastructure as well as the future desired state for those places. By naming each section, the uniqueness of the communities is highlighted and visitors are engaged with the river walk before they even arrive.

Financing for the 13 mile stretch of river improvements came from a variety of agencies from national to local and non-profit partnerships. The total investment to date is \$385.3 million, which is directed to the San

Antonio River Authority to manage. 80% of that funding comes from the local county, which gave funds from its county flood tax, and city funds from their capital improvement fund. The Army Corps of Engineers contributed financially and with labor to the flood mitigation efforts of the revitalization project. Once the infrastructure was in place, a Business Improvement District (BID) was established. For businesses within the BID, a portion of their rent goes into a collection of funds. This money is then used to help maintain the public outdoor space. This benefits the businesses by ensuring the area remains desirable for visitors and shoppers, thus increasing their profitability. By leveraging funding from various sources, the project has ensured investments and increased their funding. Additionally, if one funding source is cut or can no longer contribute, the project will not stall or fail. By using funds from a variety of sources with diverse goals and missions, the project has been able to complete not just infrastructure improvements, but wide ranging social and educational improvements while investing in economic development along the river.

Economic development along the river was one goal of the project based on the success of the original two-mile stretch of the River Walk, but as the project analysis began it was clear that restoring the natural environment needed to be the primary goal for the portions of the river that extended to the south of the downtown area. For this portion of the river, rubble needed to be removed from where it had been concreted over and the natural, winding path of the river restored. Once that work was completed, the team worked to reintroduce native vegetation and wildlife back into the river. This work would support the ultimate goal of reinforcing a sense of community along the river and making it a destination within the community. In turn, this could bolster the drive for economic development. As with the original portion of the river revitalization, the Oversight Committee wanted to reinvigorate investment into the properties that bordered the river and increase access to and across the river. By adding more pedestrian bridges and a water taxi, visitors can easily transect the river. Additionally, the trails along the river help to connect the sites of cultural tourism, like the Alamo, museums and zoo, together.

For economic development opportunities, several strategies were employed. In the earliest phases of the project, national businesses were attracted to invest in the community. But as the project grew, more local businesses were incentivized to come to the area, particularly local restaurants. The business corridor then

extended out on either side of the river, allowing the economic benefits to spill over into a larger geographic area than just those businesses adjacent to the river. Businesses that focused on arts and culture were a particular desire, and local financing incentives were leveraged to make it more affordable for them to move into the area. By clustering like-minded businesses together, the area became a destination for the arts, ensuring higher success rates for the local businesses.

The San Antonio River functions as the gathering place for the community. The river plays host to a variety of events every year. While the events are free and open to the public, organizers of these events pay a fee to rent the space. This money goes into the clean-up of the event and to the general maintenance of the river. The river is also lined with biking and walking trails, shaded outlooks, multiple crossing points and continuous access that helps to make it the central focus of the community.

Overall, the success of the San Antonio River Revitalization project was based on the community feeling ownership of the project from inception through to the continuous planning of events that take place at the river. Without the community feeling ownership of the space, it would be difficult to maintain as they would not contribute to the public space's upkeep, even with a formalized maintenance plan. Furthermore, by being the hub of the community, economic development can happen naturally and with a wide radius of success. Initial investments to spur this development can pay off quickly when the community feels invested in a place.

Appendix 5: Medellín Cable Cars



Figure 38. Medellín Cable Cars

Source: Gondola Project

The City, Medellín

Medellín is located to the northwest of Bogotá, the capital of Colombia. The city is second largest in Colombia with a metropolitan population of around 3.5 million people, and it is divided into 16 administrative districts called Comunas, and river runs along the north-south axis.

City economy grew rapidly in 1950s to 1970s through manufacturing such as textiles and garments, property speculation, and financial services. Society was marked by rapid in-migration and forced displacement, poverty, and deep socio-economic inequality, which led to informal settlements in the hillsides surrounding the city. In 1980s, drug cartels appeared with highest murder rate in the world, e.g., 381 murders per 100,000 population in 1992. Accordingly it rose in local gang culture linked to drug business, urban guerrillas, paramilitary groups. In 1990s, poorest comunas (administrative district) became no-go areas for police or military, both inaccessible and no redeemable value.

Governance: Implementation And Funding

Metro mass transit system without aerial cable cars opens in 1995, after years of delays due to funding issues. Main metro line runs north-south parallel to the river, so even from the beginning the idea of a cable car line to bring passengers down from the hillsides to the centralized Metro system was circulating.[1]

Up to mid-2000s official discourse was aimed at discouraging consolidation despite informal settlements growing in unstable locations. Studies for cable car transit began in the late 1990s and by 2000 the project was technically and financially feasible. Mayoral election in 2000 supplied the political will to implement the project. Though most of the mayoral candidates rejected the idea, the new mayor Luis Pérez in 2001 to 2003 supported it and supplied 55% of the funding, opening the first cable car line K, 3 years after he took office.[2] Metro, a state-owned company, covered the rest of the funding, 45%. For the following Line J and L, municipality provided capital at 73% and 38% respectively, and similarly the rest of it was covered by Metro or other governmental authorities such as Provincial Government and Ministry of Transport.

Governance: Holistic Development

Next mayor, Sergio Fajardo in 2004 to 2007, hoped to enhance the impact of the first cable car line by positioning it as one element in a larger set of urban interventions that would integrate the cable car system into the urban fabric through a program of Integrated Urban Projects. Therefore projects such as cable cars line J and K, were centered around transport hubs with the goal of urban upgrading via enhanced mobility, environment, housing, and public space. Ultimate goal is to create new dynamic centers in previously economically depressed areas.

Vision of 'social urbanism' promoted by Fajardo is that transport infrastructure needs to be complemented with other public realm investments including high-quality civic architecture. The package of interventions ideally leads toward a social transformation that increases security and sense of inclusion within these previously neglected areas of the city.

Community Involvement: Participatory Budgeting

Fajardo also simultaneously introduced participatory budgeting as part of his approach to settle the city's "historical debt" to long-neglected informal settlements. The administration relied on the planning framework of the 1991 national constitution's focus on principles of democracy, participation, and decentralization to involve local communities in decisions about the investment of a portion of municipal funds for those parts of the city. Between 2004 and 2011, 27.5% (over a quarter) of the city's participatory budgeting budget went to the four comunas where cable car systems are located. Total distributed among the municipality's 16 comunas and 5 rural districts.

Project Components

Linea K, first line, is widely regarded as highly successful and runs at full capacity. Built in the poor and inaccessible north-eastern section of the city, which has steeply sloped terrain. Developed through informal settlements in the 50s and 60s – by 2005 it was most densely urbanized section of the city, over 400 dwellings per hectare. Formal infrastructure like roads was minimal and access was difficult though area relatively well-

served by the public bus system.

The Second line, Line J opened in 2008, located in a similar but more diverse physical and social landscape in western sector of city. It has challenged the belief that the Metrocable itself increases opportunities and improves living conditions for the local population. Designed as part of Transit Oriented Development, it is trying to spur new growth, which hasn't really happened yet. A lot of the public spaces are unused and ridership is fairly low.

Linea L opened in 2010 and connects the cable-car system to a new nature reserve on the outskirts of the city. It is geared more toward local tourism, allowing disenfranchised urban residents access to a park. It is connected to the end of the K Metrocable line.

Impacts

First, cable cars improved mobility with shorter commute times and greater comfort. Line K journey cut from more than 1 hours to 15 minutes and mostly used by formal sector workers, e.g., in construction, manufacturing, services with long north-south work travel patterns. It is cost effective for long journeys with a transfer in that cable car and Metro combination travel saves 33% compared to two bus tickets. However, there are few advantages for informal sector workers, children, housewives, or elderly: bulky parcels are banned; less than 10% in target areas use cable car and Metro combo; and access to cable car can involve 1+ hours of walking and waiting during peak.

Second, in terms of local economy, cable cars increased number of small business, especially banks, in tightly defined areas immediately surrounding the stations. Neighborhoods became more attractive to visitors and locals. But, outside immediate vicinity, there is no significant change in small-scale economic activity, rents, or home prices.

Third, cable cars have been decreasing violence. Along with new library or community buildings as a part of the holistic program, areas with stations has experienced 74% drop of violent events. 66% drop in homicides between 2003 and 2008 was reported. Residents experienced growth in willingness to rely on police and perceptions in collective efficacy. Improved public spaces and new institutions created more opportunities for

neighbors to interact and build trust.

Last impact is about symbolic significance of cable-car system. Cable cars that are highly visible infrastructure and aesthetic experience for residents and visitors lead to feeling of inclusion and integration into 'modern' city. Externally city gains legitimacy. It develops local pride and individual self-esteem. Also social norms have been carried via the cable cars such as surveillance, heavier policing, and administrative procedures.

Conclusion

Introduction of cable car system in Medellín coincided with shifts in local political and planning culture and were part of integrated urban improvement plans. "The highly visible effect of the aerial cable-cars might be seen as a temptation for city mayors and transport planners in hilly topographies and unequal social geographies to be seen to be making a visible impact on the problems of mobility and connectedness in some sections of their city. But the lessons from Medellín point to much wider and deeper processes of political and institutional change than what might be achieved through the technological fix of a relatively simple and yet attractive transport system." "Cable-car systems in Medellín have been successful (in transport, urban and social terms) in so far as they are part of a concerted policy of integrated improvement of low-income areas. Against all prima facie visual evidence, a quick-fix approach motivated by short-term political impact and publicity-conscious gain are unlikely to be successful."

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Appendix 6: Rio Cable Cars



Figure 38. Rio teleferico Cable Cars

Source: Gondola Project

Rio de Janeiro Cable Cars

Rio de Janeiro is the sixth largest city in the Americas and located in the southeast part of Brazil. The city has a population of 6.32 million. The city is primarily served by surface transportation, such as buses and unofficial means of transportation, such as motor taxis and vans. The country's public transportation system consists of subway lines, commuter rail lines and bus lines. The bus network serves most areas within Rio de Janeiro and connects to the other means of public transportation creating a multi-modal system. The country had experienced a long economic recession until 2003, when the spur of infrastructure development began. The country won the bid for both the World Cup and the 2016 Olympic games.

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The city was constructed on steep terrain with varying elevations, which has lent the city to creating an aerial cable car. The first system was constructed in 1912 and served the purpose of tourism. Sugar Loaf Mountain is located in the eastern region of the city and is broken down into two independent lines serving multiple peaks.

In 2011 the city began to shift their transportation efforts away from surface vehicles, when Complexo do Alemão's cable car was constructed. This line was developed to serve the residents of the surrounding favelas. Complexo do Alemão connects five hilltops. This line connects the neighborhood to the existing suburban rail network and has reduced the travel time from 50-minutes to 16-minutes. Since this line has been in operation, the line has served an average of 30,000 passengers daily.

Following Complexo do Alemão, the city started the construction of their third cable car; Morro da Providência, Morro da Providência is Brazil's oldest favela and is located in the northeast corner of Rio de Janeiro. This line was completed in 2013 and consists of three stations and connects three regions. The system extends 721 meters. Morro da Providência's route can be completed in six minutes and transports an average of 721 people per hour. This line connects to Rio de Janeiro's Central do Brasil, the major transportation hub for most of the area's buses.

The last line has yet to be constructed and has experienced a large amount of push back from the surrounding communities. The proposed site for Rio de Janeiro's fourth cable car is in Rocina. This area is Brazil's largest favela and located in the southern area of the city. The community members of Rocina have been more reserved in allowing the development of this line as a result of the repercussions of the construction of the other

two major lines.

In the case of Morro da Providencia's cable car, the public has voiced their opinion that the locations of the stations do not serve the local community and in fact serve the tourists of the area. The public was not consulted when the government was choosing the station sites.

The construction and location of the cable car has been criticized for not serving the community members. The cable car has seen to serve the tourist population rather than the city's resident population. This criticism has stemmed from the lack of community involvement. The public was not consulted on the location of the cable car stations.

The implementation of the cable car has been criticized for taking away the community's character by allowing for the homogenization of these areas. The construction of the cable car network was criticized for taking away money from other projects that the community had previously identified in the area's master plan. Projects, including upgrading/constructing a sanitation network were seen as an important investment by the community.

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