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MESTRADO EXECUTIVO EM GESTÃO EMPRESARIAL**

**IMPLICATIONS OF INNOVATION FOR INCLUSIVE GROWTH:  
A STUDY OF MEDELLIN, COLOMBIA'S METRO SYSTEM AND  
INTEGRAL URBAN PROJECTS**

DISSERTAÇÃO APRESENTADA À ESCOLA BRASILEIRA DE ADMINISTRAÇÃO  
PÚBLICA E DE EMPRESAS PARA OBTENÇÃO DO GRAU DE MESTRE

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Rio de Janeiro - 2015

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Dissertação apresentada ao Curso de Mestrado Profissional Executivo em Gestão Empresarial da Escola Brasileira de Administração Pública e de Empresas para obtenção do grau de Mestre em Administração.

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**Luis Fernando Filardi Ferreira**

## Table of Contents

<i>Acknowledgements</i> .....	ii
<i>List of Illustrations</i> .....	iii
<i>Abstract</i> .....	iv
1. <i>Chapter One: Introduction</i> .....	1
1.1 <i>Topic Area</i> .....	1
1.2 <i>Research Question &amp; Objectives</i> .....	3
1.3 <i>The Following Chapters</i> .....	4
2. <i>Chapter Two: Literature Review</i> .....	5
2.1 <i>Inclusive Growth</i> .....	5
2.2 <i>Inclusive Innovation</i> .....	6
2.3 <i>Social Capital</i> .....	10
2.4 <i>Interlocking Concepts</i> .....	13
3. <i>Chapter Three: Conceptual Framework</i> .....	15
3.1 <i>Framing Inclusive Growth with Economic and Social Capital</i> .....	15
3.2 <i>Role of Inclusive Innovation on Inclusive Growth</i> .....	17
3.3 <i>Asia Development Bank</i> .....	18
3.4 <i>Synthesized Framework for Measuring Inclusive Growth</i> .....	19
3.5 <i>Defining the Terms</i> .....	19
4. <i>Chapter Four: Study Context</i> .....	22
4.1 <i>Why Medellin?</i> .....	22
4.2 <i>Specific Inclusive Innovations in Medellin</i> .....	27
4.3 <i>Three Neighborhoods of Focus in Medellín</i> .....	30
5. <i>Chapter Five: Methodology</i> .....	35
6. <i>Chapter Six: Main Findings</i> .....	37
6.1 <i>Implications from the Metro System and Integral Urban Projects</i> .....	38
6.2 <i>Measuring Inclusive Growth with Synthesized Framework</i> .....	40
7. <i>Chapter Seven: Conclusion</i> .....	50
7.1 <i>Limitations</i> .....	50
7.2 <i>Suggestions for Further Research</i> .....	54
8. <i>Bibliography</i> .....	56
9. <i>Appendices</i> .....	65
Appendix 1 <i>Survey for Medellin Residents</i> .....	65
Appendix 2 <i>Questions for Semi-Structured Interviews</i> .....	68

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## List of Illustrations

Illustration 1: Base of Pyramid Breakdown as presented by C.K. Prahalad and Stuart Hart	7
Illustration 2: Interlocking Concepts	13
Illustration 3: Synthesized Framework for Inclusive Growth Measurement	19
Illustration 4: Map of Metro System, Medellín	29
Illustration 5: Map of 5 Main Zones for Integral Urban Projects, Medellín	30
Illustration 6: Area Map Santo Domingo, Medellín, Metro System, Line K + L	31
Illustration 7: Area Map San Javier, Medellín	32
Illustration 8: Area Map Moravia, Medellín	33
Illustration 9: Metro Cable and Integral Urban Projects, Main Successes and Main Limitations	40
Illustration 10: Medellín GDP in US\$ Millions	41
Illustration 11: Non-Income Poverty Measurements	45
Illustration 12: Access to/Inputs of Education Measurements	46
Illustration 13: Access to/Inputs of Healthcare Measurements	47
Illustration 14: Social Bonds Measurements	48
Illustration 15: Social Bridges Measurements	49

## Abstract

Medellín, Colombia continues to attract global recognition for its evolution from a crime-saturated and desegregated city to an award-winning paragon of innovation. Two innovations in particular, the Metro System & the Integral Urban Projects, have fostered and contributed to Medellín's inclusive growth, as indicated by a corresponding increase in both social and economic capital. Through a mixed methodology analysis of these two experiences, including participant observation, in-depth interviews with different industry leaders, and household surveys, this thesis explores the extent to which inclusive innovation has contributed to inclusive growth in Medellín. The surveys were distributed to three sensitive neighborhoods of Medellín and apply a Synthesized Framework for measuring inclusive growth, one that includes five indicators for social capital and five indicators for economic capital, emphasizing the importance of progression in both dimensions. By drawing on concepts of inclusivity surfacing more frequently in business lexicon and the emergence of a newly branded Medellín, the findings of this thesis indicates that the implementation of innovations in association with a unified city vision practiced by the local government, corporate and non-profit sector has contributed to achieving inclusive growth, and has left civilians hungry for more.

## Chapter 1: Introduction

This chapter provides a broad introduction to the topic area of the thesis, highlights the main research question and objectives, and outlines the goals for the following chapters.

### *1.1 Topic Area*

The topic of exploration in this thesis is that of inclusive innovation and its capacity to contribute to inclusive growth. Due to the vast scope of the fundamental terms at play, this study focuses on two initiatives led by the local government of Medellín, Colombia, in order to obtain a holistic understanding of two specific experiences - from the contributing factors to the innovations, the resulting growth in social and economic capital, and the existing and potential obstacles for increasing impact. Discussions surrounding inclusive growth are becoming increasingly commonplace in the domains of ethical business strategy, social entrepreneurship, and urban development. A consequence of a burgeoning consciousness in the corporate sector, leaders are starting to “look at the poor not as mendicants and beneficiaries of philanthropy but consumers and business partners - a more sustainable approach for business involvement in reducing poverty” (Geron, Chua, Songco, 2011). Inclusive growth is a result of and contributor to the global progression towards leveraging economic potentials as sustainable pathways out of poverty. (What is Inclusive Growth? 2009) Simply defined as a concept that promotes equitable opportunities for the majority of the labor force, inclusive growth can be a complex notion that requires a novel understanding of the following terms and their relationship(s) to each other: inclusive innovation, poverty, and social capital. The deconstruction of these terms, followed by a reintegration of their differing definitions is essential for grasping the impact of the transportation and urban innovations implemented in Medellín.

Because one of the underlying qualifiers of inclusive growth is a pattern that simultaneously impacts economic growth at a rapid rate and for the majority of a populous, including those whom comprise the base of the pyramid, it is logical to consider notions of social capital when trying to understand the impact of such growth - social capital, which in some

instances has become a type of shorthand for “community” (Quibria 2003) is affected in the situation of inclusive growth; the levels of trust, tolerance, and civic responsibility within a community of growth are affected; the norms of behavior, culture, and the emergence and sustainability of informal institutions changes, whether significantly or incrementally. And so, derived through a composite of the models put forth by the World Bank and Asia Development Bank, and interposed with theory on social capital and the importance of community, this thesis offers a Synthesized Framework that gives equal weight to concepts of economic and social capital.

This study will focus on Medellín, an emerging city of roughly 2.4 million in the north-central region of Colombia. Formerly known as the Most Dangerous City in the World, academics from myriad industries are studying Medellín in an effort to understand the nexus of movements contributing to its evolution. (Gold, 2014) Advances in education, overall quality of life, and an arguably newfound political stability, make Medellín the preferred corporate business destination in South America and the future host site for the Global Entrepreneurship Congress in March 2016. (Gold, 2014) In the past 5 years, the city has received a surplus of awards, including the Mobility and Transportation Strategies: Cities for Mobility Prize, Awarded by Cities for Mobility Network & the Integral Neighborhood Intervention Program- Juan Bobo Housing Solution, Dubai International Award. Since 2000, the GDP of Medellín has experienced an average annual growth of 10%, a trajectory that parallels a political agenda, led in continuance by three consecutive mayors, which prioritized social integration and multi-industry innovation. (City of the Year, 2012) Branded now as a city transformed, Medellín serves as a beacon for urban areas crippled by high crime and unemployment rates, tumultuous inflation, an increased number of the populace living beneath the poverty line, and a concentration of drug trafficking and political corruption.

Medellín presents a unique scenario, where state-owned, industrial and commercial enterprise, Empresas Públicas de Medellín (EPM), engages with the government in a consistently impactful way; since its creation in 1950, EPM has transferred roughly 30% of its annual profits to the municipality of Medellín for social investment projects. (Ashoka, The Transformation Of

Medellín, And The Surprising Company Behind It, 2014) The unique structure of EPM - a private company, owned by the city, with services that are paid by the city and that pays taxes like any other corporate entity - “allows EPM to play a strong role in the city’s success and transformation... Yet, the company’s commercial position hasn’t been compromised.” (Wharton 2013) While this study will not delve thoroughly into the workings of EPM, this partnership is important to consider when looking at the transferability of the experiences in Medellín - the congruity between the local government, private, and public sectors is a vital instrument in the success of Medellín’s evolvement.

With the global attention spotlighting the successes of Medellín, it is important to recognize the ways in which the city still can and ought to improve. With efforts to become a “City For Life”, “a powerful vision that has become a rallying cry for a people-focused approach to planning and design”, the remaining political and economic problems in Medellín can be quickly overlooked. (Toderian 2014). Public spaces are being reformatted for community-based revitalization, a cross-sector priority on civic life has emerged, policies on education, culture, and community building aim to support equity and livability, *but* many areas are still seen as “stomping grounds of prostitutes and drug addicts; others are where pickpockets and thieves congregate, or the places embroiled in gang-related violence”. (Baker 2014) Specific to the two inclusive innovations analyzed in this thesis, Juan Laverde, Secretary of Mines for the Government of Antioquia believes that, while progress has been made, there are still issues: “It is unwelcome in the subway system, and the cable car cannot load up bikes of any kind; in other countries, the meter has a single wagon for these items. Plus the subway is insufficient [with just] one line from south to north and another from east to west, you have to move much to get to this.”

## **1.2     *Research Question and Objectives***

The overriding objective of this thesis is to explore the extent to which city-level inclusive innovation can contribute to inclusive growth. By applying a Synthesized Framework to measure the implications of two specific experiences in Medellín - the Metro System and Integral Urban

Projects - this thesis captures the successes, main limitations, and areas for improvement for each innovation. The hope then, is that lessons obtained can be applied to further discussions pertaining to: urban renewal of emerging and developed cities, the role of local government in leading change, and the relationship between social capital and economic capital.

### ***1.3 The Following Chapters***

In the following chapters, I will discuss the following:

- The relevance of the topic area of inclusive innovation and inclusive growth
- The reasons for focusing on Medellin, Colombia and the ways in which the Metro Cable and Integral Urban Projects have impacted three sensitive neighborhoods
- Existing frameworks and concepts, and then offer a Synthesized Framework for measuring inclusive growth
- Through a literature review on Inclusive Innovation and Social Capital, define the terms that comprise the indicators in the Synthesized Framework
- Consolidate data collected through surveys, interviews, and participant observation to measure through the Synthesized Framework the extent to which inclusive innovation can contribute to inclusive growth in Medellin
- Discuss findings, a conclusion, and suggestions for further research

## Chapter 2: Literature Review

This chapter brings together a variety of studies and literature on inclusive growth, inclusive innovation, and social capital. The purpose is to give insight into the ideologies that exist in each area and further define the area of study in this thesis.

### 2.1 *Inclusive Growth*

Inclusive growth is of high relevance in today's global economy, offering an opportunity to simultaneously mitigate inequalities and stimulate economic growth, when implemented successfully. (Inclusive Innovation for Inclusive Growth, 2013) Overlapping in some regards with discourse on corporate social responsibility, social inclusion, and base of pyramid strategy, the core idea behind inclusive growth is popularizing rapidly: that "governments and corporations can practice growth strategies that encompass equity, equality of opportunity, and protection in market and employment transitions". (Ahmad, 2012) A report by the Commission on Growth and Development advocates that persistent, determined focus on inclusive growth is an important policy for most governments and one of the primary ingredients of a successful development strategy. (The Growth Report Strategies for Sustained Growth and Inclusive Development, 2008) Although most literature contextualizes inclusive growth to *emerging* economies, where the disparity between rich and poor is more significant, its strategies can also be productive in *developed* economies, especially in regions of particular need. For example, as explored in a study through University of Michigan's Erb Institute, Detroit, a city whose inadequate transit service accelerated its decline and inhibited progress, can take lessons from Medellín's recognition of public transportation as a precondition for social equity. "Medellín and Detroit face similar types of challenges: both are large cities with unemployment rates of more than 30 percent and the second-highest homicide rates in their respective countries. A transportation access gap confronted Medellín's poorest citizens before the city introduced its connected Metro system, and many of Detroit's geographical "dead zones" — which lack easy access to public transportation — overlay low-income communities that have suffered declining populations." (Davidson, n.d., p. 6) Also expressed by the Commission on Growth and

Development, for a country or city that has grown rapidly over a decade but has not seen substantial reduction in poverty rates, leaders may need to specifically prioritize the inclusiveness of its growth strategy and the equality of opportunities for individuals and firms - this can be arguably relevant to the case of Medellín, and the cities that are heeding its lessons; the importance of targeting specific neighborhoods, demographics, and/or industries can help maximize the effectiveness of plans for inclusion. (The Growth Report Strategies for Sustained Growth and Inclusive Development 2008)

Inclusiveness is a concept that encompasses equity, equality of opportunity, and protection in market and employment transitions and should effect positively equality of opportunity in terms of access to markets, resources, and unbiased regulatory environment for businesses and individuals. ("Inclusive Growth: Key to Identifying Development Priorities", 2012, p. 4) There are overlapping principles in analysis of inclusive innovation and inclusive growth, two concepts that engage with the mass population in intent, process, and results, and work toward the alleviation of poverty. The *inclusion* suggests ideals of a desegregated economy and society; the deliberate inclusion of all demographics, including those typically marginalized, such as the poor, sick, displaced, or uneducated. Earlier literature on inclusive innovation suggests that the *inclusion* feature depends solely on the recipients of goods or services, but more recent literature, suggests *inclusion* should refer to both the process in which the goods and services were created or delivered, and on the demographics they target. (The Innovation Policy Platform, n.d.) As part of the Global Research Alliance on Inclusive Innovation, President Dr. R. A. Mashelkar believes "Inclusive innovation can be any innovation that leads to affordable access of quality goods and services creating livelihood opportunities for the excluded population, primarily at the base of the pyramid and on a long term sustainable basis with a significant outreach." ("Inclusive Innovation", 2014)

## 2.2 *Inclusive Innovation*

Arguably synonymous with BoP innovation, and undoubtedly highly similar, inclusive innovation gained prevalence in the business sector with leaders like C.K. Prahalad and Stuart L.

Hart, who most famously popularized BoP strategy in *The Fortune at the Bottom of the Pyramid*. They believed “low-income markets present a prodigious opportunity for the world’s wealthiest companies — to seek their fortunes and bring prosperity to the aspiring poor”, and suggested that within BoP innovation, profitability and capability - to fight poverty, integrate the marginalized, enhance community cohesion - can be achieved, effectively inciting sustainable growth in both business and social equity. (Prahalad and Hart, 2002) Considering the four billion low-income consumers who constitute the base of the pyramid, “new empirical measures of their aggregate purchasing power and behavior as consumers suggest significant opportunities for market-based approaches to better meet their needs, increase their productivity and incomes, and empower their entry into the formal economy.” (Hammond, Allen, Kramer et al, 2007)

Chart. 4 BoP (Base of Pyramid) Breakdown as presented by Prahalad and Hart

Annual Per Capita Income*	Tiers	Population In Millions
More Than \$20,000	1	75-100
\$1,500-\$20,000	2 & 3	1,500-1,750
Less Than \$1,500	4	4,000

\* Based on purchasing power parity in U.S.\$.  
Source: U.N. World Development Reports.

Illustration 1: Base of Pyramid Breakdown as presented by C.K. Prahalad and Stuart Hart

Tiers 2 and 3 of the pyramid compose the target demographics for most large companies - poor consumers in developed economies and the rising middle class in developing economies. But multinational corporations must “look at globalization strategies through a new lens of inclusive capitalism. For companies with the resources and persistence to compete at the bottom of the world economic pyramid, the prospective rewards include growth, profits, and incalculable contributions to mankind.” (Doebel, n.d.) Nearly 4 billion people, one-sixth of our global population, account for Tier 4 where per capita income is less than \$1 a day. And with the income gap between the poor and rich growing still, many companies are missing, or choosing to overlook, the opportunity to capitalize on the multi trillion dollar market within Tier 4. (Prahalad

and Hart, 2002) Suggested by Griesse (2006), “a key challenge in developing globally competitive industrialization processes is to avoid excluding the majority of the population, a major departure from the country’s long historical legacy of inequality.” (Hall, Jeremy, Matos, Sheehan and Silvestre, 2012) Themes of inclusion often lack the grit and weightiness that business leaders pay attention to – but this is changing. Within the ambit of BoP ideology, firms of all sizes, from predominately emerging economies, are adopting the philosophy of social inclusion with intentions to integrate, in meaningful ways, formerly excluded demographics in their business models.

A misconception with innovations targeted at the BoP populace is that a product or service will necessarily be of lesser value or quality, because the difference will not be recognizable or significant to the poor. (Sivakumaran, 2015) On the contrary, the objective of an inclusive innovation is not to get ‘less from less’, but instead to get ‘*more* from less’ – to harness sophisticated science or technology or truly creative non-technological innovation to invent, design, produce and distribute quality goods and services that are also affordable for the majority of the people. (Mashelkar, 2012) To ensure mass affordability, inclusive innovation should be aimed at extreme reduction in both the costs of production and distribution, and in pursuit of sustainability, must not depend on government subsidies or procurement support systems but should work by retaining the market principles with which the private sector works comfortably. (Chakravorti, 2015)

As defined in “Three Pilots for Pro-Poor Innovation” (3P4PPI), created in concurrence with the Directorate-General for International Cooperation of the Netherlands Ministry of Foreign Affairs, is the “market-driven development of something new with impact together with low-income groups.” (Van Der Klein, Mancheron, Wertheim-Heck, and Collée, 2012) The characteristic of newness can transpire in products, services, and processes along the value chain. The 3P4PPI builds on Mashelkar’s definition of inclusion, stating that for true impact to be achieved, low-income and/or excluded groups must be included in the innovation process, either as entrepreneurs, producers or consumers. (Van Der Klein, Mancheron, Wertheim-Heck, and Collée, 2012) Innovating in co-creation with low-income groups is essential in understanding the

difference between market need and demand and ultimately contributes the most shared value.

(p. 4) The impact can be social, as in improved access to basic services and community developments that increase quality of life; economic, as in income generation and employment; or ecological, as in renewing urban spaces and improving the environment.

In “Inclusive Innovation: Definition, Conceptualization and Future Research Priorities” by Richard Heeks, Mirta Amalia, Robert Kintu & Nishant Shah, the authors offer a ladder model of inclusive innovation with intentions of making dialogue, research, policy-making, practice, etc. easier for individuals and organizations to achieve, based on their unique circumstances and way of framing inclusion. The ladder presents a set of steps, with each succeeding step representing a greater notion of inclusivity in relation to innovation: *Level 1/Intention*: an innovation is inclusive if the intention of that innovation is to address the needs or wants or problems of the excluded group; *Level 2/Consumption*: an innovation is inclusive if it is adopted and used by the excluded group; *Level 3/Impact*: an innovation is inclusive if it has a positive impact on the livelihoods of the excluded group; *Level 4/Process*: an innovation is inclusive if the excluded group is involved in the development of the innovation, whether that be through being informed, being consulted, collaborating, being empowered, controlling; *Level 5/Structure*: an innovation is inclusive if it is created within a structure that is itself inclusive, i.e. the underlying institutions, organizations and relationships; *Level 6/Post-Structure*: an innovation is inclusive if it is created within a frame of knowledge and discourse that is itself inclusive. In this model, the concept of inclusive innovation is not objective or static but rather dependent on the step of the ladder you occupy, with every step involving a gradual deepening and/or broadening of the extent of inclusion of the excluded group in relation to innovation. Each level accepts the inclusion of the subsequent levels, but pushes the extent of inclusion further - for example, “those concerned with inclusion of impact accept – necessarily – the value and actuality of inclusivity of intention and consumption, but feel this is not sufficient to fully justify the label of ‘inclusive innovation’”. (Heeks, Amalia, Kintu, and Shah, 2014) There have been research endeavors and case studies that both celebrate and challenge the ability of inclusive innovation to inspire inclusive growth, most advocating the necessity for further research in order to fully

understand the reach and limitations of the concepts. Regardless of varying academic opinions, however, inclusive growth is an undoubtedly important topic, which challenges the belief that “The Social Responsibility of Business Is to Increase Its Profits” (Friedman, 1970) and offers a strategy that “marr[ies] low cost, good quality, sustainability, and profitability at the same time”. (Hart, 1999) Medellín, similarly, is becoming ever more important to examine as international leaders and governments throughout Latin America are looking to the trajectory of its practices for lessons and transferability capacity. The ideas of affordable access, quality, and the creation of opportunities that enhance and sustain quality of life are fundamental in literature on inclusive innovation.

### **2.3 *Social Capital***

Because the literature put forth by the World Bank and the Asia Development Bank both emphasize the notion of “social capital” as an important feature of measuring Inclusive Growth, it is valuable to examine this concept in greater depth. Of the many resources consulted, the “Impact at the Bottom of the Pyramid: The Role of Social Capital in Capability Development and Community Empowerment” provides an overview most poignant and relevant to this study; its main topics include an examination of income vs non-income poverty, the significance of social capital in community development, and how commitment to such ideas by local leadership can trigger civilian transformation. Extrapolating from literature on BoP, development, and sociology, in particular with the concepts of capability development (Sen, 1985) and social capital (Putnam, 1995), the authors capture BoP initiatives from a community perspective, in addition to and more comprehensively than a corporate perspective. Furthermore, they differentiate between initiatives that appear to truly help a community and those that do not (Hall et al., 2012), and ultimately argue that any business initiative in the BoP should be evaluated based on whether it advances capability transfer and retention by (a) enhancing the social capital between a particular community and other more resource rich networks, and (b) preserving the existing social capital in the community. With an emphasis on a community-centric BoP approach, it is essential to listen to the ‘voices of the poor’ (Narayan et al, 2000) and understand what needs are most important to them, their well-being, and the community in which they live.

Ansari et al, the authors of the article, support the idea that social capital can be an appropriate vehicle for developing capabilities. Capabilities are the properties of groups as well as individuals, and as the individual increases her capability to do certain things, she inevitably increases the capability of the group, simply by being part of that group; additionally, the easier it is for that individual to transfer her knowledge, skills, capabilities to another member of her community, the more likely it is for social capital to increase. Most poor communities have greater levels of 'bonding' but need to foster 'bridging' social capital to enable access to important resources outside of their usual network, including academic opportunities, employment opportunities, experts and financial capital. (Ansari, Munir, and Gregg, 2012)

The authors recognize the importance of reframing the BoP approach from the capability, community centric perspective. While most recent BoP approaches "mark an advance towards social and economic development by focusing on providing more employment opportunities for the BoP...this change provides only a partial solution to poverty alleviation." (Ansari, Munir, and Gregg, 2012) Additionally, more jobs can expand the functionings of the BoP community, but it does not address the problem of really expanding capabilities within the community. And through much empirical evidence, the authors suggest that the increase of jobs is in unskilled rather than skilled domains.

And so, in order to increase structural diversity and enable BoP accessibility to resources, capabilities, and jobs within the skilled domain, businesses should collaborate with local organizations or local government agencies and "use more 'interactive' rather than 'isolated' business models that combine, integrate, and leverage the ecosystem's capabilities" (Sanchez and Ricart, 2010). The authors formally offer two propositions at the conclusion of their research, which both hold relevance in the analysis of innovation in Medellín: *Proposition 1*: Preserving and reinforcing intra-group bonding social capital – structural, relational, and cognitive – is likely to increase the diffusion and retention of new capabilities within the BoP community. *Proposition 2*: Building inter-group bridging social capital – structural, relational, and cognitive – is likely to increase the transfer of new capabilities to the BoP community. (Ansari, Munir, and Gregg, 2012)

Social Capital, a concept initially pushed into the mainstream by Jacobs (1961) and Loury (1977), is vast and spans sociology, economics, organization, management, development, among other disciplines. Since economist Glenn Loury introduced the term, roughly 2,500 papers have been published in the Social Sciences Citation Index on the topic, ones that relate social capital to higher economic growth (Knack and Keefer, 1997); higher education (Coleman, 1988); higher financial development (Guiso, Sapienza, and Zingales, 2004); better innovative outcomes (Akcomak and ter Weel, 2006); lower homicide rates (Rosenfeld, Messner, and Baumer, 2001); lower suicide rates (Helliwell, 2007); better public health (Kawachi, Kim, Coutts, and Subramanian, 2004); higher value creation by firms (Nahapiet and Ghoshal, 1997); and also papers that consider the potentially adverse effects of social capital. (Fukuyama, 1995; Gambetta, 1996; Portes, 1998).

Social capital represents the idea that *social networks* - who people know and how they interact with each other - hold value and capacity to impact a community and economy. It encompasses the ability to exchange resources and mutual aid, pursue information flows and collective action, and exist with a sense of cohesion and “we” mentality. (Mignone, 2009) Social capital represents the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships to enable coordination and cooperation for the benefit of the whole (Adler and Kwon, 2002; Portes, 1998) As explored in “Impact at the Bottom of the Pyramid: The Role of Social Capital in Capability Development and Community Empowerment”, social capital can be categorized into three components: structural, network ties and features such as density and configuration; relational, trust and the type of relationship; and cognitive, shared language, identities, beliefs, and norms. (Ansari, Munir, and Gregg, 2012, p. 4) Another type of categorization by which to understand how social capital can strengthen community identity and give momentum to productive relationships, both personal and professional, is through the idea of ‘bonding’ versus ‘bridging’. Bonding social capital, which is more prominent in the BoP population, rises from core relationships that are high in closure, trust, and shared norms, and can be leveraged for individual survival or maintaining the status quo (Briggs, 1998; Holzmann and Jorgensen, 1999). Bridging social capital, however, is less

common, and perhaps more necessary for low-income communities. 'Bridging' capital, which rises from peripheral ties that are often high in unique resources and information (Burt, 2001) allows individuals to 'get ahead' and improve their situation and livelihood. (Barr, 1998; Kozel and Parker, 1998; Narayan, 1999) Also associated with the idea of varying levels of network ties and the corresponding levels of trust, is the likelihood of innovation. Murphy (2002) highlights the role of trust as essential in improving the quality of information exchange between individuals, communities, and organizations, and thereby able to enhance innovative capabilities. Furthermore, Landry, Amara, and Lamari (2002) demonstrate how a firm's social capital affects both the decision to innovate and the radicalness of an emerging innovation.

Important to the daily survival of poor communities (Moser, 1996; Narayan, 1995), social capital can also help address the survival and advancement of a community over time. When high levels of trust and respect are the established norms, a strong community can more easily communicate and coordinate in the face of problem solving (Schafft, 1998; Varshney, 2000). Within a cohesive community, it becomes possible to collectively take advantage of new opportunities by encouraging collaborations based on reciprocity, while simultaneously reducing the opportunity for opportunism and corruption (Isham, 1999).

#### 2.4 *Interlocking Concepts*

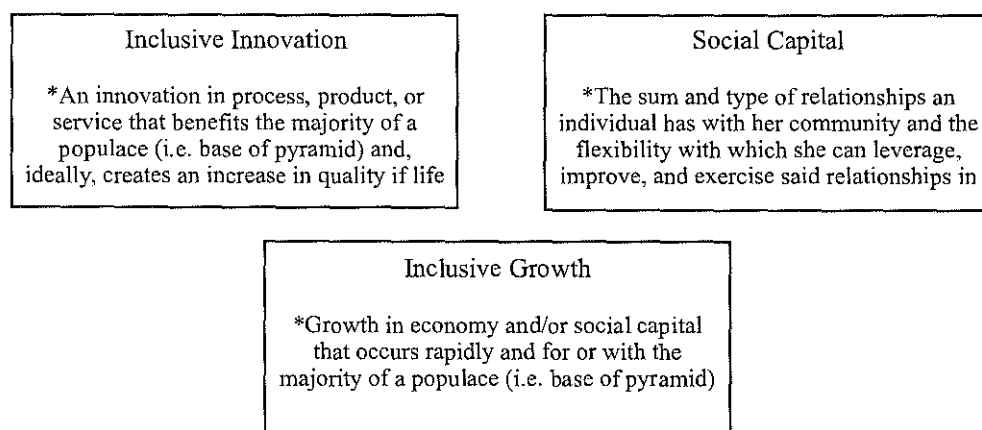


Illustration 2: Interlocking Concepts

The common denominators found in literature on inclusive innovation include the integration of excluded populaces in process and/or product, co-objectives of economic growth and increase in quality of life, and sustainability. Inclusiveness, within both innovation and growth, implies that the majority of a population is *included in the process* - through contribution of ideas, employment, equity - and the *results that arise from such processes effect the majority* of the population - whether through products, services, and/or social and economic gains.

## Chapter 3: Conceptual Framework

This chapter clarifies the importance of inclusive innovation on inclusive growth and presents a Synthesized Framework for examining inclusive growth. The framework gives equal weight to indicators of both economic and social capital. I present a focused review of inclusive growth, consider the existing framework of measurement put forth by the Asia Development Bank, and highlight the idea of social capital, in order to integrate a new element into the traditional frameworks for measuring inclusive growth.

### *3.1 Framing Inclusive Growth with Economic and Social Capital*

Inclusive growth has a distinct character, which focuses on both the pace and pattern of growth and the indirect or direct commitment to mitigating poverty. ("Inclusive Growth: Key to Identifying Development Priorities", 2012, p. 2) Rapid pace of growth is unquestionably necessary for substantial poverty reduction, but in order to achieve long term sustainability, it must be broad-based across sectors, and inclusive of the majority of the targeted region's work force. Inclusiveness is a concept that encompasses equity, equality of opportunity, and protection in market and employment transitions and should effect positively equality of opportunity in terms of access to markets, resources, and unbiased regulatory environment for businesses and individuals. ("Inclusive Growth: Key to Identifying Development Priorities", 2012, p. 4) The World Bank highlights an importance in terminology that many sequential articles explore - the difference between absolute and relative poverty, arguing that the inclusive growth definition aligns with the absolute definition of pro-poor growth, not the relative one. Under the absolute definition, growth is considered to be pro-poor as long as poor people benefit in absolute terms, as reflected in some agreed measure of poverty (Ravallion and Chen, 2003). In contrast, in the relative definition, growth is only "pro-poor" if the incomes of poor people grow faster than those of the population as a whole, i.e., inequality declines. And so, for growth to be inclusive, the pace of growth and enlargement of the economy is necessary; overall economic productivity must be improved and new employment opportunities created. ("Inclusive Growth: Key to Identifying Development Priorities", 2012, p. 12) Inclusive growth requires a long term

perspective and an explicit focus on structural transformation and internal migration, making the process not about immediate changes and results but about policies that lay the groundwork for sustainable growth in the future. In order to concurrently help with the alleviation of poverty, a high pace of growth over extended periods of time is required, and this is achievable only when the sources of growth are expanding and an increasing share of the labor force is included in the growth process in an efficient way. Evidence shows that structural transformation and economic diversification is needed to achieve income growth and poverty reduction. (Imbs and Wacziarg, 2003)

Also essential in inclusive growth is the increase of social capital. The World Bank suggests that social norms and networks - social capital - are a key form of capital that people can use to move out of poverty, albeit a gradual and often prolonged process. (Grootaert and Van Bastelaer, 2001) Acting as the internal social and cultural coherence of society, social capital is the “glue that holds societies together and without which there can be no economic growth or human well-being” (The World Bank: What is Social Capital?). The Asia Development Bank, advocates that developing human and social capital increases political stability, raises productivity, and enhances international competitiveness, leading to faster growth, an idea that attributes social capital with movement, the potential to drive real change in policy and economy. (Quibria, 2003)

Because the concept of social capital is a heterogeneous one, with some experts believing it to be an individual asset that comes from access to social connections, and others believing it to be a collective asset in the form of a homogenous community with shared interests and values, the problem of measurement and aggregation is significant. As stated by Dasgupta (2000, 327), “it encourages us to amalgamate incommensurable objects, namely (in that order) beliefs, behavioral rules, and such forms of capital assets as interpersonal links, without offering a hint as to how they are to be amalgamated.” (Dasgupta and Serageldin, 2000) The subject is complex, multi-layered, and still relatively novel in the business lexicon, so the five indicators proposed represent what I perceive as the predominant topics within the literature. It is common for literature on inclusive growth to prioritize the rapid rate of *inclusive* economic growth and treat

the social ramifications, related to quality of life, increase in capabilities, improved access to education and health, as secondary and perhaps *less* important. The Asia Development Bank suggests a good framework that balances both dimensions. And so, considering this, and the abundance of literature that emphasizes the importance of social capital, this thesis applies a Synthesized Framework for measurement of inclusive growth that gives equal weight to progress in both economic and social capital.

### **3.2 *Role of Inclusive Innovation on Inclusive Growth***

Inclusive innovation is inextricably linked to inclusive growth and can engender an impactful and sustainable solution to problems of social and economic capital. (Heeks, Amalia, Kintu, and Shah, 2013) A variety of international organizations are creating programs that instruct leaders, at the corporate, non-profit, and government levels to pursue innovation, i.e Living Cities' "City Accelerator Guide for Embedding Innovation in Local Government" (2015), The European Commission's 'The Smart Guide to Service Innovation' (2013), and the United Nations Economic and Social Commission of Asia and the Pacific's "Managing Innovation in a Knowledge Economy" (2010). While criteria for cultivating and measuring innovation within the corporate sphere has been in circulation for years, the belief that "innovation is now a city-based phenomenon" is emerging. (Innovation Cities Program: Making Cities Innovate, 2015) In the case of Medellín, the scope of inclusive growth represents a unique, and in many ways ideal, joint effort by the local government and local corporations.

In "Shaping National Innovation Systems for Inclusive Growth in Latin America: Towards a Research Agenda" (2014), Hall et al elaborate on the explicit relationship between innovation and inclusive growth, suggesting that "a deeper understanding of innovation and entrepreneurial dynamics within impoverished communities can improve national innovation policies resulting in solutions for improved social, cultural, economic, technological and environmental challenges." The potential of marginalized communities to innovate and create both productive and unproductive products through entrepreneurship is recognized by Cozzens & Sutz (2012) and Prahalad (2007), who believe that the informal sector in developing countries

can provide greater economic stability through integration into the global economy (Karnani, 2007). Seen as a panacea for inclusive growth, innovation becomes an essential component to consider when measuring the progress, both social and economic, of a nation's people. By this logic and the many definitions cited, the innovations in Medellín explored here are undoubtedly inclusive. Born from a deliberate attentiveness to the BoP, the leadership of the local government worked with the private and public sectors to integrate the marginalized in the process of implementing the Metro System expansion and the Integral Urban Projects, and have the marginalized become a large part of the demographic that was served by the innovations. As Sergio Farjado shares in an interview in 2010, "When you include the community in the construction, when they're part of the social process. If they don't participate and you make beautiful things in a given place for them, it's not theirs, they don't have ownership. That's how we went about building all those parks...we would go about taking the community by the hand; the community grew along with the project." (Architecture Interview: Sergio Fajardo and Giancarlo Mazzanti)

### **3.3 *Asia Development Bank***

As a response to the need for greater inclusion in the Asia and the South Pacific growth process, the Asian Development Bank adopted inclusive growth as a strategic agenda under its Strategy 2020. The ADB created a framework with three main pillars: (i) promoting high, sustained economic growth, (ii) broadening inclusiveness through greater access to opportunities, and (iii) strengthening social protection. ("Framework of Inclusive Growth Indicators: Key Indicators for Asia and the Pacific", 2011) The data consists of 35 indicators for measuring inclusive growth, considering 48 regional member economies of the Asian Development Bank, of which 45 are considered developing. Investment in education is identified as a key element of social inclusion and are crucial in developing basic human capabilities for enabling everyone to participate in and benefit from growth processes (ADB 2011a, ADB 2012a, ADB 2013a) In its "The Growth Report," the Commission on Growth and Development (2008, p. 38) pointed out that "public spending on education is justified on the grounds of efficiency and equality of opportunity. It corrects the failure of the market to allocate enough resources to education, and it

also widens access to education beyond those who can pay for it upfront.” (“Framework of Inclusive Growth Indicators: Key Indicators for Asia and the Pacific”, 2011) Education improves productivity, raises the quality of jobs in the economy, and consequently, increases economic growth. In addition to education, the main themes and indicator categories related to healthcare and infrastructure, and social bonds and institutions. The frameworks include: Income poverty and inequality, non-income poverty and inequality, economic growth and employment, key infrastructure endowments, access and inputs to education and health, access to basic infrastructure utilities and services, gender equality and opportunity, social safety nets, good governance and institutions. (“Framework of Inclusive Growth Indicators: Key Indicators for Asia and the Pacific”, 2011)

### 3.4 *Synthesized Framework*

Through consideration of recurring themes in related literature and already existing frameworks, a Synthesized Framework is offered - acting as a amalgamation of content and models currently in place. This model suggests that five components of Economic Capital and five components of Social Capital must be used to measure inclusive growth.

<b>Economic Capital</b>	<b>Social Capital</b>
Income Poverty	Non-Income Poverty
Economic Growth	Access/Inputs to Education
Productive Employment	Access/Inputs to Healthcare
Local and Global Connectivity	Social Bonds
Foreign Direct Investment	Social Bridges

Illustration 3: Synthesized Framework for Inclusive Growth Measurement

### 3.5 *Defining the Terms*

*Economic Capital* - Income Poverty, Economic Growth, Productive Employment, Local and Global Connectivity, Foreign Direct Investment

*Income Poverty:* A more traditional measurement of poverty, which suggests income as the main indicator; when the individual or family income is lower than the related poverty line. ("2015 Poverty Guidelines." 2015)

*Economic Growth:* Increase in a country's productive capacity, as measured by comparing gross national product (GNP) in a year with the GNP in the previous year; increase in the capital stock, advances in technology, and improvement in the quality and level of literacy are considered to be the principal causes of economic growth. In recent years, the idea of sustainable development has brought in additional factors such as environmentally sound processes that must be taken into account in growing an economy. ("What Is Economic Growth?" 2015)

*Productive Employment:* Employment growth generates new jobs and income for the individual - from wages in all types of firms, or from self employment, usually in micro firms - while productivity growth has the potential to lift the wages of those employed and the returns to the self-employed. (Arezki, Rabah, Pattillo, Quintyn, and Zhu, 2012)

*Local and Global Connectivity:* Level of broadband penetration, access to capital, and industry density. In a broader sense, technology itself increases the effectiveness and efficiency of a city's operating system, and therefore can be considered as tangible evidence of the degree to which a city innovates. These indicators are used to quantify the technology and innovation ecosystem: Broadband penetration, Number of mobile lines per capita, Access to capital, Population coverage(1/density of population), Digital Economy ranking (e-readiness & beyond) ("The Most Innovative Cities: Methodology And Measurements" 2015)

*Foreign Direct Investment:* An investment made by a company or entity based in one country, into a company or entity based in another country. Open economies with skilled workforces and good growth prospects tend to attract larger amounts of foreign direct investment than closed, highly regulated economies. ("Foreign Direct Investment (FDI) Definition, 2003)

*Social Capital - Non-Income Poverty, Access/Inputs to Education, Access/Inputs to Healthcare, Social Bonds, Social Bridges,*

*Non-Income Poverty:* A designation that considers ‘lack of capabilities’ as a measurement of poverty instead of traditional economic indicators; refers to the freedom to attain and maintain a level of well-being, measured through a combination of the ‘functioning’, or doing of individuals, and their ‘capabilities’, or capacity to realize those functionings. ("Rethinking Poverty: Report on the World Social Situation 2010", 2009)

*Access/Inputs to Education:* Accessibility to a formal educational institution and the quality and consistency of educational inputs, including educational leadership, resources, and other related materials. ("Framework of Inclusive Growth Indicators: Key Indicators for Asia and the Pacific", 2011)

*Access/Inputs to Health Care:* Accessibility to formal healthcare institutions and the quality and consistency of healthcare services, including healthcare officials/leadership, resources, and other related materials. ("Framework of Inclusive Growth Indicators: Key Indicators for Asia and the Pacific", 2011)

*Social Bonds:* The relationships/bonds that stems from ties in the core social network, typically high in closure, trust, and shared norms; the degree to which an individual is integrated into the local community. (Ansari, Munir, and Gregg, 2012)

*Social Bridges:* The relationships/bonds that stem from ties outside the core social network; typically high in unique resources and information; links on the periphery that stretch beyond a shared sense of identity. (Ansari, Munir, and Gregg, 2012)

## Chapter 4: Study Context

This chapter gives an overview of Medellín's recent history, and provides more detail on the specific innovations and neighborhoods within the city to which this thesis gives focus. The objective is to provide the empirical context within which the study underpinning this thesis has been developed.

### 4.1 *Why Medellín?*

Medellín, an emerging city of roughly 2.4 million in the north-central region of Colombia, has experienced metamorphic changes in the past three decades. As the former home of the infamous Medellín Cartel and their notorious leader, Pablo Escobar, the city suffered a devastating urban war for the majority of the 1980s and was, at one point, considered to be the most dangerous city in the world. (Gold, 2014) Julio Acosta Arango, vice rector of the Escuela de Administración y Finanzas e Instituto Tecnológico, described the 1990s as “a period of public insecurity and deep discontent...illegal activities took over the local economy, disheartening hard-working people. Students treated degrees as tickets to jobs outside the country.” (Lowenthal and Mejias, 2014)

The innovation period, if we can refer to it as that, began in the early 1990s when Escobar died and the corruption quieted, even if only temporarily. Escobar's demise did not trigger a precise transition into a novel period of peace but rather mobilized the civilians of Medellín around a new and positively charged set of social ideals. “They were tired of the guy” and desired cultural restoration and a change in leadership. (Swope, 2014, Part 4) Economist Paul Romer says, “a crisis is a terrible thing to waste”, and the temporary deflation of crises marked by Escobar's death – even if only symbolic – allowed for a shift in the community consciousness; the debatably superficial dissolution of corruption was superseded by an incubator period that incentivized leaders in government, the private sector, and civil life to invent. A combination of rebellious leaders from a variety of industries – government, education, and artistry – directed the trajectory of Medellín from the birth of the innovation period. Rebellious, in this case, refers to the individual's desire to resist or challenge convention; with a

positive and innovative connotation, this rebelliousness was a common quality shared by leaders and embraced by the citizens. Although the occurrence of a good leader can be considered merely serendipitous, it can be argued that the sequence of events in the early 1990s positioned Medellín in a sensitive and unsettled situation that was actually conducive to the emergence of innovation and its leaders.

To highlight a few key accomplishments and perspectives of Medellín's most instrumental leaders: Luis Alfredo Ramos, dubbed the "best Mayor of Colombia" joined forces with the Alternative of Social Advancement during his time as Governor, giving special attention to the marginalized. ("Luis Alfredo Ramos", n.d.) Alvaro Uribe, the Governor of Antioquia from 1995-97 implemented a communitarian model, a philosophy that emphasized the relationship between the individual and the community, in order to help improve employment, education, administrative transparency, and public security ("Uribe", n.d.). He supported a national program of privatized security services issued by the Colombian Defense Ministry to help minimize gang-related activity. Mayor Sergio Fajardo engaged in peace processes as the founding member of the Comisión Facilitadora de Paz de Antioquia ("Fajardo", n.d.) and believed strongly that "[Medellín] has known how to innovate in every step, both in social programs, urban developments or the combination of both." (Gold, 2014) Fajardo was an excellent team builder; a priority among his circle was to define ethical principles that everyone had to sign up for – "transparency and zero corruption were two of them, and he took that very seriously." (Swope, 2014, Part 4) The sequence of strong mayoral leadership in Medellín caused a reprioritization of the government's public policy, community enterprise, and overall infrastructure of the greater city region. (Devlin and Chaskel, 2009)

Every leader, whether through alliances with non-government organizations or collaborations with local artists, formulated their governance around the theme of social inclusion and city-wide unity. The most tangible methods of unification rose from innovation in transportation, urban architecture, and shared community spaces. "By using smart design and innovative transportation infrastructural development, the city's leaders [strove] consistently to include the excluded in the city's mainstream economy and society...[an] approach diametrically opposed to the building of gated communities that increasingly blight the urban and suburban

landscape everywhere.” (Ruble, 2014) While Medellín’s metro system was constructed in the 1980s, mayor Luis Perez (2000 and 2003) elevated the level of connectivity throughout the city with a new feature in 2001: the first cable car line. Inspired by a visit to the Guggenheim Museum in Spain, Perez wanted to build something “emblematic to turn the image of the city around.” (Swope, 2014) In partnership with urbanism/architecture student Alejandro Echeverri, Perez argued that instead of having something that runs above the neighborhoods, you needed interventions to run through those neighborhoods and weave their fragmented parts together.” (Swope, 2014) From this ideology came the Integral Urban Projects (PIUs - proyectos urbanos integrals), part of a bigger strategy to “recover the poorest sectors of the city that [at the time] were dominated by communist groups, paramilitaries or drug smugglers.” (Drissen, 2014) The continuous updating of the transportation network made Medellín suddenly more accessible for all residents, reduced commute times, and made academic and professional opportunities easier to obtain.

A vital player in the game of urban renewal is the state-owned Empresas Publicas de Medellín, which supplies basic facilities to the city, including water, telecommunications, and electricity. By law, the EPM is required to provide clean water and electricity to all houses, even those in more rural or impoverished districts. Frederico Restrepo, who formerly managed EPM and acted as the main city planner under mayor Fajardo, advertised the shared view that “everything is interconnected – education, culture, libraries, safety, public spaces.” (Ortmans, 2014) EPM is Medellín’s largest business and perhaps one of the biggest advocates for sustainable change, donating profits directly to the construction of “new schools, public plazas, the metro and parks” (Ashoka, *The Transformation Of Medellín, And The Surprising Company Behind It*, 2014)

Sergio Fajardo, the mayor perhaps most committed to Medellín becoming a place of peace, saw in the topography of his city, an opportunity to improve the conduct and morale of residents by improving their “physical, cultural, and educational environments”. (Catalyst, 2014) In order to advance the ecosystem, a government must invest in the well-being of the community and prioritize the “investment in creating new knowledge and exploring alternative architectures to connect the disparate elements of that knowledge together in cohesive ways”. (Chesbrough and

Appleyard, 2007) Fajardo saw value in social inclusion and wanted to provide the same resources for everyone, regardless of neighborhood and financial status. His priority was education – he wanted to provide more opportunities of formal education for all citizens, shown by the number of libraries and schools erected under his leadership, and provide a mass social education, which made transparent the many injustices existent in the Medellín culture. He understood that while an individual or a government may have the ability to manufacture innovation, they do have the ability to increase the chance of innovation occurring.

Medellín is comprised of 249 neighborhoods, 16 communes, 6 zones, and within these regions, an estimated total of 600,000 housing units. The city is divided into 6 socioeconomic levels, part of the strict and legally recognized social stratification embedded into Colombia. While the range in income for each stratum varies by city, the index maintains this categorization:

*Stratum 1: Lowest Income*

*Stratum 2: Low-Middle Class*

*Stratum 3: Middle Class*

*Stratum 4: Upper Middle Class*

*Stratum 5: Upper Class*

*Stratum 6: Wealthy. Only 5% of Colombians fit in this category.*

This social stratification, “an income-based spatial division that classifies and demarcates the citizens by law” (Esbjørn and Fjalland, 2012) can be both beneficial and detrimental. On one hand, these not-so-invisible lines can engender segregation and cause an augmentation of the already existing societal disparity, giving more power and authority to the percentage at the top of the hierarchy. On the other hand, the policy, which was legalized in 1994 in order to grant subsidies to the nation’s poorest residents, “requires individuals in stratum 5 and 6 to pay more for services like electricity, water and sewage” (Esbjørn and Fjalland, 2012). The system can either stigmatize poverty and the people in its trap or, when leveraged appropriately, alleviate poverty by providing those affected with greater and more affordable opportunities to increase their quality of life. Since the beginning of its innovation period, Medellín has manipulated this stratification in a productive, comprehensive fashion, with deliberate objectives to elevate and

consciously integrate the lowest strata into mainstream society. In the words of Sergio Farjado, which are arguably representative of the collective mindset from Medellín leaders during the innovation period, “our most beautiful buildings will be in our poorest places” (Romero, 2007). While this sentiment refers directly to the projects of urban architecture and renewal, it embodies Medellín’s overall vision of “structuring and implementing policies which offer the population equal opportunities to dismantle structural violence and to build together with civil society the cohabitation of the urban space.” (Editores, 2011, p. 26) The socioeconomic landscape of Medellín is our starting point – with an understanding of the city’s history - albeit abbreviated - we are better equipped to realize the intricacies of its intentional transformation and the magnitude of its global impact. Described by Nathalie Alvarado Renner, Citizen Security Lead Specialist at the Inter-American Development Bank, Medellín represents a “deliberate focus on consolidating a city that is inclusive and entrepreneurial...a dynamic vision that combines important institutional innovations with local social efforts and collective will in order to build alliances with the private sector, the civil society and communities.” (Editores, 2011, p. 16)

In 2013, Medellín’s economic growth exceeded several intermediate and capital cities of Latin America, including Mexico City, Buenos Aires and Montevideo. While this unique growth cannot be immediately isolated and credited to inclusive innovation, it is invaluable for leaders from neighboring metropolis’ to consider the relationship between Medellín’s economic stimulation and integration of its urban, often marginalized populations. (Dasuky, 2014) As a whole, Latin America displays the quickest urban settlement rates in the world, with nearly a 40% increase in urban population from 1950 to 2010 (World Urbanization Prospects, 2014); and so, the emerging boroughs of Latin America, along with countless global cities with similar DNA, ought to glean stories from Medellín, an increasingly sustainable city with harmonious strides of social, economic, environmental, and institutional progress.

Medellín presents a unique scenario, where state-owned, industrial and commercial enterprise, Empresas Públicas de Medellín (EPM), engages with the government in a consistently impactful way; since its creation in 1950, EPM has transferred roughly 30% of its annual profits to the municipality of Medellín for social investment projects. (Ashoka, The Transformation Of

Medellín, And The Surprising Company Behind It, 2014) The unique structure of EPM - a private company, owned by the city, with services that are paid by the city and that pays taxes like any other corporate entity - “allows EPM to play a strong role in the city’s success and transformation... Yet, the company’s commercial position hasn’t been compromised.” (Wharton 2013) While this study will not delve thoroughly into the workings of EPM, this partnership is important to consider when looking at the transferability of the experiences in Medellín - the congruity between the local government, private, and public sectors is a vital instrument in the success of Medellín’s evolution.

#### ***4.2 Specific Inclusive Innovations in Medellín***

Throughout the past decade, the concept of innovation has become somewhat of an anthem in Medellín, a buzz word that propels forward businesses, students, and entrepreneurs in a variety of sectors. Innovation is now an integral component of the Medellín brand, marked first by its recognition in 2013 as the World’s Most Innovative City and continued through myriad efforts of entrepreneurs, multinational corporations, and the local government. (Citigroup Inc., 2013) Ruta N, a business incubator that mixes established businesses with startups, and various disciplines from high-tech to social entrepreneurs, professionals and researchers that can generate “sum is greater than the parts” synergies, anchors Medellín’s Innovation District and helps drive business growth and social inclusion. (Moss 2015) Ruta N aims to achieve, at minimum, 1% of Medellín’s GDP through innovation, so they form a pact with close to 500 companies and try to achieve this goal. They partner with roughly 800 local companies who say “I see the importance of innovation, and I want to contribute to Medellín, so I’m going to invest myself and my company in innovations” (Urquijo, 2014) The commitment to innovating exists across industries and sectors, in private, public, academia, and community organizations. But while the roles of the government and various entities are essential in the city’s drive for innovation, the transformation of Medellín really “began with its people; the people started to reorganize, come together, and change their mindsets.” (Sosa Posada, 2014). And so, as this study will explore, the building of social capital helped launch the era of innovation in the city, and the government-led inclusive innovations have continued to build social capital.

The two inclusive innovations of focus in this thesis are:

1. The expansion of the Metro System to include the cable car, which targets new customers in sensitive hillside neighborhoods
2. The construction of Integral Urban Projects, which is a broad term to define a number of various projects intended to improve resident's quality of life

Medellín's Metro Cable, which first opened on November 30, 1995, currently has 5 metro lines (including cable car lines), 34 metro stations (including 7 metro cable stations) and averages a daily ridership of roughly 550,000 patrons. (Arte Metro, 2015) The two main lines, Line A and Line B, span 14.4 miles and 3.5 miles, respectively; Line A running east and west, Line B running north and south. In August of 2004, the city inaugurated the first expansion project, Line K, a cable extension that extends from Acevedo Station up the hill to the district of Santo Domingo. (Arte Metro, 2015) In March of 2008, the second expansion opened with Line J, spanning from San Javier Station through Juan XXIII and Vallejuelos to the La Aurora district. Line L, inaugurated in 2009, serves the rural area near Lake Guarne, past Santo Domingo, and intends to promote tourism for both local and foreign visitors. Finally, an extension to Line A was added from Itagüí to La Estrella, in the south of the metropolitan area in 2012, to contribute more comprehensive area coverage. (Joseph, 2014) It is estimated that the Metro saves 175,000 tons of carbon dioxide annually, equivalent to planting 380,000 trees on 11 percent of the city's land. The system also saves the city US\$1.5 billion annually in respiratory health costs due to improved air quality, and \$4 billion in avoided traffic accidents and congestion. (Yang, 2012)

The Metro system was funded by a public/private partnership led by the city and Empresas Publicas de Medellín and took approximately 10 years to complete, with the last major expansion completed in 2006, and additional expansions planned for the future. ("Medellín Metro", n.d.) For a passenger using the Cable Car, the cost is 1,800 pesos (about \$0.60) and can be adjusted depending on which the customer's income/social stratum. The Institute for Transportation and Development, a global consortium of organizations that works with cities worldwide, mainly in developing countries, to provide solutions for their public transportation

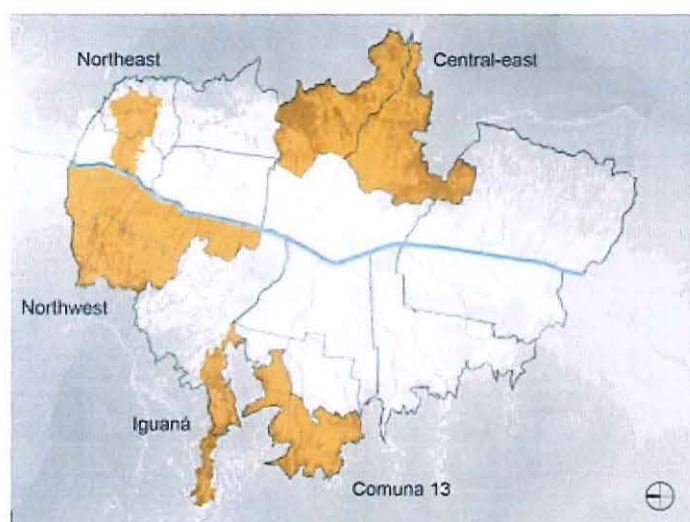
systems, tackling carbon emissions, poverty, and social inequality, gave Medellín the 2012 Sustainable Transport Award. (Garthwaite, 2012)



Illustration 4: Map of Metro System, Medellín (Medellín Metro)

The Integral Urban Projects represent a series of local government-led projects intended to improve the quality of life for Medellín residents, especially those in the most deprived and marginalized areas. A group of urban experts who studied Medellín during the late 20th century noted that its quantitative growth gave way to an alarming dispersion which produced “a city made up of independent pieces in which physical segregation as well as cultural and social distances dramatically increased and became a setting suitable for violence” (Editores, 2011, p. 71). Furthermore, they found that measurements for quality of life and the human development index were lowest in 20% of Medellín’s outlay: its communes that settled on the outskirts of the city and lacked resources, safe public spaces, and fell most vulnerable to economic and/or natural risk factors. And so, as a response to a socially and spatially fragmented population, the last two administrations of Medellín concentrated their municipal investments on implementing PUIs, which directly focused on improving conditions for 40% of the city’s total population. (Editores, 2011, p. 71) The projects include construction of safe public spaces, urban renewal and renovation, new public buildings and the improvement of existing schools, restoration and preservation of the environment to mitigate risk of natural and environmental devastation;

medical centers and other services that contribute to social development and the alleviation of poverty. ("7th World Urban Forum Medellín Declaration", 2012) A community-centered approach to rebuilding, the PUIs targeted Medellín's poorest neighborhoods, not only through physical built improvements, but also through participatory decision-making and interdisciplinary coordination, considered, arguably, as a form "of highly participatory and contextualized slum upgrading." (Swope, 2014, Part 2)



The five Proyecto Urbano Integrales (PUIs) | Map: Empresa de Desarrollo Urbano; Overlay: Jeff Geisinger

Illustration 5: Map of 5 Main Zones for Integral Urban Projects, Medellín

### 4.3 *Three Sensitive Areas of Medellín*

While the entirety of Medellín experienced a transformation in some capacity from the late 1990s to present day, this analysis focuses on three particularly sensitive areas of the city: Santo Domingo Savio, San Javier, and Moravia. Of the 249 barrios in Medellín, these areas were arguably part of a neighborhood collective that was most targeted by the local government in the execution of their urban innovations. More impacted by economic turmoil, unemployment, high rates of violence and drug activity before the innovations, these neighborhoods should theoretically be most affected, in social and economic capital, by the expansion of the Metro

## Cable and the Integral Urban Projects.

### *Santo Domingo Savio*

Santo Domingo Savio, one of Medellín's most impoverished regions and formally one of Latin America's most dangerous places, was controlled by urban militias up until 2003, giving residents limited mobility, security, and social activity. (Vulliamy, 2013) No public transportation existed, with the exception of private bus cartels, and if a resident of Santo Domingo needed to access the main center of Medellín for work, supplies, or medical or educational reasons, the commute could take up to 2.5 hours one way. (Dale, 2010)



Illustration 6: Area Map Santo Domingo, Medellín, Metro System, Line K + L

*Metro Cable:* The region now serves as the final stop on the Metro Cable's Line K, which first opened in 2004, following an investment of \$26 million USD. (Dale, 2010). Additionally, it links with the beginning of Line L, a tourist-oriented line which connects to Arví Park and is part of a social project to bring retreats and nature to the masses.

*Integral Urban Projects:* With assisted funding by the Spanish Agency for International Development Cooperation, Colombian architect Giancarlo Mazzanti designed the Parque Biblioteca España, three interconnected buildings including a library, set of academic training rooms, and auditorium, which was donated by the Spanish government. ("España Library / Giancarlo Mazzanti", 2008) The library was intentionally created with small windows, so that visitors could disconnect from the surrounding conditions of the neighborhood it offers book

collections, recreation areas and free Internet access to the local community. Other Integral Urban Projects include the Parque La Candelaria, the reconstruction of Calle Puerto Rico, a former hub for violence and gang activity, and Unidad Deportiva Granizal, a soccer field and strong example of physical space fostering social capital - according to community members, it has triggered the formation of new teams and organized play, and is an identifiable place where people meet to play, socialize, and participate with the community at all hours of the day. (Swope, 2014, Part 4)

### *San Javier*

San Javier, or Commune 13, houses 134,472 people, 65% of whom are 39 years of age or younger. Nearly thirty-six percent of San Javier households live in the lowest economic stratum, and for 15-20 years, the neighborhood has been an epicenter of violence and struggle for criminal control within the Medellín valley. (Lee, 2014) As a result, residents of all ages have been caught in the crossfire, and forcibly displaced from their homes. In 2010, more than 10 percent of the city's 2,019 homicides occurred there. (Pachico, 2011)



Illustration 7: Area Map San Javier, Medellín

*Metro Cable:* Line J services San Javier with three sequential stops, Juan XXIII, Vallejuelos and La Aurora. Since San Javier station opened in 2008, thousands of new apartments sprouted up nearby and a road is currently being built to the isolated valley below,

conditions improving for mass transportation and mobility. (Pachico, 2011)

*Integral Urban Projects:* The local government of Medellín named all of San Javier an Integral Urban Project in 2006, rolling out 23 initiatives to help reform the neighborhood, from urban renewal through public parks, Parque Bibliotect Presbitero Jose Luis Arroyave, outdoor escalators, and more. (Editores, 2011, p. 74)

### *Moravia*

Originally named ‘El Morro de Moravia’ (Hill of Moravia) during the 1970s and 80s, after an influx of displaced Colombians settled into an encampment in Medellín’s northeast region, Moravia is a neighborhood that shares a common story with other neighborhoods in Latin America. Years after the erections of haphazard infrastructure, a complete intervention project began that involved different action stages: relocation of inhabitants, decontamination and recovery of Moravia as a public space. (Arellano, 2011) Moravia is located in Comuna 4 and houses 48.000 inhabitants, all of which fall under Statum 1 and 2. The integral plan for the improvement of the Moravia neighborhood is divided in three main strategies of transformation: economic, social and the environmental regeneration, working in the environmental restoration of the hill, the strengthening of the productive units and social organization with the social accompanying of the families in the resettlement process. (Gaviria, 2014)

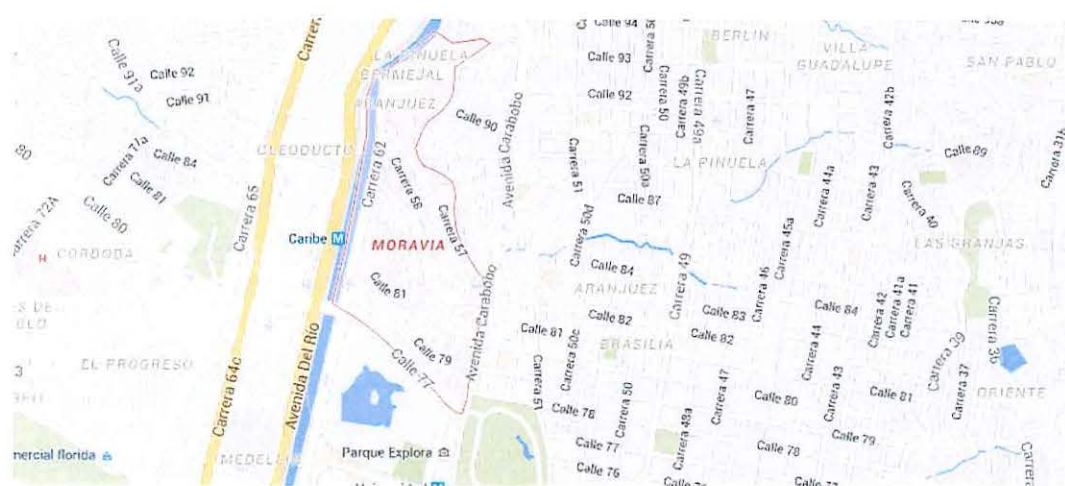


Illustration 8: Area Map Moravia, Medellín

*Metro Cable:* Moravia is situated between the Universidad and Caribe stations, both of which run on Line A, the original constituent of the Metro Cable.

*Integral Urban Projects:* The Medellín government continues to implement cumulative initiatives to promote the recovery of Moravia, including the Cultural Center, designed by Colombian architect Rogelio Salmona and intended to serve as a safe venue for artistry, sport, and education. The center fosters artistic creativity as a tool of activation of cultural projects that initiate, facilitate and/or accompany processes of education, communication and urban and social transformation. (Arellano, 2011)

## Chapter 5: Methodology

This chapter explains the methodological approaches used to obtain data in this thesis and provides the names of the industry leaders engaged with for the in-depth interviews.

Data was elicited through participatory observation, household surveys, and in-depth interviews with residents and key authority figures from both the private and public sectors of Medellín. Participatory observation took place during my visit to Medellín in November 2014, a 12-day visitation that involved frequent usage of the Metro System and Cable Cars, informal interactions and conversations with local residents, and both informal and formal tours of Integral Urban Projects. Particularly appropriate for this study, participatory observation allowed me to understand in greater depth the way in which Medellín residents view and relate to their city, including their acknowledgement of the changes the city has undergone, their reasons for feeling prideful in and loyal to their city, and the ways in which they believe the city can still improve.

Households surveys, with the assistance of the ACI, Medellín's Agency of Cooperation and Investment, were distributed to residents of Medellín's sensitive neighborhoods of San Javier, Santo Domingo, Moravia, the areas most directly affected by the Metro System and Integral Urban Projects. The survey contained questions that address how resident's lives have been changed by the innovations; it consisted of five sections that pertained to the indicators for measuring social capital; I consulted with ACI and other organizations within Medellín to gather information related to the five relevant indicators.

The impact of Medellín's two inclusive innovations were measured using the Synthesized Framework provided above, noting how each indicator has either increased or decreased surrounding the inclusive innovations. First, considering the expansion of the Metro System (including the Cable Car and outdoor escalators), the affects on economic and social capital were quantified. Second, considering the implementation of Integral Urban Projects, the affects of economic and social capital were quantified.

In-depth interviews were conducted with the following leaders from different sectors within Medellín; interviews ranged from 7 - 15 minutes, and the majority were filmed in Medellín.

- Hatem Dasuky - Former Journalist and Political Refugee, Current Commercial Director of Alcaldia de Medellín
- Miguel Urquijo - Innovation Specialist, Ruta N Medellín
- Juan Fernando Laverde Valencia - Secretaría de Minas, Gobernación de Antioquia
- Juan Esteban Sosa Posada - Consultant, Agencia de Cooperación e Inversión de Medellín y el Área Metropolitana
- Isabel Cristina Muñoz - University student and business owner
- Yusuke Emata - Expat and local hospitality business owner
- Oswaldo Baptista Duarte Filho - Secretario de Estado de Ciencia y Tecnología para Inclusión, Ministerio de Ciencia, Tecnología e Innovación del Brasil
- Luiz Otávio de Alencar Miranda - Investigador de Desarrollo Tecnológico, Instituto de Tecnologías Sociales del Brasil
- Maria Fernanda Vega - Chief of the Social Lab at ITM University, Medellín
- Alejandro Atehortua - Analyst, Online Safety Project, Medellín

## Chapter 6: Main Findings

This chapter outlines the main findings from the various methods of data collection, providing first a review of the positive and negative implications of both innovations - the Metro System and Integral Urban Projects - and then presenting the results from the surveys and the Synthesized Framework for measuring inclusive growth.

In examination of Medellín's Metro System and network of Integral Urban Projects, a unified response from formal and informal interviewees was that the quality of life has undoubtedly improved in Medellín over the past two decades. Long-time residents of Medellín with anywhere from 10 - 40 years as a citizen of the city unanimously agreed that they have experienced a positive transformation, an improvement that could be felt and measured. The participants of the in-depth interviews cited three common themes when discussing the success of Medellín's transformation and the reasons for its increase in social and economic capital: 1) The harmonious, transparent collaboration between local government, public sector, and private sector; 2) The exceptional leadership of Sergio Farjado and the continuity of vision across mayoral terms; and 3) A new emphasis on education, whether through social programs or traditional schooling. The survey responses from residents of Medellín's sensitive neighborhoods elicited responses that were generally positive, agreeing that the expansion of the Metro Cable and the Integral Urban Projects caused positive change and lead to more opportunities. However, despite the optimistic perceptions of Medellín's transformation, its citizens, particularly in the impoverished regions, are not yet content with the standards of living.

The details of my findings will be categorized below, beginning with information and feedback related directly to the Metro System and Integral Urban Projects. Following will be the results from applying the Synthesized Framework for Inclusive Growth Measurement to Medellín, highlighting indicators of social capital growth and economic capital growth. And finally, I will provide additional reflections based on my participant observation and overall experience with Medellín. Findings are presented as consolidated summaries and/or excerpts from surveys, in-depth interviews, and participant observation.

### 6.1 *Metro Cable & Integral Urban Projects*

The Metro Cable and Integral Urban Projects have accomplished a tremendous number of positive changes since their implementation. The inclusiveness involved in the planning was deliberate and consistent, with local leadership, at the government, private, and public levels, committed to large scale change, with the underprivileged specifically at the center of the targeted demographics. Installation of the cable cars and the expansion of Line J have contributed to the reduction of criminal activity, the increase of quality in life, and the overall growth of both economic and social capital - *they have contributed to Medellín's inclusive growth*. (Wilter, 2013) The Metro System and PUIs have given more visibility and meaning to marginalized or excluded populations and created a mutually beneficial venue of accessibility; residents in the poorer, hillside communities have greater access to the center of the city, and residents in the wealthier neighborhoods have greater access to the hillside communities, which can help with expansion of their services, commerce, or tourism.

Integral Urban Projects, while vast in their project details, have all incited a type of spatial urban reclaiming in Medellín, in which previously dilapidated or neglected areas were beautified and given purpose. *Unidad Deportiva Granizal* reveals itself as a strong example of physical space fostering social capital—according to community members, it has triggered the formation of new teams and organized play, and is an identifiable place where people meet to play, socialize, and participate with the community at all hours of the day. (Muñoz, 2014) The Moravia Community Center and the Parque Biblioteca España provide residents with opportunities for education, including traditional and non-traditional academic classes, community interest groups, technology-based resources. Residents of the Juan Bobo Housing Initiative now live with guaranteed access to clean water, sewage, and waste disposal and legal tenure of their homes. Within the housing community, workshops promoted capacity building, conflict resolution, and community cooperation; through the establishment of an ‘acceptable community behavior’ manual, common standards of coexistence were launched. (“Heartfelt Houses / Proyecto Juan Bobo”, 2015)

The expansion of the Metro System and the Integral Urban Projects caused a real change in

the attitude of Medellín citizens. Apparent during my visit to Medellín and through the surveys and interviews I conducted, these inclusive innovations began the trend of a newfound sense of pridefulness and loyalty; people from Medellín are proud to be from Medellín and eager to divulge the changes its city has undergone. One tangible manifestation of this pride is the city's Metro Culture or "Cultura Metro"; an unspoken agreement to maintain a high level of cleanliness and safety within the system. No food or drink is allowed on board, no litter is permitted at the stations or on the tracks (netting that prevents trash build up covers most tracks), and people are expected and self-motivated to behave in a polite and gracious manner: "You can actually perceive how the program's consciousness-raising that has been constantly going on in the last years has permeated the boundaries of the actual metro services and translated into a way of behaving that has turned Medellín into one of the most progressive, modern and desirable cities." (Colombia Travel Blog by Marcela, n.d.)

While these inclusive innovations have brought monumental changes to Medellín, they have not completely solved the social and economic issues which still exist in the city. The PUIs have not succeeded in entirely mitigating housing in risky locations, illegal construction, marginalization, or restrictions to mobility. Violence still persists, and Medellín remains among the 50 most violent cities in the world with 920 homicides committed per year (Ortega, 2014). However, the overall trend is positive, and the continuity of the urban project helps to enhance its long term impact. The current local government administration (2012-2015) has incorporated elements of the Integral Urban Projects and Metro System expansion into their Development Program, even though they represent a different political party than the two preceding administrations. This is significant and supports the idea that the most effective way to execute an agenda of change is through a unified agenda, not only among sectors and industries, but also continued through political administrations.

In the chart below, the major successes and major limitations, based on all methods of data collection, are presented.

Metro Cable		Integral Urban Projects	
Main Successes	Main Limitations	Main Successes	Main Limitations
Increase in mobility	Negligence of travel patterns and profiles of users in sensitive neighborhoods	Reclaimed and beautified public space	PUI Juan Bobo Housing programs cannot match demand within the ever growing urban population of Medellin
Adds to variety and reliability of transportation available for both included and excluded populations	Cable cars have no fare integration with main Metro System	Created and improved spaces for play, community relations, and education	Temporary displacement involved with renewal of Moravia's Cultural Center
Makes sensitive neighborhoods visible to rest of city	Standard fare higher than typical Metro fare (3,500 pesos, ~2 USD) - though low income residents receive significant discount	Increase integration of marginalized communities	Library in Santo Domingo going through another round of renovations, causing fewer visits daily and questions about safety for hillside residents
Decrease commute time for employees in sensitive areas, up to 20%	Cost of K Line was around US \$24 million and that of J Line around US\$47 million. A notable disadvantage is that it is not technically possible to exceed 3,000 journeys per hour without	Increase sense of pride and city ownership for all citizens	
Gave access to previously dangerous areas and opened them up to local, national, international tourism		Provided access to books, information technology, training courses, cultural activities, rec and sport spaces, social programs, support for creation of micro-businesses	
Aerial cable cars operate with electricity mostly with hydroelectric sources and virtually no local emissions			

Illustration 9: Metro Cable and Integral Urban Projects Main Successes and Main Limitations

## 6.2 Inclusive Growth Measurement through Synthesized Framework

### Economic Capital

*General Findings:* Since the expansion of the Metro System and the beginning of the Integral Urban Projects, the economy of Medellín has improved. Medellín has undoubtedly grown. In relative conjunction with the two innovations, Medellín started to turn itself into a business cluster, leveraging its momentum, intracity dedication to positive change, and a burgeoning brand of transformation. (Colombia: Medellín's Innovation Ambitions", 2012) The local government's interest in fostering a knowledge-based workforce and increasing innovation has led to the creation of entrepreneurial training and booster programs. All of these factors have

been instrumental in driving the economic growth of Medellín, but are they direct results of the inclusive innovations explored in this thesis?

*Economic Growth Rate:*

- Among Latin American cities, Brookings Institute listed only Medellín, Colombia and Lima, Peru in a report on the 50 fastest growing metropolitan cities in the world in terms of economic performance, which looked at GDP growth per capita and employment growth in 2014. (Colombia Expected to Have 12th Fastest Growth in the World in 2015 - First American Realty Medellín, 2015)
- In Colombia, from 2000-2010, the average annual GDP growth rate was 4.1%; Medellín averaged an annual growth of 10% in that time (Moreno, 2013)
- GDP in 2010: USD 17,069 million, contributing 8% of Colombia's GDP. (Investment Opportunities in Medellín - Antioquia, n.d.)
- With the support of the Chamber of Commerce of Medellín and the City Administration; total of 21,000 companies share 40% of total exports, 25% of the regional GDP, and 40% of Metro Area employment ("Medellín Global Cities", n.d.)
- Medellín is the city in Colombia most likely to experience faster growth than the rest of the country, which will support a growing middle class, macroeconomic stability, healthy trade agreements ("Medellín, "Innovation Hub", n.d.)

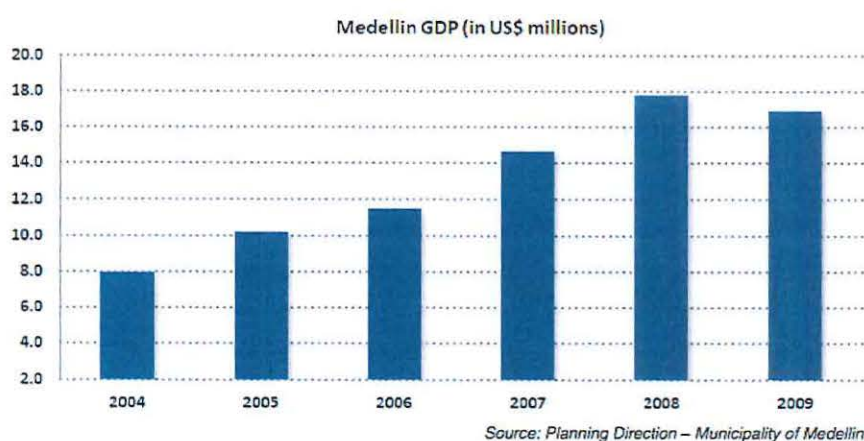


Illustration 10: Medellín GDP in US\$ Millions

### *Income Poverty:*

- The percentage of Medellín's population living below the national poverty line has steadily declined since 2002. (Data: Poverty, n.d.)
- Medellín has reduced poverty 22.5% from 2002–2008. (Garde, 2011)
- After the construction of the Metro Line K, a national bank opened a branch in the San Javier district (becoming the first to do so) to assist local businesses and provide small-scale loans for growth-oriented and co-operative enterprises. (Davila, 2013)
- The Metro Cable "increased the value of the poor's property [...] and injected some dynamism in the sector's economy. [...] It brought economic dynamism and people feel proud." (Davila, 2013, Quote from Mayor Sergio Farjado)
- Medellín has been referred to as, "a laboratory for heterodox local economic development policies paying very real economic and social development dividends, especially for the poor." (Bateman, 2012)

### *Productive Employment*

- Between 2001 and 2005, the proportion of the working population in the informal sector of the labour market was over 53% for Colombia as a whole, and in Medellín this reached 55%; the proportion is even higher in Communes 1 and 2 and in some sectors of Communes 13 and 7 (Davila, 2013)
  - The employment rate increased 1.5 percentage points in 2010 to 55.1%, while the overall participation rate climbed 0.4 percentage points to 64.0%. ("Medellín, "Innovation Hub" for Investment", n.d.)
  - Unemployment fell 1.8 percentage points from 2009 to 2010 and the total number of people employed increased by 68,000 ("Medellín Global Cities", n.d.)
  - Local government officials identified a high concentration of in-home family businesses close to the terminal station of the Metrocable K Line, and consequently chose this as the strategic location of a Zonal Business Development Center, which aims to strengthen territorial economy by generating employment, entrepreneurship, development and consolidation of micro and family businesses in terms of strategic cluster of the city.
-

(Davila, 2013)

- More than 730 entrepreneurs have been trained through Medellín Digital and Ruta N works to connect Medellín entrepreneurs with global markets and local networks. (Moss, 2015)

#### *Local and Global Connectivity*

- Initiated in 2007 to help bring new tools of communication and information to all neighborhoods within the city, including those in the sensitive regions, the local government formed a partnership with UNE-EPN Telecom local service provider to launch Medellín Digital, an initiative that aims to make connectivity and social change a common tool for development (“Citistates Group”, 2015)
- About 1.5 million people have benefitted from Medellín Digital to date through installations in 247 public schools, 8 local business development centers, 5 libraries, 45 government offices and 21 public places. (Wright, 2015)
- Close to 50% of Medellín’s population are regular Internet users, which is 15% higher than the national average. By 2020 the expectation is that over 75% of the city’s population will become regular users of the Internet. (Gaviria, 2010)
- Over 20 public open spaces in the city have free wi-fi access, including in many of the Integral Urban Projects (Ramirez, Marcela, Antonio, and Franz, n.d.)
- In addition to Medellín Digital, the local government facilitated the creation of Ruta N, which aims to consolidate a knowledge economy in the city, incorporating civilians from all income strata and neighborhoods in their programs that support business, entrepreneurship, digital education and literacy, IT capabilities, and foster innovation and entrepreneurship. (Urquijo, 2014)
- Medellín was recognized as the Second Digital Metropolitan City in Ibero America in the 10th Congress of Digital Cities in 2009 (Garde, 2011)
- The Cooperation and Investment Agency of Medellín and the Metropolitan Area notes that about 284 acres north of the city are ready to promote the installation of innovative activity and technology-based companies. (Agencia de Cooperación e Inversión. New Technologies Sector, n.d.)

### *Foreign Direct Investment*

- Antioquia, the State that includes Medellín, ranked second among FDI targets in Colombia between 2007-2011 with a 23.5% share above the total flows into the country, reaching \$2,616 million USD at the 2011 cutoff. Among these investments, 34.8% reached Medellín in the Industrial (54.4%), Real Estate (19.9%), and Trade (14.2%) sectors. ("Medellín, "Innovation Hub" for Investment", n.d.)
- Medellín is one of the best 15 location to provide business and technology outsourcing services in Latin America, and one of the world's TOP 100 in BPO and ITO services (Garde, 2011)
- The overall FDI net in-flows for Colombia have increased significantly, rising from 6.43 billion in 2010 to 16 billion in 2014 ("Data: Foreign Direct Investment", n.d.)
- Indirectly inspiring FDI, the number of tourists to Medellín has increased from 1.41 million annually in 2008 to 2.53 million annually in 2012 (Shankman, 2013)

### *Social Capital*

*General Findings:* The expansion of the Metro System and the Integral Urban Projects cultivated in Medellín a significant increase in social capital, for those both directly and indirectly effected by the innovations. Cited by Mayor Sergio Farjado, residents of the city's sensitive neighborhoods used to say "I'm going to Medellín", but with the change in attitude and livelihood incited by the Metro System and PUIs, they started to say "I am going to the city center", indicating that they no longer feel excluded or discriminated against. (Davila 2013) From 1991 to 2007, the homicide rate decreased from a peak of 381 (per 100,000 residents) 28. The Quality of Life Index increased steadily from 68 to 83.7 between 2001 and 2007, and the Human Development Index increased from 79.3 in 2004, to 80.3 in 2006 (Canon-Rubiano, 2010).

### *Non-Income Poverty*

Of the thirty people who took the survey, 84% answered positively to questions related to non-income poverty. While the majority "somewhat agreed" that safety, a sense of community, a

feeling of inclusion with Medellín, and having access to recreational opportunities have increased because of the Metro System expansion and Integral Urban Projects, a handful “neither agreed or disagreed” and/or “strongly agreed” - this indicates an overall positive change felt by most of the people in the sensitive neighborhoods.

(Non-Income Poverty) As a direct or indirect result of the Metro System and/or Integral Urban Projects / (Pobreza no-salarial) Como resultado directo o indirecto del Sistema del Metro y/o los Proyectos Urbanos Integrales:

Answer Options	Strongly Disagree / Muy en desacuerdo	Somewhat Disagree / En desacuerdo	Neither Disagree or Agree / Ni en acuerdo ni en desacuerdo	Somewhat Agree / De acuerdo	Strongly Agree / Muy de acuerdo	Rating Average
My overall quality of life has improved. / Mi nivel de vida en general ha mejorado.	0	0	0	24	6	4.20
I feel safer and more secure in my neighborhood. / Siento más seguro en mi barrio.	0	0	6	18	6	4.00
The sense of community in my neighborhood has strengthened. / El sentido de comunidad en mi barrio se ha fortalecido.	0	0	6	12	12	4.20
My family and I have more opportunities to play and pursue recreational activities. / Yo y mi familia tenemos más oportunidades para jugar y buscar actividades de recreación.	0	0	0	24	6	4.20
I feel more like a part of Medellín. / Siento más como una parte de Medellín.	0	0	0	18	12	4.40
						4.20

Illustration 11: Non-Income Poverty Measurements

### *Access/Inputs to Education*

Much of the literature that commends Medellín for its transformation over the past two decades highlights in some way, the local government’s prioritization of education and the investment by private and public companies in creating a knowledge cluster. And while the progress is clear, the feedback from residents shows that there is much room for improvement. According to (Dávila, 2013), in 2005, 85.8% of the Medellín’s population had achieved primary level education and 68.7% had achieved secondary level of education; in 2009, 90% of children were enrolled in primary school and 74% were enrolled in secondary school. The first five years of education are fully publicly funded and the Medellín municipal government has increased education spending in the past decade to build new schools, improve old ones, create libraries in poor areas, and generally increase quality of space for education. (Dávila, 2013) The Colombian government

spent an average of 4.3% of GDP on education from 2006–2010 which is considerably lower than the top OECD education spenders, but near the global average. ("Medellín Global Cities", n.d.) From the survey, the most evident change in education is the resident's access to educational opportunities and the time it takes them to reach such opportunities. What appears to still be lacking, however, is the overall quality and diversity of opportunities and resources.

(Access to/Inputs of Education) As a direct or indirect result of the Metro System and/or Integral Urban Projects / (Acceso a/insumos a la Educación) Como resultado directo o indirecto del Sistema del Metro y/o los Proyectos Urbanos Integrales:						
Answer Options	Strongly Disagree / Muy en desacuerdo	Somewhat Disagree / En desacuerdo	Neither Disagree or Agree / Ni en acuerdo ni en desacuerdo	Somewhat Agree / En acuerdo	Strongly Agree / Muy de acuerdo	Rating Average
I can more easily access educational opportunities and resources. / Tengo más acceso a los recursos y oportunidades educativas.	0	0	0	18	12	4.40
The travel time to and from school and/or libraries has decreased for me/my family. / El tiempo para viajar a la escuela y/o biblioteca ha disminuido para mi/mi familia.	0	0	0	12	18	4.60
The educational opportunities available to me/my family have become more diverse. / Las oportunidades educativas para mi/mi familia se han diversificado.	0	3	17	10	0	3.23
The overall quality of education in my community have improved. / La calidad general de la educación en mi comunidad ha mejorado.	0	6	12	12	0	3.20
The quality of educational resources, including teachers, materials and facilities has improved. / La calidad de los recursos educativos, incluyendo a los/las maestros, materiales y centros educativos ha mejorado.	0	3	9	18	0	3.50
						3.786

Illustration 12: Access to/Inputs of Education Measurements

### *Access/Inputs to Healthcare*

Similar to education, the Access/Inputs to Healthcare portion rated lower on the survey, with a total score of 66.2%. Again, the facts show that progress, although slight, has been made - the overall percentage of families relying on Medellín's state-subsidized health system has decreased, due, amongst other reasons, to more household heads entering the formal labour market, regulatory changes that prohibit multiple affiliations, a change of methodology in the application of the system, and a national reduction in quotas. Community organizations like the Red Cross, whose employees used to avoid going to the more sensitive neighborhoods, have the ability to safely work with the people of these areas, with the help of the Metro Cable Car and

outdoor escalators: “Without [this], these groups and government agencies wouldn’t come here to work because they had no way in,” said one San Javier resident. “Now, with these institutions playing a role, we can organize and coordinate better social programs, which have been one of the main drivers of change in this neighborhood.” (Rodin, 2015) While some residents believe their access to and quality of healthcare systems have improved, an important percentage “somewhat disagrees” or “neither disagrees or agrees” that the Metro System expansion and PUIs have brought much change in the way of healthcare.

(Access to/Inputs of Healthcare) As a direct or indirect result of the Metro System and/or Integral Urban Projects / (Acceso a/insumos a la salud) Como resultado directo o indirecto del Sistema del Metro y/o los Proyectos Urbanos Integrales:

Answer Options	Strongly Disagree / Muy en desacuerdo	Somewhat Disagree / En desacuerdo	Neither Disagree or Agree / Ni en acuerdo ni en desacuerdo	Somewhat Agree / De acuerdo	Strongly Agree / Muy de acuerdo	Rating Average
I can more easily access a hospital and/or medical facility. / Tengo más acceso a un hospital y/o centro médico.	0	6	11	7	6	3.43
The travel time to and from a hospital and/or medical facility has decreased for me/my family. / El tiempo para viajar a un hospital y/o centro médico ha disminuido para mi/mi familia.	0	0	15	8	7	3.73
It is easier for me to purchase and/or deliver medicine and necessary medical supplies. / Es más fácil comprar y/o entregar medicamentos y otras necesidades médico.	0	5	14	7	4	3.30
I feel my family and I are more equipped to confront potential medical problems. / Considero que yo y mi familia estamos más preparados para enfrentar posibles problemas médicos.	0	3	13	8	6	3.56
The quality of medical resources, including doctors, nurses, and facilities has improved. / La calidad de los recursos médicos, incluyendo doctores, enfermeras y centros médicos ha mejorado.	2	14	10	4	0	2.53
						3.31

Illustration 13: Access to/Inputs of Healthcare Measurements

### *Social Bonds*

With a score of 78.6%, the social bonds category of the survey shows that levels of trust have somewhat increased and new relationships have been forged, due to the Metro System expansion and PUIs. The innovations have positively impacted the social lives of communities, fostering a place with a renovated aesthetic and novel capabilities for connecting. Integral Urban Projects, like the Granzial Soccer Field promotes social bonds, bringing together local families, friends, and youth to enjoy together recreational activities. Additionally, the PUIs and Metro System are

more conducive to collaborative engagement than individual engagement, further uniting the members of the affected communities.

(Social Bonds) As a direct or indirect result of the Metro System and/or Integral Urban Projects / (Conexiones Sociales) Como resultado directo o indirecto del Sistema del Metro y/o los Proyectos Urbanos Integrales:						
Answer Options	Strongly Disagree / Muy en desacuerdo	Somewhat Disagree / En desacuerdo	Neither Disagree or Agree / Ni en desacuerdo ni en acuerdo	Somewhat Agree / De acuerdo	Strongly Agree / Muy de acuerdo	Rating Average
It is easier for me to say connected to people in my community. / Para mí es más fácil mantener conexiones con la gente en mi comunidad.	0	3	6	19	2	3.66
The depth of my core social network has increased and/or expanded. / Mi red social principal se ha profundizado y/o expandido.	0	0	5	21	4	3.96
The level of trust I feel within my core community has increased. / Siento más confianza en mi comunidad.	0	0	3	22	5	4.06
It is more likely that people in my community are willing and able to help out when a neighbor is in need. / Es más probable que las personas en mi comunidad están dispuestos y capaces de ayudar cuando un vecino lo necesite.	0	0	7	20	3	3.86
I have forged new close relationships with people in my community. / He formado nuevas relaciones cercanas con personas en mi comunidad.	0	1	2	19	8	4.13
						3.93

Illustration 14: Social Bonds Measurements

### *Social Bridges*

The most significant measurements of the social bridges category show that the majority of residents surveyed feel more connected to their city and more frequently visit other parts of the city for both business and pleasure. The Metro System expansion and PUIs increased the mobility of previously marginalized civilians, giving them more visibility as a capable yet in need community. While the innovations had little impact on the employability of residents in sensitive neighborhoods, resident's feelings of inclusion and relevance increased within Medellín, a significant factor to the overall community well-being and quality of life. The survey responses support the idea that the local government sensitively integrated a mobility infrastructure of the strategic goals of large and socially complex projects by developing processes that promote ownership by the community. (Prosky, 2014)

(Social Bridges) As a direct or indirect result of the Metro System and/or Integral Urban Projects / (Puentes Sociales) Como resultado directo o indirecto del Sistema del Metro y/o los Proyectos Urbanos Integrales:

Answer Options	Strongly Disagree / Muy en desacuerdo	Somewhat Disagree / En desacuerdo	Neither Disagree or Agree / Ni en desacuerdo ni en acuerdo	Somewhat Agree / De acuerdo	Strongly Agree / Muy de acuerdo	Rating Average
I have secured a new job, or someone in my family has secured a new job. / He conseguido un nuevo trabajo, o alguien en mi familia tiene un nuevo trabajo.	3	7	16	4	0	2.70
I am able to more freely exchange information, knowledge, and experience with other citizens of Medellín. / Puedo intercambiar información, sabiduría y experiencia más fácil con otras personas en Medellín.	0	0	5	18	7	4.06
I feel more connected to my city. / Siento más conectado a mi ciudad.	0	0	0	16	14	4.46
I have more frequently visited different parts of Medellín for business. / He visitado otros sectores de Medellín con más frecuencia para trabajo o negocios.	0	0	0	11	19	4.63
I have more frequently visited different parts of Medellín for pleasure. / He visitado otros sectores de Medellín con más frecuencia para diversión.	0	0	0	15	15	4.50
						4.07

Illustration 15: Social Bridges Measurements

## Chapter 7: Conclusion and Implications

This chapter brings together the main findings of the thesis and offers a conclusion and implications, notes the limitations of the study, and provides recommendations for areas of further study.

### 7.1 *Conclusions and Implications*

The narrative of Medellín is a fascinating and valuable study in the role of local government-led change, mobility and its relationship to inclusion, and the causation between inclusive innovation and inclusive growth. In this thesis, during which I ultimately aim to answer the question: *to what extent can inclusive innovation contribute to inclusive growth?*, I have offered a Synthesized Framework for measuring inclusive growth that includes five indicators of both social and economic capital. Through application of the Synthesized Framework, it is evident that in the case of Medellín, both social and economic capital have increased as either a direct or indirect result of two inclusive innovations - the Metro System and Integral Urban Projects. Within the Social Capital measurement, the results have been more *direct*, with citizens experiencing immediate, tangible outcomes from the Metro System expansion and the PUIs. Within the Economic Capital measurement, however, the result is more *indirect* - and there is ambiguity around the progression and interrelatedness of the overall operations and strategy. Considering the way in which the personality of Medellín started to change at the beginning of the 'innovation period', marked by the death of Pablo Escobar in 1992, it may be the case that accrediting progress exclusively to the innovations in transportation is not possible. Rather, the innovations were a significant *part* of the overall, gradual positive change of the city. It is difficult to ascertain with precision whether the expansion of the Metro System and Integral Urban Projects have had an impact on the economy of the sensitive areas, because it is difficult to disentangle their effect from city-wide trends such as macro-economic processes, the effect of urban and social policies and other spatial-physical intentions (Davilia, 2013)

What is possible to conclude, from data collected through the mixed methodology of this research is that the inclusive innovations in question, incited a new level of awareness, responsiveness, and commitment - which, ultimately, contributed significantly to the city's

inclusive growth. Based on Medellín's history, and the newfound value of certain programs initiated by its government in the 90s, it can be surmised that the following factors also contributed to the progress of the city: the visionary leadership of the local government, the commitment to education, the collaboration between government, and public and private sectors, and the role of branding at the international level.

Ample literature, interviews, and conversations in Medellín, pointed to the leadership of Sergio Farjado, whose aim was “to activate the power of aesthetics as a motor for social change and present the “most beautiful for the humblest” (“Colombia: Q&A Alonso Salazar - Mayor of Medellín”, 2011). The importance of visionary leadership, which is especially needed in a time of change, rang true in Medellín - with Farjado leading an inclusive process of revival, asking citizens of the city about their needs, their problems, and their suggestions for solutions (Sosa Posada, 2014) It was not a partisan issue either; it was an issue of bettering Medellín; “not about infrastructure, architecture or engineering, it’s about a political project inclusive of citizens.” (Borrero, 2014) Despite differences in beliefs and agendas, the leaders at the local government level in Medellín, committed to a long-term improvement plan, galvanized the people, and tried to make each individual become part of the process and solution. The power entrusted in mayors has raised the appeal of the post, occasionally attracting unconventional candidates pursuing the ‘opinion vote’. This was the case of former mayors Sergio Fajardo (2004-2007) –an academic–, and Alonso Salazar (2008-2011) –a journalist and social researcher–. Venturing for the first time into politics, Fajardo and Salazar increased the technical capacity of the state by improving the city’s tax collection and the performance of city owned companies such as Empresas Públicas de Medellín (Medellin Municipal Utilities Company).

One of the unifying agenda items for leaders was an emphasis on education. This focus led to Integral Urban Projects centered on educational opportunities, such as public libraries, community centers with diverse classes and resources, and spaces for enhanced digital connectivity. As stated in the Asian Development Bank’s report on measuring inclusive growth, “All [successes] start with the foundation of education: Education investments are crucial—regardless of poor or non-poor, male or female, urban or rural resident—to make good quality education inclusive for all and to develop human capabilities to allow everyone to participate in

and benefit from growth. ("Framework of Inclusive Growth Indicators: Key Indicators for Asia and the Pacific", 2011) The Integral Urban Projects helped create and distribute resources, and arguably, symbolized the beginning of the domino effect with initiatives that further promoted education, like Medellín Digital, Ruta N., and increased number of opportunities and incubators within the University system. As indicated on the "Access to/Inputs of Education" portion of the survey, which scored a 3.786 out of 5, PUIs and the expansion of the Metro System have benefited the overall education of Medellín residents in sensitive neighborhoods, providing more resources and mitigating the travel time to and from educational venues. The inclusive innovations in Medellín served as vehicles to make more efficient investments in education, improve educational outcomes, and encourage, through engagement in the educational systems, young people to enter the labor market.

Another major lesson that can be gleaned from Medellín is the metamorphic potential for achievement when the private, public, and government sectors work harmoniously toward the same agenda. The idea of shared value in business - that the competitiveness of a company and the health of the communities around it are mutually dependent - has, in some very real ways, been demonstrated in Medellín. Rather than effecting the competitiveness of an individual company, however, it is the city itself that has increased its competitive advantage. The local government, Empresas Públicas de Medellín, private companies and anchor entities in the public sector, united through a common vision for the development of the city and supported each other to make most effective their execution. The firms and organizations interacted and engage in cooperative initiatives, "which allow[ed] them to become more competitive than they would be if they operated individually (Porter, 1998). But the motivation for most stakeholders in Medellín, went beyond financial returns - the municipal administration spoke not only of "building better architecture, which the people can be proud of and builds the community's self-esteem and sense of belonging", but also of 'leverage projects' that "lead to a profound social transformation"; the aspiration was to build, literally, a new 'social contract' through the provision of spaces of citizenship, places for democracy and environments of conviviality (Alcaldía de Medellín/Universia, 2008, p. 52)

Once the city began gaining momentum, which it has done especially well in the past five years, an element of branding emerged that should be considered when analyzing the situation in Medellín. Positive changes have been and continue to be made in the city, undoubtedly - but have those been amplified through the phenomena of brand affirmation and/or is there disparity in what is being advertised and the reality of the place? Medellín has attained a paradigmatic status, becoming a kind of 'celebrity', on the international scene of urban renewal and urban socialism. (Sotomayor, 2013) Dubbed as the "Most Innovative City", "The Next Silicon Valley", and "A City Transformed", the reputation of Medellín has changed entirely, and it continues to receive recognition and awards from institutions like UN-Habitat, The Gates Foundation and Harvard University. (Sotomayor, 2013) Since 1991, Medellín has dramatically decreased its homicide rates by nearly 80% (Franco et. al., 2012; Personería, 2013), lowered its gini coefficient by 7.8%, which measures inequality, (Medellín Como Vamos, 2013) and increased the quality of life for the majority of its citizens. While these feats are significant and deserve to be praised, there have been problematic factors that have occurred concurrently, including "truces imposed by organized criminal structures, or the violent retake in 2002 of territorial control by the public forces as commanded by former right-wing president Alvaro Uribe (2002-2006; 2006-2010)." (Sotomayor, 2013) Evidence from the surveys and some of the in-depth interviews shows that while improvements have been made, citizens feel there is much more to be done, and as the celebratory voice of Medellín becomes louder, it risks overtaking the voices that still question, need, and deserve to be heard. There is a particular fragility to the social processes implicated in the aggressive urban reconfiguration practiced in Medellín, and many problems still exist pertaining to justice, security, neighborhood safety, drugs, violence and motility. The main challenges will determine the sustainability of current efforts at reform in the long run, to: close the gap for affordable housing, create local economies able to compete and win over criminal enterprises, and improve governance coordination with neighboring municipalities. (Sotomayor, 2013)

The analysis of the Metro System and the Integral Urban Projects in Medellín shows the interconnectedness of social and economic capital, how the intentional inclusion of marginalized populations into mainstream society can meaningfully improve the quality of life for all citizens,

and an exemplary model of how inclusive innovations can contribute meaningfully to inclusive growth. In order to more successfully achieve and sustain inclusive growth, the infrastructure of government - ngo - corporate relationships must become more unified and practice a long-term view of productive, inclusive innovation policy.

## 7.2 *Limitations*

Although this research was carefully prepared and executed, there are shortcomings and limitations to its breadth and potency. Firstly, my participatory observation was only for twelve days, which is too short of a stay to truly understand and engage with a place and people. Second, the surveys were only distributed to thirty people from the sensitive neighborhoods of Medellín, and I only conducted ten in-depth interviews with leaders from Medellín. Additionally, my native language is English, and the large majority of people who participated in the surveys and interviews have the native language of Spanish, and may or may not speak English. With the help of a bilingual translator, I had all surveys translated to Spanish, and for the interviews, I relied on the translator to help better facilitate the conversation. Still, with a difference as fundamental as language, there are surely nuances and cultural subtleties that are lost or misunderstood.

## 7.3 *Suggestions for Further Research*

Based on analysis of the Metro Cable and the Integral Urban Projects, it is evident that, in the case of Medellín, the local government-led inclusive innovations have contributed significantly to inclusive growth. And what should be celebrated is the large stride the city has taken in terms of its culture, quality of life, and serious improvements in social and economic capital. The transpiration and interrelatedness of inclusive innovation and inclusive growth in Medellín is very significant. In addition to Detroit, more cities with similar histories and socio-economic temperaments, like Ciudad Juarez, Mexico; Caracas, Venezuela; Maceio, Brazil; Cape Town, South Africa are taking initiative in discovering lessons from the laboratory of Medellín. (Stiglitz, 2014) Ivan Turok, Executive Director of the Human Sciences Research Council's Economic Performance and expert advisor to the UN, OECD, European Commission and the South African and British governments, visited Medellín earlier this year for the Urban World

Forum, intending to learn ways in which lessons can be applied to his resident city of Cape Town, a place with a similar pathology of gangsterism, social blight, and deep inequality. Turok reports: “Given its history, you would have thought Medellín was a place of despair, from which anyone in their right mind would flee, and which investors wouldn’t go near. The level of violence was unbelievable – a murder rate three or four times ours. What transformed that – bringing down the murder rate tenfold, among other things – was a groundswell of opinion that ‘enough was enough’ coupled with political leaders bold and imaginative enough to work together, agree on a plan and share the responsibility for seeing it through. This gives us tremendous hope that things can change, and this is terribly important for us.” (Morris, 2014)

What should be further explored is the transferability of best practices in Medellín - was Medellín a perfect storm of ingredients that positioned it for success? If the visionary leadership in fact *was* an essential element in the city’s success, how best can other local governments invite and promote that kind of leadership? And how best can other governments cultivate relationships with their communities, the private and public sector, and galvanize them behind a city-wide vision? Considering its current status, how can Medellín continue to effectively and simultaneously leverage its brand of innovation and elevate through inclusion the ideas and needs of its most marginalized citizens?

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## Appendix 1: Survey for Medellín Residents

### Explanations of Social Capital Indicators:

*\*In-depth explanations provided in literature review.*

- 1) Non-Income Poverty: A designation that considers 'lack of capabilities' as a measurement of poverty instead of traditional economic indicators; refers to the freedom to attain and maintain a level of well-being, measured through a combination of the 'functioning', or doing of individuals, and their 'capabilities', or capacity to realize those functionings.
- 2) Access/Inputs to Education: Accessibility to a formal educational institution and the quality and consistency of educational inputs, including educational leadership, resources, and other related materials.
- 3) Access/Inputs to Health Care: Accessibility to formal healthcare institutions and the quality and consistency of healthcare services, including healthcare officials/leadership, resources, and other related materials.
- 4) Social Bonds: The relationships/bonds that stem from ties in the core social network, typically high in closure, trust, and shared norms.; the degree to which an individual is integrated into their local community.
- 5) Social Bridges: The relationships/bonds that stem from ties outside the core social network; typically high in unique resources and information; links on the periphery that stretch beyond a shared sense of identity.

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### *Survey Questions:*

This survey is attempting to measure how you changed as a result of one or both of the following:

Medellín's Metro System - The Metro Cable (Line J, K, L)

Medellín's Integral Urban Projects - Parque Biblioteca Espana, Juan Bobo Housing, Granizal Soccer Field

Indicate to what extent the following statements are true, using a scale of 1 - 5.

- 1 = Agree Strongly
- 2 = Agree Somewhat
- 3 = Neither Agree or Disagree
- 4 = Disagree Somewhat
- 5 = Disagree Strongly

*[Non-Income Poverty]*

**A. As a direct or indirect result of the Metro System and/or Integral Urban Projects:**

- A1) My overall quality of life has improved.
- A2) I feel safer and more secure in my neighborhood.
- A3) The sense of community in my neighborhood has strengthened.
- A4) My family and I have more opportunities to play and pursue recreational activities.
- A5) I feel more like a part of Medellín.

*[Access to/Inputs of Education]*

**B. As a direct or indirect result of the Metro System and/or Integral Urban Projects:**

- B1) I can more easily access educational opportunities and resources.
- B2) The travel time to and from school and/or libraries has decreased for me/my family.
- B3) The educational opportunities available to me/my family have become more diverse.
- B4) The overall quality of education in my community have improved.
- B5) The quality of educational resources, including teachers, materials and facilities has improved.

*[Access to/Inputs of Healthcare]*

**C. As a direct or indirect result of the Metro System and/or Integral Urban Projects:**

- C1) I can more easily access a hospital and/or medical facility.
- C2) The travel time to and from a hospital and/or medical facility has decreased for me/my family.
- C3) It is easier for me to purchase and/or deliver medicine and necessary medical supplies.
- C4) I feel my family and I are more equipped to confront potential medical problems.
- C5) The quality of medical resources, including doctors, nurses, and facilities has improved.

*[Social Bonds]*

**D. As a direct or indirect result of the Metro System and/or Integral Urban Projects:**

- D1) It is easier for me to say connected to people in my community.
- D2) The depth of my core social network has increased and/or expanded.
- D3) The level of trust I feel within my core community has increased.
- D4) It is more likely that people in my community are willing and able to help out when a neighbor is in need.
- D5) I have forged new close relationships with people in my community.

*[Social Bridges]*

**E. As a direct or indirect result of the Metro System and/or Integral Urban Projects:**

- E1) I have secured a new job, or someone in my family has secured a new job.
- E2) I am able to more freely exchange information, knowledge, and experience with other citizens of Medellín.
- E3) I feel more connected to my city.
- E4) I have more frequently visited different parts of Medellín for business.
- E5) I have more frequently visited different parts of Medellín for pleasure.

*[Free Response]*

- F) Overall, how would you rate your community as a place to live — excellent, good, only fair, or poor?
- G) How do you believe the development of the Metro System and the Integral Urban Projects have effected your quality of life?
- H) What has been the most positive change in your community as a result of the Metro System and/or Integral Urban Projects? What has been the most negative?

## Appendix 2: Questions for Semi-Structured Interviews

1. ¿Cuál es tu nombre y el tipo de trabajo que haces?

What is your name and what kind of work do you do?

2. ¿Cuánto tiempo llevas en Medellín?

How long have you lived in Medellín?

3. ¿Ha experimentado cambios durante su tiempo en Medellín, con respecto a la calidad de vida, gobierno, nivel de paz y la estabilidad?

Have you experienced any changes during your time in Medellín, with regards to quality of life, government, level of peace and stability?

4. ¿Sabías que Medellín fue nombrada "ciudad más innovadora del mundo" el año pasado? ¿Cuál es su reacción a ese título?

Are you aware that Medellín was named "most innovative city in the world" last year? What is your reaction to that title?

5. Muchas personas de crédito la arquitectura urbana y la renovación de infraestructura de transporte (por ejemplo, el metro y teleférico) contribuyen al nivel de innovación en Medellín. Si tuviera que señalar 1-3 factores que afectan la innovación, ¿cuáles serían y por qué?

Many people credit the urban architecture and renewal of transportation infrastructure (for example the metro and cable car) as contributing to the level of innovation in Medellín. If you had to point to 1-3 factors that effect innovation, what would they be and why?

6. ¿Has conocido a alguien cuya vida ha sido cambiado por el teleférico, escalato al aire libre...

Have you known someone whose life has been changed because of the cable car, outdoor escalator, public library or park space?

7. ¿Cómo describirías tu calidad de vida, teniendo en cuenta el acceso a educación, empleo, ocio y libertad para expresar su propia creatividad?

How would you describe your quality of life here, considering access to education, employment, leisure activities and freedom to express your own creativity?