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Weaving the Built Environment. Social infrastructure networks enhancing socio-spatial inclusion, urban equity and community resilience in Bogota and Medellin

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Figure 01: Orquideorama, (Botanic Garden) Medellin, Col. Plan B + JPRCR Architects 2006

Source:http://pasaportecolombiano.wordpress.com/2007/12/30/lo-mejor-del-ano-%C2%A1si-vieras-como-esta-de-bella-medellin-ole/

Problem and motivation statement

Although Bogota's development process between 1998 and 2007 has been documented, awarded and internationally discussed mainly due to the introduction of the BRT Transmilenio system, less has been said, researched and measured about it more or less 500 Million USD primary and secondary public Schools and Libraries Infrastructure investments (mostly twice the cost of the Guggenheim Bilbao museum) carried out during this 10 years period.

Thrived in a decentralized and distributive spatial pattern, the School and Libraries facilities development program is a unique example of a long run and land policy based Social Infrastructure System strategy implemented in the most vulnerable districts and intended for the poorest children of the city out of any cost for them and aimed to equilibrate social and spatial urban benefits in a traditionally highly unequal urban context. However, the success of this initiative and it urban scale positive impacts rely not only upon the quality of the facilities itself but on the articulation capacity of the projects to the existing urban fabric and the public space in the surroundings as well as to the public transportation networks.

Probably the golden Lion award[1] for cities won by Bogota during the 10th Biennale di Venezia in 2006 in Italy has been the most remarkable and worldwide relevant recognition for this planned and implemented urban development vision that through articulating mega projects contributed in weaving a highly fragmented urban environment, enhancing citizens accessibility to human and social resources and capitals as well as stimulating urban hope.

This visionary development strategy carried out by 3 different but consecutive mayors (Enrique Peñalosa, Antanas Mockus and Luis Eduardo Garzon), triggered a trend of physical reconstruction within the city mostly in three complementary infrastructure branches: Mobility and transportation with the introduction of the BRT system Transmilenio, Education with the construction and renovation of more than 300

[1] Sennett, R. Khan, A.A. Gormley, A. Hadid, Z. 2006. Biennale di Venezia 2006 Official Jury's speech. Teatro Malibran, Venice, Italy. November 8th 2006. [Online Accessed 12.02.12] Available at: http://grazarchitektur.at/pages/de/nachrichten/2356.html?ls=967fa8eacbbe72bf446c08703a222345
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school facilities as well as more than 5 new mega public libraries and Environment and Recreation due to investments in new public spaces as parks, bicycle paths, sidewalks, pedestrian bridges and boulevards.

Similar development achievements have been visible in Medellin, second Colombian biggest city with 2 million inhabitants, where also complementary articulated infrastructure projects in transportation (Overground Metro, Cable-Cars, BRT and Tram), public space and school infrastructures, implemented during the last 20 years have been weaving the urban fabric and transforming the city in an outstanding process which have got the international attention of the media, being choose by the Wall Street Journal in 2013 as the most innovative city in the world, or being called by the Economist and the Guardian in England as a "Urban Miracle".

Evidences from these two top populated and economically productive Colombian cities, show that social infrastructure systems renovation and networking between infrastructure systems might be effective in achieving social and spatial inclusion for the lowest income communities, enhancing their urban and social resilience (Capacity to reduce social, physical and environmental vulnerability)[2] as well as promoting a more equitable built environment. According to Stoll & Lloyd (2010)[3] "*Multi–performative infrastructure – where (planners and) architects organize multiple functions in composite networks – can produce long-term savings that avoid redundancy. Collecting multiple infrastructure systems while also responding to local, social aesthetic, and ecological conditions produces resilient forms of urbanism that are appropriate for the given conditions*".

Objectives

This paper works across the interknitted factors, dimensions, scales and impacts of Social Infrastructure projects and networks and it big potential in weaving the built environment, examining the Bogota and Medellin School Infrastructure

[2] Pelling M. 2003. The vulnerability of cities: Natural disasters and Social Resilience. London: Earthscan

[3] Stoll K. & Lloyd. S. 2010. Performance as form. In: Idem. (Eds). Infrastructure as Architecture. Designing composite Networks. Berlin: Jovis.

projects from its urban articulation strategies to some of it human, social and physical capital impacts.

Therefore the research aims to:

- Understand the infrastructure strategy development process in both cities looking at it phases, actors and products, at its policy, institutional and physical dimensions.
- Graph and map the urban dimension of these Social Infrastructure Networks and it capacity in weaving the territory while articulating to the other infrastructure systems.
- Find out the projects physical and social impacts in both cases.

Methodology

The research analyses primary and secondary sources to come to the conclusions, including original information received by the institutions in charge of the projects.

It also recall for own sources and experiences as long as the research author worked professionally at some of the phases in Bogota`s project between 2004-5.

Relevance and Contributions

The relevance of the topic lies in the undeniable and urgent obligation Latin American cities are facing as the most urbanized continent (UN Habitat 2012)[4], to undermine the high levels of spatial and social disparities and segregation which have placed the region as the most unequal in the world: "*One thing is clear: Latin American nations continue to wrestle with many of the same problems they have wrestled with for decades- uneven growth with high levels of poverty and the world's highest levels of inequality*"[5]. Only in Bogota, and according to the mayor Office in 2003 mostly 55,3% of the city's population, almost 3.5 million inhabitant, where living in absolute poverty.

Following Gary S. Becker's statement on how "*Education, training and health are the most important investments in human capital*" [6] , the paper aims to contribute

[4] ONU HABITAT (2012). Estado de las ciudades de America Latina y el caribe 2012 [online] Available at: http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3380 . Accessed 12 07 2015.

[5] Kingstone, Peter. (2011). The Political Economy of Latin America. Reflections on neoliberalism and development. Routledge New York, NY

[6] Becker G.S. Human Capital. The concise Encyclopedia of Economics. [online] Available at: http://www.econlib.org/library/Enc/HumanCapital.html . Accessed 20 10 2015

in highlighting implemented Social Infrastructure meaningful experiences where it effectiveness to human, social and physical values reconstruction have been significant in breaking the gaps and distances of traditionally fragmented built environments.