The thin green line: Atlanta, from “S, M, L, XL” to the BeltLine

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Abstract. This paper intends to examine the relationship between a sustainable urban redevelopment project with the typical urban form in North America. The contemporary urbscape in North America demonstrates the prevalence of urban sprawls, characterized by low-density residential areas, big-box stores, strip malls, office parks and networks of highways. Recent trends in the United States indicate concerted efforts to achieve new spatial structures for urban areas that would be more sustainable. This study will explore the limits and potentials of such a project by studying the Atlanta BeltLine, a linear park that is currently under development in Atlanta. How do we situate sustainable projects in architecture and urbanism within the trajectory of modern architecture?

1. Introduction
The This paper approaches the theme of this event from the point of view of theory and history of architecture, as a rumination of the current state of urban form, sustainability, and, eventually, and modernity. In does not intend to make a sweeping, generalized observations and statements, but instead, it will focus on a local case, that is, the city of Atlanta. Such a localized examination, however, would bear several traits and tendencies that colours our built environments.

In 1994, Rem Koolhaas boldly stated “Leave Paris and Amsterdam - look at Atlanta, quickly and without preconception [1]”. His manifesto urged us to seek a new model of urbanism, one that would be in tune with contemporary life and culture at the end of the twentieth century. Instead of continued reference to European urban form epitomized by those cities, he saw that contemporary American cities provided an appropriate model for present days urbanism. These cities demonstrated repetitive, banal urban form and structure that spread out horizontally, which he termed as the “generic cities.” In this vein, he saw Atlanta as the embodiment of an urban form that reflected our time, which he elaborated further in a chapter in his book “S,M,L,XL” [2]. In this chapter, he waxed lyrically about Atlanta, highlighting with ironies some features of the city, such as its pretensions on urban cultures and histories, and its position within transportation networks. He painted Atlanta as a formless city, defined by layers of landscape and infrastructure rather than by the classical instruments of boundaries, centres, and hierarchy.

Two features from his lists about the city, that is, its “intensity without physical density” and that “Atlanta is not a city, (it) is a landscape,” allowed us to map his fascinations with the city within his conceptual trajectory [2]. In “Delirious New York,” by excavating and analysing New York City, he pointed to the primary characteristic of modernity in its intensifications of programs within a very limited area [3]. Manhattan in New York City showed the mechanism of this intensification, in which
a multitude of unrelated programmatic components were juxtaposed and overlaid, forming what he called as “the culture of congestion.” This was a process that borne out of necessities and pragmatism, instead of driven by a set of theoretical agendas. Further, this argument reflected his efforts to continue and situate work of major figures of the Modern Movement, both theoretical and in practice, within contemporary time. In this vein, the intensification of programs would allow for opening up of the ground. This line of thought articulated a thread to Le Corbusier’s urban theory, manifested in the proposal for the city of light or la ville radieuse, in which multistory structures risen up amidst lush, open space [3] (Figure 1).

Figure 1. Atlanta skyline (source: author’s photograph).

2. Atlanta and American cities
Indeed, a cursory glance over Atlanta would reveal the characteristics of the city that articulated these symptoms. Looking from above, the city appears as if it was an archipelago of skyscrapers on a sea of lush greeneries, while its skylines offer picturesque views, in which tall figures of skyscrapers punctuated the ornate lines of nature. This pastoral view of the cityscape betrays the fact that the city lacked a strong, visible downtown. Instead of a single centre around which the city was organized, Atlanta has multiple centres, spread over a landscape of low-rise, low-density residential areas. These neighbourhoods are full of greenery, that hid the existence of networks of roads and other infrastructures that facilitated this sprawling city. The urban form of Atlanta in particular, and American cities in general, reflected the transformation of urban forms with regards to shifts in the economic base of our society.

In this vein, Daniel Bell distinguished the pre-industrial, industrial and post-industrial societies [4]. The pre-industrial society developed an economy based on natural resources, leading to the emergence of the agrarian society. Meanwhile, the industrial society revolved around manufacturing activities, which necessitated, among others, the circulations of both raw materials and industrial goods. The post-industrial society saw services as the main sector in economy, and information rapidly took place as the main commodity. The industrial economy led to the spatial and temporal divisions of everyday life, in which work took place in a different location from the domestic activities. Further, work was also classified into different categories. In this vein, Mitchell pointed out that the separation between
management and manufacturing manifested in the spatial separations between industrial areas from management zones in the urban landscape, leading to the emergence of the central business districts [5]. One a larger scale, he noted that the eighteenth century was characterized by the prominence of seaport towns, the nineteenth century saw the rise of railroad towns, while, mid-twentieth century America saw the dominance of the automobile suburbs with their strip mall and big boxes [5]. Ellen Dunham-Jones, among others, has noted that cities were the urban form of the industrial society, while suburban sprawl is the urban form of the post-industrial society [6]. She stressed that the rise of the information technology paved the way for the mobility of capital and the decentralization, which in turn, affected the form of the built environment. She argued that the replicable typology of chain-stores and franchise fit into the demands of the capital and the dependency to automobile relates to the decentralized and dispersed economy. Thus, the network of highways and roads shaped the landscape, with boxes, large and small, littered along the network.

In essence, Atlanta is a quintessential example of American cities, in which sprawl dictates the form of the city. Indeed, Atlanta is one of the worst sprawling cities in the country. Numerous studies have demonstrated the high costs of urban sprawl [7]. In this line of thought, urban sprawl has created a society that depended on automobile. In turn, this automobile-oriented society has led to spatial and social separations and segregations. These social and spatial constructs instigated the breaking up of societies, that led, among other things, to isolations and alienations. Isolations and alienations have their tolls on personal well-being, physically and psychologically. For example, the auto-dependent culture led to the lack of physical activities, such as walking. Obviously, the environmental costs of such a culture were enormously high, such as in the consumption of fossil fuels and the rate of carbon emissions.

3. The Atlanta BeltLine and its impacts

However, a new development in Atlanta has indicated a paradigm shift of such an urban form. Beginning in the mid 2000’s, the city has embarked on the construction of the Atlanta BeltLine, which is projected to be completed in twenty-five years. Essentially, the BeltLine is a linear park, similar to many projects that sprung up across the country, such as the High Line in New York City. Although the Atlanta BeltLine lacks the glitter of a high-profile design as in other cities, it is a very comprehensive plan that aims for a much broader implications for the urban form and urban life of the city. It is linear park that encircled the in-town or the historical neighbourhoods of Atlanta [8]. It envisions the creation of 33-mile of trails, 22 miles of which would incorporate light-rail tracks. This trail could connect separate destination points around the city. Along the trail, it would entail the creation of about 1,300 acres of new park. This infrastructure of park and trail would stimulate the development of about 30,000 to 40,000 new residential units along the loop. Overall, the project would create an estimated number of 30,000 new jobs. In effect, it is an infrastructure project that would stimulate economic development of the city.
The Atlanta BeltLine (see Figure 2) is the brainchild of Ryan Gravel, borne out of his master thesis at Georgia Institute of Technology [9]. In his thesis, Gravel envisioned of turning the abandoned railroad tracks that forming a loop around the in-town neighbourhood into a transit infrastructure that would stimulate economic redevelopment of inner-city Atlanta. Conceptually, it is an application of the model of transit-oriented development. Historically, Atlanta emerged as a railroad town in the nineteenth century, in which the imprint of the railroad networks shaped the initial grids of the city and the intra-urban network of railroad formed various neighbourhoods and older suburbs around the city. Further, the major railroad tracks serving industries in Atlanta formed a loop around the in-town neighbourhoods, with industrial facilities occupied lands along this loop. The demise of the railroad system and the emergence of the automobile suburb in the midst of the twentieth century changed Atlanta. The city experienced declines as jobs and population moved out to the automobile suburbs. Gravel’s design aimed to reverse this urban phenomenon by repurposing the remains of transportation and industrial features of the city. After sitting in shelves for a few years, Gravel managed to persuade the councilwoman Cathy Woolard to build a grass root campaign for the realization of the design. Eventually, the city adopted the design and commissioned the firm Perkins + Will to carry out the planning and design of the Atlanta BeltLine.

The physical construction of the Atlanta BeltLine commenced after the breaking ground in 2012, and by 2020, about a third of the project have been completed. The completion of parts of the Atlanta BeltLine has proven to be catalytic, as it has spurred physical, economic, and social developments along the completed trails. Along the trails, new multistory residential units have sprung up, while abandoned and derelict housing in surrounding neighbourhoods have been renovated. Indeed, the BeltLine has started to change the way Atlantans live, in which people started to move back into the city. Spatially, it increases density within a walkable distance, while socially it has encouraged the inhabitants to take up much more active life. People walk to their workplaces as well as for everyday activities. Besides daily activities, the trails also thrive with recreational activities. Complimenting the trails, new urban parks in the neighbourhoods create as a magnet for social and recreational activities.
for the populace. In a way, The BeltLine has started to alter the car-dependent urban culture into a walkable urban life, transforming a sprawling Atlanta into a more walkable city.

At the same time, the area also thrives with economic activities, as businesses move in to the area. Historically, the abandoned railroad track was lined with industrial buildings, most of which have been sitting empty for years, sharing the fate of the demise of the train network. Stimulated by the renaissance of the area, these industrial spaces have also attracted investments. The availability of vast, vacant space inside these structures that could be divided up into multiple space and converted to accommodate various programs has led to many adaptive reuse projects. These projects remodelled these industrial spaces to accommodate incoming businesses. True to the nature of the post-industrial era, these businesses are service industries, such as hospitality and retails. For example, one of the industrial buildings in the area is the Sears Roebuck building, the largest warehouse in the country, which was abandoned as the heyday of the mail-in business waned in the 1950s. The city of Atlanta acquired the facility in the 1980s with the intention to turn it into a civic centre. However, the plan never took off, and the building was sitting idle in the years after. Along with the development of the area, investors came in and transformed the building into a mixed-use facility, with a shopping mall at the ground levels and residential on the upper levels. Indeed, the BeltLine is an example of up-cycling project at urban level, showcasing a major scale cradle-to-cradle approach [10]. The ruins of the industrial era of Atlanta, the abandoned railroad tracks and empty industrial buildings have been repurposed to accommodate life and business of post-industrial Atlanta (Figure 3).

![Figure 3. Scenes from the Atlanta BeltLine (Source: author’s photograph).](image)

As we experienced an unprecedented time since this spring, the BeltLine has demonstrated its capabilities in this disruptive time. As the pandemic ravaged the world and the city, the BeltLine served as a refuge for many Atlantans. With the city under shelter-in-place, all of the public spaces were closed, except the parks in the city, a situation that led to people flocking to the BeltLine. In fact, the BeltLine became overcrowded, which forced the mayor to temporarily close the trails. Further, the country has also seen the rise of the anti-racist movements, as represented in the Black Lives Matter movements since the summer. The BeltLine provides a space for such political expressions, including political marches that occurred on the trails and political street art installed along the trails (Figure 4).
Situating a project such as the Atlanta BeltLine within the history of modern architecture reflects shifts in the thoughts behind generative principles in architectural designs. The avant-garde of the 1960s, such as Archigram, Yonna Friedman, Futurestudio, and Constant, along the theoreticians such as Reyner Banham, have called for a recalibration of infatuation of architecture with technology and machines. If the avant-garde of the 1920’s turned to machines as a source for formal and spatial principles and allegorical imageries [11], this neo avant-garde called for the performance of technology as the source for the generative principles of modern architecture [12]. Hence, various visionary design proposals that these architects produced, such as the Archigram’s plug-in city or Friedmann’s skeleton over Paris, expressed this approach. In essence, they pointed out to the capacities of performances of machines and technology to define space and provide principles for spatial and formal organizations of the built environment. These dimensions included varieties of utilities that supported our everyday life, which, indeed, pointed to the use of infrastructure as the form generator. Fast forward to the end of the twentieth century, Stan Allen argued that contemporary built environment has been informed by nexus of varieties of networks, including road systems, water, sewer, electricity, and information and communication network. In essence, these were a nexus of visible and invisible infrastructures [13]. In this sense, our contemporary urban form is structured not only by physical things, but also varieties of invisible infrastructures. In resonance, Mitchell argued that our urbanscape has been shaped by the Hertzian landscape formed by the configurations of hotspots and deadspots, hence the presence and absence of the internet connections [14]. In a way, it is the crucial role of infrastructure as the factor that offers the ordering principles of the built environment. The avant-garde of the 1960’s envisioned infrastructure as hard, physical features, while the advances of contemporary technology have led to the prevalent of soft infrastructures.

The core of the plan and design of the Atlanta BeltLine is on the provision of infrastructure and infill development, which aims at transforming the city or parts of the city into a liveable community and a healthy environment. It mirrors the interest in biophilic city. The trail, with its projected light-rail tracks, will serve as a transit infrastructure that would stimulates spaces for healthy and viable

**Figure 4.** Political street art on the Atlanta Beltline (Source: author’s photograph).
urban life. The intents and the details of the project has paid close attention to concepts and principles of a sustainable, ecologically conscious project. In this light, the Atlanta BeltLine is a project which deployed infrastructure as a means to reorganize the urban form of the city as well as to restructure the urban life. In essence, it is an infrastructure for a sustainable life, both in environmental sense as well as in socio-economic dimensions. The constructions of this infrastructure point to the applications of technology, with emphasis on its performative aspects.

4. Closing notes: Modernity and the other side of the Atlanta BeltLine

Nevertheless, the ramifications of the BeltLine are wide ranging. It has started to reorient the urban life of Atlanta, alluring people to move back into the city and changing to a more pedestrian-oriented urban life. This is precisely the essence of the project, that is, promoting and permeating a new lifestyle, branded as a sustainable lifestyle. Lifestyles have become a commodity, one of the many that post-industrial offers to the market. Such a market relies heavily on branding as a marketing tool. In recent years, as the world has embraced the concerns about the future of the planet and the necessities of sustainable approaches in every endeavour, sustainability has been integrated into market economy.

In this vein, sustainability has become an important brand in marketing every good and services, which demonstrates that sustainability has partake in the market economy [15]. In this light, the Atlanta BeltLine serves as a means in the production and consumption of a certain lifestyle. The design is a diagram that conditioned the production and reproduction of this lifestyle through its performative dimensions [16]. The BeltLine encourages and promotes a lifestyle based on living in close proximity to work, practicing routines of healthy life, and engaging active social life. It is a lifestyle that conforms to the image of modern, healthy life, and environmentally friendly. In essence, productions and consumptions of lifestyles is about economic growth.

Along this line of thought, the project has profound implications on the demographic make-up of the areas around it. The demographics of new residents along the BeltLine tilted heavily towards the young, urban professionals or white-collar workers. Besides residents of new large-scale, multistory residential structures, neighbourhoods along the trail have seen the influx of new residents who took over derelict housings and either renovated those houses or replaced those with new structures. This demographic shift has significant impacts on economic and social dimensions, as the redevelopment of the area has driven up the property values and priced out many existing residents. Further, the BeltLine also facilitated the opening up of in-town neighbourhoods which in the pasts were the place of minorities. Hence, it is a process of the extension of the space of the majorities of the populace. In formal and spatial terms, new and renovated structures took over older buildings, while socially new residents replaced low-income and minorities who used to live in those neighbourhood.

Comprehending this situation, the stipulations in the master plan for the BeltLine that called for the provisions of low-income housing in the area also fall short of expectations. The project has indeed facilitated the gentrifications of many in-town neighbourhoods.

Modern architecture distinguished itself by establishing “space” as its subject matter as a way to distinguished itself from architecture of the pasts [17]. Historically, the primary concern of architecture was always on the problem of form, hence, for example, the longevity of the hold of notion of the Classical orders in Western architecture. However, to articulate its newness, hence its modernity, modern architecture formulated the problem of space as its inquiries. Specifically, it is the formation and representation of space as manifestations of modern life and culture. In this line of thought, the space of modernity is a space of extension, in accordance with the logic of Cartesian space. Following the dictum of the understanding of the world as an extension of one’s subjectivity, the Cartesian space is also an infinite space that goes in all direction following the X, Y, and Z axes. The fascinations with transparent surface of the scale of a building and the expansions of cities, followed by the emergence of suburbs outside cities boundaries, exemplified the horizontal expansion of modern space. Meanwhile, the rise of skyscrapers since the end of the nineteenth century indicated the vertical spatial extensions. One of the problems posed by issue of the extension of space is the problem of the ordering principles to govern such a process. The trajectory of modern architecture
showed the shifts of this ordering principles, from the primacy of the formal logic, into the spatial logic, and eventually to the logic of the performance of designs.

The Atlanta BeltLine exemplifies a case of the re-organization of space of urban Atlanta. However, subsumed in this re-organization of space is a project of the extension of the space of Atlantan bourgeoisie. Performative principles, in the guise of sustainable developments, provide the framework to organize and rationalize this project. In this vein, sustainable design functions as a tool, a technical means, an instrument for growths of the city, including its economic growths. Crucial in this understanding is the very nature of technology, which is neutral and value-free. Precisely because of its neutral nature, technology can be deployed in any context, regardless the social and cultural agenda behind it. Such a project showcase an expression of modernity. Nevertheless, the history of modern architecture has also demonstrated the ramifications of the modern projects. The failure of the avant-garde of the 1920s could serve as a warning. In their eagerness to achieve utopia and guided by their beliefs in rationality and technology, they subsumed architecture into a mere operative enterprise [18]. The BeltLine could serve as a reminder for us to be aware of the limits of design and, eventually, of our discipline.

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