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**PITU 2020**  
**São Paulo's "Integrated Plan for Urban Transport"**

Background of São Paulo:

São Paulo faces a daunting task in its attempt to address transportation on a large-scale, city-wide level given its particular characteristics. It is both the industrial and financial center of both Brazil and MercoSul, resulting in significant foreign direct investment and economic growth in recent years. São Paulo ranked tenth in most populous cities in the world in 1970 and reached third by 1990<sup>1</sup>. The city's current metro population is the fourth largest in the world behind Tokyo, Mexico City and Mumbai at a staggering 18 million people<sup>2</sup>. Of this population, 15% or 2.5 million people live in favelas or urban slums, creating what is often called a 'Dual City' of surprising disparity<sup>3</sup>. Although São Paulo is underserved by its infrastructural network, there is some relief given that the population growth is estimated at 1.5% for the next 15 years<sup>4</sup>. Even so, it is critical that PITU 2020 plan is successfully implemented to mitigate the city's transit problem.

São Paulo grew organically and with little plan, described as leap-frogging development over poorly-planned areas, expanding to the east and west due to topographical limitations to the north and south<sup>5</sup>. There are serious vehicle congestion issues and, in 1997, the government imposed a ban on all cars by license plate, restricting driving to a maximum of six days out of the week to alleviate traffic and pollution. This reduced the traffic in the center of the city by 1/5<sup>th</sup><sup>6</sup>. The wealthy have avoided this regulatory initiative by purchasing additional cars. Widespread use of ethanol has decreased

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<sup>1</sup> Department for Economic and Social Information and Policy Analysis, The United Nations. *Population Growth and Policies in Mega-Cities: São Paulo*. United Nations, New York. 1993. Pg. 1.

<sup>2</sup> <http://graphicmaps.com/citypops.com>

<sup>3</sup> Carmona, Marisa & Burgess, Rod. *Strategic Planning & Urban Projects/ Responses to Globalization from 15 Cities*. Delft University Press, 2001. Pgs.173.

<sup>4</sup> Carmona, Marisa & Burgess, Rod. *Strategic Planning & Urban Projects*. Pg.178.

<sup>5</sup> Carmona, Marisa & Burgess, Rod. *Strategic Planning & Urban Projects*. Pg.175.

<sup>6</sup> [http://www.usp.br/fau/docentes/depprojeto/c\\_deak/CD/3publ/01spaulo/index.html](http://www.usp.br/fau/docentes/depprojeto/c_deak/CD/3publ/01spaulo/index.html)

emissions related to vehicle traffic attributed to the 6 million cars in the city. These efforts have helped but a larger more encompassing proposal would provide more than a band aid solution.

*Table 1: A Crisis of Congestion, Greater São Paulo, 1992 - 2000*<sup>7</sup>

Length of Traffic Bottlenecks in Rush Hours (km)

<i>Year</i>	<i>Morning</i>	<i>Evening</i>	<i>Evening Growth</i>
1992	28	39	-
1994	66	96	57
1996	80	122	26
1998 (post-regulation)	66	103	-19
2000	72	117	14

### PITU 2020:

São Paulo's PITU 2020, or the "Integrated Plan for Urban Transport", is the less ambitious version of a plan never realized in the 1980's called PUB (Public Urban Plan) that the government attempted to institute before the severe crash in the economy that lasted from 1987 to 1996. PUB hoped to bring 250km of metro online as opposed to 170km proposed by PITU 2020, which realistically attempts to comprehensively improve various forms of transport within the city by 2020<sup>8</sup>. I chose to analyze only the Metro aspects and the Ring Road concept of the plan.

The proposal was conceived as a continuously amorphous plan with a larger vision that will affect São Paulo in economic, environmental and social ways by striving for a city that is competitive, healthy, harmonious, responsible and concerned with citizenship<sup>9</sup>. The current metro serves mainly short distances with stations averaging 1km apart, carrying 1.2 million passengers daily with 17.6 million passengers per annum per km of line. To address this and other issues, PITU 2020 is underpinned by 5 major infrastructural improvements<sup>10</sup>.

<sup>7</sup> Source: CET -Companhia de Engenharia de Tráfego, 1998. Available at: <[http://www.usp.br/fau/docentes/deprojeto/c\\_deak/CD/3publ/01spaulo/index.html](http://www.usp.br/fau/docentes/deprojeto/c_deak/CD/3publ/01spaulo/index.html)>

<sup>8</sup> [http://www.usp.br/fau/docentes/deprojeto/c\\_deak/CD/3publ/01spaulo/index.html](http://www.usp.br/fau/docentes/deprojeto/c_deak/CD/3publ/01spaulo/index.html)

<sup>9</sup> <http://www.stm.sp.gov.br/pitu2020/pg-01-i.htm>

<sup>10</sup> The United Nations. *Population Growth and Policies in Mega-Cities: São Paulo*. Pg. 27.

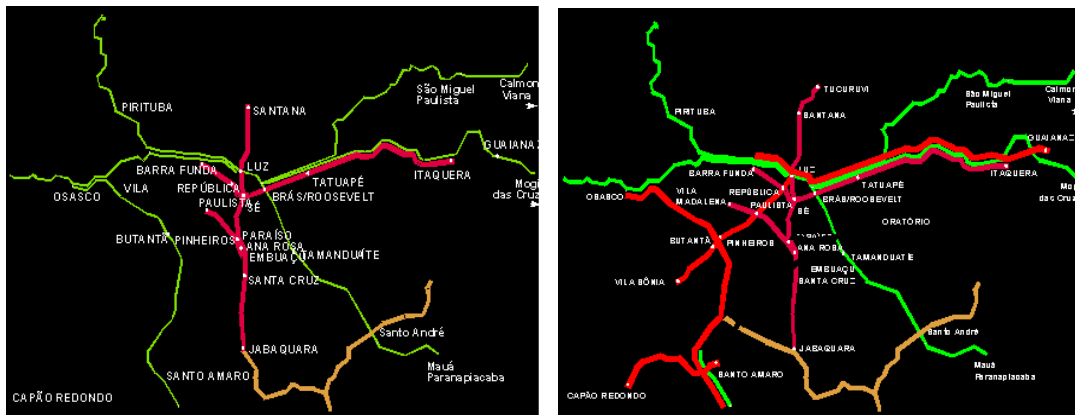
### The 5-Prong Plan<sup>11</sup>

1. Extension of Metro network from 49km to 170km
2. Extension of Suburban rail lines from 30 km to 100km
3. Addition of 95km of Light Rail tracks that operate on the periphery
4. Creation of special Monorail connecting the old/new airports to the city center
5. Construction of Ring Road at a radius of 40km around the city

### The Extension of the Metro Network:

The plan to extend the Metro system which currently only serves 5% of total person trips in the region would better serve large volumes of people who commute daily to work in different parts of São Paulo<sup>12</sup>. As a green initiative, it serves to both extend access to those who could not otherwise utilize metro transit and to allow for more people to use an alternative to vehicle transport. The plan would provide the reinforcement and expansion of the east to west backbone of mass transportation to the majority of the city:

### Graphic 1: The Metro in 1995 and 2020 after PITU<sup>13</sup>



### Extension of Suburban Lines and Light Rail Tracks:

Unplanned populations caused by decades of chaotic development who reside on the periphery currently have no access to the Metro. The majority of these low-income populations are served by crowded outdated buses only and the extension of the Suburban line addresses a critical need and improves air quality.

<sup>11</sup> [http://www.usp.br/fau/docentes/deprojeto/c\\_deak/CD/3publ/99sp\\_metrop/sp6-6a.htm](http://www.usp.br/fau/docentes/deprojeto/c_deak/CD/3publ/99sp_metrop/sp6-6a.htm)

<sup>12</sup> The United Nations. *Population Growth and Policies in Mega-Cities: São Paulo*. Pg. 26.

<sup>13</sup> <http://lnweb18.worldbank.org/External/lac/lac.nsf/Sectors/Transport/E964132A2D38CBC9852568B200788699?OpenDocument>

*Graphic 1: Schematic of Proposed Metro and Suburban Network in 2020<sup>14</sup>*



Creation of the Monorail to Airports:

As the largest city in South America, São Paulo brings considerable air traffic volumes to both the old and new airports largely due to the amount of business being conducted in financial center of Brazil. Much like the London Express train at London Heathrow which is a model for integrated bi-modal transport, these new lines would decrease the volumes traveling on some of the busiest stretches of highway in São Paulo, reducing travel time from 1 hour to 15 minutes into and out of the city center by monorail<sup>15</sup>.

Construction of the Ring Road:

The Ring Road results in two major corollary benefits aside from freeing up highway capacity which, in itself, provides no green benefit to the city.

*The Reduced Impact of Heavy Freight Traffic:* Santos, the largest port in South America, is two hours from São Paulo. It generates significant truck traffic which contributes to congestion and releases diesel emissions, a known carcinogen. The Ring Road would allow trucks to circumnavigate the city center and would decrease the amount of time that the trucks are on the road, thus reducing the greenhouse gas effects of goods movement.

*Access and Order to City Expansion:* Given the unprecedented growth of São Paulo, much of the city's areas have no access to major arterial roads. The Ring Road provides

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<sup>14</sup> [http://www.usp.br/fau/docentes/deprojeto/c\\_deak/CD/3publ/99sp\\_metrop/sp6-6a.htm](http://www.usp.br/fau/docentes/deprojeto/c_deak/CD/3publ/99sp_metrop/sp6-6a.htm)

<sup>15</sup> Carmona, Marisa & Burgess, Rod. *Strategic Planning & Urban Projects*. Pg.175.

a sense to the city's framework and allows for easy travel along the periphery, reducing transit times and pollution attributed to individual passenger vehicles.

*Graphic 2: The Proposed Ring Road in 2020<sup>16</sup>*



#### PITU 2020: Will it Work?

As one of the largest infrastructural projects in the world today, I found no true budget or schedule for the proposed work aside from a loan for \$209MM from the World Bank in 2001<sup>17</sup>. I believe the project's goal of social and economic inclusion of those in the most destitute areas brings a sense of hope since the rich have largely ignored the needs of the poor in the past, seeing them as a threat. PITU 2020 offers a city-wide approach to a very serious pollution problem. As a green initiative, the Ring Road claims to reduce truck travel which will help improve the city's air quality. São Paulo's Metro serves the areas it extends to well but I have heard from those who have ridden the subway that it is very crowded. PITU 2020's plan to expand capacity on existing lines is achievable considering the infrastructure already exists. The Suburban and Light Rail lines need to commence right away to draw volumes from neighborhoods otherwise limited to polluting bus travel. I believe the proposal takes the right approach by seeing the solution as a multi-pronged approach acted upon simultaneously as no one improvement will be sufficient. Do I think it will work? Good question. If they implement it, it will.

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<sup>16</sup> [http://www.usp.br/fau/docentes/deprojeto/c\\_deak/CD/3publ/99sp\\_metrop/sp6-6a.htm](http://www.usp.br/fau/docentes/deprojeto/c_deak/CD/3publ/99sp_metrop/sp6-6a.htm)

<sup>17</sup> [http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2002/01/07/000094946\\_0112210400580/Rendered/INDEX/multi0page.txt](http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2002/01/07/000094946_0112210400580/Rendered/INDEX/multi0page.txt)