## Line 3 of Metro: A Flagship Project for Panama and Japan

When I moved to Panama City in the mid 80s to pursue university studies, I ended up residing in San Miguelito in the outskirts of Panama City. At that time, I was working during daytime and taking night classes at Panama University. So, I had to wake up around 5:15 a.m., take the bus at 6:00 a.m., and commute to my workplace to start at 8:00 a.m. After finishing classes, I usually returned home around midnight. In total, it took me over five hours to commute back and forth from my house to downtown Panama City.

Today, San Miguelito residents no longer have to commute long hours to go to the workplace thanks to the building and operation of Line 1 of Metro of Panama, S.A., which was later complemented with the construction and operation of Line 2 toward the east side of Panama City. Both transportation systems were built between 2010 and 2018 and have been operating regularly.

However, the Line 3 project to connect Panama City with the western province has experienced delay due to the complexity of the project, and now, due to the coronavirus pandemic. Unlike Lines 1 and 2, Line 3 has to pass through the Panama Canal, and was conceived as a cooperation project between the governments of Panama and Japan.

In this regard, in April 2016 during an official visit of President Varela to Tokyo, Panama and Japan negotiated a Memorandum of Cooperation for the financing and construction of Line 3 of Metro. Through this mechanism, Japan agreed to provide Panama with a yen loan equivalent to US\$2.6 billion, to be paid in 20 years, with a grace period of 6 years and an a very low environmental interest rate, close to zero.

This agreement also included the use of Japanese monorail technology in view of its capacity to climb above six-degree slopes and move smoothly inside the city or over complex topographies. Japanese monorails are quite spacious, accommodating a large number of people in one wagon (up to 200 passengers per wagon). They are also environmentally friendly as they do not produce noise as regular trains, and it is expected to reduce CO2 emissions since many residents of Panama western province will prefer to leave their cars at home and commute to downtown Panama City in around 45 minutes, avoiding a two-hour traffic jam.

In fact, the Memorandum of Cooperation for the financing and construction of Line 3 is a unique scheme designed and adopted by the Japanese government to serve as model for future transport infrastructure projects in the region of Latin America and the Caribbean. However, it has taken a long time to implement this project due to delay in another important project: the Four Bridge over the Panama Canal.

As mentioned above, the complexity in realizing the Line 3 lies on the fact that it has to cross the Panama Canal. In fact, the Memorandum of Cooperation, in whose preparation I was involved from the beginning to the end, included the passage of the monorail over the Fourth Bridge, and for that purpose, Japan also offered financial support to develop the interface between the Line 3 and the bridge.

The adjudication of the Fourth Bridge project took place in July 2018, that is, after two years of the negotiation of the Memorandum of Cooperation between Japan and Panama. In addition, the construction phase of the Four Bridge was supposed to start around May 2019, however, after the change of government in July 2019, the new administration of President Laurentino Cortizo decided to modify the Line 3 project, making the monorail to cross the Panama Canal through a tunnel instead of passing over the Four Bridge.

The Cortizo administration explained that the construction of the Four Bridge posed a risk to the building and completion of the Line 3 since both projects are carried out by two different consortium. The Four Bridge was adjudicated to a Chinese consortium in July 2018 while the Line 3 project was adjudicated to a South Korean consortium in February this year. Thus, the government of Panama considered that it was better to separate the projects to ensure the responsibility of each consortium in the termination of the projects within the time allocated in the respective contracts.

I have no doubt that for the Cortizo administration, the delay in the execution of the Four Bridge as well as the experience of delays in the construction of the Atlantic Bridge over the Panama Canal on the Atlantic side made them believe that future and unavoidable delays in the construction of the Four Bridge could cause delays in the construction of the Line 3, with contractual and economic consequences.

Certainly, this change has meant another delay for the Line 3 project and prompted the government of Panama to exchange consultations with the Japanese government in order to gain its acceptance for the proposed modification, and as far as I understand, the Japanese government has understood the position of Panama and agreed to the proposed change.

Undoubtedly, the construction of a tunnel will create additional costs not included in the budget of Metro of Panama, S.A., which is the institution in charge of the execution of the Line 3 project. Therefore, the Metro of Panama will have to explore several financing options for the tunnel such as: 1) to request the South Korean consortium which was selected for the Line 3 project to provide for the financing; 2) to approach the South Korean government and explore the possibility of negotiating a cooperation loan as the selected consortium is from that country; 3) to borrow money in the international financial markets; or 4) to request an additional cooperation loan from the Japanese government, although I think this last financial option is less viable due to the large amount of money already committed by the government of Japan to this project.

The tunnel option will also prompt the Panama Canal Authority to accelerate dredging works in the Canal floor over the area where the tunnel will be built. These dredging works should be done before the construction of the tunnel and are necessary for the smooth navigation of Neo-Panamax vessels, which are increasingly being built bigger and, therefore, require a deeper draft.

I should point out that the Japanese government was interested not only in the financing and building of the Line 3 project, but also in the financing and building of the Four Bridge over the Panama Canal. This was agreed in principle in March of 2014 through a Joint Communique issued by the then Ministers of Foreign Affairs of Japan and Panama, Mr. Fumiio Kishida and Mr. Francisco Alvarez de Soto respectively. However, these projects were separated during the government of President Varela, who decided that the Line 3 project would be develop through a cooperation loan from Japan while the Four Bridge would go through a process of international bidding.

The reason for separating these projects lies in the fact that Japan was offering a steel bridge, which was a more expensive option, and also this type of bridge would pose an operational challenge to the Panama Canal as there would be a moment that the vessel transits would have to be stopped for more than 24 hours to install part of the structure. From the technical and operational point of view, it is well-known that the Panama Canal has a preference for cable-stayed bridges as they are much easier to install without interrupting the Panama Canal operation, and certainly, are less expensive. And we already have built two of these bridges over the Panama Canal: the Centennial Bridge and Atlantic Bridge.

After the signature of the Memorandum of Cooperation between Panama and Japan in 2016, the Line 3 project was scheduled to start operations around 2022. Yet, in view of delay of the Fourth Bridge, modification of the project and the coronavirus pandemic, we will probably see the beginning of construction of Line 3 in the summer of 2021 and his completion around 2025.

As I mentioned before, the Line 3 project is a unique cooperation model designed by the Japanese government to showcase the high-quality Japanese technology in public transportation in the region of Latin America and the Caribbean. It introduced a very convenient financing arrangement, which took into consideration the positive impact of this project in the environment, reducing noise and CO2 emissions. It is aimed at demonstrating the durability and safety of Japanese public transport technology vis-à-vis that of other countries.

Since it is a government-to-government cooperation mechanism, it has reduced 100 percent the chances of corruption, which has frequently affected large infrastructure projects in the recent past. In addition, as a cooperation project, Japan had to submit this project to the assessment of the Organization of Economic Cooperation and Development (OECD) in compliance with the cooperation guidelines of this international organization.

In a nutshell, the successful completion of the Line 3 project is of high importance for Panama and our region as it will encourage further cooperation in large infrastructure projects from

Japan, which is willing to engage and place his high quality technology in Latin America in the same way that Japan has done in many countries of Asia.

I just hope that from 2025, all residents from the western province of Panama can enjoy a better quality of life thanks to the Japanese cooperation.

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