



ILLUSTRATION: BIPOB CHAKROBORTY

INAUGURATION OF MRT LINE-6

Bangladesh ushers in a new era of commuting

TUHIN SHUBHRA ADHIKARY AND WASIM BIN HABIB

Bangladesh is all set to step into a new era of commuting with a new mode of public transport that has never been seen before -- the electricity-powered metro rail of Dhaka.

A portion of the Mass Rapid Transit (MRT) Line-6 project, commonly known as the metro rail, will be inaugurated on December 28, which is expected to partially ease transportation for over 20 million people in the city facing unbridled traffic congestion.

But how did the idea for this highly-technical, yet reliable, public transport project come about?

It was envisaged in 2004 when the government was preparing a "Strategic Transport Plan" (STP) for Dhaka, which was approved in 2005.

The plan was proposed to be combined with the MRT and Bus Rapid Transit (BRT) projects as the city's unplanned traffic network and overloaded transport system continued to worsen the nagging traffic congestion, which, according to a 2018 Buet report, is costing the city an estimated \$4.4 billion annually.

With a rapid rise in population and increased land use patterns, Dhaka has grown to become one of the most densely populated cities in the world over the last several decades. However, its development and expansion has been scattered and uneven, resulting in a chaotic traffic system plagued with congestion.

A World Bank report in 2017 estimated that city dwellers were wasting 3.8 million work hours daily due to traffic jams in Dhaka.

While searching for a solution to the traffic congestion problem, the planners realized that the existing public transport system would never be able to meet the growing demand generated by the rapid growth of the city. There was also no room to build new roads.

Therefore, after reviewing experiences from other countries, policymakers concluded that developing a system of urban transport that would meet the

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DHAKA METRO: ON TIME, IN DHAKA

FROM PAGE S1

basic mobility needs of all urban dwellers at a desirable level of safety and avoid unacceptable levels of congestion was necessary.

With these factors in mind, the Dhaka Transport Coordination Authority (DTCA) prepared the 20-year Strategic Transport Plan (STP) for 2004-2024 in cooperation with the World Bank (WB) in 2005. The plan aimed to transform and develop a more integrated transit system for the rapidly growing capital.

The idea of MRT and BRT came to the fore to offset the lack of road capacity by improving its operational capacity. The main aim of the plan was to change the ecosystem of the public transport system by adding the metro rail and BRT to the existing modes of transport," Professor Shamsul Hoque, a prominent transport expert, told The Daily Star.

Echoing a similar view, Anisur Rahman, Joint Secretary (MRT-wing) of the Road Transport and Highways Division, said, "As the traditional transport system, like passenger buses, cannot cater to the growing traffic demand, the necessity of the metro rail came in the STP." The STP proposed three BRT lines (BRT-1, 2, 3) and three MRT lines (MRT-4, 5, 6) to alleviate traffic

congestion and improve air pollution in the city, thereby contributing to economic and social development and the improvement of the urban environment.

"The most significant result of this approach was that, in order to make the public transit system the most efficient, a number of corridors previously identified for major highway schemes were required for the major mass rapid transit lines," reads the STP document.

"The STP said that over the next 20 years, the population of the Dhaka metropolitan area is expected to more than double, reaching 36 million by 2024. 'In the normal pursuit of their individual lives, these 36 million people will collectively make more than 70 million trips each and every day of the year,' it said.

At the same time, during this same next 20-year period, an estimated Tk 18,000 to Tk 24,000 crore (18-24 billion Bangladeshi taka) will very likely be invested just in the provision of new and improved transport infrastructure in the Dhaka area, according to the STP document.

In 2009-10, the Japan International Cooperation Agency (JICA) conducted the Dhaka Urban Transportation Network Development Study (DHUTS) with the DTCA to conceptualize basic urban development scenarios for Dhaka

city up to 2025 and to select priority projects. The study recommended the prioritization of constructing the MRT Line-6, said experts and project officials.

According to the STP, the three MRT lines and BRT lines were supposed to commence before 2010 and be completed in 2024. However, except for MRT Line 6 and BRT Line 3, none of the projects stated in the STP could start before 2012, so the STP was reviewed and updated in 2016."

By this time, the situation in Dhaka city's infrastructure and road traffic scenario had changed significantly. For example, the Dhaka

City Corporation started building a flyover over Gulistan, Jatrabari, and Sayedabad which appeared as a major obstacle for several BRT and MRT projects proposed in the original STP.

On the other hand, a long delay and bad experience in building the BRT line from Shahjalal International Airport in Dhaka to Gazipur forced the authorities to think differently about developing BRT lines inside Dhaka.

Amid this situation, the revision work of the STP was done in 2016, proposing five MRT lines (MRT-1, 2, 4, 5, 6 with two routes in line-5) and two BRT lines (BRT-3 and 7).

The MRT Line-6 project was approved as a priority project in December 2012 at a cost of Tk 21,985 crore. In June 2013, the government formed the Dhaka Mass Transit Company Limited to implement the projects and operate the metro rail service. The parliament passed the Metro Rail Act in 2015, bringing all metro rail-related work under a legal framework.

METRO RAIL NETWORK FOR DHAKA CITY AND ADJACENT AREAS



*Alignments of MRT Line-2 and MRT Line-4 have been revised recently and The Daily Star could not yet know the exact lengths and estimated costs.

The 31.24km MRT Line-1 will have two parts: a 19.87km part from Hazrat Shahjalal International Airport, Khilkhet, Badda, Rampura, and Malibagh to Kamalapur (Airport route) which will be underground and an around 11.36km elevated line from Notunbazar to Purbachal (Purbachal route). The construction work of the Tk 52,561.43 crore project, the biggest infrastructure project in the transport sector and the first underground metro, is expected to start by February next year.

The MRT-2 will have both elevated and underground sections, starting from Gabtoli and touching Basila, Mohammadpur, Jigatola, Science Lab, Nilkhet, Azimpur, Central Shaheed Minar, Police Headquarters, Gulistan, Motijheel, Arambagh, Kamalapur, Manda, Signboard, Bhuiigor, Jalkuri, Narayanganj. The route will have an extension part from Gulistan to Sadarghat. The MRT-2 project is yet to be approved.

The MRT-4 was initially designed to be built under the existing Dhaka-Narayanganj rail line, but the authorities recently made a change in the route as the Bangladesh Railway is expanding its network on this route. As a result, the new alignment for MRT-4 will be from Kamalapur to Madanpur on the Dhaka-Chattogram Highway. Like MRT-2, this project has not been approved.

The MRT-5 will have two routes - a northern and a southern route. The northern route will start from Savar's Hemayetpur in the western part of the capital and go to Bhatara in the eastern part, passing through Gabtoli, Darus Salam, Mirpur-1, Mirpur-10, Mirpur-14, Kochukhet, Banani, and Gulshan. The 20km line with 14 stations will consist of both underground and elevated sections. The 41,239 crore project was approved in October 2019 and the physical work is likely to start next year.

The 17km MRT Line-5 (southern route) will have both elevated and underground sections. The possible alignment will be Gabtoli, Technical, Kallyanpur, Shyamoli, Asad Gate, Russel Square, Panthapath, Karwan Bazar, Hatirjheel, Niketon, Rampura, Aftabnagar, and Dasherbandi. The project is yet to be approved.

Once completed, the metro rail lines are expected to serve around 5 million people every day in Dhaka by 2035.

MRT-6: THE PRIORITY ONE

Meanwhile, the MRT Line-6 project was approved as a priority project in December 2012 at a cost of Tk 21,985 crore. The project was supposed to be completed by June 2024. In June 2013, the government formed the Dhaka Mass Transit Company Limited to implement the projects and operate the metro rail service. The parliament passed the Metro Rail Act-2015 in 2015, bringing all metro rail-related work under a legal framework. Prime Minister Sheikh Hasina inaugurated the construction work of the country's first metro rail in June 2016.

Around this time, the authorities prepared a time-bound action plan to build a 130km metro railway network in and around the capital by 2030 to reduce traffic congestion and environmental pollution.

The work on the MRT Line-6 began with the development of the depot area at Diabari in Uttara in September 2016. The 20.1km elevated line goes through Pallabi, Mirpur-10, Agargaon, Farmgate, Karwan Bazar, Shahbagh, TSC, and Jatiya Press Club, and ends at Motijheel with 16 stations.

The authorities later decided to extend the route to Kamalapur from Motijheel, making the total length of the line 21.26km with one more station. They also made changes to the design of some station areas and revised the project cost, increasing it to Tk 33,472 crore from Tk 21,985 crore.

Now, a 12km portion from Uttara to Agargaon will be inaugurated on December 28. The 8km portion from Agargaon to Motijheel is expected to launch in December next year. The remaining 1.16km portion from Motijheel to Kamalapur is expected to be completed by June 2025.

Joint Secretary Anisur Rahman, who has been involved with the MRT project in various capacities for a long time, said that the metro rail is a high-quality public transport that will give people the certainty of arriving at their destination on time, which is not possible with the traditional mode of transport. He added that once completed, the metro rail will bring about a significant change in our culture of using public transport.

“Metro Rail will bring about a significant social transformation in Dhaka”

Bangladesh's much-anticipated Metro Rail project will be launched today. The Japan International Cooperation Agency (JICA) has provided approximately 60% of the Tk 33,472 crore funding and technical assistance for the MRT Line-6. In an exclusive interview, Ichiguchi Tomohide, Chief Representative of JICA Bangladesh office, shared details about the project with The Daily Star's Porimol Palma and Tuhin Shubhra Adhikary



Ichiguchi Tomohide

The Daily Star (TDS): The Metro Rail is going to be launched today. Please share with us your reaction.

Ichiguchi Tomohide (IT): Ten years ago, when the project was still at the concept level, I was the director of the Bangladesh desk at JICA. Today, I am extremely excited to see the dreams come true for the Bangladeshi people and for myself.

TDS: How will the Metro Rail benefit the people?

Tomohide: First and foremost, the traffic congestion and air pollution in the city will be reduced as the MRT network is developed. But I would like to emphasize the transformative impact that the MRT will have on people's lives. It will be the most efficient, comfortable, safe, and timely mode of public transportation, and this will have a huge social impact on the lives of ordinary people. JICA has provided cooperation for MRT projects all over the world, including in India, Indonesia, Vietnam, China, and Korea, and we have seen a huge change in people's lives as a result. For example, in India, the metro rail has improved the safety of women, who may have otherwise faced harassment on public transportation such as buses. In Delhi Metro, there are women-only cars, which will also be implemented in Dhaka Metro. According to our research, the women's labor participation rate significantly increased after the completion of the Delhi Metro, and we hope to see the same in Dhaka. In general, the metro rail will have a huge social transformative effect on life in Dhaka.

TDS: Traffic management is very important for reducing congestion, but it's quite poor in Dhaka. Are you doing anything about it?

Tomohide: From JICA, we are not only providing loans to Bangladesh, but also offering training, such as in transit-oriented development. This is a type of

township development that focuses on the stations, similar to what we see in Japan. The stations should be the hub for township development and should also be connected to public buses or other modes of transportation. Currently, we are conducting a technical cooperation project with the Uttara Centre and Gabtoli stations, which will serve as model stations for us. These models can be replicated at other stations as well.

TDS: Who will operate the metro trains? Will they come from Japan or will they be recruited locally?

Tomohide: Dhaka Mass Transit Company Ltd (DMTCL) is responsible for operating the metro trains. In other countries, private companies are sometimes entrusted with operation and maintenance, but in Dhaka, DMTCL has decided to handle both. We have provided substantial cooperation and training for the operators in Dhaka, Japan, and Delhi, and the training is ongoing. The recruitment process is also underway. Operating an urban railway is not an easy job, so initially, the operation time and frequency may not be long. Gradually, the engineers and staff should become accustomed to the system. Then DMTCL can increase the frequency and operational time and eventually start full-fledged commercial operation.

TDS: What were the challenges while implementing the project?

Tomohide: First of all, let me emphasize that the completion of the urban railway project is not a miracle. It requires the daily efforts of many people to tackle the small and big challenges. DMTCL consultants and contractors have to handle these tasks, such as recruiting a large number of staff and training them, acquiring land, relocating utility services, and completing the tendering process. It is essential to hire

quality contractors and companies for these tasks. After construction begins, they have to procure a lot of materials and manage traffic. They are currently preparing for operation and maintenance.

Secondly, during the implementation, we faced two significant incidents. The first was the 2016 Holey Artisan incident, in which seven Japanese people working on the feasibility study for two other metro rail projects were tragically killed. It was a difficult time, but thanks to the efforts of DMTCL and other government ministries, special safety measures were put in place to rebuild the confidence of Japanese and other companies that were afraid to come to Bangladesh. As a result, foreign companies participated in the bidding process. Then, we faced the COVID-19 pandemic, which required us to suspend construction work for a few months. Many people returned to their home countries, but thanks to the efforts of DMTCL, better measures were put in place and people returned to work and resumed the project.

TDS: People had to suffer a lot because roads were shrunk due to the MRT construction. Is it possible to reduce such suffering as more MRTs are going to be built?

Tomohide: Certain inconvenience is inevitable when building infrastructure like the MRT, but we have introduced technology and management techniques to minimize it. For example, in MRT 1 and 5, most sections will be underground, and a tunnel boring machine will be used there. This means that excavation will only be used at the stations, not in other areas. Additionally, we will introduce cutting edge technology to minimize hindrance during construction.

TDS: The distance between the metro stations appears quite small. Is it the same in Japan?

Tomohide: Yes, it is the standard distance. The distance between one station and the next is typically one kilometer.

TDS: Do you have any suggestions as people will soon start using metro rail?

Tomohide: In the beginning of the metro rail in India, there were many chaotic situations as people rushed to board the trains. However, I think this will not happen in Bangladesh. I have seen people waiting in queues for buses in Bangladesh and was very surprised at their discipline. Safe operation is very important, so passengers need to be disciplined as well. I think there will not be much crowd when the train first starts from Uttara to Agargaon, which is actually good because it will give us an opportunity to learn about both the operation and use of the metro. However, more people will start using the metro when the portion from Agargaon to Motijheel becomes operational. When the entire network of the metro rail is implemented, there will be a huge demand for it. Even many JICA staff will use it.

TDS: What lessons can be learned from the construction experience of the MRT Line 6?

Tomohide: Bangladesh is still a developing country, so it requires a lot of experience, especially in project and contract management. During the tendering stage, it is essential to select a qualified company. Sometimes, people excessively provide low cost, and contract management should be guided by project documents. Sometimes, people simply ignore the contract conditions. As the government gains more experience, it can better understand these issues. Currently, it is in a transitional stage, and obstacles should be removed in the next phases.

TDS: Let's move on to some other aspects. Can you tell us what motivated

Japan to provide such a large loan to Bangladesh?

Tomohide: There are several factors that contributed to Japan's decision to provide a large loan to Bangladesh for the metro rail. First, Japan has extensive experience in developing metro rail systems around the world, and we believe that the metro rail is crucial for the large city of Dhaka. Secondly, the diplomatic relationship between Japan and Bangladesh has been strengthening. In 2014, we elevated the relationship to a comprehensive partnership and announced the Bay of Bengal Industrial Growth Belt (BIG-B), along with a commitment to provide a large amount of funding. Additionally, Bangladesh has a need for development and cooperation, and Japanese companies are investing more heavily here. All of these factors combined contributed to Japan's decision to lend for the metro rail project.

TDS: Do you have any plans for funding additional MRT lines apart from MRT-6, MRT-1 and MRT-5 (northern route)?

Tomohide: We are very interested in assisting with the MRT line 2 and 4, in consultation with the Japanese higher authorities. The MRT network - three lines - is far from enough, so it is natural that lines 2 and 4 are needed. (MRT line 2 is from Gabtoli to Narayanganj via Kamalapur and MRT line 4 is from Kamalapur to Madanpur in Narayanganj.)

TDS: As many say, the projects that Japan funds are relatively expensive. Why is this the case?

Tomohide: Quality should be prioritized over cost. When signing contracts, don't only consider the cost, as it may lead to misguided decisions. In such cases, the project may be delayed, the quality may be poor, and people may suffer. Maintenance costs may also be higher when poor quality work is done.



A STEP TOWARDS A
**BRIGHTER
FUTURE**



MRT Line-6: Twist and turns

TUHIN SHUBHRA ADHIKARY AND
WASIM BIN HABIB

The long-awaited metro rail project is finally becoming a reality as the country's first overhead electric train will be launched today, bringing with it excitement and also its share of challenges. Since its inception in 2012, the Mass Rapid Transit Line 6 (MRT Line 6) between Uttara and Kamalapur has faced various obstacles that have slowed its progress over the past 10 years.

Frequent changes in the design of the MRT Line 6 route were the main challenges for the initiation of the project. In addition, the Holey Artisan incident and the COVID-19 pandemic also presented major challenges that the authorities had to overcome to implement the Tk 33,472 crore project. The city dwellers, who have watched the construction of the massive structure day after day, are now ready to take the new mode of transportation in the country.

However, the journey of the highly technical project was not easy at all. Hundreds of experts and engineers, many of them from foreign countries, worked tirelessly using state-of-the-art technology to make the dream project a reality.

The project was first conceptualized in the Strategic Transport Plan (STP)



Metro Rail Exhibition Information Centre at Dia Bari.

PHOTO: JICA

implemented in eight packages, gained momentum. However, physical work came to a halt again when the government imposed a shutdown in March 2020 to contain the spread of the coronavirus. The project saw only 0.55% progress in April and May that year. Many foreigners, especially Japanese, were unable to return to Bangladesh for work, severely hampering progress.

"Many people had gone back to the country. But thanks to DMTCL efforts, after a few months, better measures were taken and the people again came back and resumed work," Tomohide said. In an effort to build confidence in engineers and workers, the metro rail project authorities took many steps, including setting up two field hospitals for their employees infected with Covid-19.

In addition to these challenges, managing traffic during construction was a major concern for the project authorities. As a result, much of the work was done at night, with certain sections of busy roads, particularly in Mirpur, being blocked off. Today (December 28), a 12-km stretch from Uttara to Agargaon will be inaugurated. It will take approximately 10 minutes to travel this stretch, and the cost will be Tk 60. The Uttara-Agargaon route is part of the 20.10 km route to Kamalapur.

Upon completion of the MRT lines in June 2025, it is expected that a passenger will be able to reach Kamalapur from Uttara in around 40 minutes, a journey that currently takes more than two hours by bus. The Agargaon to Motijheel section is expected to be operational by December of next year.

There will be 17 stations between Uttara and Motijheel, and it is projected that around 4.83 lakh people will be able to commute daily between Uttara and Kamalapur in 2025.

The MRT-6 line will connect six important areas of the city: Kamalapur, which is home to the country's largest railway station; Motijheel, the commercial hub of the capital; Dhaka University, the premier public university; Farmgate, the apparent center of the city; Mirpur, one of the biggest neighborhoods in the city; and Uttara, which has become a major neighborhood.

"There were many challenges to overcome, including selecting land for the depot, changing the route alignment, and dealing with the pandemic. Despite these challenges, the metro rail is now ready to roll out," said Anisur Rahman, a joint secretary of the Road Transport and Highway Division who is responsible for MRT issues.

"The metro rail is no longer a dream, it's a reality," he added.

বাংলাদেশের প্রথম মেট্রোরেল



Prime Minister Sheikh Hasina inaugurating the construction of the metro rail project at a function in the capital on June 26, 2016.

PHOTO: BSS

for Dhaka city, which was approved in 2005 and took seven years to formally start in 2012. According to the STP, three BRT (BRT-1,2,3) and three MRT (MRT-4,5,6) lines were proposed for Dhaka city. The route for MRT Line 6, as per the STP, was supposed to start from Pallabi and then go through Mirpur (Begun Rokeya Sarani), Tejgaon, Karwan Bazar (Airport Road), Hatirpool, Nilkhet (Sonargaon Road), Palashi (Zahir Raihan Sarani), Phulbaria, and Syedabad.

The Japan International Cooperation Agency (JICA) conducted

the Dhaka Urban Transportation Network Development Study (DHUTS) in 2009-10 to conceptualize basic urban development scenarios for Dhaka city up to 2025 and to select priority projects. The study selected MRT Line 6 as a priority project but suggested modifying its alignment. It proposed extending the line up to Uttara from Pallabi and diverting the line towards Shahbagh, TSC, Central Shaheed Minar, Dhaka Medical College gate, Phulbaria, and Syedabad.

However, the construction of the Hanif Flyover by the Dhaka City Corporation emerged as the main obstruction for the route, and JICA, which was negotiating with the government for financing the project, declined to move forward with the plan, according to experts and officials.

The authorities then came up with a new alignment by diverting the route towards Curzon Hall from the TSC of Dhaka University towards the Jatiya Press Club and Bangladesh Bank. JICA agreed with the new alignment. Later, the authorities, following the prime minister's directive, took the initiative to extend the line up to the Kamalapur Railway Station.

Interestingly, there were more issues with the route alignment. According to the original route plan, the metro rail line was supposed to run through Bijoy Sarani, but the Bangladesh Air Force objected to the

route on Bijoy Sarani, arguing that it would be an obstruction to aviation-related operations from the Tejgaon airfield nearby during emergencies.

Later, the authorities realigned the metro line through the Khamarbari side of the parliament premises. In

Managing traffic during construction was a major concern for the project authorities. As a result, much of the work was done at night, with certain sections of busy roads, particularly in Mirpur, being blocked off.

addition to the route, the authorities faced a similar problem in selecting a location for the metro rail depot. After two attempts, they were able to select Diabari as the depot.

Although the project was approved in December 2012, its physical works could not commence before mid-2016 as the authorities had to complete

detailed design and other preparatory works. Prime Minister Sheikh Hasina finally inaugurated the construction work of MRT Line 6 on June 26, 2016. However, the project received a severe blow within a week after the Holey Artisan Café attack in Dhaka on July 1, in which seven Japanese, among others, were killed.

The works on MRT Line 6 halted after the attack, although the deceased Japanese engineers and consultants were involved with the feasibility study of MRT Line 1 and MRT Line 5 (Northern route). "During the implementation, we faced two very important incidents. One is the 2016 Holey Artisan incident that tragically killed seven Japanese... It was quite a difficult time," said Ichiguchi Tomohide, chief representative of JICA Bangladesh Office, describing two major challenges in the project implementation process.

"Thanks to the DMTCL [Dhaka Mass Transit Company Ltd—the implementing agency of the project] and other government ministries, special safety arrangements were made to build confidence among the Japanese and other companies, who were afraid of coming to Bangladesh. Then, the foreign companies took part in the bidding process," he told The Daily Star recently.

After the initial setback, the fast-track project, which was being



An excavator at a metro rail depot site at Dia Bari of Uttara where the construction work of the country's first metro rail service began on June 26, 2016.

PHOTO: PRABIR DAS

Metro Rail: A catalyst for local business growth



Construction work of the metro rail near the Mirpur-10 intersection. The photo was taken in January, 2022.

PHOTO: PALASH KHAN

SHARIFUL ISLAM AND SHAHEEN MOLLAH

When construction of the metro rail from Uttara to Agargaon began in the capital five years ago, the word 'hardship' became synonymous with the residents of Mirpur and the surrounding areas. As the work progressed, the roads were dug up and narrowed by piles of construction materials. Potholes formed on the road and the area was covered in heavy dust, causing immense suffering for the residents of this part of the city.

Commuting on Begum Rokeya Sarani became a nightmare, particularly at Pallabi, Mirpur-10, Kazipara, Shewrapara, and Agargaon due to the construction of metro rail stations. The roads were narrowed and the authorities often had to block one side, causing unbearable traffic jams. Traders and shop owners along the road, particularly at the stations, were worst affected. Some small traders were even forced to close their businesses due to the continuous losses they incurred since construction began in 2016.

Shop owners at the metro rail stations were among the worst affected, as access to their shops was almost blocked for the last five years due to heavy construction work and materials. In the dry season, there was a lot of dust, and during the rainy season, there was mud everywhere. Many residents were unable to endure the suffering and moved to other areas, leaving many apartments in the Pallabi, Mirpur-10, Senpara, Kazipara, and Shewrapara areas vacant. However, traders are now hoping that their bad days will be behind them and their business will improve with the opening of the MRT-6. Businessmen in this area are seeing a new light of hope.

When visiting Rokeya Sarani from Agargaon to Pallabi, reporters found that most of the garbage had been removed from the road, most of the walkways under

the metro rail stations had been cleared and fitted with tiles, though construction at some stations is still ongoing. The road is almost repaired. Local businessmen believe that the environment will change even more once the metrorail is fully operational. Many businessmen in the Agargaon, Taltala, Shewrapara, Kazipara, Senpara, Mirpur-10, and Pallabi areas are starting to dream anew.

"We hope that with the opening of the metro rail, our bad days will be behind us. We expect to have many customers, as many people will come to the station and we will slowly recover the losses we have incurred so far," said Nur e Pavel, manager of the garments shop 'Touch and Take' under the metro rail station at Mirpur-10.

"In the last four years, we suffered a huge loss because the entrance to the shop was almost blocked due to construction work on the station. There was also a lot of dust and in the rain, the area was covered in mud, so our regular customers didn't even visit our shop," he added.

The loss was so great that we couldn't afford the monthly rent for the shop for the last one and a half years, even though the property owner reduced the monthly fee by Tk 10,000," Pavel said. "Our owner kept the shop running despite the heavy loss, but the owners of two nearby shops were forced to close their businesses.

Mizanur Rahman, manager of a Bata showroom just under the metro rail station at Shewrapara, had a similar experience. The 3,300 sq ft showroom opened in 2015 with a monthly rent of Tk 6 lakh. The showroom has eight staff, but as sales dropped to one third of around Tk 1.3 lakh daily after construction of the station began, three staff members were laid off.

The owner of the building reduced the rent by Tk 2 lakh upon our request, but we have still been incurring losses," Mizanur

authority demolished the shops they rented for construction of stairways. Kazipara and Shewrapara in Mirpur are known for their furniture business, but many customers were lost due to the construction of the metro rail. Furniture businessman Mohammad Hanif has no regrets, despite the fact that he suffered a lot and his business was doing poorly.

"We have to bear some troubles when any big project is implemented. My business was somewhat bad due to the construction of the metro rail, but now we are hoping for a good business," said Hanif, owner of Nazma Furniture at West Shewrapara.

Manager of Hazi Biriyan Ghar at Mirpur-10, Delwar Hossain Kiron, said they are expecting their business to boom with the launch of the metro rail. "We have already prepared to increase our food items," he said.

Suja Mondol, caretaker of a building on Road No. 8, near the Mirpur-11 metro rail station, said there are 14 buildings on both sides of the road. Previously, there were many vacant flats, but for the last two to three months, there have been no vacant flats. He thinks that people are moving to the area because communication

from the area will be easier with the operation of the metro rail.

Many flat owners in the area had to reduce rents as demand for renting flats significantly dropped after construction of the metro rail began. Tenants of a building at East Shewrapara, which has 23 flats, said that seven to nine flats often had no tenants for the last couple of years. As a result, the owner had to reduce the monthly rent of each flat to Tk 11,000 from Tk 13,500 per month," said Delwara Begum, a tenant who moved to one of the flats in the building around six months ago.

Mohammad Abdullah Al Mamun, who runs a kebab shop named "Geneva Kabab" at Kazipara Bus Stand, said that as dust used to cover the area, his customers significantly dropped. He is hoping that as the road is now clear and smoother, more customers will visit him in the coming days. However, he is worried because the owner of the shop has already informed him that he will have to pay a higher fee for the shop, which has around 150 sq ft of space, starting in January. The monthly rent is now Tk 30,000, according to Mamun.

Rafiqul Islam, owner of Noor departmental store at East Kazipara, which sells perfumes, cosmetics, packaged and dry foods, and fruit juice, hopes his business will see a rise as many people have started to move to the area ahead of the opening of the metro rail.

Many wayside vendors also saw a drop in their business as people used to travel to and from the area through alternative routes. They too now see good days ahead as more people will visit through the road.

Traders are now hoping that their bad days will be behind them and their business will improve with the opening of the MRT-6. Businessmen in Mirpur area are seeing a new light of hope.

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Manager of the garments shop 'Touch and Take' under the metro rail station at Mirpur-10.

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HATIL FURNITURE

“If we cannot keep the targeted population near metro rail then number of riders may fall”

In conversation with Dr. Adil Mohammed Khan, Professor of Department of Urban and Regional Planning, Jahangirnagar University



Prof. Dr. Adil Mohammed Khan

The Daily Star (TDS): What changes will the MRT-6 bring to urban living experience?

Adil Mohammed Khan (ADM): After the launching of MRT-6, a new feather has been added to our transportation system in one of the major corridors of Dhaka – Uttara to Agargaon. However, it is highly unlikely that the partial opening of MRT6 will bring major changes to overall living experience of Dhaka dwellers. Basically, a change in transport behavior will come for those who are living in that particular area.

This is just the beginning of a mega project under which another five lines will be added to different corridors of Dhaka city. Only then we can say people have metro rail centric transportation when the project successfully completes. But it will take time.

However, the ripple effect of the MRT will be huge. Due to the metro rail, a change has occurred in the land use from Uttara to Agargaon. For example, the lands in Uttara sector 18 rapidly developed in terms of plot development and real states due to being one of the earliest metro corridors.

It is a common nature of urban development that linear developments occur when a transport system develops in a certain area. As a part of this, the commercial nature has also changed from Mirpur to Uttara. Higher commercial activities have started. The high order services have replaced the low order services. One such example is gradual increase of big brand's shop in that particular zone which has impact on small scale business. However, the change in lower order to higher order is an economic change which may not explain only positivity always.

TDS: How are you perceiving the change as an urban planner?

ADM: On one hand, it is true that the city's economy will grow over time. On the other, it is also the responsibility of the state to protect the rights of middle and lower-income class and business. If above mentioned changes happen in any area and the state has no control over it, in academic language we call it gentrification.

One simple example of gentrification could be when relatively marginal economic activities or housing gradually get replaced by higher order; due to rise in land value and economic activities. The number of lower and middle-income people is quite significant in certain areas of Mirpur such as Shewrapara or Kazipara. It will be seen that in long run, high order residential and real



PHOTO: AMRAN HOSSAIN

states development will take place due to metro rail. This will replace the lower and middle class from there. It is one of the major obstacles of metro rail's success.

Theoretically, it is being predicted that everyone will use metro rail. However, globally wealthy people don't use metro rail due to its factor of multimodal system. Even though in some countries people are being forced to use metro rail by enforcing strict policy and regulation. But in Bangladesh, it is hardly possible because of its poor record of policy implementation.

One of the main objectives of metro rail is to ensure easy connectivity for people from middle and lower-income class. If we cannot keep them near metro rail then the expected number of riders may fall. The government must ensure the presence of middle and lower-income people near metro rail station areas through controlling land use. It is not possible without strict planning and governance. If government leaves this on market, it will gentrify every order from business to housing. The government should monitor the land use strictly, however, the fear lies with the weak regulation of Bangladesh. If the targeted population of the metro rail project shifts from the corridor areas because of gentrification, it will be hard to raise the investment.

TDS: What the government should do to make the project passenger-friendly?

ADM: The first challenge will be managing the station centric population. There will be two types of loads; one is people to ride on the rail and the other is people going down from the rail. There is a need of proper planning of the station and surrounding areas to

We are yet to build the multimodal integration system in the station areas to ensure hassle free movement of people to different destination from the stations. The rider may reach one location to another within a short period of time by using metro rail but due to lack of multimodal system, congestion will occur. For that, the people will not be able to enjoy the advantage of metro rail full-fledged.

Considering the reality of the Dhaka city, it will not be possible to redevelop the entire area. But there is scope to work on low-impact development such as walking alleys, relocating the rickshaws, CNGs and other similar transportation station in a standard walking distance from the station and ensuring monetisation of small vehicle mobilisation to avoid traffic in landing areas of the station. Such low impact plans need to be implemented as soon as possible. For long-term, the government can plan for limited re-development.

Plan to manage the station centric population though such low-impact development should be taken along with the station. It would be great if the transit station plan and metro rail plan can be done simultaneously.

What concerns us is such designs of big projects are usually led by foreign consultant. Some design may not suit us since their economic and societal reality varies from ours. It would be more effective if the TOD plan is done by local architects, engineers. Because the plan should be done by including metro rail corridor based middle and lower class in

those particular areas so that much resettlement doesn't happen.

The metro rail will create a speedy connectivity and network for residents in the important corridors of Dhaka city. People will be able to reach one location to other faster. If we cannot implement the multimodal system, it wouldn't be possible to achieve the benefits of metro rail.

TDS: How much consistent is the Detailed Area Plan (DAP) with the Dhaka Metro Rail Project?

ADM: DAP claimed that high investment projects like metro rail wouldn't be financially viable. Moreover, it is mentioned that only 15 to 20 percent of our total targeted population will use the metro rail, even if all the line of MRT starts operating. Rest of the population will use the other mode of transportation. Unfortunately, it hasn't provided pin-pointed proposal which analyzes possible alternatives.

It is like one government authority has assimilated other government authority's plan. Instead of incorporation, DAP should have given a detailed alternative direction.

DAP's points should be considered in the RSTP's ongoing revision by Dhaka Transport Coordination Authority (DTCA). The DTCA should do realistic revision focusing on alternative solutions and finding out how many MRT lines are essential and financially viable at this moment.

Interviewed by Saudia Afrin, The Daily Star

Metro rail ensures ease of access for people with disabilities

MD. MUHTASHIMUR RAHMAN

Dhaka City's horizon's latest addition is the Metro Rail. Not only the modernization of the city's infrastructure system, it also gives a clear message - we are proceeding to development as one of the most advanced cities that shows respect to its citizens.

After its launch today, the Metro Rail Line-6 will start taking trips from Uttara Diabari upto Agargaon. Once the full line is opened, the Metro Rail will reduce the travel time between Motijheel and Uttara to 40 minutes.

Ensuring accessibility for all people is a key part of the government's thinking and planning when designing projects such as the Metro Rail. This can bring about a positive impact on the lifestyles of people with disabilities, who have previously been restricted to limited movement, as the facilities did not support their special needs.

The entrance and ticket collection systems are designed to be user-friendly towards people with disabilities of all kinds. Automation is incorporated into each step of this process, along

with voice direction and ease to access.

To add to this, each station is equipped with elevators, escalators, and restrooms that cater towards people with disabilities. Even if someone is using a wheelchair for moving or has partial or full visual impairments, he or she can access the platform quite easily.

Furthermore, the architectural designs have used special kinds of Tac Tiles, acquired locally from Khadim Ceramics a sister concern of Mirpur Ceramics, which were first developed in Japan. The tiles have bright colors and embossed design patterns on them. Bright colors help people with partial visual impairments to find the right direction for lines, ticket counters, gates and warnings. While people who use white canes for moving with full visual impairments can find directions with the patterns. Tac Tiles can have circle (also called blistering pattern) or bar type patterns. These tiles through the use of the patterns, which is similar to braille language patterns, can send signals where to step and where not with the help of the cane or

even barefoot. The metro rail stations have integrated these tiles on stairs and elevator pathways. Besides, the bar pattern tac tiles give bare directions and warnings to follow a path or the edge till which you can step as footpath.

By using Tac Tiles made of ceramic material instead of concrete based knock-offs, the government has made a long-term investment in this infrastructure. The patterns on cement-based variants of this product erode easily and may pose a danger to pedestrians in the future, whereas the ceramic ones are known to be high in quality and long lasting. Khadim Ceramics themselves are an exporter of these products to Singapore.

Another crucial addition is that all trains come equipped with reserved seats for people with all types of disabilities have special seats for themselves on the train along with senior citizens and women. These initiatives ensure that the Metro Rail is in-line with the quality of public transport seen in the most highly developed nations across the world.

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“The project as a whole is quite sound technically”



Prof. Dr. Shamim Z. Bosunia

In conversation with Prof. Dr. Shamim Z. Bosunia, Chairman and Managing Director, Abode of Consultants (Pvt) Ltd and Former President, The Institution of Engineers, Bangladesh

The Daily Star (TDS): The MRT service is expected to save city dwellers from the menace of traffic congestion, improving the overall traffic situation of the city. How do you perceive the project's impact?

Prof. Dr. Shamim Z. Bosunia (SZB): There is no doubt that the MRT service is essential in large cities and can help to alleviate traffic congestion. Dhaka's congestion is particularly severe, unlike anything seen in other parts of the world. If the MRT service is implemented successfully as planned, it has the potential to significantly improve the traffic situation in the city. However, based on the current situation, I am not optimistic that it will make a positive difference.

The MRT route from Diabari to Agargaon has faced challenges in obtaining permission. Some sections of the route pass through congested areas, and some stations pose risks. For example, the Kawran Bazar station requires passengers to disembark on a busy footpath, which will likely become even more crowded once the MRT service begins. When the project is completed up to Kamalapur Station, it is expected to be the busiest station of all, serving the largest number of passengers.

I have seen stations in other countries that were built far from main roads due to space constraints and use overpasses to transport passengers. I am not sure if this approach would have been possible in our country due to location challenges. As the head of the panel of experts for this project, I was only consulted for problem-solving purposes and not involved in the decision-making process.

There is a plan to station 50 buses at Agargaon station for passengers to continue their commute. This will be especially beneficial for those coming from Uttara, but may not be practical for those traveling to Motijheel from there as they will not be able to board running buses. To address this, additional buses will be available in that area, though it is unclear where they will be stationed. It might have been more effective to test this approach on a trial basis before implementing it.

TDS: During the completion of the project, what technical challenges arose and how much of it could be addressed?

SZB: As one of the largest projects in the country, we did encounter many challenges. Given that we could not address all of them at once, we prioritized them. The most significant technical challenge arose when the alignment of MRT Line 6 deviated from the original route, which was supposed to go through the eastern side of the assembly building and continue to Farmgate via Bijoy Smaroni intersection. However, objections from certain quarters prevented us from following this plan.

After that, on the assembly building's east side road, two pillars were built with a bigger span. The other spans are only 38m, smaller than these two. The route then goes through the Khejurbagan road and crosses Manik Mia avenue joint, making this whole trajectory very risky from an engineer's point of view. The train will have to slow down there, which still remains a big challenge. If it goes with a high speed, there is a chance that it will fall upside down. The same



PHOTO: STAR

criticality arises when the train takes its turn in Farmgate once more. The span has increased and so has the curvature which is deadly.

Another challenge remains regarding the stations in congested areas. The Agargaon station is fantastic, even the Farmgate station is being built beautifully. But the other ones, especially the next one at Kawran Bazar is questionable. Proper steps could have been taken regarding this, keeping the station a bit far away. In the current plan, the passengers are expected to disembark on the footpath, which is crowded and narrow as it is.

TDS: How do you evaluate the project from the technical aspects? Do you think that the project is technically sound?

SZB: Given the technological aspects, once it is completed, it will undoubtedly help the population. However, I'm unsure of how it will cover such a large volume with just one line at this time, since millions of people travel every

day. How much time will it take them to board the train? And I have no idea how the stations will serve such a large population with an appropriate time interval. However, I am confident that this service will be extensively used.

The project as a whole is quite sound technically. The ability to sustain frequency and continuous electricity are primarily required here. It is clear that the frequency, which refers to the number of times the train can travel the complete route, must be effective. Otherwise, due to a lack of available space, passengers will be standing in the station for an extended period of time without being able to board.

The span is 38 meters, which is fairly sufficient for supporting the weight of the train as well as the passengers. Integrated tests were also carried out to determine whether or not the entire system, which is comprised of 17-18 distinct types of services, is capable of working and functioning without any passengers present. I am happy to report that all of the testing went off without a

hitch, and the tracks are looking better than ever.

TDS: What were the learnings from the MRT Line-6 project? And what should the following steps be to ensure a more efficient and smooth completion of the rest of the lines?

SZB: I agree that there has been a delay, and it is only natural that as a result, the expenses associated with the project have also increased.

If you ask me about the learnings, I'd want to emphasize how important it is to have spacious stations. A transport survey is one of the initial phases in planning any route in traffic engineering. So, conducting proper transportation and population surveys could be another lesson learned from this endeavor. A poll should be conducted to determine how many people would utilize a given station. There may be almost a hundred passengers leaving if you take into account the station right before Diabari, which is the second-to-last stoppage. There is no use in building a massive station there. In contrast, I anticipate that Kawranbazaar station will see the most travelers. However, as I have previously indicated, the station is rather crowded there. Therefore, accurate surveys on these issues should be conducted.

The challenges this project faced were not particularly significant. The facilities and the factors of implementation worry me more. We won't know how the MRT service will continue to function effectively or how the entire system will operate smoothly until it commences.

Interviewed by Sarah Bintay Shakhawat, The Daily Star



ব্যাংক এশিয়া
ইসলামিক ব্যাংকিং
সুফতারে আপনার সুযোগ

সুফতারে পথচলার ১৪ বছর

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“A comprehensive and well-planned metro network will help to improve mobility and access to transportation”

In conversation with Dr. Md. Shamsul Hoque, Professor at the Department of Civil Engineering, BUET.



Prof. Dr. Md. Shamsul Hoque

The Daily Star (TDS): Will the Dhaka Metro Rail bring a significant, qualitative change to the city's traffic system?

Shamsul Hoque (SH): The MRT Line 6 is being built in a single corridor, so its visible impact on Dhaka is uncertain, as there are other corridors where many people live. While those living near this corridor may experience some relief from the current congested traffic system if they become accustomed to using the metro after the inauguration of Line 6, the inconsistent placement of metro stations may create bottlenecks and hinder passengers' movement unless the enforcement system is implemented correctly. To ensure smooth travel for passengers, it is important to carefully plan the placement and operation of metro stations.

Achieving visible progress in terms of managing the traffic system in Dhaka city is not possible with only one MRT line. This is because a single line does not have the capacity to transform the disorganized traffic system of this mega city into a controlled network that is necessary for a diverse, metro-based development. I believe that the most likely beneficiaries of the Dhaka Metro project will be women, elderly people, and persons with disabilities, who have been suffering for many years. A comprehensive and well-planned metro network will help to improve their mobility and access to transportation.

I have researched the experiences of women in the transport sector of Dhaka, and I have observed that they frequently face issues of privacy invasion, mental and physical harassment. These women have had to endure these

difficulties because they did not have any other options for getting to their places of work. In addition, they are often treated as “slow” by the public transportation system and are denied entry into vehicles. For these reasons, I am hopeful that the metro will ease the daily struggles and hardships faced by women in the capital city, providing them with a safer and more dignified means of transportation.

The future of Dhaka will not be reliant on metro rail alone. In Dhaka, about 20-28% of daily travelers walk. If we cannot create pedestrian friendly footpaths and remove obstacles to walking, the traffic system will not function properly. In this case, relying

Metro rail is considered as a last resort after all other operative options and resources have been exhausted. This is because it requires a significant amount of funding and is typically reserved for situations where the existing transportation system is overwhelmed.

solely on metro rail will not be effective in addressing the large volume of traffic.

Metro rail is considered as a last resort after all other operative options and resources have been exhausted. This is because it requires a significant amount of funding and is typically reserved for situations where the existing transportation system is overwhelmed.

However, I believe that the investment in a metro rail system in our case would not provide comprehensive benefits because much of the foundational work remains incomplete. It seems that none of the authorities are concerned about completing this necessary preparatory work before proceeding with construction.

TDS: The Dhaka Metro Rail project has been a significant investment, but what about other reforms to Dhaka's transportation system?

SH: Metro rail was first mentioned in the Strategic Transport Plan (STP) in 2005 as a way to address Dhaka's large and complex transportation system, which is currently controlled by many individual owners with political support. The STP suggested that the system should be systematically developed through a speedy public bus system under a single authority, and a broad network of rail transportation should be developed to provide people with comfortable and safe transportation options. However, this capital intensive investment in the metro rail project may not bring comprehensive change to the traffic system in Dhaka city.

The original STP and its revised version in 2015 did not suggest that the metro alone could bring control to Dhaka's chaotic transportation system. Instead, it was stated that if all six proposed metro lines were built by 2035, they would only alleviate 20% of the traffic demand at that time, with the remainder being carried by other vehicles, including buses which would still be responsible for 40% of the demand. Therefore, it was suggested that before investing in large, capital-

intensive projects, a low-cost or no-cost, but effective system should be developed at the foundational level as a prerequisite for heavier development.

Currently, buses contribute significantly to the chaos on the roads due to the thoughtless competition among them. To address this issue, it would be necessary to consolidate and rationalize bus routes, similar to the Hatirjheel circular bus system or the 'Dhaka Chaka' in Gulshan, under a single authorized bus company. The government does not need to invest in this effort, as private capital would be eager to invest with the right political commitment to improve the current situation.

To attract investors and create a business friendly climate, the government should prioritize the development of a public-oriented transportation system as the backbone of the entire system. This will require the establishment of a system-driven approach to development, including the creation of clear and safe footpaths for pedestrians. While BRT or MRT systems can provide some level of door-to-door service, they cannot fully replace the need for well-designed stations and the surrounding areas. If these factors are not taken into consideration, heavy, intensive development projects may create further problems and result in higher fares for the metro, which may not be acceptable to many people for various reasons.

Despite serving their full terms, the two mayors have not been able to make significant progress in this regard. Instead of being dependent on the decision of any one mayor, the process should be guided by political direction

that reflects the interests of the people.

The implementation of BRTA should not be a slow process and should not be subject to the personal will of any one person, as it is a system. Failing to complete the necessary foundational work before focusing solely on the metro will not yield the expected return on investment. Unfortunately, those responsible for managing this project have not considered the necessary preparatory steps from a system-driven perspective and have treated it solely as a capital-intensive investment project.

TDS: What steps should be taken to ensure the maintenance and safety of the metro rail?

SH: The government is creating a separate police force to maintain the metro. However, in the developed world, governments usually build metro rail systems, but the private sector operates them. This is because there are often opportunists within government agencies, and the use of public-private partnerships can help to ensure that services are provided properly. Metro rail systems are in operation in around 170 countries worldwide, including in our neighboring countries. However, in our case, no one wants to take responsibility for ensuring proper service provision because government employees often do not work effectively. There is no accountability and the job becomes permanent, as there is no system for hiring and firing in place. To avoid similar issues in the future, we should learn from the experience of MRT Line 6 and consider alternative approaches for the rest of the MRT lines.

Interviewed by Priyam Paul, The Daily Star

CONGRATULATIONS

from Japan Tobacco International to all involved in the Metro Rail Project, a true testament of the unwavering friendship between Japan and Bangladesh

