

The Metro Manila LRT System— A Historical Perspective

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Introduction

Long before light rail transit (LRT) vehicles started gliding above Metro Manila road traffic, streetcars were trundling past sidewalks, accompanied by the clip-clop of horses.

Just prior to the arrival of rail in the city, up to the early 1880s, three types of horse-drawn carriages served this distant outpost of the Spanish empire. The *carruaje*, the most expensive, was four-wheeled and drawn by two horses. The *quiles* had two wheels and was drawn by one horse so it was cheaper to ride. Its close cousin, the *calesa*, can still be seen plying the streets of Binondo, one of the oldest parts of the city. The often dilapidated and dirty *carromata* charged the lowest fare.

Arrival of *Tranvia*

In 1878, Leon Monssour, an official of the Department of Public Works, submitted a proposal to Madrid for a streetcar system. Apparently inspired by the systems in New York and Paris, Monssour envisioned a five-line network with a central station outside the walls of Intramuros, the fortress-like seat of Spanish power in the Philippines. From Plaza San Gabriel in Binondo, the lines were to run to Intramuros via the Puerte de Espania (today's Jones Bridge), to Malate Church, Malacañang (where the Philippine President now lives and works), and Sampaloc and Tondo, large districts north of the Pasig River today. The proposal found favor with the government, but it had to wait for an entrepreneur's initiative.

That entrepreneur was Jacobo Zobel de Zangroniz. Together with Spanish engineer Luciano M. Bremon and Madrid banker Adolfo Bayo, in 1882, the three formed La Compañia de Tranvias de

Filipinas to operate the concession awarded by the government. The Malacañang Line was not built and was replaced by the Malabon Line. These five routes became popular with commuters. The Manila-Malabon Line was the first to be finished, opening for business on 20 October 1888. All five were constructed between 1885 and 1889. The first *tranvias* were horse-drawn omnibuses for 12 seated and 8 standing passengers. The system was 16.3-km long—slightly longer than today's only operating LRT line.

While four lines were horse-drawn, the Malabon ran on steam. Some 4 years later, the Manila Railroad Company, the country's first long-distance rail line north to Dagupan, 196 km away, started operation. So strictly speaking, the first steam railroad in the islands was a modest streetcar! Malabon's transfer points were Tondo, Maypajo, a working-class neighborhood in the suburb of Caloocan and Dulu, at the north end of that community.

The long communication line between Madrid and Manila, plus much delayed

economic reforms, conspired to slow development of the Philippines, particularly Luzon, the archipelago's largest island. While other countries were in the throes of the Industrial Revolution and the wave of mercantilism, Spain lagged behind. As early as 1842, a study mission headed by Don Sinibaldo de Mas came to the Philippines to find the best way to carry out reforms—reforms later promoted by Filipinos like Dr Jose Rizal and his contemporaries, known collectively as the Propagandists.

The 1890s were turbulent years for the Spanish colony. The clamored-for reforms prompted Rizal to pen two novels, *Noli Me Tangere* and *El Filibusterismo*, required reading in schools today. Though fiction, the stories were too close to the truth for the Spanish to tolerate. Eventually, Rizal was charged with sedition and executed in 1896—four years after the Manila-Dagupan railroad was completed. Less than 18 months later, Filipinos declared their independence from Spain. The revolution to assert that claim soon followed.



Circa 1890s horse-drawn tranvia in Manila with San Sebastian Church in background

(Meralco)

New Colonizers

Meanwhile, the Americans were also at war with Spain. After winning the conflict and claiming the Philippines under the Treaty of Paris, US forces soon arrived. Early in 1899, war (some called it an insurrection) between the Filipinos and the Americans broke out. The Spanish imprint was already etched indelibly on the Philippine landscape, and by the turn of the century, an air of uncertainty characterized everyday conversation as Filipinos wondered what life would be like under the new colonizers.

Transition for *Tranvia*

By 1902, La Compañía had long since stopped expanding or improving its system. An average of only 10 streetcars plied the five lines daily. This was a far cry from the hourly service that provided 14 runs in each direction on the Malabon Line alone.

One year later, Manila city officials blamed slow economic growth and population congestion to 'the antiquated horse-car system and the poorly constructed, unsatisfactory, and generally undesirable system of public vehicles', to quote from their official report. These leaders reasoned that with improved transport, the railroad was specifically named, 'many of those now paying high rents for small and unhealthy quarters will take advantage of this quick transportation and secure comfortable dwellings in better localities'.

Birth of Electric Streetcar

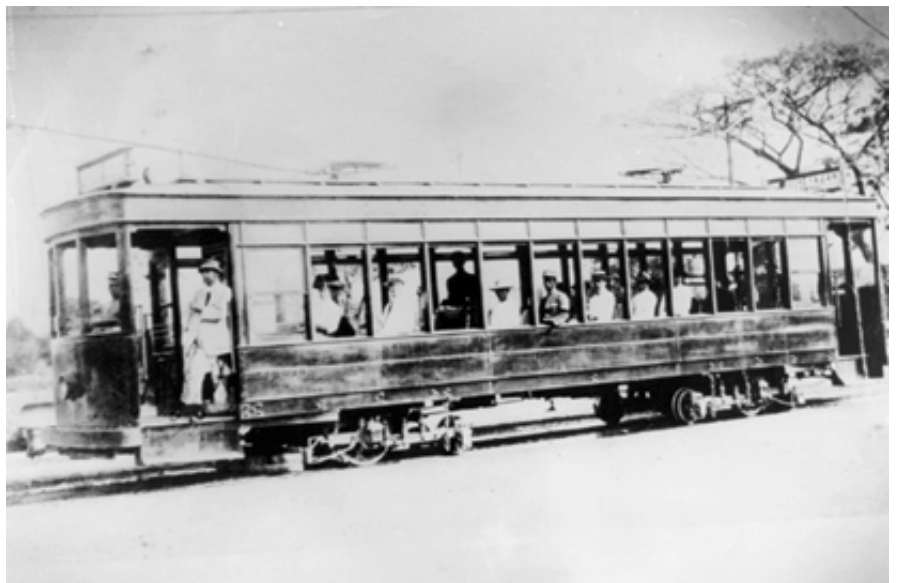
The Philippine Commission on 20 October 1902 passed a law that set into motion franchises to be awarded to bidders for the construction and operation of



Open-sided streetcar on Escolta, Manila's original business and financial district in 1910s (Squires, Bingham and Co., Manila)

electric power and transportation networks. Although publicized in newspapers in America and the Philippines as well as in a leading US railway journal, only one bid was submitted. On 24 March 1903, the Municipal Board of Manila passed Ordinance 44, accepting the bid of Charles M. Swift of Detroit.

Three days later, a New Jersey company was established which eventually became the Manila Electric Railroad and Light Company—better known as Meralco. Today, Meralco is still in the electric power business in Metro Manila and neighboring provinces. Later, the Philippine Commission allowed Meralco



Circa 1920s enclosed streetcar on Pasay-Rizal Line

(Meralco)

to take over the properties of La Compañía de Tranvías. Meralco paid a small fee for its streetcars to La Compañía's lines.

Swift was now under a deadline. He had 6 months to start building his systems and 20 months to get the job done. Ordinance 44 specified 12 lines. Today's LRT Line 1 closely follows the Meralco route to Pasay south of Manila and the Santa Cruz route (See Fig. 1 on p. 39). LRT Line 2, now under construction, also adheres fairly well to the original lines Meralco laid down. With the exception of the Binondo and Intramuros areas, the network was double-tracked and powered by an overhead catenary of 500 V maximum. The track was standard gauge.

By 1913, Meralco had completed nine of the 12 lines, still called the *tranvía* by commuters. Swift under another franchise granted in 1906, was also operating a 9.8-km extension line from Paco to Fort McKinley and Pasig. The operator, the Manila Suburban Railway, later merged in 1919 to form the Manila Electric Company. The extension line was one of the most profitable in the Meralco system.

Meralco's lines crossed the Manila Railroad Company's lines (now the Philippine National Railways (PNR)) at three points. Sometimes, I go to Blumentritt Station on the LRT just to see a PNR commuter train crawl directly under the elevated track as I wait for an LRT train to approach its station of the same name, 5 or so meters above. LRT Line 2 will cross the PNR at Santa Mesa in another repeat of history. The Santa Ana *tranvía* crossed not far from today's PNR Paco Station, currently under renovation.

Dr Leonardo Q. Liongson, Engineering Professor at the University of the Philippines, and railroad enthusiast, made an astute observation in a paper he presented last January: 'It is also interesting to note from the 1913 (route) map that the three principal *tranvía* lines (Santa



Workers preparing roof of Santolan Road Station on LRT Line 3

(EDSA MRT Project)

Cruz, Santa Mesa and Santa Ana) led directly to outlying cockpits in suburban La Loma, San Juan and San Pedro de Macati respectively'. Cockfighting was and still is a popular form of gambling. He concluded, 'From the point of view of city-wide commuter service, commerce and cockfighting, the Manila electric *tranvía* was indeed a complete system serving the city by the end of the first decade of the 20th century'.

As the road network improved, Meralco introduced electric- and gasoline-powered bus services in the 1930s. The company also promoted the use of electric appliances such as radios and refrigerators. The *tranvía* continued running but stopped expanding.

War Takes Its Toll

During WWII, service deteriorated due to poor maintenance and the floods of 1943. The death blow came during the Battle of Manila in February 1945. The destruction to life and property was so horrendous that General Dwight D.

Eisenhower observed that the city was the second-most destroyed, after Warsaw in Poland.

At the war's end came the independence promised by the Americans in 1935, and the task of rebuilding the city and nation. Necessity and resourcefulness teamed up to put the *tranvía* out of business. Meralco concentrated on restoring electricity to the city. Meanwhile Filipino ingenuity came to the fore. Using what was available, numerous army jeeps were pressed into service, becoming the jeepney transport system that continues to serve large sections of the metropolis. Many of today's jeepney routes in Manila follow the old *tranvía* lines. It is said that the jeepney is the most photographed object in Metro Manila. However, today, there are signs that King Jeepney is slowly being replaced by other forms of road transport, among them the Tamaraw FX, Toyota's entry into the Asian utility vehicle market. It is proving to be a more comfortable alternative to the mostly non-air-conditioned jeepneys. 'Take the FX' has become part of the commuter lingo of Metro Manila in recent years.

Literally Raising Public Transport to a Higher Level

Construction of the first LRT line got underway in October 1981, just 4 months after I arrived in Quezon City to study at the University of the Philippines. Public transport was nearing its saturation point but was still barely able to meet demand. Hanging on to the back end of a moving jeepney—a common practice today—was not necessary in the early 1980s. This indicates how bad the traffic situation has become.

It is said that the former First Lady Imelda R. Marcos, who happened to be Governor of Metro Manila, wanted her 'City of Man' to be on a par with other world capitals. She noted that the National Capital Region lacked an operating rail-based transport network. The end result was the elevated 'no frills' basic transport line now known as the LRT, or Metrorail.

The government-owned Construction Development Corporation of the Philippines (now the Philippine National Construction Corp.) was the sole contractor for the project. One reason for choosing the north-south Monumento-Baclaran route was because it is fairly straight for most of its length. Nonetheless, there were obstacles to overcome including a 5-year-old high rise department store and a classroom building at nearby Feati University. Both were torn down to make way for Carriedo Station and the tracks going to the Pasig River bridge, the very last section to be built. The north and south sections were not connected for about 5 months until they were linked on 12 May 1985. After an absence of almost 40 years, the *tranvia* was back. Meralco was also back in the transport business, albeit just for 10 years because the Meralco subsidiary that operated Metrorail is now completely controlled by the Light Rail Transit Authority.



Looking south from Shaw Boulevard overpass on LRT Line 3 with part of EDSA straddled by station support columns (EDSA MRT Project)

Too Much of a Good Thing

By 1990, the LRT was showing premature aging due mostly to poor maintenance and overloading. Rush hour tested the Filipinos' legendary patience and resilience. Conditions called for drastic measures. Overcrowding, both on the platforms and trains put a heavy strain on rolling stock, stations and track. For example, at one time, trains actually crept into Central Station to reduce vibration when cracks were discovered in beams and floors. Quick repairs soon brought operations back to normal.

At present, massive rehabilitation is underway. Stations will be expanded, and track work improved. In 1981, an air-conditioned taxi or bus was extremely hard to find. Now, the opposite is true. Forced-air ventilation is not enough to ensure comfort on trains in a tropical climate, but the 'no frills' LRT had no air conditioning. Fortunately, second-generation trains with air conditioning will be put into service, making the LRT synonymous with comfort.

Back to the Future

Largely due to the LRT's success, coupled with improved economic conditions, the government is coming back to following Meralco's lead earlier in this century. Over the last 10 years, the number of automobiles on Metro Manila's streets has grown by an average of 10.82% annually. Metro Manila has 39.26% of all vehicles nationwide. Thus, the new LRT lines are greatly anticipated. A journey that takes 7 minutes per kilometer by road during commuting hours, should be halved by the new LRT.

Epifanio De los Santos Avenue (EDSA) is without a doubt the Philippines' most expensive thoroughfare. It started as a 12-lane diversion highway around Manila in the 1960s but has been absorbed by the eastward growth. In 1961, the population of Greater Manila was about 2.5 million. Today, the estimates range from 9 to 12 million, about 20% of the total population. The last 12 years have seen the addition of four overpasses, one underpass and the Ortigas Avenue intersec-

tion. These connections are now challenges for the builders of LRT Line 3 which follows the old EDSA road.

Started in October 1996 as the first project in 11 years, LRT Line 3 is applying the lessons learned from LRT Line 1. Better public relations are being used this time around, keeping grumbling to a minimum, unlike during the Line 1 construction, when lack of communication added to the chaotic conditions along the already narrow Rizal and Taft Avenues.

Unlike LRT Line 1, which is entirely elevated, LRT Line 3 takes advantage of the EDSA's undulating ground surface. Consequently, there will be elevated, surface and underground sections, helping get the tracks past obstacles. The first phase of the line runs 17.8 km and will have 12 stations. Eventually, all 23 km of EDSA will get train service.

The estimated cost for Phase I is US\$655 million. The American firm, Kaiser Engineering International, is the engineering and construction manager. Sumitomo and Mitsubishi Heavy Industries of Japan are the turnkey contractors. Ckd Tatra Ltd/Tradeinvest of the Czech Federal Republic is supplying the rolling stock. Operations are expected to begin in mid 1999.

LRT Line 2 is scheduled for completion in late 2001. Construction started from Katipunan Station in November 1997, the line's only underground stop. It has been much delayed by equipment sourcing and alignment problems. LRT Line 2 has 11 stations over a distance of 13.8 km. It will be almost totally elevated and higher than LRT Line 1 where they cross. It runs east to west following Marcos Highway, Aurora Blvd., Ramon Magsaysay Blvd., Legarda St., and Claro M. Recto St. Work on two other stations in and west of the Cubao, Quezon City shopping district is also underway.

LRT Line 4, another east-west route from Manila to Quezon City, is just over the planning horizon. It will follow España, Quezon Ave., and Commonwealth for 22



Newly-laid crossbeams just south of Cubao, Quezon City near intersection of LRT Line 2 and 3 (EDSA MRT Project)

km and is planned to have 20 stations. Metro Manila has had a long experience with rail-based transit, even if it hasn't been continuous or always happy. I have four personal criteria to measure good public transport—it must be safe, comfortable, clean, and reliable. It seems that the public transport arteries in Metro Manila are finally moving towards meeting my four criteria. ■

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