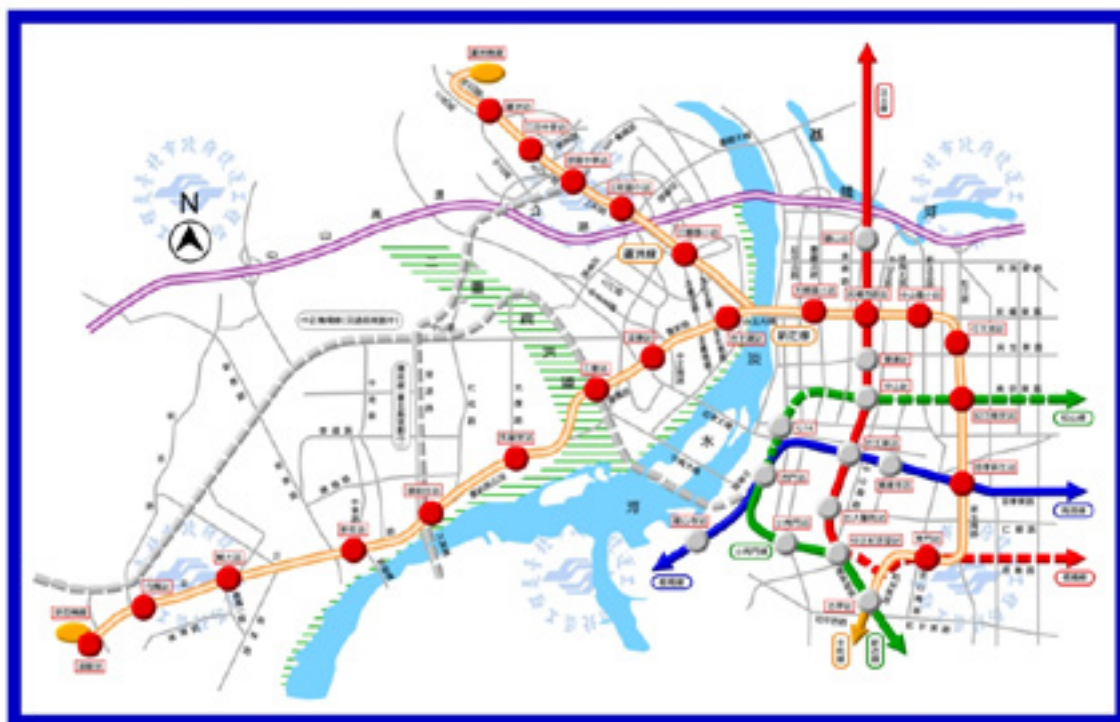


# Newly Completed and Inaugurated Routes

## Routes Completed and Inaugurated in 2013

### 1. Xinzhuang Line Section between Fu Jen University and Huilong Stations

The Xinzhuang line, an extension of the Zhonghe line, intersects the Xindian line at Guting Station beside the intersection of Roosevelt and Heping E. roads. The Luzhou, Zhonghe and Xinzhuang lines are linked as the Orange line. The route starts from Guting Station, runs north along Hangzhou S. Rd., then turns onto Xinyi Rd., Xinsheng S. Rd., Songjiang Rd., Minquan E. and W. roads, and ends in Sanchong and Xinzhuang. The entire Xinzhuang line, which is 19.7 km long with 16 stations and one depot, was built underground. The sections between Zhongxiao Xinsheng and Daqiaotou stations and between Zhongxiao Xinsheng and Dongmen stations opened on November 3, 2010, and September 30, 2012, respectively. The Xinzhuang line New Taipei section starts from the west of Daqiaotou Station, runs along Chongxin and Zhongzheng roads in Sanchong after crossing beneath the Tamsui River, then ends in front of the Lo-Sheng Sanatorium. The section consists of nine underground stations and one depot. Prior to the completion of Danfeng and Huilong stations and Xinzhuang Depot, service between Daqiaotou and Fu Jen University stations began on January 5, 2012. In order to meet transit needs of Xinzhuang area residents before Xinzhuang Depot is completed, an expedient approach that ensured safety was taken to open the section between Fu Jen University and Huilong stations. This section, which consists of two stations and is located beneath Zhongzheng Rd., relied on a scissors crossover in front of Huilong Station for trains to turn around.



Map of the Xinzhuang line section between Fu Jen University and Huilong stations

Regular service began from 2 p.m. and a special discount was offered for one month. Passengers with an EasyCard who entered or exited from Danfeng and Huilong stations enjoyed free travel through the newly opened section and were charged at the regular rate for the remaining portion of their journey. Passengers who transferred between the MRT and bus systems within one hour also enjoyed a discount.

Taipei Mayor Hau Lung-bin and New Taipei Mayor Eric Liluan Chu presided over an inauguration ceremony on the morning of June 29, 2013. Opening of Huilong Station, which is the terminal station on the Xinzhuang line, made it possible to travel from Huilong Station to Minquan W. Rd. Station in only 22 minutes and to Zhongxiao Xinsheng Station in only 29 minutes. It signified completion of the last section of the entire line.

捷運信義線路線示意圖  
Route Map of Taipei MRT Xinyi Line



The 6.4-kilometer-long Xinyi line consists of seven underground stations: Chiang Kai-Shek Memorial Hall, Dongmen, Daan Park, Daan, Xinyi Anhe, Taipei 101/World Trade Center, and Xiangshan, from west to east. Construction on the high-capacity line, which began in November 2002, adopted a Beitou-Xiangshan operational mode, allowing it to connect with the Xindian, Xinzhuang, and Wenhua lines at Chiang Kai-Shek Memorial Hall, Dongmen, and Daan stations, respectively. These transfers provide convenient access to Taipei 101 and Taipei World Trade Center, making the line an important transportation corridor for the Xinyi business district.

To prepare for inauguration of the Xinyi line, DORTS began construction inspection in January 2013. After system stability tests were completed, the new route was handed over to the Taipei Rapid Transit Corporation (TRTC) for simulation drills. In accordance with the Taipei Mass Rapid Transit Act, DORTS and TRTC jointly submitted an official notice to Taipei City Government asking for a preliminary inspection, which was completed on October 13, 2013, followed by a final inspection by the Ministry of Transportation and Communications (MOTC) on November 8. President Ma Ying-jeou and Mayor Hau Lung-bin jointly presided over the opening ceremony on November 23, and the new route opened to the public on the following day. A 30 percent discount was offered for one month, lasting from November 24 through December 23.



Preliminary inspection of the Xinyi Line



Final inspection of the Xinyi Line



## Completed and Inaugurated Routes (As of December 31, 2013)

Route	Terminal Stations	Total Length (km)	Notes
Wenshan Neihu Line	Taipei Zoo Station to Zhongshan Junior High School Station Zhongshan Junior High School Station to Taipei Nangang Exhibition Center Station	10.9 14.8	Inaugurated on March 28, 1996 Inaugurated on July 4, 2009
Tamsui Line	Tamsui Station to Chiang Kai-Shek Memorial Hall Station	23.8	Section between Tamsui and Zhongshan stations was inaugurated on March 28, 1997 Section between Zhongshan and Taipei Main stations was inaugurated on December 25, 1997 Section between Taipei Main Station and Chiang Kai-Shek Memorial Hall Station was inaugurated on December 24, 1998
Zhonghe Line	Guting Station (excluded) to Nanshijiao Station	5.4	The entire line was inaugurated on December 24, 1998
Xindian Line	Chiang Kai-Shek Memorial Hall Station (excluded) to Xindian Station	11.2	The entire line was inaugurated on November 11, 1999 (The 1.9-kilometer Xiaobitan branch line was inaugurated on September 29, 2004)
Xiaonanmen Line	Ximen Station to Chiang Kai-Shek Memorial Hall Station	1.6	Inaugurated on August 31, 2000
Nangang Line	Ximen Station to Kunyang Station	11	Section between Ximen and Taipei City Hall stations was inaugurated on December 24, 1999 The entire line was inaugurated on December 30, 2000
Banqiao Line	Ximen Station (excluded) to Fuzhong Station	7.1	Section between Ximen and Longshan Temple stations was inaugurated on December 24, 1999 Section between Longshan Temple and Xipu stations was inaugurated on August 31, 2000 Section between Xipu and Fuzhong stations was inaugurated on May 31, 2006
Tucheng Line	Fuzhong Station (excluded) to Yongling Station	5.6	The entire line was inaugurated on May 31, 2006
Nangang Eastern Extension	Kunyang Station to Taipei Nangang Exhibition Center Station	2.5	Section between Kunyang and Nangang stations was inaugurated on December 25, 2008 Section between Nangang and Taipei Nangang Exhibition Center stations was inaugurated on February 27, 2011
Luzhou Line	Luzhou Station to Sanchong Elementary School Station	6.4	The entire line was inaugurated on November 3, 2010
Xinzhuang Line	Taipei City Section: Daqiaotou Station to Zhongxiao Xinsheng Station Zhongxiao Xinsheng Station to Guting Station New Taipei City Section: Daqiaotou Station to Fu Jen University Station Fu Jen University Station to Huilong Station	6.1 2.3 8.2 2.8	Inaugurated on November 3, 2010 Inaugurated on September 30, 2012 Inaugurated on January 5, 2012 Inaugurated on June 29, 2013
Xinyi Line	Chiang Kai-Shek Memorial Hall Station to Xiangshan Station	6.4	Inaugurated on November 24, 2013
Total			126.1 km

### Taipei Metropolitan Area MRT Map (In-service Routes)





## 1. Xinyi Line Operation Benefits

### (1) New Ridership Record on the Taipei MRT During New Year's Eve Festivities

Lasting for one month from November 24, 2013 (when the Xinyi line opened), 11.5 million free passenger trips were made on the line. Between 6 a.m. on December 31, 2013, and 6 a.m. on January 1, 2014, the network carried a total of 2,752,000 passenger trips, an increase of 680,000 compared to the previous year. Currently, the Xinyi line carries an average of 167,000 passenger trips a day, including 140,000 transfers.

### (2) Dispersal of Crowds on the Nangang Line

Opening of the Xinyi line alleviates crowds at the Nangang line, benefiting 120,000 passenger trips a day. Multiple transfers have drastically improved transportation services, especially in relation to crowd dispersal during daily peak service periods and major events, such as New Year's Eve festivities. Over the 24-hour period that marked the first New Year's Eve service to follow opening of the Xinyi line, the new line and Banqiao line carried 245,000 and 524,000 passenger trips, respectively. The Xinyi line's role in easing system congestion was apparent when MRT officials were able to end crowd control measures at 2 a.m., about one hour earlier than previous years.

### (3) Dispersal of Crowds on the Wenhua Line

Opening of the Xinyi line added an additional transfer station for Wenhua line passengers to transfer to the Banqiao-Nangang line. The new transfer station, Daan, has reduced transfer volume at Zhongxiao Fuxing Station by 21 percent.

### (4) Addition of Transfer Stations

Opening of the Xinyi line added three transfer stations to the Taipei MRT system — Chiang Kai-Shek Memorial Station for the Xindian line, Dongmen Station for the Xinlu line, and Daan Station for the Wenhua line. This reorganization not only reduced daily transfers on the MRT network by 17.9 percent, from 503,000 to 413,000, but also lowered transfers made at major MRT hubs. On average, 160,000 daily transfers were made at Taipei Main Station (a decrease of 44,000, or 21.8 percent), 110,000 at Zhongxiao Fuxing Station (a decrease of 30,000, or 21 percent), and 144,000 at Zhongxiao Xinshe Station (a decrease of 16,000, or 10 percent).

### (5) Increased Accessibility

After the Xinyi line opened, a trip between Taipei 101/World Trade Center and Taipei Main stations took only 13 minutes, and between Taipei 101/World Trade Center and Songshan Airport stations 17 minutes.

### (6) External Economic Benefits

- a. Passenger time saving benefits will be equivalent to NT\$3.076 billion in the target year 2021.
- b. Bus operating cost savings will be equivalent to NT\$661 million in the target year 2021.
- c. Bus accident cost savings will be equivalent to NT\$34 million in the target year 2021.

### (7) Urban Development Benefits

- a. By saving road space, the MRT system reduces road area, congestion, and accidents.
- b. The MRT system boosts development in the Xinyi business district and international finance center.

- c. The Xinyi line, which was built underground, reduces noise and air pollution and improves quality of life for Taipei metropolitan area residents.
- d. The MRT system contributes to urban modernization and enhances Taiwan's international status and image.

## 2. Features of Xinyi Line Construction Method

Despite being only 6.4 km long, the Xinyi line presented many construction challenges. Proximity to the Xinyi Expressway and a construction site limit of 20-24 m meant that exit and vent shafts on the south of Xiangshan Station could not adopt either the cut-and-cover method or the shield tunnel method, so the pipe roofing method was used instead. This featured excavation performed using individual pipes with a diameter of 80 cm. Excavation of existing concrete obstacles and gravel stratum required workers to climb into the pipes, and with 97 steel pipes this proved to be a drawn-out process. In such a confined space, workers not only suffered from low oxygen levels but also had to overcome numerous other challenges with extreme care.

Construction of Dongmen Station set new domestic records: five tunnels intersecting at different levels and a 72-meter-deep diaphragm wall. Five shield tunnels, including two up-and-down tracks for the Xinzhuang and Xinyi lines as well as a common duct, are located 13.4 m beneath Hangzhou Rd. Sec. 2. Using three shield tunneling machines beginning from the down-track tunnel on September 15, 2005, the shield tunnel section was completed on January 17, 2009.



Five shield tunnels intersect at different levels at Dongmen Station



Computer-generated image of the cross section of Xinzhuan Line, Xinyi Line, and common duct tunnels

Xinyi Rd., an east-west main artery, is flanked by numerous buildings and has high traffic volume and bustling business activities. Construction of the Xinyi line beneath it brought an inevitable impact on residents' daily life, and geological conditions made progress even more difficult. To reduce impact on the nearby environment, a number of construction methods were applied, allowing for successful completion.

#### (1) Glass Fiber Reinforced Polymer (GFRP) Construction Method:

The GFRP construction method was applied to the diaphragm wall steel bar cage within shield tunnel mirror excavation range by replacing bamboo steel with glass fiber reinforced polymer bars. Lower dynamic shear strength of GFRP allowed cutting edge disks to employ direct spins and cuts on the diaphragm wall to perform automatic cut and excavation simultaneously. This reduced potential risks posed by applying traditional shield tunneling machine during launch or excavation of the diaphragm wall's mirror face, drastically reducing disaster occurrence and increasing safety.

The section beginning from Xinyi Anhe Station and extending east to Xiangshan Station, located beneath Xinyi Rd. sections 4 and 5, and the tail track, has six shield tunnels with an inner diameter of 5.6 m. The 2,973-meter-long tunnel with 14 mirror faces applied the GFRP diaphragm wall and did not cause any water or sand pouring into mirror faces during excavation, contributing to a successful completion.





GFRP rebar U-bolts to keep fixed



GFRP rebar cage put in place

## (2)Limited Height Section Diaphragm Wall Construction:

Daan Station is a transfer station for the Xinyi and Wenhua lines. The diaphragm wall for the Xinyi line station structure is 1.2 m thick and 58 m deep while the elevated box girder for the Wenhua line is only 5.25 m from the ground level. As the height was not sufficient to adopt a Masago hydraulic long bucket, extra efforts were needed to overcome construction difficulties.



Wenhua Line crosses height-limited construction site



Low-height MHL machinery

### (3)Fourth Generation Decking

The cut-and-cover method was adopted to construction of MRT stations that were primarily located beneath main roads. To reduce impact on traffic, a decking system was applied to areas surrounding construction sites, allowing safe access for pedestrians and vehicles. The newly developed dark composite decking system, featuring no steel rim, was the first of its type to be used on the Xinyi line construction. Having completed load tests conducted by National Cheng Kung University, with each cover plate closely laid, the new system generated great skid resistance efficiency. A skid resistance test, conducted by the Taiwan Area National Expressway Engineering Bureau, yielded a coefficient of 45.5, sufficient to prevent skidding by motorcyclists. The system received a patent certification and will be applied to subsequent MRT projects.



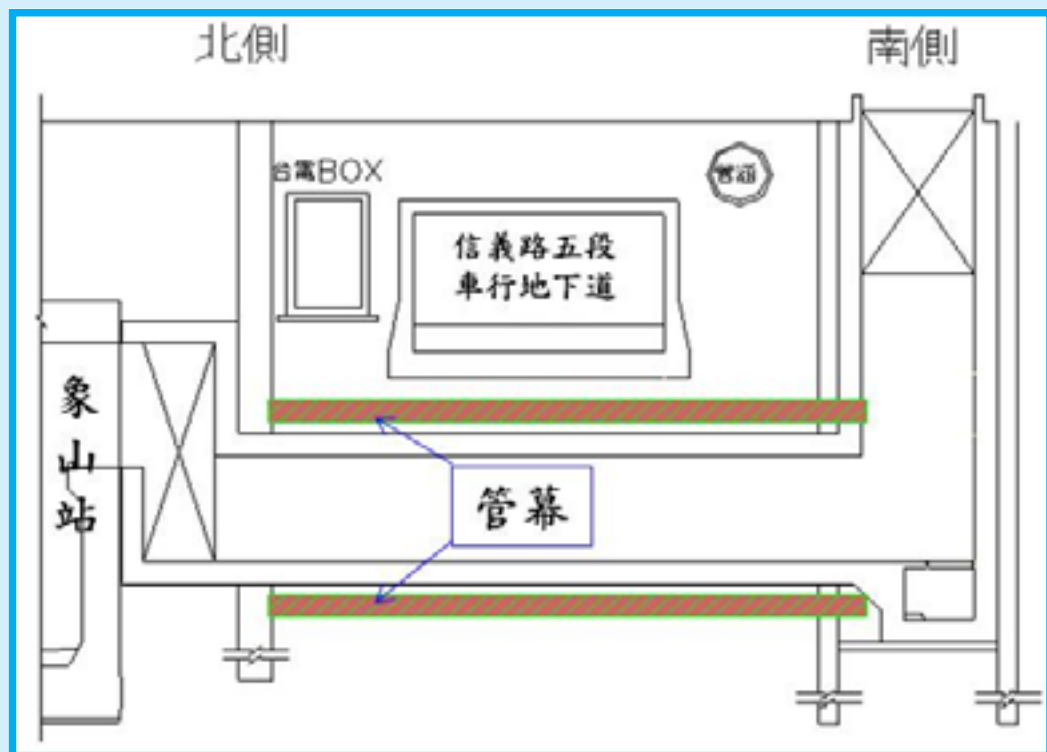
Work on dark composite decking without steel rim and open for vehicle traffic after completion

### (4)Pipe Roofing Construction Method:

Using strong steel assemblage as a temporary retaining facility and completing excavation and structure by a retaining support, the pipe roofing method is applicable for structures beneath main urban arteries. The method was used to reduce impact on traffic and ground subsidence and increase safety and reliability.

This unique approach, used a mud pumping system with a vacuum pipe to remove residual earth and create fresh air convection, ensuring a safe working environment in the pipe. It enabled smooth traffic flow at the ramp leading to the Xinyi Expressway and along the Xinyi Rd. vehicle underpass during construction and reduced environmental impact.





Use of pipe roofing construction method



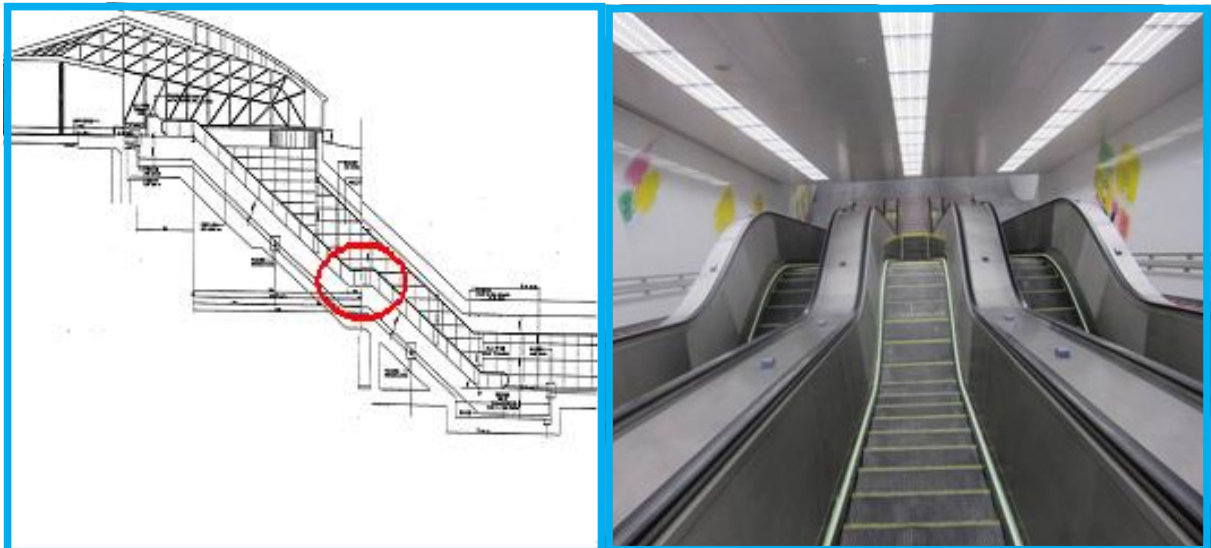
Construction using pipe roofing construction method





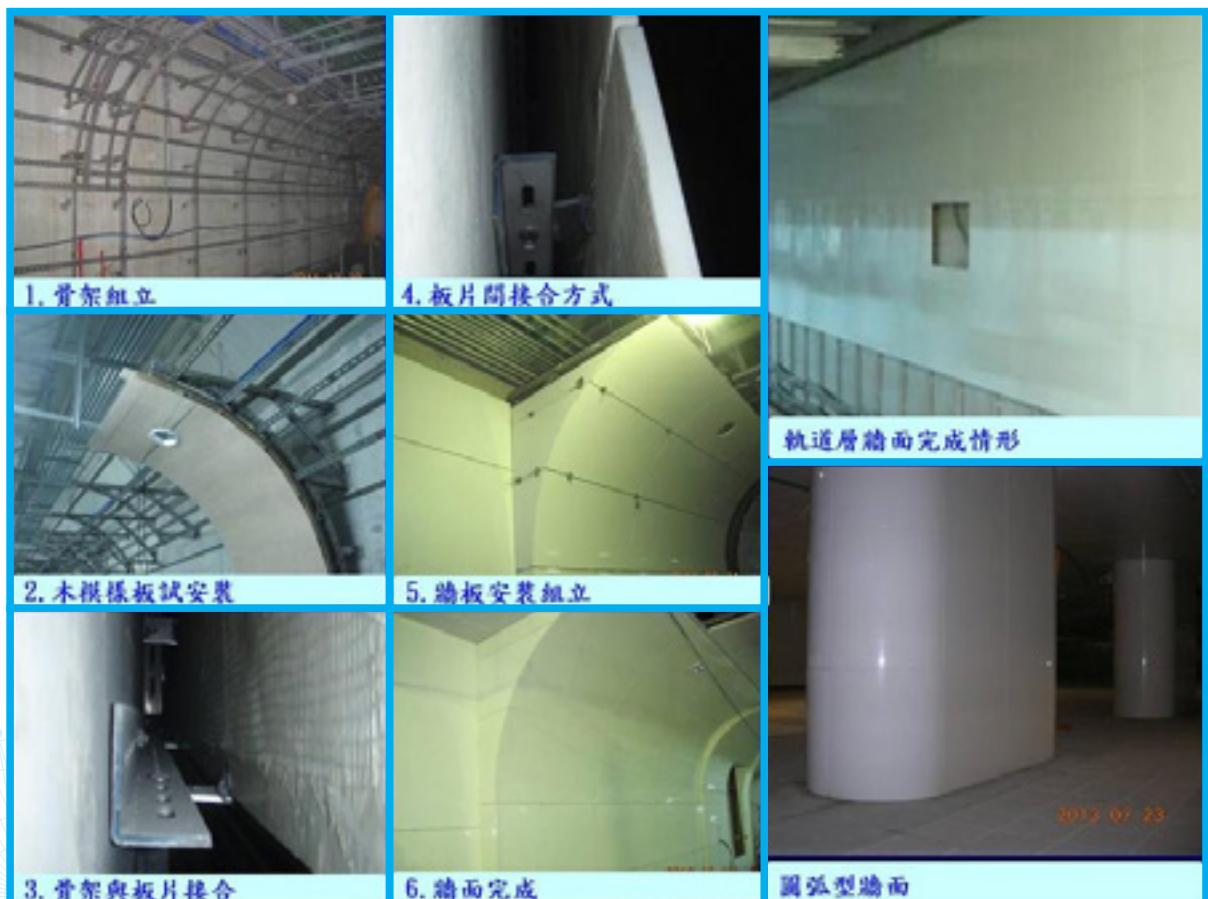
#### (5)Wavy Escalator:

Due to limitations of a 13.9-meter elevation difference between the exit at Xiangshan Station and the concourse level as well as land acquisition difficulties, there was insufficient space for an escalator with intermediate platform conversion layer. At Exits 1 and 2, a wavy escalator added a moving platform in the mid section to form an integral whole for riders, eliminating fears that could arise from elevation differences. It was the first of its type used in the Taipei MRT.



A wavy escalator at Xiangshan Station Exit 2

#### (6)Crystallized Glass:



Crystallized glass construction process

On the wall at the concourse level and track level of Xiangshan Station, crystallized glass panels were adopted for the first time in the Taipei MRT system, in place of enamel plates used in other stations. Crystallized glass is typically used for external walls of high-rise buildings and rarely used in general buildings. Advantages include smoothness, three-dimensionality, brightness, cleanness, appealing appearance, and easy cleaning and maintenance.

Crystallized glass was produced by grinding glass material and other ore sands such as silica sand, soda, potash, borax, limestone, dolomite, and feldspar. After mixing and melting, these were formed into 1-7 millimeter-sized particles then heated to 1,100 degrees Celsius for crystallization into initial plates. Grinding and polishing created a crystal surface texture that featured hardness, durability, weather resistance and easy cleaning. Being highly flame-resistant (Grade 1) and radiation free, it is a safe and eco-friendly material.

### 3. Two Major Parks along the Xinyi Line

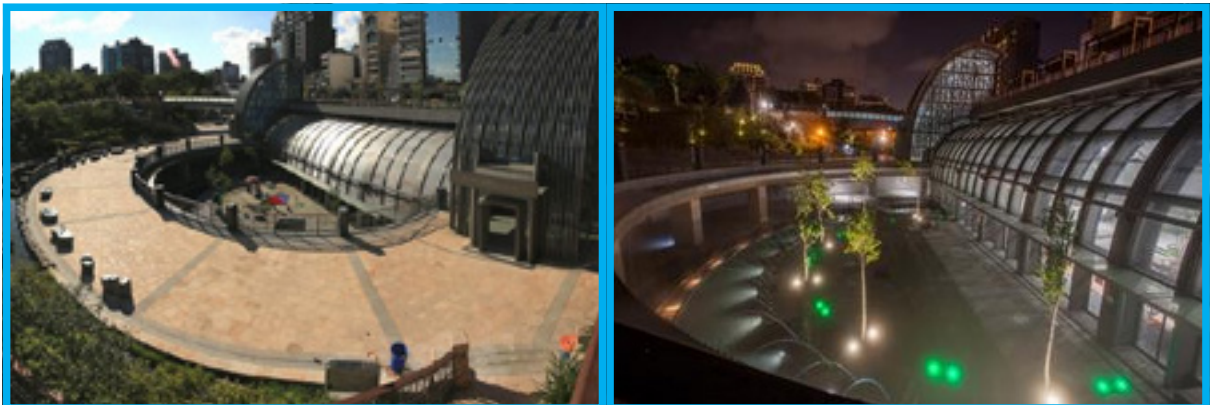
In terms of environment, the presence of Daan Forest and Zhongqiang parks, located beside Daan Forest Park and Xiangshan stations, made the Xinyi line unique. The former is the biggest green belt in downtown Taipei and the latter is the habitat of a conservation species, the Taipei tree frog. They are two of the biggest attractions located along the Xinyi line.

#### (1) Daan Park Station Sunken Garden Landscape

Daan Park Station, located beside the 25.8-hectare Daan Forest Park, is in a unique environment. The station was designed using the idea of space transition, with gradual excavation leading into an underground station replete with sunshine and greenery.

A sunken garden, located on the south of the station, uses a slope excavation to lead from Daan Forest Park to the south side of the station concourse level. An arc-shaped gate established on the south side wall at the station concourse level links with the station's naturally-lit hall. Two 9-meter-high transparent light towers and an indoor 8-meter-high light corridor also decorate the station.

At the multi-function square in the sunken garden, the public artwork "Springlight" features lovely frogs, and in the ring-shaped corridor the artwork "Autumn Traveler" is on display. The corridor also features a waterfall and fountain. It is a wonderful space for relaxing, reading or listening to music.



Panoramic and nighttime views of the sunken garden

Daan Park Station is more than an MRT station. Connecting with Daan Forest Park through landscape planning and design, the station has become a new urban landmark. It not only provides safe, convenient, and comfortable MRT service but also serves as a recreational garden for neighboring residents. The station allows people to slow down and relax in the delightful atmosphere.

## (2) Proximity to Taipei Tree Frogs Habitat:

Zhongqiang Park, where the Xinyi line's Xiangshan Station is located, is the habitat of the Taipei tree frog. During construction, builders worked hard to protect this treasured species.

Taipei tree frogs, an endemic species in Taiwan, are found on a reservation 10 m away from the Xiangshan Station construction site. Prior to construction, a wetland was created by diverting water into a corner of Zhongqiang Park, to provide a hinterland for aggregation, habitation, and breeding, with the goal of creating an ecological reservation. To keep away from the reservation wetland, a bulk supply substation located near the reservation was moved west. Exits 2 and 3, which were originally to be located west and north of the habitat, were merged into one.

To ensure ecological preservation, professional firms were commissioned to monitor tree frogs' ecological changes during construction. Long-term observation showed that this endangered species adapted to the environment.

After the Xinyi line opened, singing frogs and chirping birds, ginger lilies, permeable trails, and lush forest could be seen in the wetland of Zhongqiang Park. These features demonstrated the achievements of ecological protection during construction.



Mayor Hau poses with conservationists while inspecting the Taipei tree frog conservation wetland

## 4. Simultaneous Improvements to Xinyi Rd.

### (1) Common Ducts along Xinyi Rd.

The 6.69-kilometer common duct along Xinyi Rd. is the first of its type in Taiwan to be built in conjunction with MRT construction. It starts from Aiguo E. Rd., passes along Hangzhou S. Rd., then turns onto Xinyi Rd. and ends at the intersection of Xinyi and Songde roads. It includes 3.17-meter shield tunnels, a 3.02-meter cut-and-cover box-structure, and 33 special sections (work shafts included).

The common duct along Xinyi Rd. contains power, telecommunication, and tap water pipelines. It also provides cable laying space for vital utility pipes.

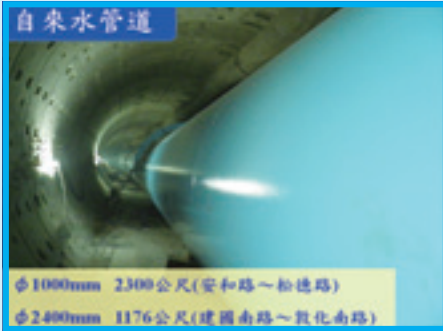
Although integration of different public construction features, such as the MRT and



common ducts, increased construction interface challenges, benefits included reduced road excavations, better road quality, and enhanced disaster rescue preparations. The project facilitates pipeline maintenance and renewal to avoid double excavation, and it saves maintenance costs and increases economic benefits.



Computer-generated image of the relative position of common duct and MRT facilities



Common duct along Xinyi Rd.



愛國專路 —東門站	東門站	東門站 —大安森林 公園站	大安森林 公園站— 建國南路	建國南路 —大安站	大安站	大安站 —信義 安和站	信義 安和站	信義安和站 —台北101 /世貿站	台北101 /世貿站	台北101/ 象山站	象山站 —松德路
IRVXD1	IRVXD2	IRVXD3		IRVXD4		IRVXD5		CR283	IRVXD6		
潛盾 隧道	明挖 覆蓋	潛盾 隧道	潛盾 隧道	雙潛盾 隧道	明挖 覆蓋	明挖 覆蓋	明挖 覆蓋	潛盾 隧道	明挖 覆蓋	潛盾 隧道	明挖 覆蓋
特殊部 1、2	特殊部 3	特殊部 12、 13、 14	特殊部 15、16	特殊部 18、20	特殊部 22、23	特殊部 24-29	特殊部 29	特殊部 30、31、 32、34	特殊部 35、36	特殊部 37	特殊部 38、39
φ5.4m 長度 820m	W*H 5.6*3.85 長度 204m	φ6.1m 長度 425m	φ6.1m 長度 190m	φ6.1m 長度 392m	W*H 5.4*5.1 長度 226m	W*H 5.4*5.3 長度 313m	W*H 8.25*5.1 11.6*2.2 6.2*6.9 長度 410m	φ6.1m 長度 230m	W*H 7.8*2.8 長度 150m	φ4.4m 長度 549m	W*H 6.85*4.7 長度 355m

Computer-generated image of the cross section of common duct along Xinyi Rd.

## (2) Environmental Renewal Project along Xinyi Rd.

In coordination with road surface recovery after completion of Xinyi line construction, DORTS simultaneously conducted an environmental renewal project to public-use areas along Xinyi Rd. Improvements included: relocating Taipower transformers to median strips, shared traffic signs and street lamp poles; moving exclusive bus lanes to the third and fourth lanes to reduce interaction between small passenger cars and buses; and planting of trees such as *Formosan ash*, *Acer serrulatum*, *Pistacia chinensis*, *Melia azedarach*, along with a variety of shrubs, to beautify the Xinyi Rd. landscape. Handicap-accessible and user-friendly street furniture are also available.



Computer-generated image of environmental renewal project along Xinyi Rd.



Completed environmental renewal project along Xinyi Rd.



### Items Completed for Xinyi Rd. Environmental Renewal Project

Item	Area/Quantity Completed
Road surface improvement and renewal	104,255m <sup>2</sup>
Sidewalk improvement and renewal	42,231 m <sup>2</sup>
Median strip improvement and renewal	5,722 m
Corridor-style bus shelter	28 shelters
Plants (arbor)	1,558 plants

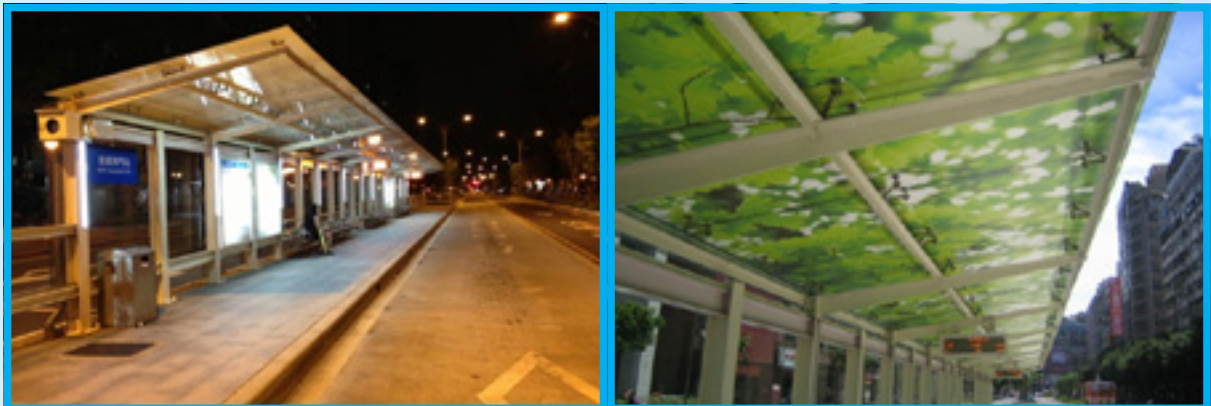
#### (3) Addition of Vintage Corridor-style Bus Shelters along the Xinyi Line

Twenty eight corridor-style bus shelters were established along Xinyi Rd. sections 1-5. The custom-made shelters use a lightweight, seismic restraint steel frame with glass curtains and LED lamps. Coupled with the bus information system, the new facility provides passengers with a welcome environment.

In terms of construction characteristics, corridor-style bus shelters are lightweight. A modular design was adopted, and each shelter is conveniently composed of several units assembled to fit desired shelter length. Additional space was reserved on shelter platforms to avoid repetitive construction and facilitate future expansion based on increasing passenger volume.

##### Features of Corridor-style Bus Shelters:

- I. Compared to traditional bus shelters that adopt a single dependent design, new shelters use a continuous rain cover design to provide additional space and shelter from wind and rain.
- II. The 1-meter-long separate seats used in traditional bus shelters were unable to meet demand during peak hours. The new shelters were therefore equipped with seats that are at least 12 meters long.
- III. The unit design of new shelters accommodates demand by providing a bus stop area at least 32 meters in length.
- IV. New shelters provide better nighttime illumination and use LED lamps to increase brightness.
- V. New shelters provide a user-friendly waiting area and traffic information as well as bus route guides.



Corridor-style bus shelters



## Facility Improvements to In-service MRT Routes

### 1. Elevators and Escalators

Initial-stage handicap-friendly elevators were hydraulic and operated at a speed of 30-45 meters per minute, depending on lift height. But they contained several problems. Sometimes, the smell of oil irritated users. Overheating also led to occasional service outages, affecting MRT access for users with mobility problems. New elevators eliminated the need for machine rooms and increased average speed to 60 meters per minute. They not only reduce waiting and ride times but also feature energy-saving and eco-friendly functions.

#### (1) Adding Escalators to Guting Station Entrances/Exits

In line with municipal projects to widen sidewalks along both sides of Roosevelt Rd. sections 5 and 6, improve MRT exits between Guting and Jingmei stations, and adjust sidewalk width along Roosevelt Rd., DORTS held a meeting with the Taipei City Department of Transportation and other related agencies to assess the need for bi-directional escalators at all stations between Guting and Jingmei stations. The objective was to facilitate access for elderly passengers and others with mobility problems. Following review, the decision was reached that only Guting Station needed improvement. Plans called for adding an escalator to one station entrance/exit, to bring the total numbers of entrances/exits with an escalator to two. The remaining entrance/exit retains a stairway. Work was underway after tendering documents were completed and awarded.

#### (2) Adding an Exit and Elevator to Jiantan Station

This plan involved adding an exit/entrance at the intersection of Jiantan and Jihe roads, as well as a handicap-accessible elevator beside Exit 1. Basic planning was completed and detailed design was to be conducted in 2014.

#### (3) Improvement of Handicap-accessible Traffic Flow at MRT Taipei Main Station

Installation of three elevators was completed and they began operation in May, August, and October 2013.

### 2. Additional Exits/Entrances

#### (1) Adding exits/entrances to Tamsui Line Stations

List of Compact Exit/Entrance Facilities

	Number of Regular Gates	Number of Handicap-accessible Gates	Installation Date	Note
Yuanshan Station	2	1	**	Conducted by TRTC
Qilian Station	2	1	2010.11.25.	Conducted by NDPO

List of Standard Exit/Entrance Facilities

Item	Number of Regular Gates	Number of Handicap-accessible Gates	Number of Elevators	Number of Escalators	Installation Date	Note
Zhishan Station	4	1	1	1	2010.11.25	Conducted by TRTC
Shipai Station	3	1	1	1	2010.11.25	Conducted by TRTC

## (2) Renovation of Chiang Kai-Shek Memorial Hall Station Exit 1

Main construction included civil works (pipeline relocation and traffic maintenance during construction, retaining wall supporting, and construction), utilities and HVAC systems, and elevator and escalator systems.

The project was awarded in November 2012, and a month later the notice to proceed was issued. Construction was scheduled for completion in June 2014.

