Chapter 10
Public Infrastructure

Public infrastructure is a crucial aspect of the quality of life of Taipei City's residents. 2007 witnessed the completion of the Fubei Underpass and Kanghu Road; residents of Taipei City now enjoy improved traffic service. 75.93% of the sidewalks in Taipei City have been renovated to improve pedestrian walkways. Flood control and wastewater sewage reinforcements effectively protect citizens from flooding-related mishaps, and provide quality river watershed areas plus water-friendly environments. Visitors to numerous flower festivals have grown to 1.4 million, with such events serving as great venues for leisure and relaxation. Utility construction and public housing services have been renewed to benefit residents. The Taipei City Government is poised to create a resident-friendly, safe, convenient, and quality urban community by building a sound public infrastructure for its residents in limited space.

Public infrastructure is an index with which one measures social progress and residential living quality; it affects multiple aspects of people's lives, and its influence extends far and wide; sometimes it acts as a catalyst for urban reforms. A prosperous society in turn encourages a wide array of urban construction, while a comprehensive public infrastructure project promotes metropolitan affluence. Time is needed in building a great city, and Taipei City bears witness to its historic evolution. Taipei is the nation's capital, and the Taipei City Government actively promotes the renovation and construction of traffic sites and services, flood control, river dredging, utility construction and city rezoning projects on its solid, existing foundation, and effectively improves the quality of public infrastructure to enable citizens to enjoy a safe and cozy living environment.

Part 1 The Establishment of Expedient Transportation Construction

The Taipei City Government is sparing no effort in developing expressways and constructing and renovating urban roadways and bridges to serve the rapidly growing traffic needs sparked by swift urban development in facilitating the commuting needs of its residents.

1. Effective Road Construction

(1) Expressway Systems

The system primarily consists of the Huandong Expressway system, the Huanxi Expressway system, the East-and-Westbound Expressway System, the North-and-Southbound Expressway System, and Xinyi Expressway, a combined 59.6 kilometers, of which 43.3 kilometers has been completed.

(2) New Construction of Urban Roadways

Kanghu Road was built to ameliorate traffic congestion in the Donghu area. It starts in the west from the Chenggong Road curve to Kangle Street, north of the White Horse villa. Since its commission in 2007, Kanghu Road has effectively abated traffic in the Donghu area, and has formed a convenient traffic network with the MRT Neihu Line, and in turn has helped promote local business development.

Fuxing North Road cuts across the airport underground passage, extending from the intersection of Fuxing North Road and Minzu East Road northward and passes Songshan Airport in Taipei, connecting to Binjiang Street and Dazhi Bridge. The Fubei Underpass is 677 meters in

Kanghu Road opened to vehicular traffic

length, and the world's very first roadwork that extends under a runway of an airport that is fully operating at the ground level. The entire passageway was officially completed and opened to vehicular traffic on October 15, 2007, effectively alleviating congestion due to the Songshan Airport's blockage of the city's north-south traffic, and providing convenient traffic service between Neihu, Dazhi, Shilin, Neishuangxi and Waishuangxhi districts, and quick access to the downtown area.

(3) Road Renovations

Taipei City's total road area is about 20 million square meters. To expedite vehicular and pedestrian travel, the City Government repaired cracks and resurfaced dilapidated. In 2007, 600,000 square meters of road surface were renovated.

2. Unhindered Pedestrian Space

Taipei City's sidewalks cover about 2.5 million square meters, and to safeguard pedestrian walkways, and improve sidewalk conditions, 18,094 square meters of sidewalks underwent complete renovation in 2007. From 1999 to yearend 2007, a total of 1,898,207 square meters of sidewalk surface was improved, covering 75.93% of the total sidewalk area in Taipei City.

The Taipei City Government instituted a "Road Concern Report" Campaign for the public to report sidewalk-related issues to further improve road conditions for pedestrians. The toll-free hotline number is "0800523888". In 2007, 5,836 such calls were made, and from April, 2002 to yearend 2007, 30,691 cases have been reported by helpful citizens.

3. Bridge Construction and Maintenance

There are now 188 beam bridges, 34 river-crossing bridges, 31 vehicle flyovers, 89 pedestrian overpasses, 12 tunnels, 11 vehicle underpasses and 56 pedestrian underpasses, for a total of 421 bridges in Taipei City.

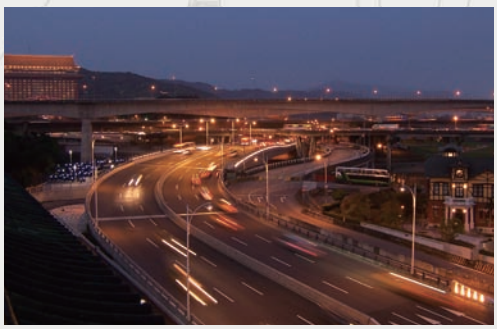
(1) Zhongshan New Bridge

After the demolition of the Zhongshan Old Bridge on April 30, 2003, the new bridge was constructed on the same site between the two banks of the Keelung River to connect up with Zhongshan North Road in order to better traffic conditions in the Yuanshan Area. The new bridge was elevated to comply with the Keelung River flood control frequency height construction scheduled over the next 200 years. Reconstruction work started on February 2, 2004, and was completed on October 15, 2007.

(2) Construction of Pedestrian Overpasses

The 4-meter-wide and 167-meter-long Rainbow Pedestrian Bridge is characterized by an S-shaped suspended-deck structure, supported by steel arched beams and tension-torque elements. It spans from Xinming Road in Neihu to Raohe Street in Songshan, crossing the Keelung River. The bridge is extremely beautiful when illuminated at night. A coffeehouse is located under the bridge, giving it both vehicular and

Fuxing North Road crossing the underground roadwork of Songshan Airport



Zhongshan New Bridge


Maokong Gondola in Operation


Night views of the pedestrian overpasses across Xinming Road in Neihu and Raohe Street in Songshan

leisure functions. Construction of the bridge began on July 15, 2005. The bridge was opened to vehicular traffic on November 10, 2007.

(3) Bridge Inspection, Maintenance and Reinforcement

A total of 210 bridges underwent comprehensive inspection and renovation in 2007. Additional inspections related to structural examinations after earthquake and river-crossing inspections during the flood-control period were conducted on bridges that appeared suspect after visual assessments; a careful follow-up exam and re-evaluations were to be conducted in the following year. Funding is earmarked for necessary maintenance and reinforcement of bridges in order to ensure public security.

4. Construction of the Maokong Gondola

The Maokong Gondola extends for 4.03 kilometers; its construction began on October 11, 2005. Repeated inspections and test runs were finally completed at the end of June, 2007. Service officially began on July 4, 2007, providing a leisure transportation alternative to travelers; the ambitious system represents a means to reinvigorate the local economy by attracting more visitors to the area.

5. Construction of Common Ducts

With a view to promoting common ducts construction projects, the Taipei City Government announced a network of nine common duct routes in compliance with the “Common Duct Law”. To date Route Civic Boulevard, Route New Community (Keelung River Bend straightened area), Route Zhoumei and Route Nangang Economy and Trade Park common duct constructions have been completed and are currently in full operation. In 2007, common ducts still under construction include:

(1) Route Dadu Common Duct Construction

Route Dadu Road project runs along south-side slopes by the intersection of Dadu Road and Guandu Road to Daye road, connecting to the Zhoumei Expressway common duct. The construction extends 6,472

Night views of the pedestrian overpasses across Xinming Road in Neihu and Raohe Street in Songshan

meters in length, and it primarily works in tandem with Taiwan Power Company's Xiandu High Voltage transmission substation electric network and national defense pipeline demands.

(2) MRT Xinyi Line Common Duct Construction

This project extends from Aiguo East Road, Hangzhou South Road turning onto Xinyi Road, all the way to the intersection at Songde Road. In 2007, the common duct Qiandun Tunnel (running from Aiguo East Road, passing the Chiang Kai-shek Memorial Hall, turning eastward onto Xinyi Road and down to the intersection of Jinshan South Road, connecting to the MRT Dongmen Station) has been completed, as has part of the continuous wall construction.

(3) MRT Songshan Line Common Duct Construction

This route starts from the west side of Xinsheng North Road along Nanjing East Road down to Tayou Road at 5,553 meters in length, with the supply line at 8,686 meters. Retaining steel plate posts were erected, pipelines were moved, and construction on the continuous retaining walls in particular sections were completed in 2007.

Part 2 Building a Quality River Watershed

1. Flood Control and Drainage Construction

(1) Establishing an Integrated Water Control Mechanism in Taipei City

The Taipei City Integrated Water Control Promotion Commission was launched on August 2, 2005 for the purpose of introducing a new water control mechanism for "Retaining upstream water conservancy, reducing midstream flood risks, and preventing downstream flooding," incorporating resources of both governmental and private sectors to establish a safe, comfortable, graceful and healthy eco-metropolis. Three conventions were held in 2007 to provide for urban planning, mountain areas, rainwater drainage, river flood control systems, building a disaster control early-warning mechanism and awareness promotion

for an integrated, quantifying flood-control objective, and also reinforcement, flood prevention models and flood control constructions to create a comprehensive mechanism that would embody a full-scale flood control system.

(2) Upgrading Standards at Water Conservancy Facilities

All of Taipei City's flood control installations are oriented on embankment constructions, in coordination with watercourse rebuilding, dredging and pumping stations established at the main exits of drainage pipes behind dikes, in order to pump out rainwater that is unable to be drained off by gravitational force within the city. Under the jurisdiction of Taipei City, flood control installations on the right banks of the Danshui River and the Xindian River, and both sides of the banks in the upper sections above the estuary of the Shuangxi River and the Keelung River have all been finished. Except for major protective mechanisms in the Zhoumei embankment, the Shezi Island area, and the Guandu embankment along the Keelung River downstream, flood protection installations in other river sections have all attained planned protective standards. All of the tributaries have been reinforced with flood control systems except for the Huanggang river course – for which flood division constructions are being conducted.

In 2007, the Kangning, Yucheng, Xinsheng, Jianguo and Changchun pumping stations were reconstructed (expanded) in order to enhance flood control and drainage systems, upgrade drainage standards and increase pumping water and drainage capacities.

(3) Rainwater Sewage Constructions

The total length of the City's Rainwater Sewage Constructions, including drainage arteries and branches, is 540 kilometers. By the end of 2007, 519,978 kilometers were completed; the completion rate reached 96.29%. In 2007, ten construction projects served to improve the drainage systems. The "Fragmentary Drainage Improvement Project" was kicked off to mend the drainage bottlenecks encountered at over 200 spots to ensure smooth drainage flows and to reduce water accumulation. The "Taipei City Water Gate Research" was completed to address external and internal water levels and water condition simulations, in order to create an archive of basic data and set up a testing mechanism.

In order to enhance water-level monitoring stations of the rainwater sewage network, the Taipei City Government constructed 121 water-level monitoring stations, one flow-volume monitoring station and four image-monitoring stops for data monitoring and analysis. The preliminary water-level forecasting model development was also completed for the water accumulation districts of the Yucheng Pumping Station.

2. Sewage System Construction Projects

A total of 665,000 households in Taipei City are scheduled to have sewage connections. By the end of 2007, 584,143 households had sewage connections, which boosted the rate of users' pipe connections to 87.84%, a 4.74% growth rate from the 83.1% at the end of 2006. Figure 1 shows the rate of users' pipe connections from 1989 to 2007.

(1) Sewage Main Pipes System Construction

All the trunk pipes of the sewage system have been completed, while 80.44% of secondary pipes have been completed, and 91.77% of the lateral pipeline network has been completed. To maintain the integrity of the sewage system's collection network, in 2007 a bypass pipe project was launched on the east side of Huanggang river, and the sewage collection range of the pipeline network extended for approximately 227 hectares, providing 11,550 households with pipe connections for user's drainage facility preparatory construction. The project is characterized by a super-long distance (curve) progression (Jacking-pipes engineering), and pipe-in connection models to overcome construction obstacles. The endeavor was commended by the Public Construction Commission, Executive Yuan, winning the "2007 Public Works Engineering Gold Medal Excellence in Water Conservancy Category."

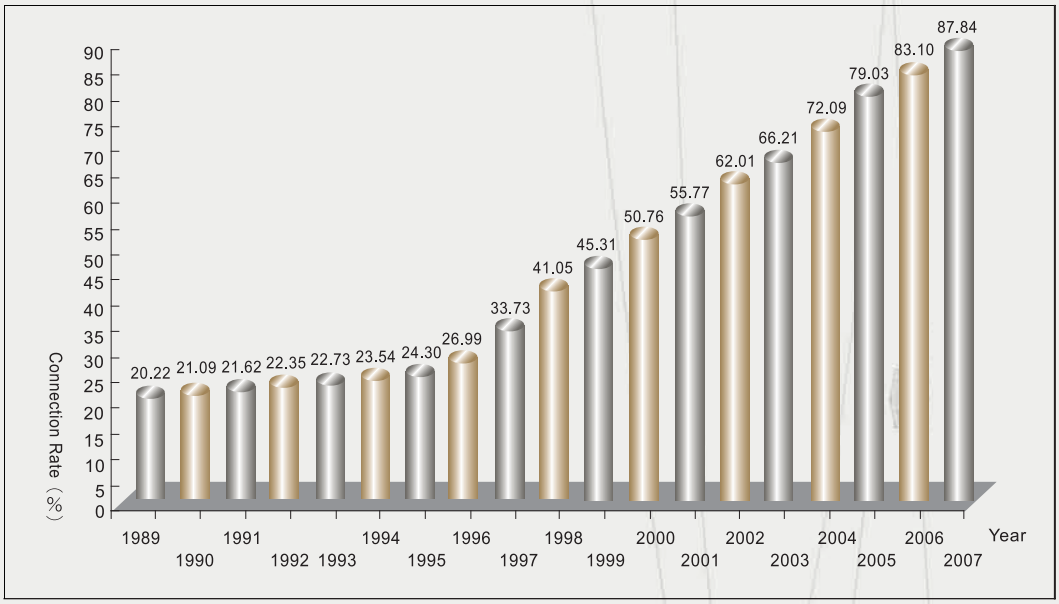


Figure 1 : Household Sewer Connection Rate in Taipei City from 1989 to 2007

(2) Operational Management and Maintenance of Sewage Systems

In 2007, the daily volume of treated sewage on average for the Danshui River Sewage System was 1,000,000 tons, and the quality of discharged water successfully conformed to the National Effluent Standards.

In terms of sewage maintenance work, by the end of 2007, 4,363 subscribers' applications for pipe cleaning services had been filed; the services also included architectural foundation applications for pipeline relocations and pipeline maintenance for older communities. 2,943 meters of pipelines, 25,464 centimeters of hose boxes, 16,125 centimeters of catch basins (user's pipe connections) were renovated, and 2,491 meters of pipeline cleaning and inspection were conducted to ensure the normal operation of the sewage system and the cleanliness of residential living environments.

(3) Sewage Treatment Plant Operation

To optimize operations at sewage treatment plants, a deployment connection 2,000 millimeters in diameter was built across the Keelung River base to provide a link to the Xizhi-Nangang trunk pipeline at Tayou Road in Songshan Area to provide for the flexible allocation and application of water volume between the Dihua Sewage Treatment Plant and the Neihu Sewage Treatment Plant. It was officially inaugurated on March 1, 2007, an innovation in Taiwan. Built inside the deployment connection was a sludge duct 200 millimeters in diameter that is capable of transfering sludge generated during the treatment process at the Neihu Sewage Treatment Plant to the Dihua Sewage Treatment Plant. The sludge can be centralized for handling to cut down on costs, while increasing the volume of methane recycling and reuse from the anaerobic process unit at the Dihua Sewage Treatment Plant.

In addition to continuously executing users' pipe connection work for sewage system, the Taipei City Government set up eight interception stations along a stretch of the Keelung River under Taipei City jurisdiction for areas where users' pipe connections are incomplete. The Purification, Aeration and Oxidizing

Project was set up outside the banks of the Nanhu and Chengmei Rainwater Pumping Stations. The facility at Nanhu is currently in operation, while the Chengmei Station is slated for operation in January, 2008. The stations are to provide service jointly with aeration facilities. The aeration facilities are designed to increase the oxygen level of the river, so contaminants and pollutants can be quickly dissolved to reduce odor. Overall, the pollution level of the Keelung River has been reduced from "severe" to "medium," and the river is once again attracting waterfowl and fish species that had long been absent. The upper part of the facility can be used as a sports venue, or for a landscape green.

Site of the Chengmei Rainwater Pumping Station

3. Revitalization of the Danshui River

The Danshui River's drainage area spans 2,726 square kilometers; its main river has its origin in the Sheipa National Park and measures 158 kilometers in length. The main river and its tributaries: the Keelung River, the Jingmei River and the Xindian River flow through areas within Taipei City's jurisdiction for about 58 kilometers in all. It converges and empties into the ocean at Danshui. The Danshui River drainage has long been a political, economic and cultural hub in northern Taiwan. It is strongly intertwined with the lives of the local residents, and is rich in many priceless historic and cultural sites.

Dajia Hope Fountain on the left bank of the Keelung River

To promote the "Danshui River Cleaning Project," the Taipei City Government established the "Taipei City Government Danshui River Revitalization Committee" in February 2007 that consisted of many scholars and experts, and built a platform for collaboration with the central government and Taipei County Government. Several joint task forces were formed to study the following issues: water quality and water volume, landscaping and leisure activities, and environmental education. The committee proposed three major visions for revitalizing the Danshui River: "Quality," "Scenery," and "River Activities". It drew up six major objectives: "High Quality Water," "Stench Free," "No Garbage," "Pleasant Watershed Environment," "Diversified River Activities," and "Excellent Ecology," with short-term, mid-term, and long-term goals totaling 34 strategies and 140 proposed items for implementation. Short-term projects were slated for completion by the end of 2007; mid-term programs have been scheduled for implementation between 2008 and 2010, while long-term missions are projected for completion no sooner than 2011 .

Eighty-five strategic execution projects were implemented in 2007 at a cost of about NT$ 4.9 billion dollars. In addition to water quality improvement measures along various sections of the Danshui River, the Taipei City Government also actively promoted riverside leisure activities, such as the organization of the Taipei Canoeing Contest, the International Dragon Boat Tournaments, Boating Competitions and the

The smooth bike trails along the beautiful riverside

The promotion of leisure activities along the river basin

Revival of the Datong District Event. It also sponsored the operation of a 300-seat large passenger vessel called “The Queen-A River Runs Through It” along the Blue Highway, plus routes along Dadaocheng, Guandu, and Bali Wharf.

Part 3 Urban Greening and Embellishment

The Taipei City Government continues to construct parks and green areas to increase the level of green area coverage per capita. It has also organized an array of topical flower exhibitions to furnish city residents with high-quality leisure activity venues.

1. Increasing the Park and Green Area Per Capita

Presently in Taipei’s urban planning and non-urban planning, a total of 1,019 plots of land (including 36 other sites, such as riverside parks) with a total area of 1,969 hectares have been reserved for parks, green areas, plazas, and children’s playgrounds. By yearend 2007, 794 parks (including 40 partially constructed parks) and green areas have been developed or budgeted for development, totaling 1,343 hectares. This is equivalent to 5.11 square meters of green area per capita. Table 1 shows the increase in green area per capita from 1998 to 2007.

2. Park Constructions (Expansions) and Renovations

Some important park construction (expansion) projects in 2007 include Wenshan (Jinmei) Sports Park, Nangang No 48 Houshanpi Park, Wanhua No 410 Park, Beitou No 233 Park, and the expansion of Nangang No 58 Park, Shilin No 203 Park, and Nangang No 55 Park.

Table 1 : Green Area Per Capita from 1998 to 2007

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Green Area per capita (square meters/per capita)	4.31	4.45	4.61	4.80	4.82	4.86	4.95	5.01	5.03	5.11

"Shilin No 203 Park" has a total area of 165,965 square meters; 123,965 have been opened up. In 2007, the north side of the Chiang Kai-shek Shilin Residence, with an area of about 6,000 square meters, was acquired for expansion to form an integrated leisure activity area with adjacent neighborhoods, thereby providing residents with a quality site for relaxation.

Panorama of Wenshan (Jingmei) Sports Park

3. Roadside Greening and Beautification

This project was created to plant bright, colorful potted plants in the channeled pathways along main arteries, traffic rondos and the green areas of access roads; many design models were employed to create a range of visual effects to make city roads more attractive. The total area that has undergone road beautification is 54,414 square meters, efforts that have won unanimous critical praise.

To enxure the functionality of urban greening programs, street trees have been planted along the city's sidewalks that are wider than 2.5 meters; special attention has also been paid to planting trees in empty tree holes and renewing tree species to enhance the effects of roadside greening. In 2007, the number of new plantings (and replacements) amounted to 386 street trees, 134,410 shrubs, 1,703 square meters of lawns and 19,769 potted plants (groundcover plants).

Greening and beautification of roads

4. Flower Shows and Flower Season Events

(1) Camellia Fair

The Floriculture Experiment Center of the Parks and Street Lights Office is a pioneer in promoting Taiwan's camellia culture. Since 1949, the Center has committed its resources to camellia species collection, domestication and culturing technology improvements. "The 2007 Taipei Camellia Fair: Secret Crush on Camellia Gardens" was held from January 26 to February 4, 2007, a 10-day event that attracted the heads of state of Taiwan's allies, who were impressed by the quaintly formed leaves of the fragrant camellia species, the bonsais, and the fine views along the "Camellia Paths".

Mayor Hau Lung-bin attends the opening ceremony of the 2007 Chrysanthemum Show

The 2007 Chrysanthemum Show (The Heart of Light Arena)

Taipei Flower Show

(2) The Rose Festival and Chrysanthemum Show

"The Rose Festival" was held in the Chiang Kai-shek Shilin Residence from March 31 to April 15 in 2007. Over 200 newly cultured rose species graced the event with their elegant and colorful floral delights. The venue was decked out as a European-style rose garden. On opening day of the festival, 77 newly-weds participated in the Ceremony to the theme of "Roses with Love, Alocasia for You." "The Chrysanthemum Show" opened on November 17 and extended into a 23-day event, lasting until December 9. It was given the theme of "Flowers, Love, Taipei," with displays of many varieties of chrysanthemums, including grafted chrysanthemum, cliff chrysanthemum, bonsai and Dali chrysanthemum. The garden was enchantingly spruced up in every corner, with a 353-floret Dali chrysanthemum the center of attention.

Taipei Flower Show

(3) Yangmingshan Flower Festival

The "2007 Yangmingshan Flower Festival" was held from February 20 to March 25, lasting 34 days in all. It provided stunning sight tours of cherry blossoms in the evening hours from 6 to 9 p.m. Since the 1970s, the annual "Yangmingshan Flower Festival" has become one of the most popular attractions in Taipei, and has been received with great critical acclaim; in recent years the number of visitors has totaled 1.40 million.

(4) Taipei Flower Show

The "2007 Taipei Flower Show" was held at the Daan Forest Park from December 22, 2007 through January 20, 2008, featuring "A Floral Paradise" as its theme. The show was made up of 270,000 potted plants and 13 topical display areas, that included costume parades, circus events, an exciting pirate boat and holiday fun events that varied from week to week. The whole park was transformed into a joyous fairy wonderland, and visitors got to experience the beauty of different floral gardens.

5. Streetlight Management and Maintenance

Streetlights ensure that residents can walk about freely at night and serve to prevent crime. For the past 5 years, Taipei City has attained an annual growth rate of 3.6% for streetlight installations. By yearend 2007, Taipei City had installed a total of 143,345 streetlamps, and effectively limited streetlamp breakdown ratio to 0.2%. In order to enhance illumination around school neighborhoods, 5,315 streetlights were installed in the lanes and alleys surrounding 313 colleges, middle and primary schools. The installations have become operational, providing students with a safer school environment.

To smarten up the city landscape and improve the quality of life for residents, the government has rendered obsolete the FRP (fiberglass reinforced plastic) switch boxes and developed a light pole with an embedded light source. By yearend 2007, 3,647 new light poles with shared bases were installed, out of 10,082 FRP switch boxes in all.

Part 4 Public Utility Constructions

1. Water Supply Facilities

(1) Water Supply Facilities Improvements and Management

To step up the effectiveness of combating water leaks, a leaks management model was established through zoned metering, and mapped out in the plan “Improvement and Management of Water Supply Network framework” (from 2006 to 2015). This plan serves as a long-term strategic policy for improving the management network. First-phase policies are effective for the period from 2006 to 2010. In 2007, 166.3 kilometers of pipeline replacements were completed, with a replacement rate of 2.68%.

The Taipei City Government also promotes leak inspections, leak repairs, and water pressure management, and responds to reports by residents of leaks. As a result, the number of reports of such leakages has dropped gradually; leak ratios have also dropped, from 25.77% in 2006 to 24.56% in 2007, indicating positive results.

(2) Key Expansion Constructions

The Minsheng Water Deployment Tank and Pressurization Station and an office building are located on a prime section at the intersection of Guangfu North Road and Minsheng East Road. It is a versatile project designed with a 100,000-ton water deployment tank in the basement, a 14-story office building on the ground level, and 6 levels of pressurization stops and parking. Construction costs were estimated at NT$ 1.9 billion dollars. The building was inaugurated on March 12, 2007, and can regulate water pressure during both peak hours and off-hours to improve water supply network pressure stability, and ameliorate water consumption in eastern Taipei City, and Neihu and Nangang areas.

In addition to public affairs organizations, the office building also serves as an international commerce communication center, international talent training center, and an incubator for small- and medium-enterprises, operated and managed by the Institute for Information Industry. Designated the Minsheng Technology Service Building, it officially began operation on June 23, 2007 and can service about 130 enterprises and offer 800 job opportunities.

(3) The Construction of an Aqua-Friendly Education Area

Residents have warmly welcomed the inauguration of the first phase of a water park in Gongguan. The second phase of the construction of the park features an expanded tourist area, and the enhancement of its leisure/entertainment facilities and its educational functions. The project also promotes the development of the Gongguan commercial district. Phase 2 was budgeted at NT$ 310 million dollars. Construction began

Aqua-friendly Education Area

on April 30, 2005, and was completed on March 31, 2007. The primary building includes six theme regions, such as a garden parking lot, mountain-climbing walkways, the Yongfu Aqueduct Bridge light engraving beautification system, a fountain courtyard, a Gongguan Embankment and an aqua-friendly area. Working in accord with the blueprint for the overall municipal development of Taipei, the project will diversify Taipei City's outlook by encompassing beautiful landscapes, promoting the vitality and health of residents, and acting as an impetus for tourism.

2. Management of Hot Spring Resources

Seventeen hot spring resources have been designated in Taipei as sites with geological value. In 2007, 12 hot spring monitoring wells were installed; a comprehensive monitoring well net is expected to be completed in 2008 to monitor changes in these hot spring resources and to prevent overdevelopment. City representatives are also cooperating on the hot spring district management project to assist with the setup of hot spring acquisition and supply. On July 30, 2007, permission was granted for development of Taipei City's first Terrestrial Heat Valley hot spring acquisition and supply by the Taipei Water Development. In 2007, hot spring acquisition fees were first levied, with the fees specifically used for conservation and management of hot spring resources, and the creation of public facilities on hot spring sites. thereby protecting the hot springs and encouraging development of the hot spring industry.

3. Natural Gas Utilities

Four gas corporations, the Great Taipei Gas Corporation, the Yang Ming Shan Gas Corporation, the Shin Shin Natural Gas Corporation, and the Shin Hu Natural Gas Corporation, play a crucial role as energy suppliers in meeting the wide-ranging demands of Taipei City. In 2007, a total of 265,681,942 cubic meters of gas were supplied to a total of 602,427 households, and the prevailing rate of natural gas usage in city households was about 63.6%.

The Great Taipei Gas Corporation supplies gas to Zhongzheng, Daan, Xinyi, Songshan, Zhongshan, Wanhua and Datong, a total of 7 districts, and two boroughs (Mingshen and Fuhua) of the Shilin District. The Yang Ming Shan Gas Corporation provides gas to the Shilin (excluding the Mingsheng and Fuhua boroughs) and Beitou districts. Shin Shin Natural Gas Corporation supplies gas to the Wenshan district and Shin Hu Natural Gas Corporation does to the Nangang and the Neihu districts.

Natural gas pipeline security repair drill

All four companies have installed a central monitoring center to ensure the safety in supply gas and transmission quality. They created 32 supply regions, completing a supply area division mechanism, responsible for emergency containment and a pipeline network connection for better disaster prevention measures and emergency rescue capabilities. These four gas corporations also conduct regular disaster-prevention drills, regular inspections and replacement checks on their network of pipes to safeguard the property and lives of residents. In 2007, a total of 7,778 kilometers of pipelines were inspected, with 48 kilometers of the pipes replaced, at a replacement rate of 2.1%. After pipeline extension and intensification work in 2007, an additional 8,177 households were added to the supply list, an increase of 1.38% compared to that of 2006.

To improve customer service, the gas companies have installed a free safety inspection on household pipelines once every two years; in 2007, a total of 176,328 households were inspected. A one-stop channel mechanism was put into place to simplify the installation application, payment, and user transfer processes. Users can conduct bill payments or account transfers at post offices, banks or convenient stores or on the Internet. An around-the-clock toll-free service is also available to handle customer inquires and dispatch emergency repair service.

Part 5 Public Housing Development

1. Public Housing Service Transformation

All vacancies in public housing in Taipei City were filled in 2006, and to continue to provide residents with quality housing services, the Taipei City Government continues to handle public housing leasing, modify the management organization style of public housing communities, and work with the central government to process housing subsidies.

In terms of public house leasing, a total of 1,495 units extended their contracts for leasing public housing units, including those in Zhongzheng (466 units), Qiyan (15 units), Xining (446 units), Jungong (9 units), Maosan (25 units),

No 10 Community commerce and other facilities along the Keelung River

Huaisheng (33 units), Longshan (3 units), Wangmei (45 units), Donghu C (45 units), Taiwan Fertilizer (37 units), Sisidong Village C (27 units), Dali Street (30 units), Yanshou P (80 units), and Wanle (199 units). With respect to public housing commerce and the sale and leasing of other services/facilities, 44 units were sold, and 75 were leased in 2007.

In 2007, the Taipei City Government started working with Ministry of The Interior to address housing subsidy transactions, individuals eligible for housing including rent subsidy (the highest subsidy is NT$ 3,000 dollars monthly for each individual for up to one year), housing mortgage interest subsidy (as high as NT$ 2.2 million for up to 20 years) and housing renovation mortgage interest (as high as NT$ 800,000 dollars for up to 15 years). Disadvantaged families can enjoy priority subsidies based on "evaluation points". In 2007, 2,320 households were eligible for rent subsidies, 5,800 households for housing mortgage interest subsidies, and 580 for housing renovation mortgage interest subsidies, for a total of 8,700 units.

To expedite the renovation for old and decrepit residences, the Taipei City Government reviewed construction projects and moved to allot 306 units of the Keelung River Phase 3 Public Housing in C and D districts, and 88 units of Yongping Public Housing for transitional leasing purposes. All of them have been designated for the 201 units of Xiude households during the period of demolition and reconstruction. For Wanle Public Housing leasing, the government collaborated with "Baozangyan Joint Community Redevelopment Project" in undertaking demolition work and coordinated the relocation and settlement of 2 units. For the purposes of environmental improvement of public housing, beautification and environmental makeover engineering projects were launched for Wangme and Taiwan Fertilizer communities. Night lighting and parking space planning were undertaken for Wanmei Community. On the other hand, residences in Taiwan Fertilizer community are over 22 years old, so the primary makeover plan includes portico landscape renewals, level ground repairs, the greening and beautification of surroundings and the design of flower racks and seating to enable the community as a whole to blend in with the landscape of the adjacent park.

In 2007, 164 public housing communities set up building management systems to improve the management of housing communities. Elections were held for community committees in 151 public housing zones, among which 110 have completed structural preparations and filed for applications with the Building Administration Office of Taipei City Government, and 62 have received management maintenance funds for community public works.

2. Land Acquisition Encourages Prosperity

(1) Expropriation and Appropriation of Land

In 2007, there were a total of 31 cases of private land expropriation, including 95 lots, and 491 households; the total area of appropriated land was 1.4743 hectares with compensation totaling NT$1,440,454,330. The City Government also completed 59 cases of public land appropriation of 175 lots with an area of 13.6580 hectares to acquire land for Taipei City urban planning and the creation of public facility buildings.

(2) Zone Expropriation

To expedite Taipei's urban planning blueprint, the City Government has undertaken 12 areas of zone expropriation totaling 773.0948 hectares by yearend 2007. The completion of this project provides 210.5725 hectares of land for construction, while 562.5223 hectares have been earmarked for public facilities such as roads, parks, public schools and other public facilities. The City Government is working on Zone Expropriation projects for Nangang's designated station district, the north side of the Chiang Kai-shek Shilin Residence, and the new community in Qiyan, a total of 24.73 hectares. Upon completion, 10.42 hectares of land will be available for construction, and 14.31 hectares will be allotted for road

construction and park facilities. The completion of the redevelopment promises to increase land use efficiency, improve urban landscapes, fortify the overall urban development and allow for the appreciation in value of the land, attaining the equilibration of land ownership and land productivity.

Mayor Hau Lung-bin attends the groundbreaking ceremony of the expropriated land designated for the Nanggan station

(3) Urban Land Consolidation

By yearend 2007, Taipei City had accumulated 994.8691 hectares of property in its urban land consolidation project, constituting 42 blocks. The total construction-ready area is 602.3765 hectares for building purposes. The city also acquired another 392.4926 hectares of property for roads, parks, and public schools. In 2007, the city's urban land consolidation project entered its fifth phase in the Neihu District and the second phase in the Nangang area. The fifth phase redistricted area of Neihu will provide land to meet the demands of the Nangang Economy and Trade Park, improving the city's overall industrial and commercial expansions; finally, Nanggan's second phase redistricted area will infuse a fresh impetus into the overall development and construction taking place in the Nanggan area.

To promote land utilization, the Taipei City Government rewards landowners for setting up and organizing their own unions for purposes of urban land consolidation. Assistance has been provided to Huaisheng in the Daan District, Lanya in the Shilin District, 6 residences in the Shilin District, Shitan Borough in the Neihu District (R7 block in urban planning), and 12 residences in the Beitou District for consolidation so that residents can derive greater benefit from municipal works, local construction development and prosperity.

The development of public infrastructure is a vital link in municipal undertakings, and is closely bound up with the lifestyle of city residents. A fine road network provides residents with positive commuting experiences and a pedestrian-friendly environment; the fortification of a flood control mechanism and the improvement of the sewage connection rate, plus the creation of a safe river valley protect the people from the woes of flooding and can effectively purify river water quality to create an aqueous-friendly environment; parks and green areas are an index by which the quality of urban lifestyle is measured. Greening and landscape beautification projects have enriched city landscapes. A comprehensive public utility system contributes to the high standard of living that Taipei City residents enjoy. Public housing and land acquisition for public facilities expedite the development of various construction programs. With all these construction efforts in place, the Taipei Metropolis is reinvigorated, safer and more efficient, placing Taipei among the great cities of the world.