In hopes of fulfilling the vision of “a Liveable Taipei City,” shared by every one of Taipei’s citizens, the Public Infrastructure Department of Taipei City has defined its construction assignments with the following goals: “green roads, beautified parks, and a park-like city.” By creating a pedestrian- and driver-friendly travel network, the Taipei City Government works to highlight the city’s waterfront beauty, and offer a pleasant living space suitable for leisure, fun, health and cleanliness enhancement, so that every citizen and every tourist visiting Taipei can take great delight in Taipei and her cityscape.
The Taipei City Government promotes Public Infrastructure projects on an existing, already-solid foundation to effectively address the development and trends of the time. This chapter will review milestone achievements in Taipei City's Public Infrastructure over the course of 2012, covering transportation construction projects, river management, city landscape, public facilities, housing and land planning.

Part 1 Smooth-Flowing Transportation Constructions Projects

In response to demands arising from urban planning, Taipei City Government constructs expressways, builds and renovates urban roadways and bridges, while effectively improving roadway service quality to mitigate heavy traffic in downtown areas.

1. Developing Convenient Roadways

1) Construction of Shezi Bridge

The purpose of this project is to offer Shezi Island a new travel corridor, so as to connect Shezi Island directly with Beitou and Tamsui. It also helps alleviate the flow of northbound and southbound traffic on Yanping North Road, Section 7. The first phase of the project involved the construction of the main body of the bridge - measuring 435 meters in length, and 38 to 42 meters in width. This is a one-tower cable-stayed bridge with a fan design. Construction began on May 6, 2009, and was completed on August 20, 2012. The second phase of the project comprised of the construction of an approach bridge and an approach road in Beitou, Beitou service road No. 13, the ramp connecting Shezi Island, and a connective pathway for bikes. The project began on June 2, 2010, and is slated for completion at the end of February, 2013.

2) Construction of Embankment-Crossing Pedestrian Overpasses near the Taipei Municipal Shezi Elementary School

In hopes of offering citizens a safe and convenient traveling space for crossing the expressway on Huanhe North Road, and for accessing the riverfront green space outside the embankment from the Tamsui River Embankment, the nearby embankment-crossing Pedestrian Overpass were constructed by Hulu and Shezi Elementary Schools. The flyovers also offer a...
connective pathway connecting the bike lanes within and outside the embankment. This project consists of one flyover by Shezi Elementary School (including a connective pathway for bikes, at 216 meters in length), one Pedestrian Overpass near Hulu Elementary School (including a connective pathway for bikes, at 220 meters in length). The project began on July 1, 2010, and was completed on March 30, 2012.

2. Improving Road Quality

Excluding road islands, sidewalks, and MRT construction sites, the total area of actual asphalt concrete paved roadways is 15 million square meters; it is projected that road surface renovation across Taipei’s major roadways will be completed within 6 years (from 2009 to 2014). Between 2009 and 2011, the road-smoothing project was implemented on 158 designated roadways. In 2012, 1,450,000 square meters of road fortification were completed as part of the road smoothing project. Also, 7,012 manholes were lowered to ensure that the city’s roadway surface is more smooth and level, so that pedestrians and drivers can travel safely and comfortably.

3. Smooth Pedestrian Space

The Taipei City Government is committed to the improvement and renewal of all the sidewalks in the city, and its effort and achievements have been recognized by many communities. In 2012, Taipei City was recognized with the Innovation Achievement Award—a Friendly Space (Improvements made to sidewalk spaces) as part of the "2012 4th Annual Healthy Cities Awards." The City Government has designated primary and secondary roadways as the priority improvement area, which complement other projects that target gentrification, road improvement assignments for parks, public agencies and schools, all in support of Taipei’s urban space renovation project.

Taipei City’s sidewalks cover about 2.5 million square meters in area. By 2012, 2,154,922 square meters were revamped, accounting for 86.2% of the total sidewalk area in Taipei City. On average, 50,000 square meters of sidewalks will be renovated annually. All the sidewalks will be renovated by 2019.

4. Bridge Safety and Maintenance

At present there are 198 beam bridges, 34 river-crossing bridges, 30 vehicle flyovers, 88 pedestrian overpasses, 12 tunnels, 12 vehicle underpasses and 54 underground walkways, for a total of 428 bridges in Taipei City.

(1) Painting Steel Bridges

The steel structure on Zhengqi Bridge was painted. The steel structure was reinforced with a resistance buttress to slow down environmentally-caused erosion on the steel structure. These measures were aimed at ensuring safety, and enhancing the appearance of the bridge.

(2) Bridge Inspection, Maintenance and Reinforcement

A total of 191 bridges were inspected in 2012. Shock resistance components and flood control mechanisms of the bridges were checked. For bridges that raise safety concerns during visual
assessment, a detailed follow-up inspection and evaluation are conducted. For bridges that require any improvements after inspection, a budget would be earmarked to facilitate the necessary reinforcements to ensure traveling safety.

5. Common Ducts
Constructions Projects

The construction of common ducts helps free citizens from enduring the inconvenience caused by road excavation and duct-burying projects; it also minimizes traffic accidents caused by road excavation, improves the smooth flow of traffic and encourages versatile road and land use. The Taipei City Government has completed the construction of the following common ducts according to “the Common Duct Act.” To date, common duct constructions have been completed on the following areas and are now in full operation: Route Civic Boulevard, Route New Community (Keelung River Bend straightened area), Route Zhoumei and the Nangang Economy and Trade Park, Dadu Road, the railway underground eastward extension construction project to Nangang, Neihu Phase 5, and Guandu Road. The following common duct projects are now under construction: MRT Xinyi Line common duct, MRT Songshan Line common duct as part of the MRT network, and Beitou Shilin Science and Technology Park. Bids for the Fuguo Road common duct construction project are now open to interested bidders.

The wide and spacious sidewalk on Xinhai Road, Section 3.
**Part 2  Effective River Dredging and Management**

1. Flood Control and Drainage Construction Projects

(1) Establishing a Comprehensive Water Control Mechanism in Taipei City

The Taipei City Comprehensive Water Control Management Commission was inaugurated in 2006 with the objective of launching a new water management mechanism for "retaining upstream water resources, minimizing midstream flood risks, and preventing downstream flooding" by integrating support from the government and private sectors to create a safe, comfortable, pleasant and healthy eco-metropolis. Three commission conventions, three inspection tours and two awareness campaigns were held in 2012 to formulate a general, integrated and quantified flood-control objective, so as to enhance flood-prevention programs and develop an effective flood-control initiative; also, to create a comprehensive, robust damage-control structure for promoting a full-scale flood-control system.

(2) Flood Control Engineering in Taipei

In keeping with “Flood-Control Engineering in Taipei” by the Ministry of Economic Affairs, Taipei City’s overall flood-control program is primarily characterized by embankment construction along rivers, complemented by watercourse dredging and river management. The city’s embankment construction in the planning stage is measured at 131,231 meters in length. By 2011, 109,141 meters of construction had been completed, which approximately 1,500 meters of Zhoumei embankment along the Keelung River await construction. The project will complement the “Beitou/Shilin Technology Park Development Project” for completion by the end of year 2018. Approximately 5,268 meters of the project along Guandu Embankment await completion; at present, a project to move Guandu Heightened Protection Facilities northward has been outsourced for further assessment. Embankment facilities will be built along this stretch after the Overall Guandu Plain Development Project is studied and approved. The stretch between Fuxing Bridge in Shuangxi and Jiannan Bridge is measured at 7,210 meters, and will be listed as a mid- to long-term project goal. In 2012, dredging plans were begun on the stretch between Jiannan Bridge in Shuangxi and Wangxing Bridge. Planning and review of this project is slated for 2013. For the right embankment along Jingmei Bridge, a 400-meter embankment facility was completed between Wanfang Road and the Taipei Metro Bridge. The stretch between Wanfang Interchange on National Highway No. 3 and the Taipei Metro Bridge in Muzha is measured at 500 meters. Embankment construction is underway, and is slated for completion in 2013.

(3) Storm Sewer Construction Projects

The total length of the City’s Storm Sewer Construction, including main and branch drainage lines, is 540 kilometers long. By 2012, 522.158 kilometers had been completed; the completion rate was estimated at 96.70%. In the same year, 8 construction projects, including the “Draining Improvement Project on Fuyuan Street, Songshan District,” were conducted to significantly strengthen Taipei’s water draining capacities and improve city cleanliness.

To reinforce water-level monitoring stations at the rainwater sewer system, Taipei City completed the installation of 159 water level monitoring stations, one discharge gauge stations and five closed-circuit television stations for data monitoring and analysis in 2012 to effectively monitor water levels.

(4) Pumping Station Management

There is a total of 64 official pumping stations and 21 makeshift pumping stations operating in Taipei City. Altogether, 402 sets of water pumps are installed around the city, totaling 2,096 cubic meters per second in pumping capacity. To reinforce flood control and drainage capacities, in 2012, water pumping sets in Guting and Donghua were renovated. Also, as part of the Beitou
Shilin Science and Technology Park Project, construction (expansion) projects continued for Zhoumei and Wenlin. The renovation of pumping sets in Zhongshan, Beixian, Zhishan, Fude, Jingzhou and Changchun continued in 2012. The Public Infrastructure Department also conducted noise control and environmental improvement engineering to enhance the lifestyle quality of nearby residents. Additionally, to reinforce flood-control and emergency response capabilities, the Hydraulic Engineering Office of the Public Infrastructure Department hosted flood control exercises on March 28, 2012. The crew conducted simulated drills on the shutoff of pumping stations, and displayed 12-inch mobile pumping sets in Yucheng City of Nangang District.

(5) Promoting the Automation of Pumping Stations

To better address water draining needs in the urban area and consequently, the growing number of pumping stations, and to address the challenge in manpower mobilization for pumping stations, efforts were underway to automate the operation and management of pumping stations, and optimize the functions of pumping sets to ensure centralized management and distance monitoring for sets in different districts, so as to boost pumping station operating efficiency, management maintenance, strengthen response and command, and lower the need for manpower. To that end, the City Government plans to build automated monitoring systems for pumping stations across the city. Automated monitoring systems at the Hydraulic Engineering Office under the Public Infrastructure Department are divided into two units: General One and General Two Management Centers. Six districts will be designated for this project accordingly. In 2011, “Facility Optimization for Water Pumping Station in District One of the Automated Monitoring Systems” was conducted. It is slated for completion in July, 2013. Between 2012 and 2015, the “Automated Monitoring Systems Installation at the General One Management Center for Water Pumping Stations in Districts 2 and 3” is to be conducted. This assignment is slated for completion in January, 2015. Upon a results evaluation, the installation of automated systems will be planned and followed up for the other three districts.

2. Sanitary Sewer Constructions

(1) Continued Pipeline Construction for Sewerage Systems

By the end of 2012, construction completion ratios of the sewerage system’s primary main pipes, secondary main pipes, and the branch pipeline network were 100%, 97.13% and 86.22%, respectively. A total of 761,969 households in Taipei City had sanitary sewer connections; the pipe connection rates of door-plated households reached 67.94%, the projected users’ pipe connection rates reached 100%. Pipe connection rates of door-plated households reached 70.37%, registering a growth of 2.43% compared with 67.94% of 2011. See Figure 1.

Figure 1. Annual Growth Rates of Household Sewer Connections in Taipei City over the years
(2) Priority Sanitary Sewer Connections for Major Tap-Water Users

By the end of 2012, the number of public and private schools in Taipei City totaled 324,266 have been properly connected with sanitary sewer services. The number of public and retail markets totaled to 54, with 46 having been properly connected. Also, there are a total of 39 luxury hotels in Taipei City, and all but 4 have been connected. The number of central agencies in Taipei is measured at 52, and 48 have been connected. The number of Taipei Metro stops and facilities is figured at 84, and 69 have been connected. The number of communities of more than 50 residences is 172, and 89 have been connected.

(3) Interception Station Development and Operating Status

There are a total of 35 wastewater interception stations dotted across the Tamsui River Basin. Among these, 12 are located in Taipei City, 22 in New Taipei City, and one in Keelung City—all are in active service, and are jointly operated and managed by Taipei City. They can effectively intercept wastewater at the Qingtian Interception Station, and discharge the wastewater after it is processed properly at treatment plants.

(4) The Construction of On-site Treatment Facilities and Operation Status

Taipei City has installed two aerated gravel contact oxidation purification facilities in Nanhu and Chengmei. Starting in 2010, two other such facilities were set up in Zhongxiao and Guiyang along the Tamsui River. Among these, the Guiyang aerated gravel contact oxidation purification facility is in operation. The one in Zhongxiao is being tested for future operation, and expected to effectively improve river water quality.

(5) Back Alley Beautification

Taipei City incorporated a beautification project as part of wastewater sewage connection construction. For households in areas that underwent user pipe connection constructions and repairs, back alleys wider than two meters were given a facelift. A total of 868 back alleys were given the makeover by yearend 2012, registering an increase of 179 newly beautified back alleys, compared with 689 in 2011.

(6) Fortifying the Sewerage System

The Taipei City Government continues its
commission of sewerage system management, maintenance, and operation. It has steadily operated and managed the Neihu Sewage Treatment Plant, the Dihua Sewage Treatment Plant, and the Bali Sewage Treatment Plant—currently commissioned to Taipei City for servicing. The total 1.97 million CMD wastewater treatment capacity is deployed and managed in a manner that optimizes interception. By yearend 2012, the three sewage treatment plants processed a total of 1,732,871 CMD of water. The interception stations, water pumping stations and lift stations installed around the sewage system are used as relief pumping sites; the existing electronic machineries can drain excess water to the rainwater sewage systems, so that the overflow of rainwater during flash floods and the typhoon season will not enter the systems to cause overload. By yearend 2012, the Taipei City Government completed 16 relief stations for its emergency relief measures. These facilities can offer 28,000CMH of relief output.

3. Creating More Waterfront Spaces

(1) The Greening of Riverside Parks

The 29 riverside parks that dot across the Taipei river system never fail to attract citizens to enjoy outdoor and leisure activities on holidays. Seas of flowers have been set up in a number of riverside parks, including Dajia, Guting, Machangting, Heshuang 21, Yanping and Daonan. Flowers planted in these places are: garden cosmos, sulphur cosmos, and canola flowers. They are planted in a rotation of two flower seasons for each area. They serve as great flower-watching sites for local citizens. Also, the shore along Shezi Island is known for its abundant wildlife, and is home to flocks of different species of birds throughout the year. It is an excellent bird-watching spot. Furthermore, the Hydraulic Engineering Office under the Public Infrastructure Department carefully constructed wetland spaces and pedestrian planked roads outside the embankment by the No. 6 Pumping Station, adjacent to Shezi Island. Two bird-watching pavilions are set up here. Another bird-watching pavilion is installed at the end of Alley 133, Section 8 on Yanping North Road. It is slated for completion in February 19, 2013.

(2) The Construction of Bike Lanes by Riverside Parks

The Hydraulic Engineering Office under the Public Infrastructure Department completed a network of riverside bikeways, totaling 111 kilometers in length. The total width expanded on these bike lanes has reached 30 kilometers. Cyclists can travel on the bike lanes on Yongfu Bridge, Taipei Bridge, Huajiang Bridge, Guangfu Bridge, Huazhong Bridge and Fuhe Bridge to cross the Jingmei River and Neigou Bridge. The lanes are connected to the riverside bike trails in New Taipei City, so that citizens can enjoy biking while relishing the pleasant riverscape.

Part 3 A Colorful Cityscape

1. The Park and Green Area Per Capita in Taipei City

At present, a total of 1,067 plots of land (including riverside parks and 39 other sites) covering 1,983 hectares have been successfully designated for parks, greening areas, plazas, and children’s playgrounds by Taipei’s urban planning. By 2012, 841 parks (including 43 partially constructed parks) and green areas have been developed, totaling 1,371 hectares. In other words, 5.172 square meters of green area are available to Taipei citizens per capita. Table 1 shows the green area coverage per capita from 2003 to 2012.

The plants on Renai road display a great sense of movement.
2. Park Construction (Expansions)

To provide citizens with a quality living space, park construction and expansion projects were underway in line with the Taipei City Government’s ongoing policies to ensure that park areas are equally allocated and accessible to residents in the urban and suburban regions. Key construction projects over the course of 2012 included: a newly constructed Wanhua Plaza No. 406, the expansion of Beitou Park No. 2, a newly constructed Beitou Park No. 223, a newly constructed Beitou Park No. 240, a newly constructed Wenshan (Muzha) Park No. 89, the expansion of Wenshan (Jingmei) Greenery No. 42, and a newly constructed Wenshan (Jingmei) Park No. 45.

3. Road Greening and Beautification

(1) Greening Embellishments for Streets and Roadways throughout the City

Roadway embellishment projects continued in key areas, such as primary roadways in the cities, incoming and outgoing pathways connecting the neighboring cities and counties with Taipei City, traffic circles, traffic islands and the green areas. Colorful potted flowers, ornamentals and shrubs were planted to complement the existing greenery to create a three-dimensional, gradationally layered impression, improving the cityscape to ensure balanced regional development. In 2012, NT$140 million were earmarked to improve road and greening beautification.

![The colorful geometrical patterns by the entrance of Ziqiang Tunnel](image1)

![The vivaciously beautiful pattern on Aiguo West Road enriches Taipei’s cityscape.](image2)

![The Camellia Exposition – bonsai and camellia paintings and art](image3)

![A performance during the Yangmingshan Flower Festival’s opening ceremony](image4)

### Table 1 Green Area Coverage Per Capita from 2003 to 2012

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<tr>
<th>Year</th>
<th>2003</th>
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<tr>
<td>Green Area Coverage per capita (square meters / per capita)</td>
<td>4.86</td>
<td>4.95</td>
<td>5.01</td>
<td>5.03</td>
<td>5.11</td>
<td>5.16</td>
<td>5.18</td>
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Also, to boost urban greenery efforts and enhance roadside greening, the Taipei City Government continued to plant trees along the city’s sidewalks wider than 2.5 meters; special attention was paid to planting trees in unfilled tree holes and renewing tree species. In 2012, the new plant additions (replacements) totaled 743 street trees, 268,791 shrubs, 5,558 square meters of lawns and 19,378 flowering pot plants were planted for ground cover.

(2) Promoting the Construction of Shaded Boulevards

In 2011, the City Government launched the construction of shaded boulevards. Trees were generously planted along Yanjiuyuan Road, Zhongshe Road, areas surrounding the Nangang Exhibition Hall, Tiding Boulevard, and Xinglong Road. The project will continue until 2014 and is expected to install 35 ground covers for boulevards in urban Taipei within four years. Trees, bushes, flowering plants and grasses will be liberally grown to enhance urban greening, improve air quality, and lower the heat island effect. On December 29, 2012, a tree-planting activity was hosted on Monga Boulevard. These tree-planting projects for forestation promise to improve environmental greening, and offer citizens a more hospitable and pleasant green city to live in.

(3) Adoption Programs

The City Government encourages private organizations and individuals to adopt green areas, plazas, traffic islands, sidewalk trees, and parks over one hectare in size. 326 such areas were adopted in 2012, totaling 308,012 square meters. In addition to reducing the manpower and funding burden on the government, the program also inspires the private sector to exercise its creativity and innovation to enrich a vibrant cityscape.

4. Flower Exhibitions

(1) The Taipei Camellia Exposition

“The 2012 Taipei Camellia Exposition - Secrets in Camellia’s Mind” was held from February 13 through 26 at the Yangmingshan Flower Experimentation Center, attracting approximately 40,000 visitors. The Exposition featured many valuable camellia bonsai specimens lovingly taken care of over the years by camellia lovers across the country. Beautiful camellia paintings by aspiring artists were also on display.

(2) Yangmingshan Flower Festival

“The 2012 Yangmingshan Flower Festival - The Smell of Yangming Mountain” was held from February 17 through March 18, attracting 1.33 million visitors to the event. The festival of the year drew attention to the message of floral aroma - “the fragrance of flowers, tea, and fairy tales” - to awaken the memory of one’s senses, drawing visitors to travel down memory lane and reminisce about the delectable tales of Yangmingshan that accompanied us through our growing years.

(3) The Chrysanthemum Exposition at the Shilin Presidential Residence

“The Chrysanthemum Exposition at the Shilin Presidential Residence - Dancing with Chrysanthemums” was held between November 18 and December 9, 2012. To highlight the many enchanting facets of chrysanthemums, “Dancing with Chrysanthemums” was themed to set the tone of the exhibition. Concerts, singing, puppet shows, the painting of chrysanthemums, the teaching of making balloon sculptures by clowns, post-it activities and gardening workshops were hosted on weekends and holidays. To better service tourists with mobile internet service, an
App service was launched during the exposition and was downloadable by visitors.

(4) The Taipei Flower Exposition

The “Taipei Flower Exposition-Stop at Beautiful Yuanshan” was held between December 22, 2012 and January 20, 2013 at the Flora EXPO Yuanshan Park and the Museum of Fine Arts area. In complementing the floral landscapes surrounding the Expo Park, the design of the show layout put much focus on the Yuanshan entrance plaza by Yuanshan Park. Locally grown flowers and grasses were used to decorate the three-dimensional installation artworks to create the geographical imagery of the Greater Taipei Area, inspiring visitors to enjoy a tour. The Sea of Flowers and the Sea of Flowers Plaza were styled after the images of the Yuanshan Observatory, the Sea of Shell Fossil, and various animals.

5. Streetlamp Construction and Maintenance

(1) Newly Added Streetlamps

In 2012, 1,784 newly designed streetlamps were completed. 925 new streetlamps were installed.

(2) Streetlamp Power Source Box Integrated Rods

Efforts continued to install integrated streetlamp power source box rods. Substandard, aesthetically unappealing (Fiber-reinforced Plastic) FRP power source boxes were replaced. There are currently 10,151 power source boxes. Between 2000 and 2011, 4,494 integrated power source box rods were installed. In 2012, 128 such rods were completed.

(3) LED Streetlamps to Promote Energy Conservation and Carbon Dioxide Emissions Reduction

This project continued throughout 2012. 2,243 LED streetlamps (including lamps in parks) were installed as replacements across the city. The Taipei City Government also successfully were granted subsidies from the Bureau of Energy of the Ministry of Economic Affairs to install 31,476 LED streetlamps.

1. Water Supply Facilities

(1) Enhance Shilin and Beitou Water Deployment

The Guandu Water-transmission Pipeline, conducted by shield tunnel-boring machines, began construction in October, 2008. The project was completed on February 3, 2012. About 3,340 meters of 2,000 mm-water-transmission pipelines were completed outside the embankment pipelines by Yumen Street, running all the way to Shuangxi Bridge. A double water supply system is now in completion in Shilin and Beitou areas to enhance water deployment and backup, lower the risk of drought, and connect with the pipelines in downtown Datong. Also, it is now connected to the three 1,000mm diameter water transmission pipelines in Shilin by Shuangxi Bridge to form a backup system as water supply insurance for the 220,000 residents in Shilin. Additionally, in keeping with Taipei City Government’s disaster-prevention program, emergency water access units have been reserved by the Shezi Riverside baseball court and the flood plain on the left bank under Chengde Bridge. The units can be used to provide emergency water supplies during disasters.

(2) Zhitan Purification Plant Expanded to Improve Purification Reserve Requirement

The construction of the 6th water purification facility at the Zhitan Purification Plant will include a pre-purification unit able to process 700,000 CMD of water, a rapid filtration unit, a 50,000-ton clean water cistern, and other necessary facilities. The project began in May, 2009, and is slated for completion in 2013. Upon completion, it will be able to supply 1,005,000 tons of clean water daily to areas outside its jurisdiction to improve water use security and stability in Northern Taiwan,
and boost the operating flexibility of the Zhitan Purification Plant.

(3) Water Transmission Pipeline Engineering along Anhua Pressurization Unit

1,500mm-water-transmission pipelines are used for the design and construction of the project. It is measured at 2,309.1 meters. The project began in December, 2008, and was completed in October, 2012. As soon as the Anhua Pressurization Unit along Xindian Line is completed, the new Anhua unit will replace the existing Zhonghe Pressurization Unit along the Xindian Line to supply household water to Xindian. The existing Zhonghe Pressurization Unit will supply 400,000 tons of water to Zhonghe, Tucheng and part of the areas in Banqiao daily, as specified in the second-stage Banqiao-Xindian Project. The Anhua Unit and the existing water supply system at the Zhonghe Unit support each other as a dual water provision system. The scheme will boost operating flexibility and lower the impact of droughts.

2. Hot Spring Resources Management

(1) Implementing the Designated Hot Spring Access Expropriation and Fund Use

The hot spring resource management fund was established to promote hot spring resource management. In 2012, 4 units-including the Taipei City Hot Spring Development Association-received subsidies to conduct hot spring resource conservation, management, the promotion of sustainable hot spring use, plus research and development. In 2012, the amount of funds collected totaled NT$10,272,478: the collection and payment rate reached 99.7%.

(2) Developing Hot Spring Acquisitions and Supplies, Reviewing Operating Permit Application

“The Taipei City Hot Spring Development and Operating Permit Application Review Commission” was established to work with the Taipei City Hot Spring Management Project and assist in the establishment of the Hot Spring Acquisition Program. The Commission is in charge of issuing development permits for hot spring acquisitions and supplies, and reviewing hot spring operating permit applications. 11 hot spring development permits were issued by 2012.

(3) Renovating the Foot Pond of Beitou Quanyuan 48 Park

The park was inaugurated on January 22, 2011. Over 400 visitors use the foot pond daily, registering a satisfaction rate of more than 97%. The park is now one of the most vital public leisure facilities locally. However, due to heavy use and many suggestions from users to increase the number of foot ponds, the Department of Economic Development of the City Government has increased the number of garbage bins, water temperature adjustment outlets, safety banisters, slip-proof measures and lockers. Also, the Taipei City Government has coordinated efforts with the Parks & Street Lights Office of the Public Infrastructure Department to increase the number of mobile toilets to enhance foot pond services for
citizens.

(4) **Taiwan’s First Hot Spring Soap and Hot Spring Florets Hot Spring Flower**

In 2011, soaps made of hot spring florets collected in Beitou’s hot spring area were so popular that they were immediately sold out. Other than the soap, in 2012, a new floret-based hot spring powder was launched. The number of sales channels was increased; in addition, an online shopping network was launched to market the new product. Marketers also joined exhibits and sales expos to heighten consumer awareness of the hot spring florets. In 2012, this innovative product reeled in NT$2 million in sales revenues.

(5) **Hot Spring Floret Place of Production Certification**

To encourage consumers to understand that all the hot spring floret products from the Beitou hot spring areas are of high quality and safe for consumers, the Taipei City Government completed due registration process with the Intellectual Property Office of the Ministry of Economic Affairs for the “Beitou Hot Spring Floret Products Place of Production Certification” on November 16, 2012. In the future, such certification will be conducted on all the hot spring floret products.

3. **Natural Gas Utilities**

The natural gas supply in Taipei City comes from four city gas corporations: the Great Taipei Gas Corporation supplies gas to Zhongzheng, Daan, Xinyi, Songshan, Zhongshan, Wanhua and Datong administrative districts, and Shilin district (including just two boroughs: Mingsheng and Fuhua). The Yangmingshan Gas Corporation Ltd. provides gas to the Shilin (excluding Mingsheng and Fuhua boroughs) and Beitou administrative districts. Shin Shin Natural Gas Co. Ltd. supplies gas to the Wenshan district and the Shin-Hu Natural Gas Corporation Ltd. to Nangang and Neihu districts. By the end of 2012, these four corporations supplied a total of 326,998,959 million cubic meters of gas to 653,339 households, accounting for 64% of the total households in the city’s supply area.

All the gas companies in the City completed the installation of a central monitoring system successively to readily keep track of the status of each gas storage tank, gas pressure regulator station, and high-pressure pipeline gas supply, to ensure gas supply safety and gas transmission service quality. 32 gas supply regions in the service area are demarcated, and emergency containment valves and pipeline network connections are deployed to ensure better disaster prevention and service restoration. Regular disaster-prevention drills are conducted on the network of pipes to improve public safety.

The four gas companies also conducted routine, automated inspections and maintenance work on various gas storage, transmission and distribution facilities, while periodically conducting pipeline inspections and replacements. In 2012, 8,132 kilometers of pipelines were inspected, and 58 kilometers of the pipes was renewed, at a replacement rate of 2.1%. Additionally, each individual gas company provides free, biennial household gas pipeline facility security checks to users. In total, 288,076 households received inspections in 2012; meanwhile, the companies also strengthen user safety campaigns during security inspections to raise awareness about-and prevent-carbon monoxide poisoning.

To ensure the safety of natural gas facilities and prevent disasters, public safety experts and professionals from fire control, labor inspection agencies and those involved in security formed a natural gas public safety inspection task force to run spot checks on pipeline layouts and maintenance at gas companies. Inspection results were generally satisfactory in 2012. Four gas companies undertook improvements in accordance with the suggestions of the inspectors and related agencies.

4. **Electricity Supply and Gas Station Safety Management**

Taipower Company houses three operating centers in Taipei City, servicing 1,160,000 households in Taipei City. An emergency repair hotline, “1911”, was set up to provide instant, speedy service in the event of a power cut. Citizens can call this hotline on any landline...
within the city, and the call will be automatically connected to that particular region’s repair unit for follow-up service.

In hopes of strengthening gas station management, inspections are conducted continuously on gas station safety management. 164 gas stations and 18 liquefied petroleum gas stations received inspections in 2011. A majority of these stations successfully passed the inspection; those that failed inspection were able to rectify their failings and make improvements within a short time.

Part 5 Thoughtful Residential Placement and Land Use

1. Versatile Residential Placement Assistance and Services

In addition to increasing housing supplies, the City Government is also considering the trend of residential leasing, with its relatively high rate in international cities, and is working to expand the apartment rental market in Taipei City. Also, the city is increasing the number of public rental housing residences in the supply chain through a diverse channel. In the long run, the Taipei City Government hopes to keep the amount of residential reserves in Taipei City at around 5%, and provide a variety of apartment rental subsidies to meet demand. Meanwhile, the City Government is committed to reinventing residential services, urban renewal, and improving residential service quality to fulfill the needs of citizens.

(1) Constructing Public Rental Housing

The Ankang Social Housing Community in Wenshan District is being renovated and rebuilt in planned phases. This 3-phase construction project is estimated to provide about 3,300 housing units. Phase 1 includes Foundation D of the Ankang Public Housing Community, the original Ankang Market and its parking area. Preplanning for the construction bid was completed in 2012. The design and the actual construction of the project are forecasted to begin in 2013, and completed by the end of 2015.

(2) Leasing Public Rental Housing Units

To lighten the financial burden of young families, public rental housing units for rent were launched with young families as the primary tenants. The units are furnished with fixed furniture; professional housing management firms are hired to oversee the running of these communities in hopes of improving the living quality of these housing complexes. By the end of 2012, the leasing of Dalongdong Public Rental Housing (110 units), Xintian Temple Station Public Rental Housing (23 units), and Dunhuang Public Rental Housing (3 units) was completed. Also, “for-rent” public notices were posted for Wanlong Station Public Rental Housing (41 units) were put up in September, 2012. Interested tenants can expect to sign lease contracts in 2013 and enjoy quality living.

(3) Comprehensive Housing Subsidy Assistance for Taipei Citizens

The Taipei City Government works with the Interior Ministry to provide housing subsidy services. In 2012, service items available included: rent subsidies (the highest subsidy was NT$ 4,000 dollars monthly for each individual for up to one year), housing mortgage interest subsidies (as high as NT$2.2 million for up to 20 years) and housing renovation mortgage interest subsidies (as high as NT$800,000 dollars for up to 15 years). 5,764 households in Taipei
City qualified for these services. Also, the City Government initiated a Happy Family Project for Young Couples that provided rent subsidies (for as high as NT$4,400 for as long as 2 years) and housing mortgage interest subsidies (for as high as NT$2 million for as long as 20 years). A total of 4,379 households benefited from the project.

The price of housing and rent in Taipei is tops in the nation. To increase the amount of subsidies available to apartment tenants, so that young families can find peace of mind and quality settlement in the city, the Taipei City Government introduced "Greater Rent Subsidies for Happy Parenthood" allowance bonuses. These can be integrated with the subsidy programs of the Central Government (after the bonus, every household can receive as much as NT$5,000 in allowances; for families with three or more underage children, they can receive an allowance as high as NT$6,000).

(4) Public House Leasing Continues

In coordination with tenants whose contracts expired for their public housing tenancy, the Taipei City Government conducts qualification reviews for tenants looking to extend their leasing contract, and public housing leasing and notarization procedures. By the end of 2012, a total of 1,951 units extended their contracts for leasing public housing units, including Wanfang C (170 units), Qiyan (70 units), Nangang No. 1 Park (247 units), Jungong (30 units), Maosan (106 units), Xining (4 units), Huaishe (174 units), Wanning (9 units), Rongxing (31 units), Longshan (33 units), Wanmei (166 units), Taiwan Fertilizer (206 units), Wanle (3 units), Wanfang Community Center (253 units), Donghu E (4 units), and Huachang (445 units).

(5) Providing Transitional Housing Leasing Assistance

To maximize the benefits of the City’s residential resources, while alleviating the financial burdens on young families in finding housing, the Taipei City Government is leasing transitional public housing units to young families for short-term residence while the units remain vacant. In 2012, a total of 65 units were opened up for short-term leasing, including Keelung River Phase 3

Housing model of the publicly-run housing unit for rent at Wanlong Station (model 2)

Public Housing (33 units) and the Yongping Public Housing Complex (28 units).

(6) Modifying Public Housing Community Management Organization

The Taipei City Government successfully assisted 165 public housing communities in setting up community management systems (204 management commissions are currently in operation) in accordance with the statutes governing the management of apartment housing. By the end of 2012, 185 have completed structural preparations and filed for applications with the Building Administration Office, and 173 have completed management maintenance funds for expropriation.

(7) Improving the Landscape of Public Housing Leaseholds

To enhance and improve the quality of public housing communities, the Department of Urban Development completed general inspections of units for lease in these complexes, and formulated improvement programs for them. Repairs and renovations were incorporated into the general design outlines of these communities. Construction has begun and is expected to be completed in February, 2013, to improve the comfort and living quality of the tenants.

2. Enhancing Land/Property Use Efficiency

(1) Expropriation and Appropriation of Land
In light of the growingly dense urban population and the flourishing economy, land acquisition becomes increasingly difficult as land value rises sharply. The Taipei City Government actively processes land acquisition deals needed for public infrastructure. In 2012, a total of 12 private land expropriation deals were sealed: the deals expropriated 57 plots of land from 404 households; their total area was measured at 0.1138 hectares, with compensation totaling NT$440,156,932. The City Government also completed 66 cases of public land appropriation and 270 plots, covering an area of 7.5977 hectares, in hopes of facilitating public infrastructure implementations.

(2) Taipei Zone Expropriation

To expedite the completion of Taipei’s urban planning blueprint, the City Government has undertaken 14 areas of zone expropriation totaling 781.17 hectares by the end of 2012. The completion of this project availed 215.41 hectares of land to construction; 565.75 hectares were earmarked for public facility constructions, such as roadways, parks, public schools and other public venues.

The City Government is working on zone expropriation projects covering the new community in Qiyan, and Beitou/Shilin Science and Technology Park, the total size of which is 106.92 hectares. Upon completion, 52.18 hectares of land will be available for construction projects, and 54.74 hectares will be allotted for construction of public facilities. The completion of the redevelopment is expected to increase land use efficiency, multiply land appreciation value, improve cityscapes, and fortify the overall urban development.

(3) Urban Land Readjustment

The Taipei City Government has been promoting urban land readjustment for over 40 years. The land is earmarked for public facilities needed for urban readjustment; the project also bears witness to the development history of various major construction projects in Taipei City, such as the Taipei 101 skyscraper, Nangang Economic and Trade Park, Taipei Neihu Technology Park, National Taiwan Science Education Center, Songshan Minsheng Community, Shilin Central Community, and Songshan Station. These projects highlight the City’s many achievements in urban land readjustment. By the end of 2012, Taipei City completed 920.14 hectares of property in its urban land readjustment project, constituting 39 blocks; the total construction-ready area totaled 544.42 hectares for building purposes. The city also acquired another 375.72 hectares of property for the construction of roadways, parks, and public schools.

Urban land readjustment for a number of publicly-operated, city-owned plots, including Wenshan District Section 1, Nangan District Section 3, and Neihu District Section 9, continued. Urban construction projects are a great means to incentivize participation from the private sector. In addition to the infusion of plentiful funding and input from the private sector, spontaneous public participation also forges a collective public consensus and builds regional identity to encourage local construction development and prosperity. The Taipei City Government rewards landowners who initiate and organize their own unions for urban land consolidation efforts. In 2012, assistance continued for Nangang section in Nangang, Yucheng in the Nangang District, Huaiheng in the Daan District, Residential Area 6-6 in the Shilin District, Shitian Borough in the Neihu District, and Residential Area 12 in Beitou for land consolidation.

Conclusion

To improve the quality of public construction projects, the “Taipei City Distinguished Public Construction Awards” were first hosted on August 28, 2012. Seven outstanding projects by distinguished construction crews were selected and publicly commended. By immortalizing “Classic Masterpieces for Timelessness,” the awards help to improve construction quality; they also set the bar high for every construction assignment in Taipei City, so that citizens can enjoy a living space of greater comfort. They also contribute to the fulfillment of the administrative vision of “Aligning Taipei with the World, Taipei Taking Flight.”