Research Report of Urban Barrier-Free Facilities Construction in China

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According to the “Agreement” issued by Mr. Klaus Röhl and China Country Director and Beijing Office Chief Representative of World Bank on May 5, 2010 to Prof. Shen Dianzhong, the director of Sociology at Liaoning Academy of Social Sciences, China, and the “Terms of Reference for Disability and Transport Consultant” put forward by Mr. Shomik R. Mehadiratta, senior transport specialist of Beijing Office of World Bank, Prof. Shen Dianzhong organized and headed the Task Force on “China Urban Barrier-Free Facilities Construction Study”, and conducted surveys on a dozen of cities from September 2010 to April 2011. The Task Force took a lot of videos and photographs; visited some local Disabled Persons Federations and relevant departments (such as local Development and Reform Commission, City Construction and Planning Department, communities, etc.), had one-to-one interviews with disabled people and other urban residents, held necessary symposia (group interview or dialog); recorded some best practical activities of local barrier-free facilities construction in China, including their successful experiences, practices, standards and regulations, etc., and in particular fully learnt about the participation of the disabled and their organizations in barrier-free construction. On this basis, the Task Force made a further literature review on China’s 31 provinces (municipalities and autonomous regions) and more than 100 cities which had participated in “national activities to create barrier-free city”, especially on comprehensive collection of their regulations and design standards. Although the time was pressing and the workload was heavy, thanks to proper organization, these tasks were completed successfully. In the last report, relevant national, provincial and municipal regulations, rules, planning and design standards could be attached. In this way, it shall also help the international community fully understand China’s urban barrier-free construction. This March,
we submitted the bid report for China's sociological annual meeting forum named "urban barrier-free and social construction in the new development stage", which had been approved and the forum was to be held from July 23 to July 25, 2011 in Nanchang, Jiangxi Province. This was a sub-forum of Chinese sociological annual meeting themed by "new development phase: social development and ecological civilization" in this year. In the bidding reasons, we pointed out that "urban barrier-free construction was not only an important social construction issue in the process of China's urbanization, aging and equalization of public services, but also an important theoretical issue in the study of urban sociology, sociology of aging, sociology of welfare, etc. In depth study of the relationship between social construction and urban barrier-free construction was not only significant for pushing forward scientific development and promoting social harmony but also a cause that could bring benefit to future generations, facilitate the disabled and elderly and serve the whole society. We also noted that "the urban barrier-free construction was urgently to be promoted. In the one hand, practically there were some problems to be solved, e.g., the development of regional, urban and rural areas and new facilities and existing facilities barrier-free construction were unbalanced; a considerable part of barrier-free facilities was incomplete, nonstandard and not systematic; public transportation and information exchange barrier-free construction was relatively weak; and the management of barrier-free facilities was to be further strengthened, etc. On the other hand, in theory, there were not a few problems to be solved, such as the relationships between basic public services, urbanization, informatization, community construction, public participation, etc, and barrier-free construction, needed to be further studied to promote the sustainable and healthy development of barrier-free construction." Based on the above reasons, we put forward the following the reports.

In the late 1970s and the early 1980s, the People's Republic of China entered into a new period of reform and opening up. Shortly after that, some cities of China started barrier-free facilities construction one after another. Through the joint efforts of government, society and the public, great progress and many achievements were made. With the advent of the new century, China carried out the activities to create barrier-free facilities model cities in 2002, and later the Ministry of Construction, Ministry of Civil Affairs, China Disabled Persons' Federation and the Office of National Committee on Ageing organized 100 cities
to carry out the activities to create national barrier-free construction and China's urban barrier-free basic pattern took its initial shape in the "Eleventh Five-Year" period. At present, the barrier-free construction of urban roads is further spread; barrier-free construction of large-scale public facilities has made breakthrough achievements; barrier-free construction of disabled and elderly service agencies is further improved; barrier-free construction of residential buildings and residential quarters is developing rapidly; barrier-free construction of exchange of information has made new developments and the social atmosphere of the concerns and participation in barrier-free construction is gradually formed.

1. **Laws, Administrative Regulations, Local Regulations and Policies for Chinese Urban Barrier-free Construction**

1.1 **Laws, Administrative Regulations and Administrative Rules for National Barrier-free Construction**

1.1.1 **Provisions of State Laws on Barrier-free Construction**

Chinese laws are enacted by the National People's Congress and its Standing Committee. At present, China has no separate state urban barrier-free construction law, and the main legal basis is the *Law of the People's Republic of China on the Protection of Disabled Persons*, Chapter VII “Barrier-free Environment”. There are seven relevant provisions:

The first item includes two provisions: first, The State and society shall step by step create a sound environment to improve the conditions for the disabled persons to participate in social life; second, The State and society shall gradually regularize the design of urban roads and buildings to the convenience of disabled persons and adopt barrier-free measures.

The second item includes four provisions: first, barrier-free facilities construction and renovation shall meet disabled people's actual needs; second, newly constructed, renovated and extended buildings, roads and transport facilities, etc.,
shall conform to relevant national standards for barrier-free facilities construction; third, all levels of governments and relevant departments shall first promote the renovation of built facilities step by step and the renovation of public service facilities closely related to disabled people's everyday production and lives in accordance with state regulations on barrier-free facilities construction; fourth, the barrier-free facilities shall be timely maintained and protected.

The third item includes four provisions: first, the state shall take measures to create conditions for barrier-free construction of disabled people's information communication; second, all levels of governments and relevant departments shall take measures to facilitate the disabled to access to public information; third, the state and society shall research and develop the information and communication technology suitable for the disabled to use; fourth, all types of entrance examinations, vocational qualification examinations and post examinations held by the state involving the participation of blind people, shall provide Braille paper, electronic paper or shall be assisted by dedicated personnel.

The fourth item has two provisions: first, public service agencies and public spaces shall provide text prompts, sign language, Braille and other communication services for disabled people as well as preferential service and supportive services; second, public transport means shall gradually meet the barrier-free requirements and capable public parking lots shall set special parking spaces for the disabled.

The fifth provision: sections that organize elections shall provide the convenience for disabled people to participate in the election; capable sections shall provide Braille votes for blind people.

The sixth provision: the state shall encourage and support the research and development of barrier-free auxiliary facilities and barrier-free transportation means.

The seventh provision: blind persons with guide dogs should comply with relevant state regulations in public places.

1.1.2 Provisions of Administrative Regulations on Barrier-free Construction
Administrative regulations are a part of Chinese legal system enacted by the State Council. At present, China hasn't put forward any administrative regulation on urban barrier-free construction. However, according to the information from China Disabled Persons Federation, the agenda for formulating the barrier-free construction rules as the administrative regulations was started in 2009. The head of China Disabled Persons Federation said that the Federation would establish a work team with the Ministry of Housing and Urban-Rural Construction, the Ministry of Industry and Information Technology and other relevant ministries and, for relevant issues, organize relevant ministries and specialists, etc., to make surveys at home and abroad, hold symposiums to listen to the opinions and suggestions from various aspects including the administrative competent department, the Disabled Persons Federation and representatives of the disabled and form draft.

1.1.3 The Provisions of Administrative Rules on Barrier-free Construction

Administrative rules refer to policy regulations promulgated by relevant ministries of the State Council. Although it's not a part of the legal system, it has legal effect. The latest national policy for barrier-free construction is mainly reflected in an administrative rules, namely the notice of China Disabled Persons Federation, etc., on “the Guidance for Accelerating the Construction of Social Security System and Service System for the Disabled” forwarded by the General Office of the State Council on March 10, 2010, including the basic requirements for barrier-free construction: first, propose to accelerate promoting the barrier-free construction to facilitate the disabled people's lives; strengthen barrier-free facilities construction and management and enhance the barrier-free construction quality. The Departments of Housing and Urban-Rural Construction shall revise and improve relevant barrier-free standards and codes and accelerate promoting the barrier-free facilities construction and renovation of urban roads, public buildings, residential buildings, residential areas, parks and green spaces. Education, civil affairs, railway, transport departments and the Disabled Persons Federation, etc., shall formulate and improve industrial barrier-free standards for special education schools, welfare agencies, disabled people's comprehensive service facilities, railway passenger stations, docks, city transportation means and
civil airport passenger terminal areas and supervise the implementation to gradually improve the barrier-free facilities of public transport. The second is to propose promoting the barrier-free construction of information and communication to raise the public barrier-free awareness; relevant departments shall include the information and communication barrier-free construction into informatization construction planning, develop information accessibility technology standard and promote the research and development of practical information accessibility technology and products such as the Internet, mobile and computers, etc. Government affairs information disclosure shall adopt barrier-free measures and public service agencies shall provide voice and text prompts, Braille, sign language and other barrier-free services. Books and audio-visual resources digitalization construction shall realize information accessibility. The third is to propose to research and formulate barrier-free construction rules, disability prevention and rehabilitation rules and the regulations on public welfare, special labor rights and employment protection for the disabled, formulate national disability classification standards and supporting measures and to amend the *Regulations of Education for the Disabled*.

Recently the main implementation work of state policies is to strengthen the guidance on the work to create national barrier-free construction city. Lately, China Disabled Persons' Federation, the Ministry of Housing and Urban-Rural Construction, the Ministry of Civil Affairs and the Office of National Committee on Ageing made an national inspection of the activities to create barrier-free construction city during the "Eleventh Five-Year" period according to the *Work Standard for Creating National Barrier-free Construction City* and guided 100 cities in promoting the barrier-free construction systematically, scientifically, and according to the codes, while improving relevant standards and regulations for barrier-free facilities management and airport, airlines barrier-free construction. The Ministry of Construction, Ministry of Civil Affairs and China Disabled Persons' Federation have revised the *Codes for Design on Accessibility of Urban Roads and Buildings*; the Ministry of Construction and Ministry of Education promulgated the *Codes for Design on Accessibility of Special-education Schools*; the Ministry of Railways formulated the *Codes for Design on Accessibility of Railway Passengers Station* and the Civil Aviation Administration of China published and implemented the *Standard for Barrier-free Facilities and Equipment Configuration in Civil Airport Passengers’ Terminal Area*. 
1.2 Local Regulations and Policies for Barrier-free Construction in Provinces (Municipalities or Autonomous Regions)

1.2.1 Local Laws and Regulations of Provincial (Municipality or Autonomous Region) People's Congress and the Standing Committee on Barrier-free Construction

Local regulations refer to regulations enacted by provincial (autonomous regions or municipality) or some larger Municipal People's Congress and its Standing Committee. Over the past period, we thought all provinces, except Shenzhen, hadn't enacted any separate local regulations on urban barrier-free construction, and regulations on urban barrier-free construction are mainly reflected in the Implementation Measures for the Law of the People's Republic of China on the Protection of Disabled Persons. These implementation measures had been approved and enacted by provincial or municipal Standing Committee of the People's Congress in as early as the 1990s. The collection of these local laws and regulations has been completed and shall be submitted as attachment. The basic contents of the provincial and municipal local laws and regulations mainly include the four aspects: first, the construction and reconstruction of municipal facilities shall implement the Codes for Design of Urban Roads and Buildings Facilitating the Access of the Disabled and gradually take barrier-free measures; second, all levels of construction departments shall not approve preliminary designs violating the codes for design or failing to adopt the barrier-free measures; third, existing urban roads and large public buildings where the disabled often go and which fail to take barrier-free measures shall be gradually renovated; fourth, the management department of urban roads and public buildings shall strengthen the maintenance management to ensure the normal functions of all kinds of barrier-free facilities and facilities facilitating the activities of the disabled.

Recently, through comprehensive research we found that some local Standing Committees of the People's Congress in China has enacted and promulgated local regulations on barrier-free construction. For example, the first local regulations on barrier-free construction in China, Regulations on the Barrier-free Facilities
Construction Management of Beijing started to be implemented since May 16, 2004. It is the first local law in China which provided a basis and standard for barrier-free construction and management in the form of legislation. The formally implemented Regulations is the first local law to make clear the incentive and punitive measures and the responsibilities of relevant barrier-free construction and management units and to define the rights and obligations. The regulations stipulates that construction organizations of constructed, extended or reconstructed public buildings, residential buildings, urban roads and roads in residential areas, public green spaces, public service facilities in Beijing must construct the barrier-free facilities according to the requirements of the Codes for Design on Accessibility of Urban Roads and Buildings. The construction of barrier-free facilities shall meet the basic requirements of safety, accessibility, usability and convenience and must comply with: 1. Pavement of blind sidewalks shall be continuous; there is no utility pole or cable over blind sidewalks and underground manhole or tree or other obstacles, and shall connect with surrounding public transport stops, overpasses, underpasses and barrier-free facilities of public buildings. 2. Sidewalk and entrances and exits of public buildings shall set curb ramps. 3. Public transport stops shall set Braille stop boards whose location, height, color, form and contents shall facilitate visually disabled persons to use. 4. Areas or places providing services for the public shall set low service desks and telephones; in addition, if any construction organization fails to profile construction drawings containing barrier-free facilities in accordance with the relevant regulations, the planning administrative department shall not handle the relevant procedures and the construction administrative department shall not issue the construction permit for it. Those who destroy, occupy or alter the application of the barrier-free facilities without authorization shall be fined RMB 500 to 30,000, depending on the circumstances and those who constitute a crime shall be held criminally responsible.

The recently enacted and implemented provincial local regulations is Barrier-free Construction Regulations of Gansu Province, passed in the seventeenth meeting of the Standing Committee of the Eleventh People’s Congress of Gansu Province on September 29, 2010, promulgated, and started to be implemented from January 1, 2011. The regulations stipulates that the key areas of barrier-free construction include cities, tourist attractions, large living communities outside urban planning areas and service areas of main traffic arteries. Key venues of barrier-free
construction include: (a) urban roads and airports, railway stations, passenger terminals and other transport hubs; (b) schools, hospitals, hotels, banks, shopping malls and sports venues, libraries, museums, theaters, cultural protection units and other public service establishments; (c) State organs and institutions external offices; (d) tourist attractions, parks and other public areas; (e) Large residential areas; (f) public transport facilities. The regulations also stipulate that people's governments above county level shall include the barrier-free construction into the national economic and social development planning and urban and rural construction planning within the administrative region, construct coordination mechanism, strengthen supervision and management and ensure the harmony between the barrier-free construction and the economic and social development; people's governments above county level and relevant departments shall formulate policies and measures, encourage and support the research, development and application of barrier-free auxiliary equipment, special products, transport means, information communication technology and products, encourage citizens, legal persons and other social organizations to contribute to the barrier-free construction and participate in the construction of barrier-free facilities.

In addition to local regulations, now 31 provinces (municipalities and autonomous regions) and 100 cities which have participated in "national activities to create barrier-free city" have formulated local government rules on barrier-free construction, which is reflected in the barrier-free facilities construction and use management measures promulgated by government decrees. These local government rules are not laws or regulations, but existing effective policy systems. They have defined the barrier-free facilities construction and management direction, objectives, tasks and measures and are significant for standardizing, guiding and promoting the practice of local barrier-free facilities construction and management.

1.2.2 Administrative Rules of Provinces (Municipalities and Autonomous Regions) on the Barrier-free Construction

At present, the regulations of most provinces (municipalities and autonomous regions) in China are implemented in the form of administrative rules, i.e., by provincial (municipality and autonomous region) government decree. Shanghai, Tianjin and Guangdong Province, etc., are among them.
The *Management Measures for Barrier-free Facilities Construction and Use in Shanghai* stipulates that the municipal Construction Commission shall, jointly with the Planning, Civil Affairs Departments and Committee on Ageing and the Disabled Persons Federation, etc., make special planning for the construction of barrier-free facilities according to the social and economic development status of Shanghai and submit it to the Municipal Government for approval and implementation; design organizations, when designing the construction projects, shall design the barrier-free facilities in accordance with the *Codes for Design* and the standard for barrier-free facilities construction of this city; when designing blind sidewalks, the design organizations shall ensure that the blind sidewalks should connect with existing barrier-free facilities around the construction project. The barrier-free facilities construction standard of this city shall be developed by the Municipal Construction Commission in conjunction with other relevant departments. The Measures also stipulates that municipal and district (county) construction administrative departments shall strengthen the daily supervision and management of the construction, maintenance and use of barrier-free facilities; any violation of the Measures shall be timely stopped and dealt with. Municipal and district (county) Disabled Persons Federation, the Committee on Ageing and other social organizations or individuals have the right to supervise the construction, maintenance and use of the barrier-free facilities and report to the city or district (county) construction administrative departments if there is problem and the city or district (county) construction administrative departments shall timely investigate and solve the problem after receiving the report.

*The Barrier-free Facilities Construction and Management Measures of Tianjin City* stipulates that the Municipal People's Government shall lead Tianjin's barrier-free facilities construction and management work. The district and county People's Governments shall be responsible for the organization, construction, reconstruction and supervision of the barrier-free facilities in each administrative area. Planning, Construction, Municipal, Public Security and Urban Environment Departments, etc., shall, according to their own responsibilities, supervise and manage the barrier-free facilities in accordance with laws. All levels of People's Government, the Conciliation Commission for Disabled People's Employment, shall be responsible for the coordination and supervision of the implementation of this Measures; that any citizen may report to all levels of People's Government,
the Conciliation Commission for Disabled People's Employment or its administrative body the problems in the construction, maintenance or management of the barrier-free facilities and all levels of People's Government, the Conciliation Commission for Disabled People's Employment or its administrative body shall timely report to relevant administrative departments which shall timely investigate and deal with the problem.

*Regulation on the Barrier-free Facilities Construction and Management of Guangdong Province* stipulates that the Disabled Persons' Federation, Committee on Ageing, Women's Federation and other social organizations or individuals have the right to supervise the construction, maintenance and management of the barrier-free facilities and report the problems (if any) to relevant administrative departments according to the following division of responsibilities: (a) damage of barrier-free facilities within the scope of urban roads shall be dealt with by roads competent department; damage of barrier-free traffic signs and signal facilities shall be dealt with by the public security organ, the traffic management department. (b) Unauthorized occupation of barrier-free facilities within the scope of urban roads or authorized temporary occupation without setting warning signs and signals facilities in accordance with regulations shall be dealt with by roads competent department. (c) Occupation of barrier-free facilities in public buildings or residential areas or altering the application shall be dealt with by the planning administrative department. After receiving the report, the relevant administrative departments shall timely investigate and deal with the problems and inform the reporters of the results.

1.2.3 Regulations of Composing Departments of Provincial (Municipality and Autonomous Region) Government on Barrier-free Construction

For the barrier-free construction throughout China, in addition to the local regulations of the Standing Committee of Provincial People's Congress and the administrative rules enacted by Provincial Government's decree, there are also regulations formulated and enacted by relevant departments of Provincial Government, which are also an integral part of local barrier-free construction policies. For example, the *Regulation on the Barrier-free Facilities Construction and*
Management of Anhui Province is printed and distributed by Anhui Provincial Construction Department, Provincial Civil Affairs Department and Provincial Disabled Persons’ Federation jointly, stipulating that the scope of barrier-free construction project shall be implemented according to the Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001) (hereinafter referred to as the Design Codes) formulated by the Ministry of Construction, the Ministry of Civil Affairs and China Disabled Persons’ Federation and relevant regulations of this province. Construction organization must follow the approved planning and design documents in constructing the barrier-free facilities. The construction of barrier-free facilities must be designed, constructed and inspected at the same time with the construction project. The funds needed by the construction of barrier-free facilities shall be included into the budget of the construction project by the construction organization. The construction administrative department shall, jointly with relevant departments, make renovation plans for projects completed but not equipped with barrier-free facilities or equipped with barrier-free facilities not conforming to the national industrial standard Design Codes. Project owners or managers must complete the barrier-free renovation to the project according to the renovation plans and urban public transport shall gradually increase the barrier-free facilities. The funds needed by barrier-free renovation shall be assumed by project owners or managers.

1.3 Local Regulations and Policies for Urban Barrier-free Construction

1.3.1 Regulations of the Standing Committee of Municipal People’s Congress on Barrier-free Construction

Currently, the only municipal Regulations in China is the Regulations on Barrier-free Environment Construction of Shenzhen, passed in the thirty third meeting of the Standing Committee of the Fourth People's Congress of Shenzhen on September 24, 2009, approved in the fourteenth meeting of the Standing Committee of the Eleventh People's Congress of Guangdong Province on November 26, 2009, promulgated, and started to be implemented from March 1, 2010. The Regulations stipulates that the barrier-free environment construction is the common duty of the whole society. State organs, social organizations,
enterprises and institutions shall complete their barrier-free environment construction work according to their responsibilities. The barrier-free environment construction shall meet the actual needs of the disabled and other people who need it, meet the public's basic needs and be in line with the economic and social development level of this city. The Regulations also required the establishment of joint session system for the barrier-free environment construction and coordination with the barrier-free environment construction work. The joint session is composed by the Development and Reform, Science and Technology, Trade and Industry and Informatization, Finance, Planning and Land Resources, Living Environment, Traffic and Transport, Education, Public Security, Civil Affairs, Culture, Sports and Tourism, Housing and Construction, City Management, Radio and Television Administrative Departments of the Municipal Government and Municipal Disabled Persons' Federation (hereinafter referred to as MDPF), Municipal Committee on Ageing, Municipal Women's Federation and other relevant units. The joint session shall be convened by the municipal government and held at least once a year. The Regulations also stipulates that the municipal government shall organize to make planning for the urban barrier-free environment construction and development and include it into the national economic and social development planning of this city. The barrier-free environment construction and development planning shall cover the barrier-free facilities construction and renovation, public transport construction, information communication construction, propaganda and education, etc. Relevant departments of the municipal government shall develop special planning for barrier-free environment construction according to the requirements of the development planning for barrier-free environment construction and organize the implementation after the approval according to the regulations. The municipal government shall organize at least one assessment of the implementation of barrier-free environment construction development planning at least once every five years. Each relevant department or unit shall report the assessment report and annual implementation to the municipal government every year. The implementation assessment report and annual implementation report shall be made public. The municipal government and relevant departments shall, according to the city's economic and social development and the need of the development of barrier-free environment construction,, timely adjust and modify the barrier-free environment construction development planning and special planning. District
government shall, according to the requirements for the barrier-free environment construction development planning and special planning, organize to develop the implementation program for the barrier-free environment construction within the administrative region. In addition to the above provisions, there are many other new points, such as this provision: from now on, after the completion of construction projects of public roads, transportation hubs, schools, hospitals, cultural and sports entertainment places, external offices of state organs and institutions and tourist attractions, etc., the MDPF shall be invited to participate in the inspection for acceptance and listen to the opinions of representatives of the disabled on the trial use; for other barrier-free facilities closely related to disabled people’s daily lives and work, the construction organization shall also inform the MDPF upon organizing the inspection after the completion; the MDPF may organize the representatives of the disabled to try it out and put forward opinions on and suggestions on the construction of barrier-free facilities. This is the first case in the country.

1.3.2 Administrative Regulations of Municipal Government on Barrier-free Construction

At present, China's municipal governments have successively developed and promulgated administrative their regulations on barrier-free construction.

In South China, the *Measures for Barrier-free Construction Management of Haikou City* was passed in the 48th meeting of the Standing Committee of the 14th People’s Government on August 7, 2009, publicized by Haikou Municipal People’s Government’s by No.74 Decree on August 24, 2009 and implemented since September 1, 2009. The Measures stipulates that the construction of barrier-free facilities shall meet the basic requirements of safety, accessibility, usability and convenience and observe the following provisions:

(A) The ground of sidewalks and public buildings shall be even and skid proof;

(B) The pavement of blind sidewalks shall be continuous, without utility pole, cable, underground manhole, tree or other obstacles midway and shall connect with surrounding public transport stops, overpasses, underpasses and barrier-free facilities of public buildings.

(C) Sidewalks and entrances and exits of public buildings shall set curb ramps or
ramps;

(D) Public transport stop shall set Braille stop board whose location, height, color, form and contents shall be facilitate the visually disabled to use.

(E) Areas or places providing services for the public shall set service desks and telephone as well as low service desks and low windows;

(F) Public building’s glass door, glass wall, stairs, elevator and access, etc., shall set warning signs or prompt facilities;

(G) The barrier-free facilities shall be brightly colored and markedly different from the surrounding environment;

(H) If there are barrier-free facilities, set barrier-free sign at a prominent position according to the codes and standards.

In China’s Inner Mongolia Autonomous Region, the Measures for Barrier-free Construction Management of Hulun Buir City has been reviewed and registered by the municipal government Legislative Affairs Office (HGS-2009-0001) and passed by the municipal government the first Standing Conference on January 18, 2009 to implement. In order to strengthen the barrier-free facilities construction and management, the Measures is formulated according to relevant provisions of the Law of the People’s Republic of China on the Protection of Disabled Persons, the Regulations on the Quality Management of Construction Projects (State Council Decree No.279), the Regulations on Supervision of Implementation of Mandatory Standard for Project Construction (Ministry of Construction Decree No.81) and the Measures for Barrier-free Construction Management of Inner Mongolia Autonomous Region, and based on the actual situation of Hulun Buir. In addition to the provisions of the above-mentioned Haikou City, the Measures further stipulates that TV news, movies, television shows shall be added with sign language subtitles, TV news programs shall be added with sign language interpretation; multi-storied large-scale commercial or service buildings, large-scale cultural or memorial buildings and transport and medical buildings shall be equipped with barrier-free elevators; fire alarm, anti-robber alarm and emergency call systems for medical aid or traffic accidents, etc., shall have text alarm and call function to meet the alarm and emergency needs of people with hearing disability or speech disability; parking lots and garages shall set dedicated parking spaces for disabled people.
In Northeast China, the Measures for Urban barrier-free Facilities Construction Management of Harbin City was passed and released by the municipal government the fourth Standing Conference on March 23, 2007 and implemented from May 1, 2007. The Measures stipulates the matching service facilities in construction, including: (a) ramp, curb ramp, blind sidewalk; (b) lifting device like barrier-free elevator or elevator platform, etc.; (c) warning signal, prompt acoustic and indication device; (d) low phone, low toilet, low wash basin and other low devices; (e) special parking space, special auditorium, safety handrail; (f) barrier-free toilet, toilet cubical; (g) barrier-free sign; (8) other facilities facilitating the disabled, the elderly, children, etc., to use. The Measures for Urban barrier-free Facilities Construction Management of Dalian City stipulates that the design of urban barrier-free facilities must comply with the requirements of Codes for Design on Accessibility of Urban Roads and Buildings (Industrial Standard JG[50-2001 of the People's Republic of China, hereinafter referred to as Codes). The Planning and Land Administration Department shall review the planning and design scheme according to the requirements of the Codes and shall not issue the planning permit for construction projects which fail to design the urban barrier-free facilities in accordance with the Codes. The construction organization must construct the urban barrier-free facilities in the main construction according to the requirements of the approved planning and design. The construction administrative department shall not issue the construction permit for projects which fail to construct the urban barrier-free facilities according to the requirements of the planning and design; projects whose construction quality fails to meet the requirement shall not be accepted by relevant administrative department and the main construction shall not be put into use. Built urban roads, public buildings, residential areas where the disabled are concentrated and city's main tourist attractions and scenic spots, where urban barrier-free facilities are not constructed or the constructed barrier-free facilities fail to meet the requirements, the construction administrative department shall, jointly with relevant departments, make construction or reconstruction plan and organize the owner or the authorized manager to reconstruct the project step by step according to the Codes.

In Northwest China, the Measures for Urban barrier-free Facilities Construction Management of Xi'an City stipulates that any newly constructed, reconstructed or extended public building, residential building, residential area, urban road
(including square, public green space, park, pedestrian overpass, pedestrian underpass, the same below), railway station, long-distance bus station, subway station, main tourist attractions and scenic spots and other construction projects in the administrative region of this city must construct barrier-free facilities. For the locations and directions of built barrier-free accesses, parking spaces, entrances, elevators, special toilets (toilet cubical), wheelchairs and other barrier-free facilities for public buildings, the owner or authorized manager shall set international barrier-free facilities signboards. The Measures for Urban barrier-free Facilities Construction Management of Lanzhou City stipulates that public service agencies shall provide necessary barrier-free service awareness and skill training for their employees. Public places where hearing impaired persons are concentrated shall gradually popularize sign language and Chinese speed recording to help them get information. Large library shall set reading room for the blind, provided with readings for the blind and talking books. No organization or individual is allowed to damage or occupy barrier-free facilities or alter the application of the barrier-free facilities without authorization. In case the owner or the manager fails to provide effective maintenance or management for the barrier-free facilities, as a result of which the barrier-free facilities can not be used normally, relevant department shall order them to maintain the facilities. In case of personal or property damage due to improper maintenance or management, the owner or the manager shall be liable for the compensation.

In Southwest China, the Measures for Barrier-free Facilities Construction Management of Kunming City was reviewed and passed by Kunming Municipal Government Standing Conference not long before. The new Measures stipulates that newly constructed, reconstructed or extended urban roads, public buildings, residential buildings, public places in residential areas and other construction projects, must construct barrier-free facilities in accordance with the standards and requirements of national relevant design codes. After the completion of construction project, the project can be delivered to use only after the inspection and acceptance of the constructed barrier-free facilities. The Measures also stipulates that when construction organizations are constructing, reconstructing or extending projects within the administrative region of the city, the construction of the barrier-free facilities shall meet the basic requirements of safety, accessibility, usability and convenience. Barrier-free facilities shall be designed, constructed and inspected at the same time with the construction project and
shall connect with existing barrier-free facilities around the construction project. For construction projects failing to design the barrier-free facilities according to regulations, the municipal, county or district urban and rural planning departments shall not issue the planning permit. Upon the inspection of the construction, the supporting barrier-free facilities shall also be inspected. The construction shall not be delivered to use until it's accepted. The Measures also specified that construction projects which haven't constructed the barrier-free facilities before or whose barrier-free facilities fail to conform to national relevant design codes or other relevant regulations, the competent department shall develop the construction or reconstruction plan timely. Public buildings including external offices of state organs, hospitals, post offices, banks, libraries, airport terminals, railway stations, public transportation stops, public toilets, parks and operation or service places of large commercial or service agencies and urban roads shall be reconstructed first.

1.3.3 Regulations of County-level city (District) Government on Barrier-free Construction

In China, some county-level cities have developed and implemented the regulations on barrier-free construction. For example, in order to further construct and improve the barrier-free facilities, achieve cultural, normalized, smooth and intellectualized barrier-free Wafangdian City and to practically facilitate the disadvantaged groups, Wafangdian City in Dalian, Liaoning Province, formulated the Measures for Urban barrier-free Facilities Construction Management of Wafangdian City according to the provisions of the national Codes for Design on Accessibility of Urban Roads and Buildings and the Notice of Dalian Municipal People's Government on Promulgating the Regulations on Urban barrier-free Facilities Construction Management of Dalian and based on the actual conditions of this city.

(A) Urban roads. The scope of barrier-free construction includes sidewalks, bridges, tunnels, overpass sidewalks sidewalk entrances, etc. The barrier-free requirement is that sidewalks with curbs shall set curb ramp at the entrances; central urban areas, government organs section, commercial streets, traffic buildings and other key sections shall set blind sidewalks and bus station sections shall set warning blind sidewalks; central urban areas, commercial areas,
residential areas and main public buildings shall set wheelchair ramp or elevator; the ramp or steps shall have handrail at both sides; the upper and lower entrances shall set warning blind sidewalk; bridge entrance and sidewalk shall set curb ramp and sidewalk shall have blind sidewalk; overpass sidewalk entrance shall set curb ramp and overpass sidewalk shall set blind sidewalk.

(B) Residential area. The scope of barrier-free construction includes roads and green areas, etc. The barrier-free requirement is that sidewalks with curbs shall set curb ramp at the entrances; sidewalks at main public service facilities section shall set blind sidewalks; accesses to parks, tourist attractions and children's places shall meet wheelchair access requirement and the entrance shall set warning blind sidewalk.

(C) Housing construction. The scope of barrier-free construction includes office, research, commercial, service, cultural, memorial, watch and performance, sports, traffic, medical, school, garden, residential structure, etc. The barrier-free requirement is that building entrances, passageways, platforms, doors, entrance hall, stairs, elevators, public toilets, bathrooms, public telephones, rooms, houses, signs, blind sidewalk, wheelchair seats, etc., shall be equipped with relevant barrier-free facilities according to their building performances.

In addition, local governments of each province and city, namely the district governments, also developed, promulgated and implemented a number of policy regulations. For example, in Suzhou City, Pingjiang District developed the Tracking Management System for Barrier-free Construction Projects and On-site Inspection System for Barrier-free Construction Projects; the district Construction Bureau, Development and Reform Bureau and Environmental Protection Bureau, etc., and other relevant functional departments jointly issued the Notice on Strengthening the Management of Barrier-free Facilities of Construction Projects; published the Standard Drawing Barrier-free Facilities Construction of Pingjiang District with physical pictures; organize and carried out "Guanqian Street Barrier-free Warm Half-day Tour" and barrier-free construction knowledge contests. Canglang District developed the Work Assessment Methods for Creating National Barrier-free Construction City of Canglang District to strengthen the assessment and assign the tasks to departments, subdistricts and communities. Jinchang District issued the Work Assessment Methods for Creating National Barrier-free Construction City of Jinchang District to strengthen the assessment and assign responsibilities;
actively carry out self-inspection work and issue barrier-free rectification notices on problems to strengthen the rectification work. Suzhou Industrial Park issued the Notice on Strengthening the Construction of Barrier-free Facilities in Newly Constructed Residential Community and took the lead in Suzhou to carry out the inspection and acceptance of barrier-free facilities in newly constructed residential community.

2. Planning, Plan and Implementation Program for Urban Barrier-free Construction in China

2.1 Planning, Plan and Implementation Program for National Barrier-free Construction

2.1.1 Medium and Long-term Planning and Implementation Program for National Barrier-free Construction

The medium and long-term planning for national barrier-free construction which have been published (so far no separate medium or long-term planning for national barrier-free construction is published) are mainly reflected in the “Eleventh Five-Year” Development Outline of Chinese Disabled Persons’ Cause. The overall objective requires to “comprehensively promoting the barrier-free facilities construction, carrying out barrier-free facilities construction in 100 cities in China, actively carrying out information communication barrier-free work and enhancing the public’s awareness of barrier-free”. Relevant measures stipulates: first, strictly abide by relevant laws, regulations and design codes for barrier-free construction, formulate and implement barrier-free facilities construction industrial standard and speed up industrial barrier-free construction; carry out barrier-free reconstruction on existing urban roads, buildings and public service facilities and strengthen the maintenance and management of built barrier-free facilities; enhance the publicity of barrier-free environment and carry out barrier-free facilities construction in all cities in China. Second, actively carry out information communication barrier-free work. Promote information communication barrier-free law and regulation development; use Braille, sign language, subtitles, special communication devices and other assistive
technologies or alternative technologies to create the conditions to facilitate disabled people to receive and disseminate information and to participate in social activities. Third, actively promote the development of information barrier-free technical standard and carry out the development, promotion and effectiveness evaluation of information barrier-free items and products.

The “Twelve Five-Year” Development Outline of Chinese Disabled Persons’ Cause has not yet announced.

The implementation program for national barrier-free construction is formulated based on medium and long-term planning. For example, in the “Eleventh Five-Year” implementation program for national barrier-free construction, it includes five parts, including the background, task objectives, key measures, inspection and evaluation and funding. The task objectives require comprehensively promoting the construction of barrier-free facilities during the five-year planning period. Newly constructed, reconstructed or extended urban roads, public buildings and residential buildings shall effectively construct the barrier-free facilities, reconstruct existing urban roads and buildings according to barrier-free construction requirements by plan, speed up the barrier-free construction of civil aviation, railway, transport and education fields, etc., strengthen the barrier-free construction of information communication and enhance the public's barrier-free awareness. In the main measures, first, it requires establishing a working mechanism, including:

- Form a working mechanism of unified leadership, clear assignment of duties, close collaboration and whole society participation.

- All provinces, autonomous regions, municipalities and cities which carried out the work of creating national barrier-free construction shall set up a barrier-free construction leading group led by relevant government leaders and participated by Finance, Labor, Construction, Civil affairs, Transportation, Railway, Civil Aviation, Public Security, Education, Propaganda, Information, Broadcasting and TV and Tourism Sectors and Disabled Persons’ Federation, Women’s Federation and Committee on Ageing, etc., to play its organizing and collaborating functions effectively in the barrier-free construction.

- Cities which carried out the work of creating national barrier-free construction shall set up the disabled and the elderly supervisors groups and mobilize the
media and other social sectors to supervise the barrier-free construction.

Second, strengthen the construction of regulations and standards, including:

- When formulating or amending the Building Law, the Law on the Protection of Disabled Persons and other relevant laws or regulations, include the content of barrier-free construction into them and promote the formulation of barrier-free construction regulations;

- Local governments shall formulate regulations on barrier-free construction management “Eleventh Five-Year” barrier-free construction planning.

- Relevant departments shall develop industrial standards for the configuration of barrier-free facilities and equipments in bus station, passenger terminal, etc.

- Relevant departments shall organize the development of supporting implementing standards such as information barrier-free codes and standards, national barrier-free construction city standard and barrier-free construction standard for integrated service facilities for the disabled and promote barrier-free construction according to law.

- Improve relevant codes and standards for barrier-free construction and promote the connection and uniformity of barrier-free facilities standards and the integration with international standards.

Third, effectively promote barrier-free construction, renovation and management and emphasize:

- Strengthen the construction of barrier-free facilities of public transport. Effectively strengthen the barrier-free construction and renovation of urban subway, light rail, civil airports, railway stations, bus stations and passenger terminals, etc., and promote the barrier-free upgrading of public transport means, including aircraft, subway, light rail vehicle, train, bus and passenger liner, to improve the barrier-free service level.

- Strengthen the barrier-free construction in community and home which is closely related to the daily lives of the disabled and the elderly. Newly constructed communities and quarters must construct barrier-free facilities; quarters which have been built shall be gradually reconstructed by plan to facilitate the disabled and the elderly to participate in social activities; gradually popularize the home barrier-free construction and reconstruction according to local conditions;
gradually carry out barrier-free construction in towns and villages.

Fourth, provide technical consulting and personnel training, including:

- Organize universities, research institutions to study on the subjects of information barrier-free construction, barrier-free products development and application, community and home barrier-free construction, barrier-free management, barrier-free environment construction, etc., and provide technical support to promote barrier-free construction.

- Make plans and provide barrier-free knowledge training for relevant planning, design, construction, management staff and the relevant staff of Disabled Persons' Federation by levels and groups and enhance the awareness and ability to implement the codes and carry out barrier-free supervision.

Fifth, strengthen the publicity and information communication of barrier-free construction, including:

- Relevant department shall make use of feature (column) programs of media such as radio station, TV station, newspapers, magazines and the Internet, etc., and public service advertising, brochures, slogans, scrolls, posters, etc., to carry out the propaganda of the barrier-free construction, popularize the barrier-free knowledge, improve barrier-free awareness, create a good social atmosphere of concerning, supporting and participating in the barrier-free construction.

- Push forward the barrier-free construction of government information disclosure, promote adding subtitles in TV news, movies, television shows, encourage television stations to offer sign language programs, establish information system in hospitals, stations and other key public places and on buses in key urban lines. Popularize sign language in employees of service industry. Provide sign language interpretation for hearing impaired persons or written communication assistance. Research, develop and promote information communication products to facilitate blind and deaf persons to use.

Sixth, enhance the barrier-free construction and renovation of the integrated service facilities for the disabled, develop the barrier-free construction standard for the integrated service facilities for the disabled; newly constructed facilities shall practically implement barrier-free construction codes; select 200 integrated service facilities for disabled people from the cities which have carried out the work of creating national barrier-free construction to carry out barrier-free
National barrier-free construction “Twelfth Five-Year” planning implementing program hasn’t been announced.

2.1.2 National Annual Plan for Barrier-free Construction

No separate national annual plan for barrier-free construction has been published yet, but there are relevant annual plans. For example, the key works of the barrier-free committee members of China Association of Persons with Physical Disabilities in 2011 include five tasks: first, increase the force of the work group and establish appropriate working mechanism. Second, increase two persons with physical disabilities who are familiar with computers and networks to work in the secretary team, who shall, in addition to regular briefing and meeting work, strengthen the communication with local committee members through the Internet and actively create conditions to build web sites; second, carry out activities focusing on the key points and adhere to the combination of regular work and burst activities. Take barrier-free driving, home barrier-free and traffic barrier-free construction which are closely related to the lives of the disabled as the key work; third, carry out traffic barrier-free construction research and promote the barrier-free travel for people with physical disabilities. Propose to carry out research on the traffic barrier-free situation of major cities across the country, actively carry out the promoting work and hold a small-scale traffic barrier-free construction forum as appropriate; four, cooperate in preparing to construct research institutions and promote universities to offer barrier-free courses; fifth, explore socialized work methods and collect activity funds from society. Complete the main measures in the annual plan for this year. The first is to take information communication and transmission as the main task. For example, if disabled persons in Shanghai participated in the supervision and guiding work of barrier-free construction and effectively promoted the barrier-free environment construction in Shanghai, disseminate the form and practice to offer a reference for disabled persons in other provinces and cities. Exchange the disabled people’s experience and practices in barrier-free construction in various provincial and municipal associations; second, determine the annual emphasis of work, focus on one key work or task, make in-depth research, actively reflect the problems and actively promote obviously lagging points and note the forward looking of the work; third, give full play to the
potential of the Internet and actively promote the website construction. Establish barrier-free website with association characteristics and Chinese characteristics; fourth, play the role of the Barrier-free Commission in creating the "barrier-free engineering research center". Cooperate closely with Universities like Tongji University and R&D institutions and carry out research and training work of barrier-free construction standard. Propose to hold a symposium in September or October this year themed by urban public transport barrier-free; fifth, good at seizing opportunities. Urge local associations to seize the opportunities of major events and major constructions, etc. Promote barrier-free construction.

2.1.3 Agenda of National Barrier-free Construction Activities

In recent years, China's agenda of national barrier-free construction mainly is that the Ministry of Construction, Ministry of Civil Affairs, China Disabled Persons' Federation, Office of National Working Commission on Aging decided to organize 100 cities (see the list in the Annex) to carry out the activities to create national Barrier-free Construction City.

In carrying out the activities to create national Barrier-free Construction City (hereinafter referred to as the "creating cities"), set up a barrier-free construction leading group led by relevant government leaders and participated by Construction, Civil affairs, Transportation, Railway, Finance, Development and Reform, Civil Aviation, Public Security, Education, Propaganda, Information, Broadcasting and TV, Tourism, Commerce, Banking and Health Sectors and Disabled Persons' Federation and Committee on Ageing, etc., establish the working mechanism of clear assignment of duties and close collaboration to play the organizing and collaborating functions effectively in the barrier-free construction. The creating cities shall establish formulate local regulations, administrative rules, codes and regulation documents for barrier-free construction and management.

Ensure that each link of the newly built roads and buildings, including the planning, design, construction, inspection and supervision, etc., shall implement the Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001), Codes for Design of Buildings for the Elderly (JGJ122-99). Extended or reconstructed roads and buildings shall carry out the corresponding barrier-free renovation according to the above relevant codes and ensure the functional
systematization and continuity.

Railway, Transportation, Civil Aviation, Public Security, Education, Tourism, Health, Postal, Telecommunications and Finance Sectors shall actively implement relevant barrier-free codes, standards and documents, including the *Codes for Design on Accessibility of Railway Passenger Station*, *Standard for Barrier-free Facilities and Equipment Configuration in Civil Airport Passengers’ Terminal Area*, *Codes for Design of Buildings of Special Education Schools*, etc., and effectively promote the barrier-free construction of relevant facilities.

Meanwhile, it made detailed provisions on the slope renovation rates of various entrances of newly-built, extended or reconstructed sidewalks and crosswalks in urban areas and rural areas. Set warning blind sidewalk and ahead blind sidewalk at the entrance and exit of newly constructed, extended or reconstructed traffic arteries, commercial streets, pedestrian streets and other sidewalks in center of districts, counties and towns; set warning blind sidewalk and ahead blind sidewalk in areas new parks, squares and major public buildings and the main entrances; crossways in the key areas of newly built, extended or reconstructed urban roads shall set crossing acoustic signal devices; pedestrian island on crossway shall allow the access of wheelchair; main urban roads pedestrian overpass and pedestrian underpass shall set wheelchair ramp, safety stairway or vertical elevator and international barrier-free signboard; crossways in the key areas of built urban roads shall set crossing acoustic signal devices; pedestrian island shall have the access of wheelchair; main urban roads pedestrian overpass and pedestrian underpass shall add wheelchair ramp, safety stairway or vertical elevator and international barrier-free signboard, etc.

In addition, it made detailed provisions on the barrier-free construction and renovation of public building facilities, public transport facilities, special facilities, residential quarter and of residential buildings, barrier-free construction of information communication.

### 2.2 Planning, Plan and Implementation Program for Urban Barrier-free Construction of Provinces (Municipalities and Autonomous Regions)
2.2.1 Medium and Long-term Planning for Barrier-free Construction of Provinces (Municipalities and Autonomous Regions)

The medium and long-term planning for barrier-free construction of various provinces is firstly reflected in the five-year planning for disabled persons' cause. For example, the "Eleventh Five-Year Planning for the Cause of the Disabled of Shanxi Province (2006-2010), which proposed to "strengthen barrier-free facilities construction. Strictly abide by relevant laws, regulations and design codes for barrier-free facilities construction, strengthen barrier-free propaganda, popularize barrier-free knowledge and enhance barrier-free awareness. All levels of government shall enhance the input level, strengthen the barrier-free renovation of existing urban roads, buildings and public service facilities and strengthen the maintenance and management of built barrier-free facilities; all newly built, extended or reconstructed urban roads, medium and large public buildings and residential areas must implement the Codes for Design on Accessibility of Urban Roads and Buildings. Urban planning administrative department must put forward barrier-free design requirements according to the existing codes when review the urban planning and shall not approve the construct project which fails to meet the requirements of the codes and shall not issue the Planning Permit for Construction Project. When organizing the design document reviews, the administrative department of construction shall order the design organizations which violate the requirements of the design codes to modify the design and list the barrier-free facilities construction into the main contents of the inspection for acceptance. All levels of Disabled Persons' Federations shall in conjunction with relevant departments, inspect the barrier-free facilities construction in projects to ensure that the barrier-free facilities construction is carried out. Strengthen the special inspections on barrier-free facilities construction and operation and carry out barrier-free facilities model community and model city activities."

Some provinces (municipalities and autonomous regions) have developed medium and long-term planning for barrier-free construction. For example, Shanghai has developed the Planning for Barrier-free Construction of Shanghai (2003-2006) in 2002 and Planning Outline for Barrier-free Environment
Construction of Shanghai (2007-2010) in 2006. In the Planning for Barrier-free Construction of Shanghai (2003-2006), it noted that, based on the analysis of the status and problems of domestic and this city's, this planning set the city's development goals of barrier-free facilities construction, proposed the construction task and defined the implementation emphasis; it is a guidance document for barrier-free facilities construction of this city. The basis of the planning includes:

I. City Master Planning of Shanghai (2020);
II. The Law of the People's Republic of China on the Protection of Disabled Persons;
IV. Outline of the "Eleventh Five-Year" Planning for National Economic and Social Development
V. The "Tenth Five-Year” Plan for the Disabled Persons’ Cause in Shanghai (2001-2005)
VI. The Guidelines for Creating Barrier-free Physical Environment for the Disabled and the Examples (Asia-Pacific Economic Cooperation Committee, the United Nations) and examples
VII. Notice on implementing the Codes for Design on Accessibility of Urban Roads and Buildings.
VIII. The Management Measures for Barrier-free Facilities Construction and Use in Shanghai.
IX. Standard for Model City (District) of National Barrier-free Facilities Construction (Trial)
X. Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001)
XI. Codes for Design of Buildings for the Elderly (JGJ122-99)
XII. Codes for Design of Facilities for the Elderly (DGJ08-82-2000)
XIII. Housing Design Standard (J10090-2001)
XIV. Technical Standard for Urban Roads Barrier-free Facilities in Shanghai (SZ-07-2000)
XV. Specification for the Construction and Inspection of Urban Roads Barrier-free Facilities in Shanghai (SZ-14-2001)

In the Overall Implementing Program of Creating National Model City of Disabled Persons’ Work of Shanghai (2007-2010), it also stipulates the barrier-free construction work objectives, including:

First, Develop Regulations on the Management of Barrier-free Construction and Use and include the construction of "environmental barrier-free", "building barrier-free", "information barrier-free", "traffic barrier-free" and "home barrier-free" into it. High starting point, high standard, more fully developed The Outline of the Planning for Barrier-free Environment Construction in Shanghai (2007-2010)" and construct barrier-free environment in Shanghai according to law.

Second, develop the Guidelines on the Implementation of Barrier-free Facilities Construction in Shanghai, provide classified guidance for barrier-free construction of roads, public buildings, housing and home and finally develop a new barrier-free construction standard conforming to the development status and integrating with international metropolis.

Third, on the basis of carrying out relevant academic discuss activities with relevant research institutions and universities, explore new technologies, develop new projects, new materials and introduce new technology into barrier-free construction.

Fourth, strengthen barrier-free construction planning and newly built projects management; adhere to high starting point planning, integrated design and high quality construction. Take effective measures, strictly control planning, design, plan approval, construction and inspection and ensure the supporting barrier-free facilities of newly built projects.

Fifth, continue to implement barrier-free renovation of existing buildings and roads by plan according to the requirements of the Ministry of Construction on creating national barrier-free cities. By referring to international standards and combining with the practice, construct landmark barrier-free facilities with window units at airports, terminals, tourist attractions, sports venues and other model areas, welcome the 2008 Beijing Olympic Games and Paralympic Games and 2010 Shanghai World Expo.
Sixth, strengthen the maintenance of barrier-free facilities, strengthen law enforcement, correct or punish the behavior of damage or occupation of barrier-free facilities, implement regular maintenance and repair and ensure the normal use of built barrier-free facilities.

Seventh, carry out information barrier-free construction, implement transfer phones and real-time text scrolling information display on various vehicles for deaf persons. Explore the use of high-tech means, develop perfect electronic blind guide system to effectively solve the difficulties in traveling and bus riding for the blind.

Eighth, vigorously promote the construction of transport barrier-free facilities, add barrier-free large and medium-sized passenger vehicles and set up "sunshine vehicles group". Add barrier-free buses with vocal and text stop reporting. Equip barrier-free taxi and ensure that the barrier-free taxi can operate normally and lastingly. Improve the barrier-free facilities at rail stops and add barrier-free seats in rail vehicles.

Ninth, expand the field of barrier-free construction, carry out the work to introduce barrier-free facilities into communities, home and rural areas, and reconstruction by groups and periods according to plan; in communities, focus on the reconstruction of service institutions’ barrier-free facilities which are closely related to residents’ lives; in rural areas, focus on the reconstruction of “three offices and one point” (village committee office, activity room for the elderly, clinic room and the fitness activities point); advocate barrier-free design in new house decoration for the disabled and the elderly and combine barrier-free construction with home decoration.

Tenth, ensure good propaganda and education for barrier-free environment construction, expand the publicity in media and public service advertising, enhance citizen’s awareness of barrier-free construction, encourage the whole society to care and support barrier-free environment construction. Main public parking lots and government organs shall have special parking spaces for the disabled, located at accessible places. Based on the spirit of people orientation and international integration, actively carry out special researches jointly with relevant departments and timely solve the problem of hand driving for physically disabled persons.
2.2.2 Implementing Program of Medium and Long-term Planning for Barrier-free Construction of Provinces (Municipalities and Autonomous Regions)

After the formulation of the Planning Outline for Barrier-free Environment Construction of Shanghai (2007-2010), a series of implementing programs were developed. For example, Shanghai Municipal Engineering Administration, based on the spirit of the Notice on Distributing the “Planning Outline for Barrier-free Environment Construction of Shanghai (2007-2010)” (HJJL [2007]740) of municipal Construction and Transportation Commission, Civilization Office, Civil Affairs Bureau, Office of the Committee on Ageing, Disabled Persons’ Federation, combining with the spirit of the Notice on Forwarding the “Notice of State Ministry of Construction the Fourth Ministry on Carrying out the Work to Create National Barrier-free Construction City (HWZALB [2007]28) of the municipal Barrier-free Construction Promotion Office, etc., developed the Plan for Municipal Roads Industry to Implement the Planning Outline for Barrier-free Environment Construction of Shanghai (2007-2010). The plan set the overall objectives: the curb ramp coverage of sidewalks on urban roads is 100%; the curb ramp coverage of pedestrian twice crossing island is 100%; the setting of blind sidewalks along sidewalks on urban roads shall be standard and connected between sections; the coverage of crossing acoustic signal device of sidewalk on urban main roads is more than 50%; built barrier-free facilities shall set international barrier-free signboard. The implementation basis is: the Planning Outline for Barrier-free Environment Construction of Shanghai (2007-2010); the Working Standard for Creating National Barrier-free Construction City in the “Eleventh Five-Year” of the Ministry of Construction; the Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001); the Standard for the Design of Barrier-free Facilities (DGJ08-103-2003); the Technical Standard for Urban Roads Barrier-free Facilities in Shanghai (SZ-07-2000); and the Specification for the Construction and Inspection of Urban Roads Barrier-free Facilities in Shanghai (SZ-14-2001);

In the Implementing Program for the “Eleventh Five-Year” Barrier-free Construction of Jilin Province, it proposed to “first speed up the barrier-free construction of public facilities such as the civil aviation, railway, transportation
and education, etc.” and “strengthen the construction of regulations and standards for barrier-free construction”. It requires that “when revising local regulations, e.g., the Measures for Implementing the Law of the People's Republic of China on the Protection of Disabled Persons of Jilin Province, practically includes the barrier-free construction into it. According to the supporting implementing standards, including the industrial standard for the barrier-free facilities of railway, civil aviation, bus stations, passenger terminals, information barrier-free codes or standards, national Barrier-free Construction City standard, standard for disabled persons’ integrated services facilities construction, etc., formulate the regulations on barrier-free construction management of Jilin Province and the “Eleventh Five-Year” barrier-free construction planning, and promote the barrier-free construction of this province according to law. In terms of strengthening the barrier-free construction of public transport, strengthen the construction and renovation of barrier-free facilities of rail, light rail, bus, civil airports, railway stations, bus stations, etc., according to relevant national industrial standard for barrier-free facilities and equipment configuration; promote the barrier-free upgrading renovation of corresponding public vehicles and enhance the barrier-free service level. In terms of strengthening the community and home barrier-free construction which are closely related to the daily work and lives of the disabled and elderly, newly built communities and quarters must be equipped with barrier-free facilities; built quarters shall have gradually renovate by plan to facilitate disabled persons to participate in the social activities; gradually popularize the home barrier-free construction and renovation according to local conditions; in towns and villages, gradually carry out the barrier-free construction work; create conditions for disabled persons to equally participation in the social activities.

2.2.3 Agenda of Barrier-free Construction Activities of Provinces (Municipalities and Autonomous Regions)

In recent years, China’s provincial governments have developed and promulgated relevant barrier-free construction activity agenda. For example, in the Implementing Program of Provincial Barrier-free Facilities Construction Model County (City, District) of Gansu Province, the provisions on working procedure include: 1. implement report system for creating provincial model county (city,
The report time is each May, once every two years. When the making the application, provide three kinds of materials: (1) the Application of the People’s Government on creating model county (city, district), town and subdistrict; (2) recommendations of municipal (prefecture, sub-prefecture) Construction and Civil Affairs Departments, Office of Commission on Aging and the Disabled Persons’ Federation; (3) create implementing program. 2. Within two months after making the report, the municipal (prefecture, sub-prefecture), county (city, district) people’s government shall organize self-inspection according to the Standard (trial) of model counties (city, district) across the province; those who think they can meet the Standard may report to the municipal (prefecture, sub-prefecture) Construction and Civil Affairs Departments, Office of Commission on Aging and the Disabled Persons’ Federation; for those passing the first review, the government may apply to the provincial barrier-free facilities construction model county (city, district) work coordination office for acceptance and naming. When applying for the acceptance and naming, it is necessary to provide these four materials: (1) report of the People’s Government on carrying out model city activity; (2) description of the People’s Government on barrier-free facilities construction; (3) barrier-free facilities construction planning; (4) the first review of the municipal (prefecture, sub-prefecture) Construction and Civil Affairs Departments, Office of Commission on Aging and the Disabled Persons’ Federation. 3. After the provincial barrier-free facilities construction model county (city, district) work coordination office receives the application, it shall review the report materials. Where the material is qualified, the provincial government shall organize relevant department and experts to make filed evaluation. 4. City (prefecture, sub-prefecture) or county (city, district) which pass the evaluation shall be named as “Provincial Barrier-free Facilities Construction Model County (City, District), Town (Subdistrict)” jointly by the Construction and Civil Affairs Departments, Office of Commission on Aging and the Disabled Persons’ Federation. 5. The provincial model county (city, district) implement review system, once every five years. Those pass the review shall remain the title while those fail to pass the review shall be warned and must rectify within a specified time limit; if the rectification is not qualified, the title shall be canceled.

In the Notice of Further Strengthening Provincial Barrier-free Facilities Construction and Management of the Housing and Urban-Rural Construction Development, Civil Affairs Department, Disabled Persons’ Federation and the
Office of the Commission on the Ageing of Zhejiang Province, it noted that in 2011, the Eighth National Games for the Disabled shall be held in Zhejiang, Hangzhou and other division shall develop the urban barrier-free environment, barrier-free facilities construction and renovation scheme according to the requirements for venues and barrier-free facilities construction of the Eighth National Games for the Disabled, define the work task, implement the work plans, carry out the work as soon as possible to ensure the Eighth National Games for the Disabled is held successfully in the province. Other cities shall also seize the opportunity of the holding of the Eighth National Games for the Disabled in Zhejiang Province, strengthen the barrier-free facilities construction and renovation and create a good environment for holding the games and promoting the cause for the disabled people in Zhejiang. It requires further strengthening the supervision inspection and pushing forward the barrier-free renovation of existing urban roads and buildings; further improving the management mechanism to ensure the perfectness and utilization of the barrier-free facilities; further strengthening propaganda and training and enhancing the barrier-free construction awareness of the whole society. It also specifically stipulates that the local governments shall make full use of the radio, television, newspapers, Internet and other media to propagandize the significance of the barrier-free facilities construction through multi-channel and from every aspect; combine propaganda with education and punishment, enhance the barrier-free construction awareness of the whole society and create a good social atmosphere of concerning, supporting and participating in the urban barrier-free facilities construction. Meanwhile, do a good education and training of barrier-free facilities construction standards and codes, provide systematic training for personnel and administrators engaged in the design, construction, supervision and inspection of barrier-free facilities construction to enable them to master the Codes for Design on Accessibility of Urban Roads and Buildings and strengthen the consciousness and capacity in implementing the Codes for Design on Accessibility of Urban Roads and Buildings in practical work. This year, the province shall organize training for urban barrier-free facilities construction.

2.3 Planning, Plan and Implementing Program for Urban Barrier-free Construction
2.3.1 Medium and Long-term Planning for Municipal Barrier-free Construction

In the five-year development plan of the cause for the disabled of each city, there are provisions on barrier-free environment construction. For example, the “Eleventh Five-Year” Development Planning for the Cause for the Disabled of Wuxi City stipulates that: all levels of governments and functional departments shall include the barrier-free environment construction into the key contents of creating national civilized cities and establish systematic, networking and standardized barrier-free facilities.

First, further consolidate and improve the achievements of the barrier-free environment construction, establish and improve the barrier-free facilities and set up joint conference system and the barrier-free facilities construction inspection and acceptance system participated by the Disabled Persons' Federation, etc.,

Second, develop and implement government regulations on the maintenance and management of barrier-free facilities and construct barrier-free environment according to law. Develop special planning for Wuxi urban barrier-free facilities. Based on the principle of unified planning, rational layout, overall design, step by step implementation and steady advancing, adopt effective measures to do good barrier-free facilities construction work and to strive for the title of "National Barrier-free Facilities Construction Model City."

Third, ensure that newly constructed items shall construct barrier-free facilities and continue to implement barrier-free renovation of existing buildings and roads by plan to enable the barrier-free construction work to adapt to the development of Wuxi’s construction.

Fourth, gradually introduce in and use new barrier-free buses.

Fifth, do a good propaganda and education work for barrier-free environment construction, increase the content of barrier-free construction in public service advertising and encourage the whole society to care and support the barrier-free environment construction.

Some cities also developed special medium and long-term planning for the
barrier-free construction. For example, in Shenzhen, it is stipulated that the government shall organize to develop the development planning for municipal barrier-free environment construction and include it into the national economic and social development planning of this city. The development planning for municipal barrier-free environment construction shall include the barrier-free facilities construction and renovation, public transport construction, information communication construction, propaganda education and so on. Relevant departments of the municipal government shall develop the special planning for barrier-free environment construction according to the requirements of the development planning for barrier-free environment construction and organize the implementation after being approved according to regulations. The municipal government shall organize the assessment of the implementation of the development planning for barrier-free environment construction at least once every five years. All relevant departments and units shall report the implementation states to the government annually. The implementation assessment report and annual implementation report shall be made public. The municipal government and relevant departments shall, according to the need of the city’s economic and social development and the barrier-free environment construction development, timely adjust and modify the barrier-free environment construction development planning and special planning. District government shall, according to the requirements of barrier-free environment construction development planning and special planning, organize to develop the implementation program for the barrier-free environment construction within the administrative region.

2.3.2 Annual Plan for Municipal Barrier-free Construction

All cities developed the annual plan for municipal barrier-free construction. For example, Wu’an City, Hebei Province, according to the "Eleventh Five-Year" Implementing Program for the Barrier-free Facilities Construction of Hebei, proposed the requirement to realize the barrier-free in roads, transportation and information, etc., before 2010; combined with the actual condition of the city, it requires that the 2008 annual plan is to mainly complete urban roads, key public buildings and information barrier-free construction. Specifically, the following tasks shall be done:
(A) Strengthen the barrier-free facilities reconstruction of financial service sectors. The city's Construction Bank, Industrial and Commercial Bank, Agricultural Bank, China Bank, Credit Cooperatives and other commercial banks and financial institutions shall, on the basis of the renovation of last year, increase 2 urban savings agencies in each unit and set barrier-free facilities such as the low windows and passages for the disabled.

(B) Strengthen the barrier-free facilities construction of public transport. Promote the barrier-free upgrading of public vehicles. In this year, firstly built 2 model buses suitable for the disabled to ride and then gradually popularize it. This task is responsible by the Municipal Construction Bureau.

(C) Urban roads and public buildings which have been built shall set international barrier-free signs. Set barrier-free signboards on Zhongxing Road, Qiaoxi Road, Taxi Road, Tanan Road, Fangeshe Road, Jianshe Street, Zhongshi Street, Xiangyang Road. The Municipal Disabled Person's Federation is responsible for purchasing the signboards and the Municipal Construction Bureau is responsible for the project implementation.

(D) Set acoustic prompt devices in junction concentrated with passing blind persons. Set sidewalk signal lamp and acoustic prompt device in Kuangjian Road, Xinhua Street and Jianshe Street junctions. This task is responsible by the Traffic Police Battalion cooperating with the Construction Bureau.

(E) Strengthen the barrier-free facilities construction for information communication. The municipal TV station is responsible for making the Wu'an News sign language program, trial broadcasting within this year. Hospitals, railway stations and other key public places shall establish information screen system.

(F) Carry out barrier-free construction in residential buildings quarter under construction. Carry out barrier-free inspection on each building of the residential quarter under construction. If there is no barrier-free facilities planning or the barrier-free planning is not appropriate, it shall be order to rectify within a specified period; if the barrier-free planning is not implemented or the barrier-free project fails to meet the standard, the project shall not be accepted and sold. This task is responsible by the Municipal Construction Bureau cooperating with MDPF.
(G) All towns and villages must construct the barrier-free facilities according to regulations when renovating or constructing public buildings.

Wu’an 2009 annual plan: mainly complete the barrier-free facilities sign setting and barrier-free facilities construction of key public buildings and residential buildings under construction. Specifically, do the following tasks:

(A) Urban roads and public buildings which have been built shall set international barrier-free facilities signs. This year, mainly set the barrier-free signboards on Qiaoxi Road, Taxi Road, Tanan Road, Fangshe Road, Zhongshi Road and Xiangyang Road, etc. The Municipal Disabled Person’s Federation is responsible for purchasing the signboards and the Municipal Construction Bureau is responsible for the project implementation.

(B) Set sidewalk signal lamp and acoustic warning device in Zhongxing Road and Zhongshi Road junction. This task is responsible by the Traffic Police Battalion cooperating with the Construction Bureau.

(C) Speed up the barrier-free construction of the residential quarter under construction. In the first half of this year, mainly construct standard ramps suitable for disabled persons’ access in 3 residential quarters, namely Xinhua Quarter, Fuzhong Garden and Xinxing Commercial Buildings; by the end of this year, complete the barrier-free construction of 7 quarters, namely the Steel Building, Urban Garden, Jiajing Park, Zhongxing Park, Xiangyang Garden, Baiyun Quarter, Yayuan International Garden. Meanwhile, all towns and villages must construct the barrier-free facilities according to the regulations when renovating or constructing public buildings. This task is responsible by the Municipal Construction Bureau cooperating with the MDPF.

2.3.3 Municipal Agenda of Barrier-free Construction Activities

The cities have developed, promulgated and implemented many polity agenda during the urban barrier-free construction. For example, Changzhou City municipal government developed the Implementing Program for Creating “National Barrier-free Construction City” of Changzhou City and released and started to implement from on July 1, 2010. Provisions related to the Disabled Persons’ Federation include: first, decide that for special education schools, welfare enterprises or units employing disabled persons, rehabilitation centers, integrated
service facilities for disabled people, elderly apartments, service facilities for elderly people which are closely related to everyday production and lives of the disabled people, the main contents of basic barrier-free renovation: entrance and exit slope processing, safety passage and stairs, barrier-free elevator (if possible), barrier-free toilet or toilet cubical, low desk, ahead blind sideway and warning blind sideway at indoor and outdoor main positions. The responsible units are municipal Bureau of Civil Affairs and MDPF. Second, decide the contents of gradual barrier-free construction and renovation for the home of the disabled, elderly: house entrance, kitchen, bedroom and toilet shall set ramps, handrails, etc., to facilitate the disabled or the elderly to access and use. The responsible unit is the MDPF. Third, decide to equip barrier-free special vehicles for the disabled persons' service agencies, further improve the service conditions for disabled people and enhance the service capacity and level. The responsible units are the municipal Finance Bureau and MDPF. Fourth, decide the main contents of information barrier-free construction: TV news, movies and TV series shall be provided with subtitles; TV stations shall offer sign language television programs; promote information screen system in key public places and public transport hubs like hospitals and stations; establish blind taking books reading room in Municipal Library; popularize sign language in services sectors such as the business circle; promote and support the blind or deaf persons to use appropriate information communication products and items. Fifth, decide to seriously organize and carry out training for barrier-free construction technical and management staff to enhance the consciousness and ability of relevant technical and management staff in implementing relevant codes and standards. The MDPF shall, in conjunction with schools for the deaf, hold free sign language courses for the personnel of service sectors like commerce, hospitals, etc., and vigorously popularize the sign language; the MDPF should develop dedicated website for disabled people. Sixth, decide that the MDPF shall widely carry out barrier-free construction and renovation in community service centers, service facilities for the elderly, activity centers for the disabled and rehabilitation centers, etc.; actively report to relevant department the barrier-free need of the elderly and the disabled, organize volunteer supervisors team to supervise the barrier-free construction and management and give advice about urban barrier-free construction, use and management. Cooperate with construction administrative department in do good propaganda, training, implementation, supervision and inspection about the Codes
for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001) and the Codes for Design of Buildings for the Elderly (JGJ122-99). Seventh, decide that the propaganda department shall, in conjunction with the municipal Civil Affairs Department, the Office of the Committee on Ageing and the MDPF, make full use of various of news media and publicity propaganda means to broadcast the barrier-free public service ads, propaganda films, feature films and print and distribute propaganda materials to further improve the social barrier-free awareness and a good social atmosphere of concerning, supporting and participating in the urban barrier-free facilities construction.

In the Implementing Program for Creating Barrier-free Construction City of Lanzhou City, the provisions on implementation steps are as follows:

(A) Improve the organization management and strengthening regulation and standard construction according to the standard for national Barrier-free Construction City. This task shall be led by the MDPF closely cooperating with the City Construction Department and Civil Affairs Department and the Committee on Ageing, etc., to revise and improve relevant regulations, standards and policies, practically include the barrier-free construction into it and improve the barrier-free construction regulations.

(B) Any newly built, extended or reconstructed roads or building should strictly comply with the technical requirements in the Work Standard for Creating National Barrier-free Construction City, the Codes for Design on Accessibility of Urban Roads and Buildings, the Codes for Design of Buildings for the Elderly, the Codes for Design of Buildings of Special Education Schools, the Codes for Design on Accessibility of Railway Passengers Station and the Standard for Barrier-free Facilities and Equipment Configuration in Civil Airport Passengers’ Terminal Area in carrying out the barrier-free construction. The planning, city construction, law enforcement, real estate, city investment and other administrative departments should include creating barrier-free construction city into the urban planning, design, construction, inspection and management review objects according to law and shall not handle relevant procedures for items not conforming to the create work requirements.

(C) The division of tasks shall be responsible by relevant responsible units based on the principle of easy first difficult later and key points focus, develop the barrier-free facilities renovation plan, raise funds and organize the
implementation as soon as possible. Meanwhile report the renovation plan to the barrier-free construction city leading group office.

(D) Municipal barrier-free construction city leading group office shall, according to the track inspection and guidance, regularly announce the difficulties and problems encountered during the coordination work for whole city's construction and renovation. Relevant functional departments shall strengthen communication, closely collaborate and timely organize relevant professionals to provide codes guidance, inspection and supervision. At the same time, strengthen the professional training of the relevant personnel.

The provisions of implementing Program for Creating National Barrier-free Construction City of Shenyang City on work contents and the division of responsibilities are as follows: (a) for newly constructed, renovated and extended urban roads, public buildings, schools, communities, residential quarters and other construction projects, the local places and relevant departments and sectors shall strictly examine and approve the management in accordance with relevant standards such as the Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001) and the Codes for Design of Buildings for the Elderly, etc. 1. For projects not meeting the requirement of barrier-free construction planning, the planning department should strictly supervise the construction organization in accordance with regulations to correct. 2. For projects which do not design, built or construct in accordance with the barrier-free construction codes, the construction administrative department shall not issue the Construction Permit for Construction Project and shall not inspect and record. (b) For built facilities, the local places and relevant departments and sectors shall carry out barrier-free renovation in accordance with relevant standards. The renovation contents include: entrance slope treatment, building entrance and exit treatment, blind sidewalk setting, safety walkway and stairs, barrier-free toilet and the toilet cubical, barrier-free parking spaces, barrier-free sign at prominent positions, large venues setting barrier-free road map, public service buildings setting low window, service desk and telephone, watch performance places setting wheelchair seats, etc. 1. Municipal Construction Commission, Finance Bureau and the local places and relevant sectors shall be responsible for arranging special fund for public infrastructure not meeting the barrier-free construction standard. 2. The Municipal City Construction Bureau and the local places shall be responsible for ensuring that the barrier-free renovation rate of the facilities such as urban roads,
squares, parks, public toilets, etc., reaches 80%, and that the layout is reasonable.
3. Municipal Transportation Bureau, Public Security Bureau, Taoxian Airport and Railways Bureau shall be responsible for the barrier-free renovation of bus stations, airports, railway stations, bus stations, street overpass and underpass and buses, etc.; set crossing acoustic signal devices at road junctions and main bus stations set Braille stop. 4. Local places, departments and institutions directly under them shall be responsible for ensuring that the barrier-free renovation rate of government public office buildings reaches 80% and that the layout is reasonable. 5. Municipal Health Bureau, Commercial Bureau and the local places shall be responsible for ensuring that the barrier-free renovation rate of general (specialized) hospital, medium and large shopping malls, shopping centers, specialty stores and other buildings reaches 80% and that the layout is reasonable. 6. Municipal Commercial Bureau, Tourism Bureau, Post Office, Bureau of Information Industry, Finance Office and the local places shall be responsible for ensuring that the barrier-free renovation rate of star hotels, restaurants, post offices, telecommunications, bank and other buildings reaches 60%, and the layout is reasonable. 7. Municipal Bureau of Culture, Sports Bureau, Science and Technology Bureau and the local places shall be responsible for ensuring that the barrier-free renovation rate of cultural centers memorial hall, libraries, science museums, exhibition centers, museums, theaters, concert halls, stadiums and other facilities reaches 70% and that the layout is reasonable. 8. Municipal Bureau of Education and the local places shall be responsible for ensuring that the barrier-free renovation rate of colleges and universities, middle and primary schools, nursery and kindergarten building facilities reaches 30% and that the layout is reasonable. 9. Municipal Bureau of Education, Bureau of Civil Affairs, MDPF, Office of the Committee on Ageing and the local places shall be responsible for ensuring that the barrier-free renovation rate of special education schools, welfare enterprises, rehabilitation centers, integrated services facilities for the disabled, nursing homes and services facilities for the elderly, etc., reaches 80%, and gradually carry out barrier-free construction and renovation of the homes of the disabled and the elderly. 10. Municipal Real Estate Bureau and the local places shall be responsible for ensuring that the barrier-free renovation rate of residential quarters should not be not below 60%; high-rise and mid-rise residential buildings, apartments and dormitories not below 80%, and the layout is reasonable. 11. Municipal Tourism Bureau and Cultural Bureau shall be
responsible for carrying out barrier-free renovation of facilities in the tourist attractions. 12. Municipal Bureau of Radio and Television and Shenyang TV Station shall be responsible for adding relevant subtitles in TV news, movies, TV plays and offering relevant sign language programs in the TV station. 13. MDPF, Commercial Bureau and Health Bureau shall be responsible for popularizing sign language in the employees of window service lines such as commerce and hospitals, etc. 14. Municipal Propaganda Department shall be responsible for organizing and carrying out barrier-free propaganda work, producing and broadcasting barrier-free public service ads and propaganda films and releasing propaganda materials to raise the public's barrier-free awareness, educating the public to maintain and protect barrier-free facilities so as to form a good social atmosphere of barrier-free construction. 15. Municipal Public Security Bureau and Administrative Law Enforcement Bureau shall be responsible for strengthening the supervision and correcting and punishing the behaviors of occupying barrier-free buildings, structures, booths, parking spaces, etc.

The provisions of the Implementing Program for Creating National Barrier-free Construction City of Nanning City on safeguard measure are as follows:

(A) Strengthen organizational leadership, establish and improve the work mechanism of multi-sector close cooperation and coordination; the municipal government, development zone management committee and relevant municipal departments shall set the corresponding work mechanisms or identify the responsible departments, responsible for the organization, guidance, coordination and supervision of barrier-free facilities in their own jurisdiction; the municipal office of creating barrier-free city shall hold a regular meeting every two weeks to understand the city's barrier-free construction and renovation progress, coordinate with relevant department in solving existing problems; the municipal leading group of creating barrier-free city shall hold meetings irregularly according to the barrier-free construction and progress to solve the major problems in the barrier-free facilities construction.

(B) Ensure the funding sources and capital investment to guarantee the smooth operation of the work. The Municipal Finance Department shall seriously ensure the special funds for the pre-phase, organization, construction, management, propaganda and training, etc., of the barrier-free construction city; ensure construction funds for barrier-free city construction management system and the
help information system. All levels of government, development zone management committee and member units shall ensure the funds for the barrier-free facilities construction of newly constructed, extended, reconstructed projects and projects under construction, strengthen the allocation of the renovation funds for the barrier-free facilities of built projects, fully stimulate the enthusiasm of all sectors of society and mobilize the forces of all institutions and fields to raise the barrier-free facilities renovation, maintenance and management funds. In addition, Municipal Development and Reform Commission and Municipal Finance Bureau shall actively seek special financial support from the State and the Autonomous Region to ensure the funds for creating the national barrier-free construction city.

(C) Strictly implement the standards. Municipal Construction Committee shall strengthen the codes guidance on barrier-free facilities design and urge the design organization to strictly implement the mandatory standards like the *Codes for Design on Accessibility of Urban Roads and Buildings* ([JG]50-2001), *Codes for Design of Buildings for the Elderly* ([JG]122-99), etc.; organize the implementing units to carry out technical seminars and training and distribute materials related to the *Codes for Design on Accessibility of Urban Roads and Buildings* and *Codes for Design of Buildings for the Elderly*; strengthen the guidance and review of the renovation program of barrier-free facilities of built projects to ensure that the barrier-free facilities renovation meet the requirements of the codes.

(D) Focus on key points, drive the overall work with the key points and comprehensively promote the construction work. The municipal create barrier-free city office, on the basis of organizing a research in the whole city, select several important urban roads, commercial pedestrian street, public buildings, residential quarters, city squares, scenic spots and parks, etc., to renovate emphatically to form a number of barrier-free facilities construction model areas, model streets and model sites to promote the creation work of the whole city.

(E) Assign responsibilities for each sector and strengthen communication and coordination. Each department shall actively carry out the renovation and improvement of the barrier-free facilities of its department and its subsidiary unit offices as well as the residential buildings, actively communicate with counterpart
directly under the Party Central Committee or district counterpart to ensure the renovation and improvement of the barrier-free facilities of the buildings in the counterpart directly under the Party Central Committee or district counterpart and the buildings in the charge of them. All urban areas and development zones shall actively cooperate, urge and coordinate with the construction and renovation of the barrier-free facilities in various projects within their jurisdiction to ensure an all-round development of the barrier-free construction.

(F) Strengthen the inspection and supervision of barrier-free facilities construction. Strictly in accordance with the task objectives and responsibilities division, the Municipal Supervision Bureau, Municipal Party Committee Supervision Office and Municipal Government Supervision Office shall be responsible for supervising and inspecting the implementation of the barrier-free facilities project construction by the responsible units and cooperating units and, for administrative omission which delays the progress of the barrier-free facilities projects of this city, shall hold relevant units or persons in charge responsible.

(G) Adhere to both construction and management and maintain the barrier-free environment. For barrier-free facilities which have been constructed, the construction organization shall, according to relevant provisions of the State and this city, completely equip guiding signboards of uniform format. The daily maintenance and management of barrier-free facilities shall be conducted in accordance with the asset ownership and the management and maintenance responsibilities. The asset owner of the construction project or the manager appointed or authorized by it. The industrial administrative law enforcement departments shall give administrative penalties to the behaviors of damaging or occupying the barrier-free facilities or alter the application of the barrier-free facilities and resolutely prohibit occupation of or damage to the barrier-free facilities or set obstacles on the barrier-free facilities.

(H) Develop and keep improving the regulations and policies on the city’s barrier-free facilities construction and management, give full play to the role of leading group, timely study and resolve the new situations and new problems found in work to gradually transform the city’s barrier-free facilities construction work to daily work to carry out.

(I) Establish annual evaluation mechanism combined with reward and punishment. At the end of each year, the municipal create barrier-free city office
shall be responsible for evaluate the barrier-free facilities construction of each department, each unit, each urban area and each development zone and submitting the evaluation results to the municipal create barrier-free city leading group. The municipal create barrier-free city leading group shall, according to the evaluation results, be responsible for circulate a notice of criticism for the sectors and units who fail to pass the annual barrier-free facilities construction evaluation and reward or commend the units or individuals who have an outstanding performance in the barrier-free facilities construction.

(J) Create public opinion atmosphere. Combine the intensive propaganda in the National Day for Helping the Disabled with the every day propaganda and educational activities and make public service ads of the barrier-free facilities construction and management through news media, etc., actively publicize the main contents and importance of the barrier-free facilities construction and relevant state regulations and policies on creating the barrier-free environment, reflect the needs of the social groups, disabled and the elderly, etc, for the barrier-free environment, reflect the development achievements and weaknesses in the city’s barrier-free facilities planning, construction and management, establish the “barrier-free” awareness in people’s minds, try to create a good social atmosphere of “everyone concern disabled people and everywhere construct barrier-free facilities” so as to ensure the sustained and effective popularization of the barrier-free facilities construction work.
3. Codes and Standards for Design on Accessibility of Urban Construction in China

3.1 Codes and Standards for National Design on Accessibility of Urban Construction

3.1.1 The Latest and Most Powerful National Design Codes

The codes and standards for design on urban barrier-free construction in China have been developed gradually. In April 1985, some NPC (National People’s Congress) members and CPPCC (Chinese People’s Political Consultative Conference) members suggested to take the special needs of the disabled into consideration in architectural design codes and municipal design codes at the 3rd Session of the 6th NPC. In July 1986, the Ministry of Construction (MOC), the Ministry of Civil Affairs (MCA) and China Welfare Fund for the Handicapped (CWFH) established the first Codes for Design on Urban Roads and Buildings to the Convenience of Disabled Persons (on Trail) which was put into effect on April 1, 1989. In June 1998, MOC, MCA and China’s Federation of Disabled issued the
Notice on Implementing Several Additional Provisions of Codes for Design on Urban Roads and Buildings to the Convenience of Disabled Persons (JGJ177-1998), emphasizing on strengthening the management of project approval and works acceptance, and carrying out barrier-free design related to the entrances of public buildings and utilities, indoor, new high-rise buildings of apartment and the buildings under construction, the sidewalks of new roads and flyover crossings, the intersections of roads, the doorways of organizations, pedestrian overpass and underpass, residential areas, etc. In 2001, after the second modification, Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001) was issued by MOC, MCA and China's Federation of Disabled on August 1, 2001, becoming the professional and enforced standards of China, also the latest and most powerful one. Now new and reconstruction projects have to be designed and constructed based on the code.

Codes for Design on Accessibility of Urban Roads and Buildings mainly includes:

(1). Urban roads. The codes shall be applied to urban roads, including all sidewalks, pedestrian overpass and underpass, bridges, tunnels and pedestrian intersections. The content of barrier-free facilities is: curb ramps shall be applied to all intersections of sidewalks with curbs; blind sidewalks to urban centers, government areas, commercial streets, transportation buildings and other main sections, warning blind sidewalks to bus stands; ramps or elevators for wheelchairs to urban centers, commercial streets, residential areas and main public buildings, ramps or elevators for wheelchairs to pedestrian overpass and underpass; handrails to ramps and steps, warning blind sidewalks to bridges; curb ramps to entrances of bridges, tunnels and pedestrian intersections of flyover crossings; blind sidewalks to sidewalks of bridges, tunnels and sidewalks of flyover crossings.

(2). Residential areas. The codes shall be applied to residential areas, mainly including roads and green belt. Curb ramps shall be applied to all intersections of sidewalks with curbs; blind sidewalks to main public areas and bus stands. The roads in parks, gardens and children playgrounds shall be comply with the passing and using requirements of wheelchair users.

(3). House buildings. The codes shall be applied to house buildings, including
buildings designed for offices, scientific research, business, culture, commemoration, performance, sport, transportation, medical treatment, schools, gardens, living buildings, etc. Corresponding facilities of the entrances, pavements, terraces, doors, halls, stairways, elevators, public lavatory, bathroom, telephones, guest rooms, housings, signs, blind sidewalks, and wheelchair-accessible seats shall be applied to the convenience of passing and using of the disabled.

The blind sidewalks in *Codes for Design on Accessibility of Urban Road and Buildings* are required at following areas: 1. Blind sidewalks should be applied to urban centers, squares, pedestrian streets, commercial streets, bridges, tunnels, sidewalks of flyover crossings and main sections. 2. Warning blind sidewalks should be applied to pedestrian overpass, underpass and crossings, and main bus stops.

The blind sidewalks design shall be in line with the following codes: 1. The position and trend shall be in accordance with the passing and using requirements of the blind; 2. The blind sidewalks should be bar-type go-ahead sidewalks; warning blind sidewalks of dots shall be set at the starts, turnings and ends of go-ahead blind sidewalks; 3. The bottom of yellow bumps shall be on the same level with sidewalks; 4. The blind sidewalks should be continuous pathways without telephone poles, wires, trees and other barriers; 5. The blind sidewalks should avoid manhole cover; 6. The color should be medium yellow.

The position selection for blind sidewalks shall be in accordance with the following sequences: 1. The go-ahead blind sidewalks shall be set 0.25~0.50 m away from outboard enclosing walls, flower beds and green belts; 2. The go-ahead blind sidewalks shall be set 0.25~0.50 m away from inboard tree grates; 3. The go-ahead blind sidewalks shall be set over 0.50 m away from vertical curbs if there is no tree grates; 4. The width of go-ahead blind sidewalks should be 0.30~0.60 m, with the low or high limit based on road width; 5. The direction of go-ahead blind sidewalks and sidewalks shall be the same; 6. The standards of yellow strips shall be comply with table 4.2.2-1.

3.1.2 Another National Code for Design on Accessibility of Construction
At present, another applied national code for design on accessibility of construction is *Code for Design of Buildings for Elderly Persons (JGJ 122-99)* which approved by MOC and MCA and put into effect on October 1, 1999.

*Code for Design of Buildings for Elderly Persons* is consisted by 5 chapters, 10 sections and 79 articles. The 5 chapters are: 1. general principles; 2. terms; 3. environmental design of base; 4. building design; 5. construction equipments and indoor facilities. Therein, the last three chapters have specific codes for each item. The Code is applicable to domestic and public buildings designed for elderly persons. *The code* is a consistent policy of the Communist Party of China and our country, as well as a huge social project to provide elderly persons with living allowances, medical security, old schools, entertainments and others they need. *The code* is aimed to implement the above mentioned requirements as compulsory standards. It is clear in *The Code* that the domestic and public buildings designed for elderly persons must be in accordance with the articles. The domestic buildings for elderly persons include dwellings and apartments designed for elderly persons, buildings for retired cadres, nursing homes and the part for elderly persons in common dwellings. The public buildings designed for elderly persons include the activity centers (home of retired cadres) for the aged, colleges of continuing education for senior citizens, sanatoriums and medical centers for the senior, etc. The above mentioned constructions must meet the needs of elderly persons physically and mentally with convenient facilities.

After comparison, the *Code for Design of Buildings for Elderly Persons* is in accordance with the international general standards of barrier-free design:

1. Ramps shall be set at all entrances of public buildings with gradient of less than 1 / 12;

2. Blind sidewalks shall be set at entrances the blind entering and exiting frequently, and acoustics devices at crossroads to the convenience of the blind;

3. The width of porch shall be over 0.8 m and entrances for the disabled shall be set if the revolution doors are adopted;

4. The width of corridors in all buildings shall be over 1.3 m;

5. The public lavatory shall be equipped with flush toilets with armrest with outward-opening or push-pull stall doors to the convenience of people using
wheelchairs;

(6). The clear width of elevator entrance shall be over 0.8 m.

3.1.3 Working Standards for National Barrier-free City construction

According to the different situations of different regions across the country, Working Standards for National Barrier-free City Construction was issued for the creation of 100 barrier-free cities (hereafter referred to as the “city construction”) launched in the Eleventh Five-Year Plan period, listing the specific qualitative index for the barrier-free construction and reconstruction of the following urban roads, public buildings, public traffic, special facilities, and residential quarters as the essential index of 100 barrier-free cities. In the meantime, higher index and requirements are made for the 12 model cities, 28 awarded cities and provincial capitals.

(1). Curb ramp

A. Curb ramps should be applied to 100% of new, expansion and renovation of sidewalks, intersections, entrances and pedestrian crossings in urban areas and suburbs. It is better to use full-width and single-slope curb ramps. And the construction should be in accordance with the technical requirements of Codes for Design on Accessibility of Urban Road and Buildings.

B. Curb ramps should be applied to at least 60% of all intersections of urban sidewalks and pedestrian crossings (including new ones), and at least 80% in the 12 model cities in the Eleventh Five-Year Plan period, 28 awarded cities and provincial capitals with reasonable layout. It is better to use full-width and single-slope curb ramps.

(2). Blind sidewalk

Go-ahead blind sidewalks and warning blind sidewalks shall be applied to new, expansion and renovation of main roads, commercial streets and footpaths in centers of urban regions, counties and towns, as well as nearby sections and main entrances of parks, squares, main public buildings with the range and width of go-ahead blind sidewalks strictly controlled. And the construction should be in
accordance with the technical requirements of *Codes for Design on Accessibility of Urban Road and Buildings*.

(3). Other facilities

A. Acoustics devices shall be applied to pedestrian crossings of new, expansion and renovation of main urban roads to the convenience of the blind. The safety strips of pedestrian crossings shall be accessible to wheelchairs. Ramps, safety stairways or vertical lifts, and international general barrier-free signs shall be applied to main pedestrian overpass and underpass.

B. Acoustics devices shall be added at the existing pedestrian crossings of main urban roads according to actual requirements. The safety strips of pedestrian crossings shall have access for wheelchairs. Ramps, safety stairways or vertical lifts, and international general barrier-free signs shall be applied to main pedestrian overpass and underpass.

The following standards are required in *Working Standards for National Barrier-free City Construction* for the barrier-free construction and reconstruction of public buildings and facilities:

(1). The ratio of setting barrier-free facilities on new, expansion and renovation of buildings designed for offices, scientific research, commercial service, cultural commemoration, performance, sports, medical treatment, schools, gardens, outdoor public lavatory, gas stations, and highway service areas and other public buildings should be 100%. And the construction should be in accordance with the technical requirements of *Codes for Design on Accessibility of Urban Road and Buildings*.

(2). Barrier-free facilities shall be applied to all existing public buildings, therein:

A. Barrier-free facilities shall be applied to all existing public buildings, therein: Barrier-free facilities should be applied to at least 60% of government buildings, general (special) hospitals, urban squares and parks, large and medium malls, gas stations and highway service areas, at least 80% in the 12 model cities in the Eleventh Five-Year Plan period, 28 awarded cities and provincial capitals with reasonable layout.

The followings are included: curb ramps should be set at all entrances and exits of buildings, safety pathways and stairways, barrier-free toilets, barrier-free parking lots, barrier-free signs at outstanding locations, barrier-free road
routes at large sites, low service desks, windows and telephones in hospitals, parks and other public constructions.

B. Barrier-free facilities should be applied to at least 40% of restaurants, hotels, postal services, telecommunications, banks, outdoor public toilets, at least 60% in the 12 model cities in the Eleventh Five-Year Plan period, 28 awarded cities and provincial capitals with reasonable layout.

The followings are included: curb ramps should be set at all entrances and exits of buildings, safety pathways and stairways, barrier-free toilets, barrier-free parking lots, barrier-free signs at outstanding locations, barrier-free road routes at large sites, low service desks, windows and telephones in postal services, telecommunications, banks and other public constructions, certain number of barrier-free rooms in hotels and restaurants.

C. Barrier-free facilities should be applied to at least 50% of culture centers, libraries, science museums, exhibition centers, museums, memorial halls, movie theaters, music halls and stadiums, at least 70% in the 12 model cities in the Eleventh Five-Year Plan period, 28 awarded cities and provincial capitals with reasonable layout.

The followings are included: curb ramps should be set at all entrances and exits of buildings, safety pathways and stairways, barrier-free toilets, barrier-free parking lots, barrier-free signs at outstanding locations, barrier-free road routes at large sites, low windows and wheelchair-accessible seats in culture centers and stadiums.

D. Barrier-free facilities should be applied to at least 20% of primary and middle schools and kindergartens, at least 30% in the 12 model cities in the Eleventh Five-Year Plan period, 28 awarded cities and provincial capitals with reasonable layout.

The followings are included: curb ramps should be set at all entrances and exits of buildings, safety pathways and stairways, barrier-free toilets, barrier-free parking lots, barrier-free signs at outstanding locations. The universities and colleges shall be reconstructed based on the experience from the reconstruction of other public buildings and residential buildings.

The following standards are required in Working Standards for National Barrier-free City Construction for the barrier-free construction and reconstruction of public traffic facilities:

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(1). Barrier-free construction shall be applied to all new, expansion and renovation of rail transportation, civil airports, railway passenger stations, bus stations and ferry terminals. And the construction should be in accordance with the technical requirements of Codes for Design on Accessibility of Urban Road and Buildings, Codes for Design on Accessibility of Railway Stations and Standards for Barrier-free Facilities of Terminal Areas in Civil Airports.

(2). Barrier-free construction shall be applied to all existing rail transportation, civil airports, railway passenger stations, bus stations and ferry terminals. The followings are included: curb ramps should be set at all entrances and exits, horizontal and vertical access for wheelchairs, low ticket windows, barrier-free lavatory, go-ahead bind sidewalks and warning bind sidewalks at waiting areas of railway stations, traffic stations and bus stations, bus station boards for the blind at main bus stations, barrier-free road routes and signs at large sites, boarding devices for the disabled at airports, the floor of trains, buses, subways and light railways on the same level with the platforms, boarding devices for the disabled at ferry terminals.

(3). The airplanes, subways, light-rail vehicles, trains, buses, trolley buses, vessels and other public vehicles shall be applied to the using of the disabled. The followings are included: horizontal access for wheelchairs and wheelchair-accessible seats should be set.

The following standards are required in Working Standards for National Barrier-free City Construction for the barrier-free construction and reconstruction of special facilities:

(1). Barrier-free construction shall be applied to all new, expansion and renovation of special schools, welfare enterprises, rehabilitation centers, comprehension service facilities, old-age care institutions, old-age service facilities designed for the disabled. And the construction should be in accordance with the technical requirements of Codes for Design on Construction of Urban Road and Buildings, Codes for Design on Construction of Special Education School, Codes for Design on Buildings for Elderly People and Standards for Barrier-free Service Facilities for the Disabled.
(2). Barrier-free construction shall be applied to at least 80% of the existing special schools, welfare enterprises, rehabilitation centers, comprehension service facilities, old-age care institutions, old-age service facilities designed for the disabled.

The followings are included: curb ramps should be set at all entrances and exits of buildings, safety pathways and stairways, barrier-free, elevators, toilets, low service desks, go-ahead bind sidewalks and warning bind sidewalks at main indoor and outdoor areas.

(3). Barrier-free construction and reconstruction shall be applied to the housed with the disabled and the aged living in gradually.

The entrances, kitchens, bedrooms and toilets should be reconstructed to the convenience of the passing and using of the disabled and the aged.

The following standards are required in Working Standards for National Barrier-free City Construction for the barrier-free construction and reconstruction of residential quarters and buildings:

(1). The ratio of setting barrier-free facilities on new, expansion and renovation of residential quarters and buildings should be 100%. And the construction should be in accordance with the technical requirements of Codes for Design on Accessibility of Urban Road and Buildings.

(2). Barrier-free facilities should be applied to at least 40% of existing residential buildings, at least 60% in the 12 model cities in the Eleventh Five-Year Plan period, 28 awarded cities and provincial capitals with reasonable layout.

The followings are included: sidewalks inside communities, public lawn, public service facilities and parking spaces designated for the disabled.

(3). Barrier-free facilities should be applied to at least 60% of high-rise and mid-tall storey housings, apartments, dormitory buildings, at least 80% in the 12 model cities in the Eleventh Five-Year Plan period, 28 awarded cities and provincial capitals with reasonable layout.

The followings are included: curb ramps should be set at all entrances and exits of residential buildings; elevators that need to be changed shall be replaced by barrier-free elevators; barrier-free public toilets should be installed in apartments and dormitories.
The following standards are required in *Working Standards for National Barrier-free City Construction* for the barrier-free construction of communication:

(1). Subtitles should be applied to TV news, movies and TV series.

(2). Sign language programs should be added.

(3). Information screen system should be applied to main public areas, like hospitals, stations and urban center squares, and urban buses of key lines.

(4). Sign language shall be promoted in service industry, such as business industry and hospitals.

(5). Products and services of communication to the convenience of the blind and the deaf should be developed and promoted.

(6). Special websites for the using of the disabled shall be developed.

### 3.2 Codes and Standards for Design on Accessibility of Urban Construction in Local Areas

#### 3.2.1 Standards for Design on Accessibility of Urban Construction in Beijing

In 1990s, to guide the construction and management of barrier-free facilities, the MOC and other related departments established the *Codes for Design on Urban Roads and Buildings to the Convenience of Disabled Persons* and other design standards and codes. In 1999, the *Detailed Rules for the Implementation of “Codes for Design on Urban Roads and Buildings to the Convenience of Disabled Persons” in Beijing* were formulated. In 2000, the *Rules for Implementation of Barrier-free Construction Management in Beijing* were officially issued to make rules for the implementation of the construction and management of barrier-free facilities on technical and standard level. In 2001, the MOC and other related departments reformulated the *Codes for Design on Accessibility of Urban Roads and Buildings* on the basis of new requirements and completed the technical standards for the construction of barrier-free facilities based on related national regulations.

To well manage the connection between implementing the *Rules* and implementing related national technical standards and regulations, and well guide
the construction and reconstruction of barrier-free facilities in Beijing, the formulation of technical standards and regulations was accelerated in accordance with the requirements of Article IX in Rules. In 2006, Planning Guidelines for Construction and Reconstruction of Barrier-free Facilities in Beijing were formulated which also are the rules for planning design. Planning Guidelines, Rules for Construction and Management of Barrier-free facility in Beijing and Codes for Design on Accessibility of Urban Roads and Buildings make a whole. Planning Guidelines is aimed to provide regulations and technical standards, describing the general goals for the construction of barrier-free facilities in Beijing, making the future development direction and the measures for sustainable development of the construction and reconstruction of barrier-free facilities in Beijing, affirming the short-term, long-term and overall goals for the construction and reconstruction of all industries, various constructions and living areas. Planning Guidelines are based on hardware construction, supplemented with signs and information. The construction of overall city barrier-free environment includes hardware construction, software construction and construction of auxiliary facilities which are same important. Hardware construction means all barrier-free facilities, software construction means that the social members care and help each other, and auxiliary facilities are signs and information.

In Planning Guidelines, the design on barrier-free facilities of residential quarters shall comply with related laws and regulations and design specifications. Refer to Planning Guidelines if things cannot be found in Code for Design on Accessibility of Urban Roads and Buildings.

3.2.1.1 Roads in Residential Quarters

(1). The width of the roads should be 6~8m. For safety, the roads shall be arranged in following order:

A. People and vehicles shall be separated (except in fire fighting situation).

B. The vehicles should be distant from people in one-way traffic.

C. The vehicles should be distant from people in two-way traffic.

(2). The method that sidewalks are higher than roadways is generally applied to existing residential quarters to the convenience of separation and...
management. The altitude difference between the ends of sidewalks and pavement shall be in accordance with the requirements of barrier-free construction and curb ramps, all the construction forming a system.

(3). The barrier-free facilities should be applied to roads connecting housings and public service buildings. Ramps shall be applied to roads of different altitude and steps to the convenience of wheelchair users.

3.2.1.2 Buildings in Residential Quarters

(1). The entrances and exits on the first floor of public service buildings shall be designed to the convenience of wheelchair users. Ramps shall be applied to places with different altitude with hand rails installed.

A. If there is no access to indoor for wheelchair users because the high altitude difference between outdoor and indoor in first floor, ramps are hard to set or basement and semi-basement are used as matching houses, measures shall be made to make sure that service staffs will offer help.

B. Service staffs shall offer help if there are no low windows in the building designed for the supporting financial and posts and telecommunications.

C. The low service desks, public phones, drinking fountain and other should be designed for wheelchair users.

(2). Barrier-free facilities shall be applied to outdoor roads reaching to gardens and lawns. Ramps shall be applied to roads with different altitude and steps to the convenience of wheelchair users.

If there are conditions, one low urinal and one barrier-free toilet cubical shall be applied to men's room and one barrier-free toilet cubical to women's room separately, or one barrier-free toilet in garden and activity area.

(3). Under the same condition, the parking space nearest the entrances of buildings and elevators should be given to disabled drivers firstly. If there are conditions, it is suggested to establish parking space designed for the disabled. The tricycle parking space designed for the disabled should be applied to the places nearby the entrances of bicycle garages.

(4). Blind sidewalks should be applied to the roads in front and nearby of dwellings or dormitories in which some people are the blind (which means
the number of the blind is 1.5% of that of the total people in residential areas).

In 2007, the apartments of education, transportation, business, culture, health, cultural relic, garden, tourism, finance of Beijing formulated the *Detailed Rules for Construction and Reconstruction of Barrier-free Facility* for various industries on the base of *Planning Guidelines*. The main purposes are to provide technical requirements on city space planning level and solve the connecting problems between regulations and technical standards and files. To meet the requirements of Olympics, especially Paralympics, related departments formulated the *Codes for Construction and Reconstruction of Barrier-free Facility for 2008 Olympics and Paralympics*, describing the overall objectives, length of games, schedules, risk assessment and etc. of barrier-free stadium construction in detail.

Meanwhile, related departments of Beijing formulated the *Codes for Design on Accessibility of Rail Transportation*, *Technical Rules for Barrier-free Taxi*, *Technical Rules for Barrier-free Taxi Zone*, *Technical Rules for Barrier-free Bus Stands*, *Rules for Reconstruction of Barrier-free Roads*, *Technical Guide for Construction of Barrier-free Sidewalks and Blind Sidewalks in Beijing*, *Rules for Reconstruction of Barrier-free Houses for the Disabled* and other technical standards and regulations to meet the needs of all social sectors, especially that of rail transportation barrier-free facility. In addition, to strength the implementation of technical standards and regulations, all districts and counties of Beijing made management methods and local regulations according to actual situations. For instance, the Xicheng District formulated *Supervision Standards for Xicheng District Barrier-free Construction*; the Chaoyang District formulated *Management and Maintenance Methods for Chaoyang District Barrier-free Facility*; the Pinggu District formulated *Comments on implementing “Rules for Construction and Management of Barrier-free facility in Beijing”*. The formulation and implementation of these technical standards and regulations and measures for the implementation further promoted the standardization and systematization of the construction and reconstruction of barrier-free facilities in Beijing.

### 3.2.2 Standards for Design on Accessibility of Urban Construction in Shanghai

Before 2003, there were no standards for barrier-free construction in Shanghai.
But Shanghai needs the design standards suitable for its real situation, since it is an international metropolis. In August, 2003, Shanghai engineering construction standards (barrier-free standards) were issued, among which the standards of many terms were higher than national standards. Based on Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001), guided by advancement, periodicity and operability, the standards have some basic rules, scales and targets which reflects the advanced design ideas, concepts and methods and are easy to understand and operate, for the current and future barrier-free design, making a few new exploration on the integration of the scientificity, perspectiveness and operability of Shanghai engineering construction standards after deep research and listening to the opinions from all social sectors. The main technical contents of the standards are: 1. general principles; 2. terms; 3. urban roads and squares; 4. urban bridges and tunnels; 5. urban transport stations; 6. urban public lavatory; 7. office buildings; 8. business buildings; 9. cultural and memorial buildings; 10. performance buildings; 11. sport buildings; 12. health-care buildings; 13. school buildings; 14. residential buildings; 15. residential districts; 16. buildings designed for elderly persons; 17. public parking lot (yard); 18. facility; 19. barrier-free facility.

The followings are standards for roads, lawns and public service facility in residential areas.

Design on accessibility of roads in residential districts includes: sidewalks of residential area trunk roads (residential area); sidewalks of residential area branch roads (community grade); sidewalks of housing cluster roads (housing grade); sidewalks of other roads (including paths connecting housings). The longitudinal grade of all sidewalks should be less than 2.5%. Ramps for wheelchairs shall be applied to those sidewalks with steps. Curb ramps shall be applied to those sidewalks in front of main entrances. Blind sidewalks and maps for the blind shall be applied to the regions many blind live and acoustics devices shall be applied to the intersections. Acoustics devices shall be applied to the intersections with traffic lights to the convenience to the blind. Besides, barrier-free sign boards shall be applied to the barrier-free facilities branch.

Design on accessibility of lawns in residential districts includes: gardens (residential area); small gardens (community grade); green belts (housing grade); children's playgrounds. All entrances and access roads shall be gentle
and anti-skidding; ramps for wheelchairs shall be applied to those roads with different altitudes. Stands for wheelchairs shall be applied to sides of resting chairs. Blind sidewalks shall be applied to entrances and nearby sections of gardens and small gardens. Warning blind sidewalks shall be applied to accesses to green belts and children’s playgrounds.

Design on accessibility of public service facility in residential areas should comply with the standards. Design on accessibility of parking lot (yard) in residential areas should comply with the 17th chapter of the standards. It is better to arrange the barrier-free housing together near the entrances of communities. Design on accessibility of public lavatory in residential areas should comply with the 6th chapter of the standards.

As the development of barrier-free construction in Shanghai, between 2007 and 2008, Guidelines for Implementing the Accessibility of Domestic Installation, Guidelines for Implementing the Accessibility of Facility in Residential Areas, Guidelines for Implementing the Accessibility of Sport Facility, Guidelines for Implementing the Accessibility of Facility in Organizations Designed for the Aged and Guidelines for Implementing the Accessibility of Rail Transportation which all have strong practical guiding significance were formulated.

To strengthen technical guidance, Shanghai Promotion Office established an expert group consisted of ten engineers and technicians who guided, supervised and inspected the work on technical level. The promotion offices of districts and counties also employed experts for technical check. In 2008, some information and transportation experts joined the expert group. The implementation of these measures guaranteed the codes for construction of Shanghai barrier-free facility and engineering quality.

In Shanghai, guidelines for accessibility of construction of stadiums, rail transportation stations, nursing houses, communities and houses were formulated. Shanghai Promotion Office, Shanghai FIMITIC and Tongji University carried out the research on the Development Trend of International Barrier-free Construction, Research on Current Survey and Development of Shanghai Facilities for the Blind, Research on the Necessary Formulation of Local Regulations for Construction of Shanghai Barrier-free Environment and other topics.

3.2.3 Standards for Design on Accessibility of Urban Construction
in Tianjin

To standardize the construction of Tianjin barrier-free facility, improve the environment of barrier-free facility and to the convenience of the disabled, according to the requirements of the On Issuing the Scientific and Technical Development Plan of 2008 First Constructions and the Plan on Formulation Standards for Local Engineering Construction (JKJ 683--2008) issued by Tianjin Construction and Traffic Committee, Tianjin Design Office of Construction Standards completed Standards for Design on Accessibility of Urban Construction in Tianjin (DB 29-196-2010) based on Codes for Design on Accessibility of Urban Roads and Buildings (JGJ 50-2001), Rules for Barrier-free Construction formulated by the national Ministry of Housing and Urban-Rural Development, the experience from Beijing, Shanghai and other advance cities, the practical experience from Tianjin in recent years, the current situation and the opinions from all social sectors, with guidelines of advancement, periodicity and operability. The standards reflect the advanced design ideas, concepts and methods, describing some basic rules, scales and targets which are easy to understand and operate, making a few new explorations on the integration of the scientificity, perspectiveness and operability of Tianjin engineering construction. After the examination of Tianjin Construction and Traffic Committee, Standards for Design on Accessibility of Urban Construction in Tianjin (DB29-196-2010) became the standards for Tianjin engineering construction which was put into effect on July 1, 2010. The standards include: 1. general principles; 2. terms; 3. design on accessibility of urban roads and facility; 4. design on accessibility of urban squares and green belts; 5. design on accessibility of constructions; 6. elements of barrier-free design. Therein, articles of 3.2.1(1), 3.3.1(5), 3.5.1(1), 4.0.2(2), 5.0.2(3), 6.1.4, 6.1.5, 6.1.6, 6.1.7, 6.4.4(6), 6.11.2(1), 7.3.2, 7.4.2, 7.4.4, 7.5.1(1), 7.6.1(2) are compulsory and must be carried out strictly.

The main technical contents of DB 29-196-2010 include the principles, range, locations, requirements and others of design on accessibility of urban environment and buildings.

(1). DB 29-196-2010 should be applied to the design on accessibility of the new, expansion and revocation of urban roads, bridges, tunnels, squares and green belts and all civil buildings, as well as the reconstruction of existing facilities to the convenience of the disabled who shall be fully respected.
(2) We shall strive to provide the disabled, the aged, women and children with better services to the convenience of their daily life, so they can do their things on their own. For example, they can walk on streets, enter and exit buildings, use traffic vehicles and facilities open to public, participate in social activities in an independent, safe and convenient way. And that is the guiding ideology and basement of barrier-free construction design.

(3) The barrier-free facilities development of urban roads, bridges, tunnels, squares, green belts and buildings should be included in the urban master planning in accordance with the requirements of urban planning and the principles for the coordination of the overall urban image and the surroundings.

(4) DB 29-196-2010 stipulates that ramps for wheelchairs or hybrid ramps should be applied to the entrances of the green belts open to public and main roads with steps and the ramps should be gentle to the convenience of wheelchair and baby carrier users.

(5) DB 29-196-2010 stipulates that the barrier-free design should form a system with other barrier-free facilities of surrounding roads and buildings with safety, accessibility, practicability and convenience as the premise. Specific rules for the main service facilities including passages inside constructions, parking lots, entrances of different buildings, ramps for wheel chairs, aisles inside buildings, service desks, elevators, public lavatory, wheelchair-accessible seats and barrier-free guest rooms should be made in accordance with the above mentioned principles and conscientiously implemented.

The characters of Standards for Design on Accessibility of Urban Construction in Tianjin (DB29-196-2010) are as follows:

(1) Based on Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001), the experience from Beijing, Shanghai and other advance cities and 2004 model cities for barrier-free construction, and the practical experience from Tianjin in recent years, the standards are formulated in detail with partiality and guidance.

(2) The standards are described mainly by text with few pictures. Because of the well organization, clear requirements and strong operability, the standards
are easy for the apartments of design, construction, supervision, acceptance, maintenance and management to use.

(3). The standards have three parts. The first part is the standards for design on accessibility of city, squares and urban green belts open to public; the second part is the standards for design on accessibility of constructions; the third part is the barrier-free design elements. The first and second parts include the range of barrier-free construction and the locations and elements of barrier-free design. The third part stipulates the specific requirements of design elements, having more systematic, organized articles and clear requirements, so that it is easy to use and can be useful to organizations of construction, planning and design, and management.

(4). In the second part, constructions are divided into 11 types based on the different functions. The range of barrier-free construction and the locations and requirements of barrier-free design are stipulated for different constructions which guarantee more systematic, standard and detailed standards with strong pertinence and operability.

(5). The standards reflect the combination of humanized design and perceptiveness, emphasizing to use “people with physical challenges” and making different requirements for different barrier-free facilities designed for different groups, such as the disabled, the aged, women, children, the sick and the weak. Words, like “must”, “should” and “better” should be well selected to distinguish the intensity of implementation. For example, it is stipulated that barrier-free entrances should be applied to the entrances of buildings designed for medical rehabilitation and transportation for public use with barrier-free doors due to the large stream of people. In normal circumstances, it is stipulated that barrier-free entrances should be applied to the entrances of buildings designed for office and scientific research, and other public buildings. But if it is difficult to use barrier-free entrances due to high altitude different between indoor and outdoor and narrow site, steps and ramps for wheelchairs can be applied to the entrances. In addition, it is stipulated that the gradient of ramps shall be 1:12. If the requirement is hard to satisfied, the gradient of ramps can be selected based on actual situation, but no greater than 1:6. And the gradient of outdoor floor shall be less than 1:30. If the height of the ramps for wheelchairs lower than 0.20m,
the handrails are not necessary. Thus, the work shall be carried out according to the specific requirements.

(6). Elevators are typical facilities people use frequently. DB 29-196-2010 stipulates that the elevators equipped in public buildings must be barrier-free ones. The specific requirements on barrier-free elevators are made based on different buildings. For instance, office buildings and buildings designed for business, medical rehabilitation and transportation (building area is greater than 15,000 m²) must be equipped with barrier-free elevators; Large buildings designed for culture, exhibition and memorization, and the medical rehabilitation buildings for patients with two floors or more should be equipped with barrier-free elevators; and it is better for multi-storey office and scientific research buildings to install barrier-free elevators.

(7). Public lavatory is indispensable in people's daily life. DB 29-196-2010 stipulates that barrier-free facilities should be applied to the public lavatories people use frequently. And specifications are made for the same kind of buildings with different scales. For example, it is stipulated that business and service buildings must be equipped with at least two barrier-free lavatories if the building area is greater than 15,000 m², and men's room should be equipped with one barrier-free toilet cubicle and one barrier-free urinal and women's room with one barrier-free toilet cubicle separately with each barrier-free wash basin in each room if the building area is less than 5,000 m².

(8). The rules on urban blind sidewalks are more realistic and operative. According to domestic and foreign materials and actual methods, go-ahead blind sidewalks are not necessary since warning blind sidewalks are good enough for the using of the blind. With the development of science and technology and the application of barrier-free environment, information and communications technology, products and devices, it is feasible to set up warning blind sidewalks only. DB 29-196-2010 stipulates that blind sidewalks or warning blind sidewalks should be applied to commercial streets, pedestrian streets and the sidewalks nearby main buildings, but no go-ahead blind sidewalks need to be applied to urban sidewalks of less than 3.00m in width, which is more realistic and operative.

(9). The specific requirements for barrier-free facilities which include barrier-free
urban roads, entrances of buildings, elevators, public lavatory and guest rooms, blind sidewalks, ramps for wheelchairs, wheelchair-accessible sets and are marked in black, must be implemented strictly.

In conclusion, barrier-free construction reflects the caring for the disabled, the aged, women and children, and the social progress and civilization. The issue and implementation of Standards for Design on Accessibility of Urban Construction in Tianjin (DB29-196-2010) means that the barrier-free construction in Tianjin has entered a new stage.

3.3 Codes and Standards for Design on Barrier-free Construction of Different Industries

3.3.1 Design Codes for Special School Buildings

To satisfy the needs of special school construction, guarantee the design quality, create a school environment in favor of the disabled children and teenagers' physical and mental health and their development of moral, wisdom, body and others, Design Codes for Special School Buildings are formulated. The codes are applicable to the new, expansion and renovation of special schools in cities and towns. The codes stipulate that special schools should be designed in accordance with the special requirements of the disabled children and teenagers and the principles of applicability, safety, comfort and clean. The design on special school buildings should comply with the codes and the current related national standards.

The codes stipulate that all kinds of schools should have barrier-free lavatories and the space for nursing staff to provide guidance and assistance and be in accordance with the regulations of Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50).

The codes stipulate that campus, teaching and living space should be equipped with barrier-free facilities and be in accordance with the regulations of Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50) to ensure safety, smooth roads and safe evacuation under emergency circumstances.

The codes stipulate that the design of the entrances of school buildings should
comply with the following regulations:

(1). Steps and ramps (gradient is less than 1:12; the width is longer than 0.90m; the length of each ramp is less than 9.00m) should be applied to the entrances;

(2). Tactile logos (table B.0.4) should be installed in schools for the blind and the mental retardation instead of swing doors or revolution doors.

The codes stipulate that the design of the halls and corridors of teaching buildings should comply with the following regulations:

(1). Halls should be set in teaching buildings and windshield or double-door should be applied to the entrances with the extension of no less than 2.40m in cold or sandstorm areas;

(2). Ramps should be applied to halls and corridors instead of steps; slopes should be applied to connect the entrances of rooms and corridors; and the gradient should be in accordance with the regulations of JGJ 50;

(3). Tactile logos (table B.0.3) should be installed on the floor of halls and corridors in schools for the blind to the convenience of students; skirting should be applied to corridor walls with different color from the floor color;

(4). The width of verandas in teaching buildings should be longer than 1.80m and the middle corridors should be longer than 2.40m (distance between handrails); the width of corridors in buildings for administration and teachers working should be longer than 1.50m;

(5). Continuous handrails should be applied to the corridors and interior walls in schools for the blind with the height between 0.80m to 0.90m; the arc handrails should be installed against walls; the gradient of ramps in halls and corridors of teaching and living buildings should be less than 1:8, and the gradient of ramps for wheelchairs should be less than 1:12.

(6). If the horizontally-projected length of indoor ramps is longer than 15.00m, half space should be installed with width of longer than 1.20m; anti-skidding floor without bumps should be applied to ramps;

(7). Handrails should be applied to the sides of ramps for wheelchairs along ramps and half space in succession, and the height of high handrails is
0.90m and the height of low handrails is 0.650m.

3.3.2 Standards for Barrier-free Facility in Terminal Areas of Civil Airports

To standardize and complete barrier-free facility in terminal areas of civil airports to the convenience of people with physical challenges, *Standards for Barrier-free Facility in Terminal Areas of Civil Airports* was formulated, stipulating that standards for barrier-free facility applied to parking lots (parking garage), outdoor access, terminals, station sites and other areas in terminal areas of civil airports, applicable to the new, expansion and revocation of terminal areas of civil airports (including the part for civil use in civil and military airports); the facilities in original terminal areas of civil airports should be updated and completed based on the standards.

Afterwards, some items were revised, including:

(1). The reference standards were changed to *Codes for Design on Accessibility of Urban Roads and Buildings* ([JG]50-2001) from *Codes for Design on Urban Roads and Buildings to the Convenience of Disabled Persons* ([JG]50-88), so the standards should be revised based on the new reference standards.

(2). Some items from *Codes for Design on Accessibility of Railway Passenger Stations, Technical Handbook for International Paralympics Venue (December, 2005)* and *Australia Standards for Accessibility of Public Transportation* were added in the new standards.

(3). Barrier-free facilities excluded in the standards applied to the Capital Airport were added.

(4). Some contents irrelevant to terminal areas or facilities in the original standards were removed.

The standards are mainly based on: MH 0005-1997 (graphical symbols for use on public information signs of civil aviation); 5002-1999 (standards for master plan on civil airports); MH/T 5002-1996 (special vehicles and equipments for civil airports); MH/T 5104-2006 (service quality at civil airports); [JG] 50-2001 (*Codes for Design on Accessibility of Urban Roads and Buildings*);TB 10083-2005
The standards stipulate that barrier-free waiting seats should be installed in terminal areas with park space for wheelchairs nearby. Each barrier-free waiting seat should cover an area of at least 1.10x0.8m and at least two should be installed at each boarding gate. The width of passageways access to barrier-free waiting seats should be longer than 1.5m. (Note: refer to *Codes for Design on Accessibility of Railway Passenger Stations*); Barrier-free lavatory should be applied to new terminal areas with passenger throughout of 5 million people per year. If it is difficult to build barrier-free lavatory, barrier-free flush cubicles should be applied to public lavatory; telephones for the disabled should be applied to terminal areas with Braille, and the altitude of telephones and telephone stations with height of 0.9m-1.0m should be to the convenience of wheelchair users. (Note: refer to *Codes for Design on Accessibility of Railway Passenger Stations*); Notice boards for the deaf and mute should be applied to terminal areas; the service facilities in terminal areas, including water machines, enquiry service and merchandise department, should be applicable to the using of the disabled; warning facilities should be applied to boarding gates to the convenience of the deaf and mute.

3.3.3 Codes for Design on Construction of Railway Passenger Stations

Barrier-free design of railway passenger stations is a specific reflect on protecting the fundamental interests of the masses and the principle of “people oriented”. *Codes for Design on Construction of Railway Stations (GB50226—95)* put into effect on May 1, 1996, standardized the construction design of railway stations and enforced the design, laying a solid foundation for the formulation of perfect facility standards for railway passenger stations and the standardization of station facility. As the development of barrier-free construction, especially the issue and implementation of *Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001)*, the articles about barrier-free design in *Codes for Design on Construction of Railway Passenger Stations (GB50226—95)* are no longer adequate. According to the requirements of “formulation and implementation of industrial standards for barrier-free facility configuration” in
television and telephone meeting concerned with barrier-free facility construction (October 31, 2002), the codes were formulated to guarantee the implementation of barrier-free construction in railway passenger stations. The codes were formulated based on: (1) *Contract on Revising Railway Engineering Construction Standards (JGJ 04-2002)* approved by Railway Construction Management Division; (2) Notice on issuing minutes of meeting for comments review conference on *Codes for Design on Accessibility of Railway Passenger Stations (JGJ 03-2004)* and other two standards; (3) Opinions of experts from Citizens' Panels on *Codes for Design on Accessibility of Railway Passenger Stations* (October 29, 2004).

The codes were formulated based on the following principles: (1) According to the requirements of railway leapfrog development, the codes were formulated by adhering to the principles of "people oriented", "unified design" and "gear to international standards and start from the reality". (2) The codes were formulated based on *Codes for Design on Accessibility of Urban Roads and Buildings (JGJ50-2001)*, and other related regulations and policies. (3) According to the characteristics of our country's railway construction and the requirements for barrier-free facility development, the codes should have certain perceptiveness and scientific foresight after the fully consideration of the influence on future barrier-free facility usage from social and economic development and technical progress. (4) With the convenience, speedy and safety of the disabled as premise, barrier-free streamline should be formed in all key links of stations and the continuity and integrity of barrier-free facilities should be maintained with the consideration of the overall traffic streamline. (5) The smooth of barrier-free streamline should be fully considered and the location of vertical traffic facilities should be solved and confirmed. (6) The codes should be comprehensive, systematic and detailed, enhanced with characteristics of railways. (7) The codes should include the achievements of research report. (8) The codes and related regulations should supplement each other and form the perfect design. (9) The codes were formulated by adopting comments of each review reasonably.

According to above mentioned basis of formulation, the group for formulation established the research team to visit the passenger stations and railway bureaus in Shanghai, Hangzhou, Shenyang, Changchun, Dalian, Beijing, Tianjin, Jinan, Guangzhou, and Shenzhen and collect comments. Meanwhile, in Tianjin, a forum was held to seek for opinions on the formulation of "codes for design on accessibility of railway passenger stations". The research report was completed.
between May 20, 2004 and May 30, 2004 by taking the comments from the leaders of Beijing and Tianjin Right-safeguarding Departments of China Disabled Persons' Federation, related people and representatives of the disabled of Tianjin Office for Standards and Tianjin Construction Design Institute, the draft for examination was completed on August 2 and the draft for approval was completed in December.

In 2007, according to the requirements of Notice on Issuing “Plan on Formulating and Revising National Standards for 2002-2003 Engineering Construction” (JGJ102-2003), the Third Railway Survey and Design Institute Group Corporation completed the revision based on Codes for Design on Construction of Railway Passenger Stations (GB50226—95). The revised codes have eight chapters and one appendix, including the general principles, terms, site selection and general layout, station squares, station building design, buildings for passenger traffic in station yard, fire fighting and evacuation, construction equipments, etc. The revised codes were completed by adopting the successful experience and scientific achievements on the design and operation of railway passenger stations since the implementation of original standards and the comments from related organizations and experts. The revised contents include: (1) According to different characteristics of mixed traffic railway station and passenger dedicated railway station, the station size is decided by the maximum gather passengers and dispatched passenger number in peak hours separately. (2) The open halls were reconstructed to be concourses which were also be added. And the concepts of concourse for entering and concourse for exiting were confirmed. (3) Waiting areas and number of ticket windows are different in mixed traffic railway station and passenger dedicated railway station. (4) According to the different property of luggage and package, parcel house was changed to be luggage house and package house. According to the ways of train formation, it was confirmed that passenger dedicated railway line station could have no luggage house or package house. (5) The business facilities in stations are restricted to be small and serve passengers only. (6) The proportion of male and female passengers was changed from 7:3 to 1:1 and that of men’s room and women’s room from 1:1 to 1:1.5. (7) “Integrated station building” and “tourism station building” in original Chapter VI “Design of special station buildings” were cancelled. (8) Regulations for firefighting divisions in large stations were revised. (9) The application content of floor heating, air conditioning and other new technologies, and regulations of escape lighting and safety lighting were added.
4. Successful Experiences, Practices and Excellent Cases in Barrier-free Construction in China’s cities

4.1 Barrier-free Construction of Public Facilities

4.1.1 Concern on Humanity, Sense of convenience and Promotion of Innovativeness

The concern on humanity is the outstanding feature of the barrier-free construction in China.

In Beijing, Cuiwei Department Store has been awarded as the “Barrier-free Model Department Store” by the Municipal Disabled People’s Federation and the Municipal Commercial Affairs Bureau. The person in charge has said that: “taking only one example of the renovation of parking lot, the guide signs in the parking lot after renovation will be more systematic and humanized. Customers can complete their parking process according to the most convenient, most obvious and clearest guide signs. Some department stores are even equipped with Barrier-free parking spaces.”

In Nanning, Guangxi, in December, 2010, the first new “vocal and animated” clocks for the blind are installed at 10 crossroads with relative dense passenger flow and more disabled people who are going out. The sound plus vibration can
warn the blind to cross roads safely. The new clocks for the blind have obvious
effect and don’t disturb residents at night, are the first transportation facility
products In the whole country. The application of this product, marks urban
barrier-free construction work of Nanning City has developed to the direction of
science-technology and humanization. This kind of humanity is obviously
reflected in the barrier-free buses firstly promoted in Nanning. In October 2010,
10 barrier-free air-conditioned buses were put into operation on the bus route of
Bus No. 39 in Nanning. The Barrier-free air-conditioned bus has been special
designed to facilitate the disabled passengers, and the rear door is equipped with
tilting passageway convenient for the disabled people’s wheelchairs to get on or
off. At the same time, there are also special spaces for the disabled where the
wheelchair can be fixed. The barrier-free bus added in Nanning is the first case in
China, which can provide convenience for the broad disabled people to take bus.
For example, at the Five-elephant Square Station, when Bus No. 39 was coming
into the station, the driver unfolded the folding passageway, 77-year-old
Grandpa Liu Huaming successfully pushed his wheelchair to get on under his
daughter's help. Grandpa Liu pushed his wheelchair to the special space for the
disabled by himself, buckled up the safety belt and reached the destination stably
and safely. Grandpa Liu said happily: “with the Barrier-free buses, the travel of us
disabled people has become much more convenient.”

In Dalian, Liaoning, much more humanized concerns are on the mentally
disabled people and the blind people. According to introduction of Yang Jinxu,
the Chairman of Association of Mentally disabled people and Their Families in
Dalian City, there are nearly 40,000 mentally disabled people, referring to
120,000 households at present. Most of mentally disabled people are very
difficult to have chances to communicate with the outside world, and can live in
the small scope of their families since their mental disability. In recent years,
through the education and training in special-education schools, as well as the
rehabilitation and special-education carried out by the Disabled people’s
Federations at all levels, some mentally disabled people have mastered basic life
skills, can do some simple labors under normal people's help. With the remote
control, the blind people can identify the direction of multi-direction crossroad,
find the public toilet and determine the locations of the urinals and toilet holes,
and cook meal in his new home after renovation. A few days ago, the inspection
team of national urban barrier-free construction has completed their visit in
Dalian, thinking that the barrier-free construction has reached the regulated objective of the “Eleven Five-Year Plan”. Among it, Dalian has firstly started the Renovation of Poor Families with Disabled People and “Heavenly Ear” Guidance System for the Blind, gained full affirmation of the inspection team.

Sense of convenience is another outstanding feature of the barrier-free construction in China.

The barrier-free construction makes Chinese people sense more and more convenience during their travels. According to the requirements of urban barrier-free construction in all parts of the country, Nanning City has vigorously promoted the barrier-free construction in 2010, striving to build a group of high standard and high quality barrier-free facility renovation projects, and is concentrating on the barrier-free construction renovation of 42 major roads in the fulfilled second group of urban construction plans. Since August 5, 2010, the barrier-free construction renovation has been conducted on 42 major roads of Dongge Road, Qingxiu Road, Hengyang Road, Zhuxi Road and others, and all renovation projects have been completed on November 30. The renovations of slopes and blind walkways are basically completed, and there are totally thousands of slope ways and some blind walkways to be renovated. According to introduction of the Municipal Engineering Department, the barrier-free construction renovation will adopt full-width single slope as possible under conditions of the construction sites. The three-sided slope to be adopted shall have width no less than 1.2m and roads after renovation are more convenient for the disabled people and the old people to go out. For example, Grandpa Wei, who lives on Hengyang Road, feels much more convenient when he is going out in his wheelchair. In the past, when his wheelchair was pushed to the frontal slope of the three-sided slope on the sidewalk, he was very difficult to slide it on due to the steep slope. But nowadays, Grandpa Wei says: “I think the slope is lower than before and it is easier for me to slide the wheelchair on. Does my strength become greater?” In fact, it is not that Grandpa Wei’s strength becomes greater, but that the barrier-free construction on all 42 major roads including Hengyang Road has been completed. At the same time, barrier-free slopes, barrier-free toilets or toilet holes are successively set at the city airport, railway stations, bus passenger stations and bus stops, which can constantly meet the requirements for travel of the special groups.
Since the urban barrier-free construction activity in 2009, the construction rate of newly constructed, renovated and extended barrier-free facilities in public buildings has reached 100%. The existing public buildings including government office buildings, general (special) hospitals, city squares, city parks, large and medium shopping centers, star hotels, indoor and outdoor public toilets are equipped with barrier-free facilities according to different degrees of the barrier-free design specifications, as well as the barrier-free guide signs. For example, the voice medical guidance system and warning system are set in the waiting areas of all hospitals in Nanning. Slopes are set at the exits of all major city squares and gardens, and barrier-free signs are set at striking places. The barrier-free toilets and toilet holes can basically meet the requirements of use. The slopes, safety walkways and stairs, barrier-free toilets, barrier-free parking spaces and other facilities at the exits of public cultural service places such as the Municipal Library, Children's Library basically conform to the specifications, with the renovation rate of 80%. Especially the Nanning Railway Station, since the urban construction activity was carried out, the city has invested RMB 200,000 Yuan to renovate and improve slopes at barrier-free entrances and exits of stations and barrier-free toilet holes, add barrier-free signs. In terms of bus passenger station, there are 5 existing national Class A passenger stations in Nanning, and 31 slope crossroads have been set in the stations at present. The barrier-free accesses are set at all entrances and exits and 14 barrier-free toilets or toilet holes are set. The barrier-free signs are set in all stations according to the specifications.

In Changzhou, the construction of convenient barrier-free travel environment has achieved obvious effects. So far, there are over 220km blind walkways constructed in the whole city, over 80% of urban major roads are equipped with blind walkways. There are over 3200 barrier-free curb slopes at urban crossroads, with the slope rate of 70%. The barrier-free construction on urban major roads, roads at urban center reaches above 95%, and above 80% of the urban buses are equipped with voice stop-announcement systems. Large-scale buses are equipped with electronic signs. The sidewalks on newly constructed and reconstructed barrier-free facilities (blind walkway, slopes etc.) are totally 365.3km long with over 300 slopes renovated just in 2009. Special barrier-free designs have been conducted on Bus Rapid Transit (BRT) Line 1 and Line 2, where wheelchairs can be pushed on the bus station directly. Special places for
wheelchairs are set on buses to facilitate the disabled people to enjoy the convenient service of the Bus Rapid Transit. At the same time, a group of newly constructed and renovated cultural, sports, shopping, tourist, leisure, governmental and other kinds of large and medium public buildings are all equipped with slopes, escalators, elevators and other barrier-free facilities to facilitate the disabled people. The barrier-free renovation and construction are conducted in over 30 squares, gardens and leisure places in the whole city. There are 18 special telephone booths, 50 barrier-free elevators and 90 barrier-free rooms for the disabled people in the urban area. More and more disabled people, old people and other social members can enjoy the convenience brought by the barrier-free construction when they are shopping, seeing doctors or participating in social activities.

The promotion of innovativeness is another outstanding feature of the barrier-free construction in China.

China Barrier-free Promotion Network initiated and constructed by the disabled people in Dalian is naturally one innovative measure for the barrier-free construction in Dalian. China Barrier-free Promotion Network is the first comprehensive network on the topic of communication between the normal people and the disabled people, as well as the promotion of the disabled people's careers. Since the opening up on July 19, 2009, the network has gained highly attention of the leader of China Disabled People's Federation, who has communicated with the person in charge and members of the network warmly. At the same time, the first coffee house for mentally disabled people in all parts of the country-Youlan Coffee was officially opened on Zhongnan Road, Dalian, which is totally managed by mentally disabled people. Dalian Mentally Disabled People Activity Service Center was also listed to establish at the coffee house. The Disabled People Service Center and coffee House cover total area over 900m² and the prophase decoration and preparation have been supported and helped by the all circles. The Center is the “four-in-one” of education, rehabilitation, training and service, while the Coffee House is the place for the disabled children to practice and train. There are averagely 30 to 50 disabled people who provide distinctive and humanized services such as leisure activities, emotional support, physical training, skill training and others in the Center. In the visit of China Barrier-free Promotion Network at Dalian Mentally Disabled People Activity Service Center, the leader of China Disabled People's Federation have assessed that the barrier-free
construction in Dalian is the first in the whole country. He hoped that China Barrier-free Promotion Network can play active role in the barrier-free careers in the whole country and the mutual communication between the normal people and disabled people. The leader of China Disabled People's Federation also carefully inquired the construction and development situations of the network, and directly answered many questions raised by net friends through the internet. He said the internet made the disabled people own "clairvoyance", "clairaudience" and "fleet feet", hoping that the Internet can promote "equality, participation and sharing" views on the disabled people in modern civilized society, better serve the disabled people and better supervise the development of barrier-free construction career, and that the website can be established to become an love brand. He also enjoyed the special escort car for automatic elevator installed by China Barrier-free Promotion Network and Sunshine (Barrier-free) Car Rental Co., Ltd. on the site, and inscribed the inscription of "love is barrier-free" for the website.

The trail system for the disabled people in Shenzhen refers to the system of first trail then acceptance of the barrier-free environmental construction, which is also the innovative measure with great significance in the barrier-free environmental construction. This system regulates that for the acceptance of transportation hinge places such as airports, stations, passenger terminals parts etc. sports and entertainment places such as stadiums and gymnasiums, libraries, museums, theaters etc. the external workplaces of government offices and public institutions and public places of tourist spots, parks, public toilets etc. The construction unit shall invite the Municipal Disabled People's Federation to participate in and listen to the disabled people's suggestions. For the acceptance of barrier-free facilities closely related to the disabled people's daily life and work, the construction unit shall inform the Municipal Disabled People's Federation, which can organize the disabled people to conduct trial and raise views and suggestions for the construction situation of the barrier-free facilities.

The experimental activity held by the Disabled People's Federation in Nanjing also has great innovativeness. At the eve of the National Day of Assisting Disabled People in 2010, Nanjing created the urban barrier-free construction leading group, which held the Bank Experience Activity of the Disabled People's Federation in association with the Xinhua Daily, Nanjing Morning Paper and China Jiangsu Network. The disabled representatives were assigned to walk into over 20 bank websites to experience. The representatives have conducted "zero
distance” experiences of the barrier-free facilities, short counters, sign language services and voice screen prompters. At the same time, in this activity 15 banks have been firstly awarded as the “Model City Qualified Unit” Award to 15 banks, which has great demonstration effect for the barrier-free construction in the whole bank industry in the city.

The obvious reflection of innovativeness is the construction of barrier-free facilities. At present, many cities in China have successively constructed a number of distinctive and high-level barrier-free facilities such as the botanical garden for the blind people in Nanjing, the wild animal park in Dalian and Emperor Qin's Terracotta Warriors and Horses Museum in Xi'an and others, which produced certain international effects. Among them, Zhongshan Botanical Garden in Nanjing has meticulously designed and organized the largest botanical garden for the blind people in China. The botanical garden covers an area of 12,000 m², has over 150 various typical plants, among which there are a large number of aromatic plants such as sweet osmanthus, winter sweets, gardenias, cedars, michelias and lilacs. There are fruit trees, citrus and ficus caricas, anises and gingkoes with grotesque leaves, aquatic plants lilies, water lilies and iris pseudacorus, as well as the medical plants eucommias, dogwoods and horse chestnuts for the disabled people to touch, sense, smell and taste. There is a blind walkway nearly 100m from the bus station to the gate of the botanical garden, therefore the blind people can enter into the botanical garden once they get off. They can accept a guide machine at the entrance, thus can hear the introduction about the plants. There are 69 plants numbered in Braille, and the numbers are punched on the stainless steel fences and the blind friends can touch the Braille number along the fences, then press respondent number keys on the guide machine to hear the interpretation about certain plant. Meanwhile, Braille boards are hanged on many plants, introducing the names, features and dosages and other knowledge about the plants. Besides the reflection of excellent garden landscapes, in the construction of the botanical garden for the blind people, the blind people’s special needs have also been taken into full consideration. The blind walkways paved with cobbles and stainless steel fences and other facilities have been set, ant the botanical garden is free open to visitors.

One of the concentrated reflections of the innovativeness is the barrier-free construction activity carried out in China twice in the recent decade. The first one is on October 31, 2002, the Ministry of Construction, Ministry of Civil Affairs,
China Aging Problem National Commission and China Disabled People’s Federation have proposed to carry out the national barrier-free facility model city construction activity on the Videophone Conference on National Barrier-free Facility Construction Work held in Beijing. This was the important measure to promote the urban barrier-free facility construction. 12 cities including Beijing, Dalian, Qingdao, Nanjing, Hangzhou, Xiamen, Guangzhou, Xi’an, Suzhou and Qinhuangdao were listed to be the first group of model construction cities. The other one is in 2007; the Ministry of Housing, Ministry of Civil Affairs, China Disabled People’s Federation and China Aging Problem National Commission have determined to carry out the barrier-free construction in 100 cities in all parts of the country. The municipal committees and governments at all levels have successively issued the Implementation Program of Creating of National Barrier-free Construction Cities, the Task Breakdown Sheet of National Barrier-free Construction Work and the Promotion Program of National Barrier-free Construction Work. Since the beginning of the construction work, all cities have held training programs on barrier-free construction to intensify all institutions’ realization of the importance of the barrier-free construction, make related institution personnel further realize the industrial standards and requirements and enhance related technical and professional abilities. At the same time, all cities have also investigated the quantity, quality and use conditions of the barrier-free facility construction in the central cities to realize the disabled people and old people’s concrete requirements on the barrier-free facility construction. According to divisions of labor, each construction unit shall construct and renovate the construction projects gradually within his own scope of responsibility.

4.1.2 Top Priority To the Renovation of Public Buildings and Urban Roads and Focus on Projects Closed Related to People’s Daily Life

During the barrier-free construction in all parts of the country, the construction and renovation of public buildings and city roads are the top priorities in most cases. Beijing City is always emphasizing that the external workplaces of government offices, hospitals, post offices, banks, airports, railway stations and public transportation stations, public toilets, gardens, the operation
and service places of large-scale commercial and service units and other public buildings and the urban roads shall be the top priorities in the renovation.

During the barrier-free construction in all parts of the country, projects closed related to people's daily life are the focuses. Taking the example of Suzhou, the barrier-free construction and renovation of large and medium commercial centers, supermarkets, hospitals, banks, telecoms, post offices, cultural and sports technical museums, hotels, restaurants, leisure centers, schools and residential areas closed related to people's daily life are the focuses. All related construction units are required to actively implement related barrier-free specifications, standards and documents, to practically promote the barrier-free construction. Beijing city usually emphasizes the highlighting of important points in the implementation of annual barrier-free facility construction and renovation task, requires to focus on the severe difficult problems reflected in the society, continuously promote the barrier-free construction and renovation of city roads, transportation and large-scale public facilities, commercial facilities and communities to meet the citizen's requirements for Barrier-free travels. Especially before the Olympic Games, to further optimize the commercial barrier-free service environment during the Olympic Games Period, the "systematical renovation of barrier-free facilities" of large and medium commercial centers and supermarkets near the Olympic venues or on key commercial streets are still the priorities in the barrier-free renovation. Besides inviting the supervisors to conduct field experience and gap filling, method of combination of permanent construction and temporary commercial centers is adopted to improve the barrier-free environment of general-scale commercial service facilities on the commercial streets through addition of slopes and other temporary facilities. The aim is to create excellent shopping and consumption environments for the Olympic Games and the Paralympic Games. Therefore, a series of Special Conferences of Mayor were held to specially study the barrier-free facility construction work in the city. It requires emphasis on the important points to ensure the successful completion of barrier-free facility construction and renovation in the Olympic venues, places near the Olympic venues and the key projects. At the same time, concrete planning shall be conducted and all related departments are required to carefully organize and implement, supervise and conduct the key projects and tasks required to be completed in the year, to ensure the demands of the Olympic Games and the
During the barrier-free construction in all parts of the country, the construction and renovation are equally important. As early as in 2005 when Beijing City started the Barrier-free Facility Comprehensive Construction Project in Community, required that the barrier-free facility comprehensive renovation trail work in each community in Chengba District, and made beneficial trail for the comprehensive and systematic barrier-free facility renovation in communities. In recent years, Beijing City has accelerated the renovation of public services and large-scale commercial facilities. The focuses are still the barrier-free facility renovation of public service facilities including hotels, hospitals, commercial centers, supermarkets and others. The barrier-free facilities of administrative and judicial agencies, as key requirements, were also totally completed according to the plan. The emphasis of the renovation is also reflected in that Beijing City has accelerated the research and executive strength of barrier-free facilities of tourist spots related to cultural relics. Among them, in the setting of barrier-free facilities in Badaling Great Wall, the wheelchair user's requirement of climbing the Great Wall independently has been fully taken into consideration, which is required to be solved in combination with the environmental treatment. The wheelchair elevators were installed at the Meridian Gate in the Palace Museum for trail. In combination with the visiting routes, the barrier-free slopes and restrooms and other facilities are set under the premise of actual protection of cultural relics and no impact on landscapes. Especially before the Olympic Games, the renovation rate of barrier-free facilities near the Olympic Venues and in large and medium commercial centers, supermarkets on key streets has reached over 90%. 8 barrier-free facilities including the barrier-free slopes, elevators, toilets, signs, parking lots, indoor passageways, low-position checkout counters (settlement channels) and low-position service counters were the definite renovation projects. At that time, to realize the barrier-free situations in area near the Olympic Avenues and on key commercial networks in the commercial district, professional agencies have investigated the current situations of barrier-free facilities in service units in over 30 Olympic Avenues and 8 key commercial districts to find problems. Totally 31 slopes, 40 toilets and 16 elevators are renovated, and added with respondent signs, which have greatly improved the barrier-free environments of the commercial services in areas near the Olympic Avenues and on key commercial networks.
commercial streets.

Shenzhen City focuses the equal importance of construction and renovation. As early as in July, 1985, the Government of Shenzhen City has issued the *Notice on Setting of Facilities for the Disabled People in Public Places*. It required that the special situations of the disabled people shall be taken into full consideration and special facilities shall be set when designing the major roads, hotels, theaters, hospitals, post offices, banks, schools, stations, passenger terminals, libraries, museums, gyms, parks, tourist spots, markets, public toilets and other construction projects. If the projects under construction are not equipped with barrier-free facilities, the barrier-free facilities shall be constructed or renovated. Some special facilities for the disabled people such as low-position counters, low-position public telephones, special parking lots for the disabled people and others shall be taken into consideration. At present, Shenzhen City has required all constructed projects not conforming to current compulsory standards of barrier-free facility construction that: for those belong to government investment, the property owners and managers shall be responsible for the renovation. For those belong to non-government investment, the property owners are encouraged to be responsible for the renovation. Besides, the disabled people can also conduct necessary and reasonable renovation of public places in the residential communities according to their requirements of travel.

Besides the newly constructed barrier-free facilities, Nanjing City also has accelerated the renovation strength of the constructed city roads and barrier-free facilities. Slopes are set at the entrances of government office buildings, comprehensive hospitals, city squares, city roads, large-scale commercial centers, gas stations and expressway service areas. Barrier-free signs are set on the safety passageways and stairs, barrier-free toilets and toilet holes, barrier-free places in the barrier-free parking lots and others. 82% of the hospitals, banks, post offices, telecoms and other public service agencies are equipped with low-position service counter, low-position windows and low-position telephones etc. there are certain number of Barrier-free rooms in restaurants and hotels. The Barrier-free renovation rate of cultural centers, gyms, scientific and technology centers, exhibition centers, museums, memorial centers, theaters, music halls and stadiums reaches above 70%. The barrier-free renovation rate of middle and primary schools and nursery buildings reaches 40%. The newly constructed and renovated planes, subways, passenger trains,
buses, passenger liners and other vehicles can meet the disabled people’s demands, and there are horizontal passageways and wheelchair seats at the passenger exits.

Xi’an City also focuses on the equal importance of construction and renovation. In the newly constructed large-scale hotels, restaurants, stadiums, hospitals, libraries, government office buildings, banks, commercial centers, supermarkets and others, the barrier-free facilities were also improved synchronously during the construction. The barrier-free construction rate of the newly constructed large-scale public buildings and municipal infrastructures reaches 100%. At the same time, the municipal government has also modified all kinds of existing public buildings according to the specifications and standards of construction work. The renovation rate has reached the acceptance standard of the building of national barrier-free construction cities. In recent years, 3 barrier-free passenger cross-street overpasses have been renovated in Xi’an, and 2525 sets of cross-street audible signal devices for the blind people have been installed at 327 main crossroads. The barrier-free construction has been constructed on 12 parks, 239 squares and 663 public toilets in the whole city and 3 barrier-free passenger cross-street overpasses have been renovated. 2 vertical elevators have installed in the underground passageways of North Big Wild Goose Pagoda Square and 4 lifting platforms for wheelchair have been installed in the underground passageways of the Bell Tower that has the largest passenger flow. Totally 8 building-climbing machines have been installed in 8 underground passageways such as Bell Tower, South Great Street etc. The guide information in Braille was firstly set on the stainless steel handrails on slopes for the disabled people at four entrances and exits of Century Golden Flower, South End of West Great Street, East End of South Great Street and others. Over 600m blind walkways have been newly paved in the passageway and 2 Braille introduction counters have been set in tourist spots and over 6000 blocks of various sign boards have been installed. At present, the barrier-free facilities renovation has also been conducted on 143 communities and 391 families with disabled people.

Nanning City pays equal attention on the construction and renovation during the building of barrier-free city. Related departments have strictly approved and managed the barrier-free construction of newly constructed facilities to ensure the successful implementation of barrier-free construction of newly constructed facilities. For the existing facilities, reasonable renovation plans have been
formulated according to the situations. The barrier-free facility renovation has been conducted in the city parks, star hotels and other places according to the barrier-free design specifications. The railway passenger station (East Nanning Station) in planning, bus stations and rail transits are all designed according to the barrier-free specifications. The newly constructed, renovated and extended schools for special-education, welfare enterprises, rehabilitation centers, comprehensive services for the disabled people, aged welfares, service for the old people are other facilities have basically fulfilled the barrier-free aim. Nanning City has invested RMB 5.3 million Yuan on the renovation and upgrade of barrier-free facilities of 42 major roads in 2010, and RMB 13.8 million Yuan on the renovation and upgrade of barrier-free facilities on 55 major roads and 3 underground passageways, as well as the barrier-free facilities under construction in 2011. At present, totally over 500km blind walkways and 6000 cobble slopes have been paved in the whole city, and the blind warning walkways and blind progressing walkways have been set at all major entrances and exits of the city parks, squares and key public buildings.

4.1.3 Establishment of Effective Working Mechanism and Increase of Input on Barrier-free Facility Construction

Many new measures have been raised in terms of establishment of effective working mechanism in all parts of the country.

Beijing City has paid high attention on the establishment of effective working mechanism, has provided powerful organization guarantee for the barrier-free facility construction and renovation. As early as in May, 2005, based on the building of barrier-free facility construction model city, Beijing City has established the Municipal Inter-ministerial Conference System of Barrier-free Facility Construction and Renovation approved by the municipal government. The member units include the Municipal Planning Commission, Municipal Construction Commission, Municipal Transportation Commission, Municipal Disabled People’s Federation, Municipal Department of Civil Affairs and Municipal Aged Office. According to requirements of the holding of the Olympic Games and the Paralympic Games, since 2006, the Engineering Department of the Organizing Committee of Olympic Games, Department of the Paralympic Games, Volunteer Department and “2008” Environmental Construction Office have successively
been invited to take part in the Municipal Inter-ministerial Conference. The
government-dominated, departments-coordinated work situation, all the Disabled
Federation, Aged Commission and Women’s Federation-supervised and
society-participated work mechanism and work situation have been formed. In
recent year, through the holding of the Inter-ministerial Conference and special
conferences, the government has studied and formulated the working plans,
circulated related situations, timely studied and jointly promoted the barrier-free
facility construction and renovation work, has played important role.

The Party Committee and Government of Liaoning Province decided that
governments at all levels above county shall intensify the organization,
coordination, guidance, investigation and supervision of the barrier-free facility
construction. The construction administrative departments at all levels shall be
responsible for the supervision and management of the use and construction of
barrier-free facilities, and consult the opinion of the Disabled People’s
Federation’s at equal level when formulating the construction plan of barrier-free
facilities. The Department of Development and Reform, Finance, Planning, Civil
Affairs, Municipal Administration, Police, Transportation and others shall do well
work in the barrier-free facility construction within their own scopes of
responsibility.

In May 2008, Xiamen City has established the “Leading Group for Building of
Barrier-free Construction city in Xiamen”, which was responsible for the
organization and coordination of the construction works in the whole city. The
group has set up subordinate offices affiliated to the Municipal Construction and
Management Bureau and concretely responsible for the implementation of the
construction work. There was also the barrier-free construction technological
guide expert group composed of professional technical personnel in architecture,
equipments, roads, computer communication, municipal administration, Braille
and other fields. The districting construction leading groups were respectively set
in two districts on the island, with leaders of the government of district as group
leaders, and set up subordinate offices.

Many new measures have been raised in all parts of the country on the issue of
increasing the fund investment in barrier-free facility construction. As early as in
1985, the Welfare Foundation for the Disabled of Xiamen City has clearly
regulated in the Regulations that, one of the purposes of funds donated from the
society was the construction of barrier-free facilities. Latterly, to implement the funds for building of barrier-free city, the municipal government made the following decisions: first, list the funds for construction and renovation of barrier-free facilities and the construction work into the annual financial budgets of the municipal and district governments in combination with the reality of the administration and financial system of the city. The municipal and district finance shall bear the funds for the renovation of public construction projects (including large-scale buildings such as government offices, judicial offices and others, schools, hospitals, buses etc.) Among them, for the municipal units with operational income, the property owners or authorized managers shall bear the funds for the renovation projects, and the municipal financial will not give additional subsidy. Under circumstance that the expenses of units are from the municipal finance, the municipal finance shall bear the expenses for the barrier-free facility construction, and arrange to solve funds according to the expenses of the renovation units. Second, the municipal and district finance shall respectively bear the funds for the renovation of major city roads (including the sound signal warning system signs and others on the road sections), parks, public toilets, underground passageways, overpasses and other projects according to division of administrative and financial powers after regulation. Among them, parts that the municipal finance bears are allocated from the special funds of city maintenance expenses. Third, for the renovation of residential areas, funds are solved through the method of combination of the subsidy of the local government, the contribution of the renovation unit, as well as the funds raised from the streets and towns. According to statistics, during the “Eleventh Five-Year Plan”, the municipal and district departments of Xiamen City have totally raised a special expense of RMB 12 million Yuan used for the construction and renovation work of barrier-free facilities. Meanwhile, the newly constructed, extended and renovated barrier-free facilities projects of roads, public buildings, schools, hospitals and others in the whole city have been included into the daily construction work to carry out, and the expenses have been listed and expended according to the funding channels at levels of units.

In the process of improving the working mechanism and increasing the capital investment, governments at all levels have increased and established the barrier-free work. From the end of 2004 to the Olympic Games in 2008, in the investigation procedure of construction drawings, Beijing City has totaled
approved and constructed 7517 construction projects covering an area of 187 million m². It has modified 1995 projects that violated the compulsory regulations of the barrier-free design. The Construction Executive Department has issued the *Notice on Intensifying Completion Acceptance of Barrier-free Facilities of Construction Projects*, has increased the supervision strength on barrier-free facility construction. Through increasing the record management of acceptance of newly constructed and renovated projects, the Construction Executive Department would not make record of acceptance of projects in which the barrier-free facility construction was not completed or projects with missing items. The Municipal Administration, Transportation, Urban management and other departments have increased the treatment, investigation and punishment of illegal occupation and impact of the normal use of barrier-free facilities. In the process of intensifying the management of barrier-free facilities, the Part Committee and Government of Nanning City have paid high attention to the barrier-free facility construction work and closely linked the barrier-free construction with urban construction. On the one hand, they have established related lead agency and regulated the implementation plan, and each department has closed coordinated with the others and shared responsibilities. On the other hand, the Part Committee and Government of Nanning City have increased the capital investment in barrier-free facility construction. At the same time, due to the intensely professional, technical and other features of the barrier-free facility construction, they have carried out trainings regularly to enhance the overall quality of the supervisor group. To make the construction work legal, Zunyi City has established the work long-effect mechanism, formulated the *Barrier-free Construction Management Methods in Zunyi City* in combination with the reality of the city. It has also consulted the Municipal Committee, Municipal People’s Congress, Municipal Government, Municipal Political Consultative Conference and related department for opinions for modification and improvement. The document has been printed, issued and implemented in form of government notice after approved by the Mayor Office Meeting. The city has also supervised the schedule of the construction work timely, orderly and repeatedly and solved problems occurred in the construction work for many times through holding of special conferences or carrying out of special investigation and other forms.

4.2 “Barrier-free into Family” Construction
4.2.1.  Carry out Barrier-free Renovation for Families with Poor and Disable People

In many China’s cities, at the time of full promotion of barrier-free construction on urban roads and public buildings, the barrier-free construction is also extended to communities and families. The “barrier-free into family” activity is carried out, which gives the special groups with warmth. In 2010, Nanning City has conducted the barrier-free construction for 234 families with disabled people through Doing Tangible Things for People Project. The renovation contents include indoor slopes, handrails, reduction of kitchen hearths, modification of flush toilets or increasing of water toilets, anti-slip treatment of floors and others. The renovation for families with disabled people has greatly enhanced the life quality of the disabled people, increased their confidence on life, as well as lessened their family burdens, is greatly welcomed and praised by the disabled people and their family members. To solve the housing and living difficulties of the disabled people, Nanning City has especially given the families with disabled people with prior security and special support in the low-rent housing security work and the barrier-free facility construction work due to situations of the families with disabled people. It has successively arranged and solved the housing problems for 290 families with disabled people in priority through various supporting policies. For example, the Disabled People’s Federation of Xixiangtang District has conducted the family barrier-free facilities renovation for some families with disabled people and Ms Zhang who lives in Longteng Road, Xixiangtang District is one of the favored families. Ms Zhang said that since she suffered from polio, she had never stood on her fees. In this family barrier-free facilities renovation, the Disabled People’s Federation helped Ms Zhang to renovate the water toilet in the restroom, newly construct 3 handrails between stairs, modify the lift-type clotheshorses on the balcony and install 2 chairs specially for the disabled people for free. One of the two chairs is used for slip resistance in the restroom, and the other is used for automatic lifting in the kitchen. After the renovation, Ms Zhang’s family life becomes much more convenient. Ms Zhang said regretfully “now, there is no problem even if I am at home along. It’s so great that I can live independently”. “Look! I can stand up by myself” Said Ms Zhang who stood up by her own strength with support of handrails on two sides.
The barrier-free renovation has been conducted for the families with poor and disabled people in many cities in China. For example, Dalian is the national barrier-free construction model city where the construction and renovation of barrier-free facilities has extended to families and the barrier-free renovation has firstly been conducted for families with poor and disabled peoples. In recent years, the government has invested millions on the barrier-free construction for families with disabled people. Taking another example, the Party Committee and Government of Xiamen City would list the “Implementation of Disabled Assistance Project” into the Doing Tangible Things for People Project to truly do tangible things and good things for the disabled people in 2010. In the project, the government would establish 38 rehabilitation centers for the disabled people, and conduct barrier-free facilities for 300 families with disabled people. In Shenzhen, due to the special demands of each disabled people, the Disabled People’s Federation shall assign staff to come to the families with disabled people to carry out family barrier-free facilities and intensify the disabled people’s ability to solve the basic necessities of life by themselves. During the barrier-free facility construction for the families with disabled people, the steps for the disabled people to go out were modified into slopes, the squat toilets were modified into water toilets with handrails, and if necessary, the shower equipments were equipped for the disabled people. By March, 2011, the barrier-free facility construction has been conducted for totally 160 families.

4.2.2 Enhancement Renovation for Families with Severely and Multiply Disabled People

In recent years, Shanghai City has been conducted barrier-free facilities for tally 30427 families with disabled people, as well as the enhancement renovation for families with severely and multiply disabled people, constructed lifting cabinets, automatic door openers and other facilities. Since 2008, the family barrier-free construction has extended to the families of old people. In some districts, key renovations have been conducted for old cadres and teachers, and the “Handrail Project” has been conducted in some other districts. Through measure of attention to people’s life, the municipal government has really done tangible things for the disabled and old people, is greatly welcomed.
The enhancement renovation for families with severely and multiply disabled people in Xiangyang, Hubei also got obvious effects. For example, Fu Chengqin who is nearly 60 years old has lamp disability due to polio. His wife was unavailable to move due to stroke two years ago, the old couple are living toughly on the assurance funds in rented house. In 2007, the low-rent houses and “harmonious home” specially constructed for the disabled people were put into use in the city, and Fu Chengqin was the one of first residents. In 2010, the Disabled People’s Federation, Municipal Housing Management Department and other units of Xiangyang City have renovated the kitchen and toilet in his house, and installed the visible doorbell. At present, the 35 barrier-free communities and 12 high-rise departments after renovation in this city have greatly facilitated the disabled people and the old people’s life.

In 2010, the Disabled People’s Federation of Anqing, Anhui has decided to choose 120 families with disabled people to conduct the barrier-free into family work in the whole city, the objects of this work include people who are unavailable to move due to limp vision and hearing disabilities, people who eagerly need barrier-free construction and have high utilization ratio. It also include people whose living conditions are available for the renovation and poor people who ahave no economic capacity to renovate their living conditions. The concrete implementation projects include the renovation of slopes, installation of grab bats and handrails in restrooms, renovation of barrier-free bathrooms, adding of bath benches and bathroom doors to facilitate the access of wheelchairs, installation of flashy doorbells, equipment of barrier-free flashy kettles and vibrating alarm clock and other new barrier-free products for the deaf people. The projects also include the blind walkway systems and warning blind walkways paved at the staircases and gates, installation of sound talkback doorbells and sound systems added in the elevators of the apartment buildings etc.

4.2.3 Extension of Barrier-free Construction to Communities

At present, the barrier-free construction has extended to the communities in many cities in China. In Nanning, Slopes have been constructed on the sidewalks in communities and slopes and barrier-free entrances or slopes for wheelchairs
are set at entrances of public green lands and public service facilities, which can basically meet the requirement of travel with wheelchair. Slopes for wheelchairs and handrails have been set on at entrance steps of the constructed high-rise buildings and medium-high level residences. At present, the barrier-free construction rate of newly constructed, renovated, extended communities and living buildings has reached 100%, and the qualification rates of the barrier-free facilities in constructed communities and living building have respectively reached 63% and 83%. Among them: slopes have been constructed on most sidewalks in communities, slopes and barrier-free entrances or slopes for wheelchairs have been set at entrances of public green lands and public service facilities, which can basically meet the requirement of travel with wheelchair. Barrier-free toilets or toilet holes have been renovated on public service facilities having conditions for renovation, Slopes for wheelchairs and handrails are basically set on at entrance of the constructed high-rise buildings and medium-high level residences which have steps. The barrier-free signboards are set for the barrier-free toilets or toilet holes, barrier-free parking spaces and other barrier-free facilities according to requirements.

In Cuihui South Garden Community in Economic Development Zone, Hefei, all necessary obstacles in the community have been removed due to the disabled people’s living and rehabilitation needs, and all kinds of disable service systems have been established and improved. According to people familiar with the situations, the community will become the first barrier-free pilot community for rehabilitation of the disabled people in Hefei. The 79-year-old Grandpa Liu Lianyou has suffered hemiplegia for four years, and extremely unavailable to move since he lives in the third floor. Due to his difficult situations, the community staff has conducted a series of special barrier-free aids for him recently. Steel handrails have been installed from the first floor to the third floor. While in Liu Lianyou’s House, supporting handrails have been installed in the restroom and other main places. Liu Lianyou’s wife said conformably “now our life is much more convenient, he can move again”. At present, there are many disabled people in the community who can use these supporting facilities to “stand on their own living”. On every Tuesday, Thursday and Saturday, the disabled people like Liu Lianyou can go to the rehabilitation center to accept physical training. At present, the rehabilitation center has over 30 medical training machineries, all free open to the disabled people. Through
uninterrupted rehabilitation training, some disabled people have obviously
physical recovery. According to statistics, at present, the series of “Barrier-free”
disabled assistance measures in Cuiwei South Garden will directly benefit over
80 disabled people in the community.

In recent years, to build the harmonious barrier-free living environment, many
newly constructed communities (including apartment for the aged) are generally
on the basis of barrier-free design and construction in Changzhou, and
barrier-free facility construction rate reaches above 60%. The barrier-free facility
construction has been conducted in over 30% communities, and simple and easy
slopes are set for the disabled people in wheelchairs on the first floor. At the same
time, barrier-free facilities such as handrails and others have been installed for
105 families with disabled people, and slopes and supporting facilities have been
constructed in over 50% communities, highlighting the humanized concept.

4.3 Barrier-free Construction for Exchange of Communication

4.3.1 The Disabled People Have the Right to Acquire
Government Affair Information and Other Public
Information Barrier Freely

During the increasing of barrier-free facility construction, the information
barrier-free construction has also been carried out in many China’s cities, to
make the disabled people feel the care from the society. Especially in the local
regulations, Shenzhen City has specially regulated that the Disabled people have
the right to acquire the government affair information and other public
information barrier freely, which concrete require:

The municipal and district governments and related departments shall take
measures to provide convenience for the disabled people to acquire public
information. The state organs shall compile the following important government
affair information in Braille or in video version, provide them to the municipal
and district library for the visually disabled people to read (I) The annual work
working reports of the Standing Committee, People’s Government, People’s
Court and People’s Procuratorate at this level. (II) The National Economic and
Social Development Program and Annual Plan at this level; (III) the important
data materials in the annual statistical communiqués of the Statistics Department. (IV) Rules, regulations and normative documents closely related to the disabled people’s rights and interests.

The large-scale meetings or activities held by the state organs and public organizations that the disabled people will attend shall be equipped with sign language interpretations or subtitles.

When special programs are broadcasted from the television station, the subtitles or sign language interpretation shall be equipped synchronically.

The internet websites of state organs, institutions and business units of public utilities shall be gradually renovated to provide related information to the visually disabled people according to barrier-free requirements.

The reading room shall be set for the blind people in the municipal and district libraries to provide convenience for the disabled people to read books and use the internet.

The emergency call systems such as fire alarm, police service, medical emergency, traffic accidents and others shall be equipped with the alarming and calling functions of written information to ensure the people with hearing and language disabilities can call polices and call for first aids.

Related departments and examination organization units of the municipal and district governments shall provide the convenience for the disabled people to take part in all kinds of entrance examinations and professional qualifying examinations held by the national, provincial and municipal governments. If there are visually disabled people that take part in the examinations, they shall provide examination paper in Braille, electronic examination paper or assistance of professional staff. The state organs, public organizations and other units shall provide convenience for the disabled people to take part in the election of the resident’s committees and community owner’s committees, and provide the ballots in Braille according to the visually disabled people.

The state organs, institutions, financial organizations and other units that services the public shall provide services sign language or other services facilitating the communication for the orally disabled people to go through related affairs.
In the large-scale tourist spots, personnel shall be assigned to provide guide, consultation service or other necessary helps for the disabled people.

In public places with barrier-free facilities or barrier-free services, the barrier-free signs shall be set in striking places according to the national standards, and the barrier-free signs shall be normative, clear and obvious.

The above-mentioned rights of the disabled people have been supported and implemented in all provinces and cities in China.

Beijing City regulates that the Disabled people's Federation, the Aging Problem Committee, Women's Federation and other public organizations shall actively promote the subtitle project, make preparation for the barrier-free platforms for call divert for the deaf people and enhance the barrier-free information consultation service ability. At the same time, they shall further increase the strength of information barrier-free work, establish the first barrier-free resource center network in the whole country to provide barrier-free information consultation, information inquiry, supervision, guidance, sign language service, barrier-free new technologies and products and other services.

On aspect of barrier-free construction of exchange of information, Nanjing City requires that television news, movies and TV plays shall be equipped with Chinese subtitles. The information interactive screen system and subtitle queue management system shall be established in key public places such as hospitals, stations, city center squares and buses on key city roads. The Panda Brand voice phones for the blind people are developed and promoted, and the China Mobile and China Unicom in Nanjing have opened the privileges such as “Sunshine Network”, “Short Messenger Services” and others for the deaf people to send short messages. The first website for the blind people in the whole country was opened for the blind people to use their special websites. In the national barrier-free urban construction work, the Disabled People's Federation of Hefei City has required to: organize to develop and promote the information exchanging products to facilitate the blind and deaf people to use and coordinate with the information executive departments to develop special websites for the disabled people to use.
4.3.2 The Promotion and Application of Modern Information Tools Have Greatly Enhanced the Disabled People’s Life Quality

The promotion and application of special modern information tools such as computers for the blind people and mobile phones for the deaf people and others have greatly enhanced the disabled people’s life quality.

For example, the information screen systems have been established in all large-scale hospitals, stations and other key public places and buses on main city roads. The TV plays, programs and programs are equipped with subtitles to ensure the integrity of the broadcasting of the subtitles, make the internet, electronic information and communication products more convenient for the disabled people to use.

4 channels and 12 TV programs of Nanning TV Station have been equipped with subtitles, and the China TV Sign Language System has been installed in the program “Weekend Show” of the TV station, which makes people with visual and hearing disabilities successfully accept information from the outside world and realize the outside world.

Since 2003, Hangzhou City has intensively set the blind walkways on major roads and sidewalks, and constructed slopes on the curb slopes beside roads. At the same time, the barrier-free signboards have been set and the cross-street sounds have been set at several major crossroads.

China Mobile in Suzhou has further done short message privilege services for the deaf people. The traffic control department has further set the voice warning signal equipments at the crossroads for the blind people. China Telecom and Broadcast Television have respectively done the relief work of the blind and deaf people’s television license fees and installation fees for telephones well. The municipal activity center for the disabled people has further increased computers for the blind people and the Disabled People’s Federation has developed special website for the disabled people to use.

The most typical one is the clock for blind that is the first in the whole country. In 2010, to construct the cross-street sound equipments better suitable for the blind
friends, Nanning City innovated boldly and finally selected one type of cross-street sound equipment with sound and vibration warning function for the blind people. The clock has been installed at 10 crossroads with dense passenger flow and muck disabled people’s travels such as Donggeyuanhu Crossroad, National Ancient City Crossroad and others. This type of “Clock for the blind” can help the blind people to identify traffic lights, at the same time to sense sounds in the surrounding environment and automatically regulate the sound volume through change of frequency of sound effects. Compared with the original version, the new clock for blind has more obvious warning effects and doesn’t disturb citizens at night, is the first transportation facility products in the whole country. On December 25, 2010, hundreds of blind friends came to one crossroad on Xingguang Avenue together to experience the sense of crossing road with the newly paved clock for blind. Once stepping on the clock for blind with round floating points on the farthest edge of the crossroad, the blind friend Zhang Rusheng has heard the slowly sound of “toot toot…”, and his feet sensed a kind of slight vibration, then he stopped immediately to wait for crossing. With the green lighting of the green light, Zhang Rusheng and his other friends passed the road fast and successfully. Zhang Rusheng described his feeling: “the slow sound indicates that it’s red light at crossroad. Until the vibration ended and the sound frequency becomes rapid, it indicates that the green light is lit, and I can cross the road”. He also said that “with the sound warning, we can boldly crossroads and needn’t to be worried like we did before. This equipment is really helpful”.

Besides the intellectual clock for blind, there are many other efficient scientific and technological products used in the barrier-free construction work in Nanning. In 2010, the flashy music doorbells, alarming kettles and other intellectual devices that facilitate the disabled people to exchange information have been promoted and installed in the barrier-free renovation projects for 200 families with poor and disabled people. In 2009, the “Aid Call System” for city old cadres has been constructed in trial, and the carry-on “Electronic Guard” with a key to seek help made the old people sense the advancement of the communication science and technology, which has enhanced the service functions and work efficiency of the home based care for the aged. At present, slopes have been constructed at entrances and exits of major city squares and gardens. Barrier-free signboards have been set at obviously striking places and the voice medical-guiding system and warming system have been set in the
waiting areas of all hospitals in the city.

4.3.3 The Promotion of Chinese Sign Language Has Built Colorful Communication Environment

One of the important measures of the barrier-free construction for exchanging information in China is the promotion of Chinese sign language. In Changzhou, since September 1997, the Municipal Disabled People’s Federation has launched the news in sign language with the Changzhou TV Station early. In 2004, the Municipal Disabled People’s Federation, Municipal School for Deaf-mutes and municipal TV Station has broadcasted the *Teach Your Sign Language* at the Prime Time of Changzhou TV Station 1, which was the first in the whole country to broadcast this program. At present, over 120 programs have been broadcasted, and acquired consistent good reputation among all circles, the window units and the disabled people. The *Sign Language Training Materials* have been compiled and published, the training classes for sign language interpretation have been held, the sign language contests have been carried out and the amateur hosts of for news in sign language and other have been promoted, which fully promoted the communication between the social service industries and the deaf-mute people.

In Shenzhen, the Technology Association has assisted the Disabled People’s Federation and the Disabled-assisting volunteers to establish “Shenzhen Information Barrier-free Seminar” to carry out the barrier-free theoretical researches and practice explorations, use the electronic multimedia technologies and means of communication to conduct training of blind skills and online teaching of sign language.

In Ningbo, the public organizations have actively established the information barrier-free platforms, promoted the transformation from applied text to sound or transformation from sound to applied text and provided the sound an word warning, Braille, sign language and other barrier-free services.

In Nanjing, the Nanjing TV Station has opened the newspaper in sign language for 15 years, has promoted the sign language by professional staff in the service industry and carried out the "First Sign Language Contest" among students colleges and universities in Nanning.

In Zunyi, the Municipal Disabled People’s Federation is responsible to
promote the *Chinese Sign Language* (training 40 people every year) at the window service industries.

In Ningbo, the emphasis is the gradual promotion of Chinese sign language among the staff in key window service industries.

In Tianjin, according to the program of building of barrier-free cities formulated by the Municipal Traffic Committee from 2008 to 2012, the sign language has been promoted among staff in service industries such as business, hospitals and others to provide broader channel of communication for the disabled people.

In Beijing, the Disabled People’s Federation, Aging Problem Committee, Women’s Federation and other public organizations have carried out over 130 the sign language training classes in the whole city, and have trained over 4000 sign language volunteers and over 3000 sign language service personnel in coordination with the training window industries such as tourism, health, business and others. They also held the first international sign language training class.

In Hefei, the Municipal Disabled People’s Federation has conducted regular sign language training of the deaf-mute people, and promoted the use of sign language in service industries such as business, hospitals and others.

In Suzhou, the Municipal and District Disabled People’s Federation have held free sign language training class among personnel in service industries such as the business, hospital and others with the local schools for deaf-mutes, vigorously promoted the sign language. In Shenyang, the government has regulated that the Municipal and District Disabled People’s Federation, Commercial Bureau and Health Bureau shall be responsible for the promotion of sign language among staff in window service industries such as business, hospitals and others.

**4.3.4  The “Chinese Digital Library for the Blind” Makes the Blind Enjoy the Joy of Reading**

Zhejiang Library has opened the “Library for the Blind” for the groups with visual disabilities in the whole province as early as in 2003. The library covers an area about 60 m², is broad and bright, the dark brown bookshelves full of Books in Braille and tapes. At present, there are medical, scientific, literary, linguistic,
educational, historical, political and legal Books in Braille in the library, as well as some audio books on manipulation, massage, novel, movie record, radio play, poetry, music, crosstalk, education and law. All books stored in the library are free for the blind people to read. 3 computers are located at corners of the reading room, and the system will automatically transfer the literal contents into respondent sound or music one by one once you click the mouse, to facilitate the blind people to inquire information. Meanwhile, three record CD players are equipped to facilitate the blind people to listen to broadcast and use the tapes. There is also staff on the side to accompany the blind readers in the whole process. Meanwhile, the staff has told the writer that blind readers who came to read in the “Library for the Blind” were free from examination if they want to borrow books, and they can apply for borrowing cards with copies of their ID cards and disabled cards. The foreign readers can deliver their copies to the Library for the Blind and the staff will handle procedures for them. For blind readers inconvenient to come to the library to borrow book, the library has also carried out the home delivery service in the city, to deliver documents necessary for the blind readers to their homes through the post office with the self-made special packages for visually disabled people in the province.

In Nanning, the Municipal Library has constructed barrier-free facilities for 3 years, and constantly improved the service facilities for the disabled people, making the disabled people enjoy the joy of reading. There is the reading room for the disabled people, nearly 400 books in Braille. The special counters for books in Braille have been set, as well as indoor audiovisual rooms for the disabled people including 3 computers, television, DVD player and others, implementing the integrated management of storing, borrowing, reading, seeing and listening. Nanning Municipal Children’s Library has invested over RMB 1.5 million Yuan and collected 300,000 children’s books for the blind children’s audio reading. Decades of disabled people come to the reading room every day to experience the reading convenience brought by books in Braille and audio books. Mr. Tao, who has visual disability often comes to read when he has time, he said: “the Municipal Library has specially set the reading room for the blind people, and added many books. There are also computers to listen, I like this place!” to facilitate the visually disabled children to read, the Municipal Children’s Library has specially installed audio plug on Founder Apabi Reader to make children get
spiritual soul food from the audio reading. The 9-year-old Little Lingling who is unavailable to sit can lie to listen to the story of “Mermaid” in the library.

In Changzhou, the Municipal Disabled People’s Federation has coordinated with the Zhonglou District to establish the library for the blind people and rooms of audio books fully open to the blind people in the whole city. The Federation has coordinated with China Mobile and China Telecom to provide short message discount packages for the deaf people and provide convenience and privilege for them to communicate and take part in the social activities.

On May 8, 2009, by the coming of the National Day of Assisting the Disabled, China Disabled People’s Federation and the National Library have jointly initiated the launching ceremony of “Promoting Faire Acquisition of Information Resources through Libraries” and held the Barrier-free special lecture “Reading and Life” for the deaf people in the National Library. This activity is the deepening of the cooperation project “Chinese Digital Library for the Blind” of China Disabled People’s Federation and the National Library in 2008, as well as one of the important measures of the “Joint Action Plan of Information Barrier-free Construction for Chinese Disabled People” approved by the Ministry of Science and Technology.
5. The Role of Chinese Disabled People and Organizations for the Disabled in Urban Barrier-Free Construction

5.1 The Role of Participating in Drafting the Regulations on Barrier-Free Construction

5.1.1 The Role of Participating in Drafting Barrier-Free Regulations

In China, many provinces and cities have stipulated disabled persons’ federations have the responsibility to take the lead in drafting local laws and regulations, rules and normative documents on the construction and management of barrier-free facilities. This responsibility is typically reflected in Shenzhen.

The local statute *Regulations on the Management of Barrier-Free Construction in Shenzhen* aroused wide social concern when it was submitted to the 27th Conference of the 4th Standing Committee of the NPC for approval. In particular, disabled people expressed their concern when they heard of legislative protection would be provided for barrier-free construction. They thought
considerate regulations were made in both soft and hard environments and great supports were provided for their work and life. Yet they still wanted to express their innermost feelings with great concern on whether the statute was overall, elaborate, exercisable and human-friendly.

When members of Shenzhen Municipal Standing Committee of the NPC were deliberating the Regulations on the Management of Barrier-Free Construction in Shenzhen, disabled citizens had many words to say. For instance, barrier-free construction on buses in this statute aroused their great interest. The statute puts forward with to provide proportional barrier-free buses in main bus routes, or install mobile footsteps and facilities for fixing wheelchairs in low floor buses. Wu Miaochun, the head of Lianhua North Recovery Center for Disabled People and the chairman of Futian Disabled People’s Association, thinks the cost of purchasing barrier-free and low floor buses is too high with great difficulty in implementation. Thus she suggests trying to reconstruct existing buses and stretching out a slope floor with appropriate angle at the bus door through design, which will cost less money and time with smaller difficulty in implementation. A disabled person, Shi Xinrong hopes the routes of barrier-free buses can be increased and the number of barrier-free buses can take up a rational proportion in total buses within several years. However, what Shi Xinrong cares most is the design and service of barrier-free buses. He says No.59 barrier-free bus is very popular among disabled people, for it facilitates our transportation and expands our scope of activities. Yet problems still exist, e.g. the design of sloping plates for wheelchairs up and down is irrational with troubles in use; some drivers and conductors refuse to use them but lift wheelchairs onto the bus, which makes most sloping plates rusty; unscientific facilities for fixing wheelchairs make wheelchairs cannot be stably fixed onto the bus, which makes disabled people and their companions very nervous; some drivers and conductors have no awareness of barrier-free service and drive when wheelchairs are not properly fixed, thus dangers will be caused if the speed is too fast; we hope the service on barrier-free buses in running can be improved. Zhang Li, a blind person from Luohu District, says this statute stipulates voice and caption stop announcement system shall be installed and used in track transportation and buses. In her view, this statute is a bit ambiguous because current stop announcement system is only installed outside the bus but no sound can be heard inside where stop announcement is most
needed. Zhang Li hopes the government can supervise Bus Company to consider more considerately while carrying out the statute.

When members of Shenzhen Municipal Standing Committee of the NPC were deliberating the Regulations on the Management of Barrier-Free Construction in Shenzhen, blind people attached more interests on the voice stop announcement system on buses. Zhang Li, a blind person who has been operating Xingxing Blind Massage Center in Dongle Garden for 9 years, thinks current stop announcement only exists inside but not outside the bus, thus blind people have no idea which bus to get on and which direction to go. He Baiyun, a hearing impaired person working at Shenzhen Disabled People’s Website, cares much about the caption stop announcement. She says, “It’s ok if we take a bus in familiar routes and we know where to get off. Yet if we take a bus in unfamiliar routes, it will be very troublesome. Guangzhou does very well in this aspect with universal caption stop announcement, which makes people feel at ease.”

When members of Shenzhen Municipal Standing Committee of the NPC were deliberating the Regulations on the Management of Barrier-Free Construction in Shenzhen, disabled citizens specially raised the problem of elevator with respect to the construction and reconstruction of barrier-free facilities in buildings. Wu Miaochun told her real feeling after traveling in Hong Kong lately. She says, “I joined the activity of ‘100 People’s Travel in Hong Kong’ this February, an activity for 100 disabled people to experience the construction of barrier-free environment in Hong Kong. We are all deeply impressed. Here I only tell one especially moving detail: We went to a hotel for lunch. I was deeply touched in the elevator, for there were two sets of key systems, one high and one low. Thus I no longer bothered others to press for me and I could manage it in wheelchair.”

So she says, “Current elevators are not convenient for disabled people to use.” Zhang Li isn’t a physically disabled person, so she doesn’t care the height of elevator. Yet another inconvenience appears: there is no Braille prompt in most elevators in Shenzhen. “I don’t know the key is up or down outside the elevator, for there is no Braille prompt. After entering the elevator, I don’t know which key to press because there is no Braille prompt, either. Sometimes I press the wrong key Floor1 instead of Floor 9, which is very embarrassing.” The statute of Shenzhen puts forward with barrier-free facilities shall be constructed in newly-built, rebuilt and extended projects. They shall be synchronously designed, constructed, handed over for use and linked up with existing barrier-free
facilities around the construction project; completed public and residential buildings without or with nonstandard barrier-free facilities shall be gradually rebuilt. Zhang Li hopes barrier-free elevators can be installed in new buildings and barrier-free facilities can be provided in old buildings.

When members of Shenzhen Municipal Standing Committee of the NPC were deliberating the *Regulations on the Management of Barrier-Free Construction in Shenzhen*, many disabled people proposed there should be directional signs with respect to subway barrier-free problem. Shi Xinrong complains, “Subway is the most popular vehicle among disabled people relying on wheelchairs, but vertical elevator is only installed at one exit of Subway Line 1. The road is closed and wheelchairs cannot pass it, thus the role of vertical elevator cannot be fully played. Now second-stage Shenzhen subway project is being constructed in large scale. We hope strict regulations can be drawn up to supervise Subway Company to do barrier-free work well and make subway become a long-lasting project.”

Actually, disabled citizens have many opinions on subway. Zhang Li from Luohu District says blind people are afraid of going out, “Many places have no or nonstandard barrier-free facilities. It makes blind people cannot go out independently.” Once she organized several blind people to take a subway at Luohu Port. They found the eyesight-disability-friendly track was discontinuous and they couldn’t enter the carriage. She adds she can take subway independently in Hong Kong but dare not in Shenzhen, for there is no person to lead. When she was travelling in Hong Kong, she could touch Braille prompt outside the elevator along the handrail set on the wall after entering the subway. Through touching of Floor 1, 2 and 3, she could make clear which floor to go. Yet she cannot tell the direction after entering the subway in Shenzhen. Zhang Li also complains, “We cannot enter through swiping free boarding card for disabled people at the entrance but from the security entrance. Since eyesight-disability-friendly track does not lead to the security entrance, we have to ask for directions. What’s more, we don’t know how to reach after other people tell us the way. It is really difficult!” Besides, Huang Chuhui, a full-time member of the Association for Disabled People in Xiangmihu Community and also a disabled person, thinks many problems on barrier-free construction exist in subway track transportation, which shall be emphasized in this statute. Major problems include: vertical elevator is not provided at all stops, which causes much inconvenience to severely disabled people; the distance among the
carriage, door and platform of some subways is too far, which makes disabled people in wheelchairs easily get stuck with potential safety hazard; the height between the carriage and platform of some subways is inconsistent, which makes wheelchairs cannot pass fluently. Huang Chuhui suggests barrier-free construction shall be carried out while building subway routes so as to avoid capital waste in later reconstruction.

When members of Shenzhen Municipal Standing Committee of the NPC were deliberating the Regulations on the Management of Barrier-Free Construction in Shenzhen, some disabled people advised citizens should learn more sign language with respect to information barrier-free problem. This statute puts forward with to carry out barrier-free information communication construction. Municipal TV Station shall gradually increase the time for playing sign language news to reach above 15min per day before June 30, 2011. Subtitles shall be provided for movies, dramas and TV headlines. Reading rooms for blind people shall be set up in public libraries through municipal and district finance. All these are very exciting for us. However, disabled people still have obstacles in communicating with others and obtaining information due to the lack of information exchange tools. Huang Chuhui suggests increasing information communication services for blind and deaf-mute people. He says many blind and deaf-mute people start to use mobile phones and telephones after entering information era. He hopes the government can offer capital and policy encouragement to promote communication facility manufactures and communication service suppliers to provide customized communication facilities and services for the blind and deaf-mute. Disabled people also have the right to enjoy high-quality spiritual entertainment life, thus He Baiyun suggests providing special audio interfaces in cinemas and theaters so that the deaf relying on hearing-aids can adjust to certain procedure and butt joint with special audio interfaces to obtain better sound effect. He Baiyun also suggests enhancing the publicity of sign language and increasing sign language training institutions. If sign language is publicized, the deaf can inquire others, e.g. security guards, when emergency occurs. She hopes service personnel in certain places can grasp basic sign language to provide help for the deaf-mute.

When members of Shenzhen Municipal Standing Committee of the NPC were deliberating the Regulations on the Management of Barrier-Free Construction in Shenzhen, they put forward with love was the most important for disabled
people with respect to soft environment construction. Though cochlea was implanted in Wang Ling, a person with hearing disorder, she still cannot hear and speak clearly. Compared with people with physical disability and visual disorder, Wang Ling has no obstacle in actions. Yet she is often confronted with insoluble embarrassments while communicating with others. Her mother introduces, “Wang Ling needs take buses to work every day. Though she shows her disability certificate, the conductors often don’t believe she is disabled and stick to letting her buy tickets without listening to her explanations. This doubtful attitude severely hurts her.” What Wang Ling’s mother reflected is just the problem of soft environment in barrier-free environment construction, for which several disabled people feel the same. They all express that though people in Shenzhen understand and tolerate disabled people very much, more publicity of concern and love for disabled people shall be carried out in public environment. “We need more time and help to get on and off especially on buses, taxis and other public vehicles, thus it is unavoidable to take up others’ time. We cannot go out bravely without others’ understanding and support.” A famous blind singer Lin Zhongqiu says, “Compared to hardware facility construction, disabled people need soft environment much more, that is, a caring heart.” Thus what disabled people care most are emotional concern and love. Lin Zhongqiu adds difficulties in going out and communication can be greatly improved after carrying out this statute. Yet the hurt brought by social discriminations cannot be resolved, which is a deficiency of this statute. In Lin Zhongqiu’s view, publicity and education are most important in barrier-free construction to improve the social concern for disabled people. More and more concern for disabled people appears in current society, yet some people still discriminate them intentionally or not. In particular, some disabled children are often laughed at and bullied by their schoolmates, which leads to adverse impact on their growth. He hopes social awareness of care and respect for disabled people can be enhanced through publicizing this statute. What he expects most from this statute is legislators can think from the view of disabled people and make it more meticulous and human-friendly.

5.1.2 The Role of Participating in Drafting Barrier-Free Planning
In China, the role of disabled people and organizations for disabled people in drafting barrier-free planning is based on and supported by laws, regulations and policies. For instance, Fujian Province stipulates competent construction administrative departments shall implement professional planning for urban barrier-free facility construction after drafting, including it into urban construction planning and reporting it to local government for approval based on social and economic development conditions within administrative region together with planning, municipal, public, civil administration, Disabled People’s Federation, Senior Citizens’ Work Committee, Women’s Federation and other departments. Fujian Province also stipulates Disabled People’s Federation, Senior Citizens’ Work Committee, Women’s Federation and other social organizations or citizens are entitled to supervise the planning, construction, maintenance and use of barrier-free facilities. Problems shall be reflected to relevant administrative departments based on following assignment of responsibility:

(I) Damage to barrier-free facilities on urban roads shall be handled by competent road department; damage to barrier-free traffic signs or signal facilities shall be handled by the traffic management department in public security organ.

(II) Arbitrary occupation of barrier-free facilities on urban roads, or temporary occupation upon approval but not adopt warning measures as required, undue recovery of barrier-free facilities at the expiration of temporary occupation shall be handled by competent road department.

(III) Occupation of barrier-free facilities in public buildings and residential districts shall be handled by competent construction administrative department; the change of their usage shall be handled by competent planning administrative department.

(IV) Damage and occupation of barrier-free facilities in railway, civil aviation, expressway, passenger terminal and other service areas shall be handled by relevant competent department.

(V) Relevant administrative departments and units shall survey and handle in time after receiving the reflection of situation, and report handling results to people who reflected.

Shanghai also stipulates Municipal Construction Committee shall implement professional planning for barrier-free facility construction after reporting it to
Municipal Government for approval based on the social and economic development conditions in Shanghai together with planning, civil administration, Disabled People's Federation, Senior Citizens’ Work Committee and other departments. Municipal, District (County) Disabled People's Federation, Senior Citizens’ Work Committee and other social organizations or individuals are entitled to supervise the construction, maintenance and use of barrier-free facilities. Problems shall be reflected to municipal, district (county) construction administrative departments. These departments shall survey and handle in time after receiving the reflection.

Shenzhen Municipal Planning Bureau held the “Symposium for Disabled People to Participate in Urban Planning Barrier-Free Construction” joint with Municipal Disabled People’s Federation in December 2006. Responsible people, planners, engineers in municipal planning department had a face-to-face communication with disabled people and carefully listened to and adopted their opinions on urban barrier-free facility construction. The Overall Planning Office of Municipal Planning Bureau took full consideration of barrier-free facility construction in the new round of overall urban planning to make sure urban function can meet the special demand of the disabled and old.

The Planning for Spatial Layout of Domestic Facilities for Special Groups in Changzhou achieved significant reward in 2008. When it was being drawn up in Changzhou, a lot of surveys and researches were made and the opinions of disabled people were fully listened to. Upon surveys, major study samples in special groups are the disabled and old as well as external floating people (new citizens) and laid-off workers. Life service facilities for special groups refer to facilities that can provide residence, culture, education, medical health, endowment insurance and other life services to them, as well as professional barrier-free facilities provided to meet their special demand. Through the survey analysis of statistical data and social questionnaire we find the demand of special groups for future life service facilities in Changzhou focuses on: (1) Accommodations. Economic and physical disadvantages of special groups lead to bad current living conditions, thus their accommodations need to be improved badly. Therefore, putting the demand for future accommodations first is beneficial to improve current centralized living space. (2) Medical facilities. The improvement of medical facilities, especially establishing complete network of medical service facilities for special groups at community level, is beneficial to
solve their medical difficulties. (3) Educational facilities. Improving the educational level of special groups, especially enhancing reemployment training and perfecting employment skills, is the fundamental strategy. (4) Cultural and recreational facilities. Aiming at current bad spiritual and cultural world of special groups, convenience shall be provided for their cultural and recreational activities to remit and reduce their expenses for municipal cultural and recreational facilities and perfect the facilities at community level. (5) Barrier-free facilities. The improvement of barrier-free facilities has great significance on the survival and traffic conditions of the old and disabled. (6) Other facilities. From the survey we also find the targets of spatial layout of life facilities for special groups are: low income groups --- floating groups with residence --- new citizens without barriers, old people --- disabled old people --- disabled people without barriers. The planning tries providing guidance to improve auxiliary facilities in living space, educational training, cultural entertainment, medical health and road traffic etc. The planning also suggests enhancing the comprehensive utilization, planning guidance, construction pilot of existing facilities to gradually improve life facilities for special groups and meet their demand.

5.1.3 The Role of Participating in Drawing up the Standard for Barrier-Free Design

In China, organizations for disabled people in various regions play an important role in drawing up and carrying out the standard for barrier-free design.

One task of Hefei Municipal Disabled People’s Federation in creating national barrier-free city is to supervise rebuilt and expanded recovery centers and other comprehensive service facilities for disabled people relating to their daily production and life to realize accessibility. The rate of constructing barrier-free facilities has reached 100%, which complies with the Codes for Design on Accessibility of Urban Roads and Buildings, the Barrier-Free Standard for Comprehensive Service Facilities for Disabled People and other technical requirements.

Wuxi decides except participating in the completion acceptance of barrier-free facilities, Disabled People’s Federation shall provide training and instruction for competent project construction departments in aspects like project file, professional technical requirements on barrier-free design, actively reflect the
requirements on barrier-free construction and timely raise relevant suggestions and opinions.

Shenzhen Municipal Disabled People’s Federation issued over 850 copies of the Codes for Design on Accessibility of Urban Roads and Buildings to each design, construction, supervision and management department and unit in Shenzhen to promote the execution of barrier-free standard in project construction. It also carried out barrier-free construction publicity in newspaper media, radio station and TV station, opened special columns, exclusive interviews and talk shows to make and play the trailer of Shenzhen Creates Barrier-Free Home as well as the activity of creating “barrier-free home” in communities. Meanwhile, the occupation of and damage to barrier-free facilities were exposed by the media, which attracted wide social concern to intensify the strength of regulation.

Nanning is the most typical city. It stipulates Municipal Disabled People’s Federation shall coordinate with the survey of current barrier-free facilities, construction planning, formulation of investment plan of construction project and completion acceptance of barrier-free facilities, participate in the construction of help information system for the disabled and old, actively reflect disabled people’s barrier-free demand, raise opinions on the construction, management and use of barrier-free facilities and coordinate with the publicity, training, implementation and supervision of barrier-free facilities. What’s more, Nanning makes following division on concrete contents, plans and responsibilities of creating barrier-free city according to the Standard for Creating National Barrier-Free Construction Cities:

(I) As one of the responsible units, Municipal Disabled People’s Federation shall survey current barrier-free facility construction in urban area and raise the survey report and expense budget for reconstruction project together with Municipal Construction Committee, Civil Affairs Bureau and Senior Citizens’ Work Committee.

(II) As one of the responsible units, Municipal Disabled People’s Federation shall draw up the standard for construction (including the use of setting principles, materials and construction specifications on facilities etc.) and acceptance of various barrier-free facilities based on local reality under national technical specifications and standards on barrier-free facility construction together with Municipal Construction Committee.
(III) As one of the responsible units, Municipal Disabled People’s Federation shall organize to study and investigate in advanced barrier-free construction cities, organize experts from construction and design units to form technical guidance groups on barrier-free construction and provide technical guidance and training on barrier-free construction together with Municipal Construction Committee.

(IV) As one of the responsible units, Municipal Disabled People’s Federation shall draft municipal planning for barrier-free facility construction together with Municipal Planning Bureau.

(V) As one of the responsible units, Municipal Disabled People’s Federation shall draft municipal annual investment plan for barrier-free facility construction projects together with Municipal Development and Reform Commission.

(VI) As one of the responsible units, Municipal Disabled People’s Federation shall draw up complete local regulations or administrative rules and normative documents on the construction and management of barrier-free facilities together with Municipal Construction Committee, Civil Affairs Bureau and Senior Citizens’ Work Committee.

(VII) As one of the responsible units, Municipal Disabled People’s Federation shall stick to the principle of “Three Simultaneity” of newly-built, expanded, rebuilt projects, projects in construction and barrier-free facility construction (Simultaneous design, simultaneous construction, and simultaneous put into service after completion acceptance) together with Municipal Construction Committee. It shall also organize to recheck the auxiliary design of barrier-free facilities in newly-built, expanded, rebuilt projects and projects in construction and supervise project proprietor to organize specific reform to make sure newly-built, expanded and rebuilt roads and buildings and those in construction strictly abide by the Codes for Design on Accessibility of Urban Roads and Buildings (jgj50-2001) and the Specifications on the Design of Buildings for the Old (jgj122-99) in planning, design, construction, acceptance, supervision and many other links; newly-built and rebuilt barrier-free facilities shall technically comply with the Codes for Design on Accessibility of Urban Roads and Buildings.

Concrete requirements are as follows: 1. The rate of building curb ramps at the junction, neighborhood crossing, unit entrance and exit and pedestrian crosswalk on road pavement shall reach 100%. 2. The rate of constructing barrier-free
facilities in various public buildings like office and scientific research buildings, commercial service buildings, cultural memorial buildings, theatrical sports buildings, medical buildings, schools and garden architectures, urban gardens and public green space, indoor public lavatories and gas stations etc. shall reach 100%.

3. Track transportation, civil airports, railway passenger stations, bus stations and passenger terminals shall realize accessibility and comply with the Codes for Design on Accessibility of Urban Roads and Buildings, the Specifications on Barrier-Free Facilities in Railway Passenger Stations and other technical requirements.

4. Special schools closely relating to disabled people’s daily production and life, welfare enterprises, recovery centers, comprehensive service facilities for the disabled, aged welfare organizations and service facilities for the old shall realize accessibility and comply with the Codes for Design on Accessibility of Urban Roads and Buildings, the Specifications on the Design of Buildings in Special Schools, the Specifications on the Design of Buildings for the Old, the Barrier-Free Standard for Comprehensive Service Facilities for Disabled People and other technical requirements.

5. The rate of constructing barrier-free facilities in residential quarters and residential buildings shall reach 100%.

(XI) As one of the responsible units, Municipal Disabled People’s Federation shall promote barrier-free informatization and develop the information management system of barrier-free city construction in Nanning to efficiently manage barrier-free construction project together with the Publicity Department of Municipal Committee, Municipal Construction Committee, Information Office and Bureau of Radio and Television; it shall also intensify barrier-free publicity, make and play barrier-free public service advertising, trailers and feature shows, print publicity materials to reinforce the publicity and education in education system, improve public barrier-free awareness, educate people to maintain and protect barrier-free facilities so as to form good social atmosphere for barrier-free construction.

(XII) As one of the responsible units, Municipal Disabled People’s Federation shall actively reflect the barrier-free demand of the old and disabled to the government, relevant departments and parties, give opinions on the construction, management and use of barrier-free facilities and coordinate competent construction administrative department to make good publicity, training, implementation and supervision of the Codes for Design on Accessibility of Urban Roads and Buildings and the Specifications on the Design of Buildings for the Old together with
Municipal Civil Affairs Bureau and Senior Citizens' Work Committee. Meanwhile, it shall play a model role in internal barrier-free construction and reconstruction of welfare facilities for the old and comprehensive service facilities for the disabled.

5.2 The Role of Promoting Actual Barrier-Free Construction

5.2.1 The Role of Promoting Organization Work

Organizations of China Disabled People's Federation at all levels play an important role in promoting the organization work of barrier-free construction, with Beijing as the most typical and representative city. In Beijing, effective working mechanism has been established and perfected over the years to provide powerful organization guarantee for the construction and reconstruction of barrier-free facilities. Based on Article 4 and Article 16 in local statute Regulations, Beijing established joint conference system for the construction and reconstruction of barrier-free facilities in May 2005 on the basis of creating national barrier-free facility construction model city upon the approval of Municipal Government. The participants include Municipal Disabled People's Federation, Planning Committee, Construction Committee, Administration Committee, Traffic Committee, Civil Affairs Bureau and Senior Citizens' Work Committee. Then based on the demand for holding Olympic Games and Paralympics Games, since 2006 Beijing has invited the Engineering Department, Paralympics Department and Volunteers' Department of OCOG as well as "2008" Environmental Construction Office to attend the conference of Disabled People's Federation and formed the working mechanism and situation led by government with the resultant force of departments and supervised by Disabled People's Federation, Senior Citizens' Work Committee and Women's Federation with social participation. For several years, it plays an important role in studying and formulating work plans, reporting relevant conditions, timely researching and jointly promoting the construction and reconstruction of barrier-free facilities through holding joint conferences and special working conferences.

Organizations for disabled people in Shenzhen also play an important role in promoting the organization work of barrier-free construction. Concrete measures
are: establishing joint conference system for barrier-free environment construction and coordinating with relevant construction work. Joint conference is composed of competent municipal governmental administrative departments, including development and reform, science, industry and trade and informatization, finance, planning and national land, residential environment, communications and transport, education, public security, civil administration, culture, sports and tourism, residence and construction, city management and broadcast television etc. and Municipal Disabled People's Federation (hereafter referred to as Municipal Disabled Federation), Senior Citizens' Work Committee, Women's Federation and relevant units. Joint conference is called up by Municipal Government and held at least once per year.

5.2.2 The Role of Promoting Publicity

Paying attention to publicity is the common feature of national disabled people's federations at all levels in promoting barrier-free construction. For instance, Hefei Municipal Disabled People's Federation regards organizing to carry out the publicity of barrier-free construction as its one major task while creating national barrier-free construction city. It involves making and playing barrier-free public service advertising, trailers, feature shows and printing publicity materials to increase public barrier-free awareness, lead people to maintain and protect barrier-free facilities and form good social atmosphere for barrier-free construction. Organizations for the disabled in Shenzhen also regularly carry out publicity and education activities for the construction of barrier-free environment and provide necessary guidance and help for relevant units and individuals to learn barrier-free environment knowledge and implement relevant technical training. Meanwhile, Shenzhen Municipal Disabled People's Federation organizes survey assessment for its barrier-free environment construction and publicizes survey assessment report to the society.

To make barrier-free environment construction become the consensus and conscious action of the whole society, all municipal Disabled People's Federations in Jiangsu Province make full use of news media and festivals for the disabled and old to enhance publicity and education and increase the understanding and support of all social fields to barrier-free environment construction. In Yangzhou, achievements of barrier-free construction are timely reported and relevant basic knowledge and normative standard are introduced through TV station sign
language program “Yangzhou Weekly”, “Warm Ocean” from Yangzhou Broadcasting Station, “World of Disabled People’s Federations” from Yangzhou Daily and other columns so as to call on the whole society to pay attention to barrier-free construction and protect barrier-free facilities. In the process of creating barrier-free environment, organizations for the disabled play a significant role. In Changzhou, newspapers, radio station and TV station publicize the activity of creating national barrier-free construction city from different angles. Municipal Disabled People’s Federation draws up more than 1,600 brochures to publicize barrier-free facility construction, prints and delivers 41,000 publicity picture albums to governmental institutions, schools and communities; it also organizes disabled people to survey the barrier-free facilities in 118 urban food markets, supermarkets, parks and other public places and raise reform program so as to enhance the social awareness of caring for the disabled and old and gradually create the atmosphere with all people’s concern and participation for barrier-free environment construction. In Suzhou, while vigorously carrying out barrier-free publicity, Municipal Disabled People’s Federation and other organizations further coordinate the publicity departments and make full use of various news media and publicity methods to make and play barrier-free public service advertising, trailers, feature shows, print publicity materials so as to further enhance social barrier-free awareness and create good social atmosphere with all people’s concern on the old, disabled and other special groups as well as their attention and support to barrier-free construction.

Among the publicity of organizations for disabled people all over the country, Zhejiang Provincial Disabled People’s Federation and Hangzhou Municipal Disabled People’s Federation are more outstanding.

First, “2010 Zhejiang Province & Hangzhou Urban Barrier-Free Environment Forum” with “Welcome the 8th National Games for the Disabled through barrier-free construction” as the theme was held on May 20. It was sponsored by Zhejiang Provincial Disabled People’s Federation and Hangzhou Municipal Disabled People’s Federation, and organized by Zhejiang External Exchange Center for the Disabled. This activity is composed of three parts and lasts for 3 days. The first part involves the discussion and exchange on urban traffic planning, barrier-free design and other contents among experts and scholars from Germany, Hong Kong, Shanghai and Zhejiang. Representatives from Hangzhou Municipal Construction Committee, Garden Culture Bureau, Tourism Committee, Planning
Bureau, Road Transport Bureau, Urban Management Office, Planning and Design Institute and other units and barrier-free supervisors from Hangzhou Barrier-Free Promotion Association participate in the discussion as well. The second part is “Experience of Hangzhou Urban Barrier-Free Facilities”. The launching ceremony is held in Hangzhou Yanglingzi School. Experience people are divided into three groups to respectively experience the barrier-free facilities in Qianjiang New Town, West Lake Beishan Scenic Spot, Hangzhou Mansion and other places. The third part involves organizing barrier-free experience symposium. The symposium was held by Xie Delin, the head of Technical Guidance Group for the venues of 8th National Games for the Disabled in Hangzhou Organizing Committee and barrier-free construction. All participants talked about their experience. In their view, barrier-free construction in Hangzhou is excellent on the whole while some problems still exist. Problems exposed through experience should be further reformed by relevant departments.

Second, Hangzhou Barrier-Free Environment Promotion Association for the Disabled actively coordinates with the publicity of barrier-free facility construction of all provincial and municipal media with unique angle and novel method. Specific measures include: to coordinate Municipal Construction Office to shoot and make feature shows; plan the first national barrier-free FLASH public service advertising with Xiedao Advertising Agency and repeatedly play it in TV station; organize people to draw up Much Still Remains to Be Done to Achieve Barrier-Free Construction, Public Buildings Along Street Also Requires Barrier-Free and other articles and publish them in Zhejiang Disabled People’s Federation and Metro Express. Meanwhile, they call on disabled philately lovers to collect stamps relating to barrier-free facilities published by 48 nations and regions in the world. They also draw up a stamp collection named The Disabled and Barrier-Free Environment to publicize barrier-free facility construction with unique angle and novel method.

Third, Hangzhou Barrier-Free Environment Promotion Association for the Disabled pays attention to the professional training for members in publicity. They stick to combine publicity with training and adopt the method of “Come in and go out” to carefully learn the Law of Guarantees for the Disabled of the PRC, the Codes on the Design of Urban Roads and Buildings, the Measures for the Construction and Management of Barrier-Free Facilities in Hangzhou and other laws and regulations; participate in the training class for creating national
barrier-free facility construction model city in Hangzhou; invite Ms. Zhang Xiaoye who visited and travelled America in wheelchair and Mr. Chen Zhongmu who lived in Taiwan for half a century to introduce what they see, hear and feel abroad; employ Jin Dailhua, an instructor from Taiwan Linyuan Group, and Xie Delin, an engineer from the Office of Hangzhou Barrier-Free Facility Construction Leading Group, to give professional lectures respectively on “Get rid of mental disorder, happy and healthy every day”, “On the soft and hard environments for barrier-free facility construction”, “Current conditions and specifications on barrier-free facility construction” and other aspects to lay solid professional foundation for inspection and rights defending.

5.2.3 The Role of Promoting Creating Activities

In past ten years, according to the requirements in the Guideline for the “Tenth Five-Year” Plan of China’s Programs to Help the Disabled and the Guideline for the “Tenth Five-Year” Development of China’s Programs to Help the Disabled endorsed by the State Council of the PRC, the Ministry of Construction, Ministry of Civil Affairs, National Senior Citizens’ Work Committee Office and China Disabled people’s Federation decide to jointly create national barrier-free facility construction model cities (districts). They decide to organize 100 cities to create national barrier-free facility construction model cities (hereafter referred to as “creating cities”). To make good application, assessment and management of model cities (districts) and creating activities, the Ministry of Construction, Ministry of Civil Affairs, National Senior Citizens’ Work Committee Office and China Disabled people’s Federation jointly set up the Coordination Group for national barrier-free facility construction model cities (districts) to take charge of the organization and management in model cities (districts); the Coordination Group has an office to take charge of the specific work of creating model cities (districts). To carry out the activity of creating national barrier-free construction cities (hereafter referred to as “creating cities”) well, the Barrier-Free Construction Leading Group led by relevant governmental leaders construction, civil affairs, transport, railway, finance, development and reform, civil aviation, public security, education, publicity, information, broadcasting and television, tourism, commerce, bank, health, disabled people’s federation, senior citizen’s work committee and other departments participated shall be set up. Establish the working mechanism of “coordination and cooperation with different functions” to
properly play the role of organizing and coordinating barrier-free construction. It states that civil administration, Senior Citizen's Work Committee and Disabled People's Federation shall actively reflect the barrier-free demand of the old and disabled to the government, relevant departments and organizations, give opinions on the construction, management and use of urban barrier-free facilities and coordinate competent construction administrative department to make good publicity, training, implementation and supervision of the Codes for Design on Accessibility of Urban Roads and Buildings and the Specifications on the Design of Buildings for the Old. Meanwhile, they shall play a model role and do respective construction and reconstruction of welfare facilities for the old and comprehensive service facilities for the disabled well.

Organizations for the disabled in various places play their respective role and make their own contribution. For instance, as the place of holding 2008 Paralympics Games, Beijing has obtained certain achievement in barrier-free construction in recent years. Yet compared to disabled people's equal participation in society, the demand for barrier-free environment and the objective of holding high-level and unique Paralympics Games, there is still a long way to go. To further enhance social barrier-free awareness, promote the whole society's respect, concern and help for disabled people and speed up the construction of barrier-free environment in the capital, Beijing Municipal Disabled People's Federation decides to launch the theme slogan of “Care for Barrier-Free to Provide Convenience for All” while carrying out the first “Barrier-Free Promotion Day” activity on August 16, 2007. It also makes monthly supervision to the barrier-free construction in certain industry or system and urges to reform. On the first “Barrier-Free Promotion Day” in Beijing, Disabled People's Federation assigned supervisors to have simulated experience to see whether barrier-free facilities for disabled people were provided in urban above three-star hotels. It also stated the 16th day every month in future was confirmed as “Barrier-Free Promotion Day” and one industry or system should be supervised per month. As the President of Beijing Municipal Disabled People's Federation introduced, the themes of barrier-free theme day activities every month are different. Upon the theme of every month, each district and county will establish “Barrier-Free Supervision Team” to inspect the barrier-free facility construction in relevant departments and areas within jurisdiction according to street and community. During inspection, experts, disabled people and volunteers will be assigned to
have “simulated experience” on spot to see whether barrier-free facilities for disabled people are provided in inspected units and whether they are convenient for the disabled to use. The units with many problems will be required to reform within certain time.

Hefei Municipal Disabled people's Federation has two major tasks while creating national barrier-free construction city. First, make barrier-free reform for existing comprehensive service facilities for disabled people. The rate of reconstruction shall be no less than 80% and comply with the specifications. The reconstruction mainly involves: sloping treatment at the entrance and exit, setting up barrier-free access, stair, elevator, lavatory and toilet cubicle, low service counter, low window and barrier-free signs, paving ahead and warning blind sidewalks on the floor of main indoor and outdoor positions. Second, gradually construct and reconstruct barrier-free facilities in disabled families, which mainly involve: setting up safety handrails and other barrier-free facilities at the entrance and exit, kitchen, bedroom and toilet of the house to facilitate the disabled to come in and go out.

Hangzhou Barrier-Free Environment Promotion Association for the Disabled tries to play its role of “representation, rights defending and service” while promoting barrier-free environment construction in all public places. They coordinate the Disabled People’s Federation to survey the life barrier-free demand of severely disabled people and solve their difficulties at home, including “difficulty in walking with crutch, difficulty in standing up in lavatory, difficulty in bathing independently”. They also place 10 wheelchairs donated by Xifeng Liquor Hangzhou Franchise Store to Hangzhou Barrier-Free Environment Promotion Association for the Disabled in West Lake Scenic Spot. Thus old and disabled tourists from other places can appreciate the West Lake as much as they like. During the Disabled Day in 2009, they promoted the construction of barrier-free facilities together with the Employment Section of Municipal Disabled People’s Federation Labor Department and Wal-Mart Stores. Now shopping carts for disabled people in wheelchairs are provided in Wal-Mart Stores. It also provides sign language shopping guides for the deaf and home delivery service for the blind. Thus Wal-Mart Stores achieved the title of “Barrier-Free Model Market”.

5.3 The Role of Supervising Barrier-Free Construction Management Activities
5.3.1 The Role of Employing Compulsory Supervisors

In the process of urban barrier-free construction in China, employing compulsory supervisors to supervise barrier-free environment construction is an important channel for organizations for the disabled to play their role.

Different places have distinct requirements on who to employ compulsory supervisors and whether the supervisors are compulsory or professional. Taiyuan Municipal Government stipulates Disabled People's Federation, Civil Affairs Bureau, Senior Citizens’ Work Committee, Women's Federation and other departments can employ compulsory supervisors to give opinions on and supervise the construction and management of barrier-free facilities. Shenzhen stipulates Disabled People's Federation, Senior Citizens’ Work Committee, Women's Federation and other relevant organizations can employ compulsory supervisors to supervise barrier-free environment construction. In Changzhou, one obligation of Disabled People's Federation is to assist to establish supervisor teams to supervise barrier-free construction; organize to carry out barrier-free publicity; reflect the demand on barrier-free construction and reconstruction; coordinate the preparation for inspection. Suzhou also organizes compulsory supervisor teams for barrier-free construction. Beijing further strengthens the guidance on barrier-free supervision and establishes a barrier-free supervision team composed of 5,000 full-time and part-time disabled people, old people, women, barrier-free experts and social volunteers.

The composition and obligation of supervisors are largely identical but with minor differences. Hubei Province requires establishing effective social supervision mechanism, e.g. the supervisor team composed of news media, NPC members, political advisors, disabled and old people, to supervise barrier-free construction and management, which promotes the disabled and old and relevant organizations to participate in barrier-free supervision, establish information feedback system and form barrier-free special supervision mechanism. The obligation of compulsory supervisors in Suzhou is to supervise barrier-free construction and management and give opinions on urban barrier-free construction, use and management; they also coordinate competent construction administrative department to make good publicity, training, implementation and supervision for two Specifications. To enhance the management of barrier-free facilities, Nanjing and regions within its jurisdiction employed disabled
supervisors with certificates to supervise and reported invaded, damaged and occupied barrier-free facilities, which powerfully maintained their normal use. In October 2010, Nanjing Municipal Disabled People's Federation trained another 80 barrier-free supervisors. They will fully supervise barrier-free environment construction at the end of "Eleventh Five-Year" to check the "homework" for creating "national barrier-free construction cities". Guangdong Province enhanced the supervision of barrier-free construction in all cities and established barrier-free construction supervision system. In particular, Guangzhou employed 200 supervisors to form "compulsory supervisor" team to supervise, guide and help construction and reconstruction units complete tasks; they checked up roads and units one by one and reported existing problems to district and municipal departments in written form. Then district and municipal coordination departments solved problems and timely corrected the construction of facilities not complying with specifications so as to guarantee timely and qualified construction and reconstruction of barrier-free facilities.

Beijing performs much better in supervision. Upon the approval of Beijing Municipal Government, compulsory supervisors shall regard the 16th day of the 1st month in each quarter as "Barrier-Free Promotion Day" since 2007. One theme is confirmed in each quarter to carry out centralized supervision. Then key supervising activities for the Imperial Palace, the Great Wall, the Capital Airport, Beijing Railway Station, Olympic Venues, National Grand Theater and other public service facilities as well as areas surround Olympic Venues were successively carried out. Meanwhile, with "Barrier-Free Promotion Day" as the starting point and upon the interaction among cities, districts/counties, streets and communities, Beijing perfected weekly supervision and monthly report, professional training, employment with certificates, rewards and punishments assessment and other systems to supervise the construction, reconstruction, use, maintenance and management of barrier-free facilities in all industries on various themes with focus through thorough investigation, simulated experience and other forms. Beijing also organized special supervision on the management of blind sidewalks, barrier-free signs and facilities and other difficult problems.

Beijing attaches great importance to the training for barrier-free supervisors. In 2008, to meet the demand of Olympic Games and Paralympics Games on urban barrier-free environment, urban barrier-free construction in Beijing was further promoted. From June 4 to June 6, Beijing Municipal Disabled People's Federation
held a 3-day training class for barrier-free supervisors. Above 130 people participated in the training, including principals in District/County Disabled People’s Federation responsible for barrier-free work, presidents of Street Disabled People’s Federation, administrators of disabled people and some full-time community committee members. The responsible person of Municipal Disabled People’s Federation called up the training. Responsible people in Municipal Planning Committee, Senior Citizens’ Work Committee, Women’s Federation and other departments attended the opening ceremony. Lv Xiaoquan, the chief of OCOG Barrier-Free Division, Song Zhihong, the deputy chief of Municipal Planning Committee General Office, Zhou Wenlin, the senior planner of Municipal Architecture Design Institute, Duan Tiezheng, the chief engineer of Municipal Design Institute, Hu Zhengfang, the engineer of Municipal Planning Institute, and other leaders and experts introduced the construction of municipal barrier-free facilities, Olympic Venues and relevant barrier-free facilities and taught the design code on accessibility, guideline on barrier-free planning and construction of community barrier-free facilities to students. The training class also organized 8 students to have experience exchange. Final test was held as well, and 87% of the students achieved good grades.

During the training, main focuses were: how to enhance the dynamic supervision for barrier-free facility construction and establish long-lasting supervision mechanism; how to supervise and handle problems discovered in supervision through effective method to promote the transformation of supervision results; how to further improve the level of supervision and intensify supervision effect through computer network, grid management and other modern means; how to grasp models in positive and negative aspects and expand social supervision impact. How to grasp the emphasis, overcome difficulties with unique features, how to achieve real effect and some other problems were discussed and exchanged. Many valuable opinions and suggestions on further enhancing barrier-free supervision and urban barrier-free environment construction were raised. To implement barrier-free supervision based on plan, Municipal Disabled People’s Federation determined the 16th day in every month as “Municipal Barrier-Free Promotion Day” to publicize the slogan: Actions for Olympics to promote accessibility and facilitate all people. Since August 2007, sticking to one theme every month and focusing on major and urgent projects and prominent problems in current urban barrier-free construction, special barrier-free
supervision actions were carried out in the whole city and supervision activities implemented by barrier-free supervisors were organized in the city, districts/counties, streets and towns hierarchically. Besides, barrier-free supervision and special columns were set up in the network of Beijing Barrier-Free Resource Center to form serious supervision voice in the final year; give full play to the social supervision of Disabled People’s Federation, Senior Citizens’ Work Committee, Women’s Federation and other departments, intensify the strength of supervision and reform, promote the resolution of major and difficult problems and try to make barrier-free environment construction in Beijing have new progress in the short run. Supervisors universally reflected that the training was practical with strong pertinence and wide usage. Through training, the sense of responsibility and mission to become good barrier-free supervisors was further enhanced. New improvement was made on the understanding of barrier-free supervision, new breakthrough was made on the research and exploration about the feature and law of barrier-free supervision in the new situation and new thoughts and methods of carrying out supervision were formed. They decided to change knowledge, work experience and advanced ideas learned in training to achievements. Seizing the opportunity of Olympic Games, they actively took actions to further promote the style and spirit of “Hold together, fear no difficulty, self pressure and strive for the best” formed while creating national barrier-free facility construction model city to work harder and constantly make new contribution for creating “Eleventh Five-Year” national barrier-free construction city, holding excellent and high-level Olympic Games, Paralympics Games, building “New Beijing, New Olympics” and constructing a harmonious capital city.

It should be noted that disabled people play their role in barrier-free construction through many other ways besides working as supervisors. Here is a typical case: Wen Jun, the founder of “Beijing Paralyzed People’s Family”, plays a unique role in urban barrier-free construction. As a highly paralyzed person caused by spinal injury and stuck in wheelchair for ages, he has been living in Beijing for 8 years. Since offering recovery places for paralyzed people for years and encouraging them to go out and integrate into society, he has many paralyzed friends in wheelchairs. “Many disabled friends and I all have similar troubles as Ms. Ruan while going out. Except subways, take buses for another example, though there are barrier-free facilities, the conductors would rather lift wheelchairs onto buses
than use barrier-free facilities. Because they think it’s too troublesome.” Wen Jun introduced. “Though special ramps for disabled people are provided at the entrance of newly-built public lavatories, no ramps are offered on corresponding sidewalks. Thus disabled people still have inconvenience in actual use, which makes lavatories with barrier-free facilities cannot play their real role.” Besides, Guan Tao, the secretary-general of “Hemophilia Home of China”, who has been stuck in wheelchair for 24 years, also plays a unique role in barrier-free construction. In his view, the situation in Beijing is a little better than that of other places. Yet many problems still exist: “Elevators in most shopping malls have no lower keys for disabled people in wheelchairs. Public telephones are always hung very high and disabled people cannot reach them. While having meals in restaurants, they cannot enter unless being lifted onto steps by waiters…” All these bring great inconvenience to the daily life of disabled people, especially to those in wheelchairs. “People may not be physically disabled in their life, yet they are bound to get old. They will also rely on wheelchairs then. Thus barrier-free facilities are necessary for every person, not only for the disabled.” In a word, just as what he said: “Barrier-free is not only a facility but also a concept. Hope ‘barrier-free’ concept can enjoy popular support as soon as possible.”

5.3.2 The Supervisory Role of Organizations for the Disabled

Organizations are more important channels for disabled people to play their role in barrier-free construction.

Dalian stipulates Disabled People’s Federation, Senior Citizens’ Work Committee and Women’s Federation at all levels shall actively raise suggestions and opinions on barrier-free facility construction and management to Municipal Government, Xianao District Management Committee and relevant departments. They are also entitled to supervise the construction, maintenance and management of local urban barrier-free facilities.

Suzhou decides Municipal and District Civil Affairs Bureau, Senior Citizens’ Work Office, Disabled People’s Federation and relevant departments shall further set good example and extensively carry out barrier-free construction and reconstruction in community service center, welfare facilities for the old, activity center for the disabled and recovery center etc. They shall also actively reflect the barrier-free demand of the old and disabled to relevant departments.
Hangzhou stipulates Disabled people’s Federation, Senior Citizens’ Work Committee and other social organizations or individuals are entitled to supervise the construction, reconstruction maintenance and use of barrier-free facilities. Behaviors violating the measure provisions can be reflected to planning, construction, municipal and other competent administrative departments. These departments shall timely survey and deal with.

Xiamen decides Disabled People’s Federation, Women’s Federation, Senior Citizens’ Work Committee and other relevant mass organizations shall actively participate in the check and acceptance of barrier-free facility project and raise concrete opinions on improving barrier-free facility construction. They are also entitled to supervise the construction, maintenance and management of municipal barrier-free facilities. Relevant administrative departments must timely survey and deal with the problems reflected by Disabled People’s Federation and Senior Citizens’ Work Committee and report disposal results to Municipal or District Disabled People’s Federation and Senior Citizens’ Work Committee.

Nanjing stipulates Disabled People’s Federation, Senior Citizens’ Work Committee and other social organizations or individuals are entitled to supervise the construction, maintenance and use of barrier-free facilities. Illegal behaviors can be reflected to relevant competent departments and these departments shall timely survey, deal with and report disposal results to the complainant.

Ningbo stipulates Disabled people’s Federation, Women’s Federation, Senior Citizens’ Work Committee and other social organizations or individuals are entitled to report and reflect behaviors violating the provisions on barrier-free facility construction, maintenance and management to relevant administrative departments. These departments shall timely accept the report and organize survey and treatment according to law.

Shenyang Municipal Government stipulates Municipal Education Bureau, Civil Affairs Bureau, Disabled People’s Federation, Senior Citizens’ Office and various regions shall make sure the barrier-free reconstruction rate of special schools, welfare enterprises, recovery centers, comprehensive service facilities for the disabled, welfare organizations and service facilities for the old shall reach 80%. They shall also gradually make barrier-free construction and reconstruction for communities and families with disabled and old people.
Wuhan stipulates Municipal Disabled People’s Government can organize disabled representatives to experience barrier-free facilities closely relating to disabled people’s daily life and work, and raise suggestions and opinions on their construction. Disabled People’s Federation, Women’s Federation, Senior Citizens’ Work Committee and other social organizations or individuals are entitled to supervise the behaviors violating barrier-free construction and management, reflect and report them to relevant administrative departments. These departments shall timely organize survey and disposal.

Xi’an stipulates municipal, district and county working organizations for disabled people shall supervise the construction and management of barrier-free facilities as required. Problems can be reflected to relevant administrative departments based on responsibility division. These departments shall timely survey, deal with and report disposal results to municipal, district or county working organizations for disabled people after receiving the reflection.

Hefei Municipal Disabled People’s Federation states their major task in creating national barrier-free construction city is to establish effective social supervising mechanism and set up supervisor teams composed of news media, NPC members, political advisors, disabled and old people to supervise the construction, maintenance and management of municipal barrier-free facilities.

One obligation of Nanning Municipal Disabled People’s Federation is to coordinate the survey of current municipal barrier-free facilities, construction planning, and formulation of construction project investment plan, completion acceptance of barrier-free facilities, participate in the construction of help information system for the disabled and old and actively reflect disabled people’s barrier-free demand, raise opinions on the construction, management and use of barrier-free facilities and coordinate with the publicity, training, implementation and supervision of barrier-free construction.

Anhui Province stipulates Disabled People’s Federation, Senior Citizens’ Work Committee, Women’s Federation at all levels and other social organizations shall supervise the construction, reconstruction and management of barrier-free facilities and raise opinions and suggestions to relevant competent administrative departments. These departments shall study, deal with and reply.

Shanghai stipulates Municipal, District (County) Disabled People’s Federation,
Senior Citizens’ Work Committee and other social organizations and individuals are entitled to supervise the construction, maintenance and use of barrier-free facilities. Thus main obligation of Disabled People’s Federation is supervision, that is, publicity, research, check, supervision and coordination. In August 2003, Shanghai Municipal Disabled People’s Federation set up Shanghai Barrier-Free Facility Supervision Team. 19 districts/counties set up District Supervision Teams. Each street (town) set up supervision teams and Neighborhood Committee (Village Committee) arranged supervisors, forming Municipal –District –Street—Neighborhood Committee 4-level supervision network to supervise and promote.

Beijing enhanced the supervising strength for barrier-free facility construction and management and intensified the supervision of barrier-free facilities in newly-built and rebuilt projects. In particular, Beijing enhanced the supervising strength for major regions and positions before Olympic Games and Paralympics Games to make sure their operation and guarantee. Meanwhile, it played the role of Disabled People’s Federation, Senior Citizens’ Work Committee and Women’s Federation to accelerate social supervision for the construction of urban barrier-free facilities and environment while combining “Barrier-Free Promotion Day” activities. Disabled People’s Federation, Senior Citizens’ Work Committee, Women’s Federation and other social organizations carried out the supervision for barrier-free facility construction, reconstruction and management as stipulated. First, enhance barrier-free social supervision and publicity. Municipal Disabled People’s Federation established joint conference system of barrier-free supervision and publicity together with Senior Citizens’ Work Committee and Women’s Federation, drew up and issued the *Rules for the Implementation of Barrier-Free Supervision in Beijing* and set up barrier-free supervision leading group and office. Over the years, Disabled People’s Federation at all levels carried out barrier-free supervision activities with more than 60,000 people together with Senior Citizens’ Work Committee, Women’s Federation and other departments, raised above 100,000 pieces of reform opinions and promoted the standardization of barrier-free facility construction and management. In particular, aiming at the Recommendation Letter of China Disabled people’s Federation to Beijing Municipal Government, barrier-free facility construction in Olympic Venues and key projects as well as the suggestions and pinions of various social fields on urban barrier-free environment construction, each
district/county and competent industrial department carefully fulfilled their obligations as stipulated, finished annual construction and reconstruction plan on time and constantly made good management and maintenance for barrier-free facilities.

It should be noted that Hangzhou Barrier-Free Environment Promotion Association for Disabled People established under the leading of Hangzhou Municipal Disabled People’s Federation plays an important role in supervision, check, publicity and promotion etc. Besides disabled representatives, its members also include experts, noted public figures and warmhearted volunteers for the disabled etc. They attach great importance to barrier-free environment construction. Zhang Hua, the president of Promotion Association, says, “Barrier-free environment can help disabled people go out and join in social activities like normal people. It also facilitates the life of the old, women and children etc.” The Promotion Association demands: first, work hard at the specifications on barrier-free facility construction; second, combine with the periodicity and long-lasting feature of supervision; third, learn the successful experience of other places; fourth, strength publicity and create atmosphere; fifth, fear no difficulty and enhance supervision; sixth, stress key points and approach people’s life through the opportunity of urban construction to make innovation at work. In recent years, Hangzhou has made a blanket survey on main municipal roads through the opportunity of creating national barrier-free facility construction model city. It successively surveyed the curb ramps and blind sidewalks on Jiefang Road, Qingchun Road and other roads and finance, post and telecommunications, hospitals and drugstores, food service, shopping mansions, bookstores and entertainment and other public places on both sides of the roads together with college student volunteers from Zhejiang University, Zhejiang University of Technology, Zhejiang Science and Technology University etc. According to survey results, only 20% of them are qualified and nonstandard public environment and buildings with barrier-free facilities which are not properly managed and repeatedly occupied reach 80%. Analysis and detailed statistical report were made for this, which were provided for relevant functional departments for reference and offered first-hand information for creating activities. Thereinto, some data was quoted by relevant departments for many times as reform basis to make efforts for creating national barrier-free facility construction model city in Hangzhou. While actively publicizing the Law
on the Protection of Disabled People, the Codes for Design on Accessibility of Urban Roads and Buildings, the Measures for the Construction and Management of Barrier-Free Facilities in Hangzhou and other laws and regulations, they actively raised suggestions and strategies to relevant departments. No matter in the new round of general urban planning in Hangzhou, new West Lake construction or in “One vertical and three horizontal” and alleyways, they all provided suggestions and strategies to relevant departments actively. They once submitted a piece of advice of “Creating barrier-free environment in general planning” to the municipal level, which aroused the high attention of Hangzhou Municipal Planning Bureau. This advice achieved the “Honorable Award” in the activity of collecting advices on general urban planning. They also actively participated in creating national barrier-free facility construction model city in Hangzhou, supervised urban roads, public buildings and lavatories, wrote monthly survey report and fed back to Municipal Construction Office, such as musical hall, underground passages at Wulin Gate, reconstruction of Zhongshan Road and latest experience in Qianjiang New Town. They contributed to creating “national barrier-free facility construction model city” in Hangzhou and were honored with “Special Awards for Services” by Municipal Government.

5.3.3 The Supervisory Role of Barrier-Free Supervision Groups and Teams

Diversified supervision modes are created among various barrier-free construction activities in China, e.g. barrier-free supervision teams and barrier-free supervision groups, two excellent methods. Barrier-free supervision teams were set up in 2004. Nanjing, Beijing, Tianjin, Shanghai, Dalian, Qingdao, Hangzhou, Xiamen, Guangzhou, Xi’an, Qinhuangdao etc. are the earliest 12 cities titled as “National barrier-free facility construction model city” by the State Council. Through creating national barrier-free facility construction model cities, the mode and experience of promoting barrier-free construction was formed to stimulate barrier-free construction. To further create “national barrier-free construction city”, above cities needed to create social barrier-free supervisor teams, thus barrier-free supervision teams were set up.

“Fujian Barrier-Free Supervision Group” was set up early as well. On November 5, 2003, Fujian Barrier-Free Supervision Group composed of disabled and old
people was officially set up upon the approval of Fujian Barrier-Free Facility Construction Leading Group. Its task is to supervise provincial barrier-free construction, experience provincial barrier-free construction as direct barrier-free beneficiaries, timely report their feelings to Provincial Barrier-Free Facility Construction Leading Group through text, picture and other forms and raise constructive suggestions and opinions to promote provincial barrier-free construction. Meanwhile, the group should confirm and select chain supermarkets closely relating to people’s daily life as the startup project of supervision, i.e. carry out one of the series activities of “Barrier-free supervision ---- We’re taking actions”: “Barrier-free supervising actions in Fuzhou chain supermarkets”. The group confirmed to carry out barrier-free supervision once per month, issued one Report on Barrier-Free Supervision, timely submitted “Barrier-free Construction Proposal” on problems existing in supervision to supervising targets, fed back and recovered the proposal well. It also decided to submit survey report to Provincial Barrier-Free Facility Construction Leading Group twice per year (on National Disabled Day and International Disabled Day) and hold “Barrier-Free Supervision Information Meeting”.

The first action of Barrier-Free Supervision Group “Barrier-Free Supervision in Fuzhou Chain Supermarkets” was jointly organized by Fujian Provincial, Fuzhou Municipal Disabled People’s Association and Fujian Volunteer Office for Disabled People. Totally 53 chain supermarkets of 11 categories in 4 districts including Gulou, Taijiang, Cangshan, Jin’an except Mawei in Fuzhou were selected as survey targets. All investigators participating in the supervision were called up through voluntary application. There were 25 people from 5 groups in all (2 groups in Gulou, 1 group respectively in Taijiang, Cangshan and Jin’an), 5 people per group (4 volunteers for disabled people and 1 disabled volunteer). All disabled volunteers participated in survey experience through sitting in wheelchairs. The organizers made uniform “Questionnaire for Barrier-Free Supervision in Fuzhou Chain Supermarkets” and provided training on barrier-free knowledge for all participants. From November 10 to 24, each group went to all chain supermarkets as ordinary consumers to make field survey and experience and summarized the survey condition. This action involved 53 chain supermarkets in 4 districts in Fuzhou and received 53 questionnaires back with a 100% effective value. From November 24 to 30, they summarized the survey and finished survey report and Barrier-Free Construction Proposal.
On December 3, 2003——International Disabled Day, Fujian Barrier-Free Facility Construction Leading Group held the first “Barrier-free supervision ---- We’re taking actions” Information Meeting in Fuzhou Haifeng Hotel. The Department of Construction of Fujian Province announced the Letter of Provincial Barrier-Free Facility Construction Leading Group on Agreeing to Carry out Fujian “Barrier-Free Supervision” at the meeting. Provincial Disabled People’s Federation made the “Report on the Survey of Barrier-Free Supervision in Chain Supermarkets in Fuzhou” on the survey results of Barrier-Free Supervision Groups to members of Provincial Barrier-Free Facility Construction Leading Group, present news media and chain supermarkets. Some chain supermarkets expressed their will to improve supermarket barrier-free construction immediately to provide shopping convenience for the disabled and old through news media. Then the “Report on Barrier-Free Supervision in Fujian Province” drafted and printed by Fujian Barrier-Free Supervision Groups were delivered to members of Provincial Barrier-Free Facility Construction Leading Group, news media, supermarkets and present disabled people and volunteers; they respectively raised reform suggestions on current barrier-free problems existing in each supermarket and timely traced feedback opinions of each supermarket. Fuzhou Trust-Mart Stores has made barrier-free reconstruction in all supermarkets including lavatories, ramps, handrails, packing places, special cashier channels and provided wheelchairs in each supermarket. Barrier-Free Supervision Groups also held “Barrier-Free Supervisors” training class for personnel in Municipal Disabled People’s Federation and Disabled People’s Association and disabled people (or volunteers) to promote barrier-free supervision in the whole province.

The latest supervision was carried out on May 14, 2010. Fujian Special Olympics Organizing Committee Office and Provincial Government Disabled People’s Working Committee organized provincial, Fuzhou Municipal Construction, Civil Affairs, Senior Citizens’ Work, Tourism, Disabled People’s Federation and other departments to carry out the largest provincial barrier-free supervision to experience and check barrier-free facilities in nearly 100 places. Though most places were equipped with barrier-free facilities, incomplete or nonstandard barrier-free facilities still existed in some places, which should attract the attention of relevant departments. Take the supervision in Provincial Stadium for example. As soon as getting off, Mr. Zheng Pingsheng, a representative of blind people, began to try stepping on the ground to find blind sidewalk but
failed. After a whole morning, no blind sidewalk was found at all indoor and outdoor places of the stadium. Mr. Zheng walked over the whole journey through being assisted by college student volunteers. There were 3 levels of steps in front of the Administration Building of Provincial Stadium. To enter the building, disabled representative Li Guangze needed walk through barrier-free ramp. Yet it cost people much time to find the ramp which was beside the steps and behind the bonsai. Li Guangze complained one sign should be provided at the gate to remind people of the position of ramp. Personnel in Provincial Stadium said barrier-free elevators were built for disabled people and led everyone to go there. After walking by a channel full of air conditioners and motorcycles in wheelchair, Li Guangze went into the elevator and advised after experience one mirror should be provided in barrier-free elevator so that disabled people in wheelchairs who were back to operating keys after entering could see which floor the elevator was on clearly through the mirror. Zheng Pingsheng took the elevator as well. He said voice prompt in elevator and Braille beside the keys were very convenient for him. Yet it would be better if handrail was provided outside the elevator. What troubles disabled people to go out is not limited to these problems. For instance, there are no special parking places, low counters and wheelchair seats in venues for disabled people and no help facilities to prevent intellectual and mental disabled people etc. There is still a long way to go to realize disabled people’s free travel.

Many problems were found through this supervision, e.g. the ramps are so steep that wheelchairs cannot go up, barrier-free lavatories are nonstandard, there is no voice prompt in elevators and many problems exist in barrier-free guest rooms. Various problems exist in most places the supervisors passed by. Thus the whole society needs make efforts to eliminate three “obstacles” and play the real role of barrier-free facilities.

First, barrier-free construction is beneficial to all people. We have found operators of most hotels, markets, places of entertainment and other public places would rather ask waiters to lift wheelchairs for disabled people than construct barrier-free facilities, for the number of disabled people is too small. For this problem, Zhao Xiaoyu from the Rights Defending Division of Provincial Disabled People’s Federation thinks the understanding of barrier-free facilities is not overall, which is the biggest “obstacle” for barrier-free facility construction now. She says if there are ramps with proper gradient in hotels, restaurants,
airports and stations, it will not only be convenient for disabled people relying on wheelchairs and crutches but also for the old and patients having difficulty in walking as well as people with luggage. Thus barrier-free facilities does not equal to facilities for disabled people. They are indispensable for disabled people and beneficial to ordinary people. Among various places in this supervision, the supervisors found compared to sports venues, the awareness of barrier-free facility construction and reconstruction in over 30 hotels appointed by Special Olympics is most obvious. Most of these hotels are making reform according to relevant provisions in the *Codes for Design on Accessibility of Cities and Buildings* and trying to complete in advance to receive acceptance.

Second, to reconstruct old buildings is more difficult than construct new ones. When No.6 Supervision Group reached the first stop ---- Fuzhou Mindu Hotel, the supervisors found two special parking places were marked out at good positions of the parking lot as soon as getting off. Yet troubles appeared while entering: the ramp at the entrance was so steep that supervisors in wheelchairs couldn’t go up. Finally they went in with two people’s help. If reconstructed and designed in strict accordance with barrier-free standards, the ramp before Mindu Hotel will cross more than half of the yard, which is obviously impractical. Thus staffs in the hotel haven’t resolved this problem yet. In fact, many practical problems exist when barrier-free reconstruction is made in old buildings. For instance, tens of thousands RMB may be cost if one inch is changed for rebuilding barrier-free lavatories, which makes many units undetermined; there are no voice prompt, Braille and low keys in most old elevators and some of them are being rebuilt. Almost all responsible people exclaimed “Reconstruction is much more difficult than construction!” Yet difficulties couldn’t stop reconstruction. On the spot, the supervisors even made field measurement with tape measures, considered and designed with the staffs.

Third, facilities not properly managed do not truly play their role. Huge investment has been made to construct urban barrier-free facilities in Fujian Province for over 10 years. The environment was greatly improved, e.g. obvious effects were achieved in the construction of urban blind sidewalks, construction of barrier-free neighborhood and reconstruction of curb ramps. After becoming barrier-free model city several years ago, Xiamen was titled as national 100 cities that create “national barrier-free construction” together with Fuzhou and Sanming. As stipulated, 60%~80% of the reconstruction of barrier-free facilities
in buildings of these 3 cities should be completed at the end of 2010. Yet in current construction or reconstruction, many facilities still cannot play their role due to improper management. On Haidei Road near Fuzhou Wuyi Square, air bricks were paved and blind sidewalks were built on all sidewalks. Yet many inspection well covers were set up on less than 200m blind sidewalk, which made blind supervisors couldn't walk. Wusi Road and Hualin Road were major roads to be supervised, but their blind sidewalks were occupied by bikes and electric vehicles or blocked by roadblocks, which made blind people couldn't pass without hindrance. When Braille stop boards on Wusi Road were set up for less than 2 months, some of them had dropped or been broken. Though barrier-free lavatories were installed in some public places, the cleaners changed them into tool rooms for mops and buckets because they thought only few disabled people used them. For this problem, the supervisors advised since no special departments were set up for the management of barrier-free facilities, publicity should be enhanced to improve citizens’ barrier-free awareness to make barrier-free facilities truly play their role. Barrier-free facility complaints hotline can be provided. Occupied and nonstandard barrier-free facilities should be timely reformed and citizens who use these facilities improperly should be dissuaded. While designing blind sidewalks and other barrier-free facilities, the designers should consider their rational layout with other public facilities so as to make them truly play their role.

Almost at the same time, inspection group composed of Nanjing Municipal Disabled People’s Federation, Xuanwu District Civil Affairs Bureau, Education Bureau, Tourism Bureau and other departments went to supervise. Their first stop was Gulou Square. Members in inspection group said while pointing at the underground passage in Anren Street, “This underground passage is so nonstandard. Look! There is no blind sidewalk prompt at the first step, thus citizens with bad eyesight may miss the step. Yet small-dot prompt blind sidewalk is paved on two platforms behind. Each dot is 5cm higher than the ground. Do not despise these dots, for they are so important. Through stamping, the bottom of feet can tell visual disabled people the change of road surface in front.” “Besides, there are full of steps but no ramps. Thus wheelchairs and baby carriages cannot go down.” Though ramps were built on both sides at the center of Gulou Square, there were no handrails. No citizens could tell where the ramps on the square were as well as the position and direction of barrier-free facilities,
The inspection group advised it would be more considerate while imagining ourselves as disabled people in design and construction. There were no prompt blind sidewalks at the entrance of underground passage of railway station, either. In the channel to subway entrance, the inspection group was so excited while seeing the special lifting platforms for disabled people. When ramps couldn’t be built due to small area, lifting platforms were used. Once disabled people pressed the key for aid, people would come to help open the lifting platforms. Then wheelchairs could automatically slide up and down. What disappointed the inspectors was no reaction was made while pressing the key for aid, for the two lifting platforms were broken with bad indicator lights. In Long-Distance East Bus Station, the inspection group sighed as soon as entering the ticket lobby, for barrier-free “obstacle” was still not reformed. Though the notice of “Prior ticket purchase” was pasted at No.1 window to state disabled and old people were prior targets, the height of counter was 1.15m after being measured by inspectors with tape measures, which made citizens in wheelchairs couldn’t buy tickets. Yet at the entrance of ticket lobby, special parking places for disabled people were so unobvious, for the paint on the sign had faded. After entering the Minsheng Bank on Hongwu Road, the inspection group found barrier-free channels there were so beautiful and the staffs could receive customers in sign language. However, what disappointed them was considerate barrier-free lavatories were changed into utility rooms. The free open of Xuanwu Lake Park made people happy, yet it was troublesome for blind or disabled people in wheelchairs to enter the park. There were no easy slopes on the blind sidewalk before Xuanwu Gate and it was very high between sidewalks and ground. Besides, the blind sidewalk was full of battery carts and bikes. In recent years, 850km blind sidewalk has been built in Nanjing, which is extremely good news. Yet many blind sidewalks become “trip way” in real life. At the entrance of Emeiling Food Market, the peddlers sold goods in street and bikes and other unpowered vehicles blocked the way. The inspection group said, “The biggest problem for going out without barrier in Nanjing is people’s ideas. Without understanding and concern, many barrier-free facilities were broken.”

During inspection, relevant responsible person from Nanjing Disabled People’s Federation said, “Now many people do not care about blind sidewalks, ramps, handrails and other barrier-free facilities,” “In fact they are important for
everyone and play a role at every moment. For instance, it will be very convenient if there is a ramp while pushing baby carriage or dragging heavy luggage; all people will get old with bad eyesight and tottering paces, then lower wash basins and lavatories with handrails will be very popular.”

It was International Disabled Day on the very day of inspection, yet it was very depressed that no people gave way to and no parking places were provided for disabled people. Since April 1, 2010, No.111 Act of the Ministry of Public Security came into effect and people with disabled lower limbs could register for driving test. Upon several months’ study, disabled people successively obtained driving license since mid-September and purchased cars. What depresses those special drives was many “obstacles” appeared while driving. On International Disabled Day, Nanjing Disabled People’s Federation held a lecture on “Warning education for disabled people to drive” which attracted many disabled people. Many disabled people were late for the lecture which had been started in 9:00, for they drove out after rush hours to avoid holding up others. For instance, Mr. Hu with poliomyelitis bought a car over 1 month ago, which troubled him soon. He complained, “I’m afraid of driving now.” As a green hand, Mr. Hu drove a bit slower than normal vehicles whenever starting or speeding up. While waiting at the crossing, Mr. Hu became more nervous when the urgent honk behind got bigger and bigger. Besides, many drivers didn’t give way to him. They changed lanes, crossed and even braked suddenly beside him, which made Mr. Hu sweat for several times. What puzzled him was, “There is the sign to indicate disability on my car, yet why don’t they give way to me?” Besides, Mr. Hu specially printed a few words in A4 paper: “Driving by disabled person, please take care.” Yet such notice was almost useless. Thus he had to drive out in non-rush hours to avoid bothering others. It was also very difficult to park cars. Lao Chen was not a green hand. He was very strong before and worked on geographical prospecting. Yet he lost his two legs in an accident while working in Tibet. He was able to drive before the accident and had many words to say. Lao Chen registered for driving test this year after it was permitted by national policy and got the driving license for disabled people soon. Now Lao Chen has a new Buick LaCrosse, but he still feels inconvenient. “It’s too difficult to park cars.” said him, “Parking places for disabled people are 1m wider than normal ones, for the space for wheelchairs after parking should be left to facilitate disabled people to go off. However, no parking places are provided in many parking lots.” According to national policy,
it is free for disabled people to park. Yet Lao Chen has never enjoyed this policy. "Every time when I park, I will tell the policy to toll collectors. They admit they have received relevant documents, but the parking places are contracted. They have to collect charges as their boss required." It is reported there have been 80 parking places for disabled people in Nanjing. But in fact they are all occupied by normal people. Many disabled people have reflected it's too difficult to find parking place.

5.3.4 Attach Great Importance to Opinions and Suggestions from Other Social Aspects in Supervision

In urban barrier-free construction in China, supervision opinions of disabled people and organizations for the disabled shall be paid attention to. Meanwhile, opinions and suggestions from other social aspects shall be attached importance to as well when disabled people and organizations for the disabled are carrying out supervision.

Shenzhen stipulates Disabled People’s Federation can raise opinions and suggestions to relevant departments based on survey and assessment results. Relevant departments shall carefully study these opinions and suggestions, deal with according to law and provide written reply. Besides, opinions and suggestions from other social aspects are also very important. Recently, to welcome the 26th World University Games held in Shenzhen in 2011, Shenzhen started the design and construction of 5 subway lines. To include the project of barrier-free facility construction into the overall planning of subway construction in initial construction stage and avoid reconstruction after completion and repeated waste, members of Municipal People’s Congress and political advisors put forward with the recommendation and proposal for subway barrier-free facility construction with 5 opinions; first, build at least over 1 elevators in each subway station; second, blind sidewalks must be built for blind people in each subway station; third, install electronic display screen for blind people in each subway station and carriage; fourth, establish voice stop announcement system in each subway station and carriage; fifth, build at least 1 barrier-free lavatories in each subway station. Municipal Government attaches great importance to these opinions and suggestions, calls up planning, transportation and other relevant departments to study carefully and requires regarding barrier-free facility construction as one
focus in overall subway planning.

Similar situations exist in Anqing. Anqing entered aging society in 1998 and its aging population in urban area has reached 117,000, which takes up 14.2% of total population. With the constant growth of aging population, high requirements are raised on urban environment construction. As introduced by relevant responsible person in Municipal Disabled People’s Federation, Anqing started barrier-free construction since 2003. Now there is over 40km blind sidewalks in Anqing and barrier-free facilities have been built in 184 places. There are over 8,000 blind people and 10,600 physically disabled people in the urban area of Anqing. Some existing barrier-free facilities are nonstandard and irrational, for they cannot meet the demand of blind and disabled people and reduce their actual using rate. For instance, as some blind people reflected, it’s quite common to occupy blind sidewalks. Sometimes people will run into “broken” blind sidewalks or fall into “traps’ without covers. Though there are several barrier-free lavatories in urban area, disabled people cannot use them. Such as the lavatories in Wanjiang Park, though there are ramps, the gate is so narrow that disabled people cannot enter in wheelchairs. Sometimes the way to barrier-free lavatories in Linghu Park is blocked by people who are playing mah-jong. Besides, some citizens complained ordinary people and young people couldn’t feel the difficulty and demand of the disabled and old. Incomplete barrier-free facilities e.g. blind sidewalks might bring them danger rather than help. Granny Jiang said she lived in the old town throughout the year. In her view, more seats for old people should be provided in public bus kiosk, more automatic stairs or elevators should be set up in shopping malls and the quantity of steps should be decreased. It’s not so troublesome for her, for she could walk flexibly. Yet it would be quite inconvenient for old people who cannot walk flexibly or in wheelchairs.

In the barrier-free construction in Changzhou, disabled people and organizations for the disabled played their supervisory role. Meanwhile, some good opinions were raised by other social aspects. For instance, 3 parking places for disabled people and other barrier-free facilities were increased by Municipal Passenger Terminal Management Co., Ltd, a decision made by passenger terminal based on passengers’ opinions and suggestions. 4 barrier-free elevators were respectively set up under the building of bus passenger terminal, on the right of urban railway entrance, in underground parking lot and at the entrance of South Square which connects south and north. Another 3 elevators could be normally
used in one period, yet the one at the entrance of South Square couldn’t be used for failure in acceptance. Passenger Terminal Management Co., Ltd accepted social opinions and passed acceptance upon consultation with municipal Railway Office. The elevator was put into service and facilitated many passengers especially the disabled. Meanwhile, 1 special place for taking taxi for disabled people was increased in the area where passengers were waiting for taxi. Barrier-free ramps were built at some entrances and exits.

5.3.5 To Protect Disabled People’s Rights is Beneficial to Promoting Barrier-Free Construction

One typical case on this problem is that there are no barrier-free facilities in subways in Beijing, which was reported to the court on the first “Barrier-Free Promotion Day”.

It was August 16, 2007 when the first “Barrier-Free Promotion Day” came in Beijing. On that day, Beijing Xicheng District People’s Court received a registered application about “Absence of barrier-free facilities in subways”. Since barrier-free measures were not taken in subway stations in Beijing, which made disabled people couldn’t enter the subway. One Beijing citizen Ms. Ruan prosecuted Beijing Subway Operation Co., Ltd. and required returning the cost of subway ticket. She also requested Beijing Subway Operation Co., Ltd. to reconstruct barrier-free facilities in Beijing subways. The prosecutor Ms. Ruan was 51 years old that year, a laid-off worker. Since she was physically disabled, she had to walk completely relying on wheelchair. She would meet many obstacles while going out in public vehicles, which severely influenced her normal work and life. On August 15, 2007, Ms. Ruan came to Gongzhufen Subway Station in wheelchair and wanted to take subway to Changping. Since no curb ramps or ramps were set up at each entrance in subway station and no sloping or vertical elevators or other barrier-free facilities were installed, she couldn’t reach subway platform and entered the carriage after trying several times in wheelchair. Helplessly, she had to give up her travel plan. That encounter not only made Ms. Ruan cancel her travel but also made her very disappointed at barrier-free facilities.

In Ms. Ruan’s view, the society should provide barrier-free facility for disabled people, which is an important way to make disabled people equally integrate into
society and serve for the country. As one public transport mode, there's no doubt
barrier-free facilities should be provided in subway to eliminate obstacles and
offer convenience for disabled people. Ms. Ruan learned that the Ministry of
Construction, the Ministry of Civil Affairs and China Disabled People's Federation
jointly published the *Codes for Design on Accessibility of Urban Roads and
Buildings* in 2001 to facilitate disabled people's travel. Beijing Subway Operation
Co., Ltd. didn't provide barrier-free facilities in line with the codes, which
deprived disabled people's rights for taking subways imperceptibly.

To protect her own and other disabled people's rights for taking subways, Ms.
Ruan entrusted the lawyer Li Xiongbing from Beijing Globelaw Law Firm and the
lawyer Li Fangping from Beijing Ruifeng Law Firm to prosecute Beijing Subway
Operation Co., Ltd. at the court. Ms. Ruan said, "Hope the problem of disabled
people's travel can attract the whole society's attention through my litigation. It
also reminds public service departments and transport agencies to strengthen
barrier-free facility construction and implement the concern of the party and
government for disabled people to prepare for Beijing 13th Paralympics Games
next year." Ms. Ruan wrote in her petition: "Elevators shall be installed in
buildings; street lights shall be installed in streets. The rights and ability of any
person cannot be realized and utilized without social compensation conditions.
Disabled people also need compensation conditions offered by society to equally
integrate into society and serve the country. Barrier-free environment is the
basic condition for disabled people to go out and participate in social life." Ms.
Ruan raised two claims in her petition: 1. The defendant shall return the 5 Yuan
for buying subway ticket to the plaintiff; 2. The defendant shall immediately
reconstruct the barrier-free facilities on Line1, Line 2 and Line 13 subway lines
in Beijing to guarantee the plaintiff's legitimate rights and interests.

The lawyer Li Xiongbing from Beijing Globelaw Law Firm, the consignee of Ms.
Ruan introduced, "As the actual operation manager of subway facilities and the
responsible person for the barrier-free facility reconstruction stipulated in the
*Regulations on the Construction and Management of Barrier-Free Facilities in
Beijing*, it's the Subway Operation Company's legal obligation to reconstruct
barrier-free facilities on subway lines in line with the *Regulations."* Li Xiongbing
thought: as stipulated in the *Law on Guarantees for Disabled People*, public
service agencies shall provide prior and assistant services for disabled people
and offer convenience and care to them for taking public vehicles; the country
and society shall gradually carry out the *Codes for Design on Accessibility of Urban Roads and Buildings* which is convenient for disabled people and adopt barrier-free measures. He also introduced, as stipulated in the *Measures for the Implementation of the Law on Guarantees for Disabled People in Beijing* and the *Regulations on the Construction and Management of Barrier-Free Facilities in Beijing*: the reconstruction and extension of urban roads and public facilities must be designed and constructed in line with the *Codes for Design on Accessibility of Urban Roads and Buildings*; completed public buildings and urban road shall be reconstructed according to the *Codes for Design on Accessibility of Urban Roads and Buildings* and relevant national regulations. The lawyer Li Fangping, the other consignee of Ms. Ruan from Beijing Ruifeng Law Firm thought, barrier-free environment is the basic conditions for disabled people to go out and participate in social life. It also influences the city image and international image of our country. To enhance barrier-free environment construction is the concentrated reflection of material civilization and spiritual civilization and also an important sign of social progress. It has important significance for improving people’s quality, cultivating the civil awareness of public morality and promoting spiritual civilization. Lawyer Li also thought the construction of barrier-free environment was not only beneficial to disabled people but also offered convenience to many old people, children, sick and vulnerable people. Beijing has gradually become a city with large aging population. As a modern city whose per capita GDP has reached the middle and developed level in the world, Beijing ought to attach importance to the construction of barrier-free environment.

As for Ms. Ruan’s prosecution to Beijing Subway Operation Company, Xicheng District Court rejected her opinion in the first trial. The court thought barrier-free reconstruction in subways is a gradual process. The appellant’s opinion had surpasses the range of both parties’ obligations, thus it was rejected. But now it seems that although the court judged the appellant lost the lawsuit, certain effects were still achieved through the case. Thus the court will give judicial advice to speed up the reconstruction of barrier-free facilities in subways. The schedule of barrier-free facility reconstruction in subways in Beijing was published as well. Thus the success or failure of the case has been not so important. All that matters is it promoted the legal attention on travel right to certain extent. And then it promoted the construction of barrier-free facilities in
subways, which is a more meaningful progress.

6 Estimates, problems and recommendations for future works of urban barrier-free construction in China

6.1 Estimate of achievements

6.1.1 Urban barrier-free construction in China has been sustained for nearly 30 years since the New Period

In the early 70s and 80s of the last century, the New Period of reform and opening up began in the People’s Republic of China, shortly after that, barrier-free construction has been conducted successively in some cities of China, among which, Shanghai is one of the earliest cities where barrier-free facilities have been constructed in some large shops, cinemas, theaters and stations since mid 1980s, which is the initial phase. The second phase was early 90s, when sidewalk for the blind and curb ramp have been paved on some main streets, combining with the municipal reconstruction. In the Bund reconstruction engineering in 1992, sidewalk for the blind, two barrier-free cross-road underpasses and toilets specialized for disabled were constructed. The third phase began from the new period, since then complete barrier-free facilities have been constructed in a large amount of new public buildings, such as the office building of the municipal government, Shanghai Museum, Shanghai Library, Oriental Pearl, and subway line 2, etc. At present, there are 521,700 disabled people in Shanghai, taking up 4% of the total population; the aged population is 2.3 million, taking up 17.8% of the total population, within which, octogenarians are 285,000, taking up 12% of the aged population. Through holding the 12th World Special Olympics Summer Games 2007 in Shanghai, the city achieved new development in the construction of barrier-free environment, with 26,434 construction projects completed as of September 2008, including 1,849 government agencies, 737 general hospitals, 325 urban squares, 472 large- and middle-scale shops, 901 hotels and
restaurants, 1,250 banks, 273 post offices, 1,590 public toilets, 267 cultural
locations, 114 stadiums, 3,341 schools, 119 airports and stations, 5,834 high-rise
and semi-high-rise housings, 8,078 residential communities, 543 social welfare
agencies, 2,034 km of newly constructed sidewalk for the blind, 42,956 crossing
ramps, and 30,427 households of family barrier-free reconstruction. When
holding the World Expo 2010, Shanghai, as an international metropolis, further
strengthened the construction of barrier-free facilities, realized historical
leapfrogging.

6.1.2. Relatively significant improvement of barrier-free
degree in urban roads, public buildings and other facilities

Taking Suzhou as an example, which is a city with the fine tradition of caring the
old and the young and protecting the disabled and the weak, the construction of
barrier-free facilities has been started early in 1990s. In 2005, Suzhou was
awarded the title of "National Demonstration City of Barrier-free Construction". In
recent years, the barrier-free construction in the city has been rapidly developed,
and the barrier-free degree on roads, public buildings and other facilities has been
significantly improved. In 2008, the city started omnibearing layout and high level
construction in accordance with the national standard for cities of barrier-free
construction, and has overfulfilled all tasks of construction works. Up to now, in
the urban area, 269 urban arterial roads have been constructed into barrier-free
roads, with total length of sidewalk for the blind of 690 km, indications for
sidewalk for the blind at 13,594 locations, and barrier-free crossing ramps of
12,314. Indications for sidewalk for the blind have been configured on the
waiting areas at 413 bus stations on 53 roads in the urban area, preliminarily
forming the barrier-free road system that fans out from point to line and from
line to area. At the same time, a number of exit ramps at modern parks and
squares have been newly built and reconstructed, barrier-free toilets have been
configured in large-scale parks and squares, and barrier-free facilities
reconstruction have been conducted in the majority of public buildings, large-
and middle-scale shops, supermarkets and residential communities.
6.1.3. Attention has been always paid to the construction of barrier-free facilities that are closely related to the daily life of the disabled

Taking Liaoning province as an example, attention has been always paid for many years to promotion of the barrier-free construction and reconstruction of agencies, locations and facilities of social public services that are closely related to the daily life of the disabled, such as government service hall, bank outlets, and toll houses for water, electricity and coal gas, etc. In residential communities, the construction rate of barrier-free facilities is up to 100%, with reconstruction rate of no less than 80%. The residential barrier-free reconstruction for the serious poverty-stricken and the disabled people is listed in the government relief projects. Parking lots specialized for the disabled are configured on public parking, with parking fee exempted. Barrier-free information and communication are actively promoted, barrier-free services of language, text indications, Braille and sign language, etc should be provided by public agencies, film and video products and programs should be attached with caption, and the network, electronic information and communication products should be easy for use by the disabled. The arterial roads, main shopping streets, downtown roads, squares and walking malls in large and medium-sized cities throughout the province are paved with sidewalk for the blind on the pedestrian, and configured with curb ramp at crossing; some crossings and zebra crossings are configured with assorted cross-road acoustic signal device that is synchronous with traffic lights, and some bus lines are configured with indicators specialized for the disabled. The construction of barrier-free facilities has also been gradually deployed in some economic developing cities. At late period of “Eleventh Five-Year”, 35% of the cities throughout the province have met the national standard for cities of barrier-free facilities construction, 40% have met provincial standard, and construction and reconstruction of barrier-free facilities have been gradually promoted in conditioned small and medium-sized towns and villages.
6.1.4. Activities of creation of national barrier-free construction city has been powerfully promoted

Taking Xi’an as an example, at present there are 578,000 disabled people and 1.24 million aged people, totally taking up about 21.6% of the total population of the city. In 2008, creation of national barrier-free construction city was deployed by Xi’an city. On October 12, 2010, the application for acceptance and naming was submitted to the Leading Group on Creation of National Barrier-free Construction City. As of December 2010, the newly built, reconstructed and expanded sidewalk for the blind and the configured ramps in Xi’an reached 100%, with total length of constructed roads of 1,521 km, paved sidewalk for the disabled of 1,186 km with paving proportion up to 78%. At 17,453 road crossings, the constructed curb ramps are 12,763, with an area up to 380,000 square meters. The constructed full-width curb ramps are 650, with a total area of 52,000 square meters. The reconstruction rate of urban pedestrian ramping reaches 80%. 2,552 sets of cross-road acoustic signal device for the blind are installed at 327 main road crossings, and barrier-free reconstruction has been conducted in 12 parks, 239 squares and 663 public toilets throughout the city.

6.1.5. The step of construction of urban barrier-free facilities has been continuously accelerated

Taking Nanjing as an example, the construction of barrier-free facilities has been continuously accelerated in recent years. Since its first sidewalk for the blind on Longpan Road was constructed in 1999, 480 km of sidewalk for the blind has been constructed in the city, nearly ten thousand of ramps have been constructed, nearly 100 sets of pedestrian cross-road voice prompt device have been installed on crossings, about 50 pedestrian cross-road touch signal lamps, over 100 barrier-free public toilets, 200 lifts that can be used by the disabled, 50 counters specialized for the disabled, 30 barrier-free parks and squares, over 1,600 barrier-free indicators, about 15 buses easy for use by the disabled have been constructed and provided, audiovisual studios for the blind have been constructed in 9 level-II above libraries, and reconstruction of barrier-free facilities have been completed in 25 stadiums, 6 cinemas/theaters and 13 Affairs
Halls. At present, the newly built road curb ramps have been ramped by 100%, with reconstruction rate of 85%. The barrier-free construction in newly built, expanded and reconstructed office/scientific research buildings, commercial service buildings, cultural memorial buildings, performance and sports buildings, medical buildings, schools and landscape buildings, outdoor public toilets, gas stations, and expressway services areas reaches 100%.

6.1.6. Barrier-free construction has made historical changes in some cities

Taking Nanning as an example, its exploration for construction of barrier-free city can be traced back to the year of 2000. At that time, taking as experimental points the Xinmin road, Chaoyang road, Avenue of Stars and other pedestrian overpasses and road level crossings, the reconstruction of barrier-free facilities has been conducted by the city; after 2001, during the process of new construction and reconstruction of urban roads, in accordance with the Codes for Design on Accessibility of Urban Roads and Buildings jointly issued by the Ministry of Construction and China Disabled Persons Federation, the competent administration of urban construction has actively promoted the construction of barrier-free facilities and implemented it as mandatory codes and requirements. According to the second national sampling investigation in the disabled persons in 2006, there was over 485,000 disabled persons in Nanning city, taking up 7.23% of the total urban population, 0.89 percentage points higher than the national average level of 6.34%; at the end of 2009, there was 1.1029 million aged people in the city, taking up 15.8% of the total urban population, higher than the standard of aged city of 10%. The construction of barrier-free facilities in Nanning city has been significantly developed in recent years. In 2006, Nanning was awarded the “National Advanced City of Barrier-free Facilities Construction”. In 2007, Nanning city was listed into the 100 National Cities of Barrier-free construction. At present, the paved sidewalk for the blind in Nanning city is 501 km, curb ramps are 6668, the indicators of sidewalk for the blind and entrance of sidewalk for the blind are configured at all main entrances and exits of parks, squares and key public buildings. 14 sets of cross-road acoustic device for the blind are configured at zebra pedestrians at main locations of urban roads, and international generic barrier-free indicators are
configured almost at all pedestrians and zebra pedestrians at main road crossings and in main road sections in the urban area. In recent years, the step of construction of road barrier-free traffic facilities of Nanning city has been accelerated. In 2009, 20 sets of cross-road acoustic prompt devices (bells for the blind) in total were installed at many road crossings in the urban area, such as the crossing of Minzu avenue and Jinfu road, pedestrian road crossing in Minzu square, crossing of Xinyang and Mingxiu road, and crossing of Beihu and Tangshan road, etc.

6.1.7. Barrier-free construction in many cities has reached domestic advanced level

Taking Shenzhen as an example, it’s also one of the cities that first started barrier-free construction in China. In 2000, the municipal bureau of planning and land resources issued the *Announcement on Further Strengthening of Barrier-free Design in All Urban Designs and Architectural Designs*, and regulated that not only barrier-free facilities should be configured in public places, but the work of barrier-free design should also be strengthened in all urban constructions. During the period of “Tenth Five-Year”, a large number of newly built key projects of airport, subway, citizens’ center, library, music hall, youth palace and central hospital, etc. were all designed and constructed according to the national barrier-free standard; the large-sized municipal construction projects for reconstruction and expansion, such as railway station, Luo Lake port, Shennan avenue, Dongmen walking mall, Grant Theater, etc, were added with barrier-free facilities according to the specified requirements. It’s specified in the *Measures to Assist the Disabled of Shenzhen City* issued in 2005 that at new construction, expansion, reconstruction of urban roads, traffic facilities and public buildings, barrier-free design and construction, management and maintenance of barrier-free facilities should be implemented strictly complying with the national codes for design of urban road and buildings that are easy for use by the disabled. In October 2006, Shenzhen was awarded the title of “National Advanced City of Barrier-free Construction in the Tenth Five-year Period”, becoming one of the first national advanced cities of barrier-free construction. In recent years, the barrier-free construction in the city has been expanded to many fields of public construction, urban roads, traffic, communities, households and information
consulting, etc. Apart from the newly built roads that are all paved with sidewalk for the blind and wheelchair ramps, and provided with barrier-free public transportation lines, the municipal and district libraries are constructed with reading rooms for the blind, with provision of GPS positioning and navigation service and computer software for the blind, 818 people with hearing and speaking disabilities throughout the city were equipped with caring MP load card, and the housings of seriously disabled persons were reconstructed for barrier-free environment.

6.1.8. Many cities have realized or are realizing barrier-free accessibility

Taking Tianjin as an example, as of the end of June 2010, over 700 sidewalks for the blind have been constructed on the pedestrians on arterial roads, city-level and district-level shopping streets and walking malls, etc, pedestrian crossings in urban parks, squares and key public buildings, and waiting areas at bus stations in the constructed urban areas; over 21,000 curb ramps and ramping reconstructions have been configured on the newly built and reconstructed pedestrians on road crossings, lane crossings, zebra pedestrians, urban arterial roads, subsidiary road, branches and street pedestrians in the constructed area, with crossing ramping rate up to over 90%; over 70 locations have been installed with cross-road acoustic prompt device for the blind at key crossings in commercial downtown and large-scale public facilities throughout the city. All newly built residential communities are constructed with barrier-free facilities; barrier-free reconstruction in existing residential communities reaches the standard by over 70%; the barrier-free construction of entrances of constructed high-rise and semi-high-rise housings and apartments reaches the standard by over 80%. According to planning, before 2012, barrier-free environment construction of urban downtown and centers of all districts and counties will be generally completed in the administrative districts, counties, and industrial systems in Tianjin city, preliminarily forming accessibility in the urban area, and centers of districts and counties; information communication products that are easy for use by the persons with visual and hearing disabilities should be developed and promoted; dedicated computer rooms should be configured in conditioned districts and counties to facilitate Internet surfing by the blind.
6.2. Analysis of problems

6.2.1. Relatively more problems in the urban barrier-free construction and reconstruction in China

So far, the barrier-free construction in China has made rapid development and tremendous achievements, however, problems are many, and some problems are too serious to be ignored. For example, the policies, laws and regulations on barrier-free are not completed, and the existing laws and regulations are more fundamental, without sound operability and strength; some barrier-free facilities in public places and public transportation are not standardized, the barrier-free level of information communication needs to be further improved, the research and development of barrier-free products are very weak, with little products that can be provided during the process of reconstruction, and majority depends on export, lacking of relevant national standards for product quality. There are some blind spots of barrier-free facilities, such as universities, banks and courts are mostly not constructed with barrier-free facilities; although gas stations are the projects to be examined as specified in the compilation of work standards, some places have not been reconstructed satisfactorily. The progress of barrier-free reconstruction of public transportation is slow, although the bus station platforms in some cities have been reconstructed satisfactorily, barrier-free bus station boards and buses have been not.

6.2.2. Barrier-free construction and reconstruction of home and comprehensive service facilities for the disabled people are extremely weak

According to statistics, 13 million homes of poverty-stricken and disabled people are not constructed with basic barrier-free facilities, and over 80% of comprehensive service facilities for the disabled people are of poor or barely without barrier-free facilities. Therefore, the solution to normalize reconstruction contents, summarize promotion experiences, accelerate the work of barrier-free construction in the homes and comprehensive service facilities for the disabled people, and to practically benefit the disabled people, will take a heavy burden and
embark on a long road.

6.2.3. Barriers in the barrier-free facilities reconstruction in old residential communities

The problems of multi-centered property right, property management, reconstructing space and reconstruction fund, etc. increased the difficulty for barrier-free reconstruction in old residential communities. After the implementation of Property Law, in-depth study should be conducted for the way of legal promotion of this work. Governments at various levels should organize forces to conduct in-depth studies on specific solutions to these difficult problems.

6.2.4. Sidewalks for the blind are diverted seriously with the rapid development of urban construction

Sidewalks for the blind are paved by two types of bricks, the first is lath guiding bricks that guide the blind persons to carelessly walk forward; the second is prompt bricks with dots that prompt the blind persons at turning before the barrier ahead. However, many straight sidewalks for the blind are paved by dotted bricks and turning prompt places are paved by lath bricks in many cities. In particular, the sidewalks for the blind are diverted, and “barrier-free street” is missing with the rapid development of urban construction. The configuration of some prompt sidewalks for the blind does not meet standard requirements, for example, prompt sidewalks are missing at the start and end points of straight sidewalks, the width of prompt sidewalks does not exceed the width of straight sidewalks, the distance from zebra pedestrian and road entrance does not meet the specified requirement of 25-50 cm, and the configuration of prompt sidewalk at turning of straight sidewalk is unreasonable. Besides, several sidewalks are not continuous, and some sidewalks are not free of barrier; the bricks of several sidewalks are damaged, and some sidewalks are occupied by parking vehicles. Although sidewalks for the blind are constructed on key streets, comparing to the amount of people with visual disability, some newly expanded streets are not constructed with sidewalks for the blind, which are far from meeting the requirements by the people with visual disability. Among the existing sidewalks for the blind in some cities, 60% of sidewalks are seriously damaged, random
parking and storing of vehicles on sidewalks are common, inspection wells are constructed in sidewalk, and the problem that the sidewalk is interrupted by well lids is also very prominent; snowdrift after snow sweeping in winter also occupies sidewalks; when car lane is expanded on a key street, even a bicycle lane 3m wide is diverted to the original pedestrian, so the original sidewalk for the blind is changed into bicycle lane with black road surface, causing the sidewalk on key street thus “interrupted”.

6.2.5. Management system of barrier-free facilities is not completed

The constructed barrier-free facilities lack normalized management, causing frequent occurrence of damage occupation and diversion of partial barrier-free facilities, some sidewalks for the blind and ramps are occupied by stalls setup and cars parking, the toilet for the disabled in public toilets is misappropriated for other use, the ramp rails and indicators are damaged, etc. In addition, the problems of fund shortage and difficult coordination between departments are also common. In some cities, “lifts” along subway lines are locked, and sidewalks are randomly occupied, etc. Resultant force has not been formed in barrier-free facilities, and there is no specialized coordination organization or supervision and inspection organization up to date, which affected effective and in-depth deployment of construction works. In particular, prominent contradiction exists between preservation of cultural relics and configuration of barrier-free facilities. In-depth discussion and study should be conducted on the way to provide maximum barrier-free environment and facilities for visiting and touring by the people with limited activity, on the premises of protection of cultural relics.

6.3. Recommendations for future works of urban barrier-free construction in China

6.3.1. Awareness of the service objects of barrier-free facilities should be further increased

At present, the connotation of service objects of barrier-free facilities has been changed significantly, which include not only the disabled, but also all social
members of the aged, children, pregnant women, and temporarily burdened persons, etc, as well as the normal population. Barrier-free facilities are humanized facilities that facilitate every social member. Therefore, publicity should be further reinforced to improve the social awareness of the service objects of barrier-free facilities.

6.3.2. Design concept and construction level of barrier-free facilities construction should be further improved

At present, some humanization design concepts are still in the conversion stage to be further improved, and detailed linkage is missing between design and construction. The constructed barrier-free facilities are not sufficiently systemized and connected, especially the treatment of details and convenience for use significantly lag behind. Trainings should be reinforced to further improve the level of design and construction by relevant technical personnel. Training and learning on policies, laws and regulations, and specifications related to barrier-free of technical management personnel should be strengthened, to establish the concept that mandatory technical standards are laws and regulations, and foster the professional norm of conscious practice according to law and operation subject to rules. By education and training, let them accurately master and smoothly use the professional skills of planning, design, construction, application and maintenance of barrier-free facilities, and make efforts to foster a large number of technical teams with good practice, high quality and strong entrepreneurship, to found a solid technical basis for the overall deployment and strengthening of the construction work of barrier-free facilities.

6.3.3. Problem of dedicated configuration of barrier-free facilities in residential communities construction should be further solved

At present, many communities are not configured with barrier-free toilet (at least one), let alone barrier-free parking lots (at least 1-2); all units in some communities are not configured with barrier-free elevator. The elevation difference between the community entrance, central garden and road surface is large, without barrier-free ramp nevertheless; in some communities, the road
between ramp and residential units is of larger elevation difference, and the ramp is designed too long and steep, not meeting the requirements for barrier-free ramp, and should be reconstructed. Some communities belong to mountainous residential communities where the roads are steep with large gradient, not meeting the specified requirements, which should be solved by adding ramps. In terms of public buildings, some communities are still confronted with the problems of lacking of barrier-free indicators and parking lots specialized for the disabled people at square entrances and on the square ramps; some ramps are too long, without intermediate rest platform; square peripheral pedestrians are not configured with sidewalks for the blind, etc.

6.3.4. Various circles of society should be further supported and promoted to actively participate in barrier-free construction and reconstruction

In particular, the disabled persons federation should coordinate in the current situation investigation, construction planning, and compilation of construction project investment plan of urban barrier-free facilities, and the works of completion and acceptance of barrier-free facilities, participate in the construction of help information system for aged people, actively reflect the barrier-free demands by the disabled people, propose opinions on the construction, management and application of barrier-free facilities, and coordinate in the completion of publicity, training, carrying through, supervision, inspection and other works of barrier-free construction. Corresponding measures should be compiled, cooperation and coordination system should be completed, and periodical dispatching system should be persisted on according to laws, regulations and policies. Strict supervising and restricting system, responsibility assurance system, and laws, regulations and rules system should be completed, for practical and overall promotion of the construction work of barrier-free facilities. All relevant departments should strictly perform their official duty, and for the projects that do not meet the requirements for barrier-free facilities, the planning department shall not issue the planning license of construction engineering, the construction documents supervision authority shall not conduct auditing and shall order modification and supplementation, and the construction engineering shall not pass the inspection.
and acceptance, and shall not be delivered for application. Neglecting of duty, ineffective supervision and management during the process of law enforcement, which cause serious consequences, should be seriously called to account.

6.3.5. Permanent mechanism for barrier-free construction and management should be further established

All regional authorities should strengthen the reconstruction of constructed roads and buildings, insist on the principle of seeking truth from facts, give priorities to key points, and implement planned projects step by step according to differentiation of importance and weight. For existing barrier-free facilities construction, maintenance and management should be strengthened, and the unit or individual that impropriates barrier-free facilities should be seriously punished. Barrier-free should be involved into the urban construction planning system subject to specifications and city creation standards, combining with local actual situations. Weak points should be focused, key points should be emphasized, difficult points should be overcome and bright points should be innovated, to actively promote advanced urban experiences, and investigations and researches should be conducted as much as possible to avoid crooked approaches and accelerate the progression. Planning and design, as the key points of construction engineering, should be strictly supervised and checked by the planning and design administrations, and auditing authorities. Technical personnel should strictly abide by the standards and specifications, select conforming materials and equipment, and implement meticulous construction, to construct the barrier-free facilities as high quality engineering that can stand up inspections.

6.3.6. Construction of barrier-free facilities should be further promoted to gradually develop in small towns and rural areas

It must be specified that enjoying barrier-free facilities will no longer be the exclusive right of the “urban people”. At present, unbalance exists in the barrier-free facilities construction between the major cities and small towns, and between the urban and rural areas, and fund shortage becomes the “barrier” for the promotion of barrier-free facilities construction. In the future, barrier-free facilities construction will be involved into the county-level above national
economical and social development plan, as well as urban construction planning, with the working fund involved into the fiscal budget, and barrier-free construction will be gradually promoted in small towns and rural areas, to further form relatively complete environment of barrier-free facilities.