



Project Progress (As of December 15, 2020)

Ministry of Housing and Urban-Rural Development of P.R.C.

GEMH-01A: During November 2-6, 2020, China Academy of Urban Planning and Design (CAUPD) conducted field visits to Ningbo and Shenzhen with the World Bank task team for the *Development and Applications of TOD Policies, Technical Standards, and Management Tools for Chinese Cities*. The project team discussed with the core members from PMOs and related government departments on cities' demand for the national TOD platform. The beta version of the platform with the database and news modules has been completed and reviewed by experts on October 20, 2020.

Beijing

GEBJ-1A: Tasks 1-4 of the *Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Beijing* were completed. The output reports will be reviewed and submitted to the World Bank at the beginning of 2021.

GEBJ-2: Beijing PMO held an expert review meeting for the *Corridor-level and Station-level Application of TOD Strategy: Research on Optimization of Rail Transit Lines and Land-use based on TOD Concepts* on December 10, 2020. The intermediary output for Task 1 was submitted to the World Bank on December 11, 2020.

GEBJ-3: Beijing PMO held an expert review meeting for the *District-level Application of TOD Strategy: Urban Regeneration of*



Figure 1: CAUPD and the World Bank team in Ningbo



Figure 2 and 3: CAUPD and the World Bank team in Shenzhen

Life Science Park near Jingzhang HSR and Changping Metro Line on November 27, 2020. The inception report was submitted to the World Bank on December 10, 2020.

Tianjin

GEFTJ-1: Tasks 1-6 of the *Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Tianjin*



were completed. Tasks 8 and 10 were partially completed. Tianjin PMO reviewed and evaluated the above works on December 11, 2020. Tasks 7 - 10 are expected to be completed by the end of June 2021.

GEFTJ-2: Tianjin PMO reviewed the inception report for the *Study on Private Sector Engagement in Infrastructure Investment around TOD* on December 2, 2020. Activities under Tasks 1-4 were being carried out simultaneously. The inception report will be submitted to the World Bank by the end of December 2020. Tianjin PMO decided to cancel Task 8 according to the annual audit opinions. The amendment request for the contract will be submitted to the World Bank by the end of January 2021.

GEFTJ-3: The amendment request for the *District-level Application of TOD Strategy: Research on TOD Development Strategy of Tianjin Metro Line 4 (phase II)* was submitted to the World Bank on December 10, 2020 and obtained no objection for updating the procurement plan. The revised TOR will be submitted to the World Bank by the end of December 2020. The procurement process is expected to start at the beginning of January 2021.

Shijiazhuang

GEFSJZ-1: Tasks 3 and 4 of the *Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Shijiazhuang* were completed. Task 5 and Task 6 were partially completed. Shijiazhuang PMO reviewed the deliverables of the above tasks on December 1, 2020. The inception report was submitted to the World Bank on December 7, 2020.

GEFSJZ-2: The technical and financial review and evaluation for the *Corridor-level Application of TOD Strategy: Land Adjustment Plan for Shijiazhuang Urban Rail Transit Line 4* was held on October 26 and November 16, 2020. The contract is expected to be officially signed by end of December 2020.

GEFSJZ-3: The amendment request for the *Research on Applying TOD Strategies on Five Stations and Three Districts Located to the North of Shijiazhuang East Station* was submitted to the World Bank on December 10, 2020 and obtained no objection for updating the procurement plan. The TOR is currently under the editing stage and is expected to be submitted to the World Bank by the end of December 2020.

Nanchang

GENC-1A: Tasks 1 – 4 of the *Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Nanchang* were completed. The output reports were submitted to the World Bank on November 17 and November 30, 2020 respectively. Tasks 5 – 7 were being carried out as planned. Related output reports are expected to be completed by the end of December 2020. Nanchang PMO is planning to hold the project mid-term review meeting in February 2021.

GENC-2A: Tasks 1 and 6 of the *Corridor-level application of TOD strategy (Metro line 2 and a BRT corridor)* were completed. Intermediary output reports are expected to be submitted to the World Bank by the end of December 2020.

GENC-3A: The procurement process for the *Station-level application of TOD*



strategy (Jiulonghu New Town Station area) has started on December 1, 2020. The shortlist review is expected to be completed by the end of January 2021.

Ningbo

GENB-1 : Ningbo PMO has reviewed and evaluated the output reports for *Tasks 1 – 3 of the Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Ningbo*. The output reports were submitted to the World Bank on December 4, 2020.

GENB-2: Ningbo PMO has divided the *District-level TOD Application: Integrated Design of TOD Development for Kaiming Street Area and its Financing Mechanism* into two consulting services contracts and submitted the revised TORs to the World Bank on November 30, 2020.

GENB-2.A: TOD improvement pilot project [Kaiming Street (Yaoting Street-Zhongshan Road) and Xinjie, Shuangliang Community] whole-process consulting services

GENB-2.B: Studies on TOD improvement pilot project [Kaiming Street (Yaoting Street-Zhongshan Road) and Xinjie, Shuangliang Community] financing model Requests for Express of Interest for these two contracts were published on December 8, 2020.

Since the adjustment of the contract triggered the activation of the World Bank's Safeguard Policies for Strategic Environmental Assessment. Ningbo PMO and the World Bank had reached a preliminary consensus on using the local government fund to support the work for strategic environmental assessment.

GENB-3: Tasks 1 – 3 of *Station-level Application of TOD Strategy: Studies on TOD-based Improvement of Built Rail Stations* were completed. Public engagement activities in Task 2 will be postponed due to the Covid-19 pandemic. The intermediary output reports are expected to be submitted to the World Bank by the end of December 2020.

Guiyang

GEFGY-1: Tasks 1 – 7 of the *Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Guiyang* were completed. The inception report and intermediary output reports were submitted to the World Bank in October 2020.

GEFGY-2: The review and evaluation of the technical proposal for the *Corridor-level application of TOD strategy Part A: Metro Line 3 and Line S2* has been completed. The evaluation report was submitted to the World Bank on November 24, 2020. Contract negotiation has started on December 8, 2020. The contract is expected to be officially signed before the end of December 2020.

GEFGY-3: Guiyang PMO has sent the request for proposal of the *Corridor-level application of TOD strategy Part B: BRT corridors* to the shortlisted firms on November 11, 2020. Review for technical proposals is planned to be held on December 17, 2020.

GEFGY-4: Since the content in GEFY-2 and GEFY-3 triggered the activation of World Bank's Safeguard Policies for Strategic Environmental Assessment, Guiyang PMO and the World Bank task team reached a consensus



on adding a new contract for Strategic Environment Assessment. The preparation of the TOR for the new contract is expected to be completed in March 2021.

Shenzhen

GESZ-1: The inception report for the *Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Shenzhen* was submitted to the World Bank on

September 16, 2020. The intermediary outputs for Tasks 1 – 3 is currently under preparation. It is expected to be submitted to the World Bank by the end of January 2021.

GESZ-2A: The contract negotiation for *District-level and station-level application of TOD strategy: Bainikeng district* was finalized on September 3, 2020. The launch meeting was held on October 23, 2020. The contract is expected to be officially signed by the end of December 2020.

Project Implementation Progress (As of December 15, 2020)

PMO	Activity	Draft TOR	TOR	Bidding Announcement	Shortlist Review	Bid Evaluation	Contract Negotiation	Contract Signing	Inception Report	Intermediary Output	Mid-term Report	Draft Report	Final Report
MoHURD	National TOD Platform												
Beijing	City-level TOD Strategy												
	Corridor and Station-level TOD Application												
	District-level TOD Application												
Tianjin	City-level TOD Strategy												
	Research on Private Sector Engagement in TOD Financing												
	District-level TOD Application												
Shijiazhuang	City-level TOD Strategy												
	Corridor-level TOD Application												
	Station-level TOD Application												
Nanchang	City-level TOD Strategy												
	Corridor-level TOD Application												
	Station-level TOD Application												
Ningbo	City-level TOD Strategy												
	District-level TOD Application												
	Station-level TOD Application												
Guiyang	City-level TOD Strategy												
	Corridor-level TOD Application												
	Corridor-level TOD Application												
	Strategic Environmental Assessment for Corridor-level TOD Application												
Shenzhen	City-level TOD Strategy												
	District and Station-level TOD Application												

Legend:

Colored cells show the progress of each project. Orange means the most updated progress from September 15, 2020 – December 15, 2020



Knowledge Events

- From October 12-16, 2020, a delegation of 15 personnel from Ningbo Urban Transport Construction Co., Ltd., Ningbo Rail Transit Group Co., Ltd., Ningbo Audit Bureau, and China Metro Engineering Consulting Corporation Co., Ltd. visited Chengdu to learn experiences on TOD policy making and project development. The delegation team had several discussions with TOD consulting firms, as well as visiting operated TOD projects. The field study was organized by Ningbo Housing and Urban-Rural Development Bureau and Ningbo PMO.



Figure 4: Representatives from Ningbo participated in the field visit

- From November 1-5, 2020, a delegation of 15 personnel from Shijiazhuang Municipal Finance Bureau, Shijiazhuang Rail Transit Co., Ltd., Shijiazhuang Public Transport



Figure 5: Representatives from Beijing participated in the field visit

Corporation, Shijiazhuang Urban and Rural Planning and Design Institute, China Academy of Urban Planning & Design, and China Sustainable Transportation Center (CSTC), etc., visited Chengdu and Chongqing Municipal Development and Reform Commissions and discussed on the experiences in TOD policy-making and practices. They visited several TOD pilot projects, such as the urban complex projects in Chengdu Tianfu New District, Chengdu Luxiao Station, Taikoo Li, and Shapingba Railway Comprehensive Transportation Hub Renovation Project. The capacity building activities were led by the Shijiazhuang Municipal Development and Reform Commission and organized by Shijiazhuang PMO.



Figure 6: Representatives from Shijiazhuang participated in the field visit

- During October 19-23, 2020, together with the Beijing Municipal Institute of City Planning & Design, Beijing PMO conducted a field visit to Shanghai to learn advanced TOD experiences from the public and private sectors. The team conducted in-depth discussion on stakeholder coordination, policy-making, technical guide design for community placemaking, and visited five operated TOD projects.

- On October 13, 2020, 2020 China Summit of Metro Operators was held in



Chongqing. Under the theme of the 14th Five-Year Plan and High-quality Development of Urban Rail Transit, participants exchanged ideas and thoughts on the future development of urban rail transit along with corporate practices. ([link](#))

- On October 22, 2020, MetroTrans 2020 Sub-forum Eight-- The 3rd TOD Innovation Forum was held in Beijing under the theme of Building a Community of Shared Interests in Cities, and Jointly Promoting the Healthy Development of TOD. The Forum mainly focused on the topics relating to TOD comprehensive development, such as integrated development of TOD rail transit stations and cities, TOD development in urban regeneration context, and TOD with the future community. The event invited top TOD professional experts from design, project management, and operation fields in urban rail transit and railway industries for knowledge and experience sharing. ([link](#))

On November 28, 2020, the Forum on Leading High-quality Development of Land and Space through Transportation Integration & Establishment Ceremony, organized by the Comprehensive Planning and Development (TOD) Professional Committee of China Society of Territorial Economics was held in Beijing. More than 400 academic and industry experts attended the Forum. It provided a peer-learning and knowledge-sharing platform for TOD sustainable and healthy development. ([link](#))

Industry News

• Industry Standards and Criteria

On September 27, 2020, the China Communications and Transportation Association issued two announcements for group standards including the Evaluation Criteria of Urban Rail Transit TOD Comprehensive Development Projects and General Technical Specifications for Urban Rail Transit TOD Comprehensive Development Projects. The two documents introduce general technical specifications for TOD comprehensive development projects in terms of selection criteria for site location, functional layout, traffic connection, public space, and walking environment, operation and management, information technology, innovation, etc. They aimed at providing intuitive and detailed reference standards for TOD comprehensive development. These standards went into effect on the same day. ([link](#))

On November 27, 2020, the China Urban Rail Transit TOD Index (hereinafter referred to as the Index) was officially released at the Urban Rail Transit Resource Management 2020 Guiyang Annual Conference. The Index draws on the research methods of real estate index, sorting out relevant data of 3,327 urban rail stations along 175 lines in 37 cities inside Mainland China by analyzing the relationship among key elements, such as land, property, transportation, population, industry, and public space, and then assesses the impacts of TOD on traffic and city development. According to the Index' s ranking, Shenzhen, Shanghai, Guangzhou, Beijing, Xi'an, Chengdu, Hangzhou, Changsha, Shenyang, and Zhengzhou are the Top 10 cities in terms of TOD aspects. ([link](#))

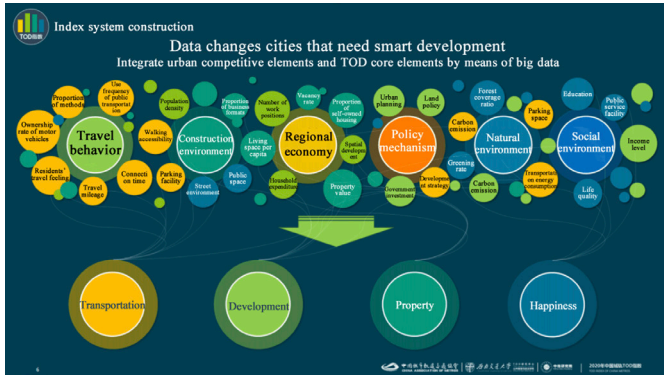


Figure 7: China Urban Rail Transit TOD Index System

• Industry Development Trend and Policy Environment

On October 9, 2020, the China Association of Metros (CAMET) released the latest data of urban rail transit lines in Mainland China (as of September 30, 2020). In Mainland China, 41 cities have opened urban rail transit lines, with a total length of 7,141.55 kilometers. In the first three quarters, a total of 405.35 kilometers of 11 new lines and 5 extensions have been put into operation. It's expected that, by late 2020, 43 cities in Mainland China will open urban rail transit with an operated mileage of nearly 8,000 kilometers. ([link](#))

On November 2, 2020, the Chongqing Municipal Development and Reform Commission issued the [Implementation Opinions on Promoting the Comprehensive Development of Transportation Areas in Main Metropolitan Areas \(Trial\)](#). This document proposes that we should strengthen the comprehensive development of transportation areas, clarify the implementation entities, establish cost-sharing and revenue distribution mechanisms, and strengthen the policy support. The Implementation Opinions define the land scope for comprehensive development, clarify the method for land supply, specify the methods of defining primary and secondary development entities,

encourage cooperation between them, and provide policy support at the municipal level. The Implementation Opinions came into force on the same day. ([link](#))

On November 5, 2020, the Ministry of Natural Resources issued the [Land Expropriation and "Large-area Development" Standards \(Trial\) \(Draft for Comments\)](#). This document clarified that local governments at or above the county level should fully solicit the opinions of rural collective economic organizations and farmers within the range of large-area development, organize the formulation of plans for land expropriation and large-area development in combination with local national economic and social development plans, as well as land and space planning according to Article 45 of the Land Administration Law of the People's Republic of China, define the land use proportions for infrastructure, public space, etc. within the large-area development zone (generally no less than 40%). The overall benefits including economic, social, and ecological aspects will be evaluated and included in the annual plan for local national economic and social development. These standards came into force on the same day and would be valid for three years. ([link](#))

On November 25, 2020, the Shenzhen Municipal Committee of the CPPCC held a special consultation meeting on the upcoming Measures of Shenzhen Municipality on the Administration of Underground Space Development and Utilization (Legislative Consultation Draft). These Measures cover the whole development and construction process of underground space planning and management, land use management, construction management, user management, etc. This document aims to promote the development of three-



dimensional cities, standardize underground space development, realize land conservation and intensive use, and provide a legal guarantee for the lean governance model. ([link](#))

On November 12, 2020, Shenzhen Municipal Transportation Bureau released the Development Strategy and Short-term Action Plan of Shenzhen City to Build a Transportation Powerhouse. This document proposes that we should explore the integrated operation and management of various models at multiple levels, including intercity railways, urban rail express lines, urban rail trunk lines, and the rail lines with small and medium capacity. It also plans to strengthen communication and coordination with Dongguan and Huizhou and strive to connect Shenzhen and the core districts and cities of the Guangdong-Hong Kong-Macao Greater Bay Area directly in half an hour by 2035. ([link](#))

• Enterprise TOD Practices

On October 13, 2020, Ningbo Rail Transit China Resources Land Co., Ltd. won the bid for Plot C-2 at Jinda South Road Station, Xiaying Street, Yinzhou District, Ningbo Rail Transit Line 4 with a base price of RMB 925.8392 million (floor price: RMB 11,000/m²). According to the public document, this plot will be listed-for-sale by limiting house price, limiting land price, and competing with an area for public facilities during the land auction. It also stipulates the average selling price and the upper limit of the highest-selling unit price of ordinary commercial the roughcast house, the upper limit of the highest-selling unit price of parking spaces, the ratio and years of self-hold lands. The document also requires that underground space shall not be constructed as an ancillary space of residential buildings.

If the underground space involves operating purposes, the first underground floor shall be paid at 20% of the local benchmark price of the specific land use (storage space is subject to the industrial floor price). The second underground floor shall be paid at 40% of the standard price for the first underground floor. For the third underground floor and below, the land-transferring fees will be exempted. ([link](#))

On November 23, 2020, Shenzhen Metro Group Co., Ltd. won the bid for Plot A832-0861, Longhua District with a base price of RMB 6.653 billion. The land use is Type II residential land and land for educational facilities. According to the public document, this plot will be listed-for-sale in the model of “double restrictions and competitions” (limit land price, limit average sales price of ordinary commercial housing, compete with land price and facilities construction for housing area that prepared for the talents (only for rent but not for sale). It also stipulates that the average selling price of ordinary commercial housing, which only for rent but not for sale, is RMB 26,970 m². The real estate certificate for commercial housing shall not be transferred within 3 years from the date of obtaining.

On November 25, 2020, Guangzhou Yuexiu Group Co., Ltd. and Guangzhou Metro Group Co., Ltd. signed a property equity cooperation agreement. According to the agreement, Yuexiu Property Company Limited, a subsidiary of Yuexiu Group, will acquire 67% of the shares of Guangzhou Metro Environmental Engineering Co., Ltd., a subsidiary of Guangzhou Metro Group Co., Ltd., as well as 67% of the indirect actual equity of Guangzhou Metro Property Management Co., Ltd. to further promote the development of the Rail Transit + Property strategy. ([link](#))

Policies Updates

TOD and Road Safety





Policies Updates: TOD and Road Safety

According to [the Global Status Report on Road Safety 2018](#) released by WHO, traffic accidents happening worldwide cause 1.35 million deaths. They are the leading cause of deaths among children and young people aged 5-29, and non-fatal injuries of approximately 50 million people. Especially for low- and middle-income countries, the road traffic accident is an important public health problem.¹ To reduce global deaths caused by road traffic accidents, we should take a systematic approach to protect road users and pay special attention to the needs of vulnerable road users in land use and transportation planning decisions.

TOD projects have comprehensive features of multiple transportation modes, mixed land use with higher density properties, etc. The traffic hazards within a TOD project, especially at the intersections of traffic flows could not be ignored. Effective interventions should be taken to improve road safety for all users, such as planning and designing a more inclusive environment, more efficient land use, providing proper traffic organization, and right-of-way allocation.

This policy note aims at sorting out road-safety related policies and practices, comparing domestic and foreign practices, and trying to open the discussion on how to combine people-oriented road safety measures in TOD planning and design, land use, emergency treatment, etc.

International Experience

• Safe System Approach

Since the Vision Zero road safety plan was adopted by the Swedish Parliament in 1999, the measures to address road safety problems are no longer driver-centered (such as using the seatbelt and ensuring sober driving). Instead, road safety is treated as a public health issue that needs a systematic approach. The Safe System Approach establishes a responsibility-sharing mechanism between road users and road traffic system designers, builders, and managers. It admits that human errors are inevitable and unpredictable. A mature road traffic system should have tolerance for human errors and needs corresponding

safety intervention measures to transform passive risk prevention to active risk intervention. Through measures such as designing safe streets, increasing travel options, carrying out speed management, and establishing coordination mechanisms for various departments, the relevant department can comprehensively manage the system which consists of road users, vehicles, speed, road infrastructure, etc. In this way, even if one component of the system fails, other components can still work together to prevent serious road safety injuries and protect road users. ([link](#))

¹SGlobal status report on road safety 2018: summary. Geneva: World Health Organization; 2018 (WHO/NMH/NVI/18.20). License: CC BY-NC-SA 3.0 IGO).



Figure1: Schematic diagram of a safe system method²

• Incorporate road safety assessment into TOD project considerations

The traditional engineering perspective of road design encourages vehicles to pass quickly. However, a lot of practices have proved that the accessibility achieved by increasing speed is bound to an increase in road safety risk. [New York Street Design Manual](#), NATCO's [Global Street Design Guide](#), [Street Design for Children](#), [Transit Street Design Guide](#), WRI's [Design Makes Cities Safer](#), etc., provides road safety improvement suggestions from a design perspective. While [The Global Practice Notes Incorporating Road Safety into TOD Projects](#) provides an initial assessment framework to incorporate road safety into TOD projects for reference.

• 10 multilateral development banks strengthen their commitment to road safety

In November 2020, the European Investment Bank and other nine large multilateral development banks issued a joint statement, calling for continuous efforts in developing common solutions to road safety issues, in support of the [Declaration of United Nations Conference on Human Environment \(Stockholm Declaration\)](#) and the new Decade of Action for Road Safety as well as the realization of UN SDGs for road safety. The Declaration advocates setting a new goal, for instance, reducing global road traffic casualties by 50% between 2020 and 2030, strengthening road safety management, improving road, vehicle, and personnel safety, and enhancing post-crash care. Moreover, in December 2020, the World Bank completed a revision of [TOD Implementation and Resource Tools](#). Updates involve how to integrate the road safety planning, design, and implementation systems into TOD projects. ([link](#))

Road Safety in China

National Policies:

Road Safety Guarantee

- In April 2004, [the State Council adopted the Regulations for the Implementation of the Road Traffic Safety Law of the People's Republic of China](#), which came into effect in May 2004. The Regulations regulate the implementation of road safety in terms of vehicles and drivers, road traffic conditions, road traffic regulations, traffic accident management, law enforcement supervision,

²Source: Package of Technical Measures for Saving Life and Improving Road Safety



legal responsibilities. After several revisions in December 2007, April 2011, October 2017, and January 2019, the Regulations aggravate penalties for drunk driving and driver license forgery.

- In September 2004, the Ministry of Transport of the People's Republic of China promulgated the [Guidelines for Safety Audit of Highway](#), which initially proposed the contents, methods, and standards for a safety audit of highways based on mathematical statistics and analysis of massive data on China's expressways and first-grade highways.

- In July 2012, the State Council issued the [Opinions on Strengthening Road Traffic Safety](#), clarifying the basic principles of road traffic safety and key areas of work.

Road Safety Protection for Vulnerable Groups

- In March 2012, the State Council adopted the [Regulation on School Bus Safety Management](#). In August 2012, it further pointed out that we should establish the working mechanism for school bus safety management, put the implementation measures in place, and develop school bus service plans, etc. The Regulation also suggests that we should specifically regulate the road safety issues for student groups.

Build an Emergency Treatment System for Traffic Accidents

- In November 2013, the National Health and Family Planning Commission of the People's Republic of China adopted the [Measures for the Management Pre-hospital Medical Emergency Services](#). Coming into force in February 2014, the Measures

stipulate the establishment of pre-hospital medical emergency institutions, practice management, and other related contents.

- In August 2017, the Work Safety Committee of the State Council issued [The 13th Five-Year Plan for Road Traffic Safety](#). The Plan proposed that we should improve the road traffic safety responsibility system, traffic safety and morality of road users, vehicle safety, road safety, road traffic safety management, and law enforcement capabilities, road traffic emergency management and first aid capabilities, as well as the capabilities of technical support for road traffic safety.

- In July 2020, the General Offices of the Ministry of Public Security and National Health Commission jointly issued the [Circular on Improving the Long-term Mechanism for Joint Rescue and Treatment in Road Traffic Accidents by Police and Hospitals](#). This document proposed that we should establish a complete police-doctor joint response mechanism and improve the efficiency of treatments for the wounded. The document also suggested that the traffic accident rescue and treatment network should be improved to increase the success rate of treatments. Moreover, relevant government departments should explore and improve the air-ground integration rescue and treatment model, and innovate rescue methods. A comprehensive emergency rescue knowledge training should be carried out nationwide to improve the public's capabilities of saving themselves and each other.

- In September 2020, the National Health Commission, National Reform and Development Commission, Ministry of Education, Ministry of Industry and



Information Technology, Ministry of Public Security, Ministry of Human Resources and Social Security, Ministry of Transport, Ministry of Emergency Management, and National Healthcare Security Administration jointly formulated the [Guidelines on Further Improving Pre-hospital Medical Emergency Services](#). The Guidelines once again clarified specific indicators, promoting the construction of emergency centers (stations), planning the layout of pre-hospital medical emergency networks, strengthening the informatization construction of pre-hospital medical emergency services, improving public emergency skills, and carrying out publicity.

In summary, road safety at the national level is based on the hard measures of vehicle-oriented law enforcement, which focus on improving laws and regulations on road safety, emphasizing the safety management of road transport enterprises, strengthening road traffic safety law enforcement. In-depth road traffic safety publicity activities and education should be carried out. Related government departments should implement a strict accountability system for road traffic accidents and strong organizational support for road traffic safety, etc. In recent years, China has seen growing attention to road traffic safety issues. The departmental coordination mechanism orienting around life, health, and safety and a long-term treatment mechanism is gradually taking shape. ([link](#))

Local Policies:

Shanghai

Road Safety Guarantee

- In December 2016, the Standing Committee of Shanghai Municipal People's Congress adopted the Decision on Amending the Regulations of Shanghai Municipality on Road Traffic Management. The revised [Regulations](#) explains that:

- We should seek coordination between road traffic management and urban planning and construction, adhering to the concepts of green transportation, and giving priority to developing public transportation. We should also pursue coordinated development of dynamic and static transportation and rationally allocate road resources.

- The public security organs shall be responsible for road traffic safety management. Traffic administrative departments shall be responsible for the planning, construction, and management of roads and traffic facilities as well as comprehensive traffic coordination. Departments such as land, resources and planning, housing and urban-rural development, finance, economic informatization, judicial administration, quality, and technical supervision, industrial and commercial administration, environmental protection, urban management, and law enforcement shall work together on road traffic management per their respective functions and duties.

- We should give priority to non-motorized transports, improve the non-motorized traffic environment, and ensure the space for non-motorized traffic. We should also improve the crosswalks for non-motor vehicles and pedestrians and optimize intersection



design. Systematic and continuous non-motor vehicle networks should be improved, and the configuration of non-motor vehicle signs and markings should be optimized. The construction and management of non-motor vehicle lanes and pedestrian walkways around rail transit stations should be strengthened. When reconstructing and expanding urban roads, we should ensure a safe passage for non-motorized users. On roads that have mixed motor traffics and non-motor traffics and traffic safety hazards, we should set up isolation island facilities.

- According to the Regulations, drivers and passengers should wear seat belts if their seats have seat belts.

- Pedestrians have the right-of-way.

- In August 2019, the Shanghai Municipal Government issued the [Healthy Action Plan for 2019 to 2030](#). The Plan clearly states that “...electric bicycle users are encouraged to wear helmets to reduce traffic accidents. By 2022, 95% of electric bicycle drivers should wear helmets. By 2030, 98% of the electric bicycle drivers should wear helmets.”

- In September 2020, the Shanghai Municipal Government issued a circular on [the Opinions on Further Reducing Road Traffic Accidents in Shanghai](#). The Opinions states that through focusing on enhancing the safety management of pedestrians, vehicles, roads, and transportation companies and the construction of road traffic infrastructure, we should strengthen the safety management of the transportation industry and the implementation of the main responsibilities of enterprises in emerging industries, promote the implementation of dynamic supervision of specific vehicles. Moreover, we should intensify safety management in key areas as well as modernize, intelligent, and refine the current traffic management.



Road Safety Protection for Vulnerable Groups

- In January 2018, the Shanghai Municipal Health and Family Planning Commission issued the [Shanghai National Healthy Lifestyle Action Plan \(2017-2025\)](#). The Plan advocates the implementation of special action for safe road traffic and travel. Specifically, we should actively promote the correct use of child safety seats, rear seat belts, and electric bicycle safety helmets. according to the Regulations of Shanghai Municipality on Road Traffic Management, students should be guided on how to walk, ride a bicycle, and ride other transportations safely. Improve the driving behaviors of employees who earn a living through operating vehicles, express delivery, and food delivery by providing them with training, education, and supervision. Wearing and proper use of safety helmets should be promoted.



Build an Emergency Treatment System for Traffic Accidents

- In February 2016, the Shanghai Municipal People's Government issued [the Guiding Opinions on Deepening the Reform and Development of the Pre-hospital Emergency System in Shanghai](#). According to the circular, we should give priority to the setting of emergency centers, emergency sub-centers, and emergency sub-stations based on the land use for urban medical and health purposes. Facility network planning for pre-hospital emergency service should be reasonably determined and incorporated into the special plan for sanitation facilities in the urban master plan. Relevant contents of pre-hospital emergency service facility network planning should be included in the zoning plan. The planning and layout standards of



pre-hospital emergency service facilities should be clarified in the Technical Guidelines of Shanghai Municipality on Regulatory Detailed Planning. We should also make plans for pre-hospital emergency service facilities and promote their implementation as per the requirements of the master plan. Districts and counties are responsible for the construction of the planned emergency stations. Public security, health, and family planning along with other departments should work together to establish a three-dimensional emergency network on land, water, and air-based on existing air-water emergency rescue forces.

- In December 2016, the Shanghai Municipal Health and Family Planning Commission issued [The 13th Five-Year Plan for the Development of Pre-hospital Medical Emergency Services in Shanghai](#), which once again clarified the requirements of improving the network layout of emergency substations.

- In July 2016, the Standing Committee of Shanghai Municipal People's Congress adopted the [Regulations of Shanghai Municipality on Emergency Medical Services](#). It came into effect in November 2016. According to the Regulations:

- The Municipal Health and Family Planning Administrative Department, Transportation Department, and the Public Security Traffic Management Department should establish a road and traffic information-sharing mechanism together.

- When performing emergency tasks, an ambulance should use alarm and sign lamps; it should not be restricted by routes, directions, speeds, and traffic lights under

the premise of ensuring road traffic safety.

- Rail transit stations, airports, passenger stations, port passenger terminals, and other traffic hubs should be equipped with necessary first aid equipment, medicines, and staff who have knowledge and skills of using first aid equipment.

Local practices:

Besides the policies, some cities have gradually begun to take soft measures on a trial basis for road safety improvement, unsafe travel behavior correction, and post-accident care/treatments.

Shanghai

Road Traffic Safety Preventions and Rectification of Illegal Acts

- **Launch the Shanghai Road Safety Initiative:** In 2015, Bloomberg Philanthropies launched phase two of the Initiative for Global Road Safety which addresses road traffic safety in ten cities including Shanghai. To echo this Initiative, Shanghai plans to implement the safety improvement plan for five consecutive years. Since its official launch in November 2015, Shanghai Road Safety Initiative has been improving traffic safety from four aspects including traffic police enforcement, safe travel and roads, media and social marketing, and improvement of assessment and data system.³

- **Take advantage of smart city development, technology and data to help better identify the traffic violation:** Since the rectification of traffic violations has been implemented for four years (since 2016), road

³The Global Road Safety Partnership (GRSP), World Resources Institute-EMBARQ, World Bank, IRAP, Johns Hopkins University, Vital Strategies, The Union, and other international organizations participated in this project. Shanghai Health Promotion Association, Shanghai Institute of Traffic Engineering, and Tongji University are responsible for specific project implementation in Shanghai.



safety in Shanghai has been further improved, which also improved city governance and public engagement.

1. To ensure the efficiency of testing and materials transportation under regular epidemic control measures, Shanghai opened up three times more truck traffic lanes.

2. To boost the post-pandemic economy, Shanghai has actively organized pedestrian-only commercial streets for the night market during a specific period. Taking advantage of this opportunity, relevant departments launched a traffic assessment to help improve the traffic organization based on real-time traffic data.

3. Shanghai will build a road traffic management system under the Shanghai urban transit system and grasp the real-time traffic flow of all road networks. The city also strives to realize the calculation of road networks and measurement of people and vehicles and pay equal attention to dynamic and static traffic management. The distribution of right-of-way will be optimized to solve the parking problem and improve road safety.

1) Delicacy transportation organization

- Develop detailed plans for each road construction project.
- Take comprehensive measures to improve traffic and road efficiency.
- Promote dynamic distribution and guide on travel routes.

2) Prevent the potential risk of traffic accidents

- Implement One Helmet and One Belt safety protection
- Strengthen efforts to prevent drunk driving
- Further penalize pedestrians for traffic violations

3) Accelerate the integration of smart traffic management system and provide support for urban transportation planning

4. Continue the rectification of traffic violations and eliminate hidden road safety hazards; explore and promote an off-site law enforcement system based on RFID technology against non-motor vehicle traffic violations to improve the traffic management efficiency

5. Carry out in-depth accident investigations to prevent road traffic accidents.

• **Actively implement road test management measures for Intelligent Connected Vehicles (ICVs)** : In March 2018, led by the Shanghai Municipal Economy and Information Technology Commission, the Municipal Public Security Bureau, and Transportation Commission jointly formed a group to conduct a safety assessment and determine road test area for the ICVs road test: ([link](#))

Emergency Treatment for Road Traffic Accident Injuries

• **Establish a trauma and emergency medical system:** In March 2018, 30 hospitals in 11 districts of Shanghai established trauma and emergency medical system to reduce the mortality and disability rate by actively promoting the rapid treatment of trauma and group injuries and ensuring timely transfer to emergency rooms. Seven departments participated in building this system, including the Shanghai Municipal Health and Family Planning Commission, Shanghai Public Security Bureau, and the Shanghai Fire Bureau. ([link](#))

• **Unveil the list of traffic accident rescue sites and specialized hospitals for traffic accident rescue and treatment:** In June 2020, Shanghai Public Security Traffic Police Department unveiled the first 10 traffic



accident rescue sites and 72 specialized hospitals for traffic accident rescue and treatment to strengthen the traffic accidents rescue efforts and reduce the number of fatal and disabling road accidents. It is also to carry forward the principle of reducing and preventing serious and major traffic accidents proposed by the Ministry of Public

Security on road traffic accident prevention work in 2020. ([link](#))

Effects of Implementing Road Safety Measures: As of November 20, 2020, the number of road traffic accidents and deaths in Shanghai has dropped by 9.6% and 11.9% YoY, respectively. ([Data Sources](#))

Comparison of China's Practices with International Experience

Road Safety Focus and Recommended Interventions of WHO

WHO ' s Focus on Road Safety	Recommended Effective Interventions
<ul style="list-style-type: none"> · Speeding · Driving under the influence of alcohol and/ or other psychoactive substances · Fail to use helmets, seat belts, and child restraints · Distracted driving · Unsafe road infrastructure · Unsafe vehicles · Inadequate medical care after the crash · Inadequate traffic law enforcement 	<ul style="list-style-type: none"> · Design safer infrastructures · Incorporate road safety functions into land use and traffic planning · Improve vehicle safety · Improve post-collision care for victims of road traffic crashes · Enact and enforce laws related to major risks · Raise public awareness

(Reference link [1](#) and 2)

China ' s Practices and Performance⁴

Road Safety Focus of WHO and China ' s Practices	
Focus	Has China established relevant laws and regulations or taken relevant measures?
Speeding	✓
Driving under the influence of alcohol and/or other psychoactive substances	✓
Fail to use helmets, seat belts , and child restraints	✓
Distracted driving	✓
Unsafe road infrastructure	✓
Unsafe vehicles	✓
Inadequate medical care after the crash	✓
Inadequate traffic law enforcement	✓

⁴Interventions marked in orange have [not been widely adopted in China](#)



Technical Measure Packages of WHO for Saving Life and Improving Road Safety and China's Practices		
Component	Interventions	Has China established relevant laws and regulations or taken relevant measures?
Speed management	Set and implement national, local, and urban speed limits	✓
	Carry out road construction or renovation to slow down traffic, such as roundabouts, narrow sections, speed reducers, obstacles, and rumble strips	✓
	Require vehicle manufacturers to adopt new technologies that can help drivers drive within the speed limit, such as the smart speed regulation system	
Leading role	Establish leading organizations to promote road safety	✓
	Develop road safety strategies and provide implementation funds	✓
	Assess the impacts of road safety policies	✓
	Build stronger data systems for monitoring road safety status	✓
	Raise public awareness and support through education and publicity activities	✓
Infrastructure design and improvement	Provide safe infrastructures for all road users, including sidewalks, safe passages, skyways, and underpasses	✓
	Set bike and motorcycle lanes	✓
	Use clear subarea, collapsible structures, or barriers to increasing the safety of both sides of the road	✓
	Design safer intersections	✓
	Clearly distinguish between main roads and ramps	✓
	People-oriented design and set up the motor-free zone	✓
	Set traffic and speed limits in residential, commercial areas, and schools	✓
	Provide better and safer public transport routes	✓
Vehicle safety	Establish and enforce motor vehicle safety standards relating to:	
	Safety belt/seat belt	✓
	Safety belt/seat belt anchorage	✓
	Head-on collision	✓
	Side collision	✓
	Electronic stability control	✓
	Pedestrian protection	✓
	ISOFIX child restraint interface	
	Develop and enforce regulations on motorcycle's anti-lock braking system	
	Develop and enforce regulations on daytime running lights	✓
Traffic law enforcement	Enact and enforce laws at national, local, and city levels relating to:	
	Drunk driving	✓
	Motorcycle helmets	✓
	Safety belt/seat belts	✓
	Child restraints	
Survival	Build an integrated system of organized pre-hospital and hospital emergency services	✓
	Organize basic first aid training for accident responders	✓
	Train more community first responders	✓



In response to the key road safety issues that the World Health Organization pays special attention to, China has produced relevant policies and regulations at the national level. Due to the different development stages and public governance capabilities of various cities, the implementation at the local level varies greatly. Although some megacities (such as Shanghai and Shenzhen) have advanced experience in this regard, we need to mobilize the active participation of more cities in child restraints, motorcycle, and non-motor vehicle safety, emergency treatment, etc.

Road safety interventions that can be combined with TOD

Rapid urbanization and motorization have increased people's demand for road use, and further increased the traffic volume and the mixing extent of traffic conditions. Without the intervention of new safety measures, when high-speed motor vehicles drive on the same lane with pedestrians and cyclists, all road users would be exposed to greater road traffic safety risks. We can control road safety risks by promoting more efficient land use modes, planning more concise and safer travel routes for vulnerable road users, discouraging unnecessary motor vehicle driving, advocating safer travel modes, and avoiding prolonged exposure to high-risk road traffic environments. An effective combination of the following road safety interventions and TOD will provide solutions. ([link](#))

Road traffic safety interventions that can be combined with TOD		
Component	Interventions	Has China established relevant laws and regulations or taken relevant measures?
Speed management	Carry out road construction or renovation to slow down traffic, such as roundabouts, narrow sections, speed reducers, obstacles, and rumble strips	✓
Infrastructure design and improvement	Provide safe infrastructures for all road users, including sidewalks, safe passages, skyways, and underpasses	✓
	Set bike and motorcycle lanes	✓
	Use clear subareas, collapsible structures, or barriers to increase the safety of both sides of the road	✓
	Design safer intersections	✓
	Clearly distinguish between main roads and ramps	✓
	People-oriented design and set up the motor-free zone	✓
	Set traffic and speed limits in residential, commercial areas, and schools	✓
	Provide better and safer public transport routes	✓
Survival	Build an integrated system of organized pre-hospital and hospital emergency services	✓

In December 2013, the Ministry of Housing and Urban-Rural Development of the People's Republic of China issued the [Guidelines for the Planning and Design of Urban Pedestrian and Bicycle Traffic Systems](#). The Guidelines proposes interventions on road traffic safety from the perspective of infrastructure. [Shanghai](#), [Beijing](#), [Shenzhen](#), Guangzhou, Hangzhou, [Chengdu](#), [Wuhan](#), and other cities have also issued corresponding Non-Motorized Transport (NMT) system planning, street design guidelines, and all-element design manuals for urban roads to improve road traffic safety. However, safety interventions specific to TOD still require joint promotion of all social activity participants.



Case Study: Public Engagement in TOD Planning and Design

Credit to Shenzhen Global Environment Facility (GEF) Project Management Office and the consulting firms under the project

Organizer:

Shenzhen Municipal Development and Reform Commission (Shenzhen Global Environment Facility (GEF) Project Management Office)

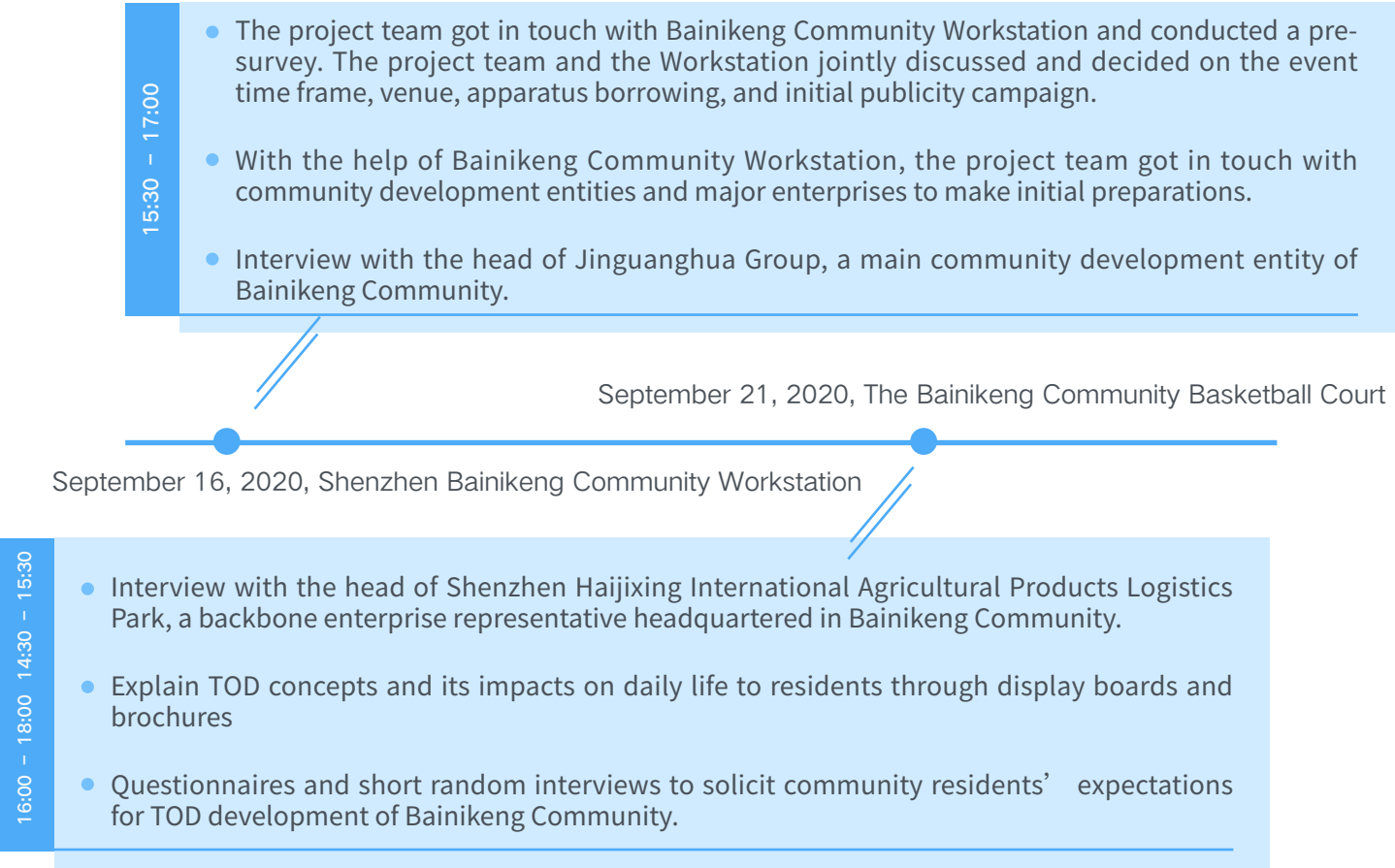
Purpose of Public Engagement:

With a view to supporting the Preparation and Implementation of City-level Transit-oriented Development (TOD) Strategy and Project Management Support for Shenzhen, , the project team members organized TOD Public Engagement Event in Bainikeng Community, Longgang District, Shenzhen on September 21, 2020. The purpose of the event was to popularize TOD concepts, obtain public understanding and support, and solicit opinions and public vision for the project. Through pertinent TOD publicity and public opinion questionnaires across Bainikeng Community, the project team will use demands and ideas, which were raised by various stakeholders (such as community residents, community management entities, main community development entities, and backbone enterprises), as references for the vision for the community.

Forms of Public Engagement:

Display boards, brochures, surveys for residents, interview with residents and enterprises, etc.

Whole Process of Public Engagement:





2.Statistical Results of Questionnaires

• Travel Status:

Travel Preference: According to the survey results, most respondents prefer traveling by public transportations (such as bus and metro), followed by walking. Many other respondents are accustomed to traveling by car.



Figure 7. Travel preferences

Destination Preferences: The most frequently visited public space are commercial plazas and community parks with sports facilities. Small parks are relatively popular.



Figure 8. Destination preferences

• Attitude towards the introduction of the metro lines :

Most of the respondents express their expectation for the operation of the metro lines. Nearly half of the respondents comment that they will take the metro frequently after it starts to operate. About three-fourths of the respondents wish metro stations are within 15-minute walking distance. One-third of the respondents comment that their desire to purchase a car will be reduced as the operation of the metro lines.

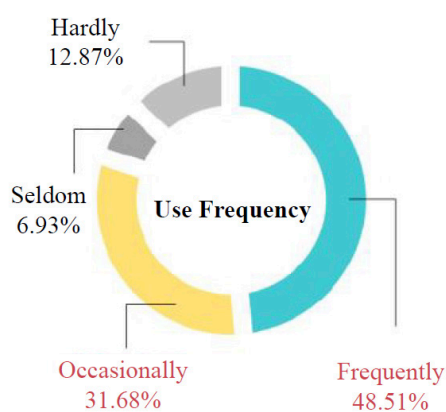


Figure 9. Metro travel habits

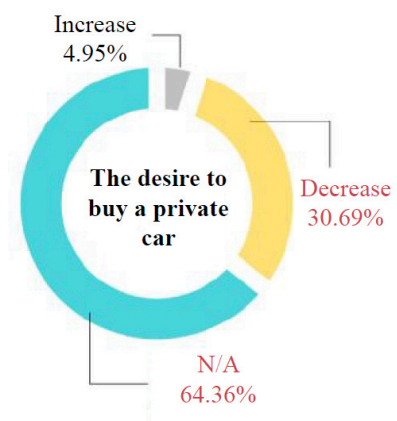


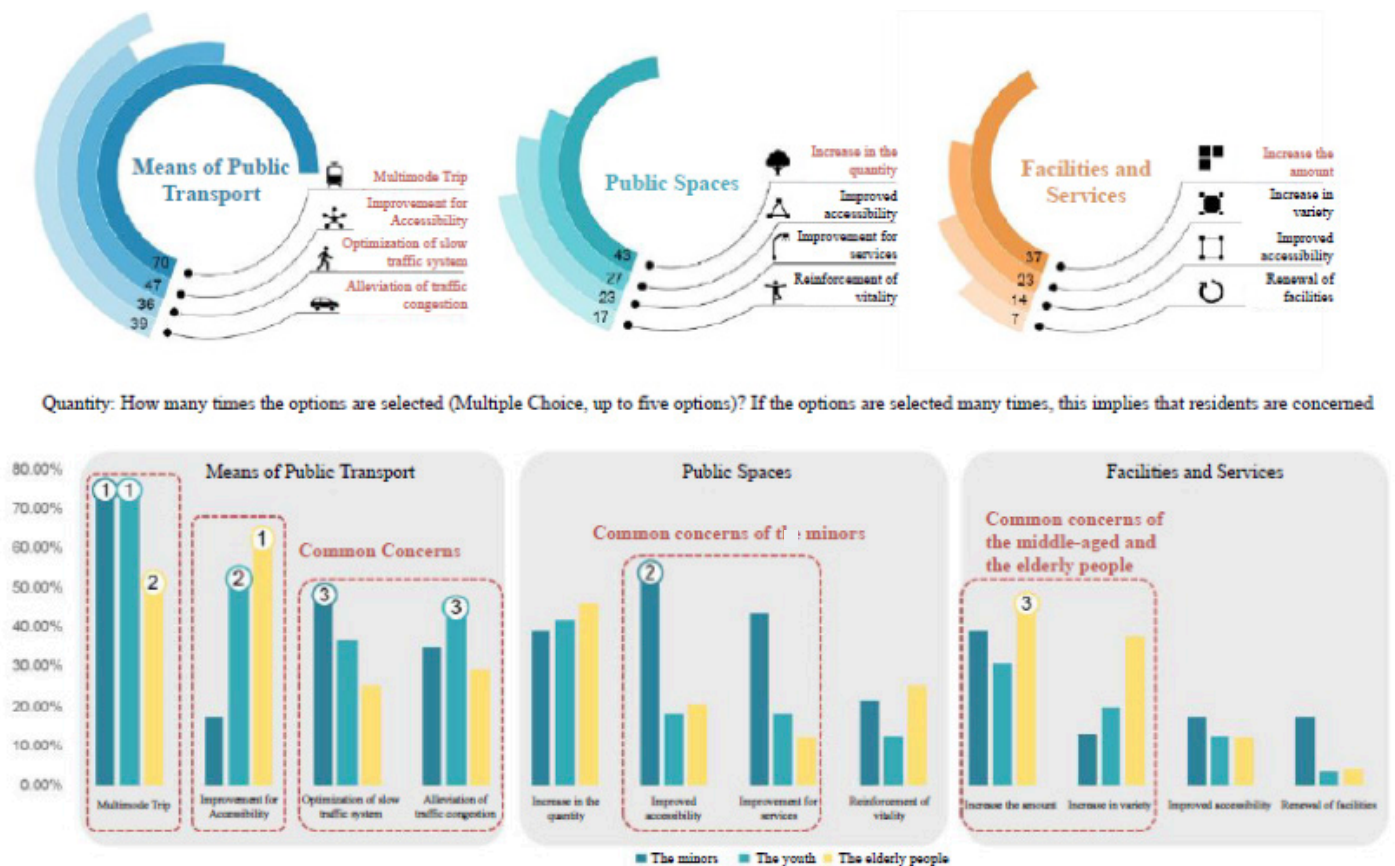
Figure 10. Possible impacts on car purchase after the operation of the metro lines



• City-level TOD Vision:

Common Concerns: According to the statistical results of the questionnaires, respondents mostly pay attention to multi-modal transports, accessibility, walking and biking system, and traffic congestion. Meanwhile, many respondents expect an increase in public space and service facilities.

Priorities by Age Group: Respondents of different age groups show different priorities. Minors are more concerned about the accessibility and quality of the public space. Middle-aged and elderly people pay more attention to services facilities. Respondents of all age groups care about the optimization of walking and biking system and traffic congestion.



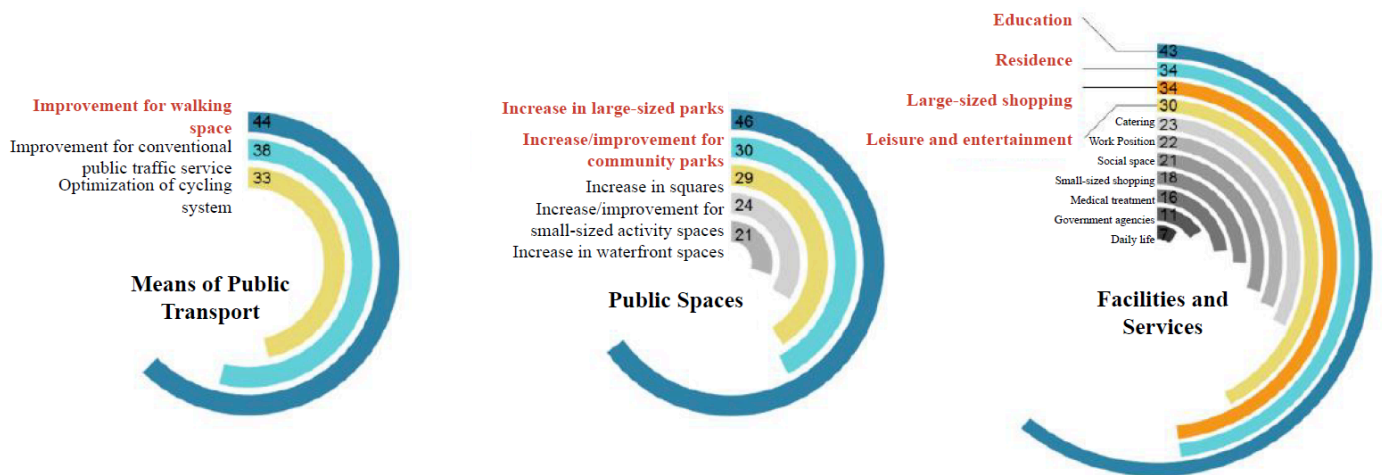
Percentage: In a certain age group, the ratio of the number of times the options are selected to the total number of people in such an age group indicate the priorities according to such an age group.

The minors: the youth aged under 18 The youth: aged 18-45 Middle-aged and elderly people aged over 46

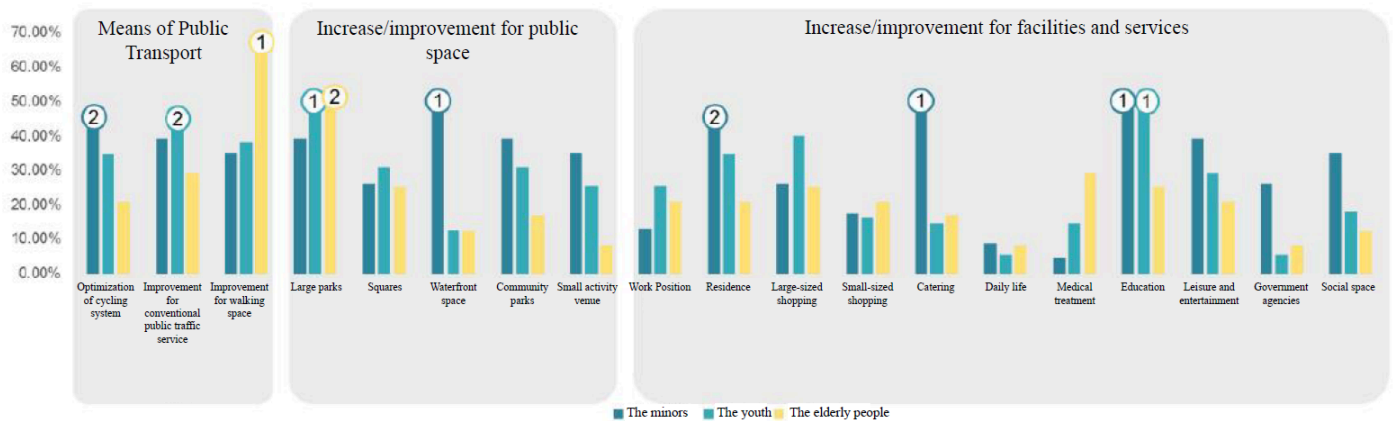
Figure 11. Respondents' focus on city-level TOD

• Vision for TOD Community:

At community level, respondents highly expect the introduction of metro system can improve public space (such as community pedestrian spaces, parks, and plazas) and increase the numbers of educational, residential, as well as large-scale shopping and leisure facilities. Respondents of all age groups pay equal attention to public transportations, public space, and facilities and services.



Quantity: How many times the options are selected (Multiple Choice, up to eight options)? If the options are selected many times, this implies that residents are concerned



Percentage: In a certain age group, the ratio of the number of times the options are selected to the total number of people in such an age group indicate the priorities according to such an age group.

The minors: the youth aged under 18 The youth: aged 18-45 Middle-aged and elderly people aged over 46

Figure 12. Respondents' focus on TOD community

3. Effects of Public Engagement

The activities helped improve residents' understanding of TOD living in Bainikeng Community. Before the publicity campaign, 80% of the residents did not know about TOD at all. After the campaign, 90% or higher of the residents have further understanding of TOD at varying degree. While filling out the questionnaires, residents proactively proposed to the project team members regarding problems urgently needed to be resolved in Bainikeng Community. They also showed great passion on more public engagement activities in future. Positive effects of public engagement were achieved.

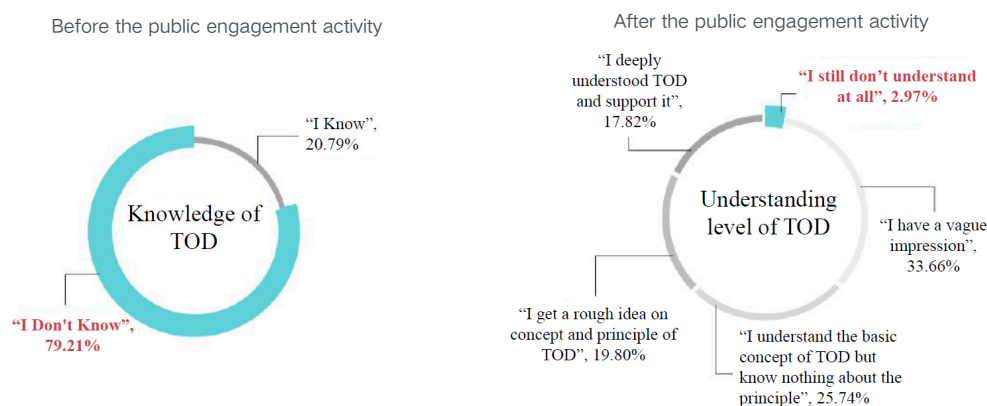


Figure 13. Changes in residents' understandings of TOD before and after the public engagement activity



B. Interview Summary



Main community development entity and operator enterprise in Bainikeng Community



Representative of enterprises headquartered in Bainikeng community

Explanation for the existing problems in Bainikeng Community

Bainikeng Community is enclosed by express roads; the current status of local public transport fails to meet the needs of its residents.

transportation

To improve the convenience, it is necessary to scientifically design the entrances and exits of metro stations, plan the connection between rail network and road network, improve community public facilities, and alleviate traffic congestion problems.

Construction lands in Bainikeng Community are in acute shortage; services and supporting facilities fail to meet the needs of its residents.

construction land

In the new round of network planning and urban design, it is necessary to minimize the occupation of construction lands and ensure the supply for construction land to the utmost extent.

Problems of sustainability

The existing logistics industry in the community suffers from environmental pollution, traffic congestion, and other problems; these problems are not conducive to improvement of the community nor to urban renewal. They also bring challenges to the long-term economic development of Bainikeng Community.

Achievement of a balance between industrial upgrading and housing

It is necessary to make more efforts to introduce R&D departments and headquarters, and achieve a balance between residential function and industrial development in Bainikeng Community.

Expectation for urban renewal in synergy with TOD

Lack of access to public transport: Inconvenience of transportation is caused by imperfect public transportation system; The traffic capacity surrounds the Logistics Park cannot match the freight transport volume inside the Park, which leads to freight congestion or cargo congestion.

Improve the convenience of public transportations: The representative hopes the metro will be put into service as soon as possible and entrances of metro stations can be easily accessed.

Lack of construction land: The logistics park land is relatively small in scale and available space is limited comparing to the logistics parks in other communities.

Expansion of the operating space in the Logistics Park: There is an urgent need to integrate land resources around the Logistics Park at the level of urban planning/land use, or to evaluate the spatial distribution of logistics parks across Shenzhen City.

Social services of the surrounding areas are not well-established: Facilities for housing, education, medical care, culture, and sports are absent. Most employees commute for a long distance

Improvement on social service facilities around Logistics Park: It is necessary to construct large-sized social service and commercial complexes as well as affordable housings to respond to the needs of workers in the Park for living nearby.



Summary of interests and demands of all parties:



Main community development enterprises

Main community development enterprises focus on community development from a macro perspective. They focus on land use, industrial development and economic growth, quality improvement, industry-and-city integration, and other issues. They support the idea of integrated station-city development.



Representative of enterprises headquartered in the community

Representative of enterprises headquartered in the community mainly focuses on the impacts which TOD will have on industrial development from the perspective of enterprise development, as well as whether TOD can help alleviate the housing problem for employees. It expects that the efficiency of freight transport will be improved by optimizing the road system; living conditions of employees can be improved by adding community facilities. It believes that integrated station-city development can strengthen the development of enterprises and improve the living conditions of employees at the same time.



Residents

Residents focus on their daily life needs. Residents expect that TOD will furnish a more convenient, comfortable, and much safer transit experience. They also wish that TOD can bring improvements in public space and supporting service facilities.

Summary of impacts of this public engagement event:

This public engagement event brought together hundreds of residents, community management entities, main community development entities, and backbone enterprises. This event took all parties' requests into consideration and provide appropriate methods of participation for different stakeholders to ensure their opinions could be expressed.

In the later stage of this public engagement event, [official WeChat account of Shenzhen Urban Transport Planning Center summarized this event](#), which had nearly a thousand views and exerted a wider range of public influence. Meanwhile, Shenzhen Office of Pilot Project of GEF China for Sustainable Urban Integrated Transit Modes is setting up a WeChat account for this project in the near future and will subsequently follow up the public engagement results.

Report Sharing

- Transit-Oriented Development Implementation Resources and Tools (2nd Edition) ([link](#))
- TOD-related package policy of Chengdu ([link](#), password: jeey)
- Evaluation Criteria of Urban Rail Transit TOD Comprehensive Development Projects and General Technical Specifications for Urban Rail Transit TOD Comprehensive Development Projects ([link](#), password: dxw3)

Upcoming TOD Related Events

- 2021 Annual Conference on Transportation Reform: Promote Recovery by Reshaping the Safe and Resilient Mobility Date: February 3-5, 2021 Mode: Videoconferencing ([link](#))

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Attachment: Related materials for the public engagement activities

1. Brochure



2. Display boards



3. Questionnaire on TOD Vision

1. Are you currently living in Bainikeng Community? How long have you been living in the community?

- ① Not living in Bainikeng Community
- ② Less than one year
- ③ From one year to three years
- ④ From three years to five years
- ⑤ More than five years



2. Are you currently working near the Bainikeng Community?
How long have you been working in the community?

- ① Not working near in Bainikeng Community
- ② Less than one year
- ③ From one year to three years
- ④ From three years to five years
- ⑤ More than five years

3. How old are you?

- ① Under 18 ② 18-24 ③ 25-35 ④ 36- 45 ⑤ 46-59 ⑥ 60 and above

4. Before our brief introduction, do you know the concept of "Transit-oriented Development (TOD)?"

- ① Yes, I know ② No, I don't know

5. What is your main travel mode now? (Please select three. Rank from most frequent to least frequent)

- _____, _____, _____
- ① Metro ② Bus ③ Car ④ Taxi ⑤ Motorcycle/Electric Bicycle ⑥ Bicycle ⑦ Walking
 - ⑧ Others_____

6. How often will you take the metro after it starts to operate?

- ① Frequently ② Occasionally ③ Seldom ④ Hardly

7. How the launching of metro and the improvement of bus services will influence your decision to buy a car?

- ① The desire to buy a private car will increase
- ② The desire to buy a private car will decrease
- ③ No influence

8. What is the longest walking time you can accept to arrive at a public transportation station

- ① 30 minutes ② 20 minutes ③ 15 minutes ④ 10 minutes
- ⑤ 5 minutes

9. Which public space you visit the most frequently?

- ① Commercial plaza (such as public square in front of a shopping center)
- ② Waterfront space
- ③ Community park (sports facilities)
- ④ Community park (children's playground)
- ⑤ Community park (firm-ground square)
- ⑥ Small-scale activity space (such as small park)

10. What benefits do you expect most that TOD can bring to your daily life? (Multiple Choice, up to five options)

Means of Public Transport

- ☐ Methods of travel increase (such as metro, bus and bicycle)
- ☐ Quick access to other areas of the city through public transportations (such as metro and bus)
- ☐ Improve community pedestrian and cycling systems (such as ground flattening and spacious roads)
- ☐ Reduce traffic congestion in the community

Public Spaces

- ☐ Quantity and variety of public spaces increase (such as construction of the parks and squares)
- ☐ Increase access to services (such as increase in public spaces accessible on foot)
- ☐ Improve user experience (such as increase in barrier-free facilities and night lamplights)
- ☐ Increase public activities (such as holding of theatrical performances in community basketball court)

Facilities and Services

- ☐ Increase quantity (such as increase in the quantities of shopping malls, hospitals and schools)
- ☐ Increase variety (such as increase in large-sized shopping malls and other facilities which are now unavailable in Bainikeng Community)
- ☐ Increase access to services (e.g. increase in facilities accessible on foot)
- ☐ Upgrade facilities (such as store decoration and upgrade, building exterior renovation)
- ☐ Others

11. After the launching of metro, what will be the priorities for the environment improvement in Bainikeng Community (Multiple Choice, up to eight options)?

Public Transport and Trip (Increase/Improvement)

- ☐ Bicycle service (such as building bicycle lanes and widening the existing bicycle lanes)
- ☐ Bus service (such as construction of bus stations and increase bus frequency)
- ☐ Pedestrian and cycling environment (such as building more three-dimensional pedestrian networks and overhead connection, setting up independent sidewalks)

Public Spaces (Increase/Improvement)

- ☐ Large parks
- ☐ Public squares
- ☐ Waterfront spaces
- ☐ Community parks
- ☐ Small-scale activity spaces (such as small-sized park and square)



Facilities and Services (Increase/improve)

- ☐ Jobs
- ☐ Residential buildings
- ☐ Large-scale shopping malls
- ☐ Convenience stores, fresh vegetable markets, large- and medium-scale supermarkets
- ☐ Restaurants
- ☐ Life service facilities, such as barbershops, communication service halls, etc.
- ☐ Medical and health facilities, such as community hospitals, pharmacies, etc.
- ☐ Educational facilities, such as kindergartens, primary and secondary schools, libraries, etc.
- ☐ Quantity of recreational facilities, such as cinema, sports venue, etc.
- ☐ Government agencies, such as community workstations, neighborhood committees, etc.
- ☐ Spaces for social interaction, such as cafés and coffee shops, WeWork, creativity fairs, exhibition venues, etc.
- ☐ Others

12. After today's event, how well do you understand TOD?

- ① I still don't understand at all.
- ② I have a vague impression.
- ③ I understand the basic concepts but not the principles.
- ④ I have a rough idea on concepts and principles of TOD.
- ⑤ I totally understood TOD and support it

13. Your suggestions for this event (Multiple Choice, up to five options)

- ① Select a more comfortable venue.
- ② Prepare some more attractive giveaways in the future events.
- ③ Adopt a more lively form of such event.
- ④ Increase the exquisiteness of brochures and display boards.
- ⑤ Add more relevant contents in brochures and display boards.
- ⑥ The event should be extended until evening.
- ⑦ Increase the staff
- ⑧ Decrease the staff
- ⑨ Others

