

# Quarterly Newsletter of GEF China Sustainable Cities Integrated Approach Pilot Project





## Project Progress (As of June 15, 2020)

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

The contract of the National TOD Platform was officially signed on April 20, 2020. The Project Management Office (PMO) held the kick-off meeting for the hired consultant to present the inception report and work plans on May 29, 2020. The inception report and work plans were reviewed by a panel of experts on June 15. It will be finalized and submitted to the World Bank task team by the end of June 2020.



MoHURD Project Kick-off Meeting

Photo Source: <https://mp.weixin.qq.com/s/wb5Tgmbt-ywMFfBjeMoSvV>

### Beijing

GEBJ-1A: The kick-off meeting for review of the inception report was held on April 28, 2020. The inception report was submitted to the World Bank task team on June 1, 2020. The request for disbursement of grant will be submitted by the end of June 2020.

GEBJ-2: The evaluation for the technical proposal was completed on May 19, 2020. The bid opening for the financial proposal and contract negotiation were held on June 11, 2020. The PMO intends to partially adjust the tasks in the TOR. A written request of specific changes will be submitted to the World Bank task team by the end of June 2020.

GEBJ-3: Request of Expression of Interest (REOI) was posted on April 28, 2020. The shortlist of qualified bidders was evaluated on June 10, 2020. RFP is currently under preparation and will be sent to the qualified bidders by the end of June 2020.

### Tianjin

GETJ-1: The first draft for Task 5: The Contextualized TOD Guidebook and Toolkit for Tianjin was completed at the beginning of May 2020. The final draft will be completed at the end of June 2020. The disbursement of grant submitted to the World Bank task team after the evaluation for the final draft is completed.

GETJ-2: The PMO has received EOIs from five consulting firms by May 11, 2020 after extending the deadline of the REOI and reaching out to potential bidders. The shortlist of qualified bidders was created on May 20, 2020. The RFP is currently under preparation.

GETJ-3: The terms of reference (TOR) is still under revision. The edited draft will be submitted to the WB task team by the end of July 2020.

### Shijiazhuang

GESJ-1: This contract was signed on March 26, 2020 and is now under implementation. The work on data collection and inception report has started. The PMO expected to receive the draft inception report and complete evaluation of it by the end of June 2020.



GESJ-2: The PMO has issued the REOI for this contract. As of May 31, 2020, EOIs were only received from four consulting firms. The PMO extended the deadline to June 14, 2020 and started to reach out to other potential bidders. The evaluation of the EOIs and a shortlist of qualified bidders are expected to be completed by the end of June 2020.

GESJ-3: The terms of reference (TOR) is currently under preparation. The first draft is expected to be submitted to the World Bank by the end of June 2020.

## Ningbo

GENB-1: The inception report was completed and the PMO evaluated the inception report on June 9, 2020. The finalized version will be submitted to the World Bank by the end of June 2020.

GENB-2: After consulting with the World Bank team, the PMO decided to adjust the scope of this study. The first draft of the terms of reference (TOR) is expected to be completed by the end of June 2020.

GENB-3: This contract has been under implementation and the deliverables under the first assignment was completed on June 5, 2020. The evaluation of the intermediary output will be completed and submitted to the World Bank by the end of June 2020.

## Nanchang

GENC-1: The contract has been under implementation and the consultant has completed Task 1: data collection and scoping. The report produced under Task 1 was submitted to the World Bank on May 28, 2020. Task 2: beneficiary analysis and public participation and Task 3 are underway. Relevant phase achievements were submitted to PMO. Task 4 is expected to be completed by the end of June 2020.

GENC-2: PMO has uploaded the technical proposal to STEP on June 8, 2020. The evaluation for the financial proposal will start on June 16, 2020. Contract negotiation and final signature will be completed at the beginning of July 2020.

GENC-3: The terms of reference (TOR) is under preparation. The first draft is expected to be submitted to the World Bank by the end of June 2020.

## Guiyang

GEGY-1: This contract has been under implementation. The inception report was submitted to the World Bank on May 20, 2020. PMO has submitted request for disbursement of grant to the Department of Finance of Guiyang.

GEGY-2: PMO has submitted the first draft of the Terms of Reference (TOR) to the World Bank task team on June 9, 2020 and received the written feedbacks and suggestions on June 15, 2020.

GEGY-3: PMO submitted the request to the World Bank task team to adjust the scope of these two studies on April 17, 2020. The first draft of the TOR was submitted to the task team on June 15, 2020.

## Shenzhen

GESZ-1: The PMO has completed the contract negotiation on April 30, 2020 and uploaded the contract to STEP on May 20, 2020. The contract is expected to be officially signed by the end of June 2020. The disbursement of grant will be completed afterward.

GESZ-2: The PMO published the REOI on May 14, 2020. The shortlist of qualified bidders will be evaluated on June 17, 2020.



## Project Implementation Progress (As of March 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												
	Corridor-level TOD Application												
Shijiazhuang	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												
Nanchang	City-level TOD Strategy												
	Corridor-level TOD Application						-						
	Station-level TOD Application												
Guiyang	City-level TOD Strategy												
	Corridor-level TOD Application												
	Corridor-level TOD Application												
Shenzhen	City-level TOD Strategy												
	District and Station-level TOD Application												

## Knowledge Events

Since March 2020, the Organizing Committee of Beijing International Metro Transit Exhibition of China Association of Metros has launched a series of TOD online lectures, "Beijing International Metro Transit Exhibition & TOD Forum." These lectures targeted at urban rail companies, real estate developers, and other organizations related to TOD industrial chain, and the public. For each lecture, one to two senior experts from China or other countries would be invited to have dialogues in the exploration of TOD related academic or other hot issues. Up to now, five lectures have been held, [TOD from the Perspective of Public Emergencies](#), [Analysis of](#)

[Tokyo TOD and Tokyu Experiences, Exploring the TOD Wisdom of Industrial Parks and Cities Integration](#), [The Key to the Implementation of TOD in China](#) and [TOD Policy Logic and Window Period](#).

On May 12, 2020, GEF-SCIAP Shijiazhuang Project Management Office organized an online lecture, "Subway Network Expansion and Transit-Oriented Development in Seoul" The lecture started with the history of Seoul's urban development and subway expansion. It then explicitly introduced the public transport reform in Seoul. The lecture deepened the discussion by using case studies of some stations and the cities that surround them.



On May 15, 2020, the Project Management Office of the Ministry of Housing and Urban-Rural Development of GEF-SCIAP project launched an online lecture, "Guidelines for TOD under Epidemic Prevention—Planning and Design Considerations." The lecture triggered thoughts on TOD in terms of planning and design, such as tight space and ventilation conditions inside the rail transit. It also discussed how cities should respond to the requirements of epidemic prevention in the future.

## Industry News

- **TOD Projects**
  - **Shenzhen**

The Design Scheme of Shenzhen Xili Transportation Hub was put forward on March 10, 2020. The design scheme was created based on the principles of "integrated development and easy transfer," aiming to build an innovative demonstration project and people-oriented modern high-speed rail station. As one of the main transit hubs in Shenzhen, Xili Transportation Hub (hereinafter referred to as Xili Hub) includes four high-speed lines, two inter-city lines, four metro lines, and other types of transportation. Its overall scale may exceed Shenzhen North Railway Station. Located on the axis of Guangzhou-Shenzhen Science and Technology Innovation Corridor, Xili Hub connects key areas, such as Xili Lake International Science and Education Town, Liuxiandong Headquarters Base, High-tech Park, and Houhai Headquarters Base. It is regarded as one of the important transportation hubs in Shenzhen in the future. The project is in the list of important new projects in 2020 in Shenzhen. Its total investment is CNY 15.7 billion. The project includes Xili Hub with total size of 13 units and 25 lines and Tanglangshan Railway

Station. The length of the newly built line is 12 kilometers, constructed by China Railway Guangzhou Group Co., Ltd. and scheduled to be completed in 2024. ([link](#))

Shenzhen Metro Group Co., Ltd. held a contract signing ceremony for the Study of Feasibility and Support of the Five Intercity Railway Projects in Guangdong-Hong Kong-Macau Bay Area on March 20, 2020. This project has a total length of about 410 km and the total investment of about CNY 2018 billion. These five intercity railway projects include Shenzhen-Shangwei High-speed Railway, Shenzhen-Huizhou Intercity Railway, Shenzhen International Airport-Dayawan Intercity Railway, the Longgang-Dapeng spur line, and the Qianhai-Huanggang Checkpoint Section of the Guangzhou-Dongguan-Shenzhen Intercity Rail. Shenzhen Metro Group Co., Ltd. will organize the project research unit to fully carry out the project feasibility study and accelerate the project to ensure the construction of the Guangzhou-Dongguan-Shenzhen Intercity Rail project will be launched at the end of June. The construction of other railways will be launched at the end of this year. ([link](#))

On April 24, 2020, the website of the Urban Renewal and Land Preparation Bureau of Longgang District, Shenzhen ([www.lg.gov.cn](http://www.lg.gov.cn)), published the Plan of Renewal for the Key Urban Units of Jiuxu Town Area (GX04) in Pinghu Street, Longgang District (Draft). This unit was listed as the key urban renewal unit in Shenzhen by the municipal government in January 2018. It was reviewed and approved in principle at the second working meeting of the Urban Renewal Leading Group of Longgang District in 2020. Click the link for more details. The project is the first key urban renewal unit in Longgang District as well as the first urban unit being transformed and developed using the TOD



model in Longgang District. There will be five rail transits, including Guangzhou-Shenzhen Railway (already in operation), Line 10 (under construction), Shenzhen–Huizhou Intercity Railway (under planning), Line 17, and Line 18 (under planning). Cooperating with Shenzhen Special Economic Zone Development Group Co. Ltd., Longgang District strives to build a full-dimensional transportation hub that connects intercity railways, metros, high-speed railways and urban arterial roads. ([link](#))

#### ◦ Chengdu

From March 9 to April 1, 2020, Chengdu Tianfu Railway Merchants and Urban Development Co., Ltd. won 7 plots of land at Tianfu Headquarters Business District (about 788 mu in total) at the base price. The whole construction area accounts for nearly 1.5 million square meters, with a total transaction value of CNY 5.4 billion. The land auction implemented strict regulations on bidders' qualifications. For example, actual controllers or shareholders must have construction and operation management experience of 6 or more metro lines. The auction also made clear requirements on the total investment amount of the project and the industry. For example, the project required bidders to build a high-end commercial complex on these lands, and 50% of which must be the self-operated business. The plots are located within the CBP project of the Tianfu New District Headquarter and the planning area of Qinhuangshi TOD project on Metro Line 6. It is one of the fourteen demonstration projects that Chengdu focuses on. Shenzhen Merchants Property Development Co., Ltd., Chengdu Rail Transit Group Co., Ltd., and Chengdu Tianfu New Area Investment Group Co., Ltd. jointly established Chengdu Tianfu Railway Merchants and Urban Development Co., Ltd. Their shares are respectively 51%, 44% and 5%. Chengdu Tianfu Railway Merchants

and Urban Development Co., Ltd. adopts cooperative development model and operated by China Merchants Shekou Industrial Zone Holdings Co., Ltd. ([link](#))

The Demonstration Project of TOD + 5G Park Urban Community at Chengdu Xinjin Railway Station was launched on March 23, 2020. The total investment of the project is about CNY 11 billion. This project is one of the first demonstration sites of TOD comprehensive development project in Chengdu. The purpose of the project is to strengthen the empowerment of science and innovation as well as to create a Park Community. Relying on BIM, 5G, and Ali-cloud, the project will build an urban park community demonstration unit with the integration of 5G scene display, science and innovation space, and futuristic community. The project covers an area of 590 mu, with a total construction area of 1 million square meters. The project has three phases and is expected to be completed in 2024. ([link](#))

On May 11, 2020, Chengdu Rail Transit Group Co., Ltd. released the first TOD map, identifying the initial sixteen TOD projects distributed in fourteen districts, cities, and counties in Chengdu. Following the principles of "one TOD project with one park community," these projects successively developed high-density urban landmarks within 100m core urban areas, created high-density urban scenes within 300m sub-core areas. These projects also developed the low-density area to build public space within 700m non-core areas to ensure the green ratio of each project is above 35%. All sixteen projects as a whole would cover the rail transit networks and urban areas of Chengdu. Since the launch of global bidding in the second half of 2018, Chengdu has established TOD Project Planning Library, TOD Integrated Urban Design Library, and TOD Commercial



Operation Library. At present, these projects have completed the integrated design and gradually entered the construction phase. At the same time, experimental sites are implementing various models of cooperative development, aiming to turn Chengdu into a world-leading TOD city. ([link](#))



TOD Map in Chengdu  
Picture Source: [http://www.chengdurail.com/sw\\_detail/7275.html](http://www.chengdurail.com/sw_detail/7275.html)

### ◦ Nanjing

On March 12, 2020, at the contracts signing ceremony of key infrastructure strategic cooperation projects in Jiangning District, the Strategic Cooperation Framework and Cooperation Development Agreement of Wangwuzhuang Depot TOD Project were reviewed and signed. As the first integrated and comprehensive development of over one million square meters of rail yard of Nanjing Metro adhering to TOD concepts, the project adopts the design concepts of a sponge city. With the principles of environmental-friendly, livable, and business-friendly, integrating into the construction of the Wangwuzhuang Station on Line 10, this project aims to develop 85 hectares of commercial land with a total construction area of 1.1 million square meters above the rail yard which was traditionally used for transportation. At the same time, two stations on both Line 10 and

Line 12 are introduced into the plot, which will significantly improve the land value and better achieve the dual goals of intensive utilization of land and economic and social development. The Wangwuzhuang Rail Yard Project covers 85 hectares with a total construction area of 1.1 million square meters. Shiyang East Road, the last station of Line 10, Phase 2, is located in the plot. It is used as a transfer station to the planned Line 12 for convenient transportation. It is expected to bring nearly 400,000 passengers. ([link](#))

### ◦ Changsha

A cooperation signing ceremony was held for the overall development project of building the New Industrial City at Changshaxi Railway Station on March 28, 2020. Relying on Changshaxi Railway Station, the New Industrial City is connected to three national development zones: Changsha High Tech Zone, Wangcheng Economic and Technological Development Zone, and Ningxiang National Economic and Technological Development Zone. Through the integration of station, landscape, industry, and city, this project aims to build a collaborative intelligent valley and a dynamic future city with Hunan characteristics in Central China. With a total investment of CNY 32.2 billion, the project is expected to be completed in 15 years. At present, the New Industrial City at Changshaxi Railway Station will mainly focus on opening Changde-Yiyang-Changsha High-Speed Railway to traffic in 2021 as its primary goal. It also aims to accelerate the construction of station yards and station buildings of Changshaxi Railway Station as well as Station-related municipal supporting facilities and regional network of arterial roads. ([link](#))

### ◦ Dongguan

On May 15, 2020, the TOD Comprehensive Development Plan for Longjiantian Station on Dongguan Rail Transit Line 15 was opened



for tender. According to the announcement, while the TOD development and planning for Longjiantian Station is ongoing, the location study on Huangjiang Central Station to Longjiantian Station on Line 15, the study on the entry and exit routine of Line 15, and the location study on the Longjiantian Station will be carried out simultaneously. Through the location studies, the location of the station track, scheme, and the reserved connection to the railway parking lot at Longjiantian Station can be determined. The goal of the project is to turn Huangjiang Town into the rail transit center in Dongguan and further promote the urban integration of Huangjiang, Songshan Lake, and Guangming District of Shenzhen. ([link](#))

### ● Infrastructure Financing

On April 3, 2020, the China Securities Regulatory Commission and National Development and Reform Commission issued [the Notice on Promoting the Pilot Work of Real Estate Investment Trust \(REITs\) in the Field of Infrastructure](#). The goals are to deepen the financial supply-side structural reform, further innovate the investment and financing mechanism, effectively activate the stock assets, fill the gap in the current financial products, expand the channels for social capital investment, increase the proportion of direct financing, and enhance the quality and efficiency of the capital market in serving the real economy. In the short term, it widely raises project capital and reduces debt risk, which is an effective policy instrument to stabilize investment and strengthen the weak areas; in the long term, it improves the mechanism of Saving-Investment Transform, reducing the levers for real economies, and promoting the healthy development of infrastructure investment and financing in a market-oriented, standardized environment.

### ● Urban Rail Transit Plans

China Association of Metros issued [The Program for the Development of Smart Urban Rail Transit](#) on March 12, 2020. It serves as a guiding document for making technology policies, technical specifications, development plans, and implementation plans for the development of smart urban rail transit. The Program also encourages cities to promote smart urban rail transit in an orderly manner.

On March 17, 2020, [the National Development and Reform Commission publicized the Reply on Construction Planning of Hefei Urban Rail Transit in the Third Phase \(2020-2025\)](#) online. In addition to the list of approved projects, the Reply also mentions to strengthen the connection between urban rail transit and major transport hubs and design for easy transfer, such as the connections among Hefei West Railway Station, Hefei East Railway Station, and Hefei Beicheng Railway Station. The planning aims to coordinate the construction of urban rail transit, high-speed railway, and intercity railway, conduct in-depth research on the comprehensive development of station hubs, ensure connecting stations to surrounding shopping malls with high density of passenger flow, communities, and schools, scientifically and reasonably arrange the entrances and exits, improve the security and convenience of passenger travel, and improve the efficiency and economic benefits from comprehensive land development.

On April 10, 2020, the National Development and Reform Commission publicized [the Reply on Adjusting the Construction Plan of Shenzhen Urban Rail Transit in the Fourth Phase \(FGJC No. 484\)](#) online. In addition to the list of approved projects, there are some additional supplements. In terms of project financing, the document stipulates that the proportion of project capital shall be adjusted from 50%





to no less than 40%. The increased capital shall be solved by the financial funds from Shenzhen and relevant districts and counties. The funds other than the capital shall be financed by bank loans and other financing methods. The comprehensive development of TOD station shall be regarded as one of the critical compensation methods of rail transit construction funds. In terms of project design, the document specifies that the project should strengthen the connection between urban rail transit and major transport hubs and make a fine design for easy transfer, such as from any metro stations to Shenzhen Bao'an International Airport. It should also conduct an in-depth study on the comprehensive development of station hubs, ensuring the connection between stations and surrounding shopping malls with high density of passenger flow, communities, and schools, scientifically and reasonably arranging the entrances and exits, improving the security and convenience of the passenger traveling, and improving the efficiency and economic benefits of the comprehensive land development.

### • Integrated Regional Transit Plans

On March 17, 2020, National Development and Reform Commission issued [the Coordinated Development Plan of Tongzhou District of Beijing and Sanhe City, Dachang Hui Autonomy County and Xianghe County of Hebei Province](#), which pointed out that it is necessary to accelerate the promotion of the integrated Beijing-Tianjin-Hebei Transportation Network in Tongzhou and three northern counties of Hebei. Setting Beijing's sub-center as the center, the intercity railway network, which will connect the central cities and hub airports in Beijing, Tianjin, and Hebei, will be constructed. The goals of the railway network are to realize the smooth connection between external transportations and urban

transportations, to promote the coupling layout of the rail hub and the functional area, and to establish the coordinated development mechanism for the utilization of railway and land. The Plan also states that this network is to strengthen the integrated planning of the rail station and the surrounding land, to enhance the comprehensive use of the station, and to promote the comprehensive development and utilization of the intercity railway hub and main stations of the regional metro express.

National Development and Reform Commission issued [the Key Tasks of New Urbanization and Urban-rural Integration Development in 2020](#) on April 3, 2020. This document put forward the importance of promoting the urban integration development of metropolitans and improving the transportation infrastructures in metropolitan areas focusing on rail transit, planning and constructing intercity railway and urban-suburban railway orderly, reasonably stretching the central urban rail transit to surrounding cities and towns, and supporting major cities to plan a multi-level rail transit.

National Development and Reform Commission issued [the Opinions on Promoting the Connection of Airline Hub with Railway](#) on April 10, 2020. Guided by problems and demands, this document effectively and orderly promotes effective connections between hub airports and rail transit and scientifically plans the collection and distribution system of rail transits at airports. The document also emphasizes that the connection between the transportation planning of national railway network, intercity railway network, city-suburb railway, urban rail transit and the layout planning of airports should be strengthened, and the interconnected comprehensive transportation system should be constructed quickly. Based on the demand for airport passenger distribution and relevant planning and



construction, airports with different function orientation and scale should be classified and implemented with different policies. Attachment: [The List of Major Projects of the Connection of Airline Hub with Railway](#).

[The Integrated Development Plan for a Higher Quality of Transportation in the Yangtze River Delta Region](#) was officially issued by the National Development and Reform Commission and Ministry of Transport of the People's Republic of China on April 27, 2020. It is a special plan for transportation after The Integrated Development Plan of Transportation in the Yangtze River Delta Region was published. The planning period is until 2025, extending to 2035. The goal is to build a multi-level comprehensive transportation network using rail transit as the backbone, highway network as the foundation, water transport and civil aviation as effective supplements. Shanghai, Nanjing, Hangzhou, Hefei, Suzhou, Wuxi, Changzhou, and Ningbo will be the primary nodes of this transportation network. It is highly efficient and interconnected and can be regarded as the basis and guide for the coordinated development of cities in the Yangtze River Delta region.

### • Technical Standards

On April 1, 2020, the Beijing Municipal Commission of Planning and Natural Resources publicized the [Guidelines for the Comprehensive Utilization Planning and Design of Beijing Urban Rail Transit Vehicle Base \(Draft\)](#) on the official website. The Guidelines proposed that regarding the process of the comprehensive utilization project, the main control contents of the comprehensive utilization of vehicle bases should be proposed, and the corresponding planning or research work should be completed at each planning level. At the master planning stage, the general layout

of the vehicle base should be proposed in combination with the rail transit network planning. At the zoning planning stage, the land scale of the vehicle base within the area and the site selection for planned comprehensive utilization of vehicle bases in the district, as well as the total scale of comprehensive utilization shall be proposed based on the general plan. At the stage of detailed control planning, the requirements for comprehensive utilization of vehicle bases should be further refined according to the overall planning and zoning planning. The planning process of the comprehensive utilization project of vehicle bases and the main engineering process of vehicle bases should be carried out simultaneously. The Guidelines propose that to ensure the safety of personnel activities and the environmental quality of the ground above the railway, the scale of buildings on the above floor should be reasonably controlled, with the floor area ratio references provided. At the early stage of the rail transit program, the site selection of vehicle bases should be carried out to ensure that the comprehensive development of the rail base can truly realize the TOD development concept.



## Policy Updates:

### *Theme: “New Infrastructure” and TOD-related Proposals during the NPC&CPPCC “Two Sessions”*

#### 1. "New Infrastructure" Policies and Investments

##### 1) Concept and Policy Development

- In December 2018, the Central Economic Work Conference proposed the idea “strengthening the development of “New Infrastructure,” such as artificial intelligence, industrial Internet, and Internet of Things” for the first time when determining the key tasks for 2019.

- On February 14, 2020, the 12th Session of the Central Committee for Comprehensively Deepening Reform pointed out that, "Infrastructure is an important support for economic and social development. It is necessary to take overall optimization and coordinated integration as a guide to coordinate the stock and increment as well as the traditional and new infrastructure, to develop a modern infrastructure system featuring intensiveness, high efficiency, affordability, intelligence, environment-friendliness, safety, and reliability."

- On March 4, 2020, the Standing Committee of the Political Bureau of the CPC Central Committee convened a formal proposal to accelerate the development of “New Infrastructure,” including the 5G network, UHV, high-speed intercity railway and rail transit, new energy vehicle charging piles, big data centers, artificial intelligence, and industrial internet data center. Among them, the planned railway investment in 2020 will reach CNY 800 billion to ensure that a total length of over 4,000 kilometers of new railway lines, including 2,000 kilometers of high-speed rails, will be put into operation.

- On April 20, 2020, the National Development and Reform Commission

clarified the scope of “New Infrastructure” for the first time at a press conference. The “New infrastructure” mainly consists of three parts:

- Information Infrastructure, including communication network infrastructure represented by 5G, Internet of Things, industrial internet, and satellite internet, the new technology infrastructure represented by artificial intelligence, cloud computing, and blockchain, and the computing power infrastructure represented by data centers and intelligent computing centers.

- Converged Infrastructure, which mainly refers to the in-depth application of the Internet, big data, artificial intelligence and other technologies to support the transformation and upgrading of traditional infrastructure, and the resulting converged infrastructure, such as intelligent transportation and smart energy infrastructure.

- Innovation with infrastructure. It mainly refers to the infrastructure with public welfare attributes, which support scientific research, technology development and product development, such as major scientific and technological infrastructure, science and education infrastructure, and industrial technology innovation infrastructure.

According to incomplete statistics, as of mid-May, more than 20 provinces, autonomous regions, and municipalities have announced plans for “New Infrastructure” with total investments of CNY 1 trillion. ([link](#))



## 2) Investment Plan for Rail Transit Projects under the “New Infrastructure” Initiative

- Yunnan Province: In 2020, a list of key projects for the four One Hundred Project (100 projects completed and put into operation, 100 projects under construction, 100 new projects, and 100 preliminary work projects) was released, with a total investment of about CNY 5 trillion. The planned investment in 2020 is CNY 400 billion.

- Guizhou Province: The key rail transit projects in 2020 involve three projects, nine continued projects, and eight new projects. The planned investment is over CNY 500 billion.

- Sichuan Province: In 2020, CNY 140 billion will be invested in urban infrastructures, of which CNY 50 billion will be invested in urban rail transit. The operating mileage of urban rail transit will exceed 500 kilometers.

- Shanxi Province: In 2020, rail transit projects include 17 continued projects and seven newly started projects. A total of CNY 200 billion will be invested in these projects.

- Guangdong Province: In 2020, there will be 12 national railway mainline projects, 11 intercity rail transit projects, four port railway projects, with a total investment of approximately CNY 200 billion. ([link](#))

## 2. 2020 Government Work Report: Policies Related to Urban and Regional Development

### 1) Expand effective investment

CNY 3.75 trillion of special local government bonds will be issued and the proportion of special bonds that can be used as project capital will be raised to give priority to “New Infrastructure,” new urbanization initiatives, and major projects. Specifically, efforts will be made mainly in the following areas:

- Enhance the construction of new types of infrastructure, developing next-generation information networks, expanding 5G applications, building battery charging facilities, promote more extensive use of new-energy automobiles, stimulating new consumer demand, and promoting industrial upgrading.

- Strengthen the development of a new type of urbanization and improve public facilities and services in the county to meet the growing demand for jobs and settlements from rural residents.

- Begin the renovation of 39,000 old urban residential communities, supporting the installation of elevators in old residential buildings and encouraging the development of community services, such as food delivery and laundry services.

- Redouble efforts to develop major transportation and water conservancy projects. Increase national railway development capital by CNY 100 billion. Improve market-based investment and financing mechanisms to support private enterprises’ equal participation in projects. Ensure that projects are up to standard so that they do not create any undesired consequences and the investments can deliver long-term returns.

### 2) Deeply promote new urbanization

- Leverage the role of leading cities and metropolis in driving the overall development of their surrounding areas, in efforts to foster new industries and increase employment.

- Adhere to the principle of “houses are for the living, not for speculation,” we will implement city-specific policies to promote the steady and healthy development of the real estate market.

- Improve urban amenities and accessible facilities, and make our cities where people enjoy living and working in.



### 3) Accelerate the implementation of China's regional development strategies

- Continue to promote large-scale development in Western China, Northeastern China's full revitalization, the rise of Central China, and the leading developer of Eastern China.
- Move forward the coordinated development of the Beijing-Tianjin-Hebei region, the development of the Guangdong-Hong Kong-Macao Greater Bay Area, and the integrated development of the Yangtze River Delta.
- Promote the protection of the Yangtze River Delta's environment.
- Formulate an overall plan for the ecological protection and high-quality development in the Yellow River Basin.
- Promote the development of the Chengdu-Chongqing Economic Circle.
- Accelerate the economic development in old revolutionary base areas, ethnic minority areas, border areas, and low-income areas.
- Develop the marine economy.
- Implement the recovery policy package that supports Hubei's development, ensuring employment and public wellbeing, as well as normalizing daily operations. The goal of the policy package should encourage the full recovery of economic and social activity in Hubei.

### 3. TOD-related Proposals during the NPC&CPPCC "Two Sessions"

- Xie Zhengguang, Deputy of the Beijing Municipal People's Congress, Secretary of the Party Committee and Chairman of Beijing Subway Co., Ltd., proposed that when preparing the development plan of Beijing Subway during the "14th Five-Year Plan" period, the policymakers should fully consider: First, shift from pursuing speed and

scale to emphasizing quality and efficiency, as well as the importance of cost reduction and efficiency improvement. Second, the shift from developing a single transportation method to developing the integration of multiple transportation methods. Manage the development of multi-network with the integration of urban rail transit, ground transportation, and suburban (regional) railways. Third, shifting from the traditional factor-driven transformation to innovation-driven transformation and build a new model for urban rail operation through "Beidou + 5G (EUHT) + smart subway." Utilize advanced technologies to achieve the innovation-driven urban rail transit. ([Link](#))

- Zhang Zhiliang, NPC Deputy and Chief Engineer of Guangzhou Metro suggests accelerating the integrated development of rail transit in the Guangdong-Hong Kong-Macao Greater Bay Area. High-speed rail, national rail, intercity railway, and subway networks coexist in various cities. Although they have achieved the connection and transfer, they are subjected to industry technical standards or administrative system boundaries, barriers in cross-level and cross-regional interconnection, and obstacles in coordinated transportations. In particular, the intercity railway network and the subway networks cannot be interconnected, which is not conducive to the realization of the "one-ticket" connection and "one-card" service. It is recommended to start from the perspectives of the regional development of the Greater Bay Area and the metropolis, comprehensively promoting the collaborative planning, design, constructions, and operations of cross-level and cross-administrative regional rail transit integration, and then promote regional rail transit symbiosis. ([Link](#))

- Zhong Zhangdui, Member of the CPPCC National Committee and Professor



of Beijing Jiaotong University, says that (We should) Focus on the issues of high-quality development of municipal railways. The planning and construction of the country's urban railways and intercity railways have gradually entered the fast lane, especially in Beijing, Shanghai, Guangzhou, Shenzhen, and Chengdu metropolitan areas, Beijing-Tianjin-Hebei region, Guangdong-Hong Kong-Macao Greater Bay Area, and the Yangtze River Delta. Municipal railways also have broad application prospects in the development of third- and fourth-tier cities. It is recommended to actively develop low-cost rail transit modes in third- and fourth-tier cities, achieving the interconnection with national trunk railways and intercity railways. We should also build an efficient, fast, and medium-capacity rail transit network to help the national industrial transfer and overall layout, as well as facilitate the development of new urbanization and achieve balanced development with first- and second-tier cities. At the same time, municipal railways should be interconnected to achieve public transit operation to truly realize the integrated development of national trunk railways, intercity railways, municipal railways, and urban rail transit. Adopt advanced information and communication technologies, such as mobile internet, artificial intelligence and big data, to effectively connect the transportation dispatching command, train operation control, and passenger service to gradually realize "one-card" and "one-ticket" services. ([Link](#))

- She Caigao, NPC Deputy and Chairman of Nanjing Metro, suggests that high-quality development of the urban rail transit industry should be promoted. He also addressed several issues in the process of high-quality development of urban rail transit: First, the legalization of urban rail transit is slightly lagging; second, there is the lack of security inspection standards for urban rail transit;

third, the balance of operating revenue and expenditure needs to be improved; fourth, the multi-regulation of underground space utilization needs to be deepened. To solve the above issues, Mr. She proposes that, first of all, the relevant department should accelerate the legislation process for the urban rail transit; then, the industry should be guided to improve the scientific operation mechanism, to protect and promote the development of people's livelihood. Accelerate the development of urban rail transit standards formulation and the innovation of security inspection equipment and security inspection process and promoting the in-depth integration of innovative technologies (such as non-inductive security inspection, biometrics, and big data analysis) with the urban rail transit industry. Regulate the urban rail transit operation balance and increase the overall utilization of underground space; allow special government debt to be used as a capital investment in metro projects to promote high-quality development of the urban rail transit industry. ([Link](#))

- Xu Ren'an, Deputy of the National People's Congress and Director of the Chongqing Municipal Transportation Bureau states that improve the level of transportation interconnection to support the construction of the Chengdu-Chongqing Economic Circle. Speed up the constructions of Chongqing-Kunming High-Speed Railway, Chongqing-Hunan High-speed Railway, Zhengzhou-Wanzhou High-speed Railway, Chongqing-Wuhan High-speed Railway, and Yu-Gui High-speed Railway; and accelerate the transformation of Chengdu-Chongqing High-Speed Railway to shorten the distance between Chengdu-Chongqing Economic Circle and the major metropolis and economic zones; realize the one-hour distance between Chengdu and Chongqing, three-hour distance to other capital cities, and six-hour distance to



Beijing, Shanghai, Guangzhou, and Shenzhen. Promote the development of "four network integration." The four types of networks are trunk railways, intercity railways, municipal railways, and urban railways, and create a "1-hour commute" of rail transit. ([Link](#))

- Liu Wei, Member of the CPPCC National Committee and Chairman of PCITECH says that the "New Infrastructure" represented by AI, 5G, and rail transit will significantly promote economic development. During the COVID-19 epidemic, the application of artificial intelligence has made prevention and control in communities more precise and smarter. He believes that the "New Infrastructure" represented by artificial intelligence, rail transit, and 5G will significantly promote China's economic development. There will be a leap forward, especially in the field of high technology. ([Link](#))

# Case Study

## Integration of TOD Principles and New Community Development Modes







# Integration of TOD Principles and New Community Development Modes

## Experience from Shanghai Municipality and Zhejiang Province

Urban development comes with longer commute distance and time duration. If public transportation services cannot be provided accordingly, people have to depend on private vehicles. As a result, road congestion, parking and other issues arise. If we only rely on transportation solutions, the efficiency of urban development would be affected.

The formation of the TOD concept stems from the reflection on low-density urban development and inefficient land use. Under the current TOD practice in China, numbers of publicized case studies mainly focus on station level, especially the integrated station-city development at transportation hubs. Its high density, connectivity, and mixed-use are frequently highlighted. However, other TOD principles such as small blocks, dense road networks, mixed-use land and spaces, and pedestrian-friendliness are also vital and should be actively applied to a broader range of projects.

Community, as the basic unit of city governance, has been frequently mentioned in recent years. Many new models of communities have been piloted in various cities in China, like the "15-minute community-life circle," "future community," and "complete community," etc.

In this issue, we summarize the integration of TOD principles and new models of communities based on the analysis of two cases. We hope we could provide some insights into the innovative TOD applications at the community level.

### 15-minute Community-life Circle

#### History:

The concept of the 15-minute community-life circle can be traced back to Jane Jacobs, the urbanist and activist, who supported bottom-up community-based approach to city planning and promoted small blocks, local economies and mix-used neighborhoods.

- In 2008, the City of Portland, Oregon, put forward [the 20-Minute Neighborhood Plan](#), aiming to meet 90% of residents' daily needs within a 20-minute walking or cycling.



Paris en Commun's "15-minute city" concept sketch.

Image credit: Ubique

Picture Source: <https://360.here.com/15-minute-cities-infrastructure>



- The City of Melbourne, Australia, also introduced the concept of [20-Minute Neighborhood](#) in Plan Melbourne 2017-2050. The 20-Minute Neighborhood is all about “living locally” – giving people the ability to meet most of their daily needs within a 20-minute walk from home, with safe cycling and local transport options. In January 2018, the Minister for Planning launched the 20-Minute Neighborhood Pilot Program.

- Besides, Ottawa, in Canada, Detroit in the United States, and other cities have also successively proposed the idea of a 15-minute community.

- In January 2020, Anne Hidalgo, the incumbent mayor of Paris, and her team proposed the "15-minute city" Plan. According to the Plan, each community has six essential social functions: living, working, supplying, caring, learning and enjoying. The Plan aims to reduce the carbon footprint and increase the quality of life by transforming the urban centers into "15-minute cities".



Sketch map of the features of a 20-Minute Neighborhood

Photo Source: <https://www.planning.vic.gov.au/policy-and-strategy/planning-for-melbourne/plan-melbourne/20-minute-neighbourhoods>

## “15-minute Community-life Circle” Practices, Shanghai, China

### 1. Master Plan

The [Shanghai Master Plan \(2017-2035\)](#) rereleased in 2018 proposed to organize compact community life networks and leisure spaces based on the idea of a 15-minute community-life circle. The Plan also emphasized the construction of TOD

communities with sufficient community service around rail transit stations and transit hubs.

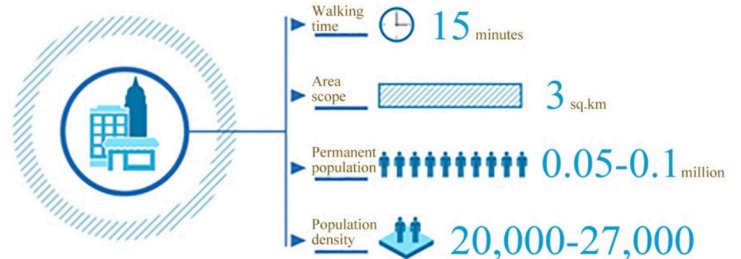


Photo Source: Public Reading Shanghai Master Plan (2017-2035)

## 2. Planning Guidance

As the first city in China to propose and launch [the Planning Guidance of Shanghai of 15-Minute Community-Life Circle](#) (hereinafter referred to as the Guidance), Shanghai not only maintains consistency between its urban Master Plan and related guidance systems but also issued hard copies of the Guidance for the public to encourage more public participation and promote practices.

Officially launched in 2016, the Guidance took the 15-minute community-life circle as the basic unit of city governance and public resource allocation. Essential service functions and public activity spaces for daily life were set within residents' walking distance. As a result, a safe, friendly, and comfortable platform for daily life was formed. It involves five aspects of community life, including living, employment, transportation, service, and leisure. Communities are encouraged to set diverse employment spaces, giving priority to meeting the needs of vulnerable groups, such as the elderly and the kids, to promote walking and public transportations as the primary travel methods.



Sketch map of "15-minute community-life circle."

Photo Source: <http://up.caup.net/file/life-circle.pdf>



### A. Living: Advocate diversified housing types, inclusive and mixed housing layout, open and shared housing environment

- Further improve the supply ratio of small- and medium-sized houses on commercial housing land in the central urban areas and some suburb areas where the gap between supply and demand is evident, as well as the areas around rail transit stations. The coverage of the central urban area and suburbs are 600m and 1,500m, respectively.

- For built residential areas with the neighborhood size greater than 3 hectares, the priority is to encourage these communities to open up sidewalks to improve the walking accessibility for outside residents. In particular, for those communities that block access to facilities - kindergartens, primary schools, etc., the sidewalks should be opened; for large-scale neighborhoods which are greater than 6 hectares, specially built residential areas with high external traffic crossing demand, roads within the neighborhood are encouraged to remain open for pedestrians on the premise of ensuring the safety and high acceptance of their residents. Opening up certain residential areas is to realize public use of internal roads and make up for the shortage of traffic network density.

### B. Employment: Advocate mixed-function layout and mixed land use; create spaces for diversified innovation; provide more employment opportunities nearby; foster proper work-life balance

- Provide appropriate spaces and opportunities for employment nearby by building a reasonable land-use ratio and structure. The land used for increasing employment is suggested to account for 15-25%, mainly including non-residential land, such as commerce, business offices, and public service facilities.
- The workspace should be built within a radius of 200-300 meters from the public

transit station or the public activity center.

- Developing embedded innovation spaces and providing low-cost office spaces for micro- and small-enterprises are encouraged.
- Promote building composite utilization is highly recommended.



Diagram of employment space layout  
Photo Source: <http://up.caup.net/file/life-circle.pdf>

### C. Transport: Build a people-oriented road system that is conducive to micro-circulation; increase the proportion and improve the quality of non-motorized traffic (NMT); establish a convenient and comfortable pedestrian network; establish a multiple-layer public transportation system

- Build a complete pedestrian network that relies on the high-density road network system
  - Density requirements for pedestrian networks. The Guidance suggests that the density of pedestrian networks within 300m from rail transit stations should be 14km/km<sup>2</sup> or above, while the intersection spacing should reach 80-120m. The density of pedestrian networks in general areas should be no less than 10km/km<sup>2</sup>, and the intersection spacing should be 100-180m.
  - Coverage of public transit stations. Within a radius of 300m from residential communities inside the inner ring should be fully covered by rail transit stations and other public transportation services. Within a radius of 500m from residential communities in the areas between inner and outer ring, New City areas, and New Town areas should be fully covered by rail transit and other public transportation services.

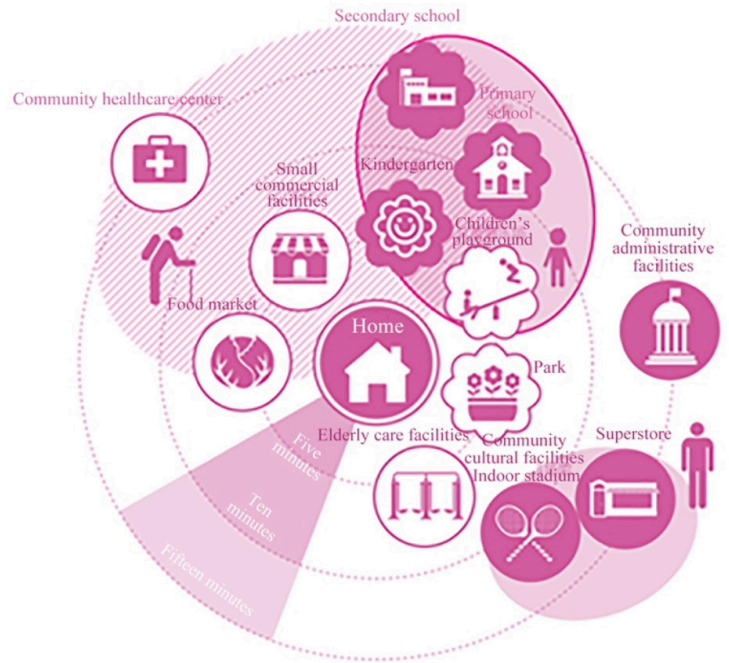


- Transfer requirements between various transportation modes around rail transit stations. The Guidance encourages to set up ground public transport interchange stations (recommended distance between stations: within 50m), parking lots/garages, bicycle storage areas, and taxi ranks within 150m around rail transit stations.

- Mixed land around rail transit stations. The core area of rail transit stations (within a service range of 300-500m) is mainly equipped with commercial functions, public services, residential functions, and other functions. Providing public green spaces, small squares, etc. through flexible space use in various forms, controlling the use of large-scale land with a single function, and stimulating the vitality of spaces around rail transit stations are encouraged.

- The layout of facilities around rail transit stations. Try to build the core areas of rail transit stations (within a service range of 300-500m) into the priority areas where community-level public service facilities are emplacing. Encourage to set bus stops near public facilities (hospitals, schools, parks, etc.) and along the roads for better connectivity.

**D. Service: Construct an efficient and complex spatial layout that facilities are within walking distance to realize an effective alignment between the characteristics of residents' walking habits and the frequency of facility use.**



**Facility type**

- Common facilities for children
- ⊖ Common facilities for children and senior citizen
- Common facilities for senior citizens
- Common facilities for office workers

**Service coverage of facilities**




-  Daily facilities circle for senior citizens aged at 60-65: taking the food market as the core to lay out near green land, small commercial facilities, schools and training institutions
-  Daily facilities circle for children: taking various schools as the core to be closely connected with children's playground and training institutions
-  Weekend facilities circle for office workers: form the cultural, entertainment and shopping center of the community with cultural, sports, supermarkets and other facilities, and guide office workers to the community at weekends

Diagram of community facility circle layout  
Photo Source: <http://up.caup.net/file/life-circle.pdf>



### 3. Pilot Case: Jiuliting Subdistrict, Shanghai, China

In 2019, Shanghai carried out the pilot for community regeneration within a 15-minute community life circle in 15 streets. Each pilot has different themes. Among them, the southwestern area of Jiuliting Subdistrict, Songjiang District, Shanghai, focuses on utilizing the rail transit to transform the original community into a TOD community with complete facilities.



Scope of Jiuliting Subdistrict, Songjiang District



Jiuting Station on Shanghai Metro Line 9

Location map of the project

#### A. Current problems

Close to Minhang District, Jiuliting Subdistrict is a highly dense resettlement community with a large and diverse population of permanent residents. The ratio of tenants in this area accounts for 70%

1. In the preliminary planning, residential land occupation is relatively high, resulting in a high density of construction and population in later years, which led to insufficient supply of jobs

2. The land surrounding rail transit stations are not mix used.



Landscape map of Jiuliting Subdistrict, Songjiang District, Shanghai  
Photo Source: <http://baijiahao.baidu.com/s?id=1626431224479305426>



3. The density of the road network system in this subdistrict is low. Most of the roads are dead-end roads or with weak secondary systems. The separation of vehicles and pedestrians is not clear, which results in traffic congestion and other underlying safety problems.

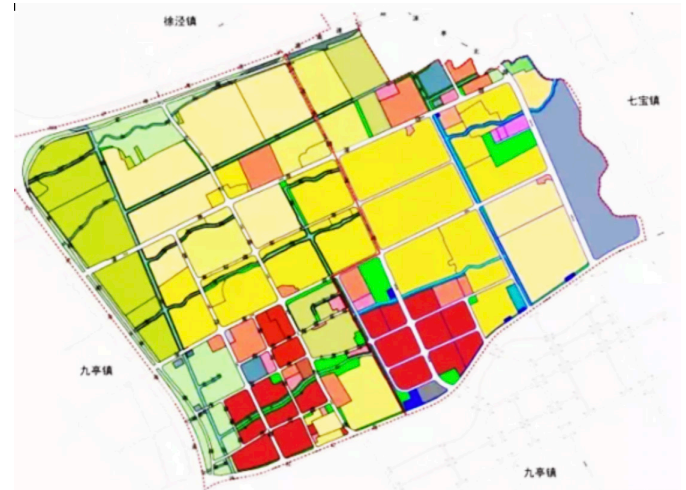
4. Culture, healthcare, sports, green leisure space, and other public services and facilities are lacking.

## B. Community regeneration initiatives and effects

1. Adjust land planning and use based on needs and improve the degree of mixing: According to recent adjustments to [the Land and Space Master Plan of Jiuting New Town \(including Jiuliting Subdistrict\) in Songjiang District \(2017-2035\)](#), some of the business and commercial lands in the original plan will be adjusted for public facilities and green land-based on actual demands. The adjustment also fulfills the requirements for the construction of a 15-minute community-life circle, to address the shortage of public services and facilities.

2. Increase the development intensity and types of facilities around rail transit stations in line with TOD concepts: Add new commercial office land within 500m around the north of Jiuting Metro Station, and later make these business and commercial facilities into the Commercial and Public Service Center for North Jiuting; According to the original approved regulatory plan, the public transportation hub and the public open space around Metro Exit 4 will be improved. Relevant departments will continue to study and improve the direct connection between the metro station and the surrounding commercial office land in the subsequent planning.

3. Systematically enhance the connectivity of public transportation: Externally, introduce Rail Transit Lines 12 and 25 into the Jiuting



Original regulatory plan

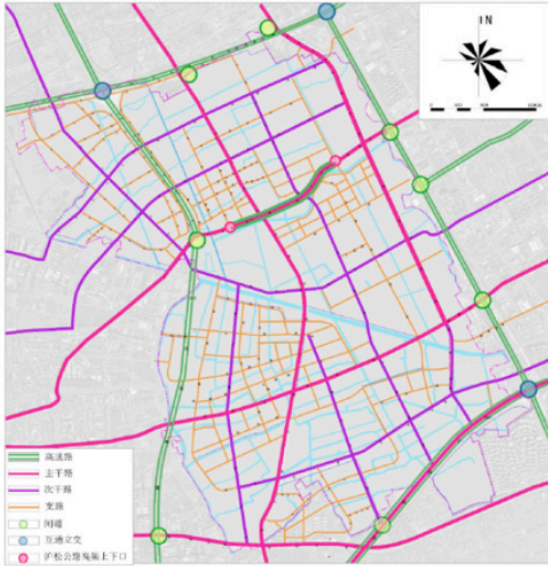


Adjusted regulatory plan

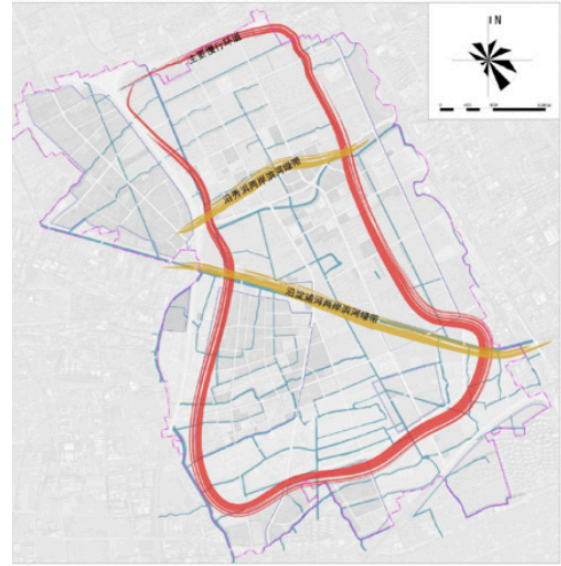
Photo Source: [Public Participation Draft of Land and Space Master Plan of Jiuting New Town \(including Jiuliting Subdistrict\) in Songjiang District \(2017-2035\)](#)

area and set up stations, while connecting Tram Lines T6 and T7 in Songjiang District to stations on Rail Transit Lines 9, 12, and 25. Maximizing the connectivity between the Jiuliting community and surrounding areas will facilitate residents' contact with the downtown and Songjiang District. Internally, the NMT system will be set up to build a complete pedestrian network.

4. Increase pedestrian-friendly public green space: Once [Juliting Park](#) is built, the green space per capita will increase from the current 3.5 m<sup>2</sup>/person to 7 m<sup>2</sup>/person. It is also to create a livable community.

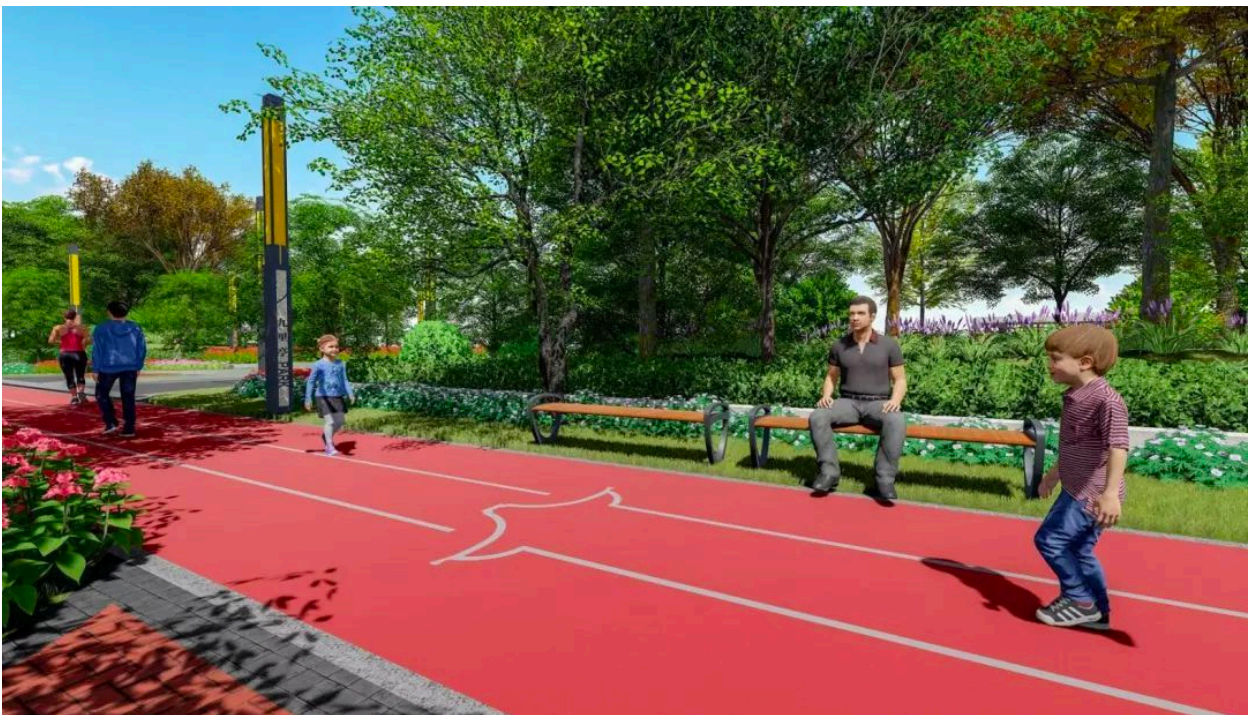


Planning map of transportation systems



Planning map of transportation systems

Photo Source: [Public Participation Draft of Land and Space Master Plan of Jiuting New Town \(including Jiuliting Subdistrict\) in Songjiang District \(2017-2035\)](#)



Schematic diagram of Jiuliting Park

Photo Source: [https://www.sohu.com/a/289260610\\_695857](https://www.sohu.com/a/289260610_695857)

### C. Project evaluation

In China, communities with population densities that do not match transportation and public service facilities are very common. It is a long-term process to identify and sort out local needs. To solve problems of spatial structure, land layout, and plot indicators by

adjusting the regulatory plan requires a large number of research and negotiation among various stakeholders. For similar built areas that still have development needs, we can improve the community functions and realize effective redevelopment and renewal by





making good use of the development opportunities brought by the growth of new rail transits. The layout ratio of residential, commercial, public welfare services, and other facilities within communities or subdistricts can be readjusted through changing land use and giving FAR rewards. TOD principles have provided ideas and a foothold for community renewal.

## “Future Community” Practices, Zhejiang Province, China

### Background:

The exploration of the future development of cities never stops. Community, as the basic unit of the city, could be one of the footholds of it. Innovative attempts on sustainable and inclusive future communities are flourishing worldwide. Sidewalk Labs' Quayside Community Project in Toronto, Canada, was a pioneer pilot among them.

In China, “Future Community” was included in the Action Plan for the Construction of the Greater Bay Area of Zhejiang Province in 2018. Since the release of Zhejiang Province Future Community Construction Pilot Work Plan in 2019, the first batch of pilot work has been launched. At the same time, with the new round of technological industry innovation, the connotation of the future community continues to iterate and innovate. The Work Plan clearly defines "future neighborhood," "future education," "future health," "future entrepreneurship," "future building," and "future transportation," "future low-carbon," "future service," and "future governance." Nine scenarios to practice diversified exploration of the future community model.



Development time of “future community” in Zhejiang Province

Photo Source: <https://www.joneslanglasalle.com.cn/zh/trends-and-insights/investor/future-of-community-and-urban-regeneration>

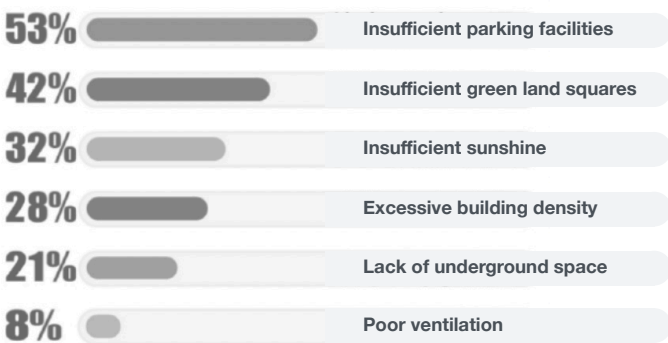


## How to consider the scope of the pilot?

The implementation of the future community in Zhejiang Province is set in the background of urban regeneration. Old communities have priority during the pilot selection process. According to the first batch selected pilot communities, 21 (out of 24 communities in total) are old communities. Besides, communities have potential for TOD are also prioritized.

1.From the perspective of project types: For renovation projects, the old communities built between the 1970s and 1990s are the primary targets. For new projects, the sites around high-speed rails, rail transit stations, and the areas with high agglomeration potential are prioritized.

2.From the perspective of project stages: At the initial stage of the project, blocks with access to public transportations and the grounds have the potential to develop above-ground and underground spaces are prioritized.

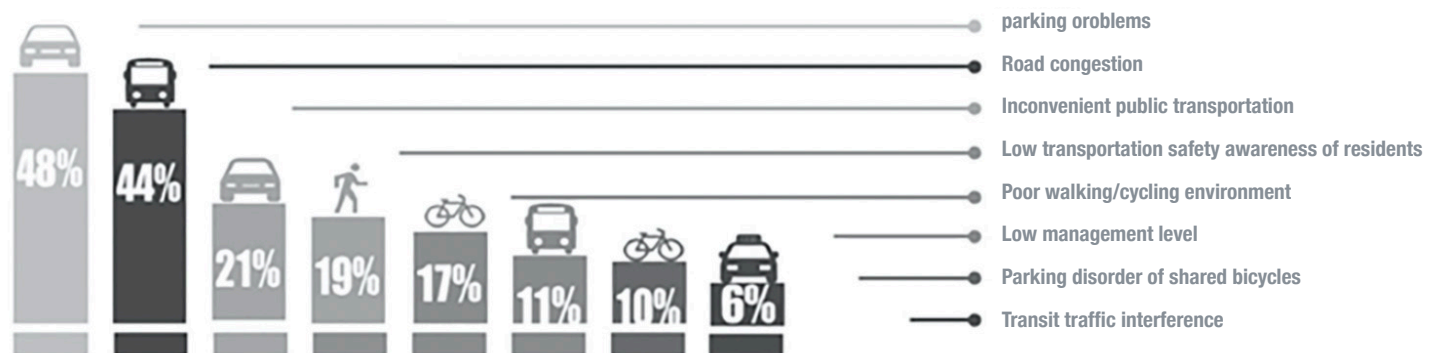


Current problems of community space layout

## What are the needs of community residents?

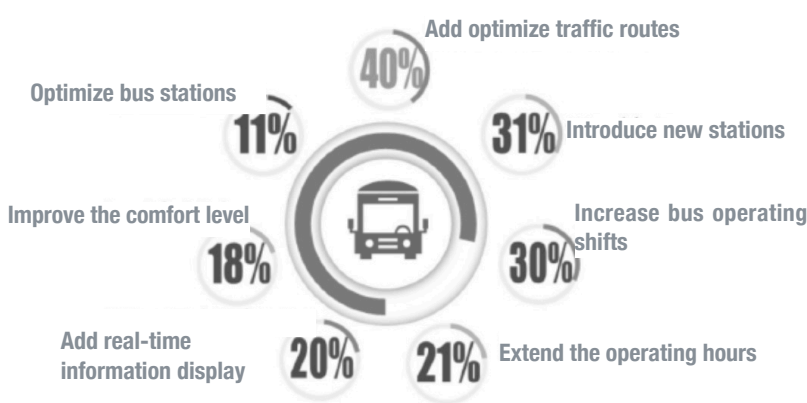
According to the "Future Community Questionnaire Survey on Pilots in Zhejiang Province" organized by the Zhejiang Provincial Future Community Research Group in November 2018, the results of the survey report show that community residents in Zhejiang Province have four major life needs: community renovation, transportation improvement, smarter living and improvement of old facilities. Besides, there are four major problems emerging, insufficient use of space in communities, the relatively lagging service level of public facilities, low quality of community's ecological environment, and lack of interactive communication in the neighborhood. In light of this, suggestions are hereby put forward.

From the perspectives of demand: According to the survey result of the current status of community transportation, parking, road congestion, and convenient public transportation are the key concerns. Regarding existing public transport modes, 40% of the residents want to add or optimize bus routes; 31% of the residents want to add stations and new transportation modes; 47% of the residents want to add smart parking system and 31% of the residents want to promote shared and add parking spaces.

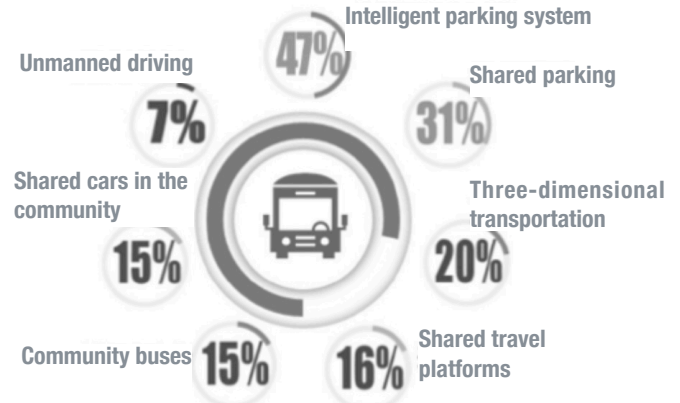


Current problems of community transportation

Photo Source: [Analysis report on the questionnaire survey of the future community in Zhejiang Province](#)



Public transportation improves the demand distribution



Demand distribution of new transportation modes

Photo Source: [Analysis report on the questionnaire survey of the future community in Zhejiang Province](#)

## How to incorporate TOD principles in the future community pilot projects?

In the whole process of implementing [future community pilot](#) project, various stakeholders should follow TOD principles consistently from the preparation, review of the plan, review of the implementation plan, etc.

1. Guide the setting of infrastructure facilities through thoughtful transportation planning: Community public services and infrastructure facilities are improved following the requirements of "5-10-30-minute travel circle."

2. Guide space development in line with TOD principles: Effectively develop a well-proportioned community space following TOD principles, revitalize and use urban stock land; The technical planning indicators should be determined scientifically and rationally, such as plot FAR and building height limit; intensive and efficient use of space is promoted.

3. Encourage efficient utilization of space through the flexible calculation of FARs and comprehensive three-dimensional development above and below the ground: Support pilot projects to reasonably determine non-charging FARs for safe passages of

disaster prevention, overhead space, and public open space.

4. Liquidize remnant resources through compositing multiple land uses: Include the eligible pilot projects for efficient and mixed land utilization into the management of the land stock activation linkage mechanism and introduce new construction land planning indicators based on the prescribed ratio.

5. Take capital balance and housing affordability into full consideration through market-oriented operations: Follow the requirements of system design and de-real estate and keep the overall balance of community constructions and operation funds. For renewal and transformation projects, rationally calculate the FAR of renovated plots, moderately increase the intensity of mixed-use development, ensure the balance of funds input at the construction stage and the operation stage, and put a reasonable price limit on rental and sale; for new projects in the planning. Choosing the design and consulting units through the invitation to bid should be allowed; Bid evaluation and determination of winners should be separated by law. The "transfer open land with schemes" model should also be adopted. The cost of land use should be moderately reduced, and the overall supporting level should be improved.



## How to evaluate the application of TOD principles in a project?

### Evaluation indicators of future community (by scenario): TOD perspectives

The evaluation indicator system is divided into nine scenarios, with a total of 33 indicators. In scenarios of “future building” and “future transportation,” the constraint and guidance indicators for intensive development of space, building public spaces, transportations, intelligent shared parking, and non-motorized traffic in the community all embody the TOD principles in specific terms (shown in **red in the table** below).

Level 1 indicators	Level 2 indicators	Level 3 indicators	Indicator contents
Future building scenario	Application of CIM digital construction platform	Constraints	Establish a unified digital information platform for communities that allows the full life-cycle intelligent management of community planning and design, construction, and operation.
		Guidance	Promote the application of CIM platforms in joint development and construction of urban areas.
	Intensive development of space	Constraints	Cascade distribution of TOD intensities, well-proportioned spatial layout, complex functions, comprehensive utilization of above ground and underground spaces, connection the intensive planning, layout, and construction of underground pipeline corridors, and basic balance in fund input.
		Guidance	Realize the seamless connection between public service facilities and traffic stations; carry out the development and construction of underground spaces comprehensively.
	unique styles of buildings	Constraints	Create a three-dimensional multi-level greening system through the combination of ground, platform and roof, and vertical greening; configure sky garden balconies according to uniformity requirements.
		Guidance	Establish a complete style control system based on local style base and urban texture; create cultural landmark buildings in communities (including structures).
	Integration of prefabricated building and decoration	Constraints	Use prefabricated buildings (including interiors), with the assembly rate reaching local advanced level; use green building materials; integrate buildings' construction with decorations; use standardized design; provide customized services such as a combination of modular houses and menu-style personalized decorations.
		Guidance	Follow the full coverage requirements of green buildings; for affordable housing, follow the requirements of one-star or above green building certification; for other residential and public buildings, follow the requirements of two-star or above green building certification; the application ratio of green building materials for individual buildings should be no less than 30%.
	Building public space and area	Constraints	Build a comprehensive community neighborhood center; set the neighborhood shared space in a disperse way; for projects of new construction and reconstruction after full demolition, create an open shared space through the overhead open space on the ground flo or of the building and other forms.
		Guidance	Calculate the floor area for real use; promote the flexible and variable building space model.



Level 1 indicators	Level 2 indicators	Level 3 indicators	Indicator contents
Future transportation scenario	Transportation	Constraints	10-minute walking distance to the bus stop from the house; for projects of new construction and reconstruction after full demolition, build communities with “small blocks and dense road networks,” with intersection spacing no more than 300m; open up roads inside and outside the community to facilitate the travel of residents.
		Guidance	Enable access to community road networks and space from all branches; set non-motorized traffic transfer facilities in all external bus stations outside of the community; establish a traffic information publishing system and platform; provide customized public transportation and other personalized travel services.
	Intelligent shared parking	Constraints	Establish an intelligent parking system with parking space management, parking guidance, and other functions; improve the utilization of parking space through shared parking and achieve the goal of pickup and parking within five minutes.
		Guidance	Apply Automated Guided Vehicles (AGVs) and other intelligent parking technologies.
	Power supply guarantee and interface reservation	Constraints	Parking spaces should reserve spaces for the installation of battery charging station equipment.
		Guidance	Encourage using the “floral arranging” method to renovate and construct charging stations at parking spaces; vehicle-road cooperative constructions should be considered, such as self-driving and intelligent traffic operation.
	NMT system in the community	Constraints	Separate vehicles and pedestrians by using enclosed space management within the community.
		Guidance	Increase the density of NMT network in the community to more than 14 km./sq.km.; configure community wind and rain corridors, etc.
	Logistics and distribution service	Constraints	Set intelligent logistics facilities, such as intelligent delivery lockers, and logistics service integration platforms; realize 30-minute parcel delivery from the community to the household; configure logistics collection, distribution, sorting, and open space.
		Guidance	Use an intelligent distribution model, such as a terminal distribution robot.

See the [Evaluation Indicator System for Creation of Future Community Pilots in Zhejiang Province \(Trial\)](#) for details.

## Upcoming Related TOD Events

- The 13th Annual City-rail Summit, June 22-23, 2020, Shenzhen, China. ([Link](#))
- GEF-SCIAP Project TOD Series Online Lectures
- Exploration of Regional Transportation Integration and High-quality Operations of 2020 China International Railway Conference for Urban & Intercity Transit (CIRC2020), September 2-3, 2020, Shanghai, China. ([Link](#))



## Report Sharing

### Chinese Cities Quality Development TOD Index Report



(password: Inws)

### TOD Urban Analysis Report



(password: 8l6i)

## References:

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- [5] Resilient city: Confronted with the COVID 19, the architects have their suggestions on public space and emergency management. [link](#)
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- [12] Master Plan and Overall Plan for Land Utilization of Songjiang District, Shanghai (2017-2035). [link](#)
- [13] Public Participation Draft of Land and Space Master Plan of Jiuting New Town (including Jiuliting Subdistrict) in Songjiang District (2017-2035). [link](#)
- [14] Suggestions of the Planning and Natural Resources Bureau of Songjiang District on Handling the Public Comments on Land and Space Master Plan of Jiuting New Town (including Jiuliting Subdistrict) in Songjiang District (2017-2035). [link](#)
- [15] Partial Adjustments to the Regulatory Plan on No. 14, 17 and 23 Neighborhoods of SJP0-0102 Units, Jiuliting Subdistrict, Songjiang District, Shanghai (Implementation Development). [link](#)
- [16] Announcement on the Planning and Design Scheme for Construction of the "Jiuliting Park Project." [link](#)

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