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Report No: ICR00006360

IMPLEMENTATION COMPLETION AND RESULTS REPORT

< TFOA4213 >

ON A

GRANT

IN THE AMOUNT OF US\$32,727,523

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR THE

GEF China Sustainable Cities Integrated Approach Pilot

December 21 , 2023

Urban, Resilience and Land Global Practice  
East Asia And Pacific Region

## CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2023)

Currency unit = Chinese yuan (CNY)

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US\$1 = CNY 7.1305

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CNY1 = US\$ 0.1402

FISCAL YEAR

July 1 – June 30

Regional Vice President: **Manuela V. Ferro**

Country Director: **Mara Warwick**

Regional Director: **Anna Wellenstein**

Practice Manager: **Yoonhee Kim**

Task Team Leader(s): **Wenyan Dong**

ICR Main Contributor(s): **Xiaona Liang, Valerie-Joy Santos**

## ABBREVIATIONS AND ACRONYMS

ADM	Accountability and Decision Making
BJTU	Beijing Jiaotong University
BOT	Build-Operate-Transfer
CAUPD	China Academy of Urban Planning and Design
CCDR	Country Climate and Development Report
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
EA	Environmental Assessment
EMF	Environmental Management Framework
ESA	Environmental and Social Assessment
FYP	Five-Year Plan
GEF	Global Environment Facility
GHG	Greenhouse Gas
GPSC	Global Platform for Sustainable Cities
ICR	Implementation Completion and Results Report
ISR	Implementation Status and Results Report
M&E	Monitoring and Evaluation
MoHURD	Ministry of Housing and Urban-Rural Development
PAD	Project Appraisal Document
PDO	Project Development Objective
PLG	Project Leading Group
PMO	Project Management Office
POI	Point of Interest
PPP	Public-Private Partnership
RF	Results Framework
R+P	Railway Plus Property
SCIAP	Sustainable Cities Integrated Approach Pilot
SMF	Social Management Framework
TA	Technical Assistance
TDLC	Tokyo Development Learning Center
TOD	Transit-Oriented Development
TOR	Terms of Reference
TOT	Transfer-Operate-Transfer
TTL	Task Team Leader

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**DATA SHEET**

**BASIC INFORMATION**

**Product Information**

Project ID	Project Name
P156507	GEF China Sustainable Cities Integrated Approach Pilot
Country	Financing Instrument
China	Investment Project Financing
Original EA Category	Revised EA Category
Partial Assessment (B)	

**Organizations**

Borrower	Implementing Agency
Ministry of Finance	Beijing Project Management Office in Beijing Housing and Urban Rural Development Commission, Guiyang Project Management Office in Guiyang Transport Bureau, Ministry of Housing and Urban Rural Development, Nanchang Project Management Office in Nanchang Development and Reform Commission, Ningbo Project Management Office in Ningbo Housing and Urban-Rural Development Bureau, Shenzhen Project Management Office in Shenzhen Development and Reform Commission, Shijiazhuang Project Management Office in Shijiazhuang Development and Reform Commission, World Bank Financed Project Office of Tianjin Urban and Rural Construction Commission



**Project Development Objective (PDO)**

Original PDO

Participating cities to incorporate transit-oriented development principles in their policies and into future urban and transit plans.

**FINANCING**

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
<b>World Bank Financing</b>			
TF-A4213	32,727,523	32,727,523	30,332,767
<b>Total</b>	<b>32,727,523</b>	<b>32,727,523</b>	<b>30,332,767</b>
<b>Non-World Bank Financing</b>			
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Project Cost</b>	<b>32,727,523</b>	<b>32,727,523</b>	<b>30,332,767</b>

**KEY DATES**

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
27-Jul-2017	13-Dec-2017	17-Aug-2020	31-Mar-2023	31-Mar-2023

**RESTRUCTURING AND/OR ADDITIONAL FINANCING**

Date(s)	Amount Disbursed (US\$M)	Key Revisions

**KEY RATINGS**

Outcome	Bank Performance	M&E Quality
Highly Satisfactory	Highly Satisfactory	High



**RATINGS OF PROJECT PERFORMANCE IN ISRs**

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	24-Nov-2017	Satisfactory	Satisfactory	0
02	25-May-2018	Satisfactory	Satisfactory	.26
03	07-Dec-2018	Satisfactory	Satisfactory	1.14
04	19-Jun-2019	Satisfactory	Satisfactory	3.28
05	26-Dec-2019	Satisfactory	Satisfactory	3.87
06	11-Jun-2020	Satisfactory	Satisfactory	4.00
07	18-Dec-2020	Satisfactory	Satisfactory	7.00
08	21-Jun-2021	Satisfactory	Satisfactory	9.80
09	29-Dec-2021	Highly Satisfactory	Satisfactory	15.27
10	26-Jun-2022	Highly Satisfactory	Highly Satisfactory	18.84
11	31-Dec-2022	Highly Satisfactory	Highly Satisfactory	24.99

**SECTORS AND THEMES**

**Sectors**

Major Sector/Sector (%)

**Transportation 100**

Public Administration - Transportation 100

**Themes**

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)

**Urban and Rural Development 100**

Urban Development 100

Urban Infrastructure and Service Delivery 100

Public Transport 94



<b>Environment and Natural Resource Management</b>	<b>100</b>
Climate change	100
Mitigation	100

**ADM STAFF**

Role	At Approval	At ICR
Vice President:	Victoria Kwakwa	Manuela V. Ferro
Country Director:	Bert Hofman	Mara K. Warwick
Director:	Ede Jorge Ijjasz-Vasquez	Anna Wellenstein
Practice Manager/Manager:	Abhas Kumar Jha	Yoonhee Kim
Project Team Leader:	Joanna Mclean Masic, Wanli Fang, Yuan Xiao	Wenyan Dong
ICR Co Author:		Xiaona Liang



## I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

### A. CONTEXT AT APPRAISAL

#### Context

1. **Country context.** In the years leading up to project appraisal, China had been undergoing an unprecedented wave of urbanization. From 2000 to 2010, a staggering 200 million people migrated to urban areas. By 2014, 750 million individuals, constituting 57 percent of the total population, resided in cities across the nation. Throughout this period, approximately 22,400 square kilometers of new urban land had been incorporated, leading to a reduction of more than 25 percent<sup>1</sup> in the average population density within Chinese cities.
2. To accommodate its increasingly urbanized population, the government relied on rural-to-urban land conversion, land sales, and speculative real estate investments, resulting in a sprawling and fragmented urban landscape. Furthermore, the central government's urban planning standards favored the development of large, single-purpose, enclosed superblocks spanning 400 meters side length or more. These planning standards promoted car travel and made walking and biking difficult, placing additional strain on utilities. The resulting urban sprawl contributed to a growing social disconnect between residents, their employment opportunities, and sense of community—diminishing the overall quality of life in Chinese cities.
3. **Sectoral context.** Accommodating further urban growth without sprawl and in the process creating more sustainable, healthy, and vibrant living environments within cities would require fundamental changes. Compact development—efficient land use with multimodal transit networks encouraging a shift to public and nonmotorized transport—was the key tool for preventing sprawl and building a better and more sustainable quality of urban life. Therefore, transit-oriented development (TOD) emerged as one of the most effective strategies for reversing sprawling, automobile-dependent urban expansion. TOD principles could be applied at multiple scales: regions, cities, districts, transit corridors, and station areas.<sup>2</sup>
4. Cities in China attempted to deal with urban sprawl by investing heavily in urban rail transit.<sup>3</sup> By the end of 2015, 26 cities had urban rail systems in operation, with 116 lines completed. In 41 cities, construction was underway for about 4,500 kilometers of additional rail lines and approximately 2,700 additional stations.<sup>4</sup> However, the flaw in these plans was the absence of a corresponding development of new, compact urban centers that would be connected by the rail lines. The rail approach to transit also suffered from poor development of other connecting transit modes and inadequate processes for operation and maintenance.
5. **Government strategies.** To promote the integration of urban land use and transport planning and create incentives for higher use of public and other nonmotorized transport, governments at central and city levels issued multiple guidelines. In 2003, the State Council issued a notice requiring cities to create dedicated land

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<sup>1</sup> World Bank and Development Research Center of the State Council, 2014, *Urban China: Towards Effective, Inclusive and Sustainable Urbanization*.

<sup>2</sup> World Bank, 2013, *Transforming Cities with Transit: Transit and Land-Use Integration for Sustainable Urban Development*.

<sup>3</sup> Urban rail includes metro, light rail, monorail, and tram.

<sup>4</sup> China Association of Metros, 2015, *Annual Report of China Association of Metros*.



administration plans during rail transit planning.<sup>5</sup> In 2015, the Ministry of Housing and Urban-Rural Development (MoHURD) issued guidelines regarding land use planning and construction along urban rail corridors, essentially a preliminary TOD guideline from an urban planning perspective.<sup>6</sup> Larger cities led the way for secondary cities to pilot approaches for integrating urban development and transit. There was a clear demand for sharing transferable lessons that could enhance national policies and guidelines.

6. **GEF China Sustainable Cities Integrated Approach Pilot (“the project”).** Recognizing that cities are key to achieving global environmental and sustainability goals, the Global Environment Facility (GEF) launched the Sustainable Cities Integrated Approach Pilot (SCIAP) in 2016 as part of the GEF-6 funding cycle (2014–18). The GEF-6 SCIAP program supported 28 cities in 11 countries with integrated urban sustainability solutions. The project constituted the China component of the GEF-6 SCIAP program and included seven cities: Beijing, Tianjin, Shijiazhuang, Ningbo, Nanchang, Guiyang, and Shenzhen. The project contributed to SCIAP’s goal to promote sustainable urban development through integrated models of urban design, planning, and implementation.
7. Before the project launch, the urban rail approach taken in China’s seven participating cities faced the same challenges as it did elsewhere in China: a lack of specific integration requirements in urban plans, delayed transit development, and insufficient policies that support comprehensive planning for sustainability. For example, Shenzhen, despite being an early adopter of TOD, faced difficulties due to land shortages and population surges. Guiyang, located in the underdeveloped western region, needed policy and planning guidelines to leverage its expanding rail transit for economic growth. The advent of the project was an opportunity for the seven participating cities to improve their planning policies in integrating rail transit systems and urban land use. The experiences and lessons drawing from the project could benefit more cities across the nation.
8. **Rationale for World Bank support.** The project built on previous efforts by the World Bank and the GEF to promote sustainable urban development in China and address climate change. Relevant projects in China include Shijiazhuang Urban Transport Project (P056596); GEF Sino-Singapore Tianjin Eco-City (P098915); China GEF City Cluster Eco-Transport Project (P121263); Ningbo Sustainable Urbanization Project (P149485) and Developing Low-carbon Strategy for Shenzhen (P150222).
9. **The project also contributed to the higher-level objectives** embodied in the World Bank–China Country Partnership Strategy (CPS), 2013–16 (Report No. 67566-CN). In particular, the project advanced the following elements of the strategy’s Strategic Theme 1: “Supporting Greener Growth”:
  - Outcome 1.2— “Enhancing Urban Environmental Services”: by piloting cutting-edge technologies to address environmental challenges in large cities and serve as models for cities in China and the world.
  - Outcome 1.3— “Promoting Low-Carbon Urban Transport”: through piloting institutional and technological innovations that had potential for scale-up in cities throughout China, such as public transport integration and transit-oriented development.
  - Outcome 1.7— “Strengthening Institutional and Financial Mechanisms for Climate Change”: by improving knowledge on the economics of climate change through technical assistance (TA) and analyses such as examining the costs and benefits of climate-adaptation strategies.

<sup>5</sup> State Council, 2003, *Notice on Strengthening Administration of Urban Rapid Transit Development*.

<sup>6</sup> MoHURD, 2015, *Guide on Planning and Design of Areas along Urban Rail Transit*.



10. The project was also aligned with the following strategic documents:

- China's National New Urbanization Plan, which defined intensive and compact models with higher density mixed uses as one of the development objectives.<sup>7</sup>
- The 2014 report, *Urban China: Toward Efficient, Inclusive, and Sustainable Cities*, produced by the World Bank and the State Council's Development Research Center, which set out a reform agenda for urban planning and better coordination of land use planning with transport infrastructure.
- The 2016 World Bank *Climate Action Plan*, which laid out the Bank's efforts to support country action plans submitted at COP21 in Paris.

### Theory of Change (Results Chain)

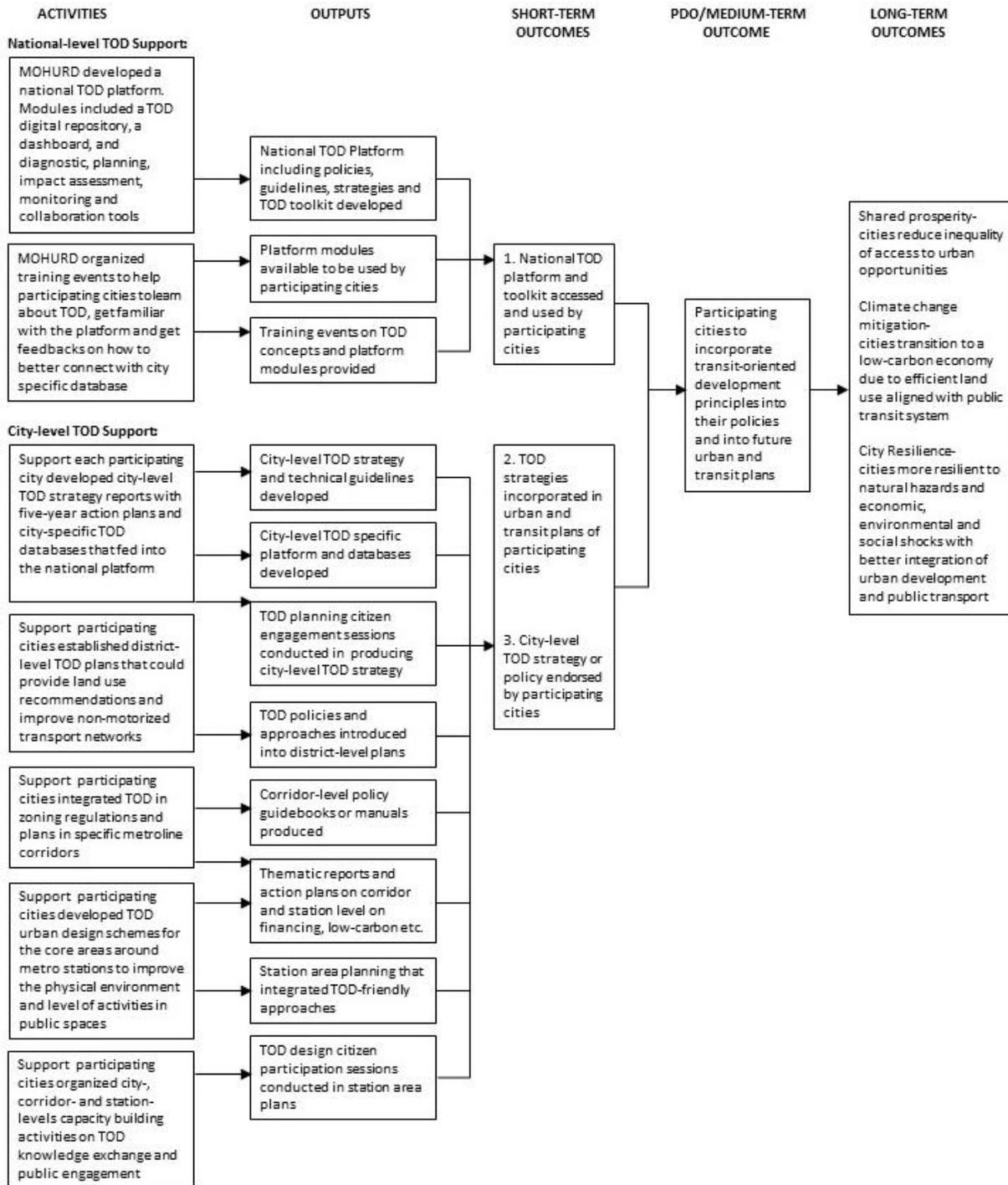
11. The project financed only TA activities and no construction activity was involved. The seven participating cities<sup>8</sup> were to incorporate TOD principles into their policies and future urban and transit plans. This objective was to be achieved by supporting activities that aimed to integrate land use and transport planning at multiple scales, considering the unique context of urban transit and development in each city. The National TOD Platform would enable cities to get TOD information services from the platform's Digital Repository and Dashboard modules and get evaluation services from the Monitoring, Diagnosis, Planning, and Impact Assessment modules. Within the six modules, the Diagnosis module is most important, as it could provide cities with a multidimensional assessment and analysis of the relationship between their urban rail development and their urban space—the very core of the TOD concept.
12. In the seven participating cities, TOD strategies would be developed at three scales—city, district/corridor, and transit station to integrate TOD principles into land use and public transport policies and create urban forms that could reduce the need for private motorized vehicles. These applications of TOD at different levels would encourage broader considerations of economic, social, and environmental issues such as urban regeneration, rail transit financing, public engagement, and the reduction of greenhouse gas (GHG) emissions. To further extend the impacts of the supported activities, a diverse range of capacity building and trainings would support peer-to-peer learning. These activities would create a positive environment conducive to the adoption of TOD principles not only within the participating cities but also across various other cities in China.
13. The National TOD Platform would help the formulation of TOD strategies in participating cities. Leveraging the architecture and diagnosis tools of the National TOD Platform, each city would develop its own TOD database, which underpins the analytical work crucial for TOD strategy preparation by the cities. Once the platform has aggregated the outputs of participating cities and compiled indicators for monitoring, evaluating, and benchmarking, in the long term, the platform would serve to coordinate among cities at the national level and assist in refining national policies and guidelines to achieve more impactful outcomes in China.
14. A Theory of Change was not prepared at project appraisal. The project's Theory of Change (figure 1) was developed on the basis of the activities and outcomes in the GEF-6 China TOD Project Appraisal Document (PAD), Report No. PAD1801.

<sup>7</sup> State Council, 2003, *New Urbanization Plan (2014–2020)*.

<sup>8</sup> The seven participating cities include Beijing, Tianjin, Shijiazhuang, Ningbo, Nanchang, Guiyang and Shenzhen.



Figure1: Theory of Change for the GEF-6 China TOD Project



Critical assumptions at the city level:

- (1) Adequate government policies and regulations to support the application of TOD guidelines
- (2) Adequate financial support and implementing capacity



### Project Development Objectives (PDOs)

- 15. The PDO, as articulated in the Grant Agreement (Grant No. TF0A4213), was for participating cities to incorporate transit-oriented development principles in their policies and into future urban and transit plans. MoHURD and seven cities – representing the diverse characteristics of cities in China in terms of population, development stage, and administrative status – implemented the project.

### Key Expected Outcome and Outcome Indicators

- 16. The project’s outcome and PDO indicators and targets are presented in table 1.

**Table 1: Project Outcome and PDO Indicators and Targets**

Project Outcome	PDO-Level Indicators	End Target
For participating cities to incorporate transit-oriented development principles in their policies and into future urban and transit plans	Number of cities incorporating TOD strategies in urban and transit plans	3
	Number of cities endorsing city-level TOD strategy or policy	4
	Number of cities using the TOD diagnostic tool	4

### Components

- 17. **Component 1: National TOD Platform, Toolkit, and Policy Support (Original cost: US\$1,927,523; Actual Costs: US\$1,697,642).** This component financed three subcomponents: (1) National TOD Platform, toolkit, and policy support; (2) capacity building to support partnerships at the local, national, and global levels, through training courses, peer-to-peer learning and global coordination based on annual work plans; and (3) costs associated with the operation of the project management office (PMO) in MoHURD and related project management, reporting, monitoring and evaluation. The National TOD Platform is a website integrating a variety of application systems, data resources, and internet resources with a unified user interface that can access both local and national data and analytical tools. It included a comprehensive toolkit to help cities diagnose readiness for TOD, develop contextualized TOD strategies, improve zoning and urban design in selected areas, and evaluate the impacts of policy and investment intervention associated with TOD. Six modules were developed under the platform, including: TOD Digital Repository, Dashboard, Diagnosis, Planning, Impact Assessment, and Monitoring.
- 18. **Component 2: City TOD Technical Support and TOD Application (Original cost: US\$30,800,000; Actual Costs: US\$28,635,089).** This component financed participating cities in developing strategies and plans to improve integration of land use and public transport planning, create urban forms and space that reduce the need for private motorized vehicles and increase transport, energy and land use efficiencies. In each city, TA for applying TOD approaches at different scales, capacity building, and project management was supported. There were six subcomponents: (1) city TOD strategy for each of the seven cities, (2) district-level application of TOD, which provided recommendations on land use and improved nonmotorized transport networks, (3) corridor-level application of TOD, promoting TOD in zoning regulations along specific metro lines, (4) station-



level application of TOD, which developed TOD urban design schemes for the core areas around metro stations to improve the physical environment in public spaces, (5) capacity building, and (6) project management and monitoring and evaluation.

19. The analytical activities undertaken by the seven participating cities varied, primarily because of the distinctive local needs of each city and the varying amounts allocated in grants (table 2).

**Table 2: Actual Activities of Application of TOD approach at different scales in seven participating cities**

Activities	Beijing	Tianjin	Shijiazhuang	Ningbo	Nanchang	Guiyang	Shenzhen
City TOD strategy	✓	✓	✓	✓	✓	✓	✓
District-level TOD strategy	✓			✓			
Corridor-level TOD strategy	✓	✓	✓		✓	✓	
Station-level TOD strategy	✓	✓	✓	✓	✓	✓	✓
Capacity building	✓	✓	✓	✓	✓	✓	✓
Project management	✓	✓	✓	✓	✓	✓	✓

**B. SIGNIFICANT CHANGES DURING IMPLEMENTATION**

**Revised PDOs and Outcome Targets**

20. The PDO was not revised.

**Revised PDO Indicators**

21. The indicators were not revised.

**Revised Components**

22. The components and subcomponents were not revised.

**Other Changes**

23. No other changes.

**Rationale for Changes and Their Implication on the Original Theory of Change**

24. There were no changes to the project design.



## II. OUTCOME

### A. RELEVANCE OF PDOs

#### Assessment of Relevance of PDOs and Rating

Rating: High

25. **The project has high strategic relevance to the World Bank Group Country Partnership Framework (CPF) for China for the period FY2020–25 (Report No. 117875-CN).** The PDO was highly relevant to the CPF as it directly supported one of the CPF’s five objectives under CPF Engagement Area 2: “Promoting Greener Development,” namely, Objective 2.5: “Promoting Low-Carbon Transport and Cities.” The project achieved this alignment in two ways. One was through incorporating TOD into the established planning systems at various levels within the participating cities. This has played a role in shifting the mindsets of city policymakers and planners. Such transformation is instrumental in fostering a shift toward a more sustainable and low-carbon urbanization model in the long term. The second was by promoting TOD policies, characterized by compact land use, an efficient rail transit system, and seamless integration of urban land and rail layout. These contribute to a reduction in private car usage, which, in turn, will lead to a decrease in GHG emissions originating from the transportation sector in cities in the long run.
26. **The project aligns with the recently released World Bank Group China Country Climate and Development Report (CCDR),<sup>9</sup>** which provides recommendations on integrating the country’s efforts to achieve high-quality development with the pursuit of emission reduction and climate resilience. Cities and buildings stand out as one of the five key emitting sectors emphasized by the China CCDR.<sup>10</sup> The project’s contribution to reducing carbon emissions through its promotion of public transportation and efficient land use strongly reinforces and supports CCDR’s objectives and recommendations.
27. **The project remains fully aligned with GEF’s latest Sustainable Cities Integrated Program,** the advanced version of GEF-6 SCIAP, which aims to advance integrated and systems-based approaches toward building net-zero carbon, nature-positive, inclusive, and climate-resilient cities.
28. **The project also supports China’s medium- and long-term development plans and new spatial planning system.** The project encouraged public transportation, which contributes to the main goals outlined in China’s 14<sup>th</sup> Five-Year Plan<sup>11</sup> (2021–25), committing to peaking the carbon emissions by 2030 and achieving carbon neutrality by 2060 (the “dual carbon goals”). The project objectives are consistent with China’s New Urbanization Implementation Plan (2021–25),<sup>12</sup> which prioritizes efficient land use and encourages the application of the TOD strategy. From the urban planning perspective, the project strongly supports China’s new territorial and spatial planning system.<sup>13</sup> The new planning system places a stronger emphasis on the synergy between efficient land use and sustainable green development compared to the previous system.

<sup>9</sup> World Bank Group, 2022, *China Country Climate and Development Report. CCDR Series*. Washington, DC. <http://hdl.handle.net/10986/38136>. License: CC BY-NC-ND.

<sup>10</sup> The five key emitting sectors for carbon neutrality in China CCDR are electricity and heat; industry; transport; low-carbon



**B. ACHIEVEMENT OF PDOs (EFFICACY)**

**Assessment of Achievement of Each Objective/Outcome**

- 29. The evaluation is based on the World Bank project documents and counterparts’ completion reports (annex 6).
- 30. **The achievement of the PDO is assessed using the three PDO indicators and other relevant attributable results.** All PDO indicator targets were exceeded, all intermediate results indicator targets were exceeded or achieved (table 3), and broader impacts were achieved due to the project’s interventions.

**Table 3: Achievement of PDO-level Indicators and Intermediate Results Indicators’ Target Values**

Indicator Name	End Targets	Achievement at Closing (percent)	Results
<b>PDO INDICATORS</b>			
1. Number of cities incorporating TOD strategies in urban and transit plans	3 cities	233%	7 cities
2. Number of cities endorsing city-level TOD strategy or policy	4 cities	175%	7 cities
3. Number of cities using the TOD diagnostic tool	4 cities	150%	6 cities
<b>INTERMEDIATE RESULTS INDICATORS</b>			
<b>Component 1: National TOD Platform, Toolkit, and Policy Support</b>			
1. Development of National TOD Platform (including policies, guidelines, strategies, TOD toolkit)	Yes	100%	Yes
2. Number of training modules under the Platform used by participating cities	6 modules	100%	6 modules
3. Number of person/days spent in training on TOD training modules	3000 person/day	116%	3,480 person/day
<b>Component 2: City TOD Support and Application of TOD Approaches</b>			
<i>City Level Application</i>			
4. Number of Cities with TOD strategies and related technical guidelines	6 cities	116%	7 cities
5. Number of Cities using TOD specific databases developed under the project	5 cities	140%	7 cities
6. Number of Citizen Engagement sessions conducted in TOD planning	13 sessions	369%	48 sessions
<i>District Level Application</i>			

cities and buildings; and agriculture, land use, land use change, and forestry.

<sup>11</sup> National Development and Reform Commission, 2021, *The 14th Five-Year Plan for National Economic and Social Development of the People’s Republic of China and the Outline of Long-term Vision 2035*.

<sup>12</sup> National Development and Reform Commission, 2022, *New Urbanization Implementation Plan (2021–2025)*.

<sup>13</sup> China’s new territorial and spatial planning system was established in 2019.



7. Number of Districts introducing TOD polices and approaches into their plans	3 districts	166	5 districts
<i>Corridor-Level Application</i>			
8. Number of corridor level policy guidebooks or manuals produced	3 guidebooks/ manuals	133	4 guidebooks/ manuals
<i>Station-Level Application</i>			
9. Number of cities that adopt TOD-friendly station area planning approaches	4 cities	175	7 cities
10. Number of Citizen Engagement sessions conducted in the design of station area plans	10 sessions	880	88 sessions

**PDO Indicator 1: Cities incorporating TOD strategies in urban and transit plans**

- 31. **PDO level indicator 1 (achievement rate 233 percent).** By the time of project closure, all seven cities had developed urban and transit plans, integrating TOD strategy and leveraging the project’s outputs. At the corridor level, Beijing, Shijiazhuang, and Guiyang adjusted municipal and suburban rail transit plans and released guidelines for the use of land surrounding the rail transit corridors, drawing on the results of corridor-level research. At the station level, Tianjin, Ningbo, Guiyang, Nanchang, and Shenzhen issued policies encouraging mixed land use around the stations. Beijing advanced by translating research outputs into pilot initiatives, designating a series of Rail Transit Microcenters centered around 71 major stations (all four stations researched under the project were included). This integrated solution seamlessly combines public services with stations that have high passenger flow. Please refer to annex 1 to see how the detailed project outputs contributed to these plans.
- 32. **The exceeded achievements of Intermediate Results Indicators 7, 8, and 9 supported PDO level indicator 1,** showing that cities innovatively applied TOD in the planning of several districts and stations and considered their unique contextual considerations. For instance, Beijing’ Life Science Park station area and Shenzhen’s Bainikeng station area combined TOD with industrial upgrading and environmental improvement, providing a comprehensive district regeneration solution. Tianjin and Nanchang’s district-level applications of the TOD approach led to the land use adjustment in the zoning requirements in the Tianjin Xiqing District (2400 acres) and Nanchang Yaohu East Staton area (700 acres).
- 33. **The applications of TOD strategies in the urban and transit plans of the participating cities were scaled up, resulting in broader, long-lasting and more impactful outcomes.** For example, Beijing Infrastructure Investment Company which is responsible for the rail transit development in Beijing adopted the project’s research outputs on the suburban railway Tongmi Line. The design approaches reflected in the outputs were also applied in other rail lines and stations developed by the company. The Beijing Municipal Planning and Natural Resources Commission, responsible for organizing and compiling the integration of Beijing’s rail transit, has further deepened the TOD assessment of rail stations on the basis of the project and formed a corridor level TOD planning manual. Shenzhen transformed the project outputs into a draft institutional, legal, and regulatory framework for TOD. This framework intends to streamline the TOD related approval processes among multiple government departments and eliminate impediments to the effective implementation of TOD. Guiyang expanded the impact of its project outcomes to the provincial level by incorporating TOD into an officially released policy- *Guizhou Provincial Department of Transport to Promote the Construction of a*



*Strong Transportation Country Pilot Task*<sup>14</sup>, which was designed to develop an enhanced transportation system in Guizhou province.

### **PDO Indicator 2: Cities formally adopting TOD principle into the city-level strategy or policy**

34. **PDO level indicator 2 (achievement rate 175 percent).** By the time of project closure, all seven cities had formally adopted TOD into their established planning systems for implementation and progress monitoring. Tianjin, Shijiazhuang and Guiyang's research outputs on leveraging the TOD strategy for a compact and efficient urban land use and transport supported the three cities' 14<sup>th</sup> Five-Year Plan for Economic and Social Development (2021-2025). Shijiazhuang, Nanchang, and Guiyang incorporated the project research findings regarding urban spatial development modes based on TOD principles into their respective Territorial and Spatial Master Plans. Beijing, Ningbo, Guiyang, and Shenzhen adjusted their Rail Transit Network Plans to better integrate TOD strategy based on the city- and corridor levels of project research. The successful integration of TOD into these crucial development plans could be attributed to a discernible causal relationship with project interventions. This achievement was facilitated by the deliberate and strategic selection of key stakeholders in each city, as the government departments responsible for the economic and social development five-year plan, territorial and spatial master plans, and rail transit network plans were leading the city PMOs or played key roles in the project leading groups (PLGs) within these cities.
35. **The exceeded achievements of Intermediate Results Indicators 4 and 5 not only supported PDO Indicator 2, but also resulted in broader impacts.** Among the participating cities, a knowledge-sharing network was created to foster peer-to-peer learning, facilitating the exchange of experiences in effectively integrating TOD into their city-level development strategies. Internally, each city witnessed a reinforcement of institutional capacity across diverse government departments. This strengthening occurred as city PMOs played a pivotal role in coordinating initiatives and promoting cross-sector communication. These efforts aimed to collaboratively devise TOD strategies that align with the objectives of each key department.

### **PDO Indicator 3: Cities accessing and using the National TOD Platform and toolkit**

36. **PDO level indicator 3 (achievement rate 150 percent).** In December 2022, right before project closing, the National TOD platform was formally launched, and all the seven cities have been granted access. Six cities have started to use the platform except Ningbo. Ningbo is still undertaking the final enhancement of its local TOD datasheet which will be connected with the National TOD Platform upon completion. During the development of the National TOD platform, all seven cities were closely engaged in needs assessment, data collection, mid-term testing and trial release. The design of the national platform also fully considered the analytical needs of the cities which helped them formulating their TOD strategies. During project implementation, cities also further enhanced their own TOD database in order to better utilize the tools/modules available on the national platform. For example, learning from the diagnosis module on the National TOD platform, Beijing produced a TOD Diagnosis Report with city data which contributed to the final city level TOD strategy under the project. Tianjin applied the TOD planning module in order to estimate the impacts on land use after the rail transit lines are built. Shijiazhuang's TOD platform was able to be fully connected with the National TOD platform during the project and all six modules were applied during the preparation of Shijiazhuang TOD strategy at different scales.

<sup>14</sup> Link to the policy: [http://www.guizhou.gov.cn/zwgk/zfgb/gzsfzfgb/202112/t20211222\\_72087053.html](http://www.guizhou.gov.cn/zwgk/zfgb/gzsfzfgb/202112/t20211222_72087053.html)



37. **The National TOD Platform achieved three far-reaching results.** (1) It established an indicator system and a nationwide database that could support regional TOD coordination at the provincial, metropolitan, and national levels. Twenty-one indicators were created for four priorities: efficiency, intensity, quality, and low carbon; these innovatively defined what constitutes good TOD. A data system aggregated urban space and rail transit system data from seven pilot cities and 33 other cities. (2) The platform’s influence extended beyond the pilot cities, as it has been successfully applied in a non-pilot city—Nanning. It uncovered issues related to the alignment of planned urban rail lines with Nanning's land use. The platform will be used in more cities, fostering a broader nationwide impact. (3) The National TOD Platform has made valuable contributions to the National City Assessment Platform<sup>15</sup> which was also developed and managed by MoHURD, by enhancing its indicators and enriching its rail transit and land use data. This improvement has increased the National City Assessment platform’s capacity to identify and address existing issues within Chinese cities.
38. **The exceeded achievements of Intermediate Results Indicators 3, 6, and 10 show that there was a substantial public engagement for preparing of TOD strategies at national, city, and station levels** (table 4).

**Table 4: Citizen Engagement and Training Session Metrics**

Indicator	Stage	PMO	Number of Sessions	Number of Participants	Female Ratio (percent)
Intermediate Results Indicators: 3	National TOD Platform	MoHURD	20	3480	46
Intermediate Results Indicators: 6	City-level Strategy	Beijing	4	839	48
		Tianjin	2	3707	51
		Shijiazhuang	16	3960	51
		Ningbo	19	14400	51
		Nanchang	4	4659	57
		Guiyang	10	20540	43
		Shenzhen	19	10285	-
Intermediate Results Indicators: 10	Station-level Strategy	Beijing	2	3440	50
		Tianjin	8	1800	49
		Shijiazhuang	16	822	48
		Ningbo	10	393	47
		Nanchang	5	5451	35
		Guiyang	8	810	36
		Shenzhen	39	3058	-

### Justification of Overall Efficacy Rating

<sup>15</sup> In 2020, MoHURD started work on city assessments in 36 pilot cities. The National City Assessment Platform was established the same year to support the effort. The assessment includes the urban transportation system and TOD, ecological infrastructure, regeneration, green space, public services and facilities, and the city water supply and drainage system.



39. **The project's efficacy is rated high.** The PDO has been fully achieved, as measured by the exceeded PDO-level Indicators and Intermediate Results Indicators. Furthermore, the achievements have shown far-reaching impacts beyond the project result indicators. PDO-level indicators were exceeded compared with the relatively conservative targets as defined in the Results Framework (RF). These conservative targets were influenced by the significant variation in transit system development stages and in the research-to-policy capacities among the seven participating cities, and the fact that the TOD concept was not widely embraced in China at the time of project preparation.

### C. EFFICIENCY

#### Assessment of Efficiency and Rating

Rating: High

#### Economic Analysis

40. **Following GEF guidelines, an analysis to assess the incremental costs and global environmental benefits of the project scenario vis-à-vis business-as-usual (BAU) was conducted. The direct actual cost at project closing was US\$30.33 million,** compared with the estimated US\$32.73 million at project appraisal. The project's global environment benefits are mainly reflected in the reduction of GHG emissions. The projected reduction of GHG emissions from the seven project cities during 2017–36 is 43.7 million tonnes of CO<sub>2</sub>. An additional reduction of approximately 44 million tonnes of CO<sub>2</sub> is anticipated across the 40 cities involved in the established National TOD platform from 2023 to 2042 (see more details in annex 4).
41. **A conventional cost-benefit analysis was not conducted for this project as it only supported TA activities and the benefits are expected to materialize at a later stage when the approaches promoted by the project are taken on board.** Public-private partnerships (PPP) models were proposed in each city which could leverage private sector investments. Beijing, Tianjin and Shenzhen have already started to consider applying such financing models to improve economic efficiency. In addition, well established TOD planning also has some other broader effects, such as **Economic cost:** the project costs are linked to the formulation of strategies and approaches aimed at integrating plans across city, transit corridor, and transit station levels, including the reformulation of zoning codes and the development of technical guidelines to incentivize TOD. **Economic benefits:** with direct impact on land use, urban mobility and the economy, the TOD principle established through the project is capable of addressing a multitude of urban issues, beyond those directly associated with the transit network. The project could potentially bring the following benefits including enhancing the use of urban resources (land, infrastructure, and services), improving energy efficiency, and boosting connectivity between urban nodes. The project will thus have lasting impacts on the local economy, reducing congestion costs, saving land, enhancing property values, saving energy, reducing pollution, improving travel safety, and satisfying the pent-up demand for walkable urban development.
42. **A case study of the Tianjin West Railway Station project (not directly funded by the project) showcases the positive economic impact of TOD. The case shows the potential economic advantages that the seven participating cities could realize once the project-supported TOD-oriented urban planning fully materializes.**



Inaugurated in 2011, the Tianjin West Railway Station was designed to function as a high-speed rail hub, stimulating development in the surrounding district and the corridor along the Tianjin Metro Line 6. The real estate data along the Tianjin Metro Line 6 from 2011 to 2019 showed a clear correlation between housing price trends during this period and the inauguration of Line 6. Properties within 500–1,000 meters of the new metro line stations saw the most significant increase in housing prices (annex 4).

43. **The results of the project consist of policy outputs whose success depends on subsequent investments. Therefore, a tracking framework, complete with a set of indicators, has been established to monitor the project’s long-term effectiveness.** Indicators added to those presented at the appraisal stage include Plot Ratio, Pedestrian-Friendly Environment, Intersection Density, Distance to Metro Station, and Access to Jobs. The new indicators have been tailored to the unique context of China, taking into account the compact nature and heightened development intensity of Chinese cities (annex 4).

### Implementation Efficiency

44. **The project was implemented efficiently with no closing date extensions despite interruptions caused by the Covid-19 pandemic.** Between 2020 and 2023, the government severely restricted travel and face-to-face social interaction, and many PMO staff were redirected to full-time duties related to epidemic prevention and control during lockdown periods. In this challenging context, the World Bank and the eight PMOs were still able to ensure sufficient staffing supporting project implementation and maintained close connection and collaboration through virtual engagement.
45. **The project carried out additional activities within its original budget and many results exceeded the targets.** Events that shifted from in-person to virtual mode resulted in some cost savings. Most PMOs adapted creatively to the Covid-19 constraints, including using the savings to initiate new contracts for additional studies. These extensive activities included (1) the Environmental and Social Framework for City-level TOD Strategy (Guiyang, Shenzhen), (2) boosting dissemination by producing videos and brochures for distribution (Beijing, Tianjin, Shijiazhuang, Ningbo, Nanchang, Guiyang, Shenzhen), and (3) expanding capacity-building activities. These extra efforts effectively transformed technical outputs into accessible knowledge for the public, thereby expanding the overall impacts and efficacy of the project.
46. **The project created a lasting impact through knowledge sharing within the allocated budget.** The World Bank’s knowledge sharing included issuing 18 quarterly newsletters during project implementation which are available on the World Bank Global Platform for Sustainable Cities (GPSC) website (link available in the footnote).<sup>16</sup> At the conclusion of the project, 10 technical summary reports were produced in both English and Chinese which captured the main achievements of the eight PMOs. These publications are also readily accessible to the public through the GPSC website (link available in the footnote).<sup>17</sup> This accessibility to such valuable information in the public domain has effectively served the purpose of keeping stakeholders and the general public well-informed about the project’s latest findings and insights.

<sup>16</sup> Link to the newsletters on the GPSC website: <https://www.thegpsc.org/tod/blogs>.

<sup>17</sup> Link to the Technical Summary Series on the GPSC website: <https://www.thegpsc.org/tod/knowledge/sustainable-cities-integrated-approach-pilot-technical-summary-series>



## D. JUSTIFICATION OF OVERALL OUTCOME RATING

### Rating: Highly Satisfactory

47. The Highly Satisfactory rating is justified by the project's high relevance to China's national strategies and to the World Bank Group's current CPF for China; high efficacy, with all three PDO indicators over-achieved; and high efficiency in terms of expanding activities while keeping within original budget. These achievements were realized without delays, even amidst stringent local Covid-19 restrictions.

## E. OTHER OUTCOMES AND IMPACTS

### Gender

48. **The project considered the interests of women, both in project design and through actively involving women in public engagement and capacity-building activities.** The underlying assumption in the project was that gender mainstreaming benefits would accrue slightly more to women than to men. This rationale was supported by research indicating that women and men had different transportation needs, travel behaviors, and levels of access to services and infrastructure. Since women tend to make more trips<sup>18</sup> for a wider variety of purposes, they could benefit more from mixed land uses around transit facilities.<sup>19</sup> Moreover, to integrate gender considerations into TOD planning at the city level and station level, the seven participating cities held multiple citizen engagement sessions in which 40–50 percent of the participants were female (table 4). Similarly, the training sessions provided under this project had around 50 percent female participation.

### Institutional Strengthening

49. **The project played a pivotal role in strengthening institutional capacity at both national and city levels, fostering exchanges and knowledge sharing among government departments, and expanding its influence through various initiatives.** At the national level, the project's key contribution was the strengthening of longer-term institutional capacity for coordination between the national, regional, and city levels through the National TOD Platform financed under component 1. At the city level, the project bolstered the capacity of municipal agencies. PLGs were established in each city as part of the project's institutional arrangement. Extensive communication occurred among government departments, including (but not limited to) the Bureau of Urban Planning, the Bureau of Transportation, and city rail companies. These exchanges promoted direct coordination and cooperation among government departments and also embedded the TOD concept deeply within the knowledge of government officials.

### Mobilizing Private Sector Financing

50. **The "Framework Approach to Private Sector Participation in TOD GEF China Sustainable Cities Integrated Approach Pilot" was developed under the project.** The framework articulated options for involving the private sector at different stages of TOD. The aim was to support participating cities seeking funding to move away from central government support, land financing, and off-budget borrowing and toward capital markets for PPP. Each city level TOD strategy developed under the project proposed a TOD action plan for the city which put forward



recommendations to include PPP investment models such as build-operate-transfer (BOT), transfer-operate-transfer (TOT), and railway plus property (R+P).

### Poverty Reduction and Shared Prosperity

51. **The goals of reducing extreme poverty and increasing shared prosperity are embedded in the project's objective of promoting TOD in urban areas of China.** Integrated urban and transit planning can substantially reduce inequality in access to jobs, services, and amenities and therefore can reduce urban poverty. As accessibility to jobs and other opportunities increases with well-planned and developed multimodal TOD, lower-income urban residents, who mainly depend on public transit, biking, and walking, significantly benefit.

### Other Unintended Outcomes and Impacts

52. **The seven cities organized 126 events, extending over 25,000 invitations to webinars, workshops, and site visits to TOD stakeholders. The PMOs also actively engaged in international knowledge-sharing activities facilitated by the World Bank, fostering insights exchange and global collaboration across borders.** These activities are especially noteworthy for a project supporting only analytical work. These initiatives facilitated PMOs' knowledge acquisition from peers regarding city TOD strategy, research design, and citizen engagement, enabling them to pinpoint areas for improvement through benchmarking. Additionally, the PMOs participated in capacity-building activities hosted by international platforms under the World Bank umbrella, including the project annual meetings and technical workshops, the GPSC global forums, and the deep-dive learning week at the Tokyo Development Learning Center (TDLC).<sup>20</sup> These engagements offered invaluable opportunities for the PMOs to glean insights from international expertise while also sharing their own experiences with experts and the world beyond China's borders.

53. **The project established the groundwork for a comprehensive environmental and social (E&S) strategic framework for TOD practice in Chinese cities. The framework could serve as an initial blueprint, offering essential guidance for future TOD projects.** TOD initiatives in China have historically emphasized engineering practices while overlooking the importance of addressing E&S concerns. In this project, the World Bank mandated E&S strategy research in the scope of each TA contract. Public consultations and review of E&S issues constituted a significant portion of work in each contract. As a result, this project achieved higher-than-normal public engagement by (1) identifying types of stakeholders in advance to allow customizing of participation to meet particular needs and interests and (2) designing formats for such customized interactions. The Bainikeng area TOD research, the station-level work in Shenzhen, was a good example. Multiple stakeholders were identified and their concerns at every stage of TOD planning, designing, and construction were considered.

<sup>18</sup> OECD's report shows the gender differences in travel behavior. Link to the report: <https://www.itf-oecd.org/sites/default/files/docs/urban-travel-behaviour-gender.pdf>

<sup>19</sup> Mixed land use refers to the integration of multiple uses, including residential, commercial, and recreational. Mixed land use is particularly relevant around transit facilities. The proximity of housing, businesses, and recreational spaces around transit hubs can provide women with increased accessibility and convenience.

<sup>20</sup> The TDLC is a program of the World Bank, founded in 2004 under a partnership between the World Bank and the Japanese government and managed under the Urban, Disaster Risk Management, Resilience and Land Global Practice, a unit of the World Bank specializing in urban development.



### III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

#### A. KEY FACTORS DURING PREPARATION

**54. The PDO was realistic, timely, and clear in addressing the evolving landscape of urban development in China.**

At project preparation stage, the TOD concept was not as widely embraced as it is today. Nevertheless, the World Bank exhibited an appropriate level of ambition, informed by accurate analysis of China's urbanization and rail transit trends. The team foresaw that the TOD concept could be highly relevant for tackling China's urban sprawl and promoting a more sustainable city. In this context, the PDO focused on reshaping public policies and facilitating a more integrated approach to planning and investment in urban land use and in transit. This approach aligned with China's institutional settings and top-down policy implementation strategy, ensuring that project activities would have a lasting impact on the long-term urban development trajectories in China.

#### B. KEY FACTORS DURING IMPLEMENTATION

##### Factors subject to the control of government and/or implementing entities

**55. Coordination and engagement.** The mainstreaming of TOD principles required active involvement of multiple stakeholders within the municipal government. Each of the seven participating cities established PLGs that included senior leadership of key stakeholders, such as the Bureau of Urban Planning, the Bureau of Transportation, the Bureau of Housing and Urban-Rural Development, the Bureau of Ecology and Environment Protection, the Bureau of Business, rail transit companies, and relevant district government representatives. Throughout the implementation process, these stakeholders were regularly convened to deliberate on the project and discuss TOD-related matters. For example, in Shijiazhuang, the PMO organized a series of "TOD salons" where stakeholders were invited to engage with TOD experts. These salons served as platforms for learning, sharing knowledge, and jointly addressing pivotal questions regarding TOD policies, thereby facilitating consensus-building and informed decision-making.

**56. Strong commitment and leadership.** The strong commitment and leadership from the governments of the seven project cities was indispensable for successful implementation. Shijiazhuang Nanchang and Guiyang, for example, displayed a dedication to fully harness the outputs on city TOD strategy of the project and exploit the potential of their rail transit systems to optimize urban structures. These three cities appointed senior officials that represented influential government agencies that were responsible for shaping key policies and plans to serve as PMO directors. This strategic decision significantly amplified the impact of the analytical insights generated by the project on local policies and urban planning. In the case of Shijiazhuang and Nanchang, the deputy director of the Development and Reform Commission, the department responsible for formulating the city's 14<sup>th</sup> Five-Year Plan, assumed the role of PMO director. This appointment proved instrumental in championing the integration of the project's outputs into the city's most crucial planning documents, cementing its influence on the future direction of the city.



### **Factors subject to the control of the World Bank**

57. **Special attention was dedicated to maintaining quality control in each TA contract by collaborating with leading experts in TOD for various project activities.** The World Bank provided extensive and tailored hands-on technical support to every participating city. From the project's outset, standardized Terms of Reference (TOR) were prepared to ensure the delivery of high-quality outputs. Implementation Support Missions and supplementary technical missions saw the World Bank partnering with leading TOD experts, facilitating timely responses and feedback on mid-term results for each TA contract. As the project neared its conclusion, the World Bank examined the final deliverables of each contract to ensure alignment with the elevated standards set forth in the initial TOR. Beijing Jiaotong University (BJTU), a premier institution in TOD research in China, played a pivotal role as a partner, significantly enhancing supervision, technical review, knowledge sharing, and consolidation of project deliverables. The BJTU team also actively assisted in capacity-building initiatives and annual workshops organized by the World Bank.

### **Factors outside the control of government and/or implementing entities**

58. **Delays due to government-wide institutional restructuring.** The project became effective in December 2017, but impediments to getting grant agreements signed and setting up accounts delayed implementation to about May 2018. Furthermore, a nation-wide restructuring in government started in late 2018 delayed the establishment of PLGs and PMOs in a few participating cities. It also took longer than expected for the inexperienced PMOs to prepare TOR documents and select qualified bidders. Despite these delays, the project was completed on time by March 31, 2023.
59. **Covid-19 forced participating cities and the project team to adapt.** From 2020 to 2022, the Covid-19 pandemic and the Chinese government's restrictions on travel and in-person interactions had notable impacts. Many of the PMO staff were reassigned to tasks related to epidemic prevention during lockdowns, posing significant challenges for the project's progress. Despite these obstacles, the World Bank and the eight PMOs worked in close collaboration, maintaining regular communication through online meetings to address any difficulties that arose during implementation. During the few months when the restrictions were eased, additional technical missions were conducted to supplement necessary on-site inspections.



## IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

### A. QUALITY OF MONITORING AND EVALUATION (M&E)

Rating: High

#### M&E Design

60. **The RF was logically structured with adequate indicators to monitor the project progress toward achieving the PDO.** The RF presented measurable and relevant indicators that corresponded to the PDO and intermediate results. The indicators had clearly defined baselines, targets, and data collection methodologies that were in line with the M&E capacity of the client and the expected availability of data. The RF also measured citizen engagement and public participation in city-level and station-level TOD applications, respectively. The data collection, evaluation, and reporting arrangements were well designed, with local level information flowing from the PMO to report on a semiannual basis, at mid-term, and at completion to the World Bank to further compile and verify.

#### M&E Implementation

61. **With guidance from the World Bank, the PMO collected, consolidated, and reported data in semiannual progress reports, at mid-term, and at completion.** Shijiazhuang and Nanchang engaged experienced consultants to assist the PMO in gathering and consolidating data for the RF indicators. PMO staff in Beijing, Tianjin, Ningbo, Guiyang, and Shenzhen undertook the data collection by themselves. Both approaches were executed promptly. The semiannual progress reports, mid-term report, and completion report were submitted to the World Bank in a timely manner and contained high-quality information and data. These reports showed the progress made in consulting services, capacity-building activities, public engagement efforts, and other outcomes as measured by the project indicators. Since the project consisted exclusively of TA contracts, and the RF indicators were inherently technical, the World Bank hired a leading TOD expert to review the data submitted by all eight PMOs. This quality control measure significantly contributed to maintaining the high-quality M&E implementation.

#### M&E Utilization

62. **M&E data enabled the PMOs and the World Bank to monitor implementation progress, results, and bottlenecks and offer solutions.** The PMOs and the World Bank used M&E data presented in the progress reports and during missions to identify main implementation challenges. Repeated trainings were conducted to help the PMOs to have consistent understanding of the results indicators and data collection methodologies. This allows the data collected to be more comparable and useful to daily project management. M&E data also informed the preparation of Implementation Status and Results Reports (ISRs) by the World Bank.

#### Justification of Overall Rating of Quality of M&E

63. The overall quality of M&E is rated **High** based on the above discussion.



## B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

64. **Social safeguards policies were complied with.** project outputs primarily included TOD-related studies and area strategic planning in the participating cities. The project did not directly sponsor civil works, site-specific land use plans, or investment plans. However, the project supported TA to inform TOD policies and regulations, which may have downstream implications for land use changes or construction around transit stations. Therefore, OP 4.12, involuntary resettlement was triggered. To mitigate any potential resettlement or other social concerns, a social management framework (SMF) was prepared during project preparation to manage potential resettlement issues and other social issues, in line with the World Bank's social safeguard policies. In compliance with those policies, the SMF was disclosed locally in the project cities on October 24 and December 23, 2016, and on the World Bank's external website on November 3 and December 23, 2016. The SMF required that relevant social and resettlement issues be incorporated into the TOR for each of the TOD-related studies to allow their full consideration during project implementation. A social strategic assessment was also carried out to complement the city-level TOD strategy study in each project city. A social impact assessment chapter was included in the corridor-level and station-level studies or alignment studies after conducting thorough stakeholder consultations. As such, the project complied with the World Bank's social safeguards policies. Throughout the project cycle, the rating for social safeguards was satisfactory.
65. **Environment safeguard policies were complied with.** The project activities comprised TA and capacity building centered on TOD principles as part of promoting cities' sustainable development. The project was classified as Category B-partial assessment given the potentially significant and far-reaching environmental and social impacts of project activities. An Environmental Management Framework (EMF) was developed for the project by the clients during project preparation to assess and address potential environmental issues associated with the TA. All TA activities were grouped into several categories by types of outputs, and the potential environmental impacts were described succinctly in the EMF. The EMF spelled out requirements to assess these impacts by type of TA activity and output and the ways to integrate environmental considerations in these activities and outputs. Although the project did not involve any civil works, the development of TA activities and their application may have implications for physical cultural resources depending on the situation in each city. The EMF included requirements to protect physical cultural resources. The EMF was disclosed locally, in line with World Bank policy, from October 21 to November 14, 2016, on the websites of each project city and MoHURD. The English version was disclosed at the World Bank Infoshop on November 10, 2016.
66. During implementation, the project environmental performance was monitored and reviewed by both PMOs and the World Bank during implementation support missions, via quarterly meetings and progress reports. Under the EMF requirements, the project-supported TA activities were screened, environmental considerations integrated, and environmental and social assessments (ESA) and extensive stakeholder engagement carried out. Where appropriate, mitigation measures and recommendations from ESA and stakeholder engagement results were included in the TA outputs. The rating for environmental safeguards was satisfactory throughout the project cycle, with no reported complaints from the public.



67. **Procurement.** Procurement of consultant services and other services was carried out satisfactorily in accordance with the legal covenants and the World Bank procurement policy and procedural requirements. The Bank closely oversaw procurement and was available to assist and clarify procurement-related issues to the implementing agencies. Ex-post reviews were carried out on a random basis. These oversight functions were carried out efficiently and satisfactorily.
68. Eight PMOs were involved in the project, and they were responsible for project procurement and daily project implementation. All contracts were procured and signed following the Bank's Procurement and Consultant Guidelines. A total of 34 consulting services contracts were procured under Bank financing and successfully completed. The total contract amount was CNY 197.45 million (US\$27.69 million equivalent). The actual completed contract amount is CNY194.46 million (US\$27.27 million equivalent). The reduction was due to the termination of two contracts in Ningbo. The two contracts were originally intended to offer technical support for government investments and the investments were canceled in 2022.
69. All PMOs agreed that the World Bank procurement policies and procedures greatly helped achieve transparency and fairness in the selection process. It was widely recognized that by carefully following the Bank procurement principles while preparing the request for proposals, especially the TORs, the project owners benefitted by ensuring smooth implementation with higher deliverables quality. The project also trained project management officials in the use of international funding in project preparation, design, project management, procurement, financial management and disbursement. The experience gained will be a great benefit to their future work.
70. **Financial management.** The project had a financial management (FM) system that provided, with reasonable assurance, accurate and timely information that the loan was being used for the intended purposes. The grant proceeds thus could be disbursed to the project in a timely manner. The project accounting and financial reporting were in line with the regulations issued by Ministry of Finance and the requirements specified in the grant agreement. The withdrawal procedures and funds flow arrangements were appropriate. The audit opinions were all unqualified. FM-related issues or weaknesses raised during FM implementation were resolved in a timely manner. The audit findings were mainly about contract management issues and were subsequently addressed. By the time of this ICR, all rectification reports have been submitted to the World Bank, and have also been accepted by the auditors. The grant proceeds were disbursed to the project in a timely manner.



## C. BANK PERFORMANCE

71. The World Bank's performance at entry was **Highly Satisfactory**.

### Quality at Entry

72. **By engaging MoHURD and applying the criteria of representativeness to choose seven cities for the project implementation at the appraisal phase, the World Bank made strategic choices that ensured the relevance of the project and its applicability to other Chinese cities.** Leveraging its authority over urban infrastructure, land use, and urban regeneration, MoHURD played a pivotal role in integrating research outputs into national policies. This integration helped the project exert influence on the long-term development of cities in China. The seven cities represented various economic conditions and rail development stages, making their experiences in TOD valuable examples for many other Chinese cities. Furthermore, the seven PMOs were strategically placed under influential government departments with a significant role in policymaking for urban and transportation planning. These departments included the Development and Reform Committee (Shijiazhuang, Nanchang, Shenzhen), the Bureau of Housing and Urban-Rural Development (Beijing, Tianjin, Ningbo), and the Bureau of Transportation (Guiyang). The deliberate selection of these key stakeholders ensured the achievement of the PDO and maximized the project's influence and impacts at the local level.
73. **The World Bank paid attention to developing the project implementation arrangements during the appraisal stage, which helped mitigate potential risks arising from the innovative nature of the technical design, the uneven implementation capacities among PMOs, and the large number of stakeholders at national and local levels.** The risk associated with technical design was addressed to some extent by structuring the project around a coherent theme—TOD—and maintaining consistent project components in each city (city, corridor, and station levels of TOD application). This approach allowed cities with different capacities to employ tailored application methods. To address the implementation capacity risk, the project scope was simplified, and adequate opportunities and funding were allocated to training, capacity building, and peer learning. A project preparation grant was mobilized to support cities and MoHURD in early start-up activities and training. For risks related to numerous stakeholders, each city was requested to establish a PLG in the office of the mayor or vice mayor to ensure sufficient buy-in and coordination functions for the project.
74. **The end-target values of PDO-level indicators defined in the RF were relatively conservative, particularly in light of the strategic stakeholder selection by the World Bank.** The establishment of these values during the design stage may have to a certain extent underestimated the potential of the participating cities. As also mentioned earlier, this caution was influenced by the significant variation in the rail transit system development stages and research-to-policy capacities among the seven participating cities, as well as the fact that the TOD concept was not widely embraced in China during the project preparation phase.



### Quality of Supervision

75. **The World Bank supervised and closely monitored project implementation.** The World Bank conducted 11 implementation support missions in five years, including virtual missions during Covid-19. The mission's findings and agreements informed aide memoires, management letters, and Implementation Status and Results Reports (ISRs) (11 in total) and contained detailed action plans to address identified challenges. The World Bank Task Team Leader (TTL) changed twice over the course of implementation, but that did not affect the continuity of project implementation according to the counterparts' ICRs. World Bank's multidisciplinary team was in place throughout the implementation period and provided timely implementation support and technical inputs that the eight PMOs needed, such as guidance to the TORs, guidance on fiduciary and safeguards related works and so on.
76. **The World Bank consistently delivered hands-on support to the eight PMOs in a timely manner, despite the substantial workload associated with supporting multiple PMOs.** The team conducted bimonthly, and later quarterly, meetings with PMOs, complemented by implementation support missions. For instance, the World Bank identified deficiencies in considering E&S safeguards in the studies. In response, it mandated specific requirements to enhance safeguard integration within each TA contract. During the Covid-19 pandemic, the World Bank maintained close implementation support through online meeting tools. As evidenced by the counterpart's Implementation Completion Reports (ICRs) at the national and city levels, the World Bank's performance was consistently rated as Highly Satisfactory throughout the entire project cycle.
77. **The World Bank organized a variety of capacity-building activities focused on technical, fiduciary, and safeguards aspects for the PMOs to enhance their capabilities by providing opportunities to learn from experts and each other.** The activities consisted mainly of four annual workshops, each spanning two to five days for training and peer learning; six special-topic discussions on TOD and sustainable cities; and five webinars on fiduciary and safeguards training. The World Bank leveraged the resources from multiple international platforms under the World Bank umbrella, including GPSC global forums and city academies, the TDLC deep-dive learning week, and TOD Community of Practice.

### Justification of Overall Rating of Bank Performance

78. Based on the above assessment, overall rating of World Bank performance is rated Highly Satisfactory.



#### D. RISK TO DEVELOPMENT OUTCOME

79. **MoHURD and the capacities acquired by the seven pilot cities are likely to sustain and even broaden the project's outcomes.** At the city level, project outputs have been mainstreamed and institutionalized. As discussed in the Efficacy section, project outputs—which mainly consist of TOD-related strategies, approaches and guidelines—have been integrated into the relevant statutory planning and policies of the participating cities, and some have already been put into practice. At the ministry level, operation and maintenance of the National TOD Platform will be performed by the China Academy of Urban Planning and Design (CAUPD), the consultancy that developed the platform for China. As a specialized and influential think tank, supported and guided by MoHURD, CAUPD will extend the application of the platform to urban and TOD studies in more cities across China. CAUPD has committed a fixed budget for routine maintenance, primarily for updating hardware and regular software updates.

#### V. LESSONS AND RECOMMENDATIONS

80. **The priorities addressed in TOD strategies for cities should vary according to their distinct stages of urban development.** The incorporation of TOD into city strategy is heavily influenced by the development stage of the rail transit system, which serves as a reflection of the city's overall planning and development level. In cities where the rail system is in its initial stages, the TOD strategy is likely to concentrate on leveraging new rail lines to optimize the existing urban spatial structure. In a city with a more advanced rail system, the challenges shift toward maximizing the efficiency of new rail stations to alleviate existing transportation congestion and foster regeneration.
81. **Achieving the sustained integration of TOD into long-term urban development should not overlook the influential role of the private sector, especially the real estate industry, which is a major source of investment.** Many companies find themselves hesitant to invest in TOD, given its higher demands on both human and capital resources compared to conventional investments. This reluctance exists despite the government's implementation of numerous encouraging policies, and it limits the potential scope of TOD. Hence, the project's inclusion of private sector capital in its analysis of financial sustainability in Tianjin's corridor level TOD application- Rail Transit Financing research points to this critical need.
82. **Active, consistent engagement by a national ministry can significantly boost the impact and sustainability of cities' good practices.** Participating cities developed separate approaches to mainstreaming TOD principles into local contexts. A central level PMO can leverage these approaches and increase the possibility of incorporating them into national guidelines and leading the dissemination of good practices within the country. Under the project, the establishment of the National TOD Platform fosters a collaborative environment where cities can mutually benefit from shared insights. Simultaneously, the distillation of lessons learned from these cities serves as valuable input for enhancing pertinent national-level policies.



83. **TA project requires streamlined, focused and well-structured project design.** With seven cities participating in the project, cohesive project themes became a prerequisite for efficient implementation. The project streamlined its topics to operate at national, city, corridor, and district/station levels of TOD research. This approach allowed cities to concentrate on the essential elements of TOD, avoid unnecessary complexities, and adapt the TOD framework to their distinctive conditions.
84. **In projects featuring multiple TA activities, indicators that measure the frequency and quality of capacity-building and peer-learning events should be included in the results framework.** Capacity building equips PMOs with essential skills to handle challenges; peer learning fosters a culture of knowledge exchange, and the collective wisdom enhances PMOs overall understanding and problem-solving capabilities. Both types of activities indirectly promote the achievements of outcomes by improving the quality of project implementation. Incorporating measurable indicators on capacity building and peer learning will help pave the way for continued proactive engagement in such activities.
85. **Substantial and essential support from the GEF grant specifically dedicated to TOD studies plays a pivotal role in ensuring the ultimate success of the project.** This support not only facilitates the inclusion of a greater number of cities with diverse characteristics but also empowers each city to conduct a more comprehensive and in-depth array of TOD studies.
86. **Emphasizing citizen engagement is crucial in TA projects.** Actively involving different stakeholders, especially residents, enhances project effectiveness, fosters ownership, and addresses specific community challenges. This collaborative approach, including public consultations and technology platforms, ensures contextually relevant interventions by leveraging local knowledge and promoting a two-way communication channel. More than one hundred public consultations, involving government departments, rail transit companies, local communities, and experts, are critical in providing essential information for formulating the TOD strategy at multiple scales in this project.



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: participating cities to incorporate TOD principles in their policies+future urban and transit plans

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of cities incorporating TOD strategies in urban and transit plans (cumulative)	Number	0.00 24-Jul-2017	3.00 31-Mar-2023		7.00 31-Mar-2023

Comments (achievements against targets):

The indicator is to identify the number of cities develop urban and transit plans that integrating TOD strategy at various levels, leveraging the project's outputs. Under the project, all seven cities have incorporated TOD strategies in their urban and transit plans at city- corridor and station-levels. **The achievement rate is 233%.**

For further information, please read the following details. The source of the information is the semiannual monitoring report and the borrower's ICRs.

**Beijing:** The output of Task 7, *Beijing Urban TOD Strategy Report* under the Contract GEBJ-1A, *Beijing Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support* were adopted by the **Beijing Public Transport Stations Special Plan (2020-2035)** [1]. Approved in 2020, the **Work Plan for the Implementation of Policies and Measures to Promote the Integration of Rail Transit and Urban Regeneration of Beijing (2022)** and **the List of Beijing Rail Transit Microcenters (First Batch)** adopted the results of the Contract GEBJ-1A *Beijing Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support* Task 5



*TOD Planning and Design Guidelines and the Contract GEBJ-2 Study on the Optimization of Rail Transit Lines and Land Use Based on the TOD Concept Task 4 Report on the Design Criteria for the Integration of Areas around Rail Stations.*

**Tianjin:** The results of Task 7 *Tianjin Urban TOD Strategy Report* under the Contract GEFTJ-1 *Tianjin Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support* were adopted by the **Tianjin Municipal (Suburban) Rail Transit Special Plan (2019-2035)** [2]. In December 2019, Tianjin published the **Opinions on the Implementation of Comprehensive Development and Utilization of Land in and around Rail Transit Stations of Tianjin** [2], which provided for the basic principles, scope of development, mechanism, benefits, and safeguards for the rail transit stations. The document incorporated the results of the institutional analysis, stakeholder consultation and citizen participation of Task 2 of the Contract GEFTJ-1 *Tianjin Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*

**Shijiazhuang:** The results of Contract GESJ-1-2 *Shijiazhuang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support* Outcome 5 *Shijiazhuang TOD Strategy and Interchange Study along the Rail Transit Corridors and Shijiazhuang Slow Moving Traffic Quality Improvement Study* supported the **Implementation Measures for Comprehensive Development and Utilization of Land Along Rail Transit Lines in Shijiazhuang (2019, No. 5)**.

**Ningbo:** In 2022, **Implementation Opinions on Accelerating the High-Quality Comprehensive Development of Rail Transit Stations and Surrounding Land in Ningbo** [4] adopted the policy and institutional mechanism research results of Tasks 7 of the Contract GENB-1 *Ningbo Urban TOD Strategy Report*, including how to determine the scope of integrated rail transit development and the main body of implementation, strengthen integrated rail transit design, strengthen land control and optimize land supply, clarify integrated development cost sharing and protection mechanism.

**Guiyang:** In 2020, **Guizhou Provincial Department of Transport to Promote the Construction of a Strong Transportation Country Pilot Task** [5] adopted the research outputs of Task 7 outputs *Urban TOD Strategy Report* of Contract GEFY-1 *Study on TOD Development Strategy in Guiyang*. In 2021, the research results of Contract GEFY-3 *Study on the TOD Comprehensive Development Planning for Areas along the Ring High-speed Railway in Guiyang City* supported **the Guiyang Gui'an City Ring High-speed Railway Economic Circle Construction Three-Year Action Plan** [6] with the aim of promoting the comprehensive TOD development and interchange of the stations along the city Ring High-speed railway. Published in September 2021, the **Action Plan on Accelerating the Comprehensive Development and Utilization of Guiyang Guian Railway and Urban High-speed Railway Stations and the Surrounding Land and Special Planning for Urban Space around Guiyang City Ring High-speed Railway** issued by the Guiyang Municipal Government adopted the TOD strategy, and the results of functional guideline of the stations and the linkage of the regional business circle from Contract GEFY-1 *Study on TOD*



*Development Strategy in Guiyang Task 1 Data Platform, Task 7 Guiyang Urban TOD Strategy Report and Contract GEFY-3 Study on the TOD Comprehensive Development Planning for Areas along the Ring High-speed Railway in Guiyang City.*

**Nanchang:** Nanchang is currently preparing several important urban and transport plans that incorporated TOD strategies. In 2021, the ***Guidelines for Approval of Comprehensive Property Development Projects above Rail Transit in Nanchang*** has been published, adopting the results of tasks 4 and 5 *Classification and Functional Guidelines of TOD Surrounding Areas* of the Contract GENC-3B *Regional Planning Study of Rail Transit Stations Based on TOD Concept*. In 2021, Nanchang drafted policies including ***Implementation Measures for Comprehensive Land Development and Complex Construction around Rail Transit in Nanchang*** and ***Special Funding Plan for Rail Transit in Nanchang***. The technical team of these policies consulted with the project team during the preparation process and adopted the research results of the contract GENC-1A *Nanchang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support* on the organizational structure of the leadership team, approval mechanism, and funding model.

**Shenzhen:** Since 2019. In 2023, Shenzhen PMO intended to submit ***Shenzhen TOD Comprehensive Development and Construction Guidelines***, which adopted the results from contract GESZ-1 *Shenzhen Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*, Task 5 *TOD proposal report, design guidelines*, Task 6 *Action Plan*.

[1] [https://www.beijing.gov.cn/fuwu/bmfw/jtcx/ggts/202108/t20210818\\_2470416.html](https://www.beijing.gov.cn/fuwu/bmfw/jtcx/ggts/202108/t20210818_2470416.html)

[2] [https://www.tj.gov.cn/zwgk/szfwj/tjrmzf/202012/t20201217\\_5046727.html](https://www.tj.gov.cn/zwgk/szfwj/tjrmzf/202012/t20201217_5046727.html)

[3] [https://zfcxjs.tj.gov.cn/hdjl\\_70/jcyjzj/202211/t20221104\\_6025429.html](https://zfcxjs.tj.gov.cn/hdjl_70/jcyjzj/202211/t20221104_6025429.html)

[4] [http://www.ningbo.gov.cn/art/2021/9/16/art\\_1229096050\\_3780316.html](http://www.ningbo.gov.cn/art/2021/9/16/art_1229096050_3780316.html)

[5] [http://www.guizhou.gov.cn/zwgk/zfgb/gzszfgb/202112/t20211222\\_72087053.html](http://www.guizhou.gov.cn/zwgk/zfgb/gzszfgb/202112/t20211222_72087053.html)

[6] [http://www.gaxq.gov.cn/zfxgk/fdzdgnr/ghxx/202108/t20210830\\_69808495.html](http://www.gaxq.gov.cn/zfxgk/fdzdgnr/ghxx/202108/t20210830_69808495.html)



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of cities endorsing city-level TOD strategy or policy (cumulative)	Number	0.00 24-Jul-2017	4.00 31-Mar-2023		7.00 31-Mar-2023
<p><b>Comments (achievements against targets):</b>            The indicator is to assess whether the cities have formally adopted the city-level TOD strategies developed with support from the Project and have instituted systems to continue to implement and monitor progress. Under the project, seven cities have endorsed city-level TOD strategy or policy. <b>The achievement rate is 175%.</b></p> <p>For further information, please read the following details. The source of the information is the semiannual monitoring report and the borrower's ICRs.</p> <p><b>Beijing:</b> The output of Task 7, <i>Beijing Urban TOD Strategy Report</i> under the Contract GEBJ-1A, <i>Beijing Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support</i> were adopted by the <b><u>Beijing Municipal Rail Transit Network Plan (2020-2035)</u></b> [1].</p> <p><b>Tianjin:</b> The results of Task 7 <i>Tianjin Urban TOD Strategy Report</i> under the Contract GEFTJ-1 <i>Tianjin Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support</i> were adopted by the <b><u>Tianjin 14th Five-Year Plan for Economic and Social Development</u></b> [2] and the <b><u>Tianjin 14th Five-Year Plan for Comprehensive Transportation</u></b> [3] issued by Tianjin Municipality. The results also support the guideline <b><u>Tianjin Technical Regulations for Regulatory Planning</u></b> [4].</p> <p><b>Shijiazhuang:</b> The results of Contract GESJ-1-2 <i>Shijiazhuang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support</i> Outcome 5 <i>Shijiazhuang TOD Strategy and Interchange Study along the Rail Transit Corridors</i> and <i>Shijiazhuang Slow Moving Traffic Quality Improvement Study</i> supported the <b><u>Shijiazhuang 14th Five-Year Plan for Economic and Social Development and the Outline of Vision 2035</u></b> [5]. <b><u>Shijiazhuang Territorial and Spatial Master Plan (2021-2035)</u></b> [6] adopted the outputs from task 3 of the <i>TOD Vision Public</i></p>					



*Information Brochure* under the Contract GESJ-1-2, *Shijiazhuang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*. The plan was released in October 2022.

**Ningbo:** The output of Tasks 7 under the Contract GENB-1 *Ningbo Urban TOD Strategy Report* was adopted by the draft documents of **Ningbo Comprehensive Transport System Plan (2021-2035)** [7] and the **Ningbo Rail Transit Network Plan (2021-2035)** [8].

**Guiyang:** Task 7 outputs *Urban TOD Strategy Report* of Contract GEGY-1 *Study on TOD Development Strategy in Guiyang* supports the *Approval on the List of Tasks to Support the Implementation of the Five-Year Action Plan for Stronger Provincial Capital* [9], **Guiyang Comprehensive Transport System Plan (2021-2035)** [10] and the **Guiyang Territorial and Spatial Master Plan (2021-2035)** [11] and the *Revision of Guiyang's Rail Transit Network*.

**Nanchang:** The **Nanchang Territorial and Spatial Master Plan (2021-2035)** [12] and the **Nanchang Second Round Urban Rail Transit Network Plan (2020-2035)** [13]. The results of Task 7 *Nanchang Urban TOD Strategy Report* of the contract GENC-1A *Nanchang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support* are reflected in these plans.

**Shenzhen:** The contract GESZ-1 *Shenzhen Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support* Output 7 *Shenzhen Urban TOD Strategy Report* was adopted by the **Shenzhen Urban Planning Standards and Guidelines** [14]. To support the formulation of several policies for sustainable development of Shenzhen's rail transit system, the research on The Institutional, Legal, and Regulatory Framework of TOD will be submitted for approval to incorporated into Shenzhen policy.

[1] <https://baijiahao.baidu.com/s?id=1741395268319278646&wfr=spider&for=pc>

[2] [https://www.ndrc.gov.cn/fggz/fzzlgh/dfzgh/202104/t20210401\\_1271547.html](https://www.ndrc.gov.cn/fggz/fzzlgh/dfzgh/202104/t20210401_1271547.html)

[3] [https://www.tj.gov.cn/zwgk/szfwj/tjsrmzfbgt/202108/t20210818\\_5537710.html](https://www.tj.gov.cn/zwgk/szfwj/tjsrmzfbgt/202108/t20210818_5537710.html)

[4] [https://ghhzrzy.tj.gov.cn/zwgk\\_143/tzgg/202012/t20201206\\_4497248.html](https://ghhzrzy.tj.gov.cn/zwgk_143/tzgg/202012/t20201206_4497248.html)

[5] <http://fgw.sjz.gov.cn/col/1596707357207/2021/03/26/1616738603507.html>



- [6] <http://zrghj.sjz.gov.cn/sjzrzy/zwgk/fdzdgnr/gsgg/ghgs/10782689066101510144.html>
- [7] [http://zgj.ningbo.gov.cn/art/2023/3/31/art\\_1229036868\\_58963871.html](http://zgj.ningbo.gov.cn/art/2023/3/31/art_1229036868_58963871.html)
- [8] [http://www.ningbo.gov.cn/art/2021/9/14/art\\_1229096051\\_3779116.html](http://www.ningbo.gov.cn/art/2021/9/14/art_1229096051_3779116.html)
- [9] <http://www.gytt.cn/n89/20210512/i1789826.html>
- [10] <https://baijiahao.baidu.com/s?id=1756923724595998344&wfr=spider&for=pc>
- [11] [http://zyghj.guiyang.gov.cn/newsite/zxgg/gzdt/202211/t20221114\\_77105154.html](http://zyghj.guiyang.gov.cn/newsite/zxgg/gzdt/202211/t20221114_77105154.html)
- [12] <http://bnr.nc.gov.cn/ncszrzyj/xwdt/202210/b44f4e9e86ac4a0695a091b8e6fd5a20/files/b6d034a7cac7479db134f4886aa096df.pdf>
- [13] <http://bnr.nc.gov.cn/ncszrzyj/ghzs/202211/81574b62cf00419ebb5f02d47711ba54.shtml>
- [14] <http://www.sz.gov.cn/attachment/1/1133/1133902/10013132.pdf>

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of cities using the TOD diagnostic tool (cumulative)	Number	0.00 24-Jul-2017	4.00 31-Mar-2023		6.00 31-Mar-2023

**Comments (achievements against targets):**

The indicator is to measure the number of cities that have started to use the national TOD diagnostic and monitoring tool introduced by MOHURD. Under the project, six cities have used the TOD diagnostic tool. The achievement rate is 150%.



The breakdown is as follows. The source of the information is the semiannual monitoring report and the borrower's ICRs.

**The Ministry of Housing and Urban-Rural Development (MoHURD)** PMO has given access to project pilot cities to the established National TOD Platform in December 2022. The uses of TOD diagnostic tool by cities are as follows:

**Beijing** PMO adopted the TOD diagnostic tool. Beijing participated in the pre-discussion, mid-term testing, and trial release of the national TOD diagnostic tool embedded in the National TOD Platform of the MoHURD. Beijing developed its own data platform and diagnostic tool. The research was published in the report under the contract GEBJ-1A *Beijing Development and implementation of public transport oriented urban development (TOD) strategies at the city level and project management support*.

**Tianjin:** The TOD diagnostic tool was adopted by Tianjin PMO. Based on the MoHURD's TOD diagnostic tool embedded in the National TOD Platform. Tianjin also developed a TOD diagnostic tool suitable for Tianjin's situation. The report *Tianjin TOD Diagnostic Analysis and Type Identification* under contract GEFTJ-1 *Tianjin Development and implementation of public transport oriented urban development (TOD) strategies at the city level and project management support* shows the related research work and results.

**Shijiazhuang:** In January 2023, Shijiazhuang PMO received access to the National TOD Platform developed by MoHURD and the embedded diagnostic and monitoring tools. The platform could provide knowledge and best practices to Shijiazhuang and Shijiazhuang offers data and feedback. Shijiazhuang also established a TOD monitoring platform that suits Shijiazhuang's situations under Task 1 of the Contract GESJ-1-2, *Shijiazhuang Development and implementation of public transport oriented urban development (TOD) strategies at the city level and project management support*.

**Nanchang** has developed the local TOD data platform under Task 1 of the contract GENC-1A *Nanchang Development and implementation of public transport oriented urban development (TOD) strategies at the city level and project management support*. Nanchang also connected the local platform to the National TOD Platform developed by the MoHURD, sharing data, and realizing the complementary between the national TOD diagnostic tool and the local TOD diagnostic tool.

**Guiyang** applied the national TOD diagnostic tool under the contract GEFY-1 *Study on TOD Development Strategy in Guiyang* from late 2022 to early 2023 and provided feedback to the MoHURD technical team.



**Shenzhen** has applied the national TOD diagnostic tool under the Contract GESZ-1 *Shenzhen Development and implementation of public transport oriented urban development (TOD) strategies at the city level and project management support* and has made optimization suggestions on the other modules of the National TOD Platform.

### A.2 Intermediate Results Indicators

**Component:** National TOD Platform, Toolkit, and Policy Support

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Development of National TOD Platform (including policies, guidelines, strategies, TOD toolkit)	Yes/No	No 24-Jul-2017	Yes 31-Mar-2023		Yes 31-Mar-2023

**Comments (achievements against targets):**

The indicator is to measure the achievement of developing a TOD toolkit for China’s cities with the potential for it to be scaled up for use beyond the Project Participating cities.

Under the project, the National TOD Platform has been developed. **The achievement rate is 100%.**

The details are as follows.

1. The National TOD Platform (the platform) completed the development of Version 1 on October 20, 2020, including the study of the system architecture of the platform and the development of modules including TOD Digital Repository and TOD Dashboard.



- 2. The platform completed the development of Version 2 on March 25, 2021, which included two new modules of TOD diagnosis and TOD planning.
- 3. The platform completed the development of Version 3 in November 2021, which included two new modules of TOD Monitor and TOD Impact Assessment.
- 4. The platform completed the development of version 4 in July 2022, which included the development of four integrated modules of TOD portal, user management and authority allocation system, usage analysis and log management system, and data maintenance system.
- 5. The National TOD Platform conducted intranet testing on July 22, 2023, and internal testing for pilot cities on November 29. The platform was launched on December 22, 2022.

The source of the above information is the semiannual monitoring report and the borrower's ICRs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of training modules under the Platform used by participating cities (cumulative)	Number	0.00	6.00		6.00
		24-Jul-2017	31-Mar-2023		31-Mar-2023

**Comments (achievements against targets):**

The indicator is to measure the number of training modules under the Platform used by participating cities.

Under the project, six modules are used. **The achievement rate is 100%.**

The details are as follows. The source of information is the semiannual monitoring report and the borrower's ICRs.



Beijing, Tianjin, Shijiazhuang, Guiyang, Nanchang and Shenzhen used 6 modules including TOD Digital Repository, TOD Dashboard, TOD Diagnosis, TOD Planning, TOD Impact Assessment and TOD Monitor under the National TOD Platform.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of person/days spent in training on TOD training modules	Number	0.00	3,000.00		3,480.00
		24-Jul-2017	31-Mar-2023		31-Mar-2022

**Comments (achievements against targets):**

The indicator is to measure the number of person participated in trainings on TOD training modules conducted by MOHURD.

Under the project, 20 trainings were organized and 3840 person participated in these training activities. **The achievement rate is 116%..**

Please refer to the table 4 in ICR main text for more details. The source of information is the semiannual monitoring report and the borrower's ICRs.

**Component:** City TOD Technical Support and TOD Application

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Cities with TOD Strategies and related technical guidelines	Number	0.00	6.00		7.00
		24-Jul-2017	31-Mar-2023		31-Mar-2023



(cumulative)

**Comments (achievements against targets):**

The indicator is to measure the TOD strategies and related technical guidelines prepared by cities under the Project.

All seven cities have prepared the TOD strategies and related technical guidelines. **The achievement rate is 116%.**

The breakdown is as follows.

**Beijing** developed the *TOD Planning and Design Guidelines* under Task5 of the Contract GEBJ-1A, *Beijing Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*. Drawing on some contents of the guidelines, Beijing has issued a series of related technical guidelines, including the *Planning and Design Guidelines for the Utilization of Beijing Public Transportation Stations*, *Planning and Design Guidelines for the Utilization of Beijing Urban Rail Transit Bases* [1], and *Planning and Design Guidelines for Public Services and Facilities at Beijing Rail Transit Stations* [2].

**Tianjin** developed *Tianjin TOD Guidebook* under Task5 of the Contract GEFTJ-1 *Tianjin Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*.

**Shijiazhuang** developed *TOD Action Plan and Operation Manual* and *Slow-Moving Traffic Quality Improvement Study* and *Shijiazhuang TOD Strategy and Interchange Study along the Rail Transit Corridors* under the Contract GESJ-1-2, *Shijiazhuang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*. These technical guidelines provide recommendations for TOD implementation in Shijiazhuang in terms of institutions, planning system, land supply, slow-moving traffic, and interchange, etc.

**Nanchang** developed *Nanchang TOD Guidelines* and *Nanchang Planning and Design Guidelines for Rail Transit Stations and City Integrated Development* under the contract GENC-1A *Nanchang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*. The guidelines categorized the rail stations in Nanchang and provided differentiated guidance on land layout, interchange, public space, and related planning indicators.

**Ningbo** developed *TOD Planning and Design Guidelines* and *TOD Policy System and Operation Manual* under the Contract GENB-1 *Ningbo Urban TOD Strategy Report*. The guidelines categorized the rail stations in Ningbo into four categories, with differentiated guidelines for land development, traffic



planning, urban design and green development. Among them, the method of measuring parking spaces around the stations has been incorporated into the Ningbo construction project parking allocation index regulations [3].

**Guiyang** developed Guiyang Gui'an Rail Transit and City High-speed Railway Station and Surrounding Land TOD Planning and Design Guidelines, and Guiyang Gui'an Rail Transit Stations Transportation Integration Development Guidelines under the the Contract GEFGY-1 *Study on TOD Strategy in Guiyang* and the Contract GEFGY-3 *Study on the TOD Comprehensive Development Planning for Areas along the Ring High-speed Railway in Guiyang City*.

**Shenzhen** developed Shenzhen TOD Planning and Design Guidelines under the Contract GESZ-1 *Shenzhen Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*. The Shenzhen Urban Planning Standards and Guidelines [4] adopted the outputs of the Contract GESZ-1 technical team regarding TOD and incorporated them into the standards during the revision process.

[1] [http://ghzrzyw.beijing.gov.cn/biaozhunganli/bztg/202004/t20200401\\_1772169.html](http://ghzrzyw.beijing.gov.cn/biaozhunganli/bztg/202004/t20200401_1772169.html)

[2] [http://ghzrzyw.beijing.gov.cn/biaozhunganli/bztg/202008/t20200812\\_1980658.html](http://ghzrzyw.beijing.gov.cn/biaozhunganli/bztg/202008/t20200812_1980658.html)

[3] [http://zgj.ningbo.gov.cn/art/2021/8/13/art\\_1229037531\\_58932892.html](http://zgj.ningbo.gov.cn/art/2021/8/13/art_1229037531_58932892.html)

[4] [http://pnr.sz.gov.cn/gkmlpt/content/9/9950/post\\_9950746.html#4297](http://pnr.sz.gov.cn/gkmlpt/content/9/9950/post_9950746.html#4297)

The source of the above information is the semiannual monitoring report and the borrower's ICRs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Cities using TOD	Number	0.00	5.00		7.00



specific databases developed under the Project		24-Jul-2017	31-Mar-2023		31-Mar-2023
<p><b>Comments (achievements against targets):</b></p> <p>The indicator is to measure the number of cities that have collated a GIS database and analytical framework to better understand the typology and monitor the potential of different transit stations for development.</p> <p>All seven cities have used TOD specific databases developed under the Project. <b>The achievement rate is 140%.</b></p> <p>The breakdown is as follows.</p> <p><b>Beijing</b> developed TOD specific database under the Contract GEBJ-1A <i>Beijing Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support</i>. The output <i>D2-Database Report</i> introduced the data collected, including geographic information data, people, land and housing economic data, environmental resource data, traffic data, spatiotemporal behavior data, cases, and policy, etc.</p> <p><b>Tianjin</b> developed TOD specific database under the Contract <i>Tianjin Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support</i>. The output <i>Visioning</i> introduced the data collected, including planning data, dynamic data such as traffic, cell phone signaling, real estate prices, land information, affordable housing information, etc. All data are aggregated in ArcGIS for future research.</p> <p><b>Shijiazhuang</b> developed TOD specific database in the first half of 2020 under Task1 <i>Data Collection</i> of the Contract GESJ-1-2, <i>Shijiazhuang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support</i>. The data covers all types of traffic and land use data within the Shijiazhuang city.</p> <p><b>Ningbo</b> developed TOD specific database under Task1 <i>Data Collection</i> of the Contract GENB-1 <i>Ningbo Urban TOD Strategy Report</i>. Based on the database, Ningbo has established an analysis platform on which the TOD specific indicators, land using, rail services and interchange could be assessed.</p> <p><b>Nanchang</b> developed TOD specific database under Task1 <i>Data collection</i> of the Contract GENC-1A <i>Nanchang Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support</i>. The database of Nanchang is connected to the</p>					



National TOD Platform, and the data covers 6 categories of city information, including urban development data, geospatial data, transportation data, planning documents, policy, and good urban practices.

**Guiyang** developed TOD specific database under Task1 *Data Collection* of the Contract GEFY-1 *Study on TOD Development Strategy in Guiyang*. Guiyang also developed *Guiyang TOD Big Data Monitoring and Evaluation Platform*, which was nominated for the 12th Qian Xuesen Golden Prize in Urbanism in the year of 2022. The data covers socio-economic, demographic, planning, traffic, roads, policy, infrastructure information, etc.

**Shenzhen** developed TOD specific database and a TOD platform under Task1 *Data Collection* of the Contract GESZ-1 *Shenzhen Development and implementation of public transport oriented urban development (TOD) strategies at city level and project management support*. The platform has launched for TOD monitoring, assessment, and planning support in November 2022. The data covers 7 categories including rail transit, land use, architecture, jobs and housing, real estate price, etc.

The source of the above information is the semiannual monitoring report and the borrower's ICRs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Citizen Engagement sessions conducted in TOD planning	Number	0.00 24-Jul-2017	13.00 31-Mar-2023		48.00 31-Mar-2022

**Comments (achievements against targets):**

The indicator is to monitor the number of citizen engagement sessions and events that have been conducted as part of developing the TOD strategy and policies..

Under the project, all seven cities have conducted 48 citizen engagement sessions and events. **The achievement rate is 369%.**



Please see more details of the sessions in table 4 in ICR main text. The source of the above information is the semiannual monitoring report and the borrower's ICRs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Districts introducing TOD polices and approaches into their plans (Tianjin, Shenzhen and Shijiazhuang)	Number	0.00	3.00		5.00
		24-Jul-2017	31-Mar-2023		31-Mar-2023

**Comments (achievements against targets):**

The indicator is to measure the number of Districts introducing TOD polices and approaches into their plans.

Under the project, districts of five cities have introduced TOD polices and approaches into their plans. **The achievement rate is 166%.**

The breakdown is as follows.

**Beijing** introduced TOD approaches into the planning of the Life Science Park Area under the Contract GEBJ-3 *Demonstration of Integrated Planning and Construction of Urban Regeneration Areas Based on TOD Concept*. The strategies proposed include a mix-used urban function, a public transport with convenient interchange, a lively neighborhood, and a reasonable layout.

**Shijiazhuang** introduced TOD approaches into the planning of the area north of East Shijiazhuang Station under the Contract GESJ-3 *TOD-oriented Planning and Design of the Area North of Shijiazhuang East Station along Shijiazhuang Rail Line 1*. This demonstration study explored how to better integrate TOD strategy into district-level planning on institution, function, planning and design.



**Ningbo** introduced TOD approaches into the planning of the area of Yongjiang under the Contract GENB-4 *Transitional Development Strategy Research of YONGJIANG Area based on TOD Model*. The TOD strategy was introduced to better cope with the current constraints and planning uncertainties, utilizing the existing resources, dealing with the industrial upgrading issues, and thus utilizing the unused land within the area.

**Guiyang** introduced TOD approaches into the planning of the Huaxi district under the Contract GEFY-2 *Study on Comprehensive Development Planning of Area along Rail Line 3 Phase I and Rail Line S1 Phase I*. The planning proposed a four-level structure that integrate TOD strategy into all district, corridor, cluster, and stations levels to support the high-quality development of Huaxi district.

**Shenzhen** introduced TOD approaches into the planning of the Bainikeng area under the Contract GESZ-2A *Planning, Implementation and Management of Sustainable Development of Bainikeng Area, Longgang District Based on TOD Strategy*. The planning incorporated TOD strategy into the urban regeneration, industrial upgrade, and environment improvement of Bainikeng area. The public participation was solid, which provided many opinions from citizens into the planning.

The source of the above information is the semiannual monitoring report and the borrower's ICRs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of corridor level policy guidebooks or manuals produced (Beijing, Ningbo, Nanchang, and Guiyang)	Number	0.00 24-Jul-2017	3.00 31-Mar-2023		4.00 31-Mar-2023

**Comments (achievements against targets):**

The indicator is to record the technical outputs resulting from studies on TOD approaches along specific transit corridors.



Under the project, four cities have produced corridor level policy guidebooks or manuals. **The achievement rate is 133%.**

The breakdown is as follows.

**Beijing** produced the *Corridor-Level TOD Planning and Policy Guidebook* based on the research of Rail Line Tongmi under the Contract GEBJ-2 *Study on the Optimization of Rail Transit Lines and Land Use Based on the TOD Concept*. The guidebook could provide instructions on how to leverage the land resources of the area around each station along the Rail Line Tongmi with an integrated development approach. The guidebook will also benefit the development of other rail lines in Beijing.

**Shijiazhuang** produced the *Corridor-Level TOD Planning and Policy Guidebook* under the Contract GESJ-2-2 *Land Adjustment Plan for Shijiazhuang Urban Rail Line 4*. The guidelines, which are based on the study of Rail Line 4, will be applied to the planning and construction in other rail lines in Shijiazhuang.

**Nanchang** produced the *Corridor-Level TOD Planning and Policy Guidebook* in December 2022 under the Contract GENC-2A *Rail Transit TOD Planning and Design Research Consulting Service*. The guidelines, which are based on the study of Rail Line 2, will provide step-by-step guidance on planning and construction to assist urban and transport planners in planning and implementing TOD at the corridor level.

**Guiyang** produced the *Corridor-Level TOD Planning and Policy Guidelines* under the Contract GEFGY-3 *Study on the TOD Comprehensive Development Planning for Areas along the Ring High-speed Railway in Guiyang City*. The guidelines included *Guiyang Gui'an Rail Transit and City High-speed Railway Station and Surrounding Land TOD Planning and Design Guidelines*, and *Guiyang Gui'an Rail Transit Stations Transportation Integration Development Guidelines*.

The source of the above information is the semiannual monitoring report and the borrower's ICRs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of cities that adopt	Number	0.00	4.00		7.00



TOD-friendly station area planning approaches (Beijing, Ningbo, Nanchang, Guiyang and Shenzhen)		24-Jul-2017	31-Mar-2023		31-Mar-2023
<p><b>Comments (achievements against targets):</b></p> <p>The indicator is to measure the number of cities that adopt TOD-friendly station area planning approaches.</p> <p>Under the project, all seven cities have adopted TOD-friendly station area planning approaches. <b>The achievement rate is 175%.</b></p> <p>The breakdown is as follows.</p> <p><b>Beijing</b> adopted TOD-friendly station area planning approaches in the planning of <u>Yanxixiaozhen Station, Huairou Station and Beifang Station area</u> under the Contract GEBJ-2 <i>Study on the Optimization of Rail Transit Lines and Land Use Based on the TOD Concept</i>.</p> <p><b>Tianjin</b> adopted TOD-friendly station area planning approaches in the planning of <u>Jinzhonghe Station, Jianchangdao Station and Siyuan Road Station area</u> under the Contract GEFTJ-3 <i>TOD-oriented Urban Regeneration of the Area around Jianchangdao Rail Stations</i>; the research deliverables led to the adjustment of the regulatory plan in <u>Xiqing District 11P-16-04 Unit 01 Block, 02 Block and Central Business District TGf (07) 10 Unit, Block 01-49</u>.</p> <p><b>Shijiazhuang</b> adopted TOD-friendly station area planning approaches in the planning of <u>Dongzhuang Station, Xizhuang Station, Jiaohe Avenue Station and Nancun Station area</u> under the Contract GESJ-3 <i>TOD-oriented Planning and Design of the Area North of Shijiazhuang East Station along Shijiazhuang Rail Line 1</i>.</p> <p><b>Nanchang</b> adopted TOD-friendly station area planning approaches in the planning of <u>East Yaohu Station</u>; the research outputs led to the adjustment of the regulatory plan of the approximately 700-acre land around the East Yaohu Station of the East Extension of Rail Line 1 by the Nanchang Natural Resources Bureau in August 2021.</p> <p>Nanchang also adopted TOD-friendly station area planning approaches in the planning research of ten stations along the East Extension of Rail Line 1 under the Contract GENC-3B <i>Regional Planning Study of Rail Transit Stations Based on TOD Concept</i>. The ten stations include <u>Xinjiaan Station, Lengshang Station,</u></p>					



North Chengnan Avenue Station, Lixiang Station, Shengqiao Station, Yinwang Station, Luojiayi Station, Fengxia Station, Hufang Station and East Nanchang Station.

**Ningbo** adopted TOD-friendly station area planning approaches in the planning of North Qianhu Road Station area under the Contract GENB-3 *TOD-oriented Improvement Research of Built Rail Transit Stations*.

**Guiyang** adopted TOD-friendly station area planning approaches in the planning of South Huaxi Station, Taohuazhai Station, Huansha Road Station, Dayingpo Station, Wenquan Road Station, Luowan Station along Rail Line3, Baimalu Station, Shubo Avenue Station and Zhongcaosi Station along Rail Line S1 under the Contract GEFY-2 *Study on Comprehensive Development Planning of Area along Rail Line 3 Phase I and Rail Line S1 Phase I*, also in the planning of Mengguan Station, North Baiyun Station along the Ring High-speed Railway under the Contract GEFY-3 *Study on the TOD Comprehensive Development Planning for Areas along the Ring High-speed Railway in Guiyang City*.

**Shenzhen** adopted TOD-friendly station area planning approaches in the planning of Bainikeng Station area under the Contract GESZ-2A *Planning, Implementation and Management of Sustainable Development of Bainikeng Area, Longgang District Based on TOD Strategy*.

The source of the above information is the semiannual monitoring report and the borrower's ICRs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Citizen Engagement sessions conducted in the design of station area plans (Beijing, Ningbo, Nanchang, Guiyang and Shenzhen)	Number	0.00	10.00		88.00
		24-Jul-2017	31-Mar-2023		31-Mar-2023
<b>Comments (achievements against targets):</b>					



The indicator is to monitor the number of citizen engagement sessions and events that have been conducted as part of station area planning.

Under the project, the seven cities have conducted 88 citizen engagement sessions and events in the design of station area plans. **The achievement rate is 880%..**

Please see more details of the sessions in the table 4 in ICR main text. The source of the information is the semiannual monitoring report and the borrower's ICRs.



**B. KEY OUTPUTS BY COMPONENT**

<b>Objective/Outcome:</b> For participating cities to incorporate transit-oriented development principles in their policies and into future urban and transit plans	
Outcome Indicators	<ol style="list-style-type: none"> <li>1. Number of cities incorporating TOD strategies in urban and transit plans</li> <li>2. Number of cities endorsing city-level TOD strategy or policy</li> <li>3. Number of cities using the TOD diagnostic tool</li> </ol>
Intermediate Results Indicators	<ol style="list-style-type: none"> <li>1. Development of National TOD Platform (including policies, guidelines, strategies, TOD toolkit)</li> <li>2. Number of training modules under the Platform used by participating cities</li> <li>3. Number of person/days spent in training on TOD training modules</li> <li>4. Number of Cities with TOD strategies and related technical guidelines</li> <li>5. Number of Cities using TOD specific databases developed under the Project</li> <li>6. Number of Citizen Engagement sessions conducted in TOD planning</li> <li>7. Number of Districts introducing TOD polices and approaches into their plans</li> <li>8. Number of corridor level policy guidebooks or manuals produced</li> <li>9. Number of cities that adopt TOD-friendly station area planning approaches</li> <li>10. Number of Citizen Engagement sessions conducted in the design of station area plans</li> </ol>
Key Outputs by Component	<p><b>Component 1: National TOD Platform, Toolkit, and Policy Support</b></p> <ol style="list-style-type: none"> <li>1. National TOD Platform including policies, guidelines, strategies and TOD toolkit developed</li> <li>2. Platform training modules used by participating cities</li> <li>3. Trainings and capacity building activities on TOD modules provided</li> </ol>



**Component 2: City TOD Support and Application of TOD Approaches**

1. City-level TOD strategy and technical guidelines developed
2. City-level TOD specific platform and databases developed
3. TOD planning citizen engagement sessions conducted in producing city-level TOD strategy
4. TOD policies and approaches introduced into district-level plans
5. Corridor-level policy guidebooks or manuals produced
6. Thematic reports and action plans on corridor and station level on financing, low carbon etc.
7. Station area planning that integrated TOD-friendly approaches
8. TOD design citizen participation sessions conducted in station area plans



**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION**

**A. TASK TEAM MEMBERS**

<b>Name</b>	<b>Role</b>
<b>Preparation</b>	
Joanna Mclean Masic, Barjor E. Mehta, Wanli Fang	Task Team Leader(s)
Guoping Yu	Procurement Specialist(s)
Yi Geng	Financial Management Specialist
Xiao Wu	Team Member
Dafei Huang	Team Member
Valerie Joy Eunice Santos	Peer Reviewer
Yi Yang	Team Member
Xin Ren	Social Specialist
Georges Bianco Darido	Peer Reviewer
Thalyta Ernandya Yuwono	Peer Reviewer
Julia Claire Hazelton Brickell	Team Member
Rufei Zhang	Team Member
Shomik Raj Mehndiratta	Peer Reviewer
Zhuo Yu	Team Member
Jesse O. Ang	Peer Reviewer
Yan Zhang	Team Member
Paul Procee	Peer Reviewer
Songling Yao	Social Specialist



Gerald Paul Ollivier	Team Member
Garo J. Batmanian	Team Member
<b>Supervision/ICR</b>	
Yuan Xiao, Wenyan Dong	Task Team Leader(s)
Yuan Wang	Procurement Specialist(s)
Fang Zhang	Financial Management Specialist
Songling Yao	Social Specialist
Yan Zhang	Procurement Team
Shaojun Chen	Team Member
Zhuo Yu	Team Member
Fangming Liu	Procurement Team
Xiao Wu	Team Member
Chenming Li	Team Member
Shuning Wang	Team Member
Jianhao Zhou	Team Member
Bin Xu	Environmental Specialist

**B. STAFF TIME AND COST**

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
<b>Preparation</b>		
FY16	24.462	176,185.19
FY17	78.899	484,806.66
FY18	6.675	45,491.51
<b>Total</b>	<b>110.04</b>	<b>706,483.36</b>
<b>Supervision/ICR</b>		



FY18	46.091	319,144.97
FY19	30.087	280,278.10
FY20	15.824	171,376.79
FY21	30.250	172,987.94
FY22	32.768	223,288.63
FY23	59.746	492,775.64
FY24	3.290	59,598.51
<b>Total</b>	<b>218.06</b>	<b>1,719,450.58</b>

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**ANNEX 3. PROJECT COST BY COMPONENT**

<b>Components</b>	<b>Amount at Approval (US\$M)</b>	<b>Actual at Project Closing (US\$M)</b>	<b>Percentage of Approval</b>
National TOD Platform, Toolkit, and Policy Support	1.93	1.70	88
City TOD Technical Support and TOD Application	30.80	28.64	93
<b>Total</b>	<b>32.73</b>	<b>30.33</b>	<b>93</b>



ANNEX 4. ECONOMIC EFFICIENCY ANALYSIS

1. **The economic analysis comprises three parts:** (i) an incremental cost analysis is conducted following GEF guidelines, to assess the incremental costs and global environmental benefits of the Project scenario vis-à-vis business-as-usual (BAU). The measurement of the global environmental benefits- the Green House Gas (GHG) emission caused by the project’s interventions for the seven participating cities and the National TOD Platform, is also included; (ii) cost-benefit analyses of investment(s) directly leveraged under the Project. A case study of the Tianjin West Railway Station is introduced to showcase the positive economic impact of TOD; and (iii) an updated tracking framework with the revised indicators to facilitate long-term monitoring of the effectiveness of the project is proposed.

Incremental cost analysis

2. **Following GEF guidelines, an analysis to assess the incremental costs and global environmental benefits of the Project scenario vis-à-vis business-as-usual (BAU) is conducted. The direct incremental actual cost at project closing is US\$30.33 million**, compared with US\$32.73 million at project appraisal. The benefits of the project to the global environment are mainly reflected in the reduction of GHG emission. As projected, the reduction from the seven project cities during 2017-2036 is 43.7 million tonnes of CO2. An additional reduction of approximately 44 million tonnes of CO2 emissions is anticipated across the 40 cities involved in the established National TOD platform from 2023 to 2042 (table 4-1).

Table 4-1 Incremental Cost Analysis

	Costs	Domestic Benefits	Global Environmental Benefits
<b>Baseline Scenario</b> (BAU level efforts envisaged by existing urban master plan and TOD measures)	BAU investment and expenditure levels	BAU levels of <ul style="list-style-type: none"> <li>- transport-related cost savings</li> <li>- property appreciation</li> <li>- improved land use efficiency</li> <li>- improved energy efficiency</li> <li>- improved efficiency in the use of other local resources.</li> </ul>	BAU level of GHG emission reductions enabled by existing measures taken
<b>Alternative Scenario</b> (BAU efforts plus the GEF project)	National TOD Platform, Toolkit development and capacity building:  Actual cost: US\$1.7 million City-level TOD strategies with detailed strategies and plans at the district, corridor and station levels and capacity building:  Actual cost: US\$28.64 million Equivalent investment and expenditure levels as BAU	TOD strategies laid out at the national-, project city-, district-, corridor- and station- levels to enable greater than BAU level of achievements in: <ul style="list-style-type: none"> <li>- transport-related cost savings</li> <li>- property appreciation</li> <li>- improved land use efficiency</li> <li>- improved energy efficiency</li> <li>- improved efficiency in the use of other local resources, such as water, sanitation, etc.</li> <li>- reduction in local pollutants</li> </ul>	A GHG reduction of approximately <b>43.7 million tonnes of CO2</b> from the seven cities directly involved in the GEF Program during 2017-2036  A GHG reduction of approximately <b>44 million tonnes of CO2</b> across the 40 cities involved in the established National TOD platform from 2023 to 2042.
<b>Increment</b>	<b>US\$30.33 million</b> (Actual cost at project closing, compared to US\$32.73 million at project appraisal)	Incremental benefits in the aforementioned areas vis-à-vis BAU scenario	A GHG reduction of approximately <b>87.7 million tonnes of CO2</b> thanks to the intervention of the project



**Project Cities GHG Impact Estimate**

3. **Emission Reduction Estimates:** The total indirect carbon emissions reduction from the Project during 2017-2036 (20 years) are 43.7million tonnes of CO2. Detailed results for different cities and years are presented in Table 4-2.

**Table 4-2 Indirect carbon emissions reduction by city and by year (tonnes of CO2)**

	Beijing	Tianjin	Shijiazhuang	Ningbo	Nanchang	Guiyang	Shenzhen	TOTAL
2017	570,601	669,228	310,196	392,866	65,720	207,998	245,591	2,462,200
2018	581,094	662,355	318,271	399,071	68,288	218,651	252,454	2,500,184
2019	587,717	661,697	323,719	403,463	70,206	224,157	256,775	2,527,735
2020	565,601	638,684	319,849	393,283	69,795	224,157	251,751	2,463,120
2021	585,508	650,256	329,111	404,278	72,934	228,565	254,697	2,525,349
2022	561,241	625,872	337,568	396,430	72,940	222,542	248,720	2,465,313
2023	559,518	630,684	344,460	398,771	75,125	227,844	248,399	2,484,799
2024	555,691	633,223	350,632	399,365	77,154	232,473	246,910	2,495,448
2025	549,621	633,267	55,997	398,028	79,000	236,319	244,150	2,496,381
2026	541,171	630,589	360,464	394,565	80,628	239,265	240,013	2,486,694
2027	530,205	624,957	363,939	388,777	82,005	241,184	234,389	2,465,456
2028	516,591	616,133	366,325	380,455	83,093	241,944	227,167	2,431,708
2029	500,200	603,875	367,524	369,387	83,853	241,403	218,234	2,384,475
2030	480,904	587,938	367,435	355,352	84,243	239,411	207,477	2,322,760
2031	458,584	568,075	365,957	338,126	84,220	235,810	194,782	2,245,555
2032	433,125	544,039	362,986	317,482	83,737	230,437	180,034	2,151,841
2033	404,419	515,582	358,419	293,188	82,746	223,117	163,120	2,040,591
2034	372,364	482,461	352,153	265,009	81,196	213,672	143,927	1,910,781
2035	336,870	444,431	344,083	232,710	79,034	201,913	122,345	1,761,386
2036	297,105	400,135	332,594	195,004	75,872	187,236	98,363	1,586,310
<b>TOTAL</b>	<b>8,836,436</b>	<b>10,491,896</b>	<b>6,931,683</b>	<b>7,115,610</b>	<b>1,551,788</b>	<b>4,518,095</b>	<b>4,279,299</b>	<b>43,724,807</b>

4. **Methodology:** Calculation equations used are as below.

$$Emission\ reduction = \sum Emission\ BAU - Emission\ TOD$$

$$Emission\ BAU = GDP \times Carbon\ intensity\ BAU$$

$$Emission\ TOD = GDP \times Carbon\ intensity\ TOD$$

$$GDP = GDP\ previous\ year \times (1 + GDP\ growth)$$



**Carbon intensity BAU**

$$= \text{Carbon intensity baseyear} \times (1 + \text{carbon intensity reduction target})$$

$$\text{Carbon intensity TOD} = \text{Carbon intensity BAU} - 0.3\%$$

**5. Assumptions:**

**BAU and TOD Scenarios** share the same GDP but differentiate in carbon intensity.

**Baseline year** is 2017 because this is the start year of the project.

**Indirect emission reduction** is estimated for 20 years—2017-2036.

**GDP:** GDP in 2022 and before are actual data. GDP projection for 2023 are average GDP growth expectation from the cities' 14<sup>th</sup> Five Year Plan. GDP growth for 2024 and 2025 is 0.1% less than the previous year. Average annual GDP growth rate for year 2026-2030 is assumed to be 0.5% less than the number for 2021-2025. Average annual growth rate for year 2031-2035 is assumed to be 0.5% less than the number for 2026-2030. 2036 growth rate is assumed 0.1% less than that of 2035. Annual GDP growth are linear declining during 2023-2035. Details are presented in Table 4-3.

**Table 4-3 Assumptions of GDP growth in BAU Scenario**

	Beijing	Tianjin	Shijiazhuang	Ningbo	Nanchang	Guiyang	Shenzhen
<b>2023</b>	5.0%	6.0%	6.0%	6.5%	7.5%	7.5%	6.0%
<b>2024</b>	4.9%	5.9%	5.9%	6.4%	7.4%	7.4%	5.9%
<b>2025</b>	4.8%	5.8%	5.8%	6.3%	7.3%	7.3%	5.8%
<b>2026</b>	4.7%	5.7%	5.7%	6.2%	7.2%	7.2%	5.7%
<b>2027</b>	4.6%	5.6%	5.6%	6.1%	7.1%	7.1%	5.6%
<b>2028</b>	4.5%	5.5%	5.5%	6.0%	7.0%	7.0%	5.5%
<b>2029</b>	4.4%	5.4%	5.4%	5.9%	6.9%	6.9%	5.4%
<b>2030</b>	4.3%	5.3%	5.3%	5.8%	6.8%	6.8%	5.3%
<b>2031</b>	4.2%	5.2%	5.2%	5.7%	6.7%	6.7%	5.2%
<b>2032</b>	4.1%	5.1%	5.1%	5.6%	6.6%	6.6%	5.1%
<b>2033</b>	4.0%	5.0%	5.0%	5.5%	6.5%	6.5%	5.0%
<b>2034</b>	3.9%	4.9%	4.9%	5.4%	6.4%	6.4%	4.9%
<b>2035</b>	3.8%	4.8%	4.8%	5.3%	6.3%	6.3%	4.8%
<b>2036</b>	3.7%	4.7%	4.7%	5.2%	6.2%	6.2%	4.7%

**6. Carbon intensity BAU:** carbon intensity for 2020 are calculated using 2015 carbon intensity and carbon intensity reduction targets required by the provincial Greenhouse Gas Emissions Control Plan for the 13<sup>th</sup> Five Year Period. A Carbon intensity reduction target for 2035 are assumed based on assumptions for emission peak year for these cities. Please see detailed information in Table 4-4. Carbon intensity of other years is obtained by linear difference method.



Table 4-4 Assumptions of carbon intensity in BAU Scenario

	Beijing	Tianjin	Shijiazhuang	Ningbo	Nanchang	Guiyang	Shenzhen
13 <sup>th</sup> Five Year carbon intensity reduction target (2020 reduction based on 2015)	20.5%	20.5%	20.5%	23%	21%	20%	20.5%
BAU 2035 carbon intensity reduction target (2035 reduction based on 2005)	85%	85%	85%	81%	86%	85%	81%
Calculation results							
BAU Carbon emissions peak year	2012	2025	2029	2024	2030	2028	2022

- 7. **Carbon intensity TOD:** assume a 0.3% decrease in carbon intensity each year as compared to the BAU scenario.

National TOD Platform GHG Impact Estimate

- 8. **Emission Reduction Estimates:** The TOD platform could enable Chinese cities to curtail CO2 emissions by approximately 44 million tonnes from 2023 to 2042.
- 9. **Scope:** Emission reduction was estimated for the following scope.  
**Period:** 2023-2042, 20 years from the completion of the National TOD platform in December 2022  
**Cities coverage:** 40 cities listed in the National TOD Platform  
**Two scenarios:** Business as Usual (BAU) and TOD. Under the TOD Scenario, mode share of subway will increase, due to the TOD platform coming online
- 10. **Methodology:** The total emission reduction is the sum of the 20-year emission reductions of the 40 cities. Calculation equation is as below.

$$\text{Emission reduction} = \sum (\text{Emissions}_{\text{BAU Scenario } ij} - \text{Emissions}_{\text{TOD Scenario } ij})$$

*i* represents year during 2023-2042

*j* represents 40 cities listed in the TOD platform

Emissions<sub>BAU Scenario ij</sub> and Emissions<sub>TOD Scenario ij</sub> will be calculated following the same equation as follow:

$$\text{Emissions} = \text{Population} \times \text{Average per capita transport emissions}$$

Average per capita transport emissions will be calculated as follow:

$$\text{Average per capita transport emissions} =$$



$$\begin{aligned} & \text{Average daily travel distance} \times 365 \times \\ & (\text{Emissions per person-kilometer}_{\text{private car}} \times \text{Mode share}_{\text{private car}} + \\ & \text{Emissions per person-kilometer}_{\text{bus}} \times \text{Mode share}_{\text{bus}} + \\ & \text{Emissions per person-kilometer}_{\text{taxi}} \times \text{Mode share}_{\text{taxi}} + \\ & \text{Emissions per person-kilometer}_{\text{subway}} \times \text{Mode share}_{\text{subway}} + \\ & \text{Emissions per person-kilometer}_{\text{non-motorized}} \times \text{Mode share}_{\text{non-motorized}}) \end{aligned}$$

11. **Assumptions** are summarized in below Table 4-5:

**Table 4-5 Assumptions for the estimation of the Platform’s contribution to emission reduction**

Population	Average Daily Travel Distance	Mode Share	Carbon Intensity
<ul style="list-style-type: none"> <li>- 2022 figures are based on current statistics.</li> <li>- 2035 projections derive from the city's Medium and Long-Term Development Plans.</li> <li>- A linear increase is assumed from 2022-2042.</li> </ul>	<ul style="list-style-type: none"> <li>- 2022 data is taken from the latest available public research in WRI's report Wuhan Transport Sector Carbon Emissions Roadmap Study.</li> <li>- For cities without data, we used figures from cities of comparable population.</li> <li>- A 10% linear increase in daily travel distance is projected from 2022 to 2042. This is consistent across both BAU and TOD Scenarios</li> </ul>	<ul style="list-style-type: none"> <li>- Acquiring individual city data is challenging, hence assumptions are in place.</li> <li>- Wuhan's 2017 transport mode share data serves as the 2022 benchmark for all 40 cities.</li> <li>- The TOD platform is projected to bolster subway usage and diminish carbon-intensive transport reliance, notably private cars. Specifically, under the TOD Scenario, subway mode share will rise by 1% from 2022 levels due to the TOD platform's influence. This assumption is pivotal and greatly influences the results.</li> <li>- The surge in subway usage from 2022-2042 is projected to be linear, primarily replacing private car usage. Only subway and private car mode shares differ between the two scenarios</li> </ul>	<ul style="list-style-type: none"> <li>- The 2022 carbon intensity across all transport modes for the 40 cities is equated to Wuhan's 2017 figures.</li> <li>- A 35% linear reduction in carbon intensity is projected from 2022 to 2042. Both BAU and TOD Scenarios are aligned in this assumption.</li> </ul>

**Cost-benefit analyses of investment(s) directly leveraged under the Project**

12. **Economic cost.** The costs of the project are linked to the formulation of strategies and approaches aimed at integrating plans across city, transit corridor, and transit station levels. This includes initiatives such as the reformulation of zoning codes and technical guidelines to incentivize TOD.

13. **Economic benefits.** With direct impact on land use, urban mobility and the economy, the TOD principle encouraged in the project is capable of addressing a multitude of urban issues, beyond those directly

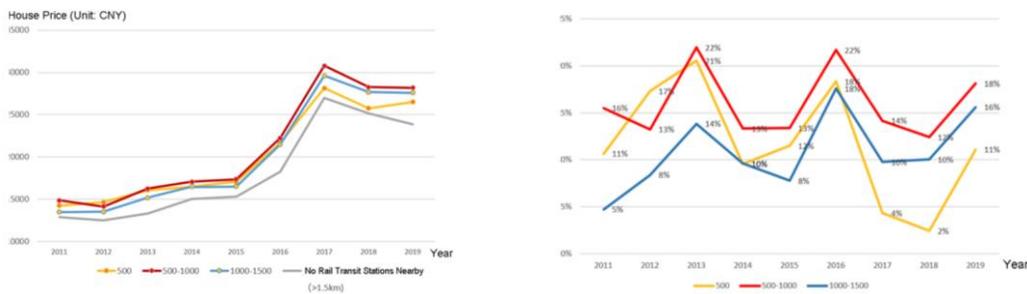


associated with the transit network. The project could gain the following benefits through promoting TOD including enhance the utilization of urban resources (land, infrastructure and services), improve energy efficiency, and boost connectivity between urban nodes. As a result, it will have considerable and lasting impacts on the local economy, reducing congestion costs, saving land, enhancing property values, saving energy and other resources, reducing pollution, improving travel safety, and encouraging the pent-up demands for walkable urban development. At the global level, the project is estimated to reduce GHG emissions of 87.7 million tonnes CO2.

### A Case Study of TOD’s Impact on Local Economy: the Tianjin West Railway Station

14. This section explores the localized impact of TOD at Tianjin West Railway Station. Although not directly funded by the project, this developed case serves as a noteworthy example, showcasing the potential economic advantages that the seven participating cities could realize once the project-supported TOD-oriented urban planning becomes a reality in the near future. Inaugurated in 2011, the Tianjin West Railway Station was designed to function as a high-speed rail hub, stimulating development in the surrounding district and the corridor along the Tianjin Metro Line 6. The site-specific TOD planning envisioned the station as a leading high-speed rail business hub in Tianjin, a versatile metropolitan commercial hub, and a premier residential zone for business professionals in the Beijing-Tianjin-Hebei (BTH) region. The real estate data from 2011 to 2019 were gathered to examine the housing price trends along the Tianjin Metro Line 6 – where the Tianjin West Railway Station TOD project is situated. Their analysis showed a clear correlation between housing price trends during this period and the inauguration of Metro Line 6. (Figure 4-1a) Properties within a 500–1000-meter radius of the new metro line stations saw the most significant increase in housing prices. (Figure 4-1b)

Figure 4-1 Real Estate Pricing & Premium at Different Distance from the States of Metro Line 6  
(a) Housing Price (b) Location Premiums



### Refined TOD Tracking Framework of Indicators

15. A tracking framework, with a set of indicators, was established to facilitate the long-term monitoring of the project's effectiveness during project appraisal. This is particularly crucial for interventions that have only policy outputs that depend on subsequent investments to fully materialize their impacts. The framework and indicators have gone through revisions during project implementation. New indicators were added, including Plot Ratio, Pedestrian-Friendly Environment, Intersection Density, Distance to Metro Station and Access to Jobs. The new indicators have been specifically tailored to the unique



context of China, taking into account the compact nature and heightened development intensity of Chinese cities, as informed by the research findings of the project (See table 4-6 and table 4-7).

16.

**Table 4-6 refined TOD tracking framework**

Recommended TOD Tracking framework	Recommended TOD Impact framework
<ul style="list-style-type: none"> <li>▪ <b>Density:</b> Integrate the Plot Ratio index for better post-completion assessment. A heightened plot ratio enhances commercial vibrancy and traffic.</li> <li>▪ <b>Diversity:</b> Include the Land-use Diversity index. Improved land use diversity can boost land values and rents.</li> <li>▪ <b>Design:</b> Add Pedestrian-Friendly Environment and Intersection Density indicators. These encourage walkability and public transport use.</li> <li>▪ <b>Accessibility:</b> Incorporate Distance to Metro Station and Access to Jobs indicators. This reduces reliance on cars.</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Traffic (formerly Cost Savings):</b> Introduce Distance to Metro Station as a new variable for assessing travel convenience near rail stations.</li> <li>▪ <b>Land Utilization &amp; Value:</b> Add Land Value/Land Rent indicators. Rising land values can directly signify the economic gains from TOD.</li> <li>▪ <b>Social (formerly Development):</b> The TOD model supports sustainable transport, economic efficiency, and holistic environmental and social growth.</li> </ul>

**Table 4-7 Refined Tracking Indicators**

	Quantity Measures	Quality Measures			
		Density	Diversity	Design	Accessibility
Original Indicator	<p><b>Rail Density</b> Number of rail stations/ City Area (km<sup>2</sup>)</p> <p><b>Rail Network Density</b> Length of rail lines/ City Area (km<sup>2</sup>)</p> <p><b>Urban Land Coverage Ratio</b> 500m buffer area of stations/ Urban Construction Area (%)</p> <p><b>Urban Population Coverage Ratio</b> Populations within 800m buffer area of stations/ Urban residential population (%)</p>	<p><b>Population Density</b> Population density within 500m buffers</p> <p><b>Job Density</b> Number of enterprises and governments/500m buffer area (km<sup>2</sup>)</p> <p><b>Development Compactness</b> Number of POIs within 250m to stations/Number of POIs within 300m-500m to stations</p>	<p><b>Land Use Mix</b> <i>Mix</i> = number of POIs for land use type within 500m buffer / number of POIs for all land use types within 500m buffer</p> <p><b>Job Housing Imbalance</b> Population Density/Workplace POI Density – 1</p>	<p><b>Street Network Density</b> All roads (except highways and expressways) length (km)/500m buffer area (km<sup>2</sup>)</p> <p><b>Highway Density</b> Length of expressways (km)/500m buffer area (km<sup>2</sup>)</p> <p><b>Ground-floor Retail Density</b> Number of ground floor retails/500m buffer area (km<sup>2</sup>)</p> <p><b>Number of Parking Facilities</b> Number of parking facilities within 500m buffer</p>	<p><b>Distance to Municipal Passenger Transport Hub</b> Distance to the nearest urban passenger transport terminal center</p> <p><b>Number of Bus Lines</b> Number of bus routes within 500m buffer</p> <p><b>Number of Bus Stations</b> Number of bus stations within 500m buffer</p> <p><b>Distance to Municipal Service</b> Distance to the nearest city-level public service facilities</p>
Added Indicators		<p><b>Plot Ratio</b> building m<sup>2</sup> /land m<sup>2</sup></p>		<p><b>Pedestrian-Friendly Environment</b></p> <p><b>Intersection Density</b> Number of road intersections / area</p>	<p><b>Distance to Metro Station</b></p> <p><b>Access to Jobs</b> Distance to workplace</p>



## ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

The following comments were received from the eight PMO on December 13, 2023:

### Beijing

1. Agree with all the ratings in the ICR.
2. On page 3, the abbreviation of Beijing Jiaotong University should be BJTU.
3. On page 14, Beijing's district level application should also be added into table 2.
4. In para 30, Beijing also issued TOD guideline under corridor level application.
5. In para 32, one sentence should be added: The Beijing Municipal Planning and Natural Resources Commission, responsible for organizing and compiling the integration of Beijing's rail transit, has further deepened the TOD assessment of rail stations on the basis of the project and gradually formed a corridor level TOD planning manual in the later stage.
6. In para 43, one sentence should be added: to ensure flexible organization of human resources in each city to complete expected tasks.
7. In para 78, one sentence should be added: In the seven cities, based on MoHURD's platform, each city has developed their own platforms on which data and policy that reflects their special needs are reflected.
8. On page 31, one achievement of Beijing to the PDO indicator one should be added: The outputs of GEBJ-1A also support *the Implementation Rules for Integrated Planning and Construction of Beijing Rail Transit Stations and Surrounding Land (Trial)* issued by the Municipal Government, and continue to incubate government financial issues such as *the Beijing Rail Transit Implementation Evaluation and Annual Physical Examination and the Key Points for Compilation of Integrated Line Planning*.

### Tianjin

9. Agree with all the ratings in the ICR.
10. In para 30, please delete Tianjin's inputs at the corridor level land use adjustment, since Tianjin's corridor-level research mains focused on financing.

### Shijiazhuang

11. Agree with all the ratings in the ICR.
12. On page 6, please change Shijiazhuang Financing Bureau to Shijiazhuang Development and Reform Commission.
13. On page 18, please change the numbers in table 4.

### Ningbo

14. Agree with all the ratings in the ICR.
15. On page 6, please change Ningbo Rural Development Commission to Ningbo Housing and Urban Rural Development Bureau.

### Nanchang

16. Agree with all the ratings in the ICR.
17. On page 18, please change the numbers in table 4.



18. In para 55, please add Nanchang, because the PMO director is also in charge of the preparation of the important five-year plan and the project outputs were incorporated into Nanchang 14<sup>th</sup> Five-Year Plan.
19. On page 31, change 2022 to 2021.
20. On page 33, change (2021-2050) to (2020-2035).

#### **Guiyang**

21. Agree with all the ratings in the ICR.
22. On page 44 and 49, please add contract1. Please also change the Express Railway Ring Road to Ring High-speed Railway.

#### **Shenzhen**

23. Agree with all the ratings in the ICR.
24. In Para 44, please add Shenzhen, because Shenzhen also produced videos under both city and station-level application.
25. On page 37, please delete “the Shenzhen Urban Rail Transit New Phase Construction Plan (2020-2025 ) and”.



## ANNEX 6. SUPPORTING DOCUMENTS

### World Bank Documents

- World Bank. 2017. GEF China Sustainable Cities Integrated Approach Pilot Project: Global Environment Facility Grant Agreement (GEF Grant Number TFOA4213) between People's Republic of China and International Bank for Reconstruction and Development.
- World Bank. 2017. Appraisal Document for the GEF China Sustainable Cities Integrated Approach Pilot Project. Report No: PAD1801.
- World Bank Aide Memoires and Management Letters, from 2017 to 2023.
- World Bank ISRs sequences 1–11.

### Borrower's Documents

- Borrower's implementation completion report and annexes, MOHURD (March 2023)
- Borrower's implementation completion report and annexes, Beijing (March 2023)
- Borrower's implementation completion report and annexes, Tianjin (March 2023)
- Borrower's implementation completion report and annexes, Shijiazhuang (March 2023)
- Borrower's implementation completion report and annexes, Ningbo (March 2023)
- Borrower's implementation completion report and annexes, Nanchang (March 2023)
- Borrower's implementation completion report and annexes, Guiyang (March 2023)
- Borrower's implementation completion report and annexes, Shenzhen (March 2023)
- Interim Financial Reports
- PMO Semi-annual Progress Reports
- Project Audit Documents