

## Summary of the “Transforming Cities with Transit & Financing Transit with Land Values” Workshop

TOD and LVC mechanisms are particularly relevant in a country like China. China entered an active phase of urbanization and urban rail development. In many Chinese cities, unprecedented urban growth and very rapid motorization has led to urban sprawl as well as congestion, air pollution, greenhouse gas emissions, inefficient use of energy and time, and unequal accessibility to jobs and services. TOD and LVC approaches offer options to shape more sustainable cities and neighborhoods, while financing transit schemes. Such approaches are applicable since many Chinese cities exhibit the factors that enhance the prospects of success of development based LVC schemes, such as strong economic growth, rising real incomes, and increasing congestion, all of which contribute to land value appreciation near transit corridors.

A workshop co-organized by the World Bank and the Institute of Comprehensive Transport of the National Development and Reform Commission, reviewed the opportunity, challenges and solutions to implement TOD and LVC in China. This workshop, which took place on November 1<sup>st</sup>, 2013, brought together over 120 Chinese national and local government policymakers, urban and transport planners, transit agencies, private developers, researchers and international experts. The following captures its main conclusions.

China has a unique historic opportunity to apply TOD and LVC on a large scale. The urban rail network will reach 3,000 km by 2015 and over 6,000 km by 2020 with over 4 trillion RMB in cumulative investment. The high speed and express rail network is also expected to reach all major cities of more than 500,000 people by 2020. In order to ensure sustainable financing for these systems, new value capture mechanisms should be introduced to support the construction and operation of these networks. This would include development based LVC building on TOD principles. It would also include tax-based land value capture (property tax or betterment tax to capture benefits throughout the development process). Such local taxes would fit in the current tax reform scheme to align the administrative and spending responsibility of different levels in government. Return such income back to transit operation and use such revenue flow to leverage private investments.

Overall, by 2020, China expects to have over 4,500 stations interconnected by either metro lines or high speed rail. This provides a unique opportunity to create new vibrant urban spaces, centered on those stations and well interconnected through sustainable mass transit systems. While all stations will not become vibrant urban spaces, based on international experience, about 15 to 20 percent of stations can be expected to succeed in doing so. As past investigations on real estate values in Beijing<sup>1</sup> indicate, dense commercial development located in CBDs tend to see their value increase with mass transit availability. This incremental value can be captured to fund part of investments and operations of mass transit systems. The application of TOD principles can also support increased and more balanced traffic volumes on mass transit systems, while attention to surface and service quality can improve urban livability and attract knowledge and services based workers to such cities.

While Chinese practitioners are familiar with TOD concepts and are rapidly getting acquainted with LVC, most cities find their implementation challenging. A fragmented planning process leads to insufficient cohesiveness between land use plans and transport plans as well as between transport plans for each mode. Regulatory complexities lead developers to favor greenfield development rather than infill development or redevelopment of existing areas. Developers have limited role in recommending adjustments to regulatory control plans and seldom play a holistic role at a neighborhood level, rather concentrating on simpler quick win projects at a building scale. Land regulations are not conducive to

<sup>1</sup> Yan, B. (2012). “Land values impacts of Subway Station: A Case Study of Beijing City”.

compact mixed use development. A rigid land policy hampers the subdivision of land parcels and the trading of land use rights for such parcels. Business models and financing schemes focus on initial capital outlays, rather than on the life-cycle cost of mass transit systems, creating a mismatch between fund availability and effective needs, as well as a substantial risk to the long term financial sustainability of such systems. These aspects were explored in more details as follows.

The planning process of cities is often fragmented, as a result of being managed by multiple agencies responsible for different sectors and under the authority of different vice-mayors. While, on surface, urban and transport plans refer to each other, at a detailed level, mismatches are frequent. Poorly connected pockets of high densities emerge, for example in the form of a few blocks of tall buildings separated from any existing or planned mass transit systems by over a kilometer. Urban densities are not differentiated to reflect the availability of mass transit. Such physical (or spatial) mismatches concentrate future transport flows in areas that will be more difficult to connect, and fail to encourage the use of mass transit systems where such systems exist. Similar fragmentation exist across modes of transport, where all modes are provided simultaneously, but poorly interconnected to direct users towards the use of transit where suitable. For example, large avenues parallel to metro lines encourage car use, while difficult access to metro stations by other transport modes reduce the use of mass transit. Once infrastructure is built, changes are difficult and costly.

Rather than taking a holistic perspective at a neighborhood level like in Hong Kong, developers and metro companies often play a limited role in recommending adjustments to regulatory control plans. This limits their impact on creating vibrant urban spaces at a community or neighborhood level and on increasing land value. Instead developments tend to be mostly concentrated on a few buildings, adjacent to or above metro stations, without much coordination with surrounding environments and transportation facilities. While such approach offers quick wins, this scale is too small to capitalize on the place-making design opportunity brought by mass transit.

Rigid regulatory parameters and control plans limit the possibilities to develop well integrated compact, diverse, and dense cities following TOD principles. These include for example the extensive use of super blocks, excessive building setbacks, excessive road width, limited emphasis on mixed land use, low level of differentiation in floor area ratios (FAR) not reflecting the availability of mass transit systems, limits to building height, or fire regulations (limiting allowable FAR). In particular, the strong emphasis on superblock design leads to the creation of urban islands within the city separated by extra-large roads, creating an environment with low appeal for pedestrians and bicycles.

A rigid land policy hampers the subdivision of land parcels and the trading of land use rights of such parcels, in a way that discourages diversity and mixed-use development. Unlike in places like Hong Kong, land use rights cannot be transferred effectively to mass transit companies to allow those companies to optimize the integration of land use and mass transit and secure sustainable financing. The difference in authorized land use right duration for housing and commercial buildings also creates an obstacle to their combination in a single development.

Even when TOD is applied, mass transit systems in China are still in the early days of trying to develop a long term sustainable business model. While initial capital costs are usually covered through land sale, long term needs, such as coverage of operating expenditures or systems renewal, currently depend on future municipal contributions. Revenues from land use rights sale is the major public funding source of infrastructure investments. This has incentivized local municipalities to sell land in the urban periphery and led to urban sprawl. Land use right sales in China have often been used merely as a one-time income

for cities that fail to capture the long term increase in value brought by mass transit and the need for recurrent support for mass transit system operation and renewal. Costs and benefits are likely to be mismatched over time unless cities are arranging appropriate instruments to capture land value increase over the long run, including property tax, impact fee, or betterment tax or longer term gains from real estate activities around stations (rental, lease, capital gains).

To answer those challenges, workshop participants outlined solutions to improve the planning process, land regulations, development procedures, the business model and financing schemes of mass transit, as well as the design of cities. Some of those solutions will be further pursued as part of TransFORM, the joint China-World Bank Urban Transport Solution Platform.

As an overall recommendation, development would be worth prioritizing along urban transport corridors and around rail and metro stations. Along with public transit improvements, certain corridors or areas around stations could be assigned higher development intensities and local governments could channel land conversion quotas to these areas by allowing transfer of land conversion quotas from slower-growing areas outside the corridors. To foster more coordinated development around transport nodes, changes in zone ordinances should be simplified, allowing higher FARs, population density, and building heights around transit stations and specially designated boulevards and plots. More flexible and negotiable zoning code could encourage a greater mix of residential, commercial, and special industrial uses (media and entrainment), and the right to adapt and reuse commercial buildings as housing, especially in boulevard and transit station areas. Governments could arrange “bonus” FARs for private developers to provide certain amount of accessible public facilities and affordable housing units in their property packages along corridors and around stations.

The land values maximized through the optimum provision of public and private goods along corridors and around stations should be shared by related stakeholders, including local government agencies, metro companies, people living in those neighborhoods and third-party developers based on fair, transparent and agreeable rules. This places unique emphasis on the role of metro companies in receiving land development rights, such as in the R+P approach in Hong Kong, allowing for an effective integration of all dimensions.

The main solutions recommended during the workshop were as follows:

### ***Improving the planning process for TOD***

- Put in place institutional arrangements that require or encourage better coordination of land and transport functions, including planning bureau, transport agencies, land bureau, construction bureau, finance bureau, private developers and residents, with coordination at a mayor-level including related agency heads.
- Require a progressive and iterative alignment of land use plans and transport plans. To that end, share systematically land use plans and transport plans between the transport and land bureaus in cities; encourage in particular higher densities and mixed-use development around mass transit stations; conduct periodic reviews of city-wide master plans to ensure the integration of TOD concept into high-level strategies and long term plans; develop a variety of TOD plans at a city level or corridor level considering the role different types of stations will play, some as place in the city (livable, accessible, high quality urban environment), some as multimodal hub (where mobility is the central focus), some as both, some as simple stations; rezone areas around metro

stations accordingly, considering city strategy, market conditions and infrastructure improvements.

- Strengthen and clarify the legal and regulatory basis for high-quality TOD development. Issue flexible spatial and infrastructure planning procedures and guidelines for development and redevelopment around transit stations, based on the State Council Directives on Prioritization of Urban Public Transport Development. Codify them into regulations or a law. Create opportunities for local governments to innovate, and facilitate exchange of experience.
- Require the feasibility study report for mass transit projects to include proposed changes to detailed land control plans as well as the preparation of integration plans for metro, bus rapid transit, bus, taxi, cars, e-bikes, bikes and pedestrian. Coordination with developers and local business owners is recommended when developing land control plans and assessing them to reflect market conditions and potential demands. Such plan should include a clear set of performance objectives, investments, responsibility from various agencies including initial and recurrent funding and management, and a time frame. Active consultation across agencies and with the public should take place to ensure that such plans will be implemented. Ensure budget limits set for feasibility studies are sufficient to cover those TOD aspects, and that the review process specifically confirms that those aspects are well covered.
- Introduce the possibility for metro companies and associated developers to request adjustment to control plans against payment for additional development rights. Metro companies should play a key role in this process because the parameters proposed will largely determine the demand for transit services and ridership levels around stations. Alternatively conduct detailed land and real estate market analysis and consider upzoning prior to auction, as done in Shenzhen. Establish performance based planning and let developers propose their ideas prior to finalizing the control plans.

#### ***Developing land regulations supporting TOD-based LVC***

- Enable incremental densification by relaxing controls on the urban land market. Treat land use rights more like a tradable right and less like a special good. Create incentives for new investments in built-up areas, by setting up redevelopment schemes based on TOD supported by LVC including smooth right transfers along with enough economic incentives for redevelopment (air right sale, land re-adjustment, urban redevelopment financing, .etc). This would require a revision by the national government of the Land Administration Law and by-laws to allow such transfers of use rights for vacant land plots, while local governments would encourage existing landowners to initiate redevelopment plans for their parcels. Conduct outreach activities to boost interest in redevelopment. Provide technical assistance to interested parties on a demand-driven basis. Authorize a number of pilots under which urban rail companies are granted tradable land use rights nearby stations at pre-mass transit value.

- Break down the development scale. While planning is best handled on a large scale, encourage the development of smaller blocks, plots, spaces through multiple small projects in existing areas, facilitating historic preservation. Retain some of the existing development, mixed with new development in partnerships with developers.

*Considering the setup of special development zones around stations*

- **Designate a special development zone around selected stations**, defined as an area for TOD intervention with more flexible planning and design regulations (similar to the comprehensive development area in Hong Kong). Such stations would be selected based on the line characteristics, market demand and the local context. This would give such areas enough scale to have a measurable impact at city, regional and national levels. In such zones, deviation and changes from the regulatory and master plan would be authorized, permits simplified, and management simplified. For instance, a rail plus community development business model for metro companies could be adopted on a pilot basis<sup>2</sup>, granting upfront some reasonable land use rights to metro companies to cover their long term financing needs based on incremental value increase along such mass transit systems. In such enlarged zones, great attention should be paid to surface and service quality. The planning of such zones could be further optimized to facilitate their emergence as high productivity, efficient and sustainable areas with lowered carbon and energy footprint (Transit Synergized Development<sup>3</sup>) and to integrate affordable social housing. Designate an entity responsible for coordinating the development of such TOD zones to create vibrant urban space, to enhance accessibility, and to maximize return on investment, such as urban rail companies.
- **Start small pilot cases to change public perception and to acquire expertise and experience for future projects.** Such pilots would apply the concept of special development zone, and apply new codes and standards for both built up areas and greenfield areas, based on TOD principles (but in a distinctive manner). This would include redesigning the street network to facilitate micro-circulation and to encourage the walkability and bikability within and between blocks. The process for their development would be inclusive, and encourage active public participation. It usually takes time for one society to accept a new development concept and for local governments and metro companies to build professional capability to manage multifaceted project procedures with private entities. The implementation of TOD and LVC should be incremental progress toward more complex and larger-scale applications.

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<sup>2</sup> Several cities in China are piloting the capture of land value for transit development, with different business models. Shenzhen indicated metro station construction requirements in its land auction to ensure the metro company would get land for stations at a relatively lower price, and allow them to build up above ground. In return, a number of affordable housing were built and returned back to the government. In Chengdu, transit companies received land for their bus depots at no cost from the government on which they could develop real estate, with the corresponding revenues earmarked to transit operations.

<sup>3</sup> iContinuum, 2013. Transit Synergized Development: Framework for a Smart, Low-Carbon City.