Transit-Oriented Development (TOD) Community of Practice

Newsletter Issue 3 (February 2017)

Highlights of Recent Events

**TOD Workshop in Rio de Janeiro brings together government, financiers, real estate developers**

In November 2016, the World Bank organized a 3-day TOD workshop in partnership with WRI Brazil Sustainable Cities and the State Government of Rio de Janeiro, which attracted participants from municipal and state government, financing institutions, and real estate investors.

Lectures, discussions, and work sessions were divided in four modules: (a) TOD Concepts; (b) Structure of a TOD Project; (c) Governance and Institutional aspects; and (d) Financing TOD Projects.

Nine presentations were given, covering a wide range of urban redevelopment and mobility infrastructure investment.

**Overview of Presentations**

- Mr. Alberto Gomes Silva, President of CDRIIP, covered lessons on the rejuvenation of the Porto Maravilha area in central Rio de Janeiro. A comprehensive transport investment plan, including a new waterfront tram, was developed, along with investment incentives to protect heritage buildings and guarantee social benefits.
- Ms. Isabel C. G. de Souza Amaral, Assessor of the Secretary of State for Transport of Rio de Janeiro, presented a methodology for choosing the best transit stations to implement TOD projects.
- Prof. Robert Cervero, noted TOD expert from the University of California-Berkeley (USA), covered the history and evolution of the TOD concept, including early implementations in Arlington, USA and Curitiba, Brazil, and how new technologies will change implementation in the future.
- Ms. Luana P. Bett, Urban Economy Specialist with WRI Brazil Sustainable Cities, presented a menu of potential financing instruments to assist transit expansion through TOD projects, including transfers of development rights and different debt and equity financing products.
- Ms. Laura Azededo, Urban Development Analyst at WRI Brazil Sustainable Cities, summarized key urban design elements of effective TOD – density, compact growth, mixed-use, housing/leisure/entertainment, and walkability.
- Mr. Felipe Targa, Senior Urban Transport Specialist at the World Bank, discussed ways for TOD projects to be inclusive and benefit all segments of society by encouraging civic participation in the planning process.

For more information, please refer to the full presentation slides on the TOD CoP Box.

**TOD presentations at ‘Transforming Transportation 2017’ conference**

In January of this year, the World Bank and WRI gathered again for the annual Transforming Transportation conference that looks at more sustainable transport modes. This year’s theme was “Beyond Commitments: Sustainable Mobility for All”. The conference covered diverse topics on transportation, including high-level plenaries on sustainable mobility, new mobility technologies, and updating our understanding on accessibility and economic growth.

- **Moderator, Robin King (WRI Ross Center for Sustainable Cities)** – an introduction to WRI’s upcoming World TOD Resource (to be launched in April), which will be a comprehensive information and learning platform to understand TOD best practices and find e-learning resources (see presentation here).
- **Mukund Kumar Sinha (Ministry of Urban Development, India)** – a summary of ongoing TOD efforts in India, including corridor-level, area-level, and city-level implementations (see presentation here).
- **Om Prakash Agarwal (Punj Lloyd Institute of Infrastructure Management, Indian School of Business)** – a discussion of the Indian context for TOD, that metros are often chasing existing density, so the focus should be on improving interchanges and access to stations (see presentation here).
- **Luc Nadal (Institute for Transport and Development Policy (ITDP))** – a call to break the cycle of car dependence by improving mass transit provision in major metro areas and focusing on TOD-style growth, which is inherently more inclusive (see presentation here).
- **Kate Owens (WRI Ross Center for Sustainable Cities)** – an analysis of how TOD principles can apply to Dar es Salaam, Tanzania by re-scaling the vision and focusing on land pooling to overcome challenges of many plots along transit corridors (see presentation here).

**Summary of 3V Presentation, Gerald Ollivier**

In his presentation, Gerald provided a concise summary of the principles of transit-oriented development, and how cities can be reshaped through the 3 Value (3V) Framework, based on an upcoming book. By understanding each station’s node value, place value, and market potential value, planners can better prioritize new development in the city and come up with customized strategies for transformation.

In Zhengzhou, a study used this framework to identify network centralities and key interchange stations, allowing the city to identify areas that can absorb new development. Focusing growth in this way significantly improves accessibility as well, beyond just new metro lines. (see presentation here)
New Urban Agenda from Habitat III highlights importance of integrated transport-land use planning

At last year’s largest urban-focused gathering, the 3rd UN HABITAT Congress, the adopted New Urban Agenda had a few things to say about TOD and coordinated metropolitan land use planning. Most of the sections on sustainable spatial forms were implicitly about TOD, and the document calls specifically for equitable implementations of TOD in Para 114.

Habitat III had broad participation from stakeholders across urban development – governments, designers, planners, civil society leaders – but some noted that private-sector real estate developers were hard to find, which is odd given their outsized role in actually shaping the urban landscape. Lenora Suki of Smart Cities Advisors makes this point in her article, “Housing at the Center but not Real Estate.”

Para 51: We commit ourselves to promoting the development of urban spatial frameworks, including urban planning and design instruments that support sustainable management and use of natural resources and land, appropriate transport, compactness and density, polycentrism, and mixed uses, through infill or planned urban extension strategies as applicable, to trigger economies of scale and agglomeration, strengthen food system planning, and enhance resource efficiency, urban resilience and environment sustainability.

Para 52: We encourage spatial development strategies that take into account, as appropriate, the need to guide urban extension, prioritizing urban renewal by planning for the provision of accessible and well-connected infrastructure and services, sustainable population densities, and compact design and integration of new neighbourhoods into the urban fabric, preventing urban sprawl and marginalization.

Para 98: We will promote integrated urban and territorial planning, including planned urban extensions based on the principles of equitable, efficient and sustainable use of land and natural resources, compactness, polycentrism, appropriate density and connectivity, and multiple uses of space, as well as mixed social and economic uses in built-up areas, in order to prevent urban sprawl, reduce mobility challenges and needs and service delivery costs per capita, and harness density and economies of scale and agglomeration, as appropriate.

Para 114: We will promote access for all to safe, age- and gender-responsive, affordable, accessible and sustainable urban mobility and land and sea transport systems, enabling meaningful participation in social and economic activities in cities and human settlements, by integrating transport and mobility plans into overall urban and territorial plans and promoting a wide range of transport and mobility options, in particular through supporting:

(a) A significant increase in accessible, safe, efficient, affordable and sustainable infrastructure for public transport, as well as non-motorized options such as walking and cycling, prioritizing them over private motorized transportation;

(b) Equitable “transit-oriented development” that minimizes the displacement, in particular, of the poor, and features affordable, mixed-income housing and a mix of jobs and services;

(c) Better and coordinated transport and land-use planning, which would lead to a reduction of travel and transport needs, enhancing connectivity between urban, peri-urban and rural areas, including waterways; and transport and mobility planning, particularly for small island developing States and coastal cities;

(d) Urban freight planning and logistics concepts that enable cost-effective and efficient transport and mobility plans, and services, minimizing their impact on the environment and on the liveability of the city, and maximizing their contribution to sustained, inclusive and sustainable economic growth.

Para 115: We will take measures to develop mechanisms and common frameworks at the national, subnational and local levels to evaluate the wider benefits of urban and metropolitan transport schemes, including impacts on the environment, the economy, social cohesion, quality of life, accessibility, road safety, public health and action on climate change, among others.

UN increases focus on transport-land use integration as part of Global Sustainable Transport Conference

The UN Global Sustainable Transport Conference, held in Ashgabat, Turkmenistan 26-27 November 2016, aimed to bring together key stakeholders in sustainable transport, and identify how integrated mobility improvements can contribute to the SDG 2030 goals. The World Bank was represented by Dr Mahmoud Mohieldin, SVP of the 2030 Agenda, UN Relations and Partnerships, and Ms Nancy Vandycke, Economic Advisory (Transport & ICT Global Practice) in a 90-minute consultative session on 26 November.

According to Ms Vandycke, one of the key deliverables for the World Bank is to develop a “zero draft” that proposes a global tracking framework for the SDGs that brings together global goals for sustainable transport and country-level performance monitoring to achieve 4 goals – access for all, efficiency, safety, and green. The intent is to bring all actors toward a set of common and clear objectives "to generate the transformational changes required for sustainable mobility".

Page 12: “Transport is not an end in itself, but rather a means allowing people to access what they need: jobs, markets and goods, social interaction, education, and a full range of other services contributing to healthy and fulfilled lives.... For decades, transport policies focused on providing mobility based on motorized transport and improving traffic speed. Using the word ‘access’ in the context of transport was synonymous with building new roads and other infrastructure mainly benefiting the use of private cars. The motivation was access to transport. With the shift to sustainable transport comes a paradigm-shifting focus on people and their quality of life – the concept of access through transport, as well as increased attention to safety and social equity in transport.”

Page 16: The Avoid-Shift-Improve Approach, esp.:

- “Avoiding inefficient or unnecessary travel or transport, where appropriate, e.g. by improved and integrated urban planning, compact city form, transport demand management…”
- “Shifting travel/tranport to improve trip efficiency through most efficient or environmentally friendly mode or combination of modes.”

Page 23: “National urban policies that focus on mixed land use, compact city forms and transit-oriented development can advance sustainable transport objectives.”

Page 42, under financing: “Introduce innovative approaches, such as land value capture programs, green bond investments, and transit-oriented development grants as applicable and appropriate.”
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Ideas, Concepts & Key Outputs

Two important projects – one in India and one in China – bring together all aspects of the TOD process, and can help guide their rapidly growing cities to limit the growth of private cars and provide a wide mix of transport options. And in Vietnam, planners are using TOD to connect with a new growth area in Da Nang.

New TOD Guidance Document for India is comprehensive and in-depth

In preparation for a next generation of urban transit systems in India’s fast growing cities, the Ministry of Urban Development has been working on a set of comprehensive TOD guidelines as part of the Sustainable Urban Transport Project (P110371). The Transit Oriented Development Guidance Document was released in mid-2016 to assist various government organizations, public authorities, and development professionals in India, embarking on the process of integrating sustainable transport planning principles in diverse urban contexts. The core of this document is the Step-by-Step process identified: (1) Assess, (2) Enable, (3) Plan+Design, (4) Invest, and (5) Implement, followed by a detailed documentation of best practice case studies.

Summary

MoUD stresses that TODs are relevant to Indian urban challenges, stressing that planning must move away from auto-centric paradigms. Local and regional planning authorities should have TOD policies as part of the regular master plan updating process, suggesting tailored TOD urban design guidelines could better match development control regulations. Planners must also collaborate with transit agencies upstream when considering a new transit corridor to ensure effective integration. While the recommendations emphasize holistic and long-term planning, they also suggest quick-wins that local governments can do right away – improving integration with current feeder buses, Rickshaws, etc.; upgraded pedestrian infrastructure; bicycle rental; and park-and-ride lots at strategic transit stations.

Assessment/Enabling: Planners need to review and reform zoning regulations – in order to allow a mix of uses, differential FARs, provision of premium FARs as incentives, and land pooling mechanisms. Automobile regulations (including parking minimums) also need to be examined.

Plan+Design: Many design guidelines are suggested to achieve effective multi-modal integration with good pedestrian accessibility, it is suggested that bus stops and bicycle sharing stations be placed closer (under 100m) than private car/taxi pickups (further than 100m).

TOD Principles Identified

- Multi-modal integration – seamless integration between modes for direct transfers
- First & last mile connectivity – effective bridges to trip end-points, with a mix of transport options
- Interconnected street network – hierarchy of streets with high intersection density allowing direct travel
- Complete streets – rights of way that cater to all users
- Non-motorized transportation (NMT) network – design improvements that shift the balance to NMT users
- Traffic calming – slowing motorized traffic to improve safety for pedestrians and bicyclists
- Mixed land uses – efficient distribution to justify better transit service and lessen the need for motorized travel
- Optimized densities – tapered and concentrated densities along a corridor based on transit carrying capacity
- Street oriented buildings – buildings that are welcoming at street-level with active uses
- Managed parking – optimize level and location of parking to discourage vehicle usage
- Informal sector integration – cater for all sectors of society and ensure transit’s benefits are inclusive
- Housing diversity & affordability – ensure choice of housing options within station walking distance

Plan+Design (cont.): Beyond the immediate station area, 50 street intersections per square km is recommended as ideal to achieve high walkability. On the land development side, an increase in FARs immediately surrounding stations should incentivize redevelopment, and higher densities can be made livable with well-considered urban design guidelines.

MoUD also covers a menu of options to encourage coordinated real estate development, including direct incentives like land value capture, tax increment financing, and joint development with transit agencies directly, as well as regulatory tools like land banking, density bonuses, and transfer of development rights (TDR). The document also provides implementation recommendations on how to phase key tasks for stakeholders.

Case Studies

To bring the principles down to local-level, the Guidance Document includes specific case studies on how this could be implemented in a few cities and station areas in India (including Delhi and Ahmedabad) and best overseas practices.

For more information, please refer to the full project documents or contact Nupur Gupta (TTL).

Upcoming GEF-China project takes TOD principles closer to implementation

In 2015, the Chinese Ministry of Housing and Urban-Rural Development (MOHURD) adopted best practice design guidelines for the development of areas along urban rail corridors. They tackled many of the key problems that China’s rapid urbanization has faced, from single-purpose super blocks and auto-oriented street design to uncoordinated housing development. Many people were involved in developing these breakthrough principles, including experts from the World Bank and international architects. But while these were a good first step, they are not compulsory for cities to follow. So now, as Chinese cities continue to invest in metro rail and BRT systems, what are the next steps to ensure effective next-generation urbanism in China?

The Global Environment Fund (GEF) is promoting urban sustainability as one of their three Integrated Approach Pilots, given the central role that cities will play in addressing climate change. The China portion of this project is one of the main implementations (2017-2021), and will focus on seven cities in a range of development stages with a mix of challenges (see table). A central emphasis in the GEF project will be to promote integrated land use-transport planning – through TOD technical assistance that addresses key barriers and identify key opportunities in each city.

The work will be both at the national-level, where consultants will focus on policies, regulations, and enabling frameworks, and at the city-level, where consultants will support cities to develop customized strategies and plans to better integrate land use and transport planning.

Summary of GEF-China Project (P156507)

- City-scale: land-use policy and strategy; integrated land use and transport planning; modelling of TOD to align densities; identify station typologies and create scenarios for urban growth around transit and monitor comprehensive impacts, leveraging of the private-sector; improving station accessibility; capacity building and stakeholder engagement
- District/corridor-scale: understanding transformational potential of urban rail and urban development investments; integration of urban and transport development; legal and regulatory frameworks; design and planning guidelines; operational guidelines; financing schemes; citizen and stakeholder engagement; capacity building; consideration for social and affordable housing
- Station-scale: zoning; conceptual designs; accessibility planning; public space at local scale; citizen and stakeholder engagement

For more information, please contact Joanna McLean Masic and Wanli Fang (TTLs).

Da Nang focuses on a connecting corridor to a new transit hub

As part of the Railway Connectivity Improvement and Urban Redevelopment Project in Da Nang, a BRT corridor has been proposed to connect the existing central city with a new rail station, where a new CBD will be built. A TOD concept to focus density along the BRT both encourages transit ridership and stitches the city together.

You can find a detailed report and presentation here.
Dar es Salaam: Urban Transport Improvement Project (P150937) and Metropolitan Development Project (P123134)

The city is updating its metropolitan land use master plan and its metropolitan transport master plan with funds from other projects. DMDP has contracted a consultant to prepare high level TOD strategy for all built and proposed BRT corridors including design guidelines and strategy. The assignment began in January 2017 and will conclude around June/July 2018. The same consultant will prepare a detailed Corridor Development Strategy (also called an Integrated Land Use and Transport Plan) for the areas surrounding the operational BRT Phase 1 routes constructed under CTCP2, as well as detailed station area development plans, financing plans and feasibility studies for two pilot stations.

TTLs: Yonas Elieskia Mchomvu, Eric Dickson, and Chyi-Yun Huang

Lima: Technical Assistance for Structuring and Integration of Metro Projects in LCR (P153851)

Currently conducting the structuring of TOD pilots for Metro Line 2 under PPP schemes with PPIAF funds. The Bank team is executing this TA through a consulting firm that was selected in Jan 2017 to do the work for the next 8 months. The Bank and the government authorities are planning a workshop for April 2017 to present the final output of the "Assessment of Urban Transformation Potential through Enhancement of Integration and Local Accessibility Standards for Lima Metro Line 2", financed with SFLAC funds.

TTLs: Daniel Pulido and Felipe Targa

Bogotá: Bogota TOD Implementation Strategy Along SITP Network (P156821)

Currently designing the strategy to implement TOD along the depots and terminals of the city’s Integrated Public Transit System (SITP). A Bank-financed TA is supporting the definition of TOD typologies and the definition of the financial guidelines associated with the operational, financial and development characteristics of the SITP’s depots/terminals. This methodology could be adopted and exported to other Bank-supported projects looking to assess TOD potential in bus terminals.

TTLs: Alexandra Ortiz and Vanessa Velasco

For an Excel workbook of project statuses with further detail, please email jgood@worldbankgroup.org
Calendar of Upcoming Events and Training

Upcoming Tokyo Technical Deep Dive goes into further detail on TOD

The 2nd TOD Technical Deep Dive (TDD) will be held 29 May – 2 June 2017, and will offer a comprehensive learning opportunity to facilitate and implement successful TOD projects in client countries. This TDD is structured around TOD at the city, corridor and station scales. It will draw on a new background paper (Japanese planning system), case studies and tools on planning (3V Framework), Land Value Capture (LVC), and Land Readjustments and an e-learning module prepared since the 1st TOD TDD in May 2016. The TDD will leverage TDLC’s City Partnership Program (CPP) partners such as Yokohama City along with other collaborators such as Tokyo Metropolitan Government and Nagoya City. The TOD TDD incorporates feedback extracted from the 1st TOD TDD participants and will try to connect some of the alumni experts who joined the 1st TOD TDD via VC to share their TOD project progress while bringing new clients with active TOD projects.

This TDD will allow project delegations, composed of 1 WB TTL and 2 cities participants each (preferably one from urban development and another from transport department or agency), to develop a deeper understanding of TOD in Japan and around the world. Delegations will derive great benefit from:

- Cutting edge policy thinking and technical knowledge delivered through engaging learning sessions;
- Peer learning and networking through experience exchange sessions;
- Tactile knowledge exchanges through applicable site visits;
- Opportunity to engage directly with Japanese municipalities, ministries, transit agencies, private sector and academia, to learn innovative solutions and to identify areas of further collaboration and knowledge exchange;
- Follow-up operational support to assist in the successful application of knowledge gained through the TDD, provided through the TDLC program.

About Technical Deep Dives

TDDs are an innovative approach to knowledge exchange including workshops, site visits, peer-peer knowledge sharing and action planning, which aims to foster operational development of World Bank funded projects in specific topics. In general, TDDs facilitate structured learning and provide ongoing support to connect practitioners with technical experts and best practices, in close collaboration with the World Bank’s Communities of Practice (COP).

1. “Objective” focused structure
2. Knowledge exchange to foster operations
3. Structured Learning
4. Application to Knowledge Networks

Recap from 1st TOD TDD: Client Challenges Identified

During the 1st TOD TDD, practitioners from WBG client cities noted that the implementation of TOD is generally complex to manage, which is particularly challenging for developing countries. Participants unanimously agreed that strategic and comprehensive planning is crucial for successful TOD implementation, with coordination between agencies often difficult. While participant cities arrived already having understood the potential of TOD and its core design concepts, there is a common need for specific mechanisms for implementation, particularly on financing and regulation. Especially as many redevelopment efforts are at the building-level, well-designed regulation is needed to enable TODs that evolve over many phases. Specific focus areas include (1) demarcation of financing and overcoming high upfront costs, (2) regulating and guiding the private sector, and (3) improving inter-jurisdictional coordination (hierarchical and cross-agency).

For more detail, please refer to the Technical Note on the 1st TOD TDD available on the TDLC website.

Upcoming WRI/WB TOD Corridor Course to be available on OLC

To provide a more structured way to learn about the principles and implementation of transit-oriented development, the World Bank has been working with WRI Ross Centre on Sustainable Cities to develop an in-depth 7 module course. The content is currently being finalized, and it should be published on the WB E-learning portal in April 2017. The modules include:

1. Introduction to TOD – covering the basics and history of the concept
2. TOD Corridors – how to plan for TOD on a transit corridor scale (a recommended scale)
3. The Building Blocks for TOD – needed policies and frameworks to plan and implement
4. Design Components for TOD – design best practices for effective implementation
5. Financing TOD – Ways to make it feasible to build transit and sustainable districts
6. Sequencing for Implementation – recommendations on phasing TOD areas
7. Inclusive TOD – how TOD can contribute to social needs and affordable housing
8. Monitoring and Evaluation – how to measure success

Conferences relevant to TOD

On 15-17 May 2017, the UITP Global Public Transport Summit will take place in Montreal, Canada (https://www.uitpsummit.org/). The theme of this year’s conference is “Lead the TRANSITion” and aims to inform participants in the transit sector about the rapid changes in technology that are changing the urban transport sector – from app-based transport network companies (TNCs) to ongoing vehicle electrification to upcoming autonomous vehicles. While the entire conference is related, some parallel sessions would have more direct relevance to TOD:

- Parallel Session 1: Planning, design, and construction of mass transit systems
- Parallel Session 4: What can cycling do for public transport?
- Parallel Session 5: Transformative transport: planning urban transport for better cities
- Parallel Session 9: Dealing with informal transport across the world
- Workshop 8: Paratransit: building the inclusive transportation chain
- Workshop 11: Transport aggregators and their role in developing cities
- Lunch Session 3: Serving the suburbs with autonomous vehicles
- Parallel Session 13: Urban transition, planning neighbourhood for people
- Workshop 13: Creating a practical model of land value capture

On 3-6 May 2017, the 25th Congress for the New Urbanism (CNU25) will meet in Seattle (https://www.cnu.org/cnu25) to discuss sustainable urban planning and design. While primarily focused on developed countries and the United States in particular, lessons may still be relevant for TOD practitioners aiming to implement best practice design. Some relevant sessions include:

- Core Session: Equitable Transit-Oriented Development
- Core Session: Street Networks & Connectivity
- Utilizing Affordable Housing to Catalyze TOD

TOD-relevant courses on Open Learning Campus

Other E-learning Modules available

- Integrated Urban Transport Planning (self-paced); to develop capacity amongst those policy makers and practitioners responsible for urban transport planning and decision making to understand urban transport in all relevant dimensions, and develop urban transport plans, programs and projects that are more integrated and sustainable.
- Sustainable Urban Land Use Planning (self-paced); to ensure participants have a functional and integrated understanding of the dynamics of urban land use, and demonstrate how to effectively utilize policies and planning instruments to manage urban growth and achieve sustainable, equitable and efficient development outcomes