

However, the number of paratransit vehicles required would be reduced if the last mile transport measures described above were secured, and the management of waiting spaces and operations for paratransit vehicles would be easier.

Taking this into account, the policy for the proper management of rickshaws within the station areas is to provide, where possible, the following facilities.

- Providing pocket parking space for Rickshaw with other paratransit modes can be arranged in lands adjacent to the running lanes/distributing roads (other than the trunk roads) instead of roadside parking due to limited road capacity.
- Providing lanes for rickshaws on trunk roads and supplementary trunk roads.
- The private sector can be engaged in arranging those parking facilities under the control of Parking Wardens in each of the parking areas.

Through the above initiatives, a shift to public transport and walking as the main mode of transport is attempted in the station area to gradually reduce the excessive demand for rickshaws.

(7) Create a Bicycle-friendly Environment

Interest in the use of environmentally friendly and healthy bicycles is expected to increase in the future in Bangladesh. In addition, since bicycles are easy to use, it is expected that the use of bicycles for the last mile between MRT stations and home will increase. Therefore, it is necessary to consider connecting to the bicycle network and installing bicycle parking at MRT stations.

1) Bicycle Network

TOD plan should consider how destination developments and stations can ensure safe cycling connections to the new bicycle network. This will require cooperation and coordination among developers, transit agencies, and local jurisdictions to achieve safe connections across site boundaries.

2) Bicycle Parking

Considering the growing popularity of cycling as a mode of transport, it is important in the design of multimodal facilities to consider bicycle parking when cyclists arrive at their destinations. Cyclists should feel that their property is safe and protected when parked. Shelter from the elements is an important first step, and a bicycle garage is desirable to provide safety from theft and keeping bicycles dry.



Source: <https://www.kanaloco.jp/news/social/entry-6967.html>, and <https://www.lixil.co.jp/lineup/exterior/hybridroof/>

Figure 2.22: Image of Bicycle Network and Parking

2.3 Walkability

Regardless of the method used to arrive at the station, walking connections are crucial to link passengers to their multimodal connections and their destinations. From another perspective, walking needs the least space for transport infrastructure compared to the other transport modes, and is most likely to generate people's activities including incidental activities in addition to their primary purpose. Increasing walkability, therefore, is a crucial element to maximize people's activity around station area. As described above, the TOD Guidelines place the top priority on the pedestrian space in areas surrounding MRT stations. The general principles and approach are described here for connectivity, pedestrian route and streetscape, which are key elements to create walkability.

2.3.1 Direction

(1) Walkable Distance

Since most people have limits to how much effort and time they are willing to dedicate to walk, it is important to provide compact walking routes and major destinations within walking distance. The size of urban blocks and networks tends to be designed according to the main means of transport there. In Dhaka, where private cars are becoming increasingly popular, some blocks have been developed with fewer turns and are larger than the pedestrian scale. A change of mindset is required to develop pedestrian-friendly walkable-sized networks in Dhaka, particularly between transit stations and other destinations around MRT stations.

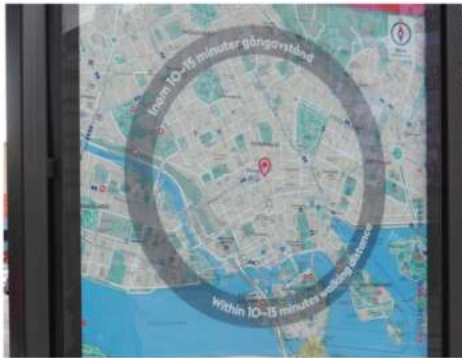


Figure 2.23: Walking Distance in Stockholm

(2) Safe and Comfortable Environment

Simply locating development within walking distance to the station does not ensure the development can be reached by transit-using pedestrians. The ability and willingness to walk is shaped by much more than distance alone. Walkability occurs when physical environments produce a space where walking or staying feels safe, easy, and comfortable. This safety, ease, and comfort drastically impact the real decisions of pedestrian walkers, as does distance. Furthermore, every pedestrian trip to and through a TOD should be safe and efficient, but also memorable and enjoyable. For examples, safe sidewalks and crosswalks that can separate pedestrians from motor vehicles should be provided, and the ground floor of buildings and public spaces should be active so that people can enjoy walking. Such walkable environment should be created in pedestrian route and public realm areas surrounding MRT stations in Dhaka.



Figure 2.24: A Safe and Comfortable Sidewalk in Vancouver

2.3.2 Approach

(1) Connectivity

1) Identify Primary and Secondary Pedestrian Routes

Primary routes run directly between the transit platform and station site and major pedestrian destinations in the surrounding community. These routes will attract high pedestrian volumes, associated pedestrian oriented services and act as the major connections to the station. Primary routes would typically include wider sidewalks and may include station access bridges, public easements, and regional pathways. Secondary routes do not provide a direct link to the transit station site but feed into the primary routes. These routes would typically include standard sidewalks and private accesses to individual buildings.

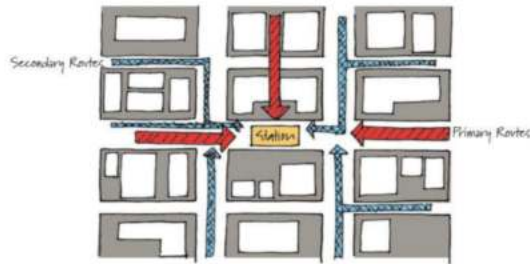


Figure 2.25: Primary and Secondary Pedestrian Connections

2) Expand Walkshed When Possible

A station's walkshed may be expanded by creating pedestrian links across existing barriers, building a rich pedestrian TOD network in and around the vicinity of the station and designing the TOD site so that the station has many connections with the surrounding neighborhood.

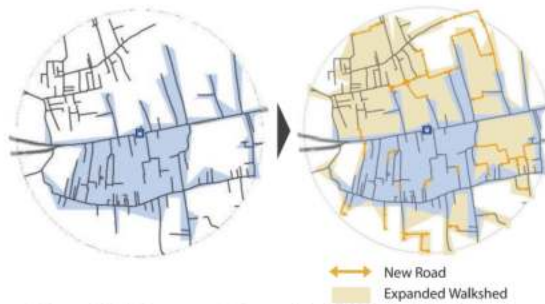


Figure 2.26: Image of Expanding Walkshed by Creating Pedestrian Links

Walkshed is a map-based representation of the distance a pedestrian can walk within a given time period. For TOD purposes, equivalent to 10 minutes of walking for an average adult, are commonly used to graphically predict the “reach” of transit ridership for a specific station. Considering average pedestrian walking speed in Dhaka, approximately 700m is equivalent to the 10 minutes of walking. Walksheds using simple circles, originating at the station and extending equally into the surrounding neighborhood fabric, do not take into account pedestrian barriers such as highways, rivers, railroads, and even dangerous intersections. Realistic, irregularly-shaped walkshed areas can be mapped by acknowledging those obstacles and also incorporating the entire walking network: sidewalks, pedestrian paths, and pedestrian bridges.

3) **Maximize Pedestrian Connectivity with Walkable Blocks and Frequent Intersections**

The block length of local streets should not be too large to allow better access for people who walk or cycle. Walkable or short blocks create more intersections, resulting in a greater number of highly visible corner block locations that can become prime centers of activity and contribute to the overall quality of life of TOD. The appropriate block length for a TOD may be determined by a typical block length based on contextual area precedents. Many walkable cities in the world have block lengths between 60m and 120m.



Figure 2.27: Image of Making Walkable Blocks

(2) **Pedestrian Route**

1) **Provide Walkable Way**

A safe and attractive pedestrian walkway, separate from the vehicular street, is essential in improving the use of any transit amenities. Provide enough width of pedestrian walkway according to the land use as the following table. The widths given in the table are standards for typical cases, and it is recommended that wider spaces be examined and provided for special roads with a high volume of pedestrian traffic, such as roads with a concentration of commercial buildings and recreational spaces.

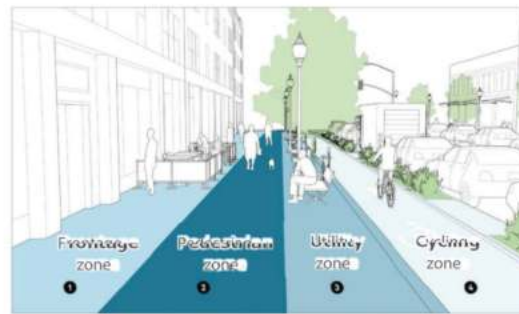


Figure 2.28: Intersection of Different Parts of the Pavement

In addition to the path of travel, street furniture should be incorporated into the sidewalk design whenever possible. Install streetscape elements such as bus stop shelters (architecturally integrated where appropriate), benches, properly scaled street lights, and planters along the edge of sidewalks to create a diverse and engaging pedestrian environment.

Table 2.7: Standard Widths of Walkway according to Land Use

Land use	Maximum pedestrian traffic	Frontage zone (m)	Pedestrian zone (m)	Utility zone (m)	Total width (m)
Central commercial area	80 people / min	1.0	3.0-4.0	1.5	5.0-6.5
Park, schools and other places where pedestrian traffic is high					
Local road (commercial)	60 people / min	1.0	2.0-2.5	1.5	4.5-5.0
Commercial areas outside the central commercial zone					
Residential area	50 people / min	0.5-1.0	1.5-1.8	1.0	3.0-3.8
Collector road					

Source: Detailed Area Plan (2022-2035)

2) Ensure Safety at Street Crossing

With intersecting uses for pedestrians, transit vehicles, drivers, cyclists, diners, shoppers, and more, streets are activity centers that must balance the safety needs of many uses. TOD will benefit greatly from safety improvements at street crossings. Crosswalks should be stop- or signal-controlled, highly visible, and well-maintained. Visibility and traffic calming measures such as textured or reflective paint, lighting, tactile warning strips, and speed humps can assist in integrating the walker with the numerous other modes crossing the street. The ultimate goal is for those walking to get to their destination safely and conveniently.



Figure 2.29: Crossing Controlled to Allow People to Cross Safely in Copenhagen

3) Create Tree Canopy

A healthy tree canopy creates a vibrant urban environment that people want to navigate and that city residents feel connected to. Tree canopies offer a myriad of environmental benefits including reduced emissions and energy demand for air conditioning, reduced stormwater pollution, public space for rain shelter, protecting pedestrians from the sun on very hot days, which improves walkability in the neighborhood. Plant street trees in continuous planting beds, where possible, allowing for additional root growth and general health of the tree. Soil amendments improve the quality of planting material for both existing and proposed trees. Consider existing overhead utilities when selecting a tree species for the area. Where space allows, plant larger shade trees to establish a more robust canopy.



Figure 2.30: Street with Tree Canopy in Portland

(3) Streetscape

1) Activate Public Space

Surround public space at transit stations with active uses such as ground-level restaurants, cafes and other pedestrian-friendly offerings to attract commuters, residents, and other transit-inclined consumers. Encourage people to use public space at stations even if they are not planning to ride transit. Accommodate casual, incidental public space use by providing seating, lighting, bike parking, and landscape amenities. Public space at transit stations should fulfill a need for quality open space within urban and urbanizing areas, and can be an integral part of a community's everyday life.



Figure 2.31: Public Space Surrounded by Shops and Street Furniture in Copenhagen

2) Create a Station Identity

Create public space that memorably integrate transit infrastructure with the surrounding area. As the first part of the transit station that many people will encounter, public space must thoughtfully accommodate the movement of people to and from transit destinations. It is equally important to establish a sense of place, or arrival, that is unique to the specific station. This can be accomplished through larger design gestures, with thoughtful landscape and site material choices, and by including public art as an integral part of the overall public space design. Public-private partnership should be used for many station areas in Dhaka to ensure that the built environment in and around transit stations achieves a degree of coherency and consistency of experience for all visitors.



Figure 2.32: Station Plaza with Unique Design in Tokyo

3) Increase Visibility

The level of visibility is a big indicator of sense of safety. Without visual access to other people on the space or activity centers, a feeling of isolation can encourage real or perceived danger. Consequently, the visibility to and from walking connections should be maximized from all angles. By increasing visibility in all directions, surveillance is added to support public safety. Lighting and ground level transparency of buildings contribute to visibility as well.



Figure 2.33: Streetscape with Highly Visible Condition in Warsaw

4) Place Lighting

Lighting should be significant to allow visibility of walkable areas with particular attention to pathways, stairs, entrances and exits, parking areas, and all areas where individuals may gather such as at station platforms and around ticket vending machines. Lighting should not be too bright so as to create deep shadows, glare, or discomfort for viewers. Light fixtures themselves should not cause obstructions to visibility, but should be at height to allow visibility of the faces of those in the space. Natural lighting should be utilized to the best extent possible for enclosed areas and supplemented where it's inadequate. Outdoor lighting should be responsive to the changes in natural lighting that occur throughout the day and through various weather patterns.



Figure 2.34: Visible Streets with Lighting in a Downtown Area in Vancouver

5) Pedestrian Scale Architecture

The design of the ground floor area at eyelevel of pedestrians, which is about 3m from the ground, needs to be interesting and transparent to create a vibrant and walkable street frontage for TOD. Doorways and windows should be oriented to the street level in order to provide ease of entrance, visual interest and increased security through informal viewing. Architectural variety (windows, variety of building materials, projections) should be used on the lower stories of a building to provide visual interest to the pedestrian. Buildings higher than 4 to 5 stories should step back higher floors in order to maintain the more human scale along the sidewalk and reduce shadow impacts on the public street.



Figure 2.35: Ground Floor Frontage with Variety of Building Materials in Seattle

Buildings higher than 4 to 5 stories should step back higher floors in order to maintain the more human scale along the sidewalk and reduce shadow impacts on the public street.

2.4 Land Value Capture

Since the construction of railway facility costs a large amount of money, it generally takes a long time to recover the funds from revenues from the railway business alone. In addition to the railway facility, promotion of TOD requires the development of pedestrian and public spaces around stations, which requires a large amount of government funds. On the other hand, land prices around stations are expected to rise due to the development of railway and public spaces. As an example, a report indicates that land price in the catchment area of MRT-3 metro stations in Manila uplifted 2-3 times after 5 years of deciding the construction of MRT. This section provides basic directions and potential approaches of Land Value Capture in Dhaka, which is the concept of mobilizing some or all of the increase in land value (unearned income) resulting from non-landowner actions to the funds of investment for the community.

2.4.1 Direction

(1) Land Value Capture (LVC)

LVC is a kind of public financing method by which governments and relevant agencies capture the increase in land values through several measures, such as investments for improving accessibility (particularly infrastructure development like mass rapid transit) and/or update of planning policies such as a change in land use or floor area ratios (FAR). The principle of land value capture is to jointly create value from TOD and to share this with all stakeholders to develop more sustainable urban spaces.

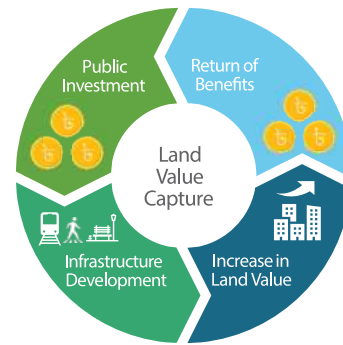


Figure 2.36: Image of Land Value Capture

2.4.2 Approach

There are two main categories of LVC: 1) Tax- or fee-based LVC, on which the public bodies directly recover costs, and 2) Development-based LVC, on which the public bodies indirectly recover costs. Tax- or fee-based LVC is a method for the public side to indirectly benefit from development profit back from beneficiaries including landowners and corporations in the area. Using a Tax-financing mechanism, the public side could collect infrastructure development investment. Development-based LVC, on the other hand, is a method of promoting the development of land and buildings through a rights conversion approach, based on the premise that land values will rise due to improved transport convenience, and land plot reorganization, etc. It is an approach to indirectly return funds to the public side by selling or leasing public lands with increased land values due to deregulation, infrastructure development. Neither of both categories of LVC system has been established in Bangladesh, but some of the following methods may be adaptable in Dhaka and should be explored going forward.

Table 2.8: Potential LVC Methods in Dhaka

Category	Method	
Tax- or fee-based LVC	1) Expected increase in tax revenue (Property Tax)	If land prices in the area surrounding stations increase as a result of the construction of the station, property tax revenues are expected to increase. In such cases, the Local Government can increase the property tax, DMTCL can impose a relevant fee, and RAJUK can impose a betterment fee. However, since property tax is generally a general revenue source, it is necessary to revise the legal system in order to allocate a portion of the increased tax revenues to the TOD related facilities.
	2) Betterment Fee	Betterment fee is imposed by governments on estimated benefits created by public investments, requiring beneficiaries who benefit directly from public investments to pay for their costs.

		In the future, it may also be considered that part of the betterment fee from beneficiaries could be given to DMTCL for their huge financial contribution for metro development.
	3) Self-developed Infrastructure	Self-developed Infrastructure is a case for a developer to increase convenience and land values by building infrastructure facilities such as roads around the development site by the developer itself. The idea is similar to Betterment Fee, but the difference is the private sector will directly construct the infrastructure and make it open to the public for benefit to both public and private sector.
Development-based LVC	4) Land Readjustment	Landowners in the project area provide a part of their land to improve and create roads and other public facilities, which increases land values in the entire district, and the landowners benefit from this. On the public side, roads and other public facilities are improved, resulting in benefits for both the private and public sectors.
	5) Urban Redevelopment	Landowners work with developers to consolidate land and construct buildings, and add new building floors, which increases land values on and around the area. The landowner acquires new building floors and the developer benefits by making new use of the additional building floors or selling them to third parties. Both Land Readjustment and Urban Redevelopment above are mutual cooperation between the public and private sectors. Both public facilities and real estate development are beneficial to both parties, but only if the right holders concerned reach a consensus.

Part 3: Coordination Mechanism

This part illustrates how the multiple stakeholders should coordinate for planning and implementation on TOD in Dhaka. Although each authority and entity in Dhaka related to urban development and transport traditionally has its own role, there have been few coordination mechanisms to interrelate and align them under TOD, which involves multiple sectors. Focusing on TOD at the scale of station area, the TOD Guidelines propose (1) role and responsibility and (2) process for main parties involved as the coordination mechanism, following the flow illustrated below from the planning phase for the TOD Station Area Plan to the implementation phase for development consistent with that plan.

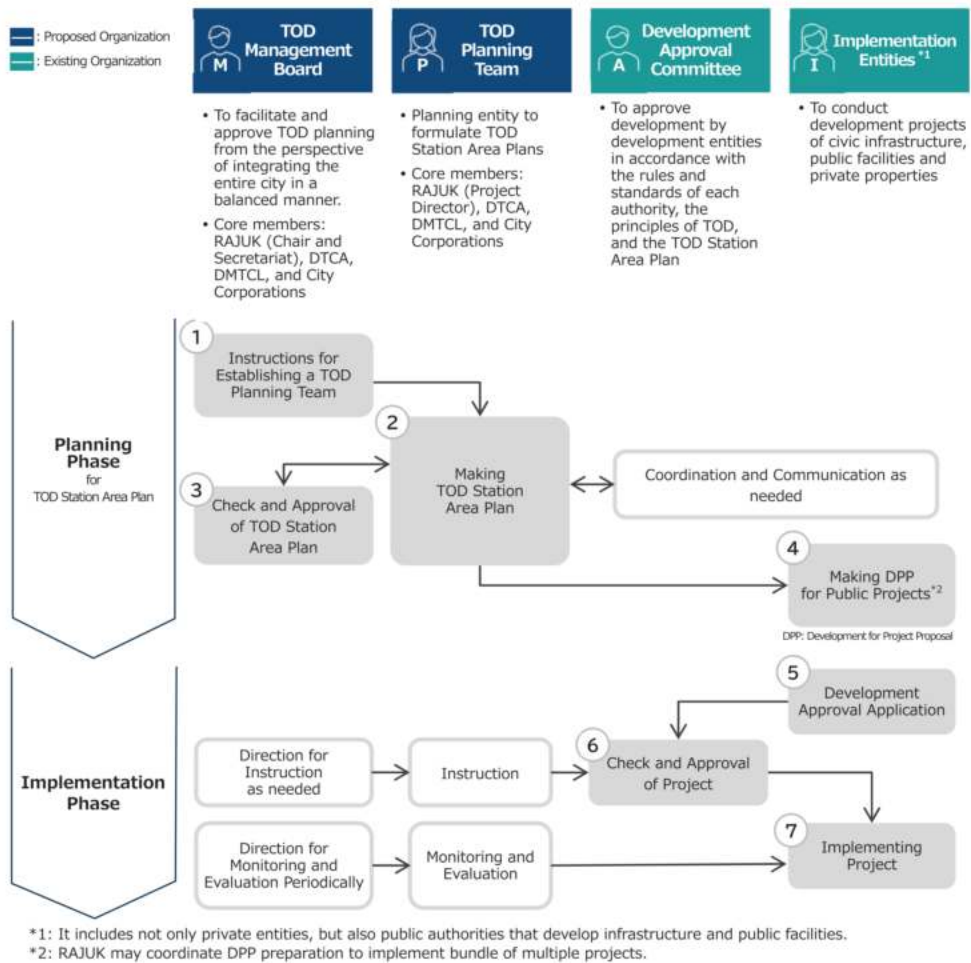


Figure 3.1: Overall Coordination Mechanism at the Scale of Station Area

3.1 Role and Responsibility

Development projects are the responsibility of different tiers of field administration of ministerial departments and directorates/agencies like-RAJUK, DTCA, Dhaka North and South City Corporations, DMTCL, BRTA, RHD, D-WASA, NHA, PDB, PWD, etc. involved from plan preparation to implementation with the prior approval procedures in different stage. Under the management of administrative authorities, private entities implement development projects.

A large number of stakeholders are often involved in TOD planning and projects, especially around TOD Station Area, because TOD is an approach that integrates multiple sectors including land use regulation, traffic management, road related facilities, public transport, and property development. To integrate activities of the stakeholders into TOD planning and projects consistent with the vision of developments, establishment of coordination mechanism is compulsory. The TOD Guidelines propose the establishment of a TOD Management Board and TOD Planning Team with RAJUK as the chair and secretariat and related organizations as members to facilitate and coordinate development with the TOD approach.

An overview of major roles and responsibilities of main players of TOD planning and projects, which are TOD Management Board, TOD Planning Team, Development Approval Committee, and Implementation Entities, are outlined below:

3.1.1 TOD Management Board



The Guidelines recommend permanently establishing the TOD Management Board separated from planning teams. The main reasons for this are 1) to separate those who develop the plan from those who review the planning process and contents and 2) to ensure consistency and balance in multiple planning areas. That is why the TOD Management Board, an oversight and decision-making body, is first to be established with the agencies' agreement to prioritize the stations that will develop TOD Station Area Plans and approve the establishment of the Planning Teams.

The roles of the management board are to facilitate and approve TOD planning including TOD Station Area Plan from the perspective of integrating the entire city in a balanced manner. This board will play a pivotal role in overseeing the successful planning, development, and implementation of TOD in Dhaka. Its primary function is to ensure that TOD projects align with the broader urban development goals, integrate land use and transport planning, and involve all relevant stakeholders in the process. The detailed role and responsibility are described in the following table.

RAJUK will lead the management board and all planning teams under the board, because it develops and updates the DAP, establishes the TOD policy as a land use plan, and regulates the area around the station as a TOD zone and secure the necessary budget for the plan. Alternatively, budget sharing will be decided in advance by the management board. (Besides organizing the management board meetings, there will be costs for many other activities such as information gathering, analysis, mapping, stakeholder meetings, etc.)

The members of the TOD Management Board are from the public sectors. The core members are RAJUK, DTCA, DMTCL, and the concerned City Corporations. Additional members, such as Road Transport and Highways Division, utility companies, private developers, public transport providers, and academic experts may be invited as and when needed for planning purposes and opinion hearings. There is no need for the same inputs for all stations. Depending on the TOD station type, the composition of the management board members and the number of stations to be covered can differ. If the board members fail to make decisions due to differences in opinions on development directions or any other issues, they may send it to the government for decisions and the decision of the government is final. Government will support accelerating the development process as and when required for public interest.

Table 3.1: Role and Responsibility of TOD Management Board

Strategic Oversight and Guidance	<ul style="list-style-type: none"> • Policy Formulation: The Board sets the strategic direction and policies for TOD projects, ensuring that they align with national and regional urban development goals. • Vision Alignment: Ensures that all TOD initiatives support the vision of creating sustainable, connected, and livable urban spaces in Dhaka. • Coordination with Government Policies: Aligns TOD strategies with existing government policies, such as the national urban policy, transport policy, and environmental standards. • Updating the Guideline and directions: The Board will need to support updating information, station typology, include new station/area to consider TOD and updating the guidelines, development controls, etc. time to time
Coordination Among Stakeholders	<ul style="list-style-type: none"> • Multi-Agency Coordination: Acts as a central coordinating body, bringing together multiple agencies such as RAJUK, DTCA, DMTCL, City Corporations, Bangladesh Railway, and private sector developers. • Conflict Resolution: Resolves conflicts between stakeholders by providing a platform for discussion and negotiation, ensuring smooth implementation of TOD projects. • Stakeholder Engagement: Engages with a wide range of stakeholders, including local communities, private developers, and civil society, to incorporate their inputs and address concerns.
Planning Approval and Development Oversight	<ul style="list-style-type: none"> • Approval of TOD Station Area Plans: Reviews and approves TOD Station Area Plans and individual project proposals, ensuring compliance with TOD principles and regulations. • Guidelines and Standards: Develops and enforces guidelines, standards, and benchmarks for TOD planning and implementation, including land use, density, and transport integration. • Integration of Land Use and Transport: Ensures that land use planning and transport infrastructure development are fully integrated, enhancing accessibility and reducing dependency on private vehicles.

3.1.2 TOD Planning Team



A TOD Planning Team should be established as the planning entity to formulate TOD Station Area Plans for a group of TOD station areas centered on a hub station and monitor the implementation. One of the roles of the team is to formulate TOD Station Area Plans including situation analysis around the TOD station area,

identifying constraints and opportunities, developing vision and concept (schematic plan, future land use, and transport plan), identifying projects (business approach, private development) and programs (regulatory approach), and grouping multiple projects (project package). The other main role is to monitor project implementation as the supervisory body to facilitate the implementation by each executing agency and private sector. The monitoring work includes instructing administrative authorities on criteria for individual development projects that cannot be licensed by the authorities alone, following the principles of TOD and the contents of the TOD Station Area Plan. The detailed role and responsibility are described in the following table.

The members of TOD Planning Team are from the public sectors. The team leader is a RAJUK member, and the core members are RAJUK, DTCA, DMTCL, and City Corporations. Additional members, such as Road Transport and Highways Division and utility companies, may be invited as needed for planning purposes and opinion sharing.

Unless activities are funded through existing budget systems, a budget for the Planning Team's activities will be required. RAJUK is expected to consider and propose of budgeting system.

In developing the TOD Station Area Plan, there will be opportunities to hear and exchange opinions with secondary transport operators (e.g., bus operators), local commerce and industry associations, developers, residents, and others. However, they do not participate in the discussions to develop the TOD Station Area Plan. The Planning Team will hold public hearings to explain the TOD Station Area Plan to the stakeholders and to obtain their input on the TOD Station Area Plan.

A Memorandum of Understanding (MOU) would be formulated and agreed upon among the member government agencies, describing the basic rules for establishing the planning team, including the members of the planning team, their roles, outputs at each planning stage, how to agree on the content of discussions, and budget sharing for the planning team's activities.

Table 3.2: Role and Responsibility of TOD Planning Team

Formulating TOD Station Area Plan	<ul style="list-style-type: none"> • Definition of TOD Zone Boundary: Defines TOD zones based on population density, transit accessibility, and land use potential trend of developments. • Spatial Planning: Develops the master plan including land use, transportation, infrastructure, and public spaces and considering other development integration. • Target Setting: Set planning guidelines, including density targets, mixed-use development standards, and sustainability criteria. • Meeting Coordination: Coordinates regular meetings to discuss, coordinate, and review the content and progress of the project to support approvals, implementation and progress of the projects. • Deliverables: Takes full responsibility for the final deliverables.
Monitoring and Evaluation	<ul style="list-style-type: none"> • Performance Monitoring: Monitors the progress of TOD projects against defined targets and milestones, ensuring timely delivery and adherence to quality standards. • Impact Assessment: Conducts periodic evaluations of the social, economic, and environmental impacts of TOD projects to ensure they meet the intended objectives. • Adjustments and Improvements: Recommends adjustments to plans and strategies based on monitoring and evaluation outcomes, adapting to changing circumstances or emerging challenges.

3.1.3 Development Approval Committee



There are several roles of the Development Approval Committee related to TOD, which are planning, managing and implementing development projects of civic infrastructure and property development in Dhaka. In the context of the Coordination Mechanism, development approval, which is the role that only the Development Approval Committee has within the main players, is addressed. The key role of the Development Approval Committee is to license and approve development by development entities in TOD Zone or TOD Station Area in accordance with the rules and standards of each authority, the principles of TOD, and the TOD Station Area Plan. For example, RAJUK and DTCA determine the granting of incentives as indicated in the TOD Principles of the TOD Guidelines, in addition to checking against building standards and conducting Traffic Impact Assessments.

3.1.4 Implementation Entities



Implementation Entities who conduct development projects of civic infrastructure, public facilities and private properties are also in the coordination mechanism of TOD. In the implementation phase of TOD, it is necessary for them to follow the principles and regulations of TOD with opportunity to obtain development bonus if requirements are met. Some implementation entities may participate in the planning phase of TOD Station Area Plan, upon invitation from the TOD Planning Team, such as when private sector partnership is required for a significant planned area or facility that will give future direction to the station area.

3.2 Coordination Process

This part illustrates the process of TOD initiatives from the planning phase to the implementation phase. MRT stations are unique, and the development process from planning to implementation may not be the same, but the development target should be the same, following the guide and ensuring a coordinated development system to implement a more sustainable approach to land-transport integration and promote density.

RAJUK might have a Road map to ensure developing the master plan for each of the station areas to identify the implementation arrangements. Each of the stations might have unique requirements with a unique vision so that the planning team can be established accordingly to guide and control the developments to keep balanced land use and transport mode around the transit stations following the characteristics of areas.

3.2.1 Instructions for Establishing a TOD Planning Team

The planning team needs to be established following the requirements of each individual station analyzing the type and development vision of the area. In each of the activities of TOD planning, RAJUK will need to be considered by the central coordination body.

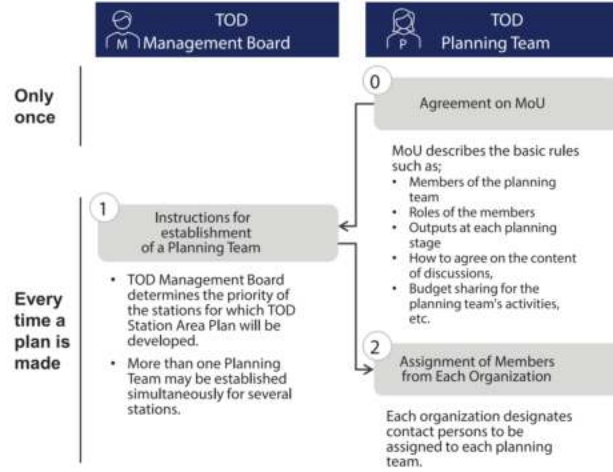


Figure 3.2: Process to Establish a TOD Planning Team

Table 3.3: Points to Establish a TOD Planning Team

<p>1. Project Director and secretariat from RAJUK</p>	<ul style="list-style-type: none"> RAJUK will play the role for central coordination. Project Director of a TOD Planning Team shall be basically selected from RAJUK because it is responsible for developing and updating DAP and designating TOD zones. It is possible for a certain public organization member other than RAJUK to be Project Director after consultation with the organizations concerned if appropriate, such as in the case of an area to be developed mainly by the public organization. Apart from the Project Director, secretariat members will be selected from the RAJUK members. For special case of TOD, RAJUK can create the MOU with relevant departments and ministries to get suitable decisions and for better coordination.
<p>2. Contact point for each organization</p>	<ul style="list-style-type: none"> Since TOD is a multi-faceted effort, having a single point of contact in each relevant organization is most effective.
<p>3. Flexible adjustment of member composition</p>	<ul style="list-style-type: none"> Since the issues of discussions and the contents of the TOD Station Plan are not yet apparent, the primary direction, such as the development vision and concept, shall be discussed by the selected core members first. When the direction and project contents are determined, the relevant members should be invited to join the Planning Team.
<p>4. Information sharing</p>	<ul style="list-style-type: none"> It is desirable to first proactively share the information each organization has such as status of projects. Then build a platform for information sharing so that necessary information including the content of discussions can be accessed by the Planning Team members and the people involved in their home organizations.

3.2.2 Making TOD Station Area Plan

This part guides a typical process and contents of planning for the TOD Station Plan. The station must be identified according to the typology and then analyzed following the distinct place types, area shape, density, building type and use. Analyzing the existing trend of growth of the station area, the TOD area will need to be defined considering the TOD core zone, TOD Zone and TOD influence area.



Figure 3.3: TOD Planning Process

The TOD station area plan comprises 1) the analyzing stage and 2) the planning stage. The analyzing and planning process and contents for the TOD plan shown here are typical and can be customized according to the actual situation and schedule.

The Analysing Stage

1. Analysis and Clarification of Situation

Analyzing the current situation of the target site through data collection.

- **Positioning of the station in a larger context:** Analyzing the position and features of the station at the city level and intermediate macro scale by reviewing the regional and city level plans, development projects and policies.
- **Creation of Base Map:** A base map must be developed in GIS/CAD format through the survey (physical features, land use, contour, road inventory, other infrastructure, etc.) or data collection (shapefiles, KML files, satellite images, etc.).
- **Site observation and analysis:** The development-related information will need to be collected and integrated into the map by conducting regular site visits in the target area to analyze and confirm detailed conditions to forecast the requirements of development integration.

2. Identification of Constraints and Opportunities

The constraints and opportunities/potentials from the perspective of TOD development for the sites should be analyzed based on the results of existing conditions, public opinions, etc. The perspective of the analysis will vary from site to site..

3. Real Estate Demand Estimation

Real estate market demand must be analyzed targeting the year considered for the TOD Station Plan. Due to the lack of a relevant real estate database, it is difficult to estimate current and future demands. The estimation should consider the trend of real estate supply following real estate demand estimation methods. The method should consider using the information collected through direct interview surveys of real estate developers and should forecast the demand strategically based on an urban development viewpoint.