PLANNING & DESIGN FRAMEWORK
FOR RAILWAY LAND

Enabling an exemplar **"RAILOPOLIS"**

INDIAN RAILWAY STATIONS DEVELOPMENT CORPORATION LIMITED

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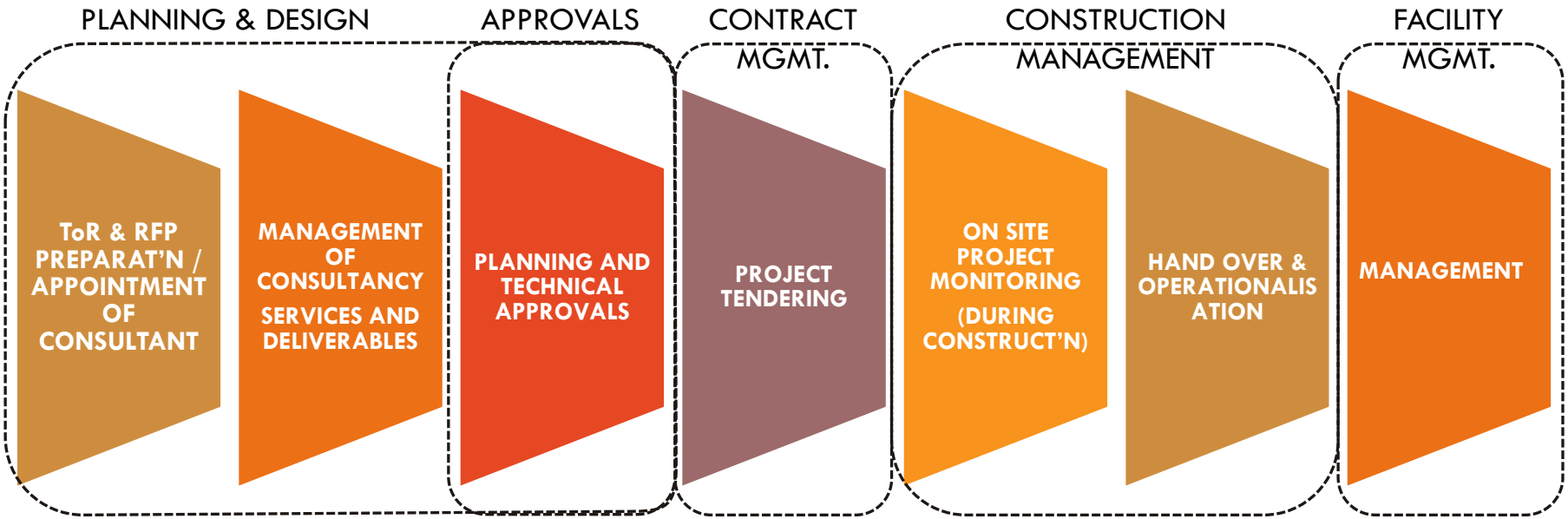
STATION & RAILWAY LAND DEVELOPMENT

IS COMPLEX AND REQUIRES MULTI-DISCILINARY RIGOUR & SKILL ACROSS STAGES



The success of each of the above is founded on a

A ROBUST PLANNING & DESIGN FRAMEWORK

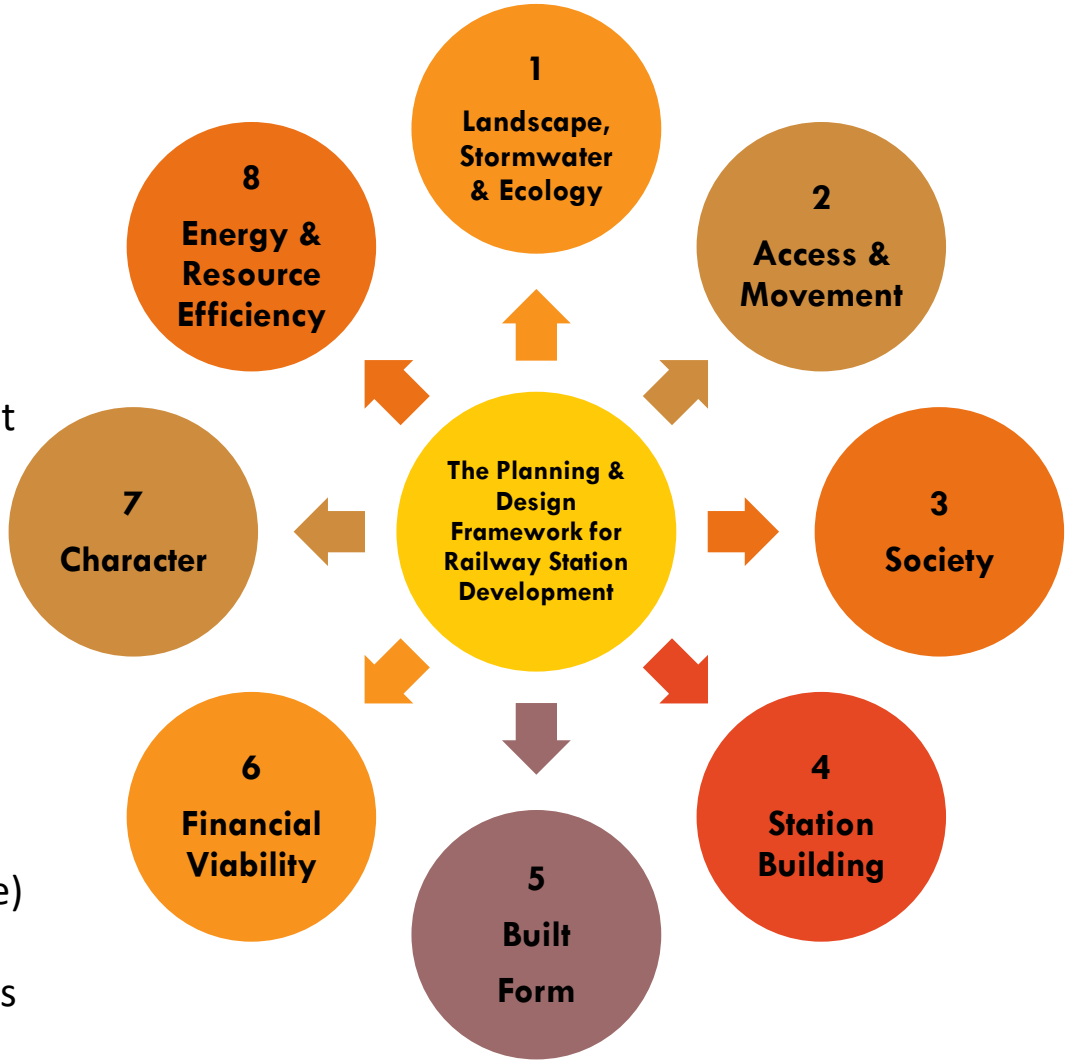
Note: The above is a simplified generic process diagram for illustrative purpose only. It does not illustrate nuances of specific projects/

8 PILLARS OF THE PLANNING & DESIGN FRAMEWORK

Adopting a systems-based approach – standardization while enabling innovation

It is a strategic planning and design aid that sets out an integrated vision for the future development, thereby also enabling a robust implementation framework.

- It translates the broad aims of the project into practical design action at the Station Area level.
- It provides direction for interventions that shape street network, open space, buildings and landscape.
- It draws upon and integrates the traditional disciplines of designers (building, engineering and landscape) and planners (strategic, cultural and social), heritage advisers, economists and other specialists.



THE FRAMEWORK – A KEY LINK BETWEEN ASSESSMENTS & PROPOSED STRATEGIES

Assessments that need to be carried out for the preparation of a robust Master Plan are also categorized under each of these components to enable a comprehensive understanding of the Railway Lands and its context.

- Topography, Landscape, ecology and Drainage
- Access and Movement
- Social Inclusion
- Station Design (including Existing Yard Plan)
- Built Form
- Financial Viability
- Character
- Energy Resource efficiency

- **A key conclusion of the overall assessments is an Opportunities and Constraints (O&C) Map that summarizes clearly the site's potential and challenges across all 8 components.**

Based on the findings / conclusions of the multiple assessments carried out under each Component, a Strategy for the same needs to be prepared.

The Framework provides an overarching spatial framework that emerges from juxtaposing multiple strategies.

While it sets out key principles, it allows flexibility for subsequent detailing to develop ideas in three-dimensional form with greater precision.

Source: Oasis Designs Inc.

1. LANDSCAPE, STORM WATER AND ECOLOGY

The aim is not only to understand the natural setting of the site but to restore, enhance and holistically integrate the existing landscape, storm water and ecological structures into the proposals for development.

"A quality landscape and a sense of urbanism can, and should, go hand in hand" *urban design compendium – 1 (urban design principles)*

Create a network of open spaces (rather than unrelated landscape elements) as amenity space, recreational use, biodiversity corridors, water management etc.

Integrate the landscape strategy with the drainage strategy to manage storm water effectively through the open space network

Design to enhance the microclimate

Design to **enhance biodiversity** by creating rich habitats where possible

Design for **easy and cost-effective maintenance** by using appropriate plants, materials, fixtures that robust.

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2. ACCESS, MOVEMENT & MMI

The aim is to integrate and augment the street network and provide seamless multi-modal Integration to enable improved access and connectivity for both passengers and other users while providing good quality public realm to create a place.

"Getting the movement right affects uses and activities, density, security and the impact of the development on neighboring places" *urban design compendium – 1 (urban design principles)*

Augment road network to achieve a finer system and distribute high traffic volumes over multiple roads, particularly secondary and tertiary and to

Ensure the following priority - **Pedestrian first** then, NMT, IPT, PT, Emergency Vehicles, Goods vehicles and the Private Car.

Design intersections to increase safety for all road users and reduce delays

Design roads / street to **ensure appropriate transit function of each road type** within the network and hierarchy

Provide seamless multi-modal transfer and flows at the station and minimize the length of walking distances.

Use Parking as a Demand Management Tool to through a Parking Management Zone.

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3. SOCIETY

The aim is to address the specific cultural and social preferences of the city and needs, concerns and aspirations of the immediate neighborhood in reimagining the station precinct as a high-quality development that resonates with the local community so that project creates a lasting legacy.

"Places which are sustainable on all counts are places that create social, environmental and economic value." *Urban Design Compendium 2 – Delivering quality places (2007)*

Create a precinct that encourages the active participation of all local residents of all genders, ages and communities.

Create a development that attempts to **address the specific needs, concerns or aspirations** that the local community may have.

Attempt to **build synergies and partnerships with the community during the project period to enable a sense of ownership.**

Further explore the possibility of **integrating these partnerships in the management regimes set up for the development to create a lasting legacy**

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4. STATION BUILDING

The aim is to ensure passenger requirements are fully incorporated into planning and layout design of the station and that both current and future station operation demands are met. In addition, facilities are planned such that the station is attractive, convenient and safe for all users always.

"A beautifully designed station building can transform passenger experience"

Consider differing needs of arriving and departing passengers and their dwell times.

Ensure the station layout **allows passenger movement to follow a logical sequence** which should respond to their forward movement in the direction of their travel.

Ensure most direct path from start to finish and avoid turns in passenger paths.

Minimize potential conflicts between different passenger flows and provide a user-friendly environment.

Strive to guarantee comfortable passenger densities in all areas during various peak periods as per requirements of the Project

Ensure the entrance to the station is clearly recognizable as well as the key areas inside the station

Ensure signage is readily visible, easy to understand and simple in design.

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5. BUILT FORM

The aim is to integrate, reinforce (where appropriate) and enhance the local urban structure, built form and heritage assets to create a legible, new urban district for the city.

"Places that grow true to their locality are likely to be sustainable, enjoyable and to attract investment – intellectual, cultural and financial." *Urban Design Compendium 2 – Delivering quality places (2007)*

Ensure the building height and massing creates architectural variety, a strong sense of place and containment while respecting the surrounding built form.

Ensure **buildings are outward-looking**, with minimal setbacks, **creating active street frontages.**

Maintain **active pedestrian access across the site** to aid permeability, **higher footfalls for retail areas**, adding to the **vitality and viability of the precinct.**

Integrate heritage assets into the proposed development **based on their character, historic significance and appropriate** use, as per existing statutory provisions

Design the public realm as an interconnected system; one that is **universally accessible, convenient, comfortable** and safe at all times of day for all

Design all public realm to **enable appropriate sense of enclosure, active oversight and appropriate intensity of use.**

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6. FINANCIAL VIABILITY

The aim is to maximize development potential, maximize value creation through design and propose a programme that responds to the market but enables flexibility over the project period.

"Creating successful places requires long-term funding and commitment." *Urban Design Compendium 2 – Delivering quality places (2007)*

Plan the size and arrangement of developable parcels to maximise benefits of delivery speed, value of the development as well architectural variety and diversity. Plan railway uses such it does not compromise on future expansion potential.

Maximise land value capture potential in the immediate, medium and long term by **judicious use of land and an effective phasing strategy** for both development and essential infrastructure

Ensure the **quantum and mix of uses** for commercial development responds to **market trends and identified gaps / need** and enables flexibility to **allow for market variations** during the life cycle of the project.

Ensure a **good mix of employment generating uses, residential** (preferably smaller sized units to aid affordability), and **supporting social infrastructure,** to create active zones at all times of day. Ensure no polluting and potentially hazardous uses are proposed.

Uses must be **mixed both horizontally and vertically** and distributed such that they **respond to the value potential of the land**.

Ensure **commercial development is seamlessly integrated into the railway station and existing urban structures** without any conflicts between the demands of the commercial development and railway operations.

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7. CHARACTER

The aim is to create a sense of place that protects and enhances the existing urban character and advances its local distinctiveness.

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"The creation of successful places requires recognition of its existing assets, combined with a strong vision of what that place could look like." *Character and identity - Townscape and heritage appraisals in housing market renewal areas (English Heritage & Cabe)*

Propose Character Areas based on the **key attributes envisioned** for a particular part of the land that **make it distinctive from surrounding areas.**

These could include aspects such as proximity to the city centre, proximity to a key natural features, street structure and hierarchy, heritage value, type of transport modes, spatial quality, type and intensity of uses and activities any other distinctive features, views etc.

Ensure **boundaries of Character Areas are well defined** keeping in mind the **transition from one area to the next.**

E.g. Both sides of a street would typically be included in one character area. However, one street may cross multiple character areas along its length.

While character areas are identified based on key attributes such as those mentioned above, **a greater degree of detail is applied through built form codes for different character areas to enhance and celebrate this distinctiveness.**

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8. ENERGY & RESOURCE EFFICIENCY

The aim is to ensure efficient use and management of energy and resources to create a more sustainable development with lower lifetime cost.

"Moving to energy efficiency and renewable energy powered solutions just makes plain economic sense." Harry Verhaar

Head, Global Public and Government Affairs, World Economic Forum.

Use the design of buildings, landscape and building systems to enable energy and resource efficiency

Plan for and integrate infrastructure utility provision and waste management throughout the design process, not as an afterthought.

Meet or **better the requirements of the Development Control Norms for resource efficiency** with approaches that are best suited to the given site.

Approach water supply, sewage processing, energy provision and waste handling as systems that can be structured to deliver wider environmental benefits.

Avoid 'end of pipe' solutions; first reduce water and energy demand and solid waste generation.

To meet this reduced energy demand, maximize use of renewables. In case of water, maximize recycling. Also, manage the reduced solid waste effectively and sustainably.

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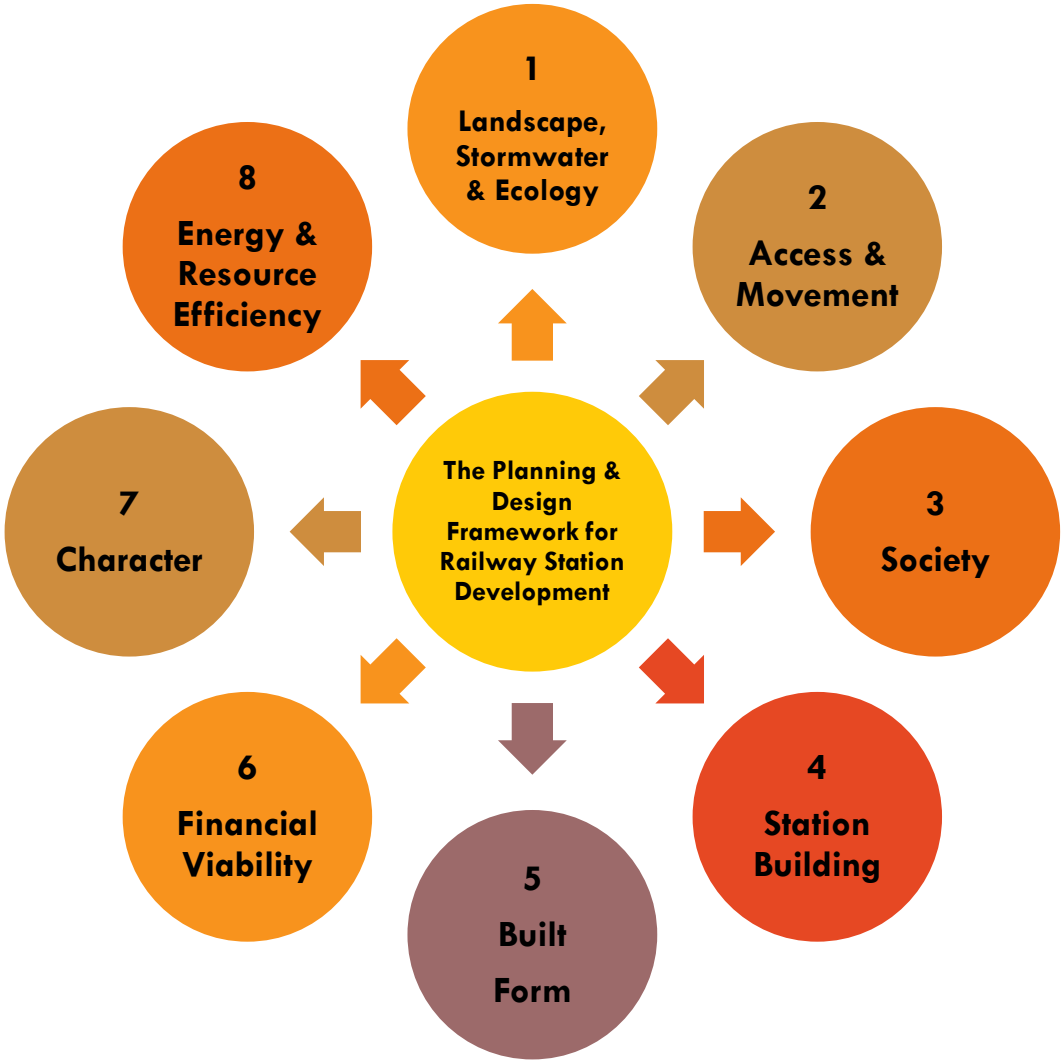

Thank you

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