



SUSTAINABLE TRANSIT-ORIENTED DEVELOPMENT: A 'TARGET VALUE' PLANNING & DEVELOPMENT STRATEGY

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Introduction

- There is increasing emphasis on developing sustainable cities, two key focus areas are that of sustainable transport and strengthening of national and regional development planning (SDG Principle No. 11)
- There are a wide variety of issues and challenges related to delivering urban sustainable development.
- Generally non-resilient stakeholders tend to end up resorting to weak sustainability practice and outcomes that are more readily noticeable and measurable.
- There is a lack of overarching solution-based approaches aimed at delivering more encompassing sustainable outcomes.
 - This is prevalent both amongst practitioners and researchers.



Contextualizing this Sustainable TOD Research Agenda

- There seems to be a taken for granted view that the implementation of the TOD concept, in itself, is a major societal good; and in Malaysia it is mainly proffered as a solution for reducing private automobile dependency and reducing road traffic.
- In Malaysia, TOD planning and development escapes serious scrutiny as it is framed as “new” and requiring an ‘experimental” approach.
- Currently the “buck” seems to stop at walkability, accessibility and affordability - leading to a form of greenwash for sustainable TODs.
- There seems to be “one-size fits all” approach to implementation of the TOD concept with a singular focus on only developing existing train stations into TODs based on performance of the existing built environment (Kamruzzaman et al. 2014).
- A key aspect of planning of TOD in Malaysia is the reliance on assessment tools and scoring methods to enable local and state governments to optimise land use and transport integration, as well as approve TOD applications for development.
- There is a continued reliance the dominant rational planning approach in T&C planning and development in Malaysia.

TOD IDEAL TYPES

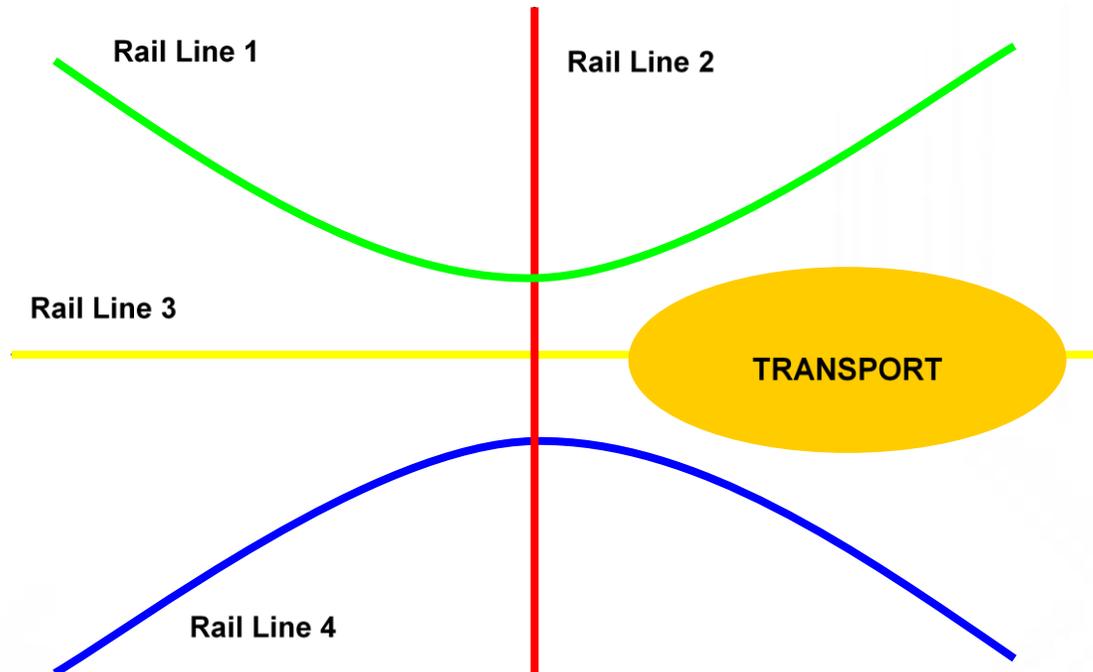


Figure 1: TOD Ideal Scenario No.1 – An individual transport hub serving different lines

Research Methodology

- Initial research strategy was to analyse case studies of “successful” TODs and also to identify the social, economic and environmental benefits of TODs.
- The original research outcomes appeared more as a validation of the positive impact of TODs.
- Clearly there seemed to be a “GAP” in terms of the lack of systematic methods and mechanisms to leverage on existing theories on Town & Country (T&C) planning and development. This warranted use of a design science approach, in developing a method for delivering sustainable TODs.
- The researchers found that by viewing planning and development of TODs as “Transformation, Flow & Value”, the prevailing silo planning mentality within local councils would be “disrupted” and also allow for the adoption of lean construction principles and techniques for delivering sustainable TODs

TOD IDEAL TYPES

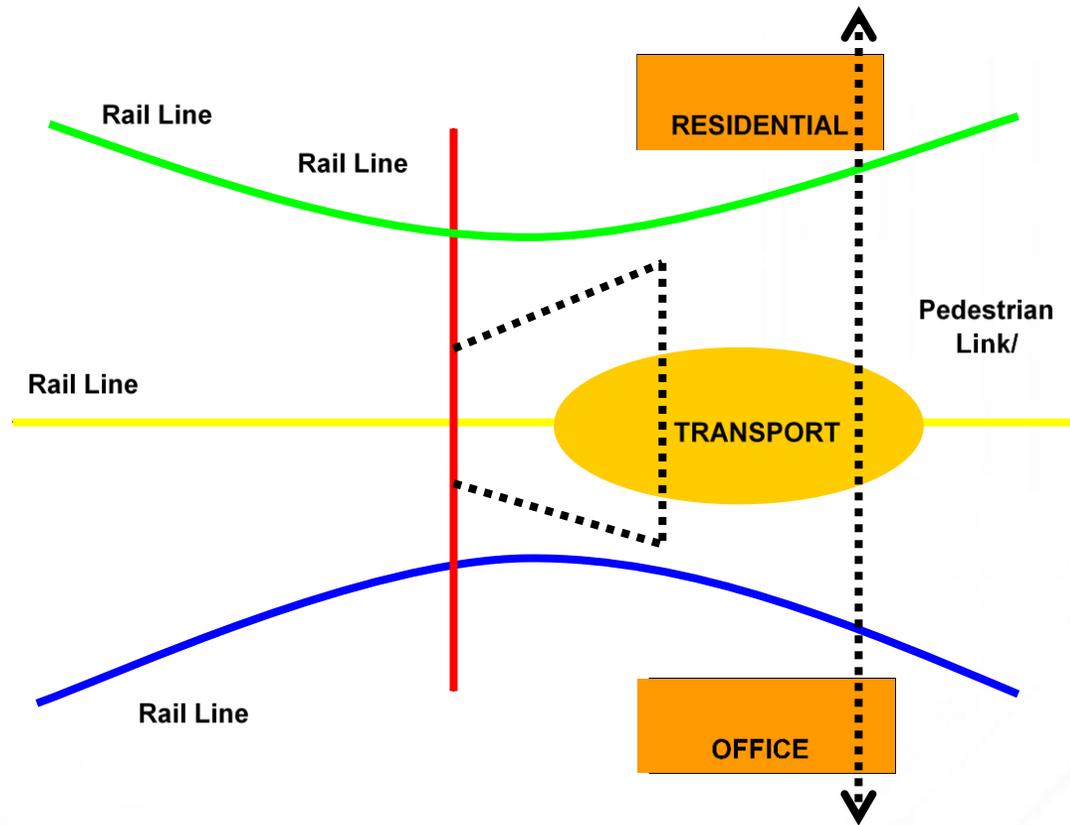


Figure 2: TOD Ideal Scenario No.2 – An individual transport hub with direct link with other property development elements

TOD IDEAL TYPES

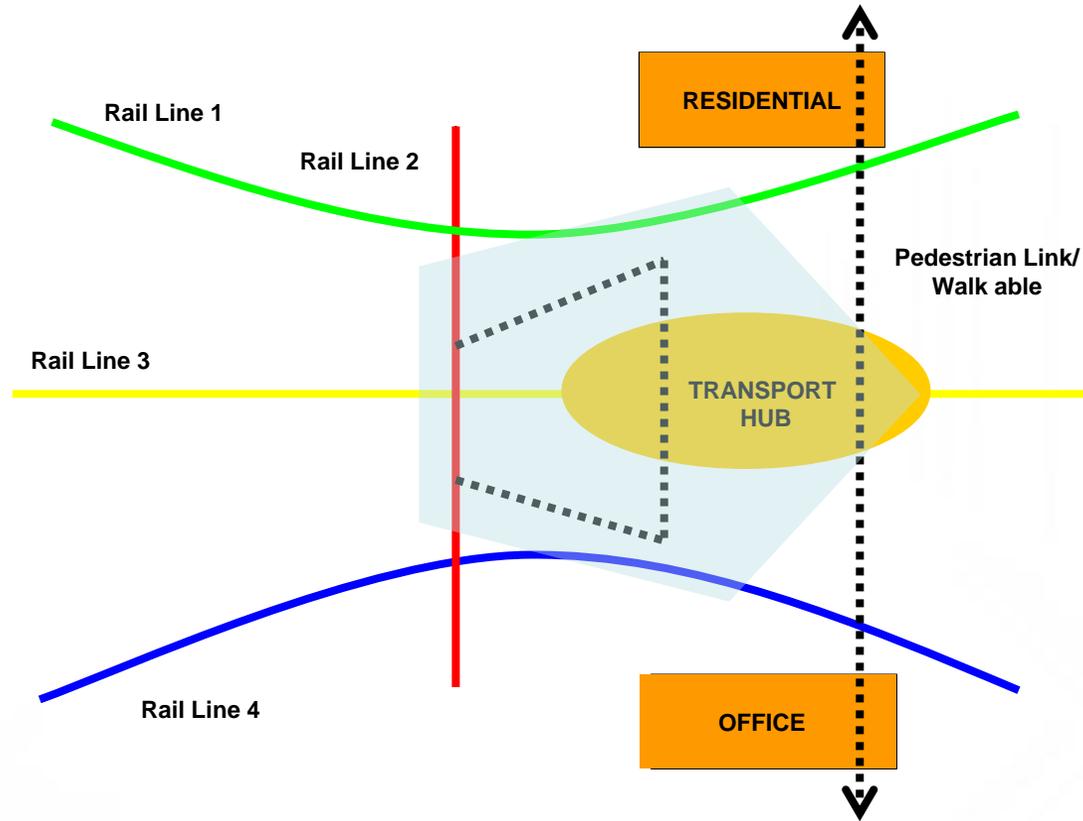


Figure 3: TOD Ideal Scenario No.3 – An integrated transport oriented development

Way Forward

- TOD must deal not only with the tension between node and place, but address development in the context of being constitutive of larger adaptive organic systems that can contribute significantly to sustainable development.
- There is a need to open up control-oriented planning practices to more adaptive approaches to planning.
- T&C planning takes place in Malaysia as a top-down hierarchical approach; federal to state to local authority, culminating in Special Area Plans. TODs are incorporated within the local authorities Special Area Plan, and currently left to the purview of the local authorities based on a very broad national policy.
- Currently the progression towards more adaptive and integrated town and country (T&C) planning methodologies that are more aligned towards ecologically sustainable planning and development is lacking.
- Currently planning for TODs is being undertaken in silos and in a piece-meal manner. The hierarchical layers of national, regional/state, and finally local and special area planning is undertaken within a non-integrative structure. The proposed sustainable TOD maximization framework is structured as a planning space with a membership drawn from all three levels, forming a TOD town planning and development (P&D) matrix organization, referred to here as a TOD MATRIX P&D SPACE.

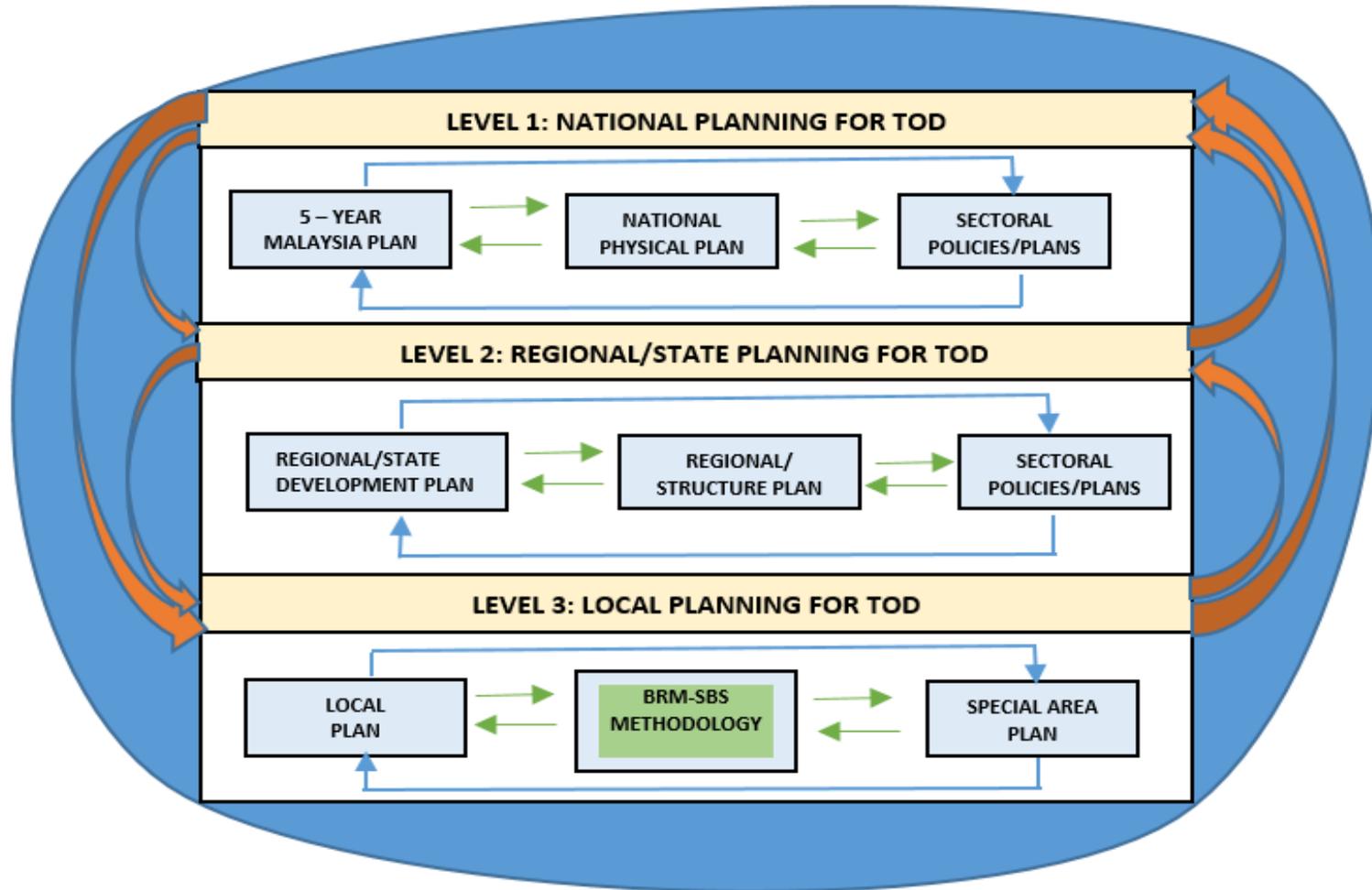
Theoretical Considerations

- In this paper, the T&C planning and development practice is considered as being a form of production that is understood based on Koskela's (2000) integrated transformation, flow, value (TFV), allowing for the incorporation of complementary planning theories.
- Sustainable development, public good and social justice constitute the three doctrinal foundations of contemporary urban planning theories (Zuziak, 2015).
- Following Fainstein (2000), the approaches to planning can be typified and identified in a broad sense to consist of four models, namely: the traditional rational model, the communicative model, the new urbanism and the just city model.

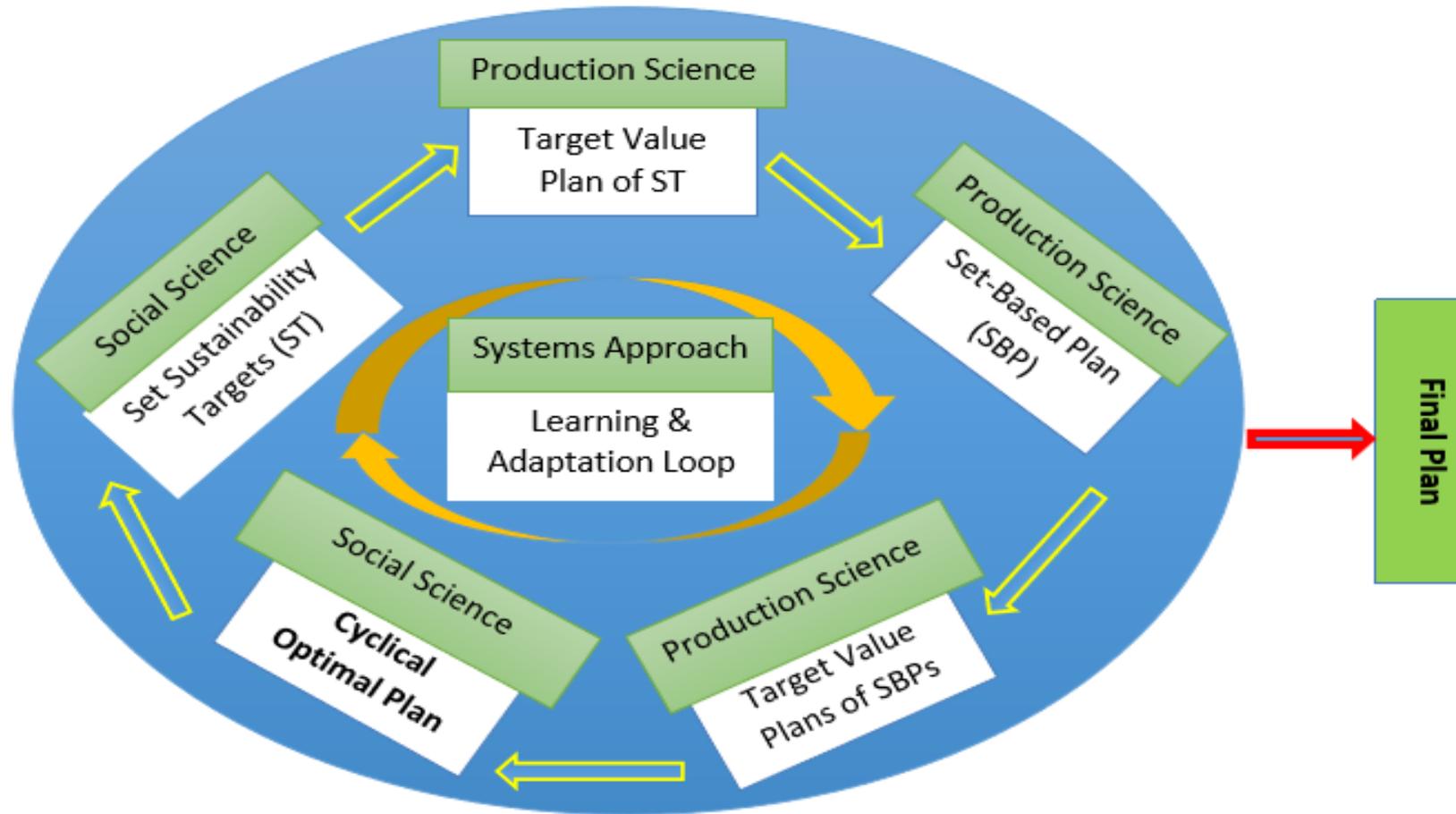
A Benefits Realization Management Set-based Systems (BRM-SBS) planning and development methodology

- A Benefits Realization Management Set-based Systems (BRM-SBS) planning and development methodology aimed at minimizing the said constraints is proposed.
- This methodology is centered on having an integrated planning practice that is less hierarchical, that also accommodates diverse planning models. Wherein TOD sustainability benefits are enhanced by using Target Value Design (TVD) and Set-based Design (SBD) approaches based on a transformation, flow, value complementary view of planning and development of TODs.
- This BRM-SBS methodology is to be validated as part of an extended action research project with the Malaysian National Structure Plan organization.

The Bottom-up Integrated BRM-SBS Planning & Development Model



The BRM-SBS Methodology



Rationale for SBS Approach

- The rationale of resorting to the Set-based Systems approach is based on the current failings of having a singular TOD plan that limits the opportunity to leverage on best value alternatives. The SBS approach follows the principle of Set-based design (SBD).
- SBD is the apt lean design management strategy to promote delaying design (and development) decisions until necessary (in this case for TODs) in order to allow time for a team to explore and evaluate as many feasible design solutions as possible (Lee et al. 2010).

CONCLUSION

- This conceptual BRM-SBS methodology that is centred on a TFV target value design and development strategy is the research outcome of the initial phase of a wider constructive research to be undertaken with the R&D section of the National Structure Plan.
- The extended action research project will be piloted with a particular local authority in Malaysia as a bottom-up approach. The final phase of the constructive research process aims to test the BRM-SBS methodology and assess the results of the implementation.

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THANK YOU

