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## **Research on the Form Based Codes Approach and its place in Urban Design**

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With the launch of New Urbanism in the 1980s, Form-Based Code was created as an alternative approach to conventional zoning and land use regulations by addressing the public realm and urban form (Ben-Joseph, 2005). It is a land development regulation that fosters predictable built results and a high-quality public space by using a physical form as the organizing principle for the code, which was developed by the Form-Based Codes Institute (FBCI, 2014). Compare with traditional land-use zoning focusing on building use and development capacity, Form-Based Code deals with the typology of a block, street, open space, and building facade (Kim, 2011). Form-Based Code should be a cutting-edge supplement for helping generate a more livable and multi-functional urban space. In Form-Based Code theory, Transect Matrix defines the hierarchical development scales (Kim, 2011).

Comprehensive examine is imperative in creating and maturing Form-Based Code as a relatively new theory. For high-dense cities, especially the developing cities in Asia, Form-Based Code is an alternative approach to creating or recreating public space. High-dense, multi-level and population concentration have made the urban problems more complex than ever before, such as the lack of public realm, inappropriate walking connection between ground and underground, and the compact living environment growing into sky. Form-based regulation has a potential to solve the existing urban problems. However, Form-Based Code is not fully considered in the current planning and management system. We appeal to architects, urban designers, developers and government to pay more attention to the new planning approaches (Schnabel et al,2016:1382). Although FBC has been tested in hundreds of cities and regions, it still has some challenges, or opportunities. First, high density cities are ignored by FBC applications and Floor Area Ratio (FAR) is omitted. However, density is one of the most vital indicators in urban development analysis. (Kim and Clayton,2010; Zhang and Schnabel,2016).

The main challenge of FBCs is the lack of experienced planners to produce many illustrations in local governments, while many illustrations and graphical standards are required. Currently, there are only a handful of experts that are well-versed in drafting sophisticated FBCs; therefore, additional trial and error are expected. Another limitation of FBCs is the lack of design flexibility, particularly relating to building form standards. Due to the local opposition to excessive details of building design, many FBCs omitted building form standards in their codes. (Kim and Clayton,2010).

Sum it up, Form-based codes, as a relatively new approach, support the rules of urban planning and design with the aim of achieving efficient public spaces with a location-based approach. In fact, this approach, by considering the contextual characteristics of the urban environment and its landscape, creates codes with the help of planner and designer thinking, which is based on how different types of urban forms are placed in different places. These codes can achieve the best possible layout in order to meet human needs by predicting the environment created by controlling and adjusting the forms. Today, in our country, due to the complexities of urban design, in the field of creating balance and interaction between land use, urban form and location, the need for this approach is felt more than ever. This article has been compiled with the aim of becoming more familiar with the process of production and regulation of urban design codes with emphasis on local, cultural, social and historical conditions.

**Keywords:** Form-based codes, intelligent codes, transverse zoning, traditional zoning

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