

## **Background Layout Planning Concepts**

Over the past decades, several useful layout design concepts and tools have been developed to help the modeler "get it right". These can all be profitably incorporated into the flexible layout concept. The concepts, summarized in roughly the order in which they were created, include:

**Givens and Druthers** (John Armstrong): We start with "givens", factors we can't readily change (e.g., available space, minimum radius) and try to incorporate "druthers", features we "would rather" [druther] have in our layouts. Armstrong considered the effects of scale/gauge, prototype, scenic setting and purpose on the design process and developed strategies such as the track planning square to balance these factors in layout design. His classic book is *Creative Model Railroad Design* (1978) ISBN 0-89024-106-6.

**Layout Design Elements [LDEs]** (Tony Koester): is the "design technique of identifying a "signature" scenic element of a prototype or prototype scene and building that element in order to capture the feeling of the prototype." The basis of the concept is to ""Let the prototype be your guide." The idea was introduced in *Model Railway Planning 1995* and has been widely discussed in the model press ever since.

**Scene Sites** (Robert Schleicher, aka Albin Burroughs) is a concept where parts of the trackplan as well as scenic elements can be interchanged to provide a change of era, location, operations pattern or even prototype. See *Building your next model railroad* (1986) ISBN 0-9612692-2-7 or *Model Rail Journal*, May 2004, p. 20.

**Operation Design Elements [ODEs]** (Tom Pearson): an extension of the LDE concept, are "sections of a model railroad that have a discrete ... operations element such as an interchange, siding, yard, station or industry" as their design focus." The design of an ODE focuses on its operational function in the track plan and may or may not represent a specific prototype location, though its design could reflect the practices of the modeler's chosen prototype.

**Lineals** (Don Mitchell) use maximum train length as a measuring stick for designing ODEs. This dimension helps determine passing siding and platform lengths and distances between stations.

**Modular Design** (NTRAK, Free-mo, et al), popularized by NTRAK beginning in 1973, is a concept that readily supports the flexible layout concept. It is also a practical design framework for exploring the idea of a dynamic, ever-changing, yet ever-relevant and operational layout that allows the modeler to evolve without having to sacrifice a large investment of time and materials.

**Dominoes** (Dave Barrow, who credits Bruce Goehmann with the idea), introduced in the 1980s, are same-sized benchwork sections used as standardized construction elements for layout construction. These may or may not be modules (i.e., completely interchangeable LDEs or ODEs). If, however, the dominoes are designed as modules, the possibility of using them to produce multiple layouts from the same elements can become a feasible planning concept.

**Dynamics [DYNamic Abstracted Modular Operating System]** (Riley Triggs) is a development of the LDE/ODE concept and proposes designing generic operations elements that can be used to extend the length of a layout indefinitely by progressively "leapfrogging" the operations elements along the mainline so that, over time, the entire railroad is represented. Read about it in "The Continuous Model Railroad" in the Layout Design SIG's *Layout Design Journal*, No. 47 (Summer 2012). He also discusses this idea online at <http://modelrailroaddesign.blogspot.com/2010/12/erie-dynamics-layout-in-n-scale.html>

**Holistic Design** (Iain Rice) goes beyond track planning to integrate the railway into its context as a part of an organic miniature world. While addressing the technical challenges to be met in creating a model railway, he also incorporates artistic concepts in his holistic approach "to create a believable and realistic ambience of a prototype railway." Read his book, "Layout Design" (2010) ISBN 978 1 84425 635 8, or hear his discussion of this concept online at "The Model Railway Show", episode 38.