

## Placeholder files in Train and Section definitions

This document sets out the possible use of placeholder files in Train and Section definitions. It is not a fully worked-through proposal but just a basic idea of how such placeholder files could be used.

### Definition

A placeholder file is a file which can be used in Train and Section definitions to refer to one or more wagon or engine files, or to other placeholder files.

It can be used when multiple items of the same type of wagon or engine are available, and the user wants to use these items in a random selection.

A placeholder can reference to units but also to other placeholders. However, recursive referencing is not allowed as this could lead to 'endless loops' when processing the definition.

For instance, the user has multiple 40ft box cars, of different companies. Placeholder files can be set up to refer to the 40ft cars of a specific company, of a specific region or nationwide. Other collections could be set up relating to era, subtype, usage etc.

As an example, this would be the build-up for 40ft box cars, collected by company, region and nationwide.

There are some companies for which only one item is available, but for other companies there are more units. Unit name "A\_1" indicates unit 1 for company A.

Units		company placeholder		region placeholder		overall placeholder
A_1		COMP_A				
B_1	}	COMP_B	}	REGION_1	}	NATIONWIDE
B_2						
B_3						
B_4						
C_1	}	COMP_C		REGION_2		
C_2						
D_1	}	COMP_D	}	REGION_3		
D_2						
D_3						
E_1		COMP_E				

In a Train or Section definition, a reference can be included to a unit or any of the placeholders. Note that the placeholder references will not be resolved when the Train or Section is defined, but only when a run is started. Using placeholder files will therefore always automatically lead to different built ups of Trains and Sections for each occasion a new run is started.

## Additional settings

### Usage restrictions

As stated, when placeholders are used, the required units are random selected from the references of that placeholder. It could be, however, that the user wants to restrict the selection.

Two restrictions could be made available :

- repeat restrictions : when a unit is used in a Section, Train or overall, it can not be selected again.  
This can be used if there are sufficient different units available to make them unique per Section, Train or on the overall route.
- selection restrictions : when in a Section or Train a unit is selected from a specific placeholder, all other units in that Section or Train are also selected from that specific placeholder.  
This can be used if units for a Section or a Train are always provided as a block. This often happens with power units, where power is shared between companies but a full set of power is always from the same company.