

# Step-by-step moving-load analysis first steps (CSiBridge)

## Tutorial

Name:	Step-by-step moving-load analysis first steps
Description:	Procedure for setting up step-by-step moving-load analysis.
Program:	CSiBridge
Version:	18.0.1
Model ID:	na

Step-by-step [moving-load](#) analysis can be setup using the following procedure:

- Define [Vehicle](#) via "Loads Tab > Vehicles > New".
- Define [layout line](#) via "Layout Tab > Layout Line > New".
- Define [lane](#) via "Layout Tab > Lane > New".
- Use "Load Tab > Load Patterns" to define new load pattern of type "Vehicle Live". See Figure 1 below. Use the "Modify Bridge Live Load" button to define the load assignments, such as lanes, vehicles, vehicle speed, movement direction, etc.

The image shows two overlapping dialog boxes from the CSiBridge 2016 v18.0.1 software. The top dialog is 'Define Load Patterns' and the bottom is 'Multi Step Bridge Live Load Pattern Generation'.

**Define Load Patterns Dialog:**

Load Pattern Name	Type	Self Weight Multiplier	Auto Lateral Load Pattern
LL1	VEHICLE LIVE	0	
DEAD	DEAD	1	
LL1	VEHICLE LIVE	0	

Buttons on the right: Add New Load Pattern, Modify Load Pattern, **Modify Bridge Live Load...**, Delete Load Pattern, Show Load Pattern Notes..., OK, Cancel.

**Multi Step Bridge Live Load Pattern Generation Dialog:**

Vehicle	Lane	Start Dist	Start Time	Direction	Speed
HSn-44	LANE1	0.	0.	Forward	1.
HSn-44	LANE1	0.	0.	Forward	1.

Buttons on the right: **Add**, Modify, Delete.

Note: Vehicles that are defined using a uniform load will not be included in the program generated multi-step load case. Click this note to see a list of vehicles defined using uniform loads.

**Load Pattern Discretization Information:**

Duration of Loading is: 10. seconds  
 Discretize Load every: 0.1 seconds

**Units:** Kip, ft, F

Buttons: OK, Cancel.

Figure 1: Define load pattern of "Vehicle Live" type

- A multi-step static [load case](#) is automatically created. This load case may be reviewed via "Analysis Tab > Load Cases > Modify".
- Dynamic response may be evaluated when load-case type is changed from Multi-step Static to Time-history, and analysis type to Nonlinear, Direct-integration. [Damping](#) and other parameters may be specified as necessary.

## See Also

- [CSI Analysis Reference Manual](#), Chapter "Moving-Load Analysis"