Short Guide for the Design Engineer: Selecting Stable Bike Parameters

This guide focuses on choosing bike parameters that maximize stability during the initial design phase. We will consider four key parameters:

1. Wheelbase (m)
2. Mass of Rear Frame and Rider (kg)
3. Front Wheel Radius (m)
4. Rear Wheel Radius (m)

Software-Assisted Design:

1. **Vary Parameters:** Adjust the values within the provided ranges for each parameter.

2. **Stability Visualization:** The software will display a visual representation of the stability region using two vertical dashed lines.

3. **Maximize Stability:** As a design engineer, your goal is to maximize the area within these dashed lines, indicating a wider range of stable bike configurations.

Iterative Process:

This initial selection focuses on stability. Later stages will involve incorporating feedback from other departments to refine the design for additional factors beyond stability.

Remember:

This is a simplified approach. Real-world design involves a more comprehensive set of parameters and considerations.