



BUILDING A MINIATURE CITY: A JOURNEY THROUGH THE WORLD OF URBAN CREATIVITY

Create a miniature city using rubber mats as a base for an autonomous robotic agent to navigate



Welcome to this guide, designed to take you step by step through transforming simple rubber mats into a clear, modular miniature city ready for investigation.

This modeling phase allows you to combine your creativity with the precision of creating a scale model, with the goal of bringing your realistic miniature city to life. The materials are kept deliberately simple. Use floor mats, tape, templates, markers, and a few modular elements. Accessories can complete the set, such as small plots, printed signs, miniature buildings, people, etc.

You are the chief architect! Create your own vision of the streets, intersections, and turns. Place your buildings, urban landmarks, and green spaces! It's up to you to make it pleasant for the residents who might seek refuge there!

This guide details the steps to design your model. You'll find a clear guideline for a successful build!

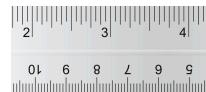
Once the model is finalized, the terrain becomes ideal for programming a line-following robot or the Roobokart robot. The corresponding protocol sheet is available in the “Mobility” theme of the SteamCity project as well as in our “Connected Learning” section.



NECESSARY MATERIAL

- Rubber gym or yoga mat (60x60cm)
- White adhesive tape (5 cm)
- Ruler or tape measure
- Permanent color markers
- If you want: miniature buildings or other decorative elements

The images opposite are purely indicative.





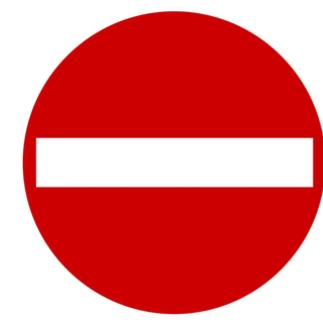
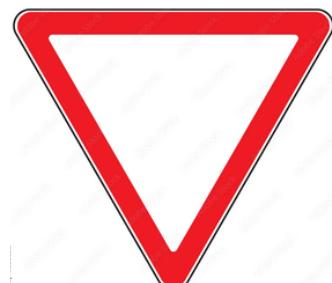
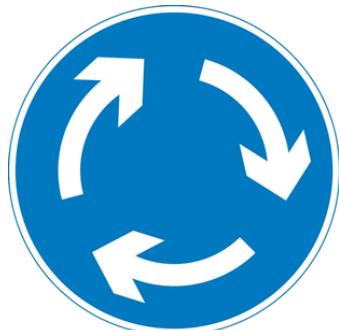
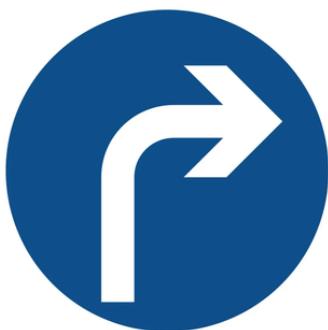
PROCEDURE

FROM PLANNING TO CUSTOMIZATION - DESIGN YOUR BEAUTIFUL MINIATURE CITY

Stage	Description
1. Planning	<p>Define the overall dimensions of your miniature city and decide how much space to allocate to streets, buildings, and other features. Design your city; draw on paper how you plan to bring it to life.</p>
2. Route planning	<p>Use white tape to mark out roads on the rubber mats. Take precise measurements with a ruler or tape measure to ensure straight and proportionate streets. Create intersections, curves, and crossroads to add realism to your layout. You can also define sidewalks or pedestrian paths. Let your imagination run wild.</p>
3. Traffic signs and details	<p>Use permanent markers to add road signs such as crosswalks, directional arrows, or street names. You can print signs and post them around your city, choosing the ideal location. Add details such as parking lots, public gardens, or other urban features.</p>
4. Location of buildings	<p>Place miniature buildings or other decorative elements along streets and in designated areas. Make sure the spaces are proportional and realistic to the street dimensions.</p>
5. Personalization	<p>Add custom details to your town, such as trees or streetlights. Creativity is key to making your miniature town unique.</p>



TRAFFIC SIGNS TO PRINT, CUT OUT AND STICK IN YOUR CITY





USING ROOBOPOLI DURING STEAMCITY





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