Task 3: Preparing other urban data layers – Urban Data Input Tool

Description

This exercise offers the experience of a complete workflow of mapping urban data (frontages, entrances and land uses) using the Space Syntax standards for QGIS.

Note: It is a set of minimal instructions, assuming basic familiarity with the QGIS environment and the space syntax (depthmapX) terminology. Participants can work through the various steps in groups.

Stage 1 – Frontages data input

1) **Prepare the project**
   a) Open the sample data project (sample_data.qgs)
   b) Make sure the 'Building' layer is present in the layers panel
   c) Start the UrbanDataInput tool from the Space Syntax Toolkit menu or toolbar
   d) Select the 'Frontage' tab

2) **Create frontage layer (do at least 1 method)**
   a) Click the 'Create New' button
   b) Memory layer from existing building layer:
      i) Don't set the save location
      ii) Select the 'Use building layer' check box.
      iii) Select the 'buildings' layers from the drop-down menu.
      iv) Click OK
   c) Shapefile from existing building layer:
      i) Click the '…' button and select location to save the Shapefile.
      ii) Select the 'Use building layer' check box.
      iii) Select the 'buildings' layers from the drop-down menu.
      iv) Click OK
   d) Memory layer from scratch:
      i) Don't set the save location
      ii) Click OK
   e) Shapefile from scratch:
      i) Click the '…' button and select location to save the Shapefile.

ii) Click OK

3) **Draw frontages**
   a) Choose one of the following options:
      i) Building
      ii) Fences
   b) If you choose ‘Building’, you can choose the following sub categories-
      i) Transparent (e.g. shop fronts with large windows)
      ii) Semi-transparent (e.g. wall with some windows)
      iii) Blank (e.g. blank wall with no windows)
   c) If you choose ‘Fences’, you can further choose from the following sub categories -
      i) High Opaque Fence (or wall)
      ii) High See Through Fence
      iii) Low Fence (e.g. below waist level)
   d) Select the ‘Add Feature’ from the Digitizing QGIS toolbar.
   e) Draw lines along the respective building.

4) **Update frontages**
   a) Select the Frontage (line) to update
   b) Observe the attribute values in the data table
   c) Choose one of the following options:
      i) Building
      ii) Fences
   d) If you choose ‘Building’, you can set one of the sub categories (see above)
   e) If you choose ‘Fences’, you can further set from the sub category (see above)
   f) Click ‘Update Type’ at the bottom left on the Urban Data Input tool panel

5) **View attributes of selected features of the frontage layer**
   a) Use the ‘Select features’ QGIS tool to select the required frontages.
   b) The attributes related to the selected frontages will now be displayed in the Urban Data Input tool
6) **Update Frontages ID**
   a) If you have a Frontage layer loaded on the map canvas press ‘Update IDs’ to update the ‘F-ID’ attribute of the Frontage layer
7) **Update Frontages Length**
   a) If you have a Frontage layer loaded on the map canvas press ‘Update Length’ to update the ‘Length’ attribute of the Frontage layer

8) **Hide frontages**
   a) To hide the lines with no value for Frontage type press the 'Hide' button at the bottom right of the tool.
   b) To make the lines with no value for Frontage type reappear press the 'Hide' button again at the bottom right of the tool

Stage 2 – Entrances data input

9) **Create entrance layer (do at least 1 method)**
   a) Memory layer:
      i) Click the 'Create New' button
      ii) Click OK
   b) Shapefile:
      i) Click the 'Create New' button
      ii) Click the '…' button and select location to save the Shapefile.
      iii) Click OK

10) **Draw entrances**
   a) Choose one of the following options:
      i) Controlled
      ii) Uncontrolled
   b) If you choose 'Controlled', you can choose the following sub categories-
      i) Default
      ii) Fire Exit
      iii) Service Entrance
      iv) Unused
   c) If you choose 'Uncontrolled', you can further choose from the following sub categories -
      i) Default
   d) Select the 'Add Feature' from the Digitizing QGIS toolbar.
   e) Draw points at appropriate locations along the respective building.

11) **Update entrances**
   a) Select the Entrance (point) to update
   b) Observe the attribute values in the data table
   c) Choose one of the following options:
      i) Controlled

ii) Uncontrolled

d) If you choose ‘Controlled’ you can set one of the sub categories (see above)

e) If you choose ‘Uncontrolled’ you can further set from the sub category (see above)

f) Click ‘Update Type’ at the bottom left on the Urban Data Input tool panel

12) **View attributes of selected features of the entrances layer**

a) Use the ‘Select features’ QGIS tool to select the required entrances.

b) The attributes related to the selected entrances will now be displayed in the Urban Data Input tool

13) **Update Frontages ID**

a) If you have a Entrances layer loaded on the map canvas press ‘Update IDs’ to update the ‘E-ID’ attribute of the Entrances layer

Stage 3 – Land use data input

14) **Create frontage layer (do at least 1 method)**

a) Select the ‘Land Use’ tab

b) Click the ‘Create New’ button

c) Memory layer from existing building layer:

i) Don’t set the save location

ii) Select the ‘Use building layer’ check box.

iii) Select the ‘buildings’ layers from the drop-down menu.

iv) Select the appropriate ID column from the drop-down menu.

v) Click OK

d) Shapefile from existing building layer:

i) Click the ‘…’ button and select location to save the Shapefile.

ii) Select the ‘Use building layer’ check box.

iii) Select the ‘buildings’ layers from the drop-down menu.

iv) Select the appropriate ID column from the drop-down menu.

v) Click OK

e) Memory layer from scratch:

i) Don’t set the save location

ii) Click OK

f) Shapefile from scratch:

i) Click the ‘…’ button and select location to save the Shapefile.

ii) Click OK

15) **Draw Land Use blocks**

a) Choose one of the 21 available land use categories.
b) Choose one of the Sub Category options if available. Some land use categories also have Sub Categories, e.g. Catering has 3 Sub Categories:
    i) Restaurants and cafes
    ii) Drinking Establishments
    iii) Hot Food Takeaways
c) Add an integer for 'Total number of floors:' if required. Leave 0 if no data available.
d) Add 'Description' if required. Leave blank if no description needed.
e) Select the 'Add Feature' from the Digitizing QGIS toolbar.
f) Draw polygons to represent the buildings as required.

16) **Update Land Use blocks**
    a) Select the Land Use blocks (polygon) to update
    b) Choose one of the 21 available land use categories.
    c) Choose one of the Sub Category options if available.
    d) Add an integer for 'Total number of floors:' if required. Leave 0 if no data available.
    e) Add 'Description' if required. Leave blank if no description needed.
    f) Click 'Update Type' at the bottom left on the tool

17) **View attributes of selected features of the Land Use layer**
    a) Use the 'Select features' QGIS tool to select the required land use blocks.
    b) The attributes related to the selected land use blocks will now be displayed in the Urban Data Input tool.

18) **Update Land Use ID**
    a) If you have a Land Use layer loaded on the map canvas press 'Update IDs' to update the 'LU-ID' attribute of the Frontage layer