Create Custom Components in 3ds Max Civil View for Civil Construction Sequences

John Doiron and Patrick Rice

VDC Managers

AUTODESK. UNIVERSITY





About the speaker

John Doiron

John has over twenty-four years of experience in project management, project controls, CAD and information systems. I co-manage a group of 10 VDC engineers creating 4d & 5d construction sequencing for constructability analysis, proposal media, and jobsite support.



About the Co-speaker

Patrick Rice

How many work for Civil Engineering Company?

How many work for Construction Company?

How many work on large infrastructure projects?

Create Custom Components in 3ds Max Civil View for Civil Construction Sequences

Overview.

3ds Max Civil View software already has a large selection of library objects to place into your civil infrastructure model.

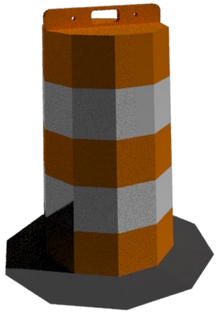
However, Civil View is scarce on objects used for civil construction sequences, such as construction barrels or barriers that are used to display to the owner how you’re going to maintain a safe construction zone on an active highway.

Create Custom Components in 3ds Max Civil View for Civil Construction Sequences

Overview.

Adding that object to the library can be difficult if you do not follow the required steps.

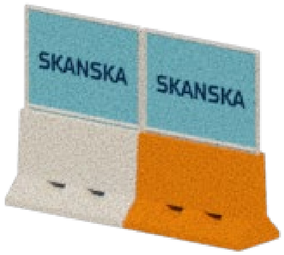
We will go though how to set up and configure your models to be used by the Object Placement Style editor, whether it is adding a new light pole, construction barrel, or car to the Civil View library. Adding your own custom elements to the object placement library will make your process more efficient and streamlined as you create construction sequences to be used during the proposal and preconstruction phase of a civil construction project.



Construction Barrel



Lightpole



Barriers

Model Setup

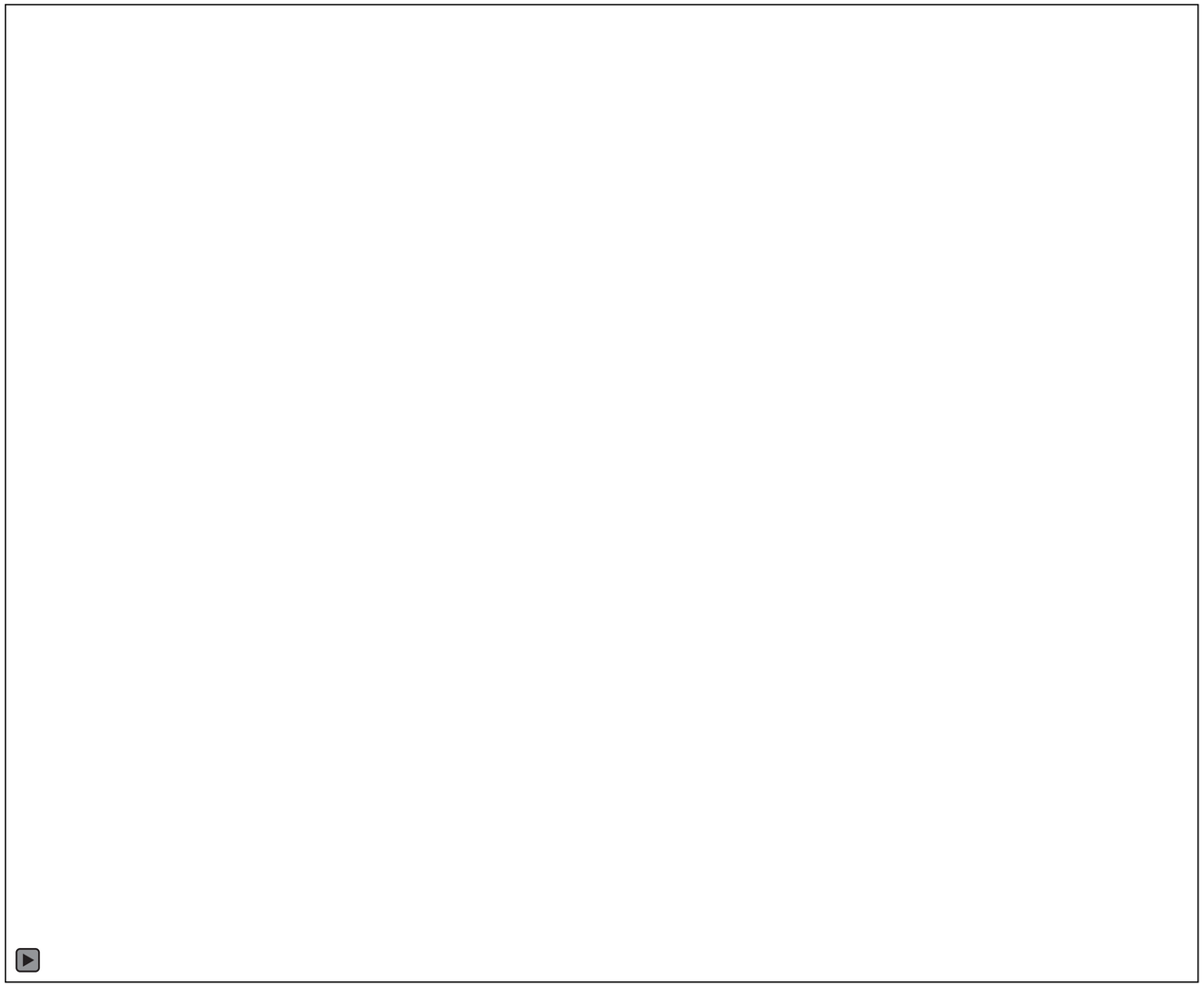


Setup Model

SINGLE MESH

In order for an object to be used with object placement editor. It has to be a single mesh.

- Under the Modify Tab, Attach multiple objects to an existing mesh.



Setup Model

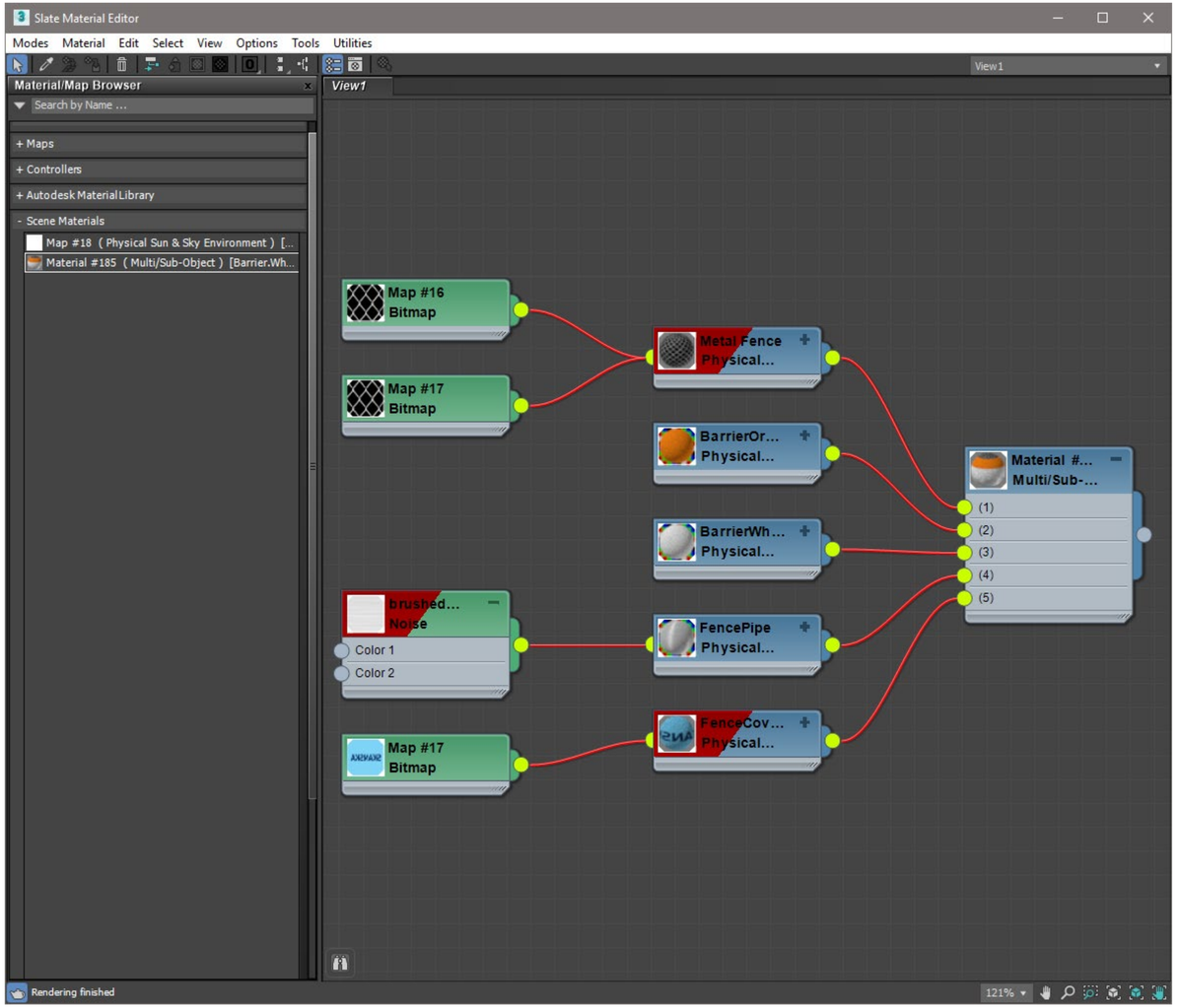
SINGLE MESH

In order for an object to be used with object placement editor. It has to be a single mesh.

- Under the Modify Tab, Attach multiple objects to an existing mesh.

- Multi-Sub Material

  The object must also use a multi-sub material, unless it only has a single material. When using the Attach command above. It will automatically create a multi-sub material for you.

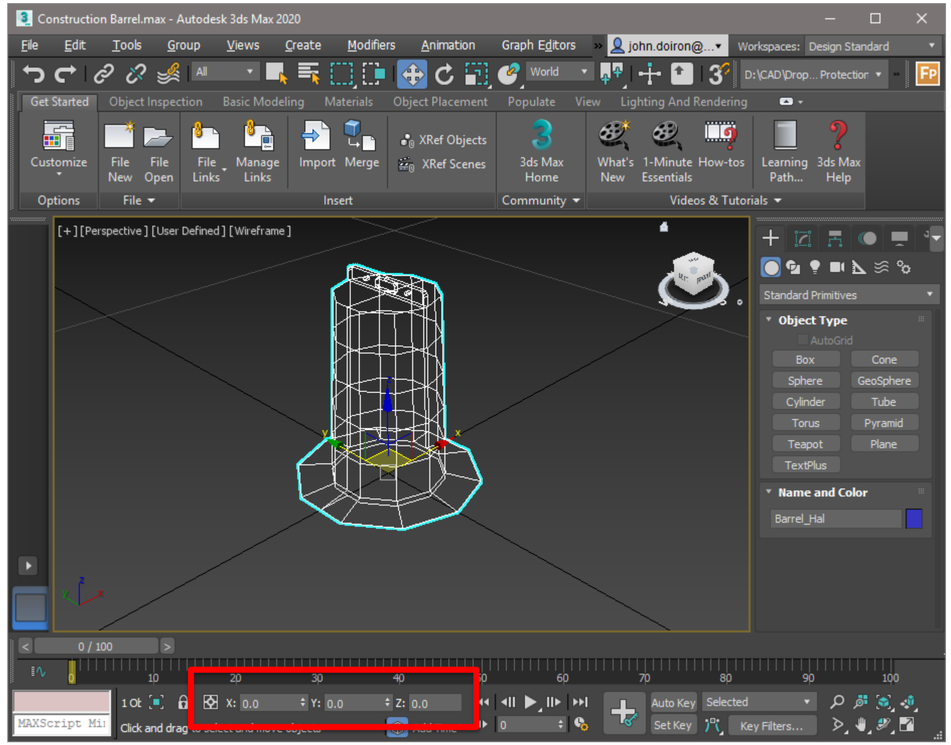


Setup Model

ORIGIN

Depending on the type of object your creating. You may need to adjust where the origin of your object is located

- The object Pivot should to be at X:0, Y:0, Z:0
  - Barrel's origin is centered at base.

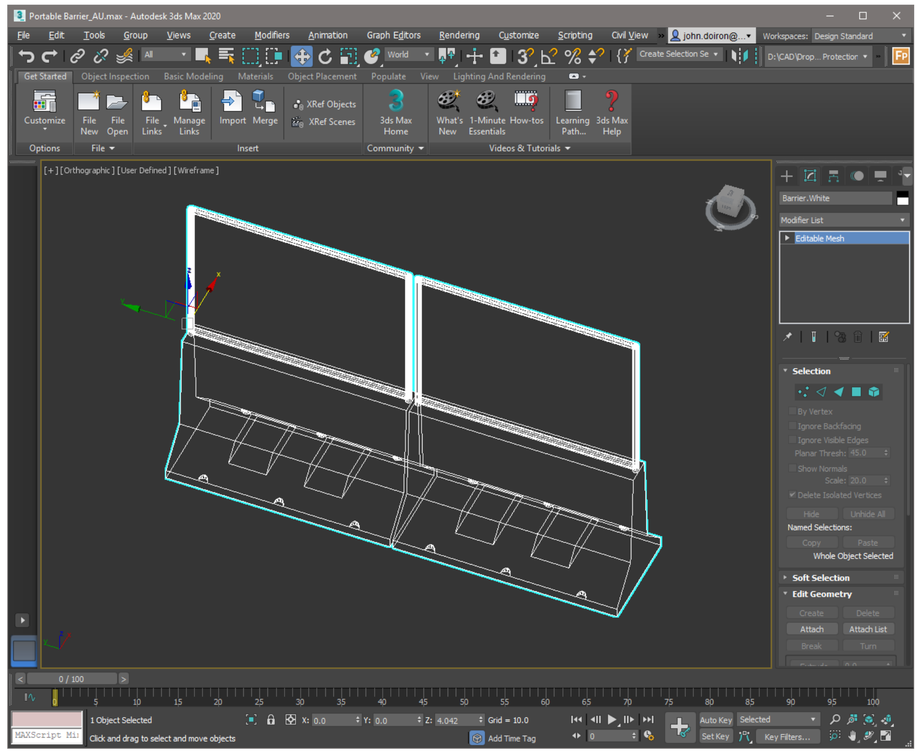


Setup Model

ORIGIN

Depending on the type of object your creating. You may need to adjust where the origin of your object is located

- The object Pivot should to be at X:0, Y:0, Z:0
  - Barrel’s origin is centered at base.
  - Barrier’s origin is left justified at the base.
    (So they can be placed end to end.)



Object Placement Settings



Setting up the .INI file

The .INI file has information that helps 3dsMax find and insert the custom object you have created.

Using notepad, create a document named Barrier Portable_AU.ini that has the following areas.

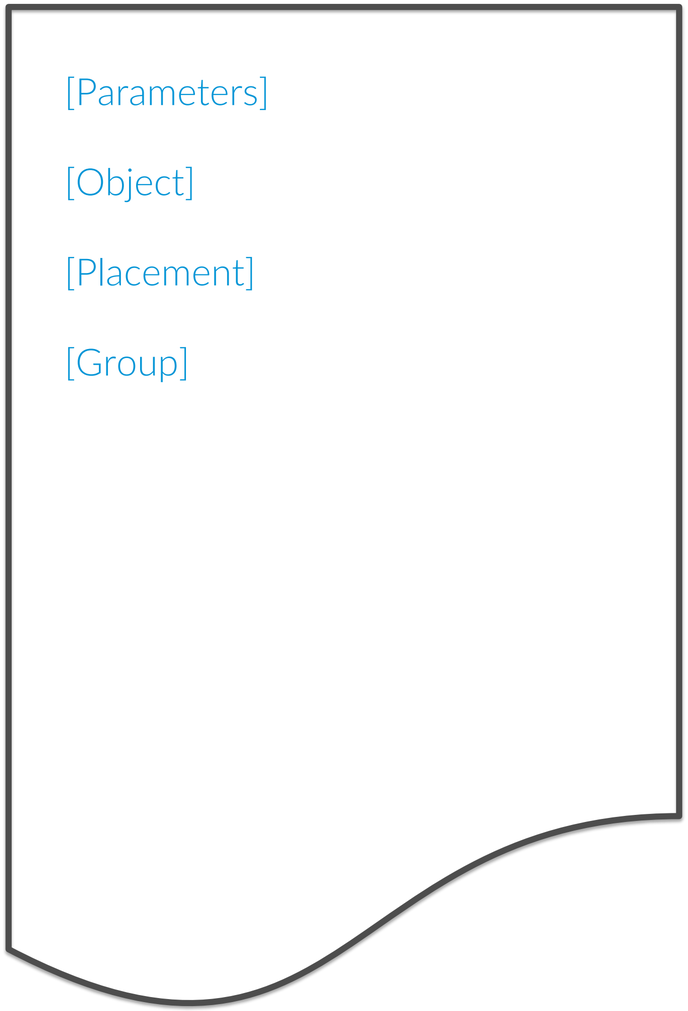
[Parameters]

[Object]

[Placement]

[Group]

Barrier Portable_AU.ini

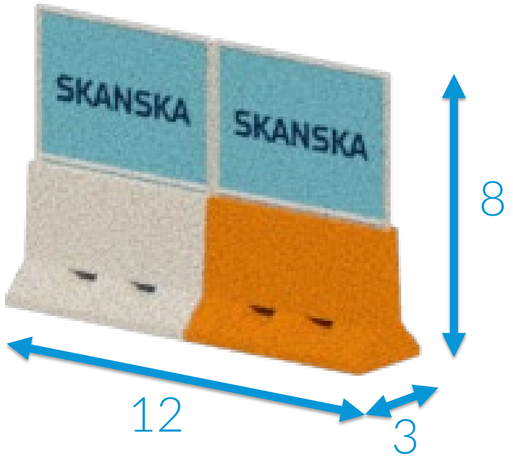


Setting up the .INI file

Let start filling in the areas;

[Parameters]

Length, Width and Height



Barrier Portable_AU.ini

[Parameters]
Length=12.0
Width=3.0
Height=8.0

[Object]

[Placement]

[Group]

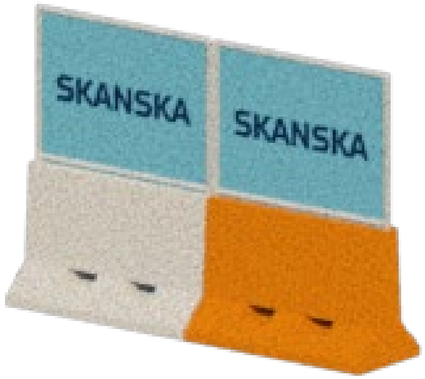
Setting up the .INI file

Let start filling in the areas;

[Object]

Source

(..Civil View\2020\Country Kit US Imperial\Objlibs\Furniture)



Portable Barrier_AU.max
Portable Barrier_AU.png

Barrier Portable_AU.ini

[Parameters]
Length=12.0
Width=3.0
Height=8.0

[Object]
Source=Portable Barrier_AU.max
Proxy=
Preview=Barrier.png

[Placement]

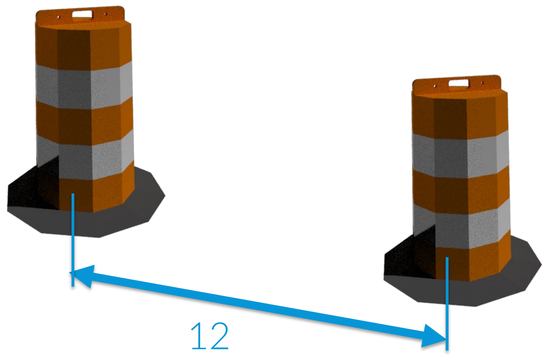
[Group]

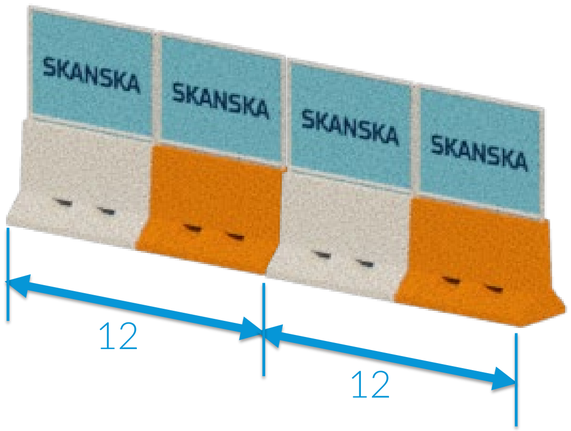
Setting up the .INI file

Let start filling in the areas;

[Placement]

(What default spacing do you want?)





Barrier Portable_AU.ini

[Parameters]
Length=12.0
Width=3.0
Height=8.0

[Object]
Source=Portable Barrier_AU.max
Proxy=
Preview=Barrier.png

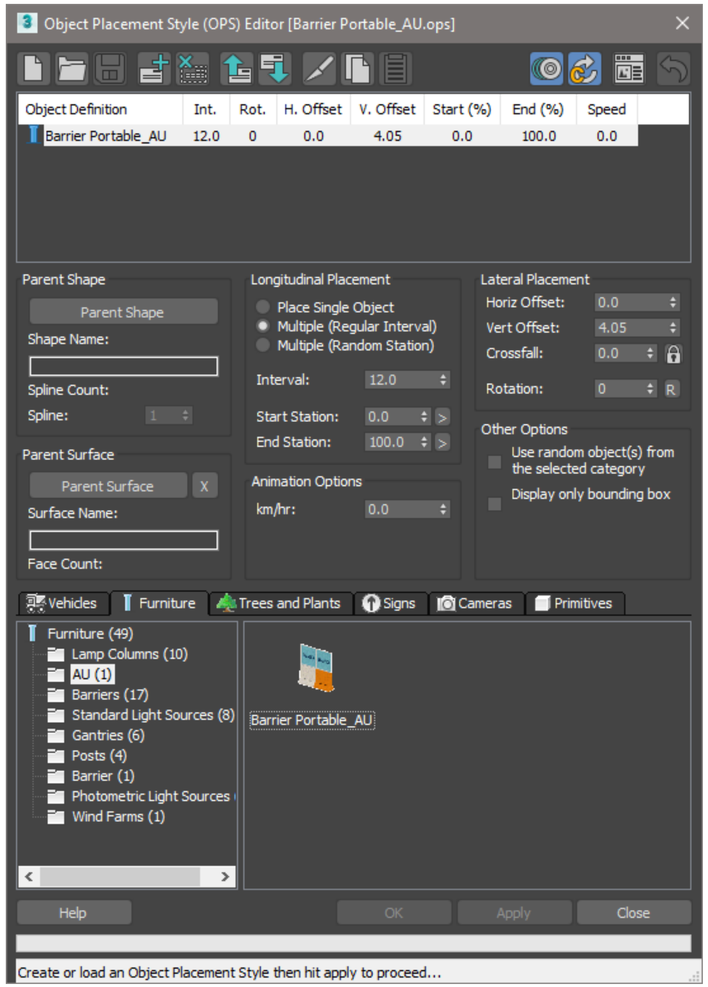
[Placement]
DefaultInterval=12
[Group]

Setting up the .INI file

Let start filling in the areas;

[Group]

(How to organize your library of objects)



Barrier Portable_AU.ini

[Parameters]
Length=12.0
Width=3.0
Height=8.0

[Object]
Source=Portable Barrier_AU.max
Proxy=
Preview=Barrier.png

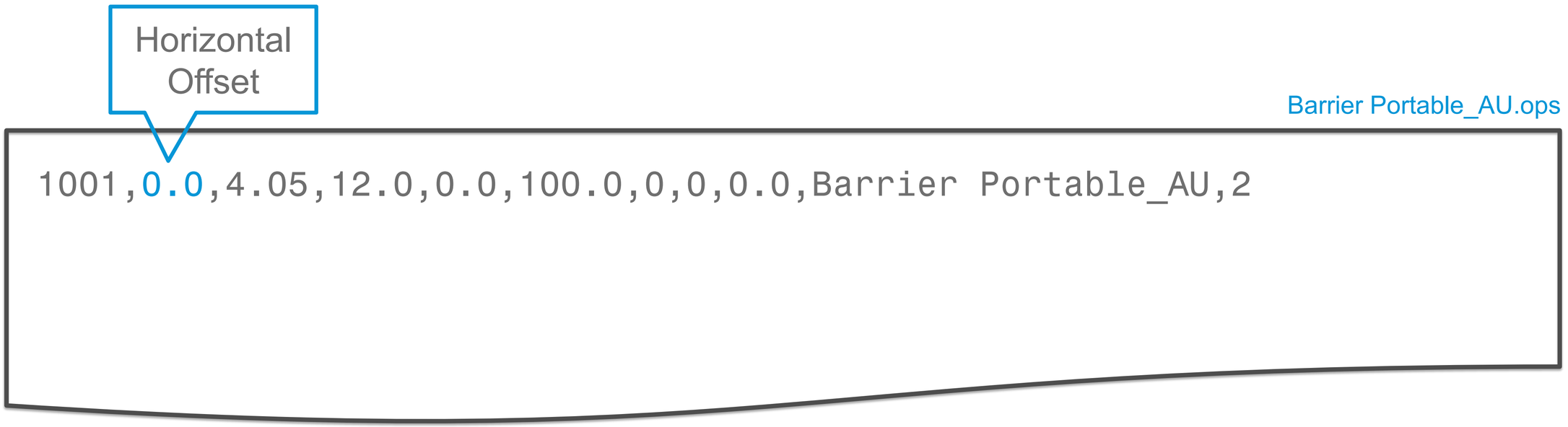
[Placement]
DefaultInterval=12

[Group]
Name=AU

Setting up the .OPS file

LOREM IPSUM

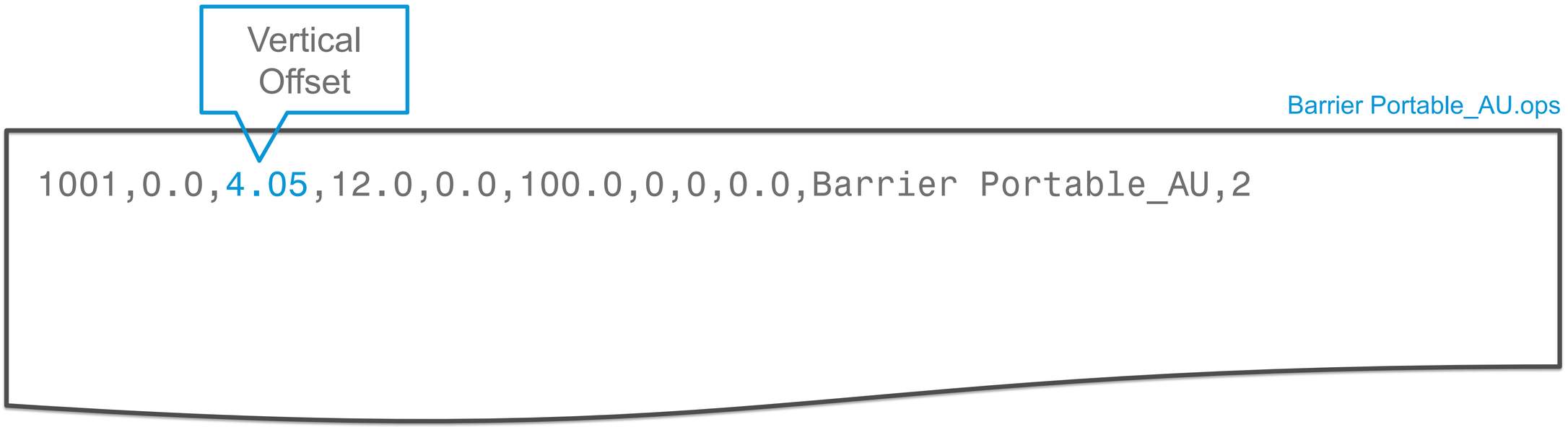
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

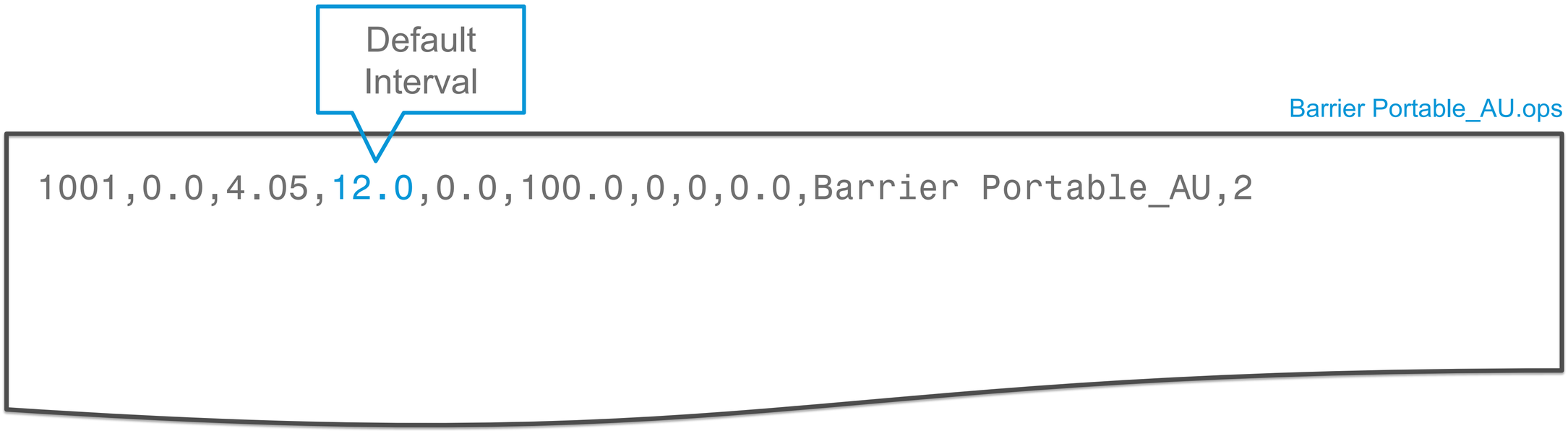
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

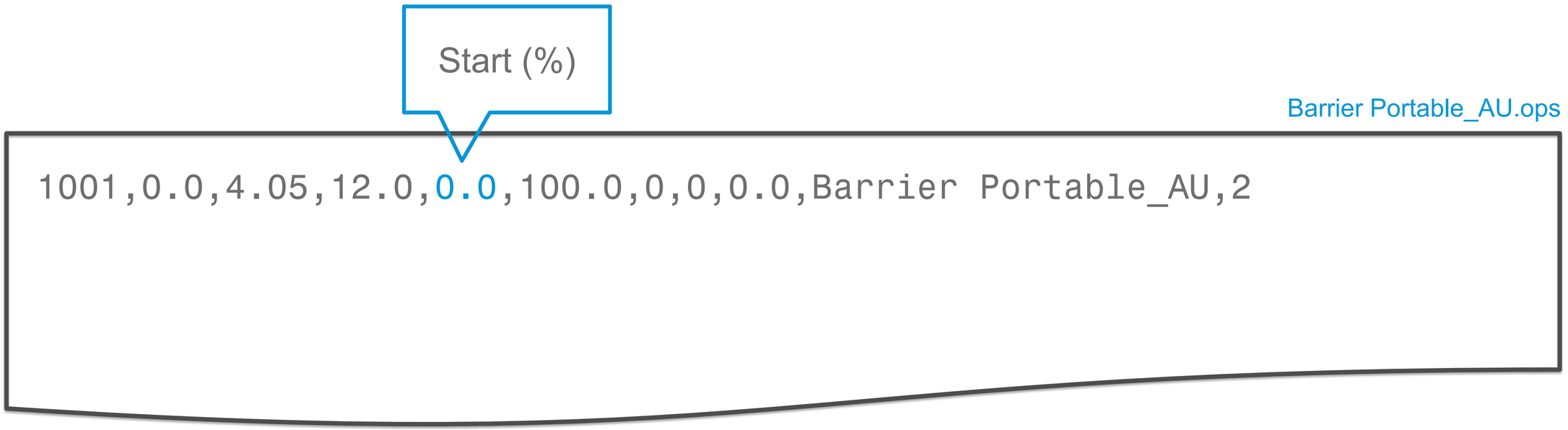
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

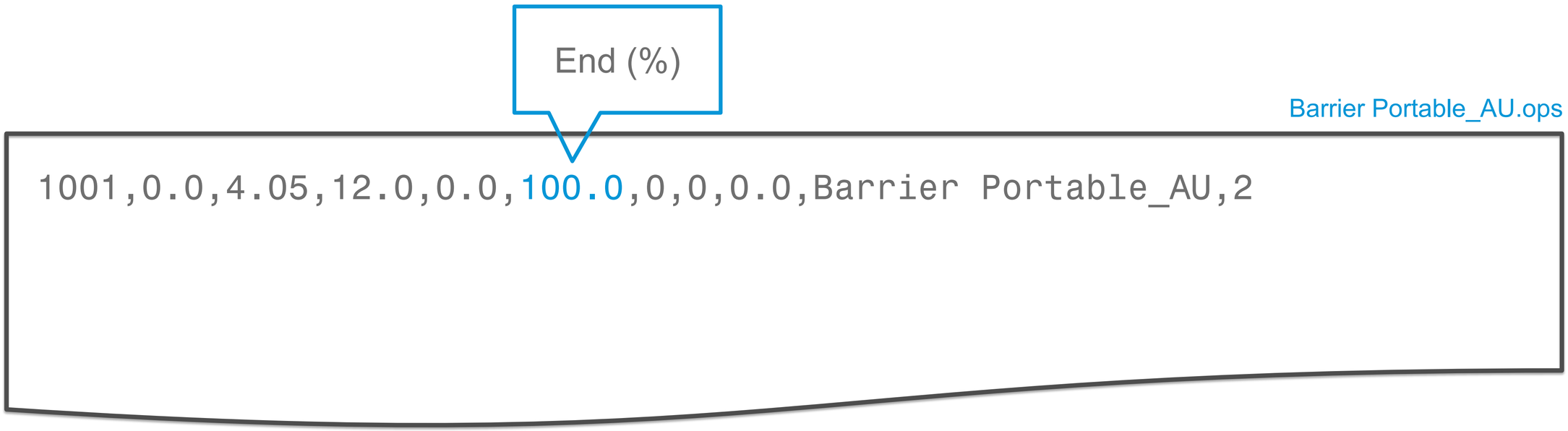
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.

Display Bounding Box Only

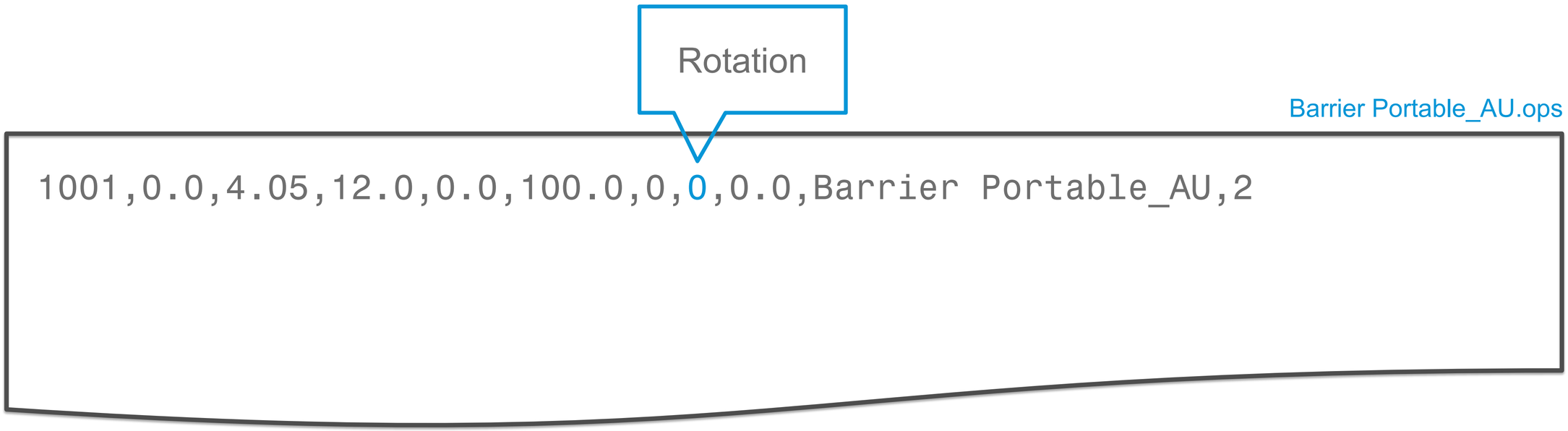
Barrier Portable_AU.ops

```
1001,0.0,4.05,12.0,0.0,100.0,0,0,0.0,Barrier Portable_AU,2
```

Setting up the .OPS file

LOREM IPSUM

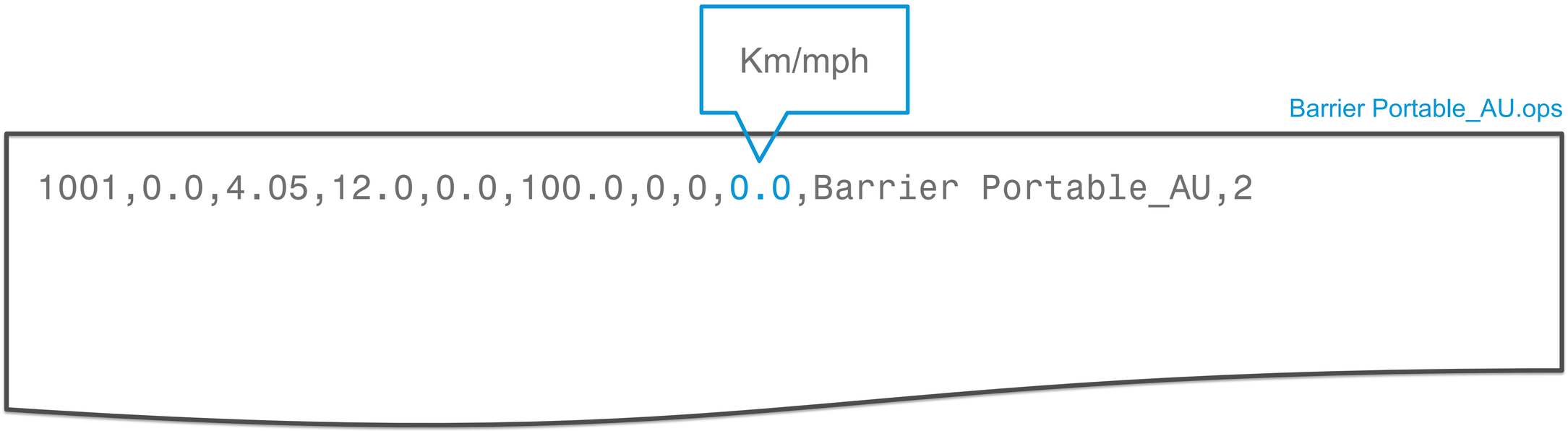
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

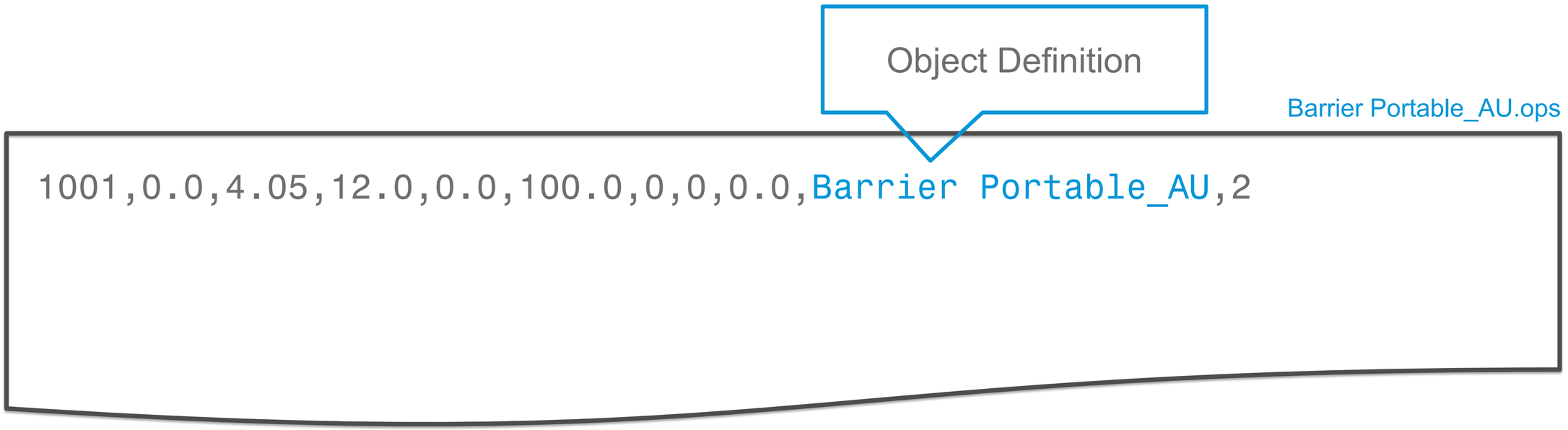
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.



Setting up the .OPS file

LOREM IPSUM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras lacinia interdum odio, at cursus elit sagittis lobortis. Proin eu nisl molestie, dignissim ante ut, dictum ex.

Library Tab
1 = Vehicles
2 = Furniture
3 = Trees & Plants
4 = Signs
5 = Cameras
6 = Primitives

Barrier Portable_AU.ops

```
1001,0.0,4.05,12.0,0.0,100.0,0,0,0.0,Barrier Portable_AU,2
```

Example Uses



Live Demo (if time allows)

