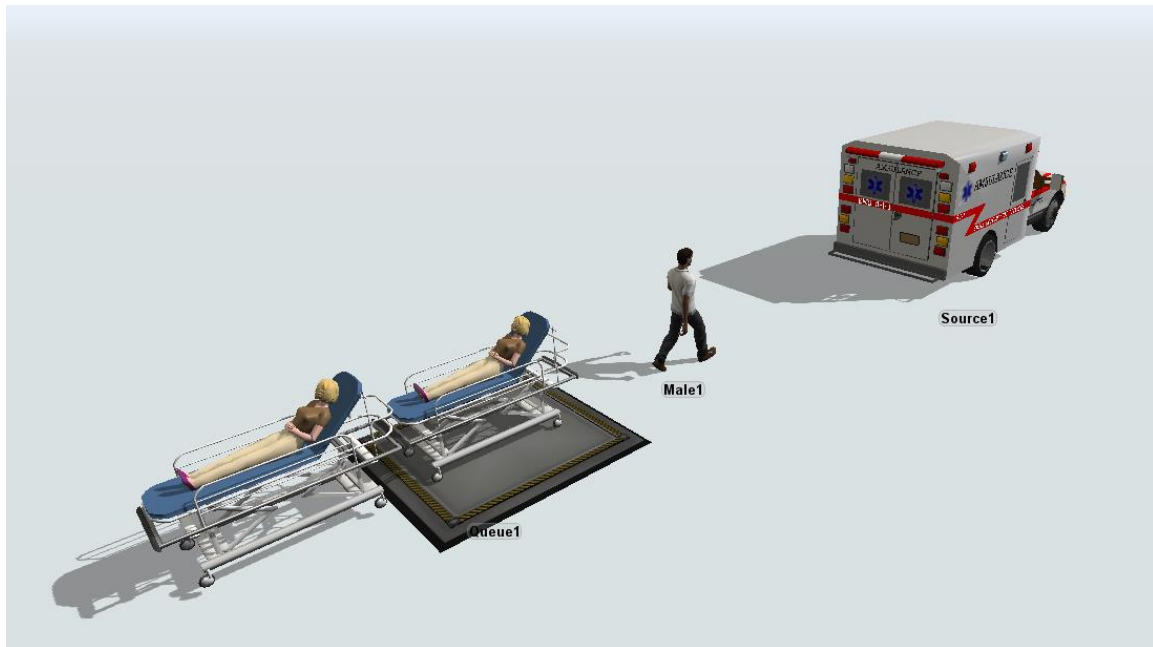


DR. ALVIN'S PUBLICATIONS

CREATING A SIMPLE ANIMATION WITH FLEXSIM

DR. ALVIN ANG



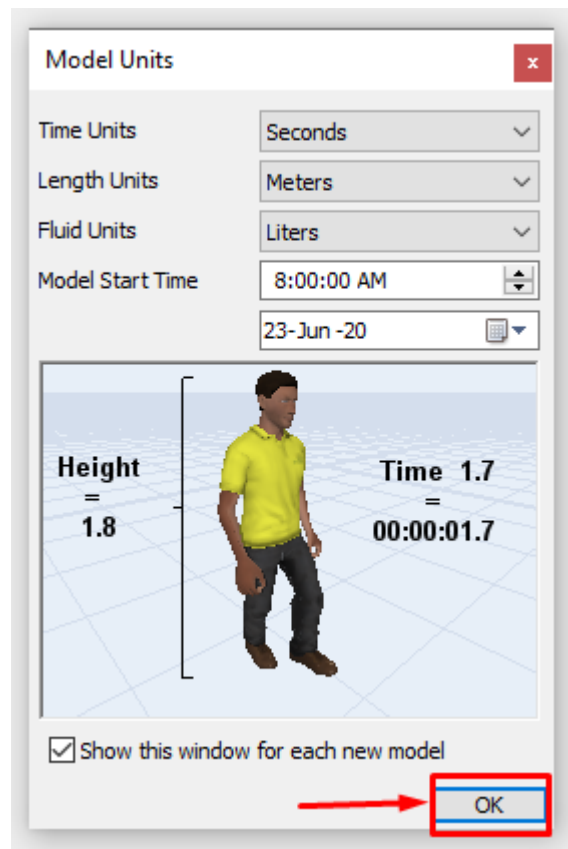
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INTRODUCTION

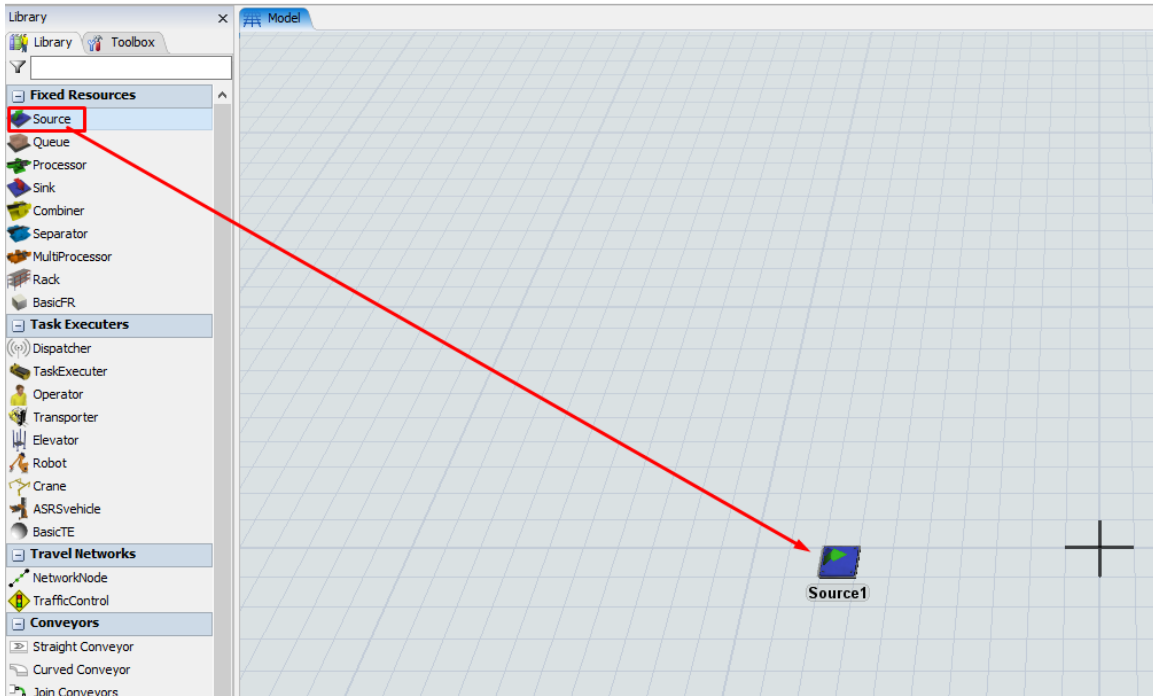
- Flexsim is a popular simulation software (Along with Arena / Anylogic / Anylogistix).
- Kindly see Ang (2020) for a brief comparison of these three software.
- This manuscript focuses on using Flexsim's animation to visualize a patient / ambulance activity.
- The purpose is to get a quick feel / know-how on using Flexsim; and not so much to understand statistical / analytical aspects of the model.
- You will need two trial softwares for this tutorial:
 - <https://account.flexsim.com/flexsim-express/> (Flexsim Express)
 - <https://healthcare.flexsim.com/> (Flexsim Healthcare)
- Download and install them first...

KICKSTARTING...

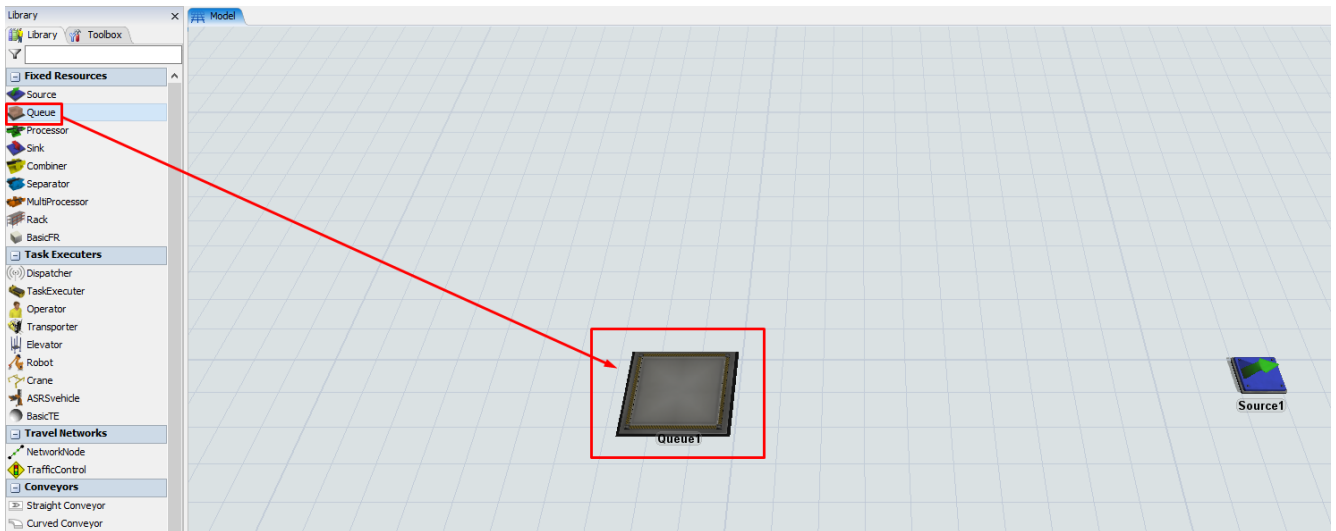


PLACING OBJECTS

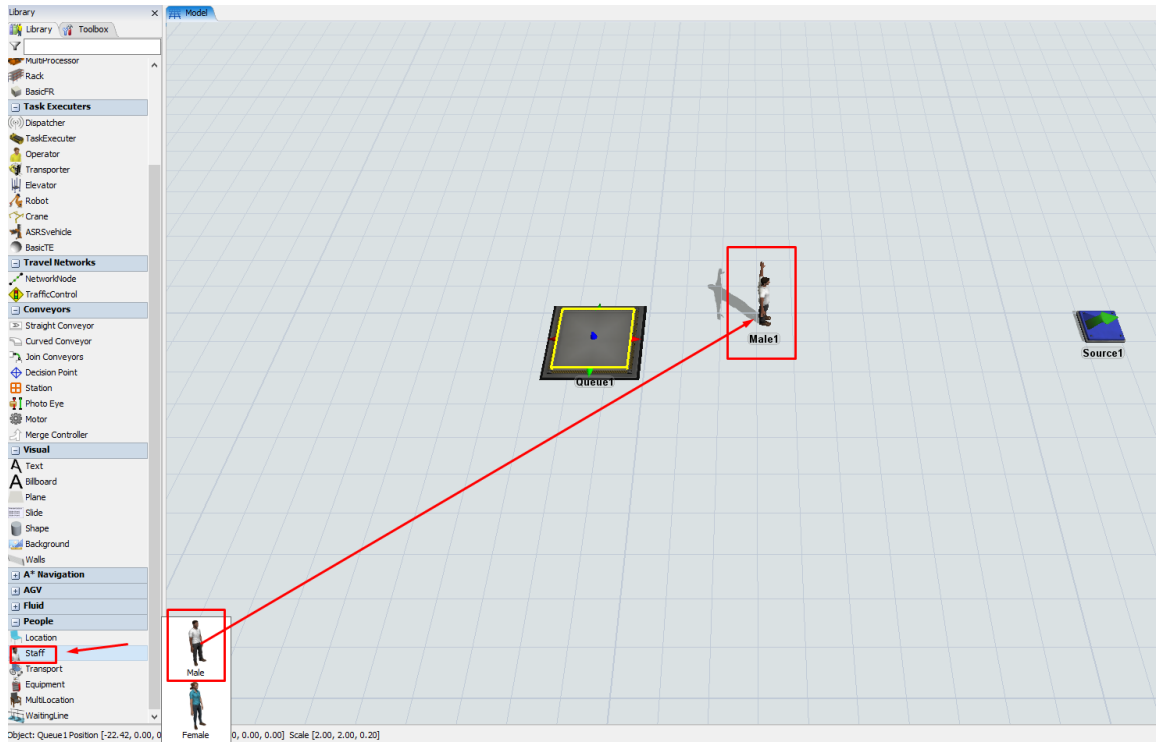
PLACE SOURCE



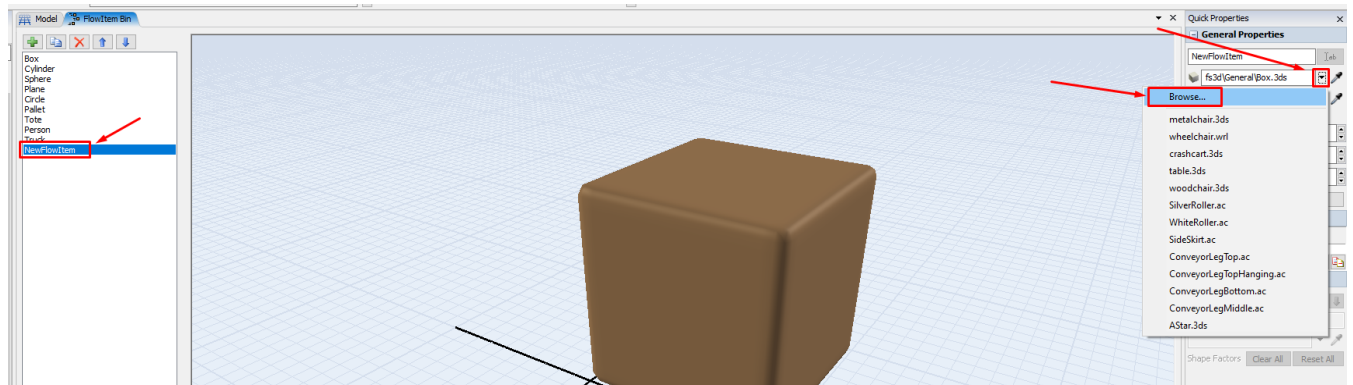
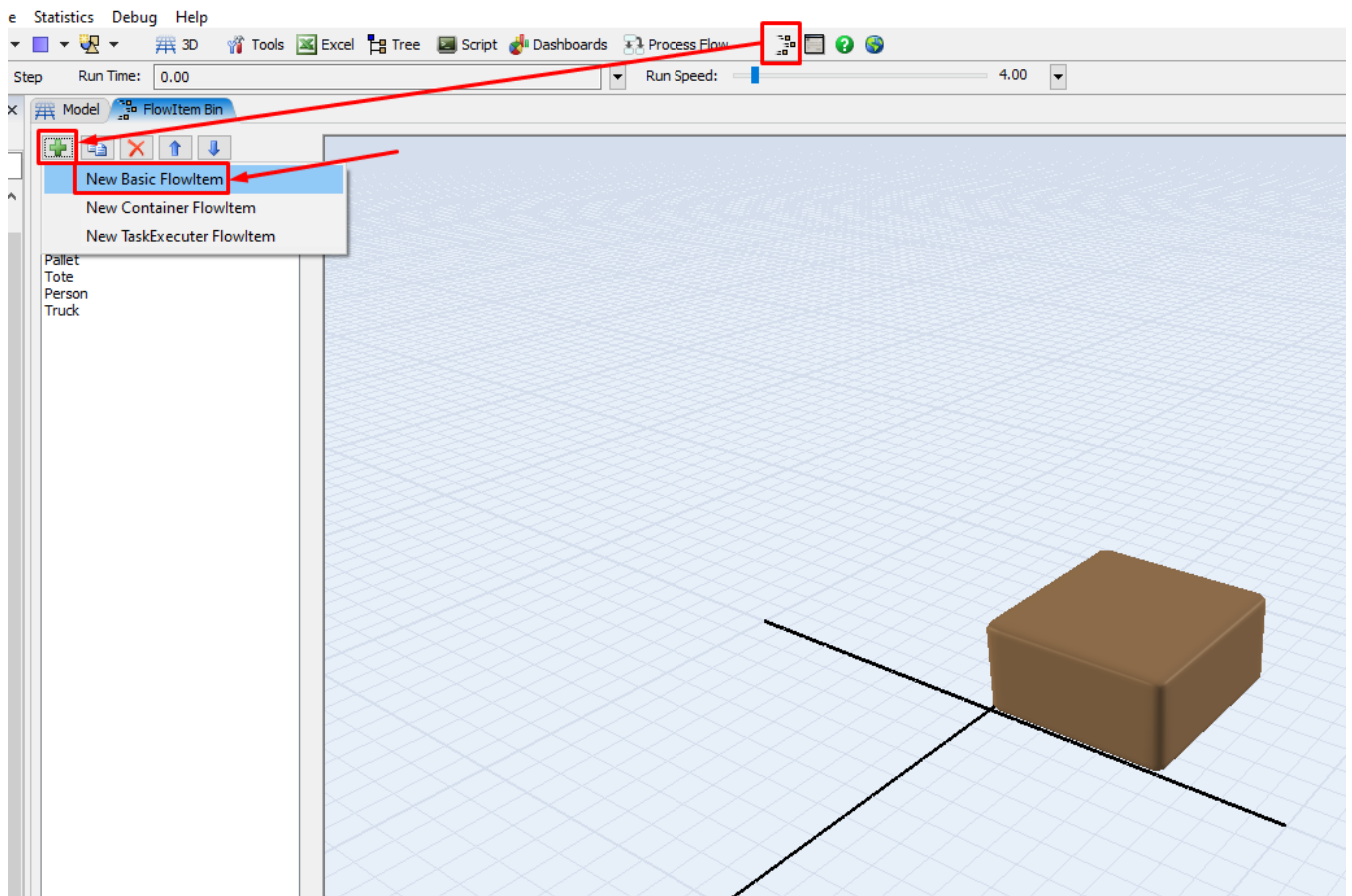
PLACE QUEUE



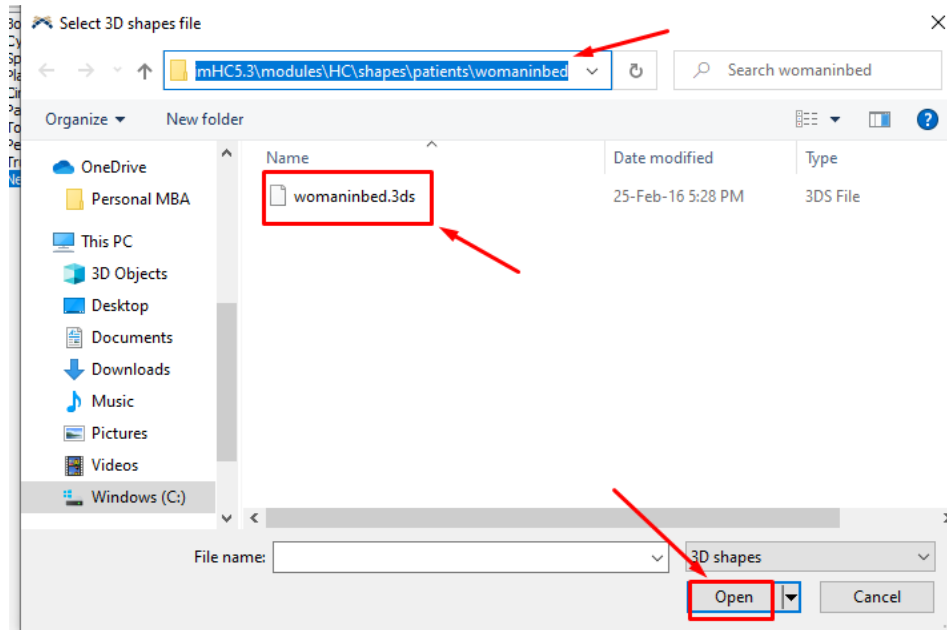
PLACE OPERATOR



EDIT THE FLOW LIST ITEM



Navigate to: C:\Program Files\FlexSimHC5.3\modules\HC\shapes\patients\womaninbed

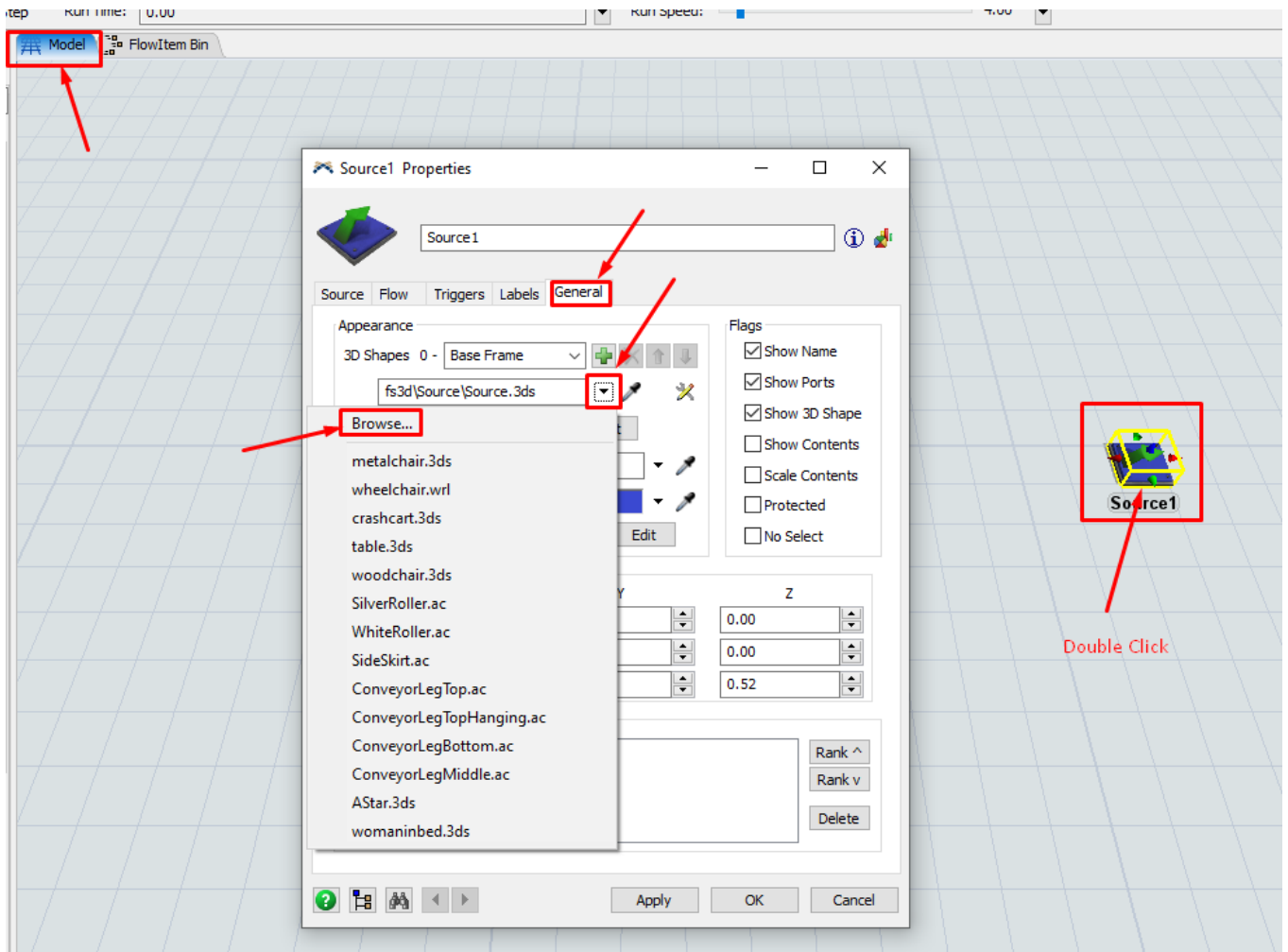


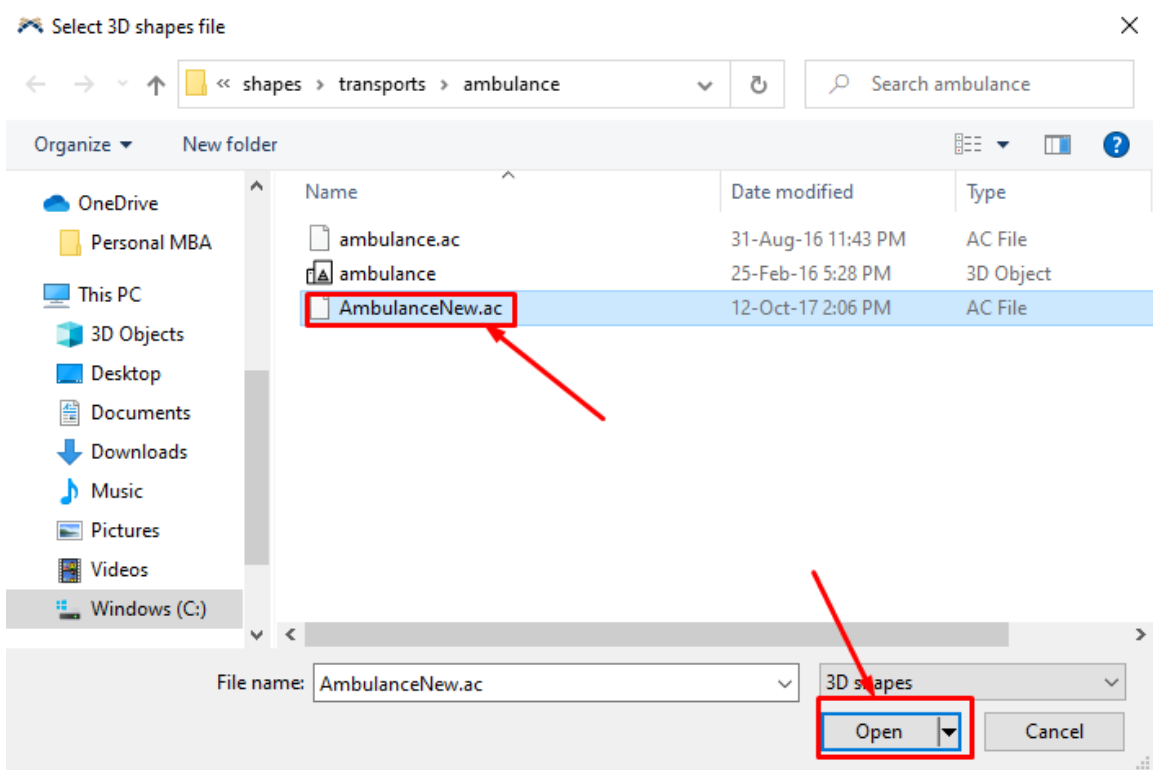
- The Flow List Item is the item that “flows” through the process (aka the patient).
- Not to be confused with the “Operator” (aka the staff nurse).

SHORT NOTE ABOUT ANIMATIONS

- In Flexsim, the two most common animation file types are
 - .3ds – static 3D objects
 - .fbx – dynamic 3D objects, like people, that carry animations
- In this tutorial, we skip discussing about .fbx because its too complicated.
- For .3ds, you may google “free .3ds models” or “google 3D warehouse” and you will see lots of it.
- The following files below are accepted by Flexsim.
 - .3ds / .ac / .ase / .blend / .cob / .csm / .dae / .dxf / .fbx / .hmp / .igs / .irr / .irrmesh / .jt / .lvo / .lvs / .lxo / .md5mesh / .mdl / .ms3d / .obj / .off / .ply / .q3o / .q3s / .raw / .scn / .skp / .stl * / .stp / .ter / .wrl * / .x / .xgl / .zgl
- You may get more 3D objects from within your laptop (since you have already installed both softwares, Flexim and Healthcare)
 - C:\Program Files\FlexSim 2019\fs3d
 - C:\Program Files\FlexSim 2019\modules\People\shapes
 - C:\Program Files\FlexSimHC5.3\fs3d
 - C:\Program Files\FlexSimHC5.3\modules\HC\shapes

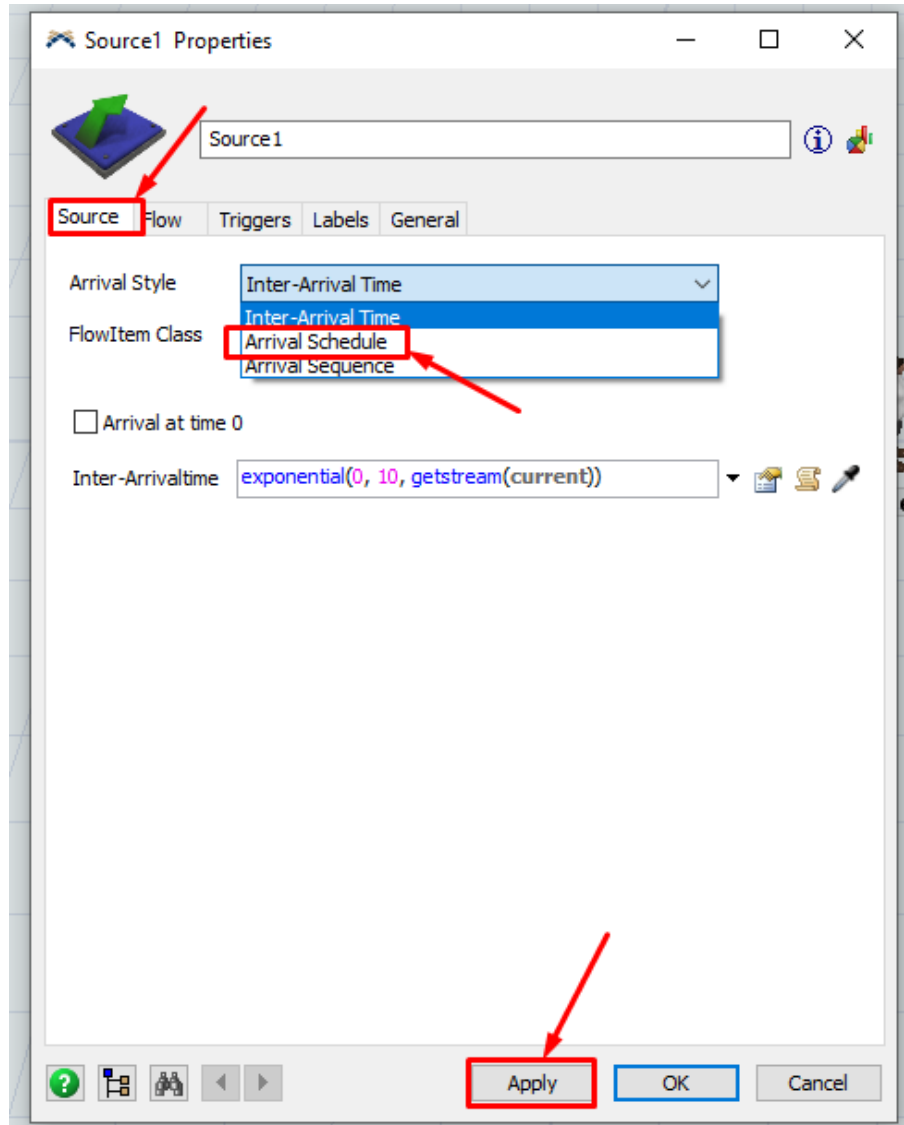
CHANGING THE SHAPE OF THE SOURCE

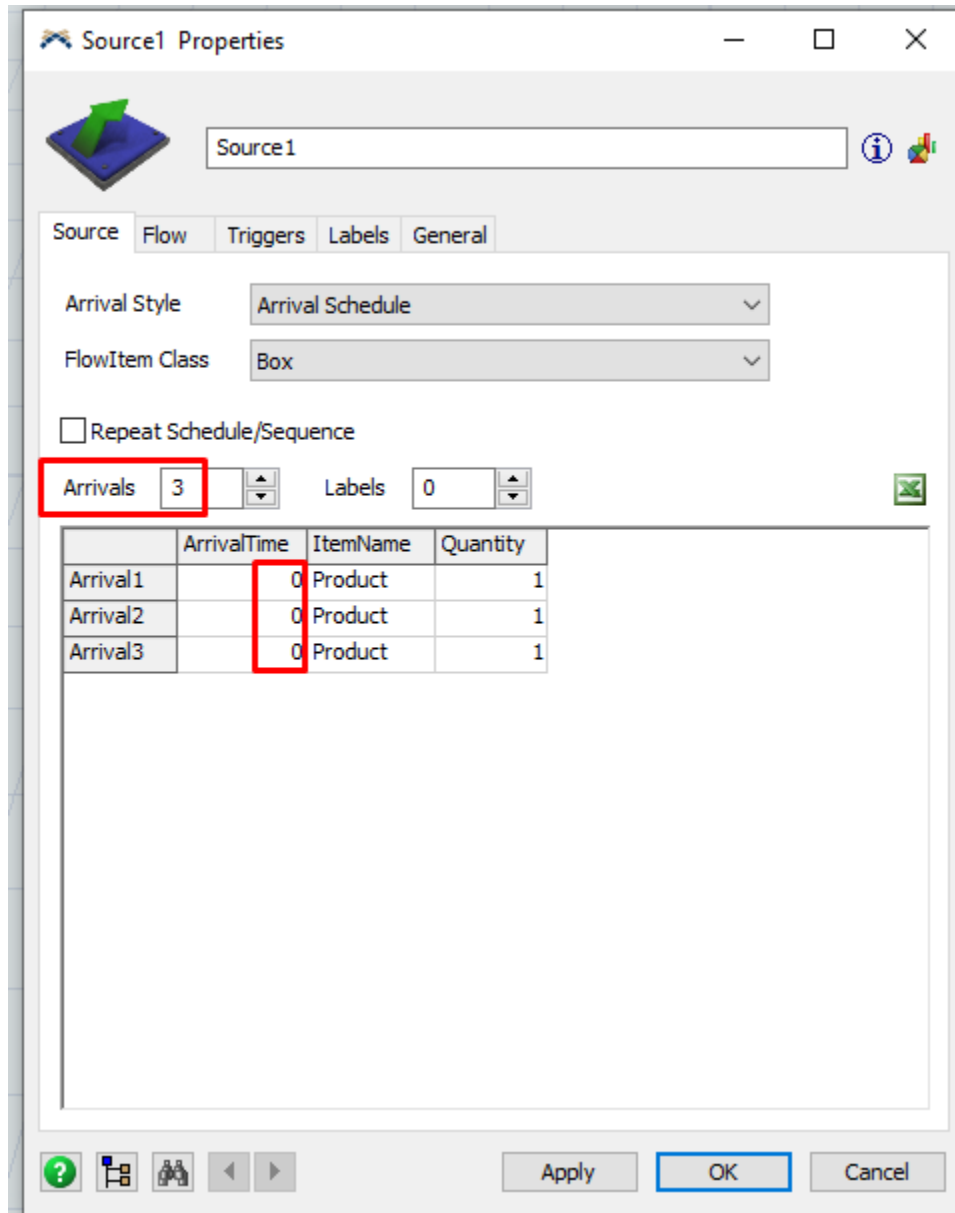




Navigate to C:\Program Files\FlexSimHC5.3\modules\HC\shapes\transports\ambulance

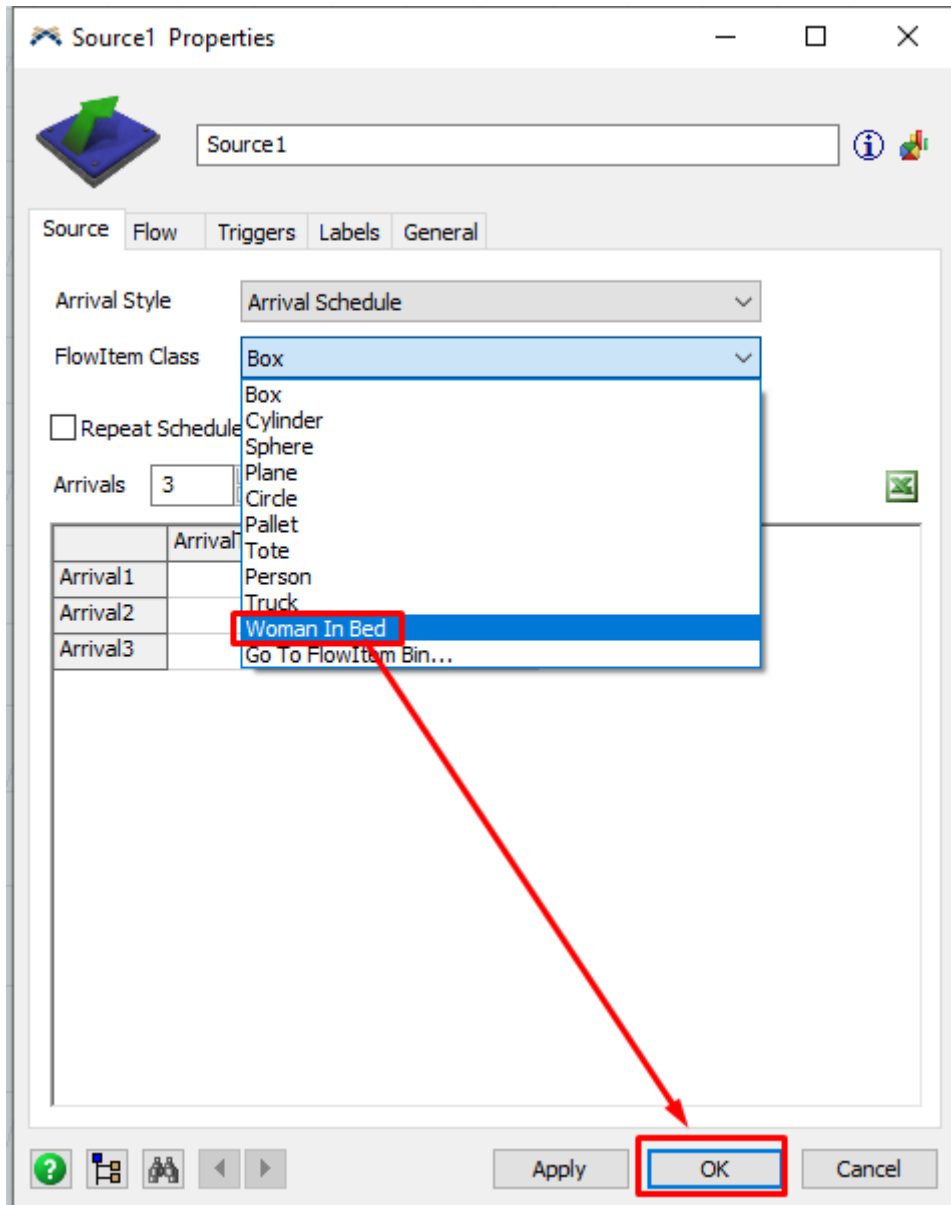
CHANGING THE ARRIVAL SCHEDULE



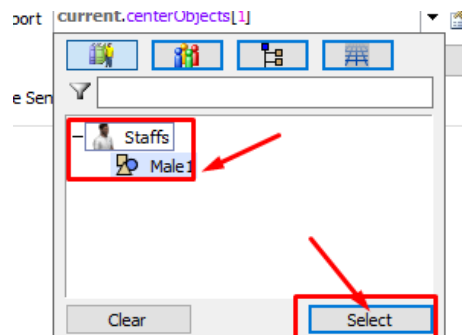
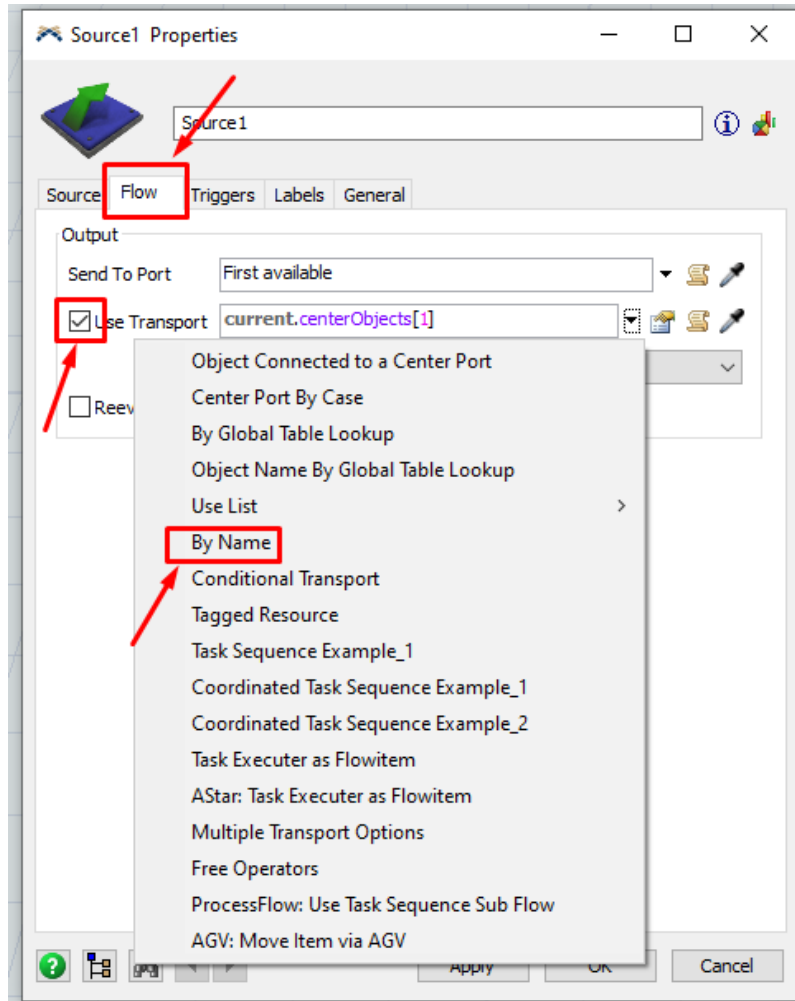


- This shows that the ambulance is carrying 3 patients.
- These 3 patients all arrive at the same time (at $t = 0$).

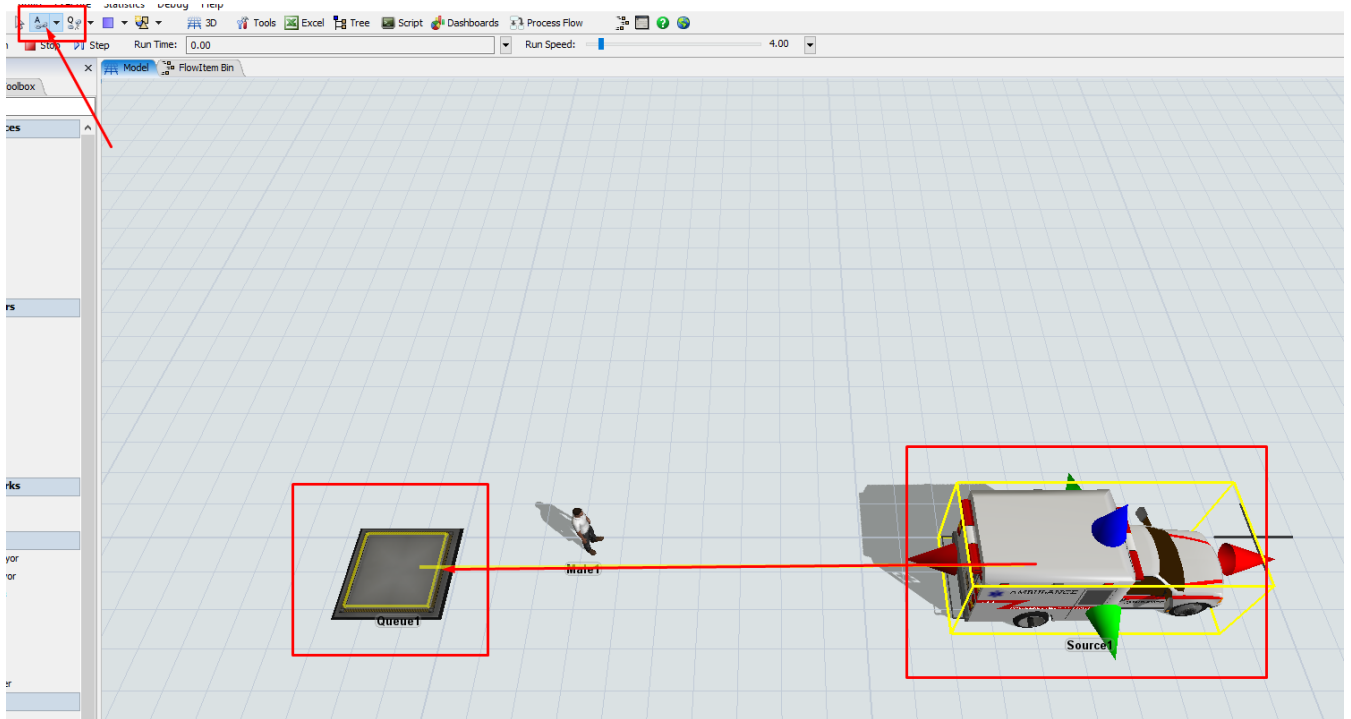
CHANGE THE FLOW ITEM IN SOURCE



USE THE OPERATOR (STAFF) TO FETCH THE PATIENTS

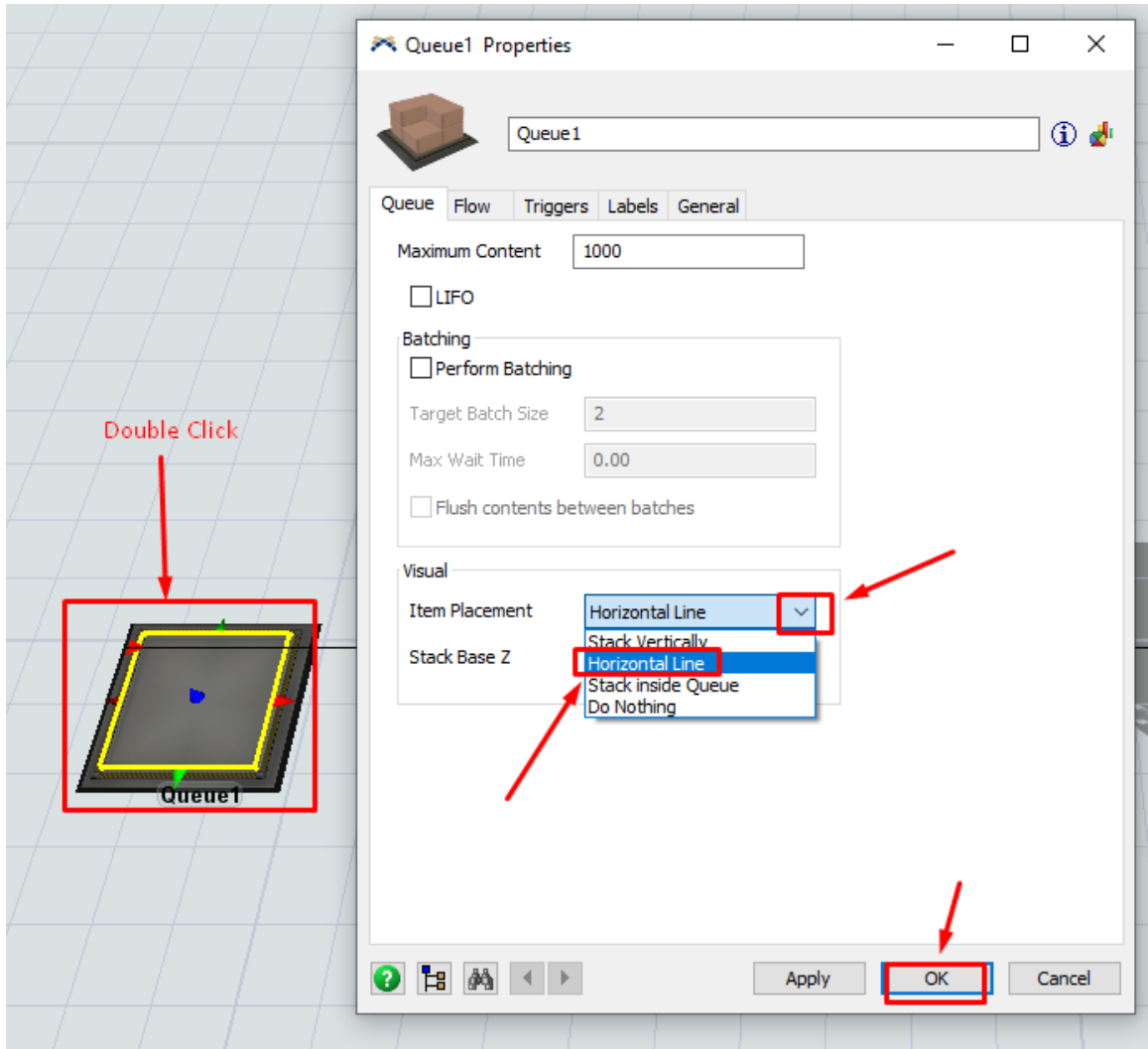


CONNECT THE SOURCE TO THE QUEUE



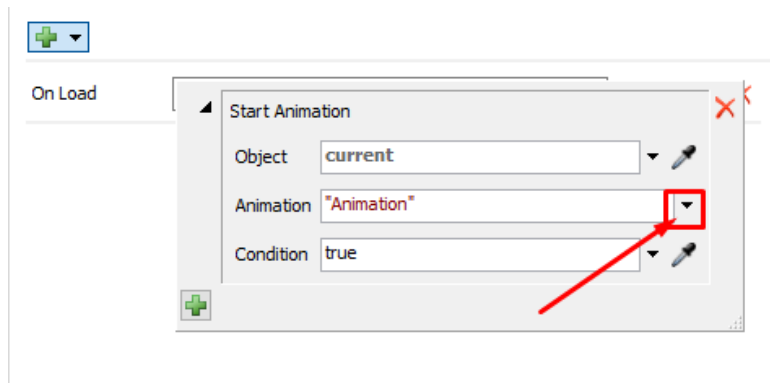
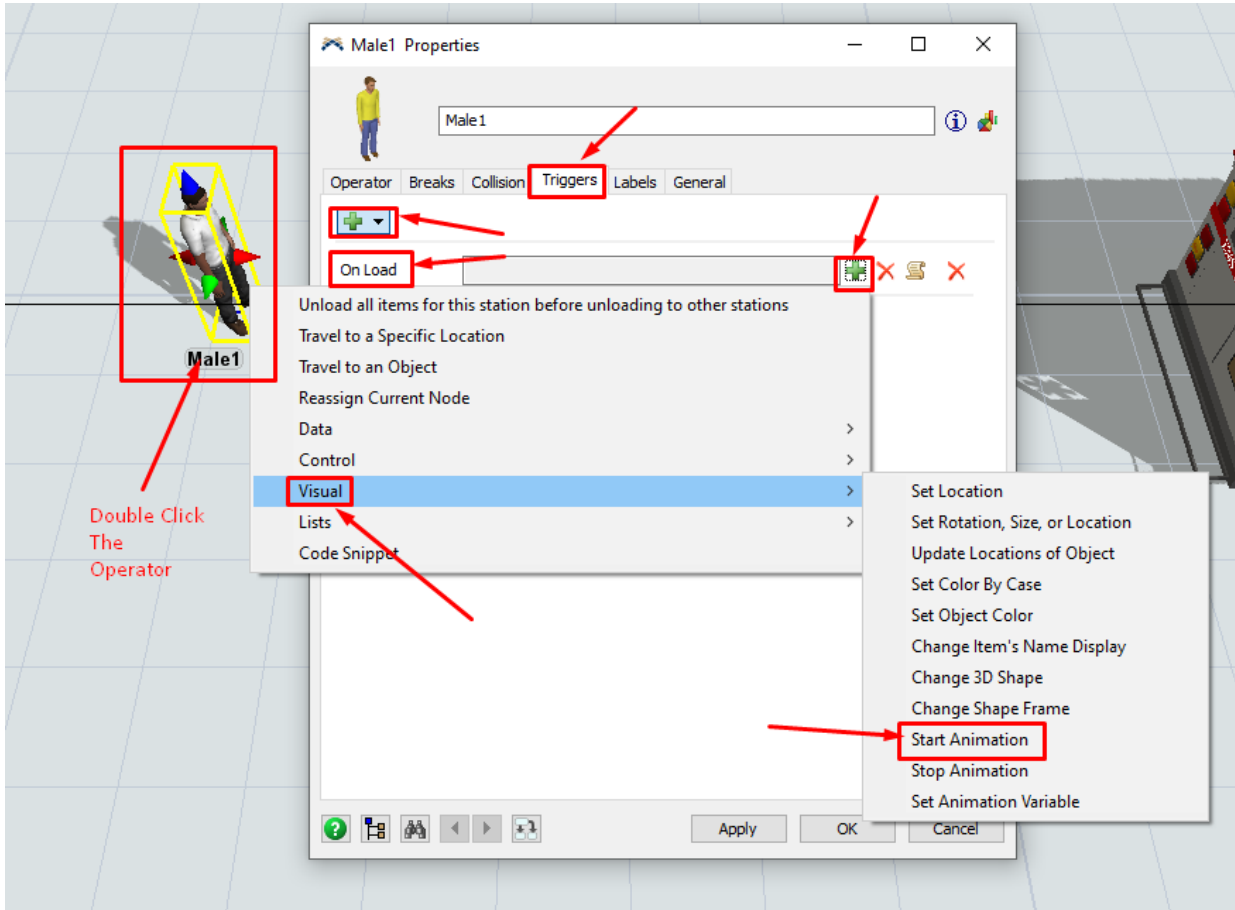
Press escape to get out of the “connect objects” mode.

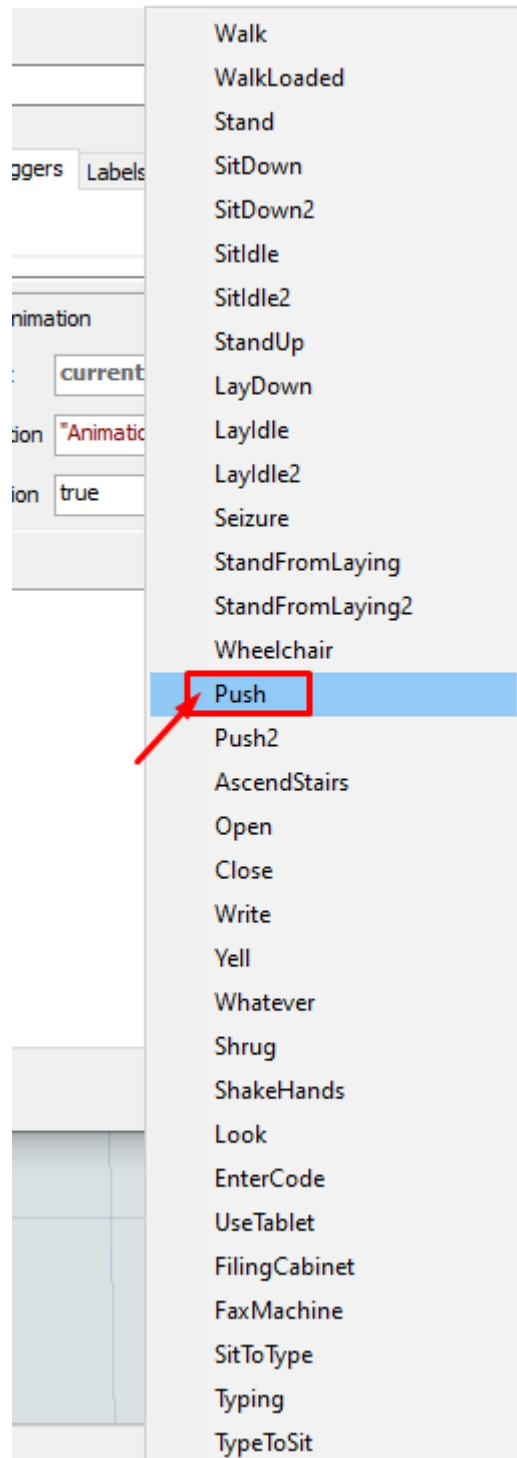
EDIT THE QUEUE VISUAL PROPERTY



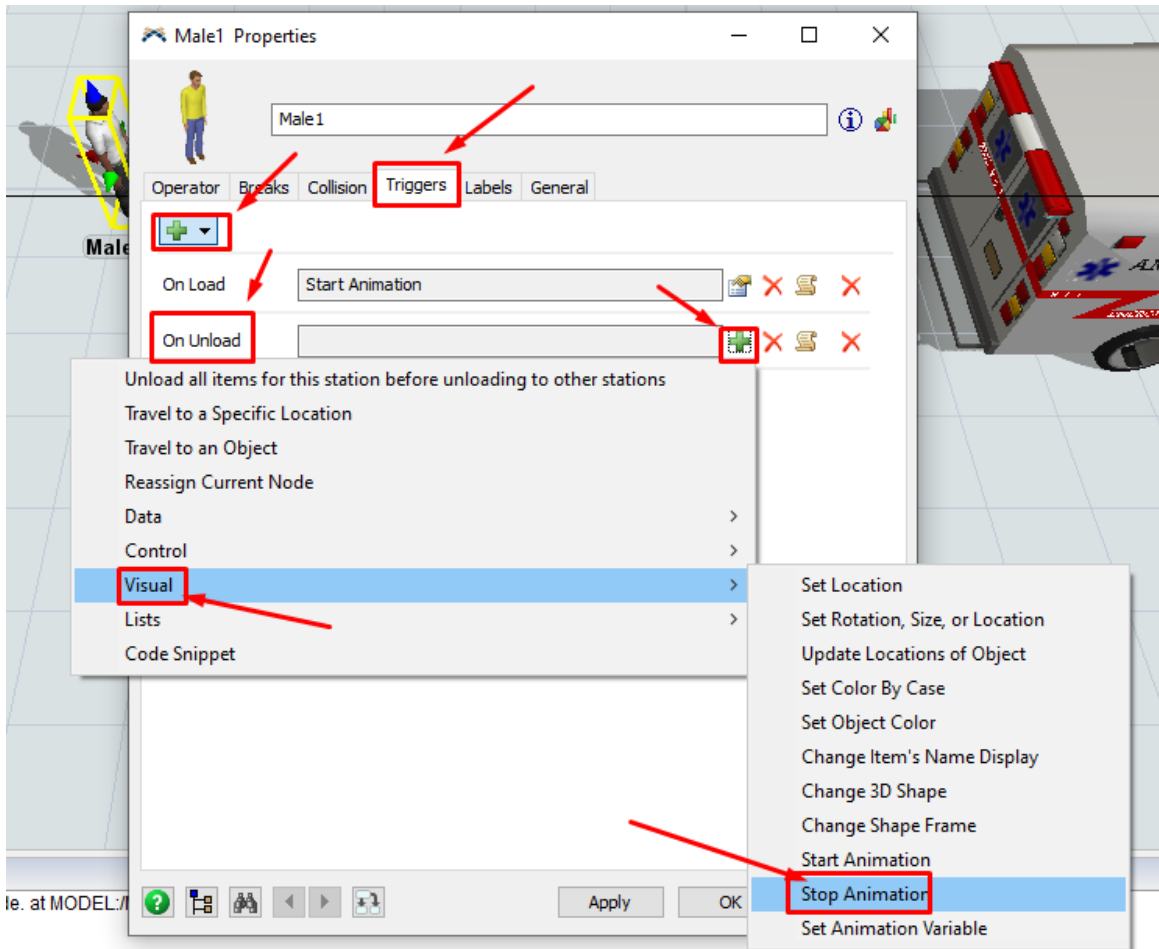
EDIT THE OPERATOR'S ANIMATION

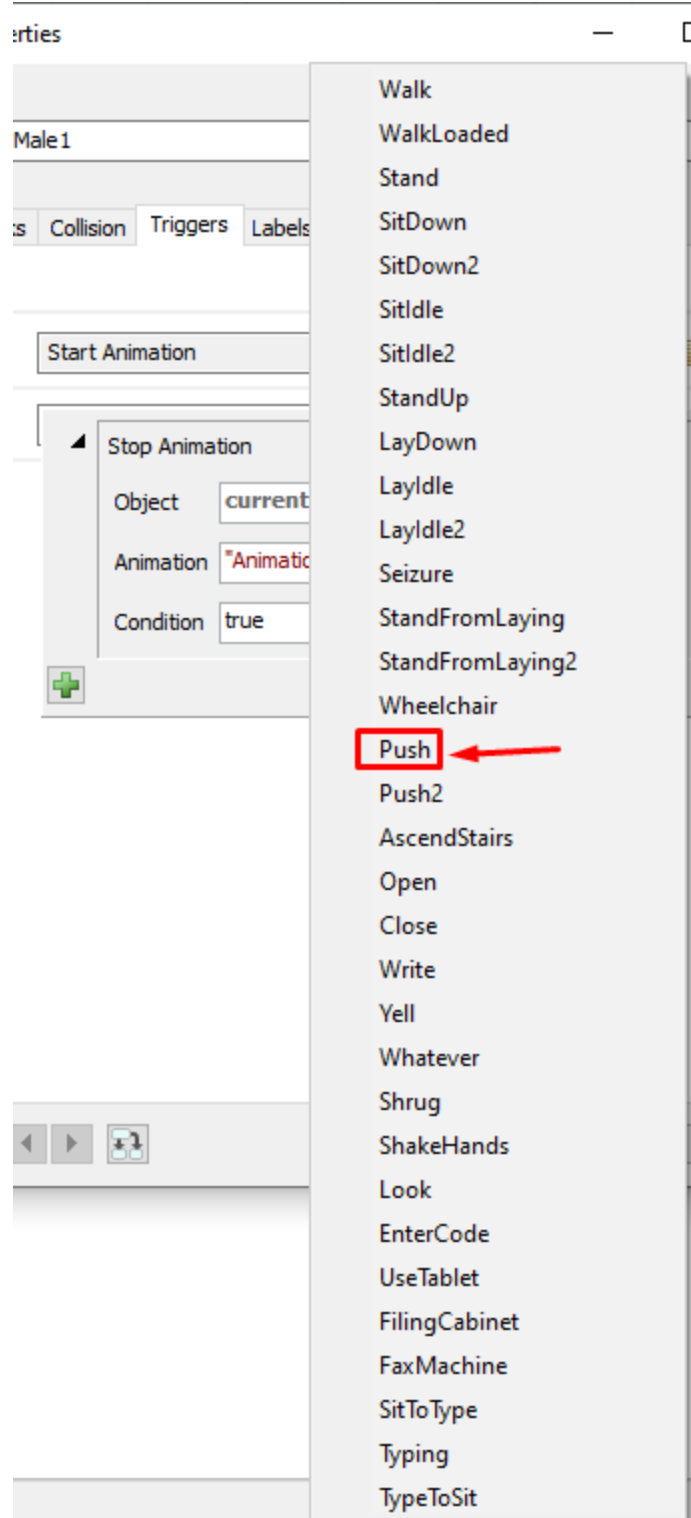
START PUSHING ONCE LOADED





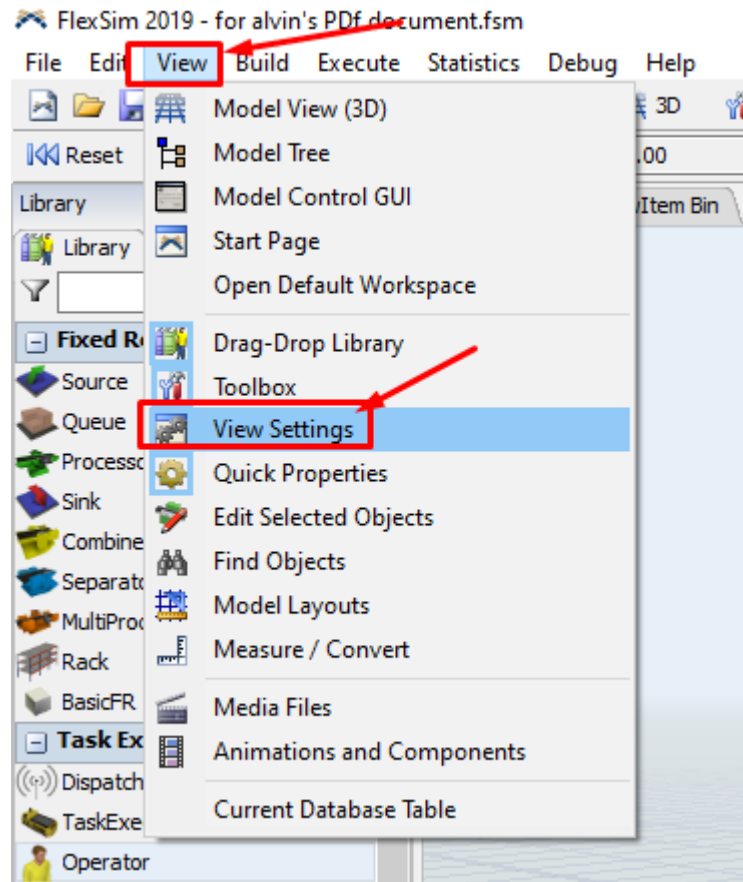
STOP PUSHING ONCE UNLOAD

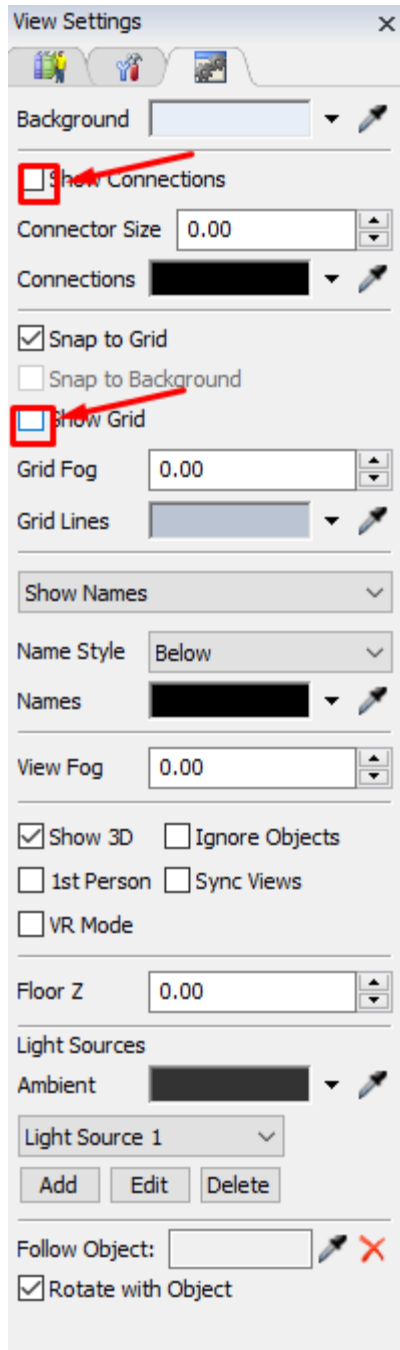


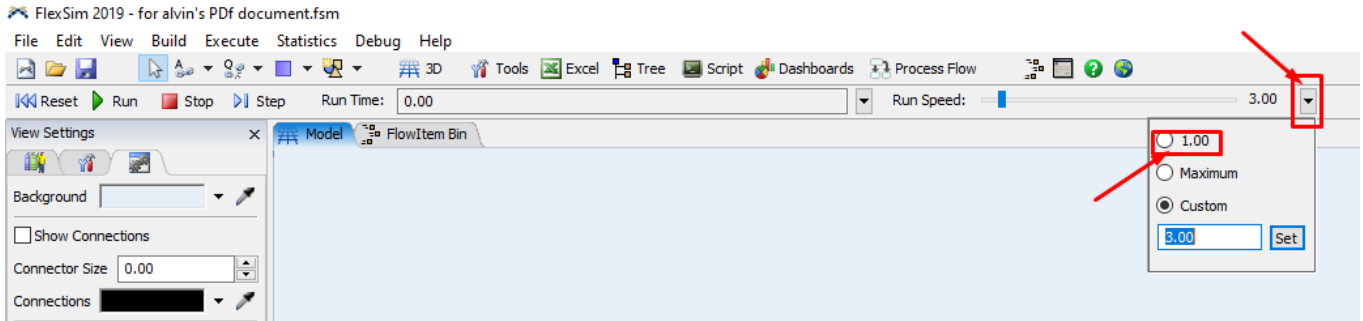


SET VIEW SETTINGS

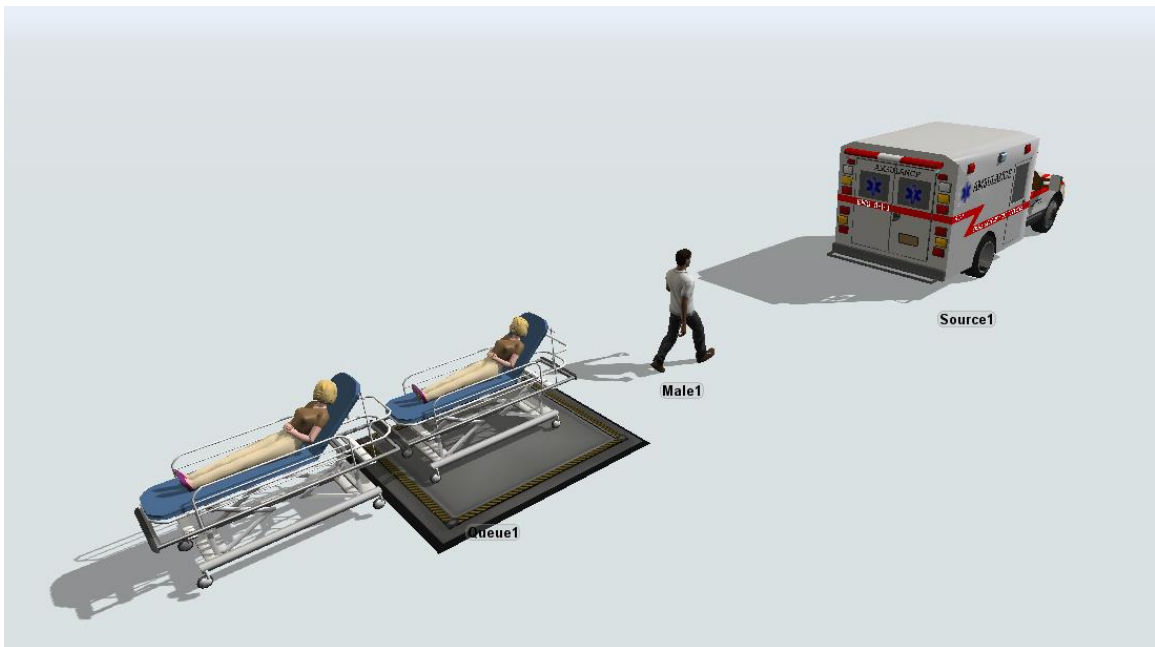
- Mouse Scroll = Zoom In / Out
- Right Click = Change Angle Views
- Left Click = Pan Camera Left / Right







Now just click play... and enjoy the show!



CONCLUSION

- It is very difficult to create realistic animation from scratch (especially if you have complex process flows).
- It takes a lot of time and tedious effort just to learn and customize the intricacies of the animations.
- Thus, to speed things up, refer to the following pre-built models in the link below.
- Go to <https://www.alvinang.sg/publications-1> → Scroll down all the way and look .fsm files
- Open them using Flexsim.

REFERENCES

Ang, A. (2020). A Brief Comparison Of Three Simulation Softwares. www.AlvinAng.sg.

ABOUT THE AUTHOR

Dr. Alvin Ang earned his Ph.D., Masters and Bachelor degrees from NTU, Singapore. He is a scientist, entrepreneur, as well as a personal/business advisor. More about him at www.AlvinAng.sg.