**Bicycle Simulator - Unity Software**

[insert notes about anything interesting found about either simulating the world view OR simulating traffic ]

* Open source driving simulator: <http://www.transportationtechnologyventures.com/simwiki/index.php?title=Main_Page#Why_a_new_Simulator_.3F>   
  Maybe worth a look?
* Entire book on driving simulation: <https://ebookcentral.proquest.com/lib/northeastern-ebooks/detail.action?docID=681286>  
  (Content available if logged into library website)
* Traffic simulation in Unity: <https://forum.unity.com/threads/open-source-ai-traffic-system-that-really-works-out-of-the-box.388605/>
* Looks interesting: <http://www.carla.org/index.php/downloads-2/>   
  <https://github.com/GENIVI/genivi-vehicle-simulator>
* Promising …. <https://techcrunch.com/2017/02/08/udacity-open-sources-its-self-driving-car-simulator-for-anyone-to-use/> and <https://github.com/udacity/self-driving-car-sim>
* Interesting article: <https://www.forbes.com/sites/aarontilley/2017/10/04/grand-theft-auto-v-the-rise-and-fall-of-the-diy-self-driving-car-lab/#3f514ccc7d7a>
* Useful info: <https://medium.com/@pallavrawat/how-to-build-a-vehicle-simulation-environment-in-unity-3d-a50efd52d4ee>
* Traffic simulation: Intelligent Traffic System (ITS) (with source: <https://assetstore.unity.com/packages/templates/systems/its-intelligent-traffic-system-source-22765>; without source: <https://assetstore.unity.com/packages/templates/systems/its-intelligent-traffic-system-23564> ) Prof. Lin’s lab at NU might have this already.
* Urban traffic system pro (<https://assetstore.unity.com/packages/templates/systems/urban-traffic-system-pro-89133>)
* Good place to get assets: Google Sketchup: <https://www.sketchup.com/>
* Good article on how to use the github udacity self driving car sim:

<https://towardsdatascience.com/introduction-to-udacity-self-driving-car-simulator-4d78198d301d>

* Research paper I came across: <https://www.research-collection.ethz.ch/bitstream/handle/20.500.11850/195951/sigconf%281%29.pdf?sequence=1&isAllowed=y>
* Another paper I came across, I hope these give us some ideas on how to proceed further, their setup is similar to what is being planned by us: <https://pdfs.semanticscholar.org/169b/d3d2aa07f2cf5efa64f975330a81e6e2691c.pdf>
* [Open source autonomous car simulator](http://www.carla.org/) but I believe this has been built using the unreal engine
* <https://viragesimulation.com/vs500m-car-simulator-training-and-research/>
* Autonomous agents (UnitySteer) <https://github.com/ricardojmendez/UnitySteer>
* A Free 3D model of New York City <https://free3d.com/3d-model/castelia-city-35261.html>
* VR Bike <https://github.com/andraghetti/VRBike>
* <https://assetstore.unity.com/packages/tools/integration/map-ity-11779> - to build routes for a particular city using the coordinates in Unity 3D
* <https://assetstore.unity.com/packages/tools/modeling/mantle-environment-system-66413>- video with rapid driving prototype in Unity 3D
* <https://github.com/ue4plugins/StreetMap> in Unreal Engine 4
* <https://wiki.openstreetmap.org/wiki/3D_development>
* CityEngine to create a 3D city map <http://www.esri.com/software/cityengine>
* Create a 3D city map with the CityEnigne https://blogs.esri.com/esri/arcgis/2017/10/03/import-terrain-imagery-osm-data-into-cityengine/
* Integration of the CityEngine 3D map into Unity <https://blogs.esri.com/esri/arcgis/2017/09/12/86150/>
* RoadArchitect <https://github.com/MicroGSD/RoadArchitect>
* EasyRoad https://assetstore.unity.com/packages/tools/terrain/easyroads3d-pro-v3-469

**Local labs with driving simulators:**

* Northeastern (<http://www1.coe.neu.edu/~yilin/facility.html>)
* Tufts
* Volpe (<https://www.volpe.dot.gov/news/new-simulator-enables-testing-dangerous-driving-scenarios-with-no-harm-drivers>)
* UMass Amherst (<http://www.ecs.umass.edu/hpl/index.html>)
* Mass Eye and Ear (<http://www.ophthalmologyweb.com/1315-News/157964-Massachusetts-Eye-and-Ear-Infirmary/>)
* MIT Age Lab (<http://agelab.mit.edu/miss-daisy-fixed-base-vehicle-simulator>)

Commercial software:

* <http://drivesafety.com/research-products/hyperdrive-authoring-suite/>