UAV PHOTOGRAMMETRY AND VR

Matthew Swarts

Georgia Institute of Technology

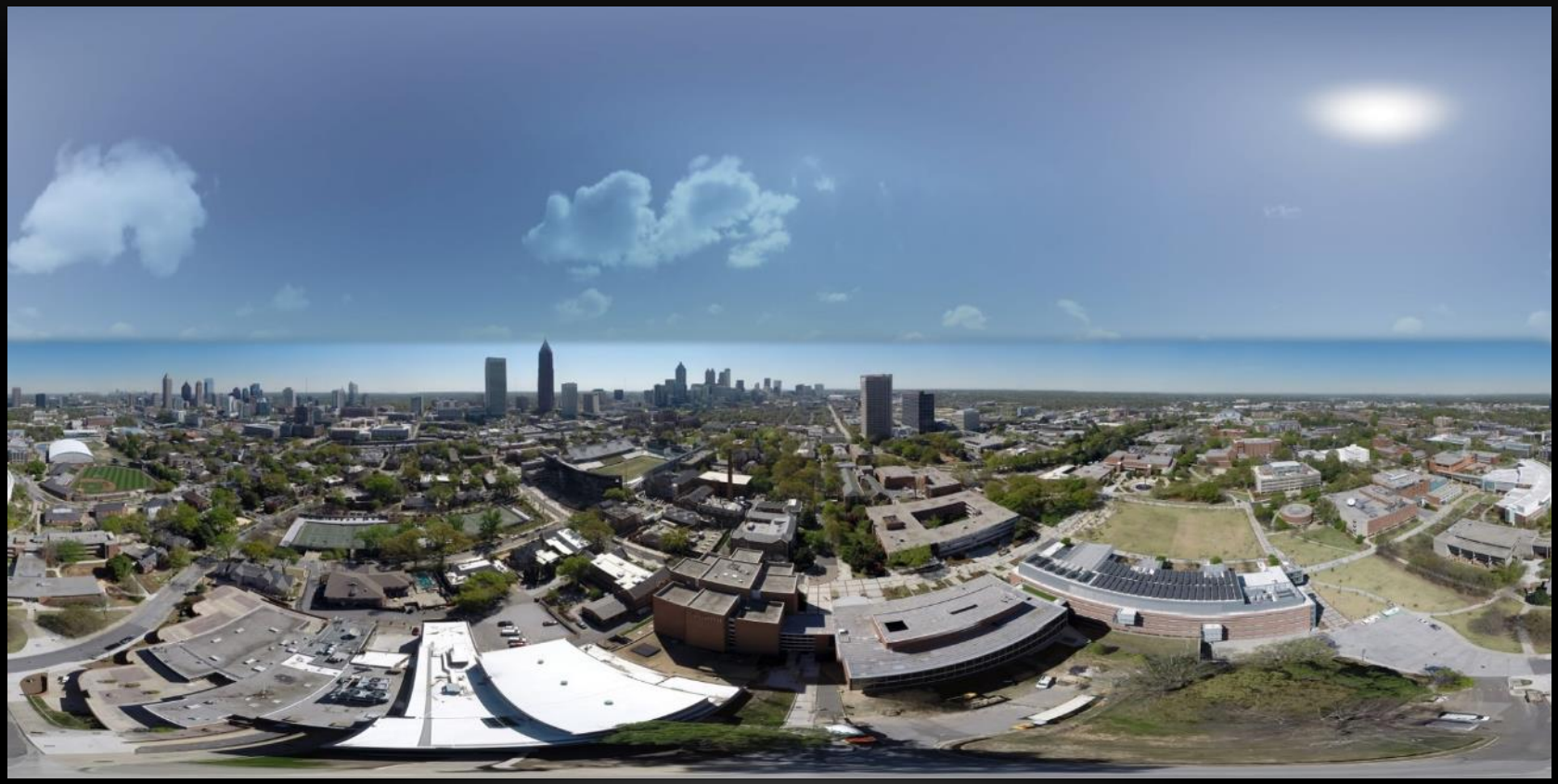
Forum8 Design Festival

November 21st, 2014

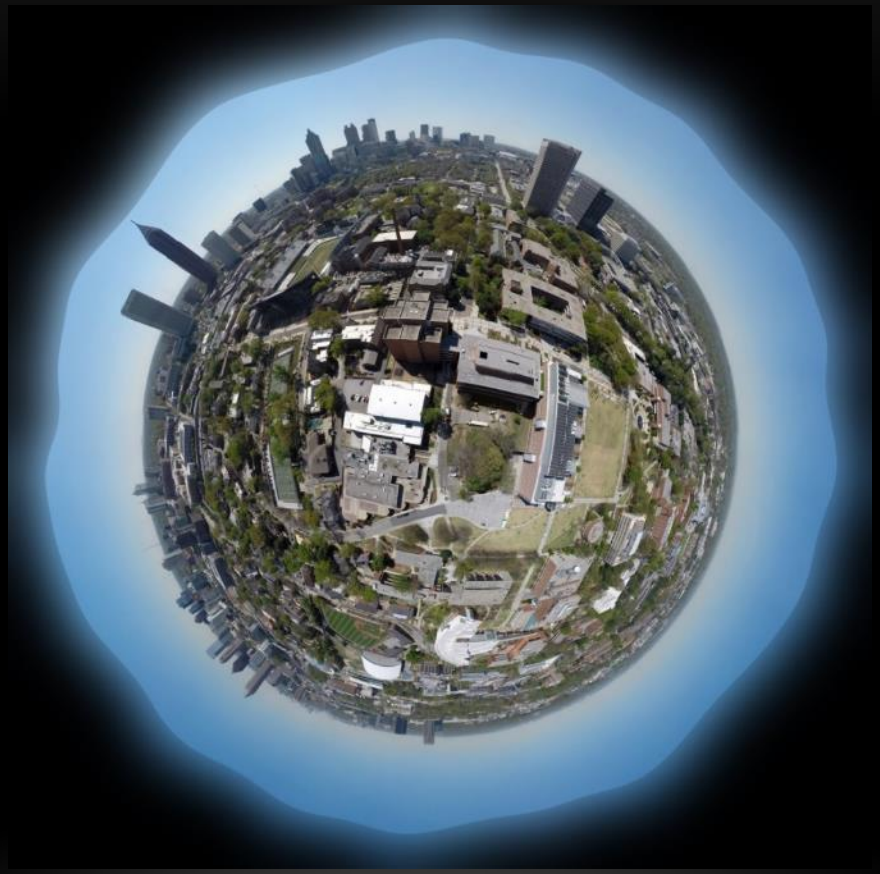
UNMANNED AERIAL SYSTEMS

AERIAL PHOTOGRAPHY

AERIAL PANORAMAS



AERIAL PANORAMAS



HOW TO CAPTURE THE CURRENT CONDITION?

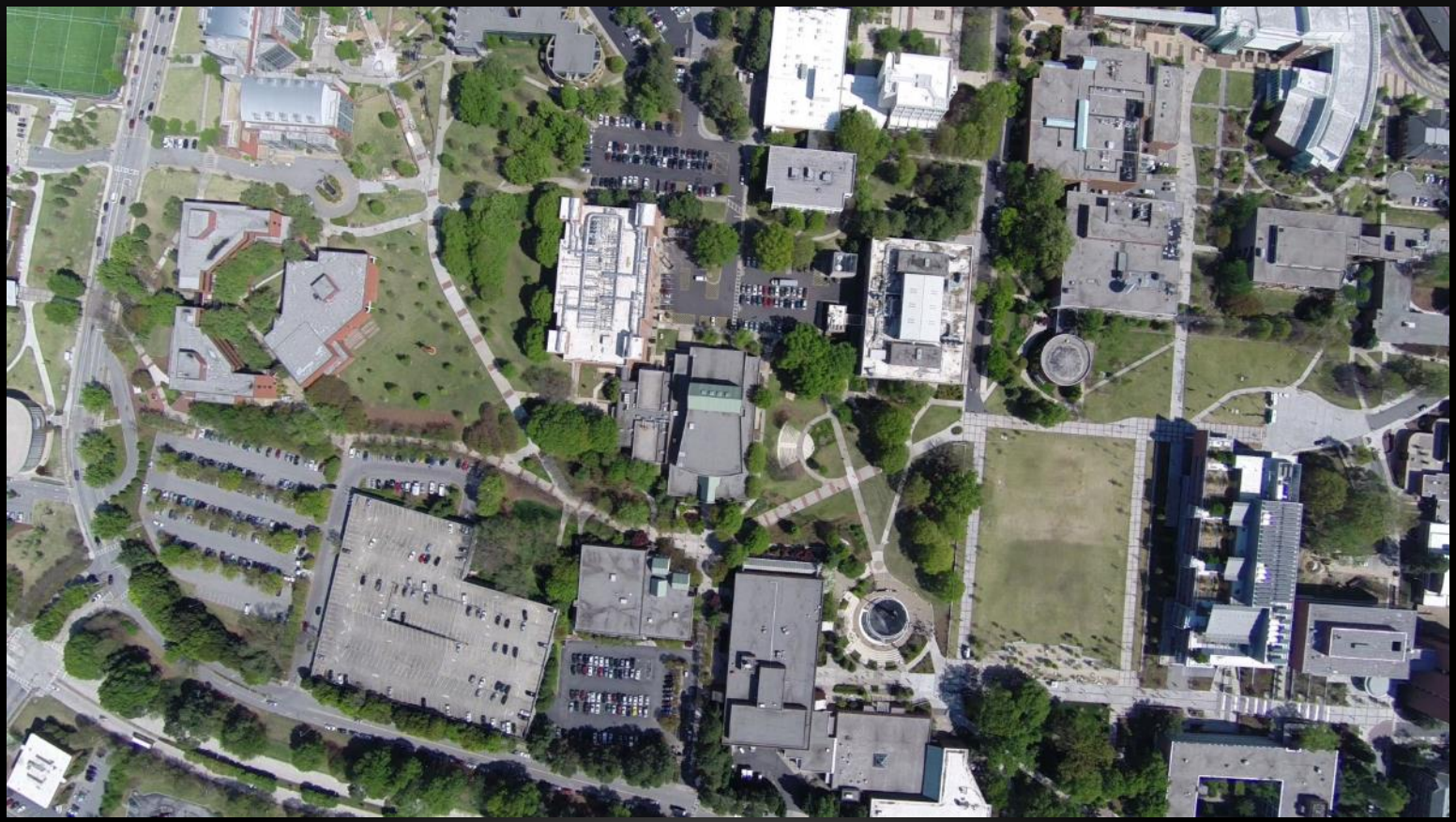
AERIAL CAMERA MATCHING

AERIAL CAMERA MATCHING

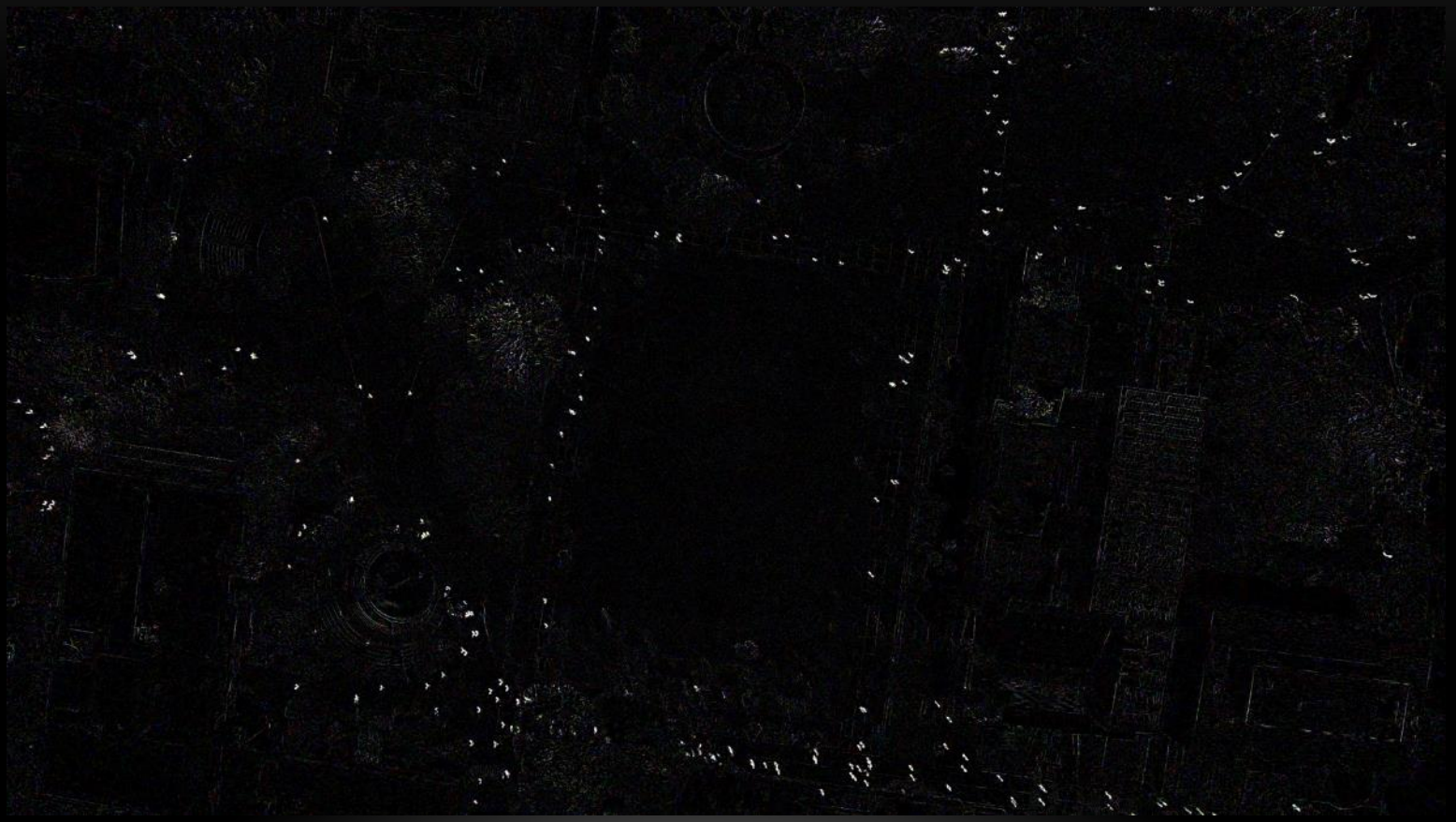
AERIAL VIDEOGRAPHY

AERIAL VIDEOGRAPHY

AERIAL PEDESTRIAN TRACKING



AERIAL PEDESTRIAN TRACKING



AERIAL PEDESTRIAN TRACKING

AERIAL PEDESTRIAN TRACKING

AERIAL FLIGHT PATHS WITH GPS WAYPOINTS

AERIAL PHOTOGRAMMETRY

PHOTOGRAMMETRY MATCHING

PHOTOGRAMMETRY GROUND CONTROL POINTS

PHOTOGRAMMETRY GROUND CONTROL POINTS

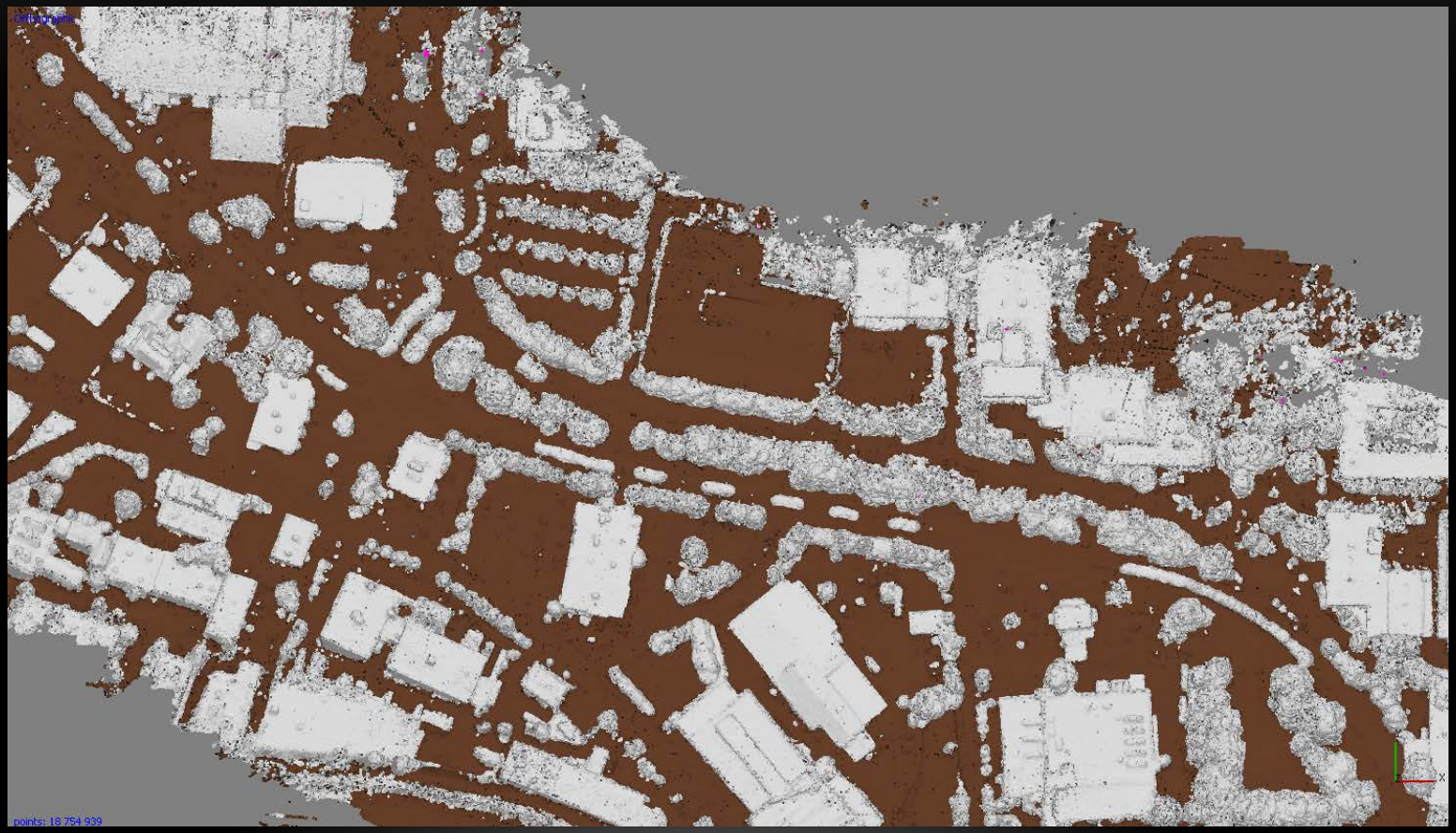
PHOTOGRAMMETRY GROUND CONTROL POINTS

PHOTOGRAMMETRY DENSE POINT CLOUD

PHOTOGRAMMETRY DENSE POINT CLOUD

PHOTOGRAMMETRY DENSE POINT CLOUD

PHOTOGRAMMETRY POINT CLASSIFICATION



PHOTOGRAMMETRY MESH GENERATION

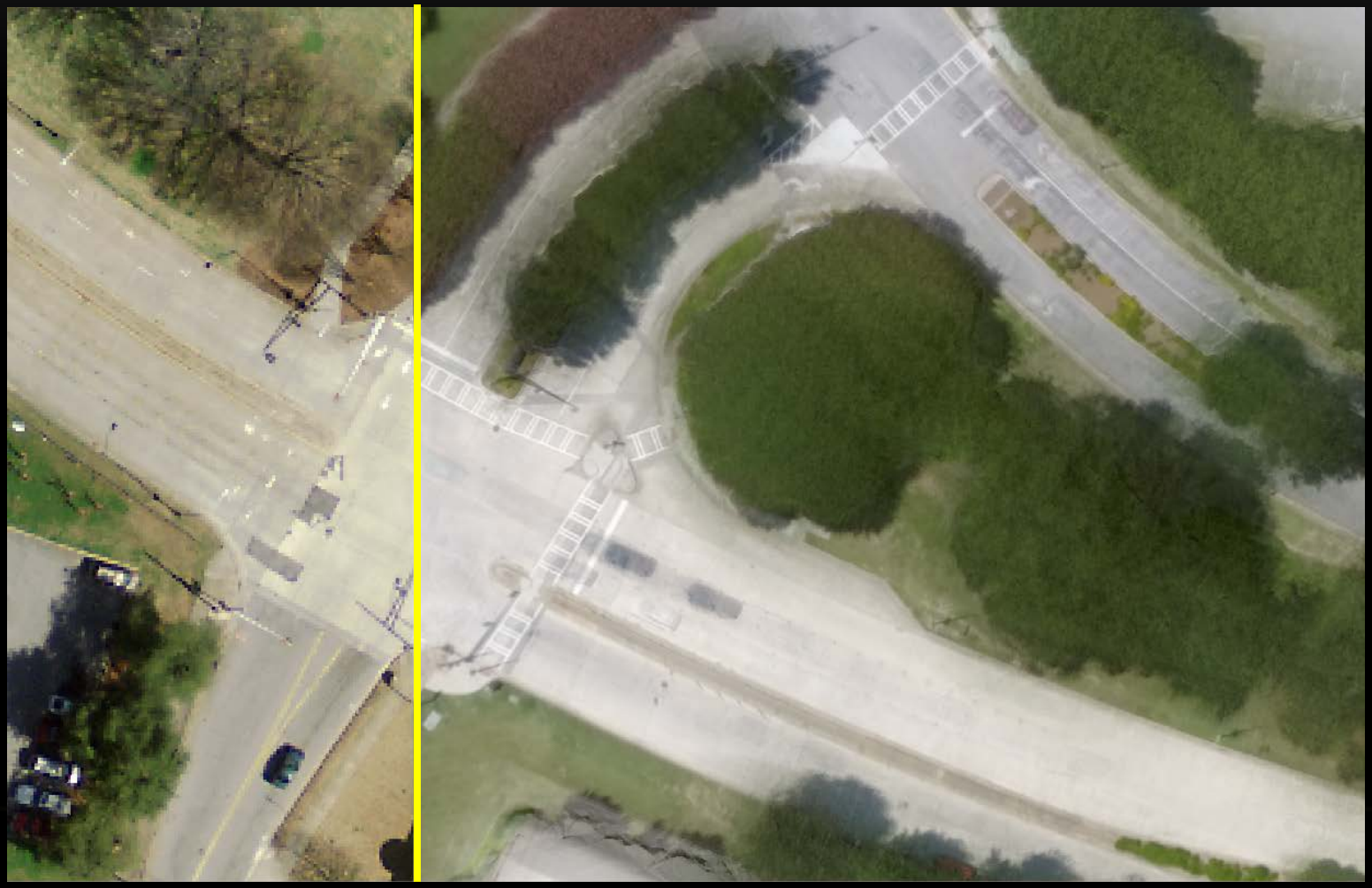
PHOTOGRAMMETRY TEXTURE GENERATION

GEOREFERENCED PHOTOGRAMMETRY MAPS

2010 City Aerial Photography

2014 Aerial Photogrammetry Map

GEOREFERENCED PHOTOGRAMMETRY MAPS



2010 City Aerial Photography

2014 Aerial Photogrammetry Map

PHOTOGRAMMETRY MAP DETAIL

CENTERLINE ROAD LAYER CREATION IN QGIS

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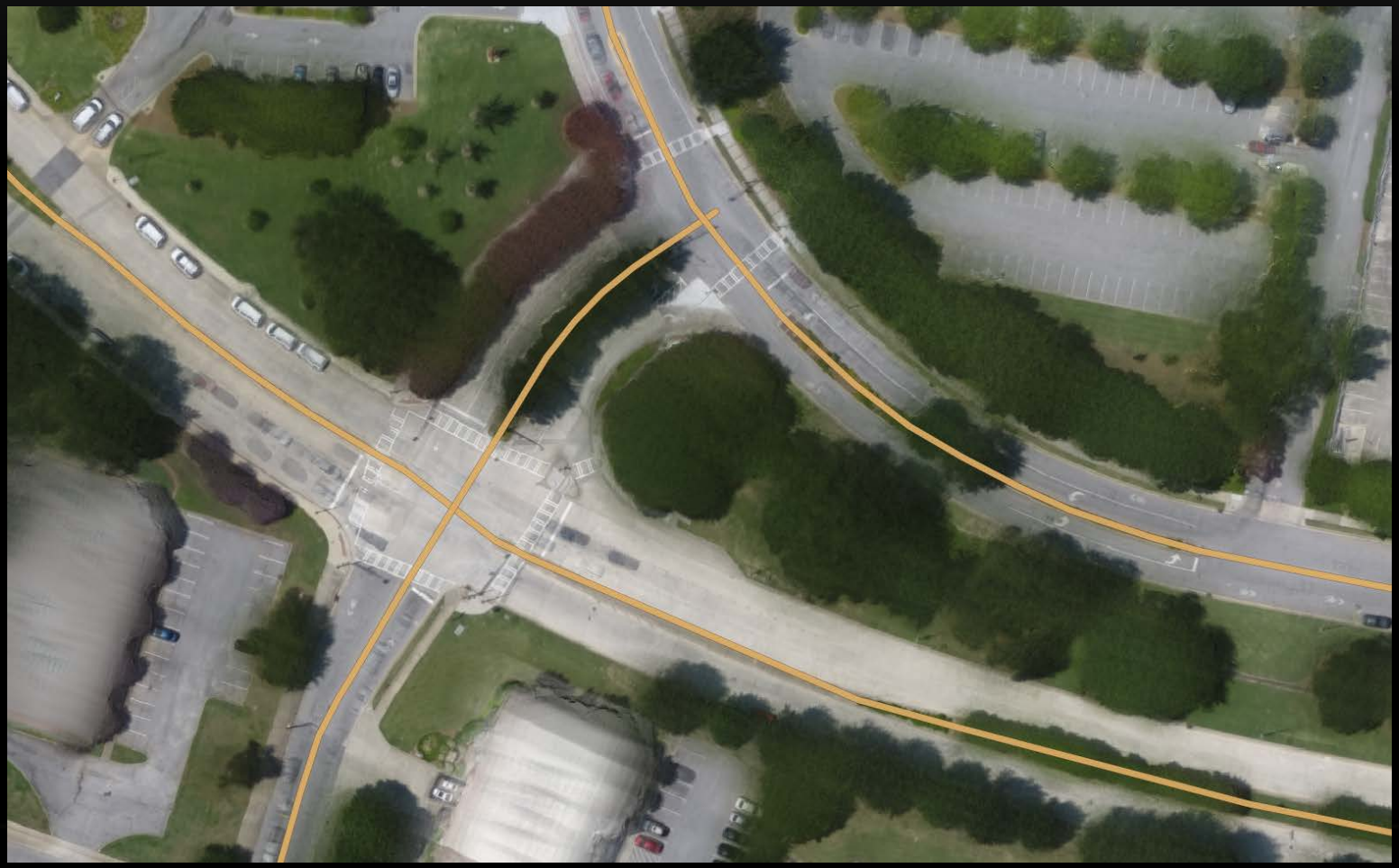
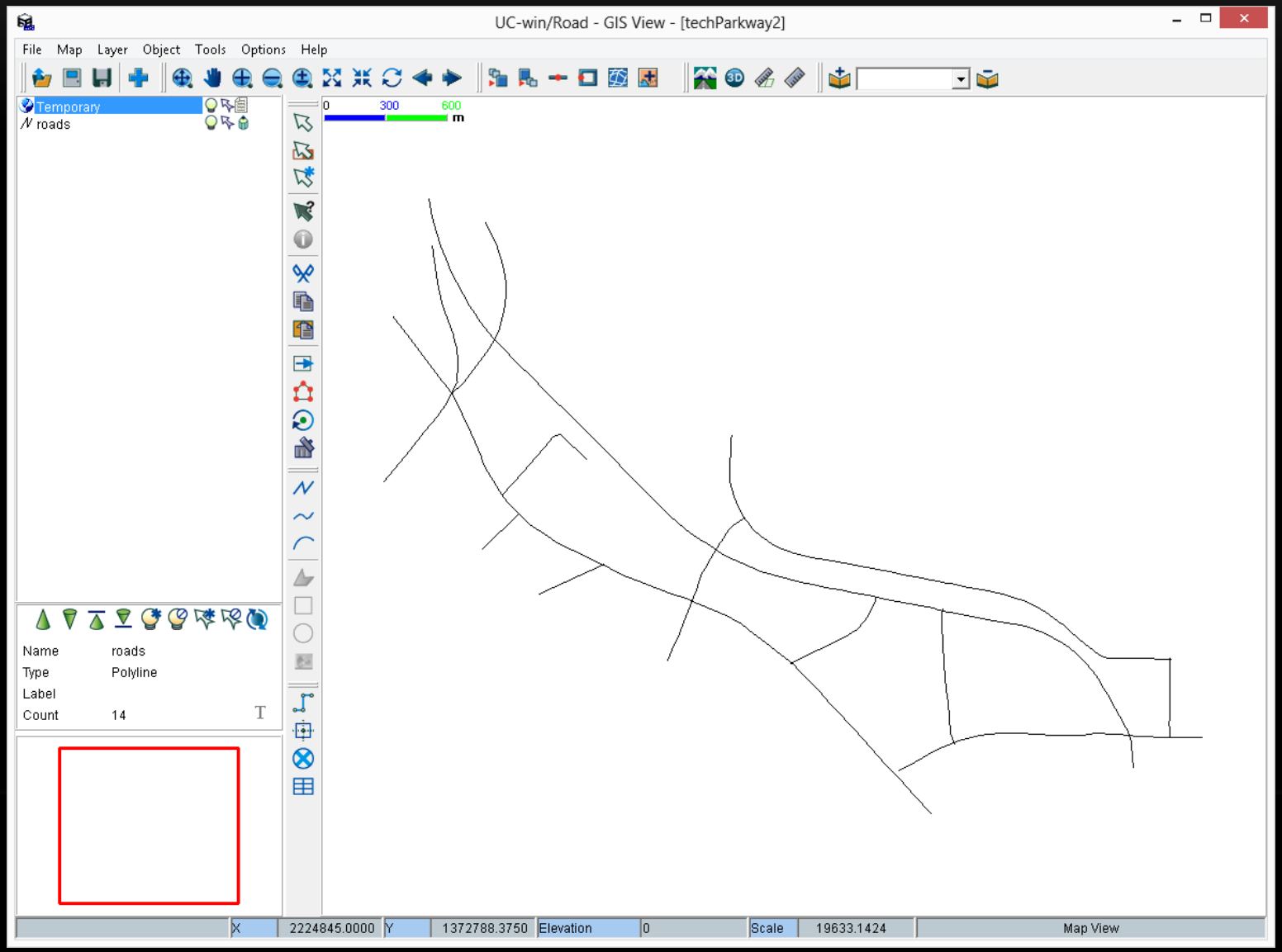
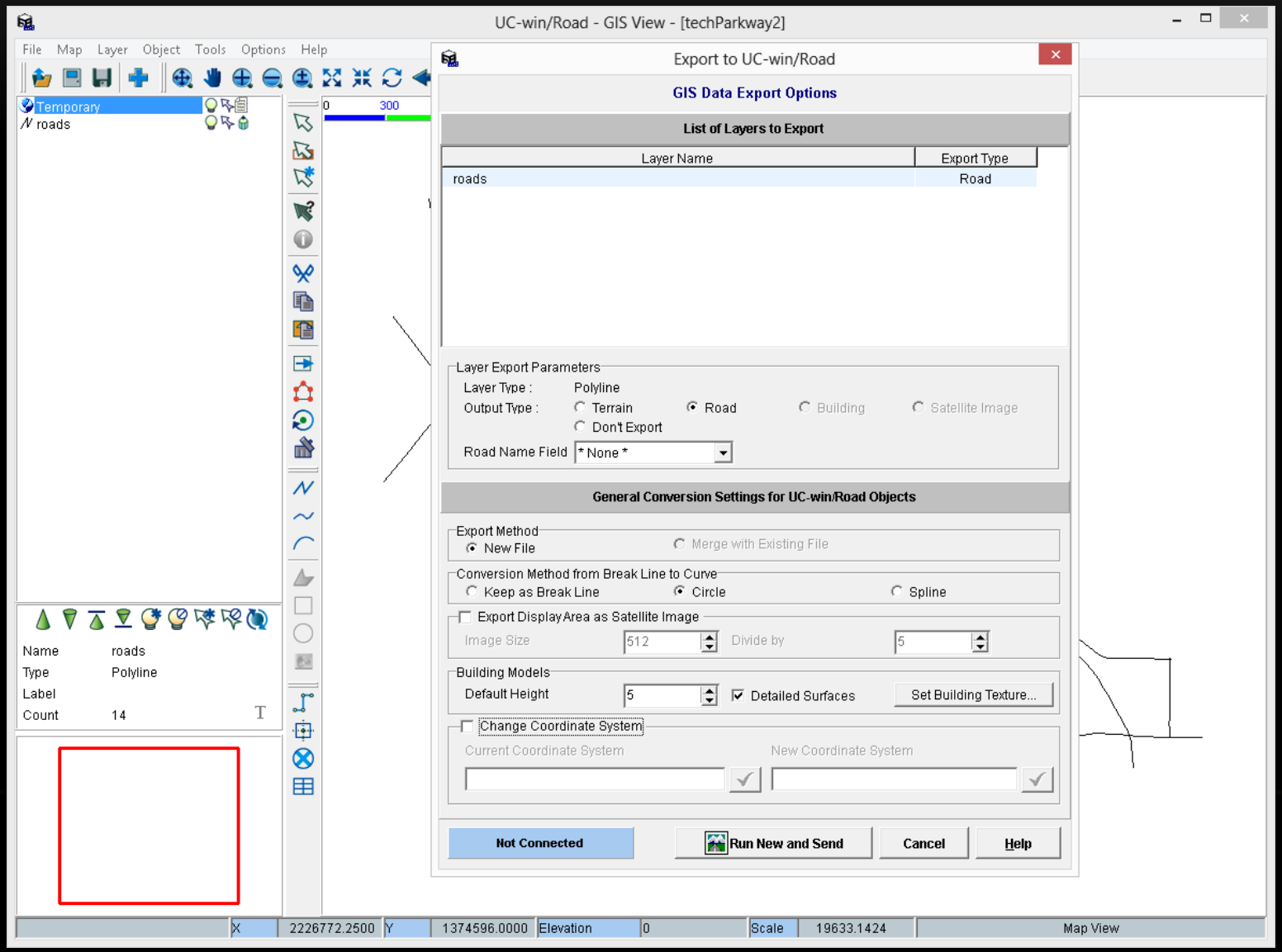


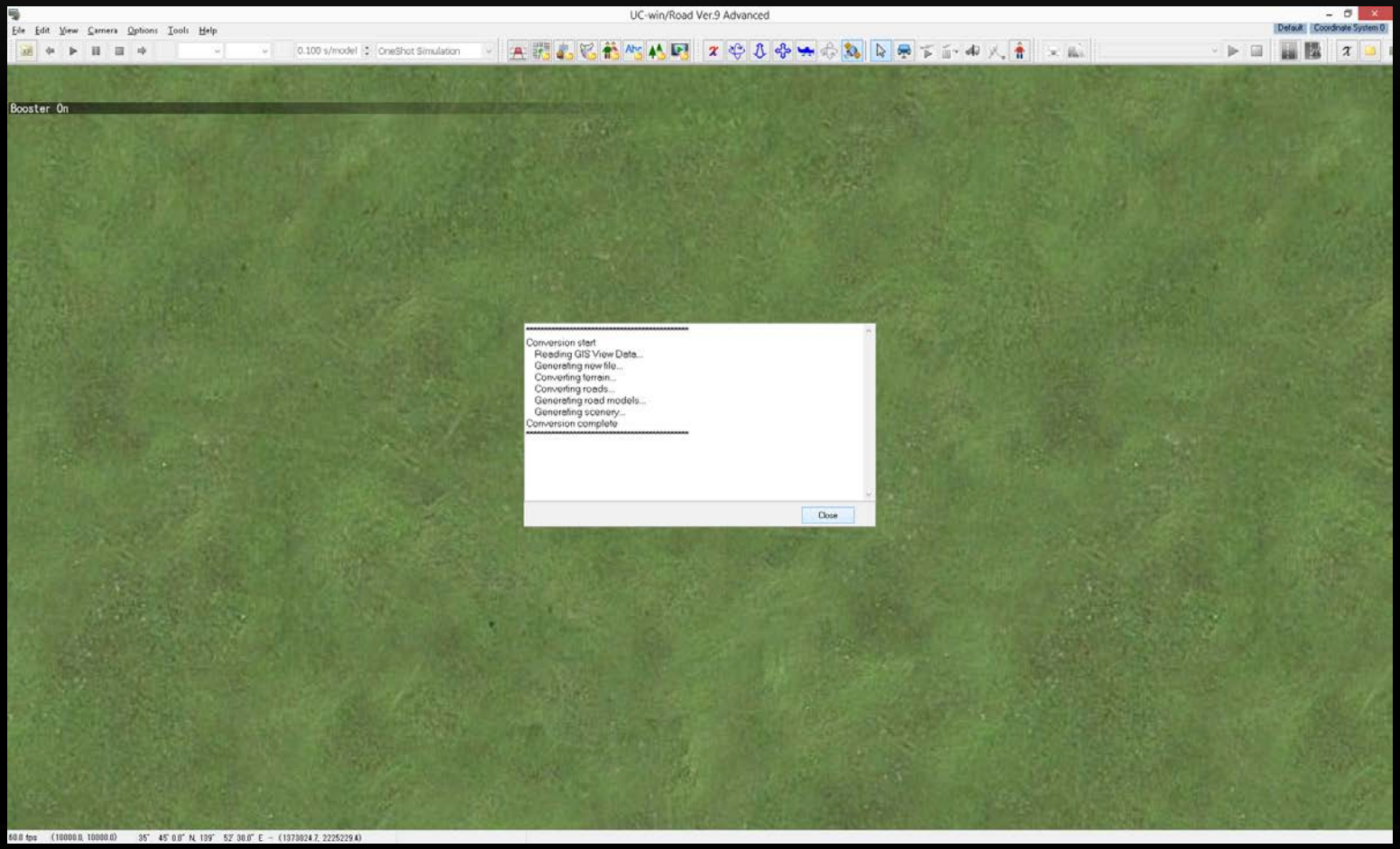
UC-WIN/ROAD GIS VIEW



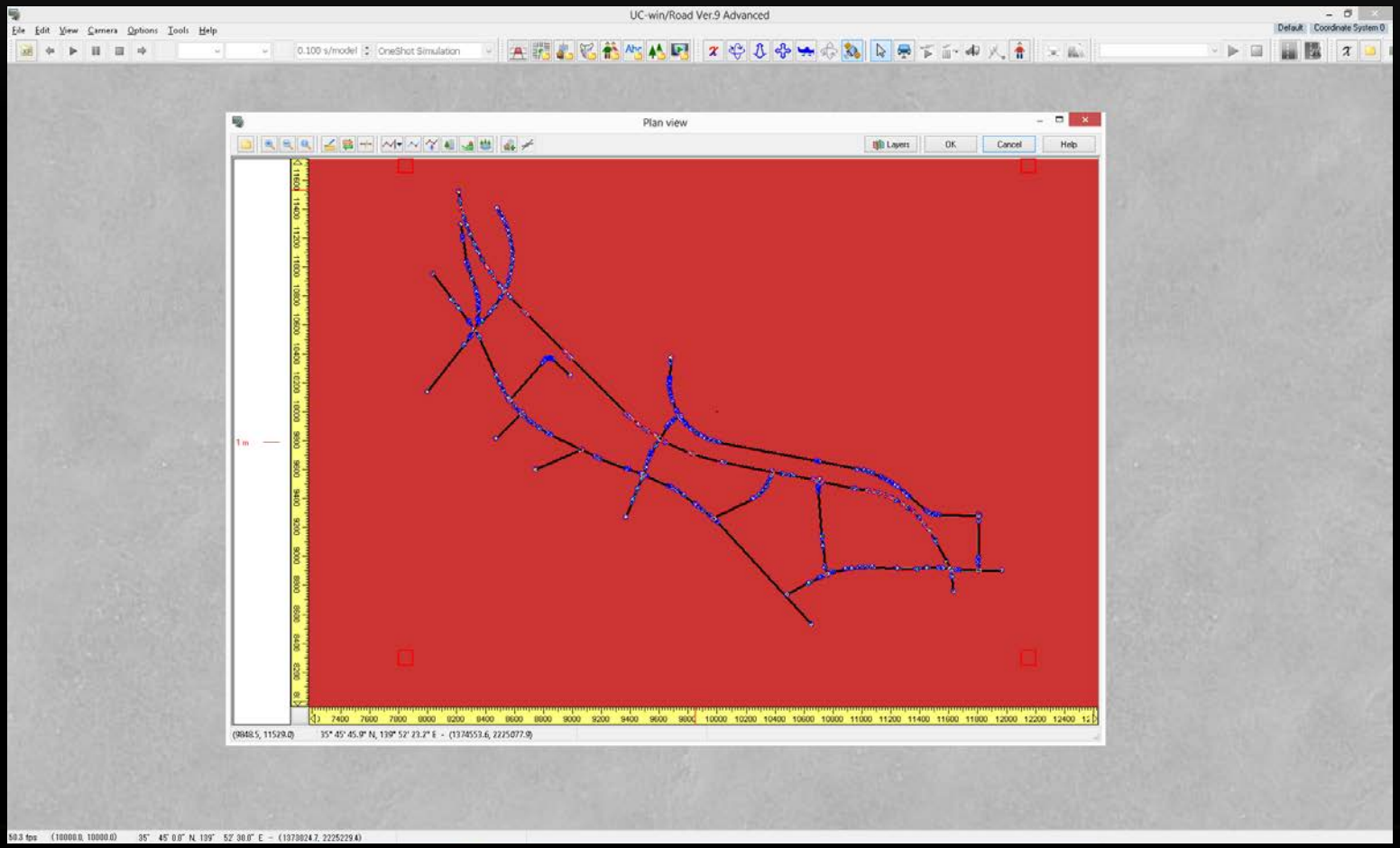
UC-WIN/ROAD GIS VIEW – EXPORT



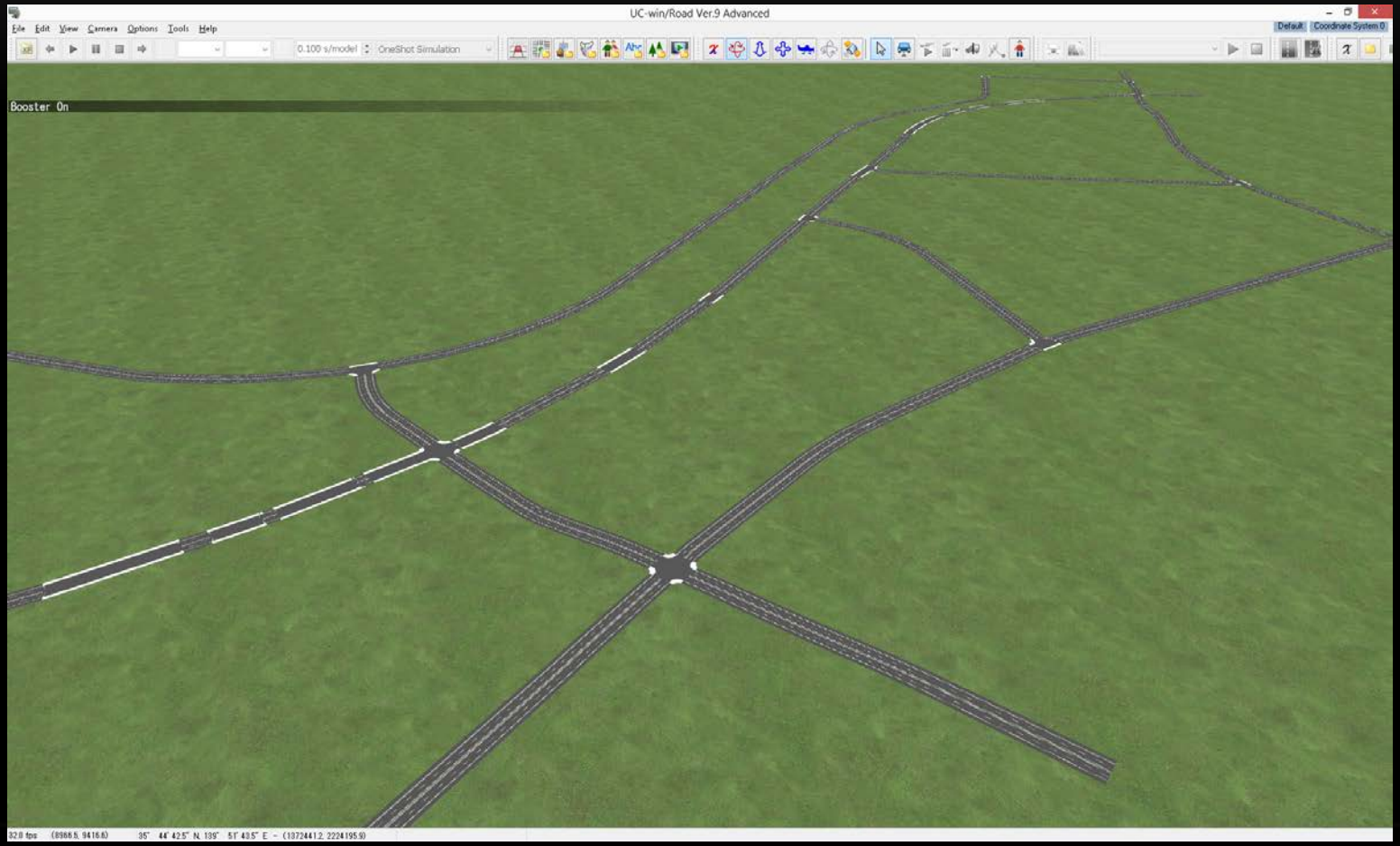
UC-WIN/ROAD


UC-win/Road Ver.9 Advanced
File Edit View Camera Options Tools Help
Default Coordinate System 0
0.100 s/model OneShot Simulation
Booster On
Conversion start
Reading GIS View Data...
Generating new file...
Converting terrain...
Converting roads...
Generating road models...
Generating scenery...
Conversion complete
Close

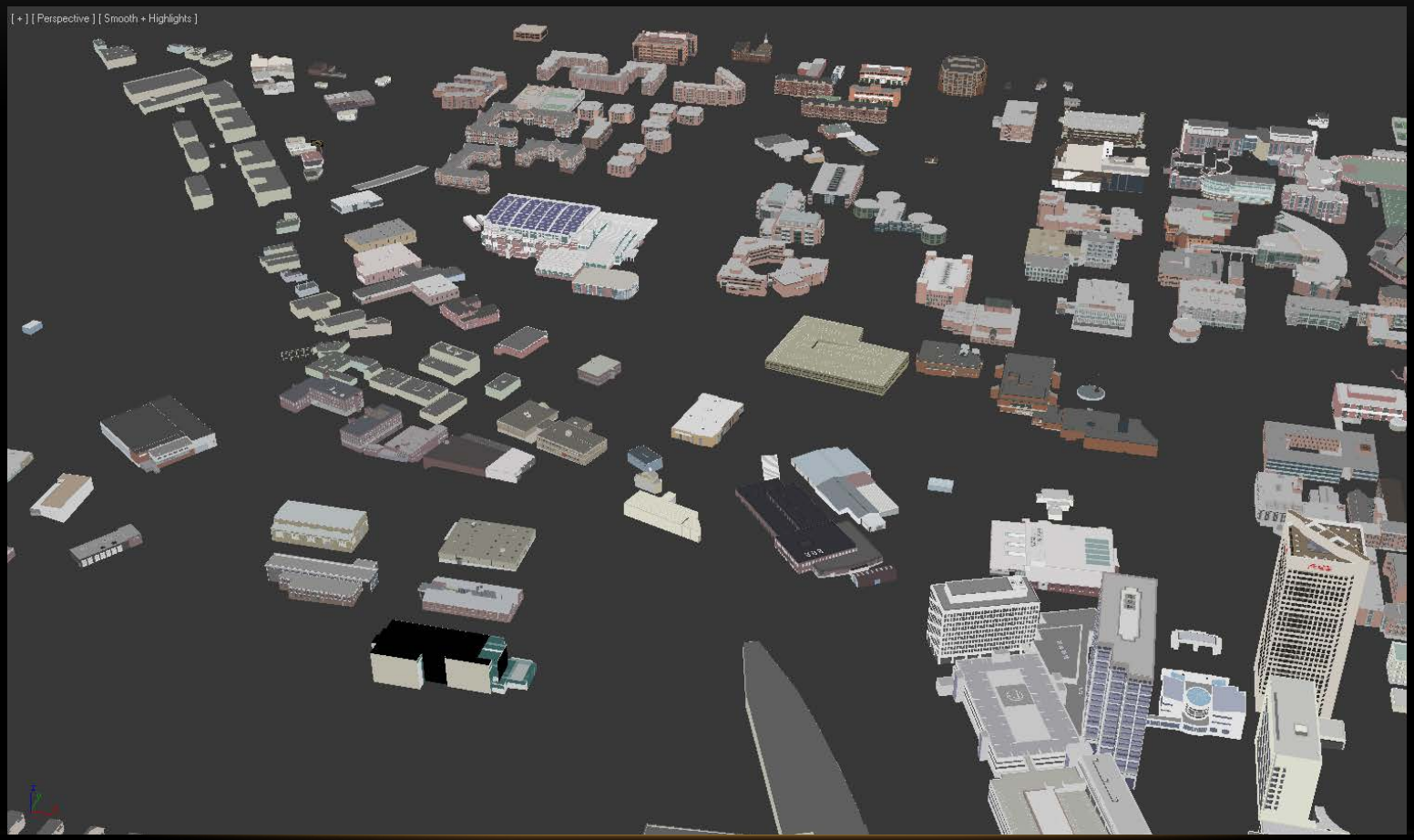
UC-WIN/ROAD – BUILD ROADS



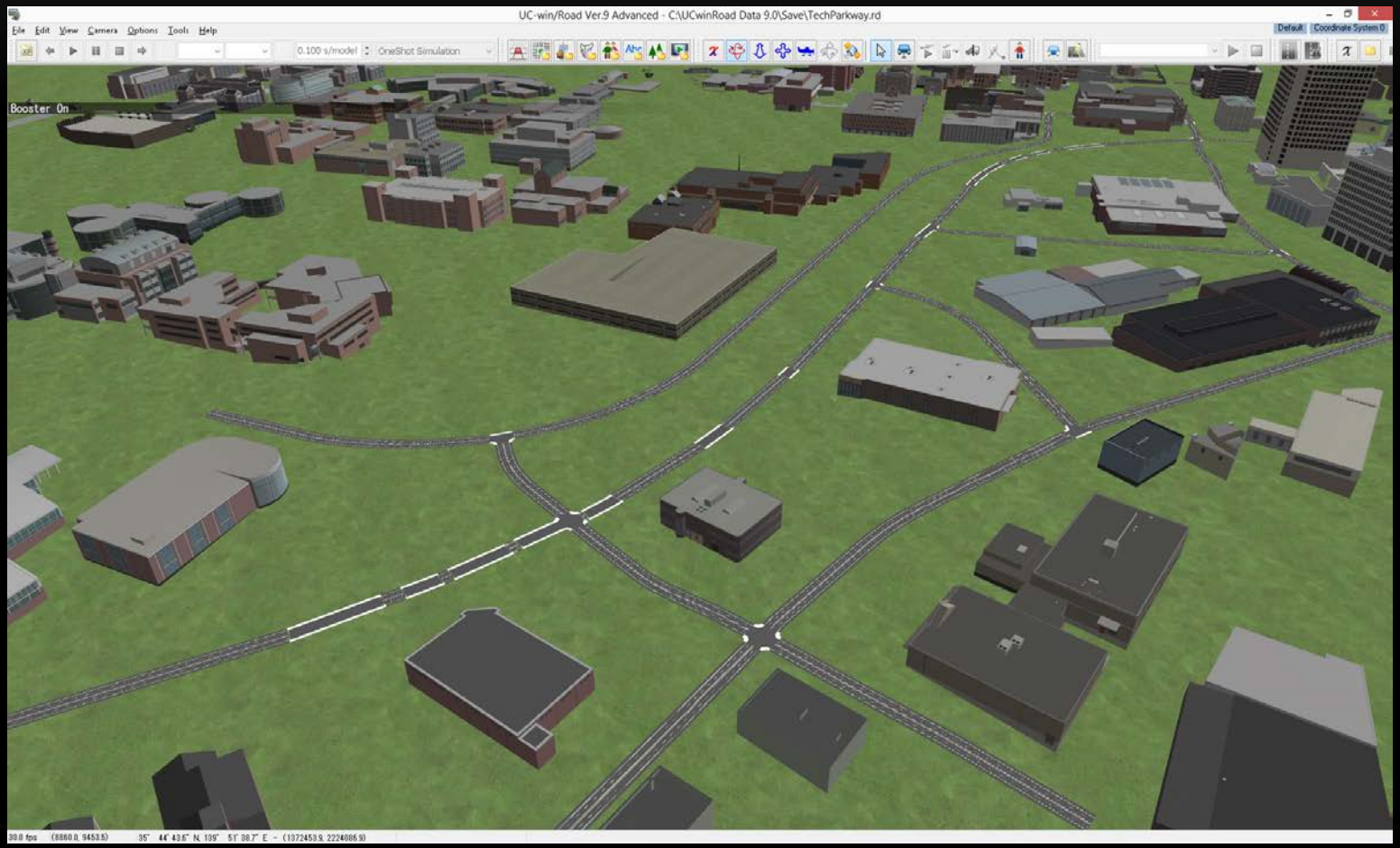
UC-WIN/ROAD – ROADS



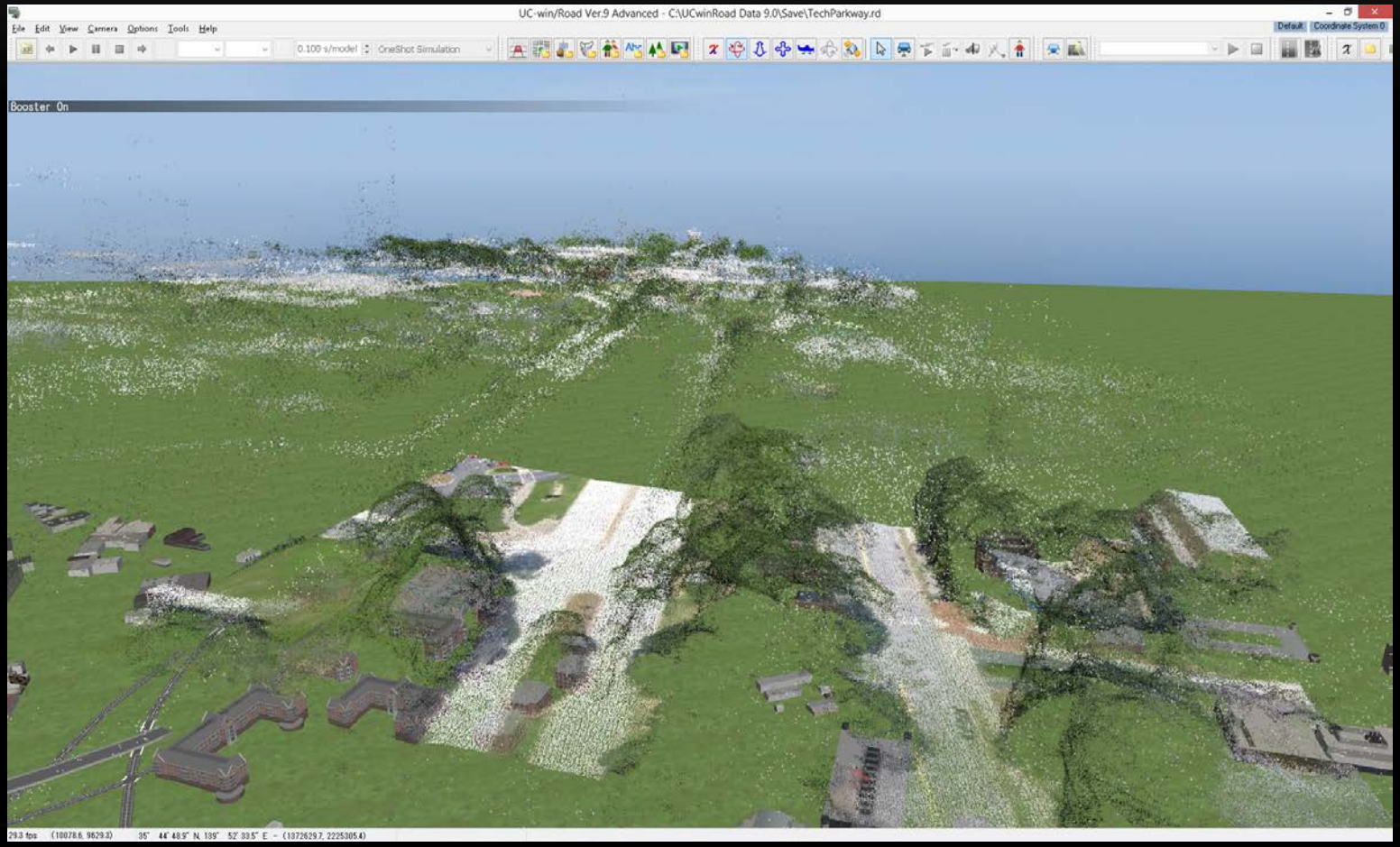
CURRENT BUILDINGS (FROM 3DS MAX)



UC-WIN/ROAD – WITH FBX BUILDINGS



SPARSE POINT CLOUD IMPORT



PHOTOGRAMMETRY SPARSE/DENSE SAMPLE

THANK YOU

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