

Using AutoCAD Civil 3D for Transportation Infrastructure Design

Randy Roberts

CAD Development & Support Specialist

@Randy1219

rcrcad@gmail.com



Class summary

This class will provide an overview of the tools and applications within the FDOT Civil 3D State kit. I will demonstrate how the tools work and how the district employees and consultants use the state kit to meet FDOT standards. I will cover the following sample of FDOT applications: FDOT Takeoff Manager—an application that enables users to create Automated Quantity reports in Microsoft Excel; FDOT Entity Manager—which enables the user to draw graphical entities with pay item data for Quantity Takeoff (QTO) pre-attached, or place the pay item data on entities after they are drawn; FDOT Signs—which enables the user to design sign assemblies and place them into the drawing with pay items attached; and Create File—an application that enables users to create files based on discipline and sync with the proper Templates. The newly created files are then saved to the project folder hierarchy.



Key learning objectives

- Download the Free 2016 & 2017 Civil 3D State Kits that can be downloaded and used for transportation design or general design.
- Special Sub-assemblies that have robust help documentation and can also be used with the Stock Civil 3d Subassemblies.
- Gain Knowledge of the Special tools that can be used to generate Traffic Plans, Roadway Line Work, Apply Pay Item data, Generating Quantity Reports, etc.)
- AutoCAD only installs that just contains the Resources, Blocks, Templates, etc.

Where is the FDOT Civil 3D State Kit

<http://www.fdot.gov/cadd/downloads/software/FDOT2017CADDSoftware.shtm>

<http://www.fdot.gov/cadd/default.shtm>

Resources

Documents & Publications
Downloads
Scheduled Webinars
Posted Webinars
Training Manuals
GoToMeeting
Meetings & Events
Programs & Services
Acronyms
CADD Links
FAQs
FDOT Supported Software
FDOT Autodesk Resources
FDOT Bentley Resources
Production Support Office
Office of Design

News

FDOT2017 C3D & AutoCAD State Kit Software

Posted: October 3, 2016

The FDOT2017 C3D & AutoCAD State Kit (version 01.00.00) is now available.

FDOT2016 C3D MR1 & AutoCAD State Kit Software

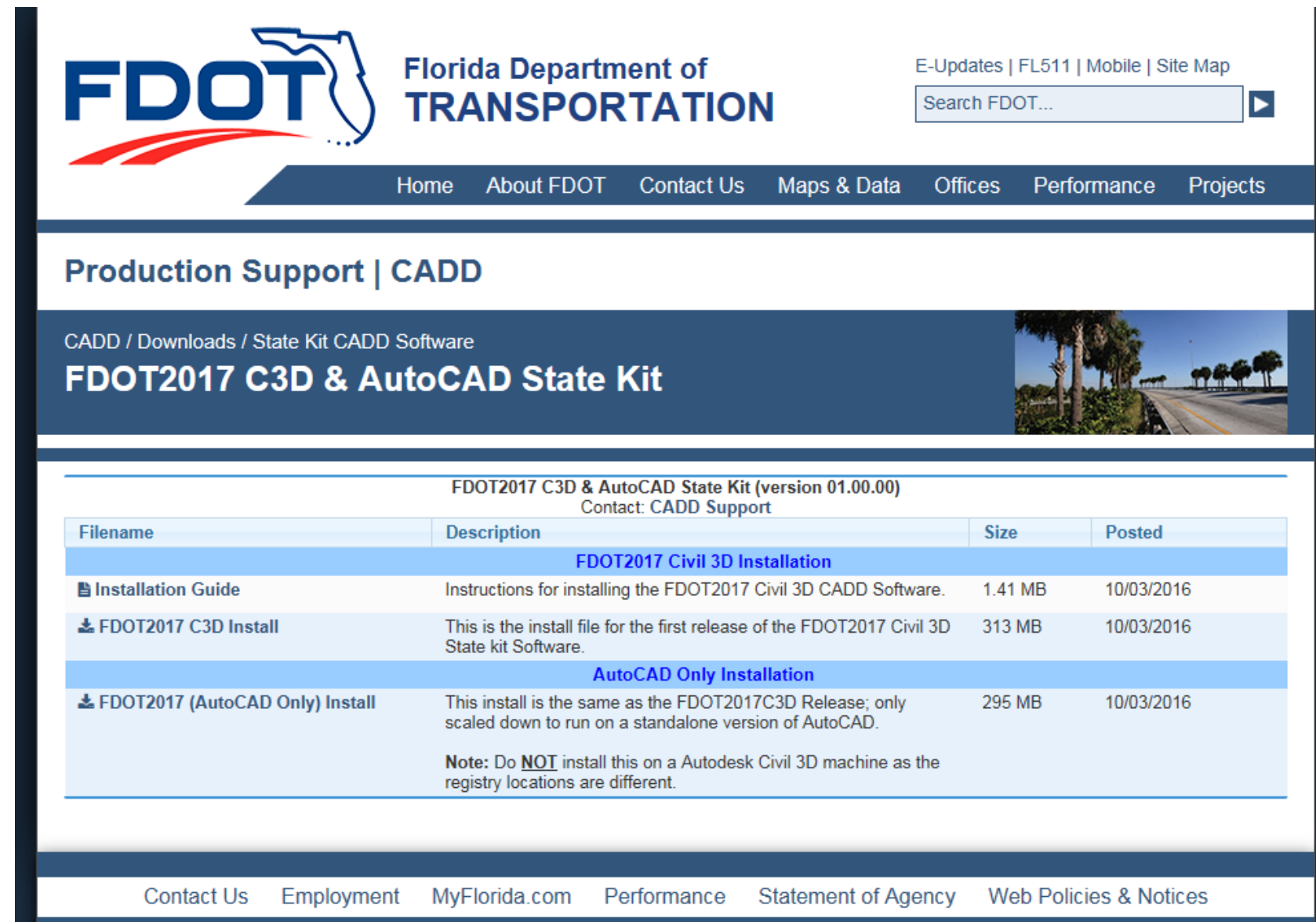
Posted: October 3, 2016

The FDOT2016 C3D MR1 & AutoCAD State Kit (version 01.01.00) is now available. This release contains updates necessitated by changes to Design Standards, Plans Preparation Manual (PPM), and the Basis of Estimates (BOE) as well as bug fixes to address reported issues.

FDOTSS4 MR2 CADD Software

Posted: October 3, 2016

The FDOTSS4 MR2 CADD Software (version 01.02.00) is now available. This release contains updates necessitated by changes to Design Standards, Plans Preparation Manual (PPM), and the Basis of Estimates (BOE) as well as bug fixes to address reported issues.



The screenshot shows the Florida Department of Transportation (FDOT) website. The header includes the FDOT logo, the text "Florida Department of TRANSPORTATION", and links for "E-Updates | FL511 | Mobile | Site Map". A search bar is also present. The main navigation menu includes "Home", "About FDOT", "Contact Us", "Maps & Data", "Offices", "Performance", and "Projects". The page title is "Production Support | CADD". Below this, a breadcrumb trail reads "CADD / Downloads / State Kit CADD Software". The main heading is "FDOT2017 C3D & AutoCAD State Kit". To the right of the heading is a small image of a road with palm trees. Below the heading is a table with the following content:

FDOT2017 C3D & AutoCAD State Kit (version 01.00.00) Contact: CADD Support			
Filename	Description	Size	Posted
FDOT2017 Civil 3D Installation			
Installation Guide	Instructions for installing the FDOT2017 Civil 3D CADD Software.	1.41 MB	10/03/2016
FDOT2017 C3D Install	This is the install file for the first release of the FDOT2017 Civil 3D State kit Software.	313 MB	10/03/2016
AutoCAD Only Installation			
FDOT2017 (AutoCAD Only) Install	This install is the same as the FDOT2017C3D Release; only scaled down to run on a standalone version of AutoCAD.	295 MB	10/03/2016
Note: Do NOT install this on a Autodesk Civil 3D machine as the registry locations are different.			

The footer of the page includes links for "Contact Us", "Employment", "MyFlorida.com", "Performance", "Statement of Agency", and "Web Policies & Notices".



Additional Resources

We have created Quick Video Clips of the Applications and Commands on our Ribbon. You can access them either by pressing “F1” while hovering over the application OR click on the Link located under CADD RESOURCES in our Links & Help Section

FDOT Signs

This utility allows users to design, place, and label



Command Line: FDOTSIGNS

Summary:

Creates sign assembly pay items including the s

Quick Clip:

[Click here for FDOT Signs video](#)

Introduction to Quick Clips

C3D State Kit Quick Clips

- [Introduction](#)

FDOT2015 C3D Folder

Applications

- Sheet Set Organizer
- [LandXML Visualizer](#)
- Create 3D Deliverables
- Create Project
- [FDOT XML Signing](#)

FDOT Ribbon

Tools

- [Create File](#)
- 2 Point Twist/Untwist
- LandXML Converter
- [LandXML Grouper](#)
- [Super Audit](#)
- Swap Parts
- [Attach DGN File](#)
- [Clip DGN File](#)
- Layer Translator
- Convert Ellipses to Arcs
- [Insert Image](#)
- Mline

Pay Item Tools

- Entity Manager
- [FDOT Signs](#)
- [Pavement Markings](#)
- [Place Block Group](#)
- Database Editor for Entity Manager

Quantities

- [FDOT Takeoff Manager](#)
- [Length Calc](#)
- TRNS*port Sheets
- [Table](#)
- Database Editor for AECMERGE
- [FDOT Trns*port Web Interfaces](#)

Quality Control

- QC Quick Check
- Unload Quick Check
- File Checker
- Drawing Cleanup

Reports

- Lane Slope
- QC Batch
- Style List

Geotech

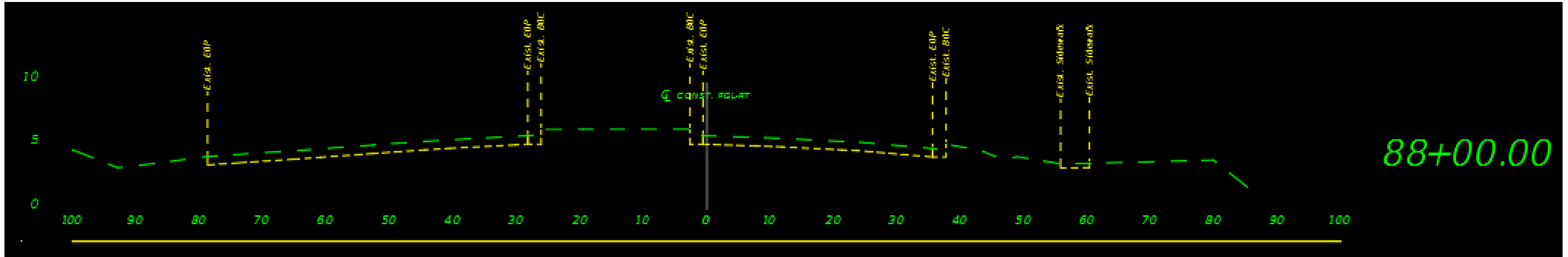
- Borehole

Help

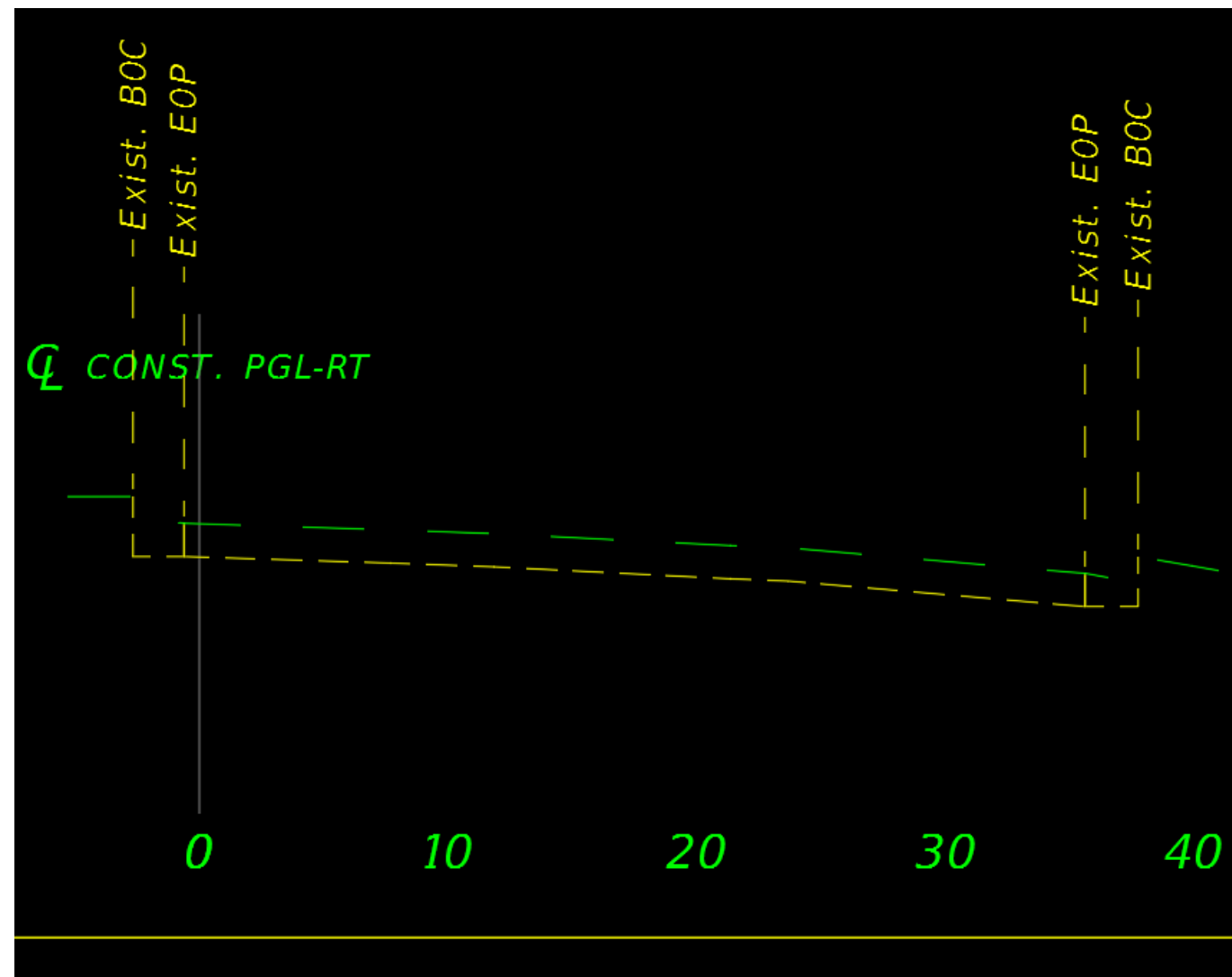
- [Links & Contacts](#)

TIP- The Quick Clip Video will be highlighted based on what you select. The example above shows the FDOT Signs.

Existing Features Assembly



Parameters	
Left Search Distance	100.00'
Right Search Distance	100.00'
Use entity to limit search distance	True
SearchXrefs	True
Entity Types to include in search paramet...	LINE,ARC,LWPOLYLINE,POLYLINE,AECC_SVFIGURE
Layer for Search Limit Entity	Scratch2_dp
Existing Pavement Search Distance	24.00
Existing Pavement Thickness	0.67
Existng EOP Search Layers	PavtAsphalt_ep, PavtConcrete_ep
Misc. Pavement Search Distance	12.00
Misc Pavement Search Layers	TopoMisc_ep
Misc. Pavement Thickness	0.33
Shoulder Search Distance	15.00
Shoulder Thickness	0.50
Shoulder Search Layers	ShldrPaved_ep
Curb-Gutter Search Distance	3.00
Curb-Gutter Thickness	0.67
Curb-Gutter Connector Search Layers	TopoMisc_ep,PavtAsphalt_ep,PavtConcrete_ep,PavtMisc_ep,SidewalkFi
Curb-Gutter Back Search Layers	CGBack_ep
Sidewalk Search Distance	10.00
Minimum Sidewalk Search Distance	1.00
Sidewalk Thickness	0.33
Sidewalk Back Search Layers	SidewalkBack_ep
Sidewalk Connector Search Layers	CGBack_ep,Building_ep
Sidewalk Front Search Layers	SidewalkFront_ep
TrafficSeparator Thickness	0.67
TrafficSeparator Search Layers	TrafSeparator_ep
Draw ROW Features	True
Height of Cross Section Line	10.00
Offset of Cross Section Line	1.00
Baseline Survey Line Layer	BaselineSurvey
CenterLine Layer	CLConst_dp
Existing Easement Line Layer	EaseLine_ep
Existing Proposed Line Layer	ProposedLine_ep



Key learning objectives

What did I show today:

- What and Where is the FDOT Civil 3D State Kit.
- Special FDOT Sub-assemblies that have robust help documentation.
- Demonstration of the Special Applications & Tools that can be used to generate transportation Plans.
- AutoCAD only installs that contain only the Resources, Blocks, Templates, etc.

Forget to take notes? No problem

After AU visit:

AutodeskUniversity.com

Click on **My AU** to find:

- Class Recordings
- Presentations
- Handouts

Question and Answer Time

Any Questions???

More Questions? Visit the AU Answer Bar

- Seek answers to all of your technical product questions by visiting the **Answer Bar**.
- Open daily from **8am-6pm Tuesday** and **Wednesday**; **8am-4:30pm Thursday**.
- Located outside **Hall C, Level 2**.
- Meet Autodesk developers, testers, & support engineers ready to help with your most challenging technical questions.



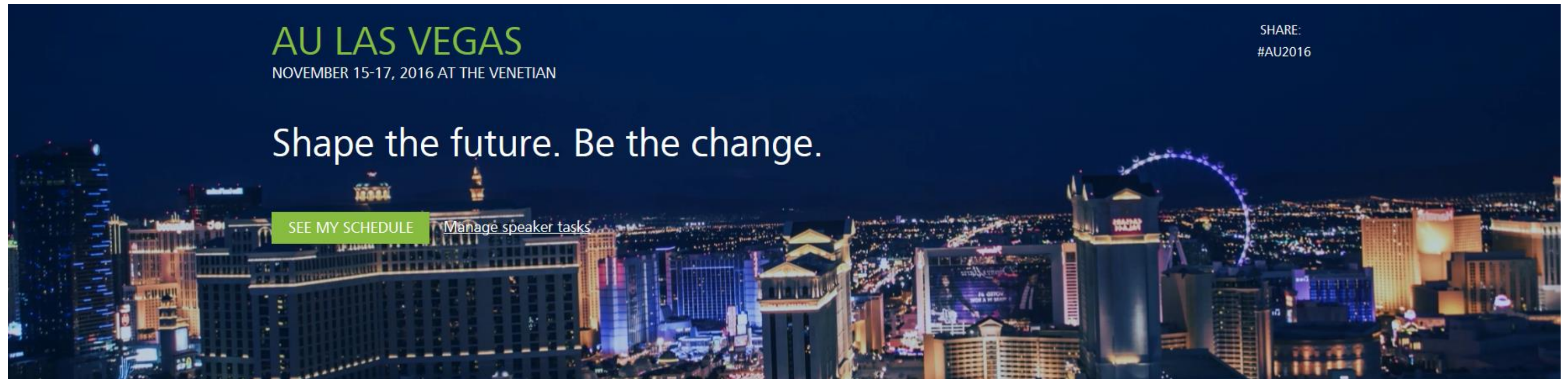
How did I do?

- Your class feedback is critical. Fill out a **class survey** now.
- Use the AU mobile app or fill out a class survey online.
- Give feedback after each session.
- AU speakers will get feedback in real-time.
- **Your feedback results in better classes and a better AU experience.**



Thank You for spending your Afternoon with me!

My Name is Randy Roberts



Learn – Connect – and Explore at #AU2016

