

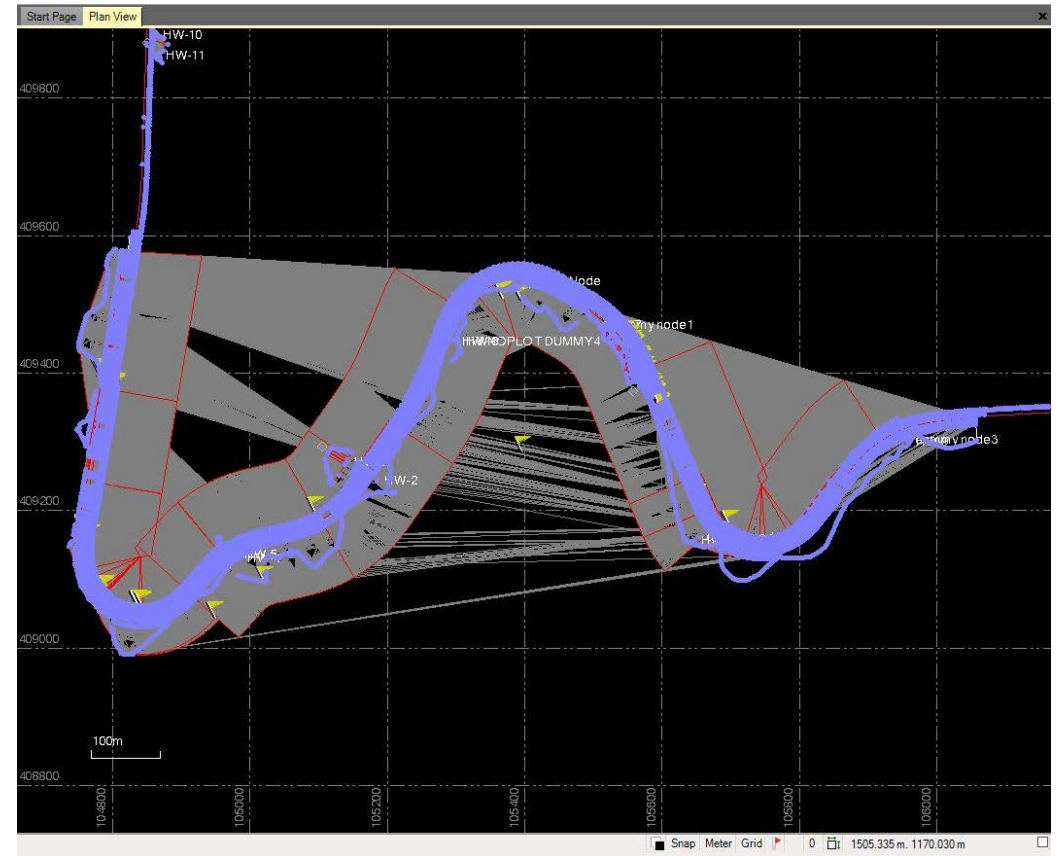
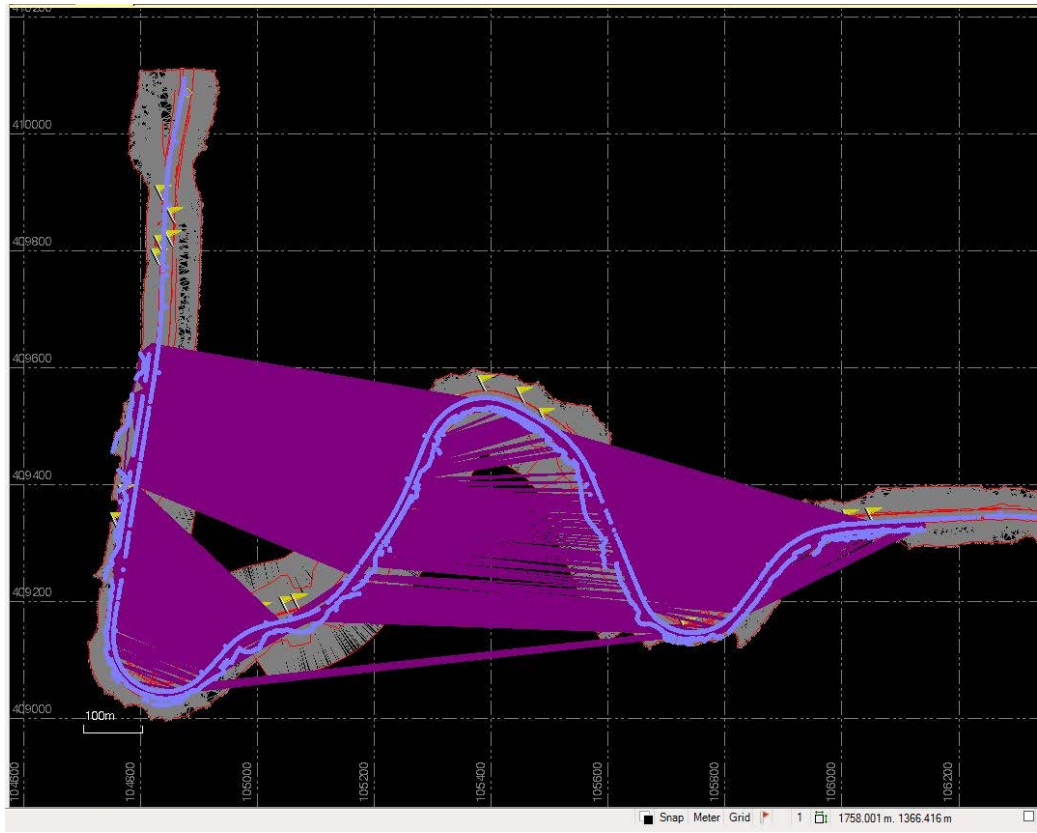


Intelligent Design and Construction (IDC) at UDOT

MOVING TOWARDS INTELLIGENT DESIGN, CONSTRUCTION AND BEYOND

AUGUST 16, 2017

What is all the buzz about?



Reasons to Use IDC

Savings in Design and contractor effort

Opportunities to lower bids with more accurate models

Create models with asset management in mind

Roadmap

Utah's road to IDC

Pilot projects with a purpose

- SR-20
- I-70

Next Steps



Goals for IDC at UDOT

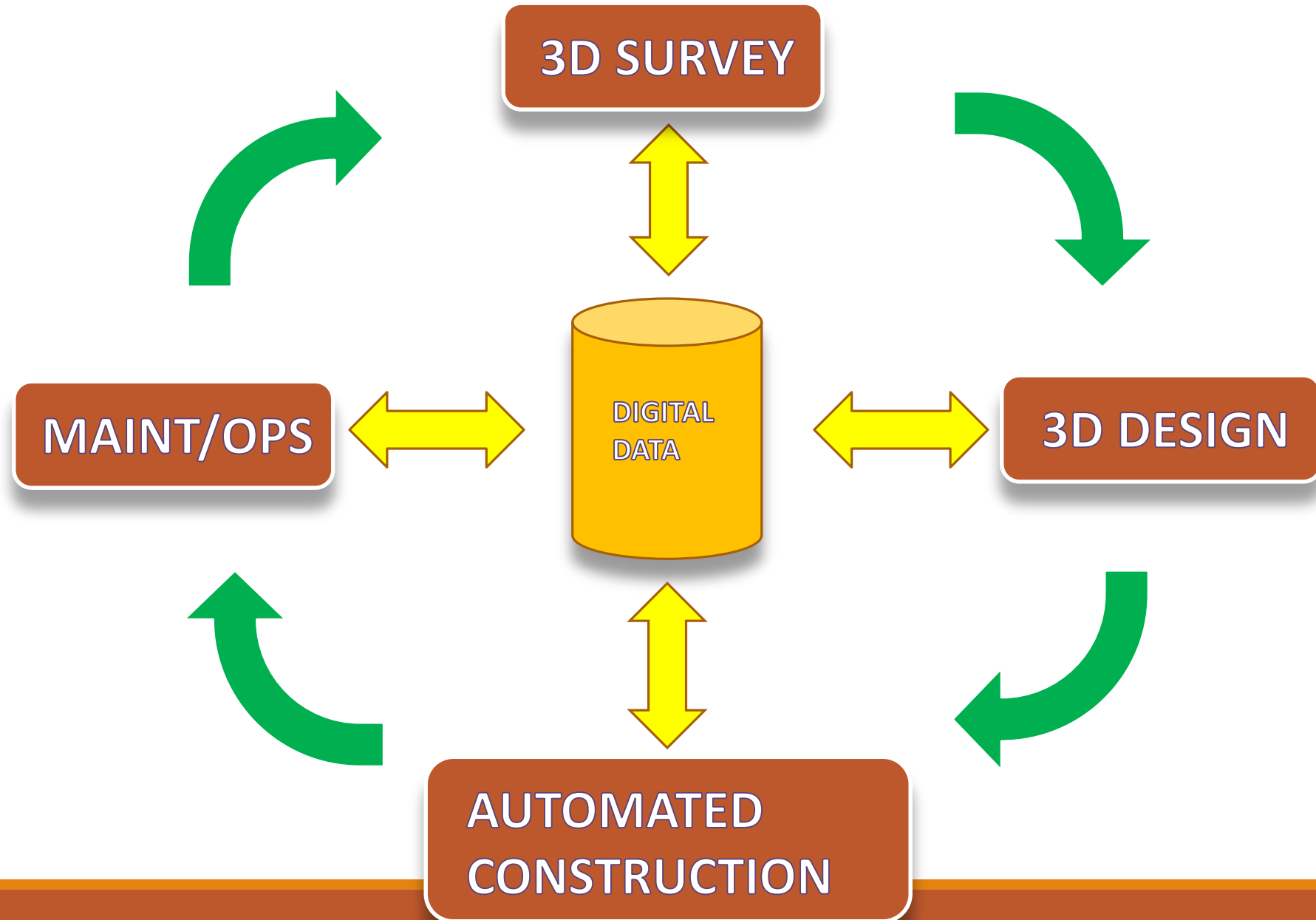
Advertise 3D models as the contract document on all projects

Use Civil Integrated Management on projects

Make the system easy to use

Electronic 3D Intelligent As-Built Data

EMERGING PROJECT DEVELOPMENT



Pilot Projects with a Purpose



SR-20 Climbing Lane Project

3.2 million

Widening with minimal utilities

Low ADT

CMGC delivery

Goals

Bentley to Trimble

Field viewer for models

Determine How to verify grade



Findings

The survey/model needs to be verified by contractor- pre activity

The rover was an adequate way to check grade

The Infrastructure Consensus Model (ICM) became a good way to translate between Bentley and Trimble

Our contractor (WW Clyde) was fluent in both Trimble and Bentley, ++

Navigator promising for 3D viewer, use for plan review in future?

Provide ICM model to bidders

Ownership of process by younger inspectors

Additional Questions

How is model verified and QC'd in a DBB?

Model needs to be more robust in a DBB project.

How do we take what was learned in CMGC to DBB?

How can we make model development faster?

I-70 Project

10 million

Rubbilization and Asphalt Overlay

DBB delivery

Early Release of ICM Model, Survey

Mandatory pre-bid

Model as the legal document

GIS solution for as-builts



I-70 Findings to Date

Bidding procedure worked well

Need better process for model acceptance



Other Projects

I-80 Blackrock Brim Project

SR-193

I-80 Climbing Lanes

SR-10

SR-68

106s-I-15

I-15 climbing lanes



Other Efforts

Contractor Summits, Interviews

GIS “smart model” solutions

3D design standards

Future

New learning leads to more questions

Right sizing CIM and IDC solution for project

Communications plan

