Improving Safety Training with BIM and Virtual Reality Technology

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CONNECT & CONSTRUCT SUMMIT

AUTODESK UNIVERSITY

About Our Team

About the speaker

Trevor Symbal

Student at Milwaukee School of Engineering and currently working at Power Construction

About the co-speaker

Brian Medina

Senior MEP/VDC Manager CG Schmidt

About the co-speaker

Mark Stigler

VDC Engineer CG Schmidt

VR IN SAFETY

Why even bother?

- Presents learning in a new and creative way
- Allows for interaction during trainings
- Increases the amount of data and feedback from trainings
- “Rapid Prototyping” safety scenarios

Main Topics of Discussion

USER EXPERIENCE

Understanding the basic interaction of people with technology

SAMPLE

Models for interior, exterior, roof safety items, and site-specific logistics

USES

Ways to leverage this model outside of traditional training purposes

WORKFLOWS

Understanding implementation processes between safety and VDC as well as software solutions

User Experience

The way a person experiences a product or application with a focus on the ease of using that product or application

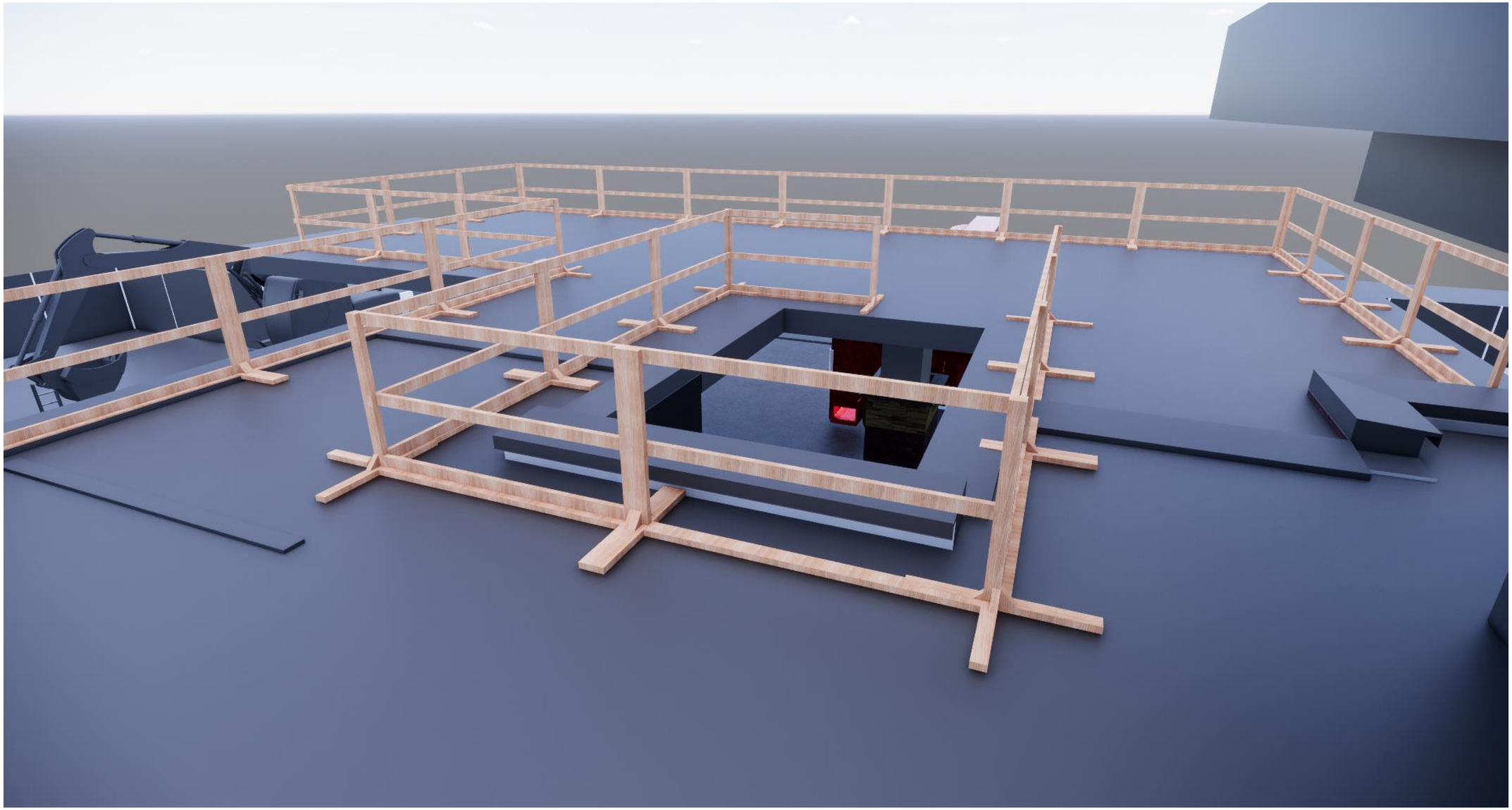
User Experience in Safety Trainings

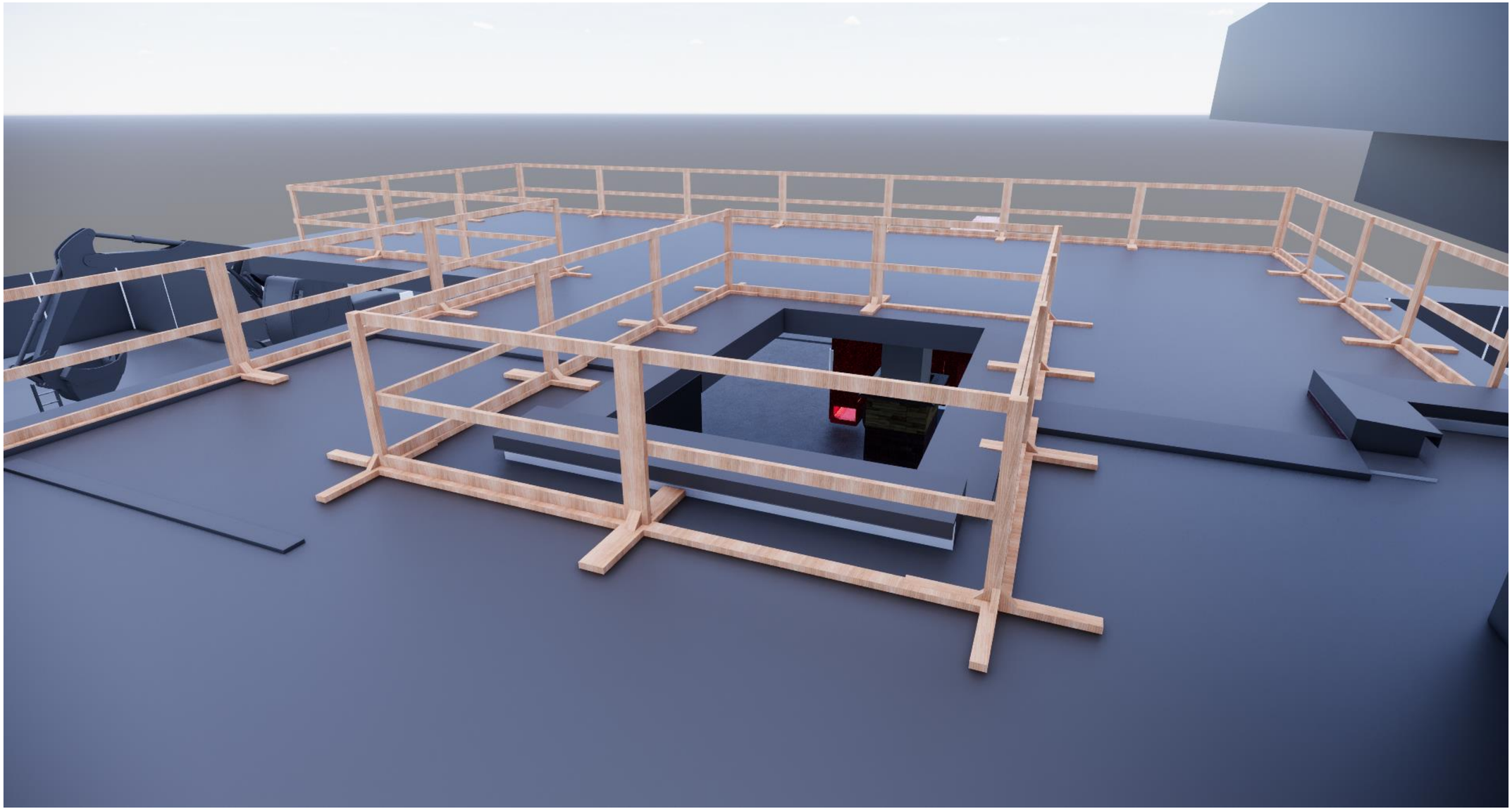
Starting with a 2D static interface and jumping to a 3D dynamic interface introduces challenges

Samples

Full safety model (exterior, interior, roof)

- Barrier construction
- Holes and trip hazards
- Spills and slips
- PPE
  - Missing hardhat, safety glasses, vests, etc.
- Ladder safety
- Access and egress
- Site hazards & weather
- Rigging safety
- Minor details
  - Housekeeping, broken tools/ equipment, extinguisher tags, lock-out tag-out





Uses

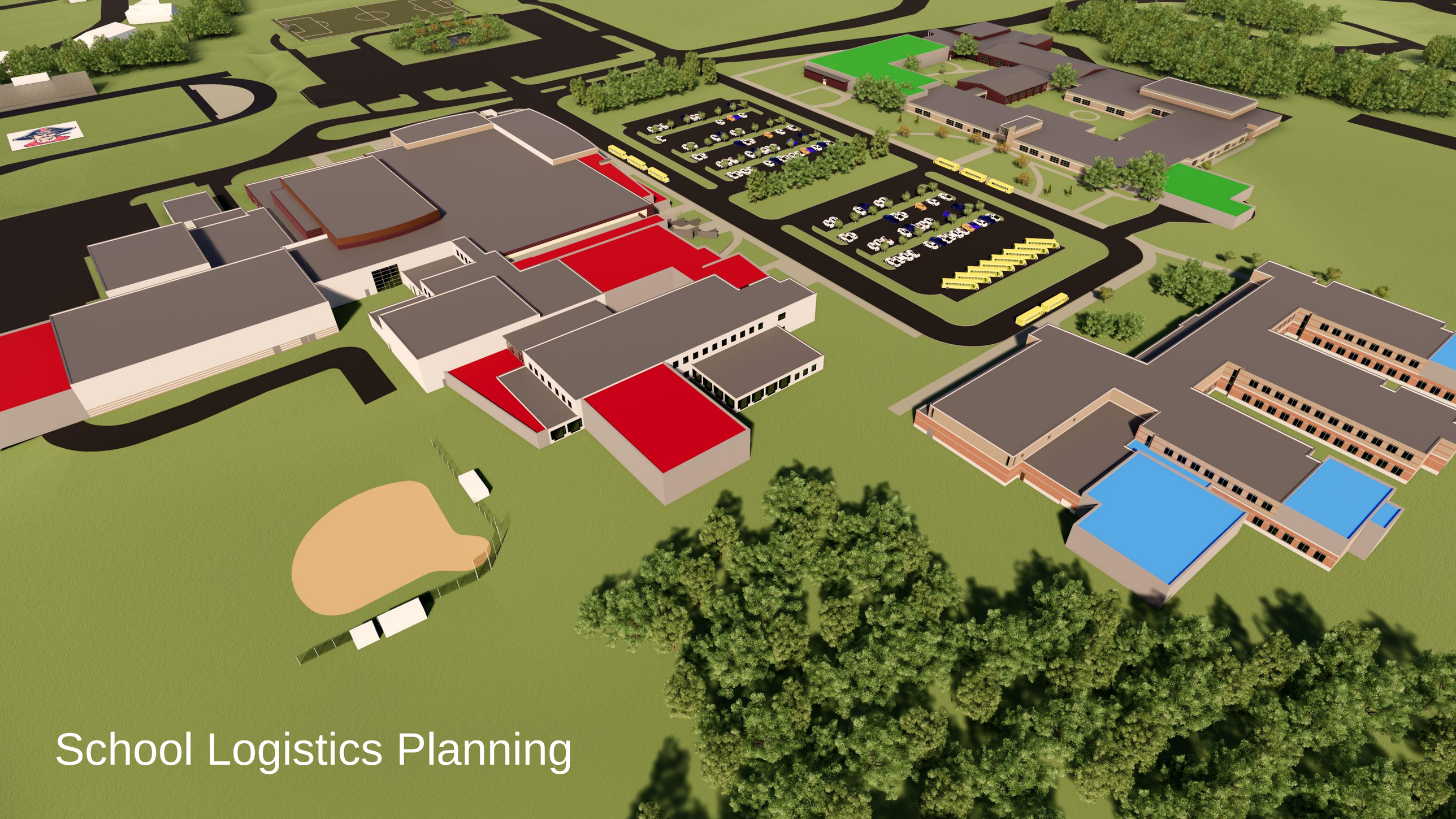
Internal Safety Classes

- New hire training
- Onboarding training
- Site specific training

Uses

Expanding Education

- Safety education of community
- Site logistics models with ownership
- Building interest in STEM


School Logistics Planning

Summer School Traffic Flow

June 13, 2019 is the offical start date for the referendum construction that will be happening during the summer. **Because of this, campus access and traffic flow will follow the above diagram during Summer School.** Please see the 3D simulation video below that also covers the traffic route. We thank you for your cooperation and understanding!

Pewaukee School District

Opening the door to each child's future.

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Site Logistics & Traffic Flow

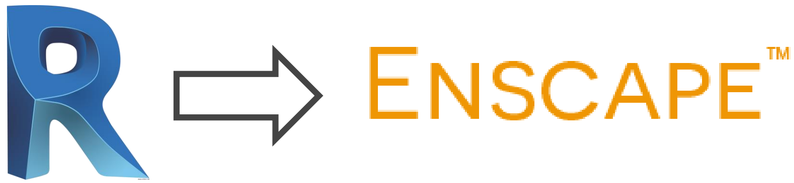

Pedestrian Safety

Uses

- Trade Shows & Marketing
  - Industry specific trade shows, community events, & easy marketing

Workflows

Different software options



Dynamo

AUTODESK®
INFRAWORKS®

Easy Site Safety Design

Use Dynamo and ArchGIS data to develop topography easily

SketchUp 3D Warehouse for equipment models

Export FBX model of Infraworks model for quick site and surrounding landscape

SketchUp 3D Warehouse for equipment models

Questions?

- Take the class survey in the app
- Check out socials and meetups in the Expo and Community Quads

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Make anything™