The Role of Conceptual Design & Engineering in Transportation

JP Gauthier Sr. Application Engineer Bentley Civil Americas
More Efficient Prototyping
Smarter Trade-Offs

Concept estimated cost: $15,929,169

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost</th>
<th>Source</th>
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<tbody>
<tr>
<td>Earthwork</td>
<td>$8,431,880</td>
<td>Design</td>
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<tr>
<td>Pavement</td>
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<tr>
<td>Incidental Item</td>
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<td>Allowance</td>
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Better Communication
Assemble Context Data
Assemble Context Data

Import from local file

Reference Reality Meshes
GeoCoordination Services

Find, download, and import geospatial data and transform to 3D

Index data from different sources
Rapid 3D Engineering Sketching of Roads, Bridges, Intersection, Ramps, and City Furniture
Place Roads

Adhering to AASHTO standards

Typical cross-section (template) based
Roadway or Bridge template

Template management

Template editing
Edit Roads

Horizontal editing

603.57 ft

446.90 ft

Vertical editing

3.05 %

3.27 %
Lane marking

Automatic lane marking

Edit lane marking
Design Intersections

Place intersection

Edit intersection
Design Bridges

Place bridge

Edit bridge
Design Ramps

Place ramp

Edit ramp
Place City Furniture

Place street light

Place guardrail
Estimate Cost and Quantities

Project cost overview

### Detailed Quantities and Cost Report

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Item</th>
<th>Quantity</th>
<th>Unit</th>
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Visualization

Real time rendering

Images, videos, live Cube
Interoperability with Detailed Civil Design

One click export
(terrain, geometry, templates, IRD)

Native support inside Bentley Civil products
Benefits

• Gather and visualize geospatial information quickly and easily.

• Explore more options for any given design.

• Identify high-cost items and potential issues earlier in the process.

• Create better quality conceptual designs.

• Move from idea to 3D faster than ever (you don’t have to be a engineer or CAD expert).
Benefits

- Create higher quality and interactive visuals.
- Sell your projects in new and innovative way.
- Increase transparency and communication.
- Move data easily to detailed design.
Questions
Thank You

Have a great day!