Highway Innovations, Start to Finish: IHSDM

Presenter:
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Route 1 Project Background

- Falls Township, Bucks County
- Route 1 NB, SR 32 Exit, and Route 13 on ramp (SR 8071)
- Route 1 NB ADT of 29,000
- Final survey February of 2017
- Advertised on June 22, 2017
- Time sensitive federal construction funding
Route 1 Project Background

- Accident rate 5 times higher than statewide average
- Dedicated lane to SR 32
- Shared SR 32 and Route 1 Lane
- Dedicated entrance lane from Route 13 (SR 8071 Ramp)
- 600' separate Route 13 entrance and SR 32 exit

Existing Geometry
Proposed Condition

- 2 continuous Route 1 NB lanes
- Change SR 32 Exit to taper type exit
- Concrete median barrier between Route 1 and Route 13 Ramp

Existing Condition

Proposed Condition
Project Considerations

- Construction budget of $2.5 Million
- Design timeline
- No right-of-way takes
- Safety approval
- Environmental clearance
- Drainage and slotted concrete median barrier
Proposed Condition
Improved Safety?

How do we determine if the proposed condition has improved safety…..

IHSDM
SR 1 NB IHSDM

- Crash Prediction Module
- Create existing and proposed models to determine safety benefit
Import LandXML Files (baseline and profile) for Each Roadway
Input Station Based Data for Each Roadway

- Lane Widths
- Medians
- Shoulders
- Cross Slope

- AADT
- Barrier
- Ramp Connections
Results

- Analysis predicted accidents would be reduced by about 23% per year when compared to existing conditions.