Integrated Documentation and Visuals

Outlined in Powerpoint – but better than Powerpoint
Outline

• Problem statement and solution
• Example of integrated model development
  • Hickory, NC
• Example of application visualization
  • Virginia Beach, VA
The problems

- Models are complicated
  - Hard for lay person to understand results
  - Hard to document for future use
  - Version control is severely lacking
    - “Is this the right highway network?”
The solution

• Fully integrate:
  • Model
  • Documentation
  • Version control

• Create a model built from the ground up to leverage these tools
Hickory Model (under dev)

• Powerful development website
  • Seamless estimation and documentation platform
  • Model and Documentation changed at same time
  • E.g. Time of Day or Production Rate

• Version control (GitHub)
  • Central place for model
  • Easy to collaborate
  • Never ask if something is the right version again
The commit heard around the ... office

• When the Hickory model became fully integrated
• A single button click created
  • webpage
  • model input tables
• A second button click to commit
Transparency in development

Commits on Oct 17, 2016

- Set standard button width for utility buttons
  dkyleward committed a day ago

- Calculate initial congested speed table
  dkyleward committed a day ago

- Correct "Perma Join" macro behavior for DBDs
  dkyleward committed a day ago

- Update gplyr version
  dkyleward committed a day ago

- Add utilities for pbars and stopwatches
  dkyleward committed a day ago
Application Example - VA

• Analysis of Southeast Parkway and Greenbelt
• Model not fully integrated
• Still able to produce powerful products
• Delivered as simple email attachment
Summary

• Stop building models the way it's always been done
• The latest tools are amazing for our field
  • Did I mention free?
• Make models fun not frustrating
Thank you!

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