# 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
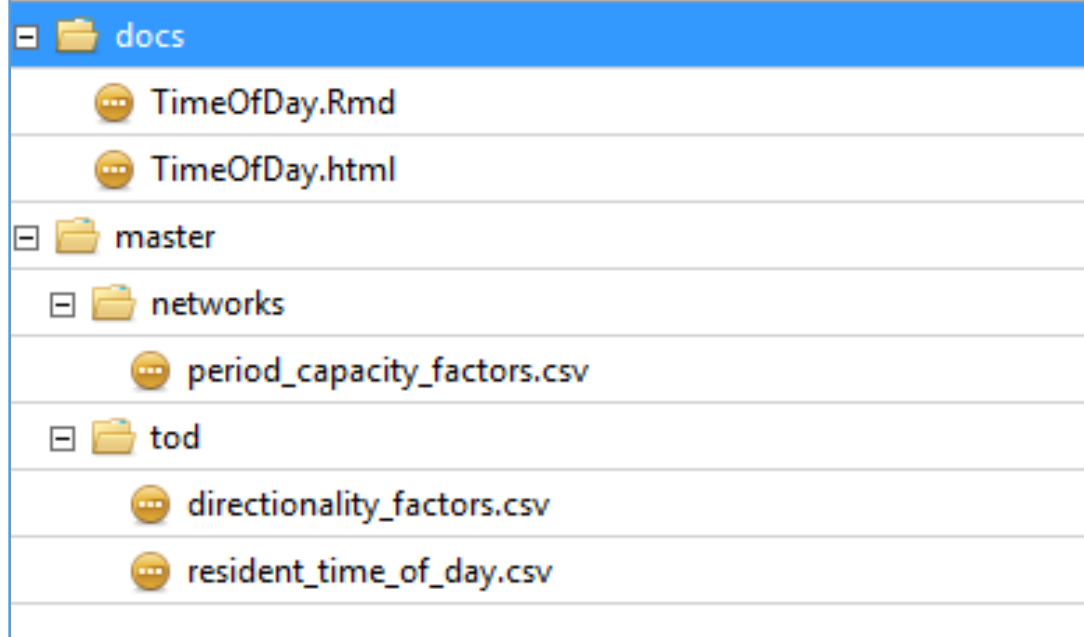
# Hickory Model (under dev)

- 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

Commit: c472f94ca2b5c77cf58e8723a2f647242b07c8a7 [c472f94]
Parents: c1c9c3a81a
Author: Kyle Ward <warddk@pbworld.com>
Date: Thursday, September 01, 2016 1:24:34 PM

Update time of day analysis

Webpage now writes directly to model.
Round off percents to 5 decimals.

- docs
  - TimeOfDay.Rmd
  - TimeOfDay.html
- master
  - networks
    - period_capacity_factors.csv
  - tod
    - directionality_factors.csv
    - resident_time_of_day.csv

- 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

# Application Example - VA

- Analysis of Southeast Parkway and Greenbelt

- Model not fully integrated

- Still able to produce powerful products

- Delivered as simple email attachment

Council_Maps.html (Command Line)

# Summary

- Stop building models the way its 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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