The Greenness of a Path in Traffic II

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Motivation

• What does it mean to be GREEN?
  - MPG
  - Pollution
  - Health/Safety

• GPS
  - Algorithm
  - It’s role
Graph Theory

• Directed graph
• Capacity
• Flow/Cuts
Dramatized Example

• Meet Dave
Dave just purchased a Prius
Dave is very excited
Weights

- Distance
- ETA
- Ease of travel
Greenest Morning Route
Comparison

Greennest Route
Morning/Afternoon Commute

Google Suggested Route
Weights

- Posted MPH
- Lane Capacity
- Stops/interruptions/bends & turns
- Estimated Idle Time
- Season
- Time of day
- Uphill ? Downhill?
Weight Evaluation

- Type of road
- Consideration of time (am vs pm)
- Capacity

Left turn evaluation
Estimated Idle time
Model

• Like Dave’s example, various commutes and routes can be modeled using this method.
• Routes can be formulated to eliminate redundancies such as weights certain stops.
Future Ideas
Individualizing the algorithm

• GPS Randomization
• Weighted Probability
  -optimal flow
Networking