Wellington Weekend Traffic Patterns

Pushing the Boundaries of Traffic Modelling

Hailin (Bob) Hu
Transportation Modeller
Hailin.Hu@opus.co.nz
WWTP - AGENDA

- WHY weekend?
- WHERE to start?
- HOW to analyse?
- WHAT we found?
- WHO benefits?
- Questions
WWTP – WHY weekend?

- Congestion
- Benefits
  - Economics
  - Road Design
  - Operational TM
- High variability
- Research needs
WWTP – WHERE to start?

Base model?
- Variability
- Sat vs. Sun
- Peak
- Factors

Forecast model?
- Growth
- Distribution
- Relation
WWTP – WHERE to start?

Data! Data! Data!

- TMS
- SCATs
- Tube
- Turn
- GPS

200+ Sites
Over 2 years
WWTP – HOW to analyse?

- Statistical analysis
  - Data cleaning
  - Analysis of Variance (ANOVA)
  - Regression
  - Analysis of Factor
  - Cluster analysis
  - Validation analysis
WWTP – WHAT we found?

Base model achievable!

- Low variability
- Sat > Sun
- No Long wknd
- Normal Sat
- 1pm – 2pm
Forecast model achievable!

- Low Growth
- Similar with IP
- Effects No
- $\text{SAT} = 1.214 \times IP$
- High $R^2$
- Good-fit
WWTP – WHO benefits?

- Local government
- Road authority
- Engineers
- Economists
WWTP – QUESTION?