

The University of Melbourne Careers Talk

Dr Guy Eitzen

*IMIS Integrated Management
Information Systems Pty Ltd*

Qualifications

Bachelor of Applied Science [1991-1993]

In Mathematics and Computing

University of South Australia



Bachelor of Applied Science (Honours) [1994]

In Mathematics

University of South Australia



Doctor in Philosophy [1996-2001]

In Operations Research

University of South Australia

From 1998 part-time



Career Profile

Consultant [1996-2004]

- Modelling and optimisation
- Various industries:
 - Mining, ports, electricity, logistics and rail



Research Fellow [1998-2004]

- Modelling and optimisation
- Statistics and simulation
- Rail rostering and scheduling projects



Research Scientist [2005-2006]

- Modelling and optimisation
- Statistics and simulation
- Production scheduling



Career Profile

Research Manager [Sept 2006-Current]

IMIS *Integrated Management Information Systems*

- Project Management
- Lead role in the research direction for IMIS
- Client liaison and marketing
- Project Work
 - Modelling and analysis
 - Programming
 - Reporting

Introduction to IMIS

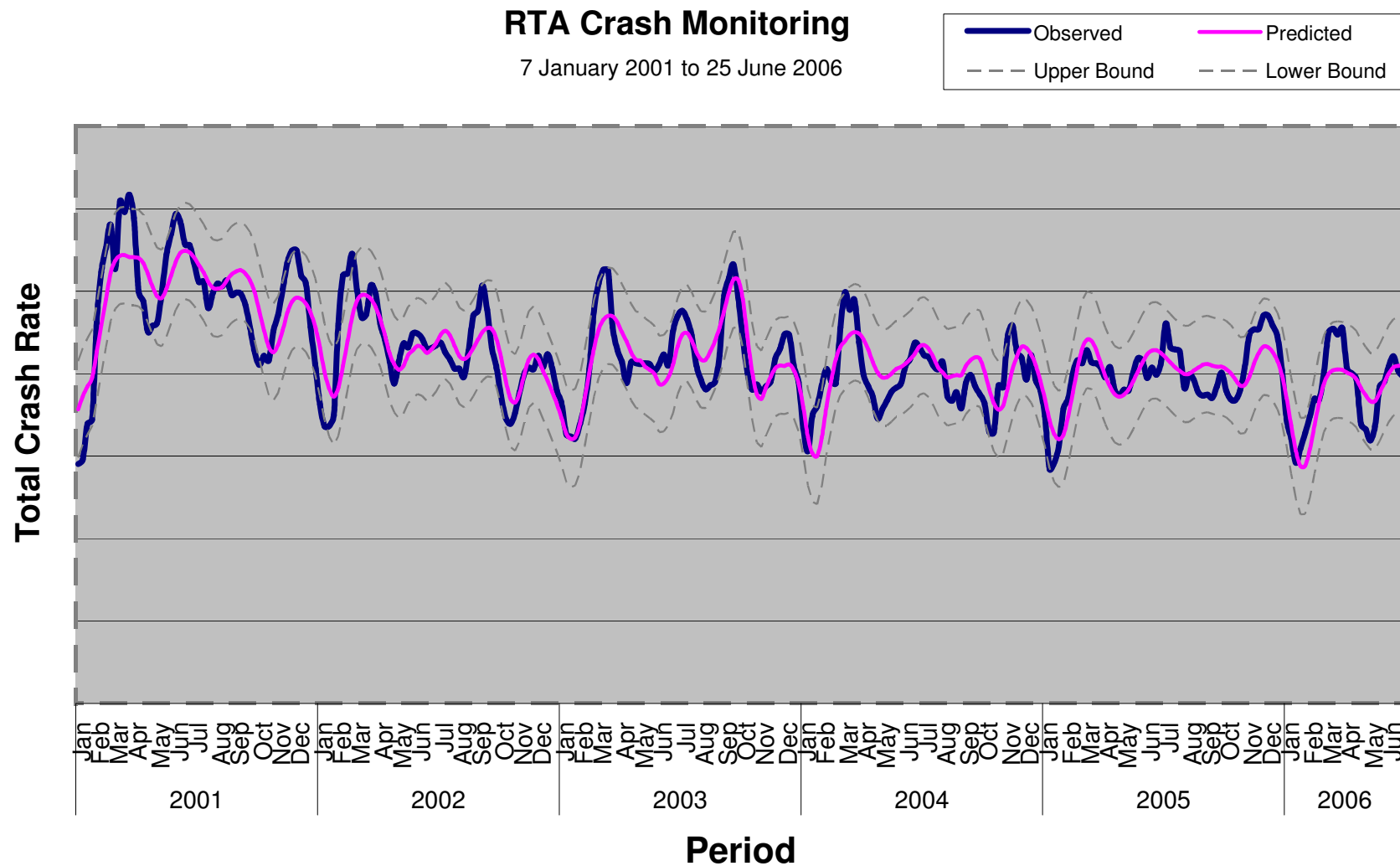
Consultant

- Specialising in Statistical and Mathematical Modelling for the Transport and Logistics industries
- Main fields are Statistics and Operations Research
- Clients include: Department of Infrastructure (DOI), RTA (NSW), ConnectEast, Macquarie, Readymix, ...

Interesting Projects

- RTA Crash Modelling
 - Predict the number of crashes (total, alcohol related, young driver, time of day etc)
 - Determine long term effects
 - Determine short run effects of policing and media campaigns

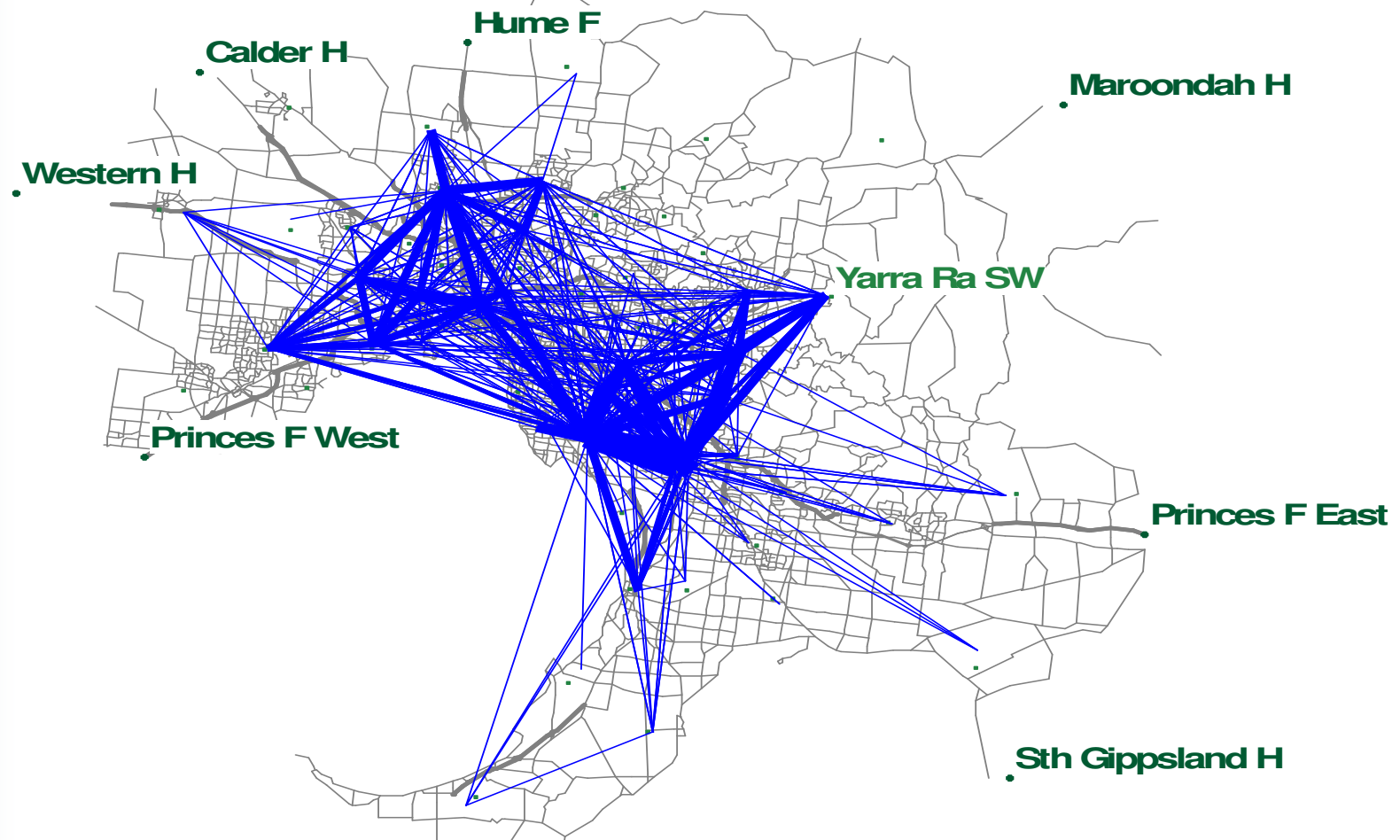
RTA Crash Modelling



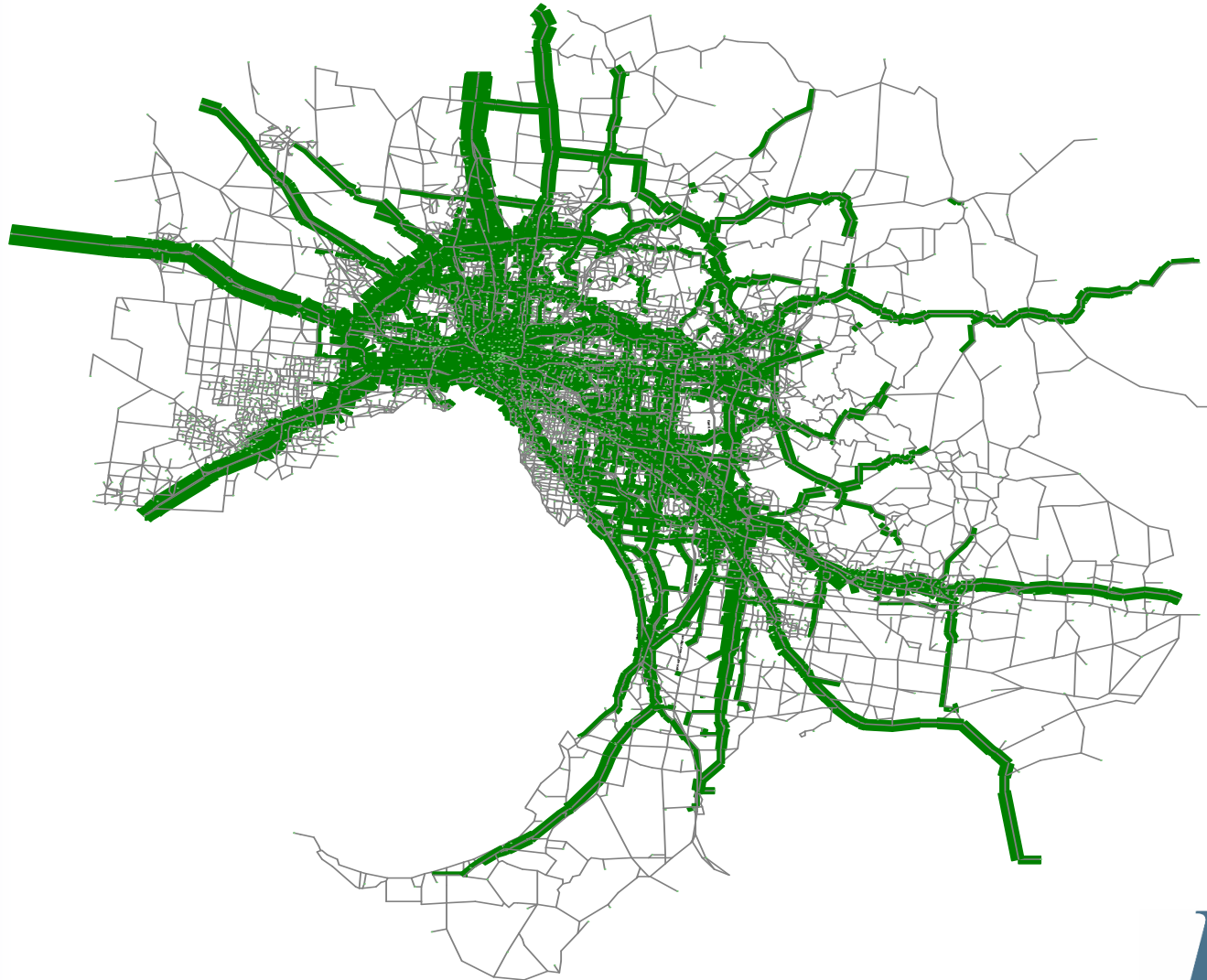
Interesting Projects

- Melbourne Freight Movement Model
 - Model underlying source of freight
 - Model the distribution process
 - Supply chain
 - Movement between commodity classes
 - Add the freight vehicles to the network (along with car trips)
 - Calibration with freight vehicle counters
 - Calculate future volumes based on land-use and economic forecasts

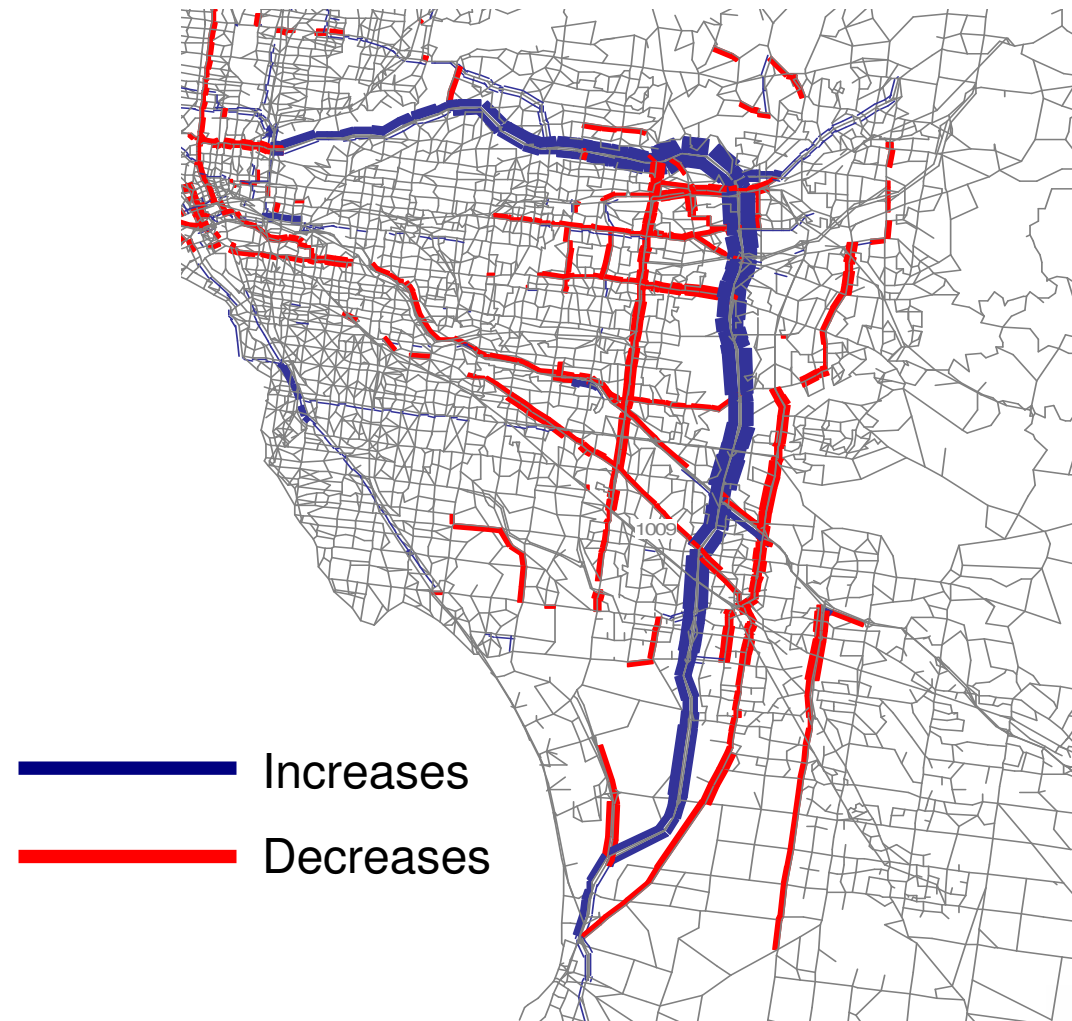
Melbourne FMM



Melbourne FMM



Melbourne FMM



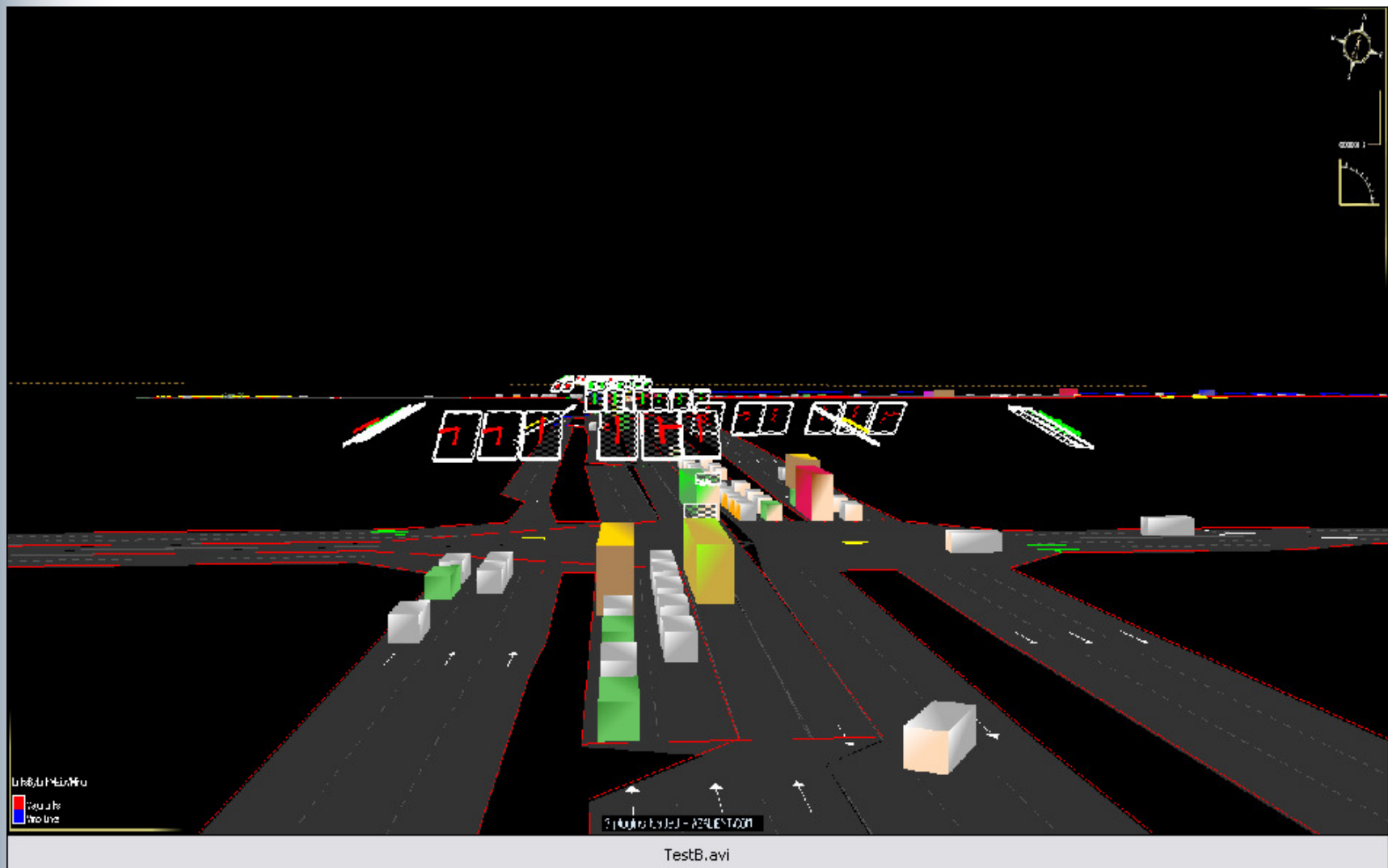
Interesting Projects

- Vehicle Simulation
 - Quarry simulation
 - Modelling traffic flow
 - Identify collision risk hazards
 - Model changes to determine change in risk
 - Stockpile and quarry optimisation
 - Complex road networks, such as the Ringwood Bypass, St Kilda Rd tram-car-cycle

Vehicle Simulation – Ringwood Bypass



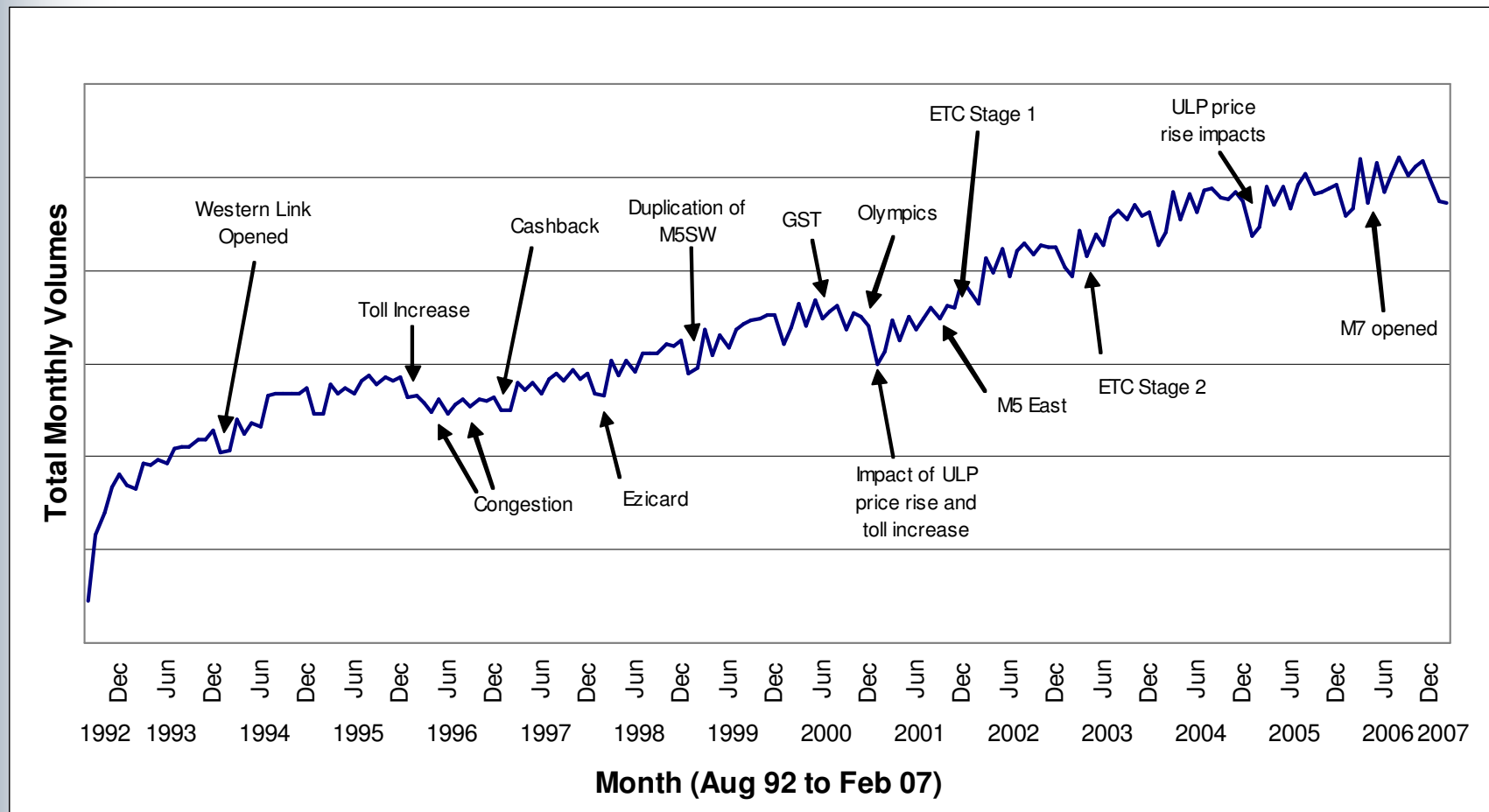
Vehicle Simulation – St Kilda Road



Interesting Projects

- Tollway analysis & forecasting
 - Big business, billions to build, must recoup their money and profit in 25-30 years
 - Used for tender process
 - Understanding factors that influence demand and revenue risks
 - Help plan future infrastructure improvements

Tollway Analysis & Forecasting



Qualifications vs Opportunities

- IMIS has broad spectrum of qualifications
 - Undergraduate, Honours and PhD
- In the wider community for OR in particular, a PhD is virtually mandatory
- True that PhD increases opportunities, in particular CSIRO, DSTO
 - Recommend top-up scholarships

Professional Attributes

- Good technical skills, inc theory
- Good communication skills
 - Written and oral
- Good application skills
 - Work on real projects
 - Commitment to deliver useable outcomes

Job Seeking Advice

- Be prepared
- Be honest and open
 - A company looking for a person wants to find out as much information as possible about you
 - They are not trying to trick you
- Ask lots of questions
 - To ensure the job is what you want

Job Seeking Advice

- If not successful getting an interview or the job but you truly believe you were well suited
 - Ask for the reasons on how you may strengthen your application for next time

Follow Up

IMIS *Integrated Management Information Systems Pty Ltd*

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PhD joint supervision welcome

With top-up scholarships possible

Fields: Statistics and Operations Research