**Summary of input data**

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<tr>
<th>Data Category</th>
<th>Source of data</th>
<th>Data description</th>
<th>GMA details</th>
<th>Sydney area details</th>
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<td></td>
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<td>volume counts</td>
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**Deployment**

- **Points to consider...**
  - Counts are a weekday average from year 2012
  - Exact network conditions may not match the model data
  - Input data
    - We were provided with data for the model. Too many centroid connectors, lanes wasn’t adjusted for AM peak
    - Origin-destination travel demand
      - This included car and truck traffic but was uncalibrated
    - Updates in the road network since 2011
      - Many significant road projects and it is hard to identify what was built.

**Network Details**

- **Study area (Sydney city)**
  - 4.8 million population (largest in Australia)
  - 12,145 sq. km. and developed around major harbors
  - Worldwide congestion rank-21
  - Signal system used to increase capacity of road network

**Lessons Learned**

- **Technical**
  - Understanding the dynamic traffic assignment methodology.
  - Large scale data handling
    - Prom to error. Requires experience.
  - Computational
    - We used a powerful Linux-based server with a significant amount of memory. It was still challenging and time consuming.
    - Data acquisition
      - This is specific to location and can be political. Not always straightforward.
    - Make use of existing literature!
      - This work adds to the useful and developed body of literature about deployed DTA models.

**Calibration**

The calibration process consists of:

1. Identifying calibration metrics.
2. Use calibration metrics to identify “problem” areas in the model.
3. Try to identify the cause of the discrepancy: Too many vehicles? Not enough?
4. Bottlenecks, compare model data and real-life data.
5. Identify possible changes to model data (change capacity, speed, number of lanes? Locations of centroid connectors? Travel demand?).
6. Make changes to model data.

**Tools used:** VISTA, ArcGIS, PSQL, Python, and C++

**Work in progress:** Model calibration based on new data and accounting for demand stochasticity.

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