Explicit Transformation Modeling

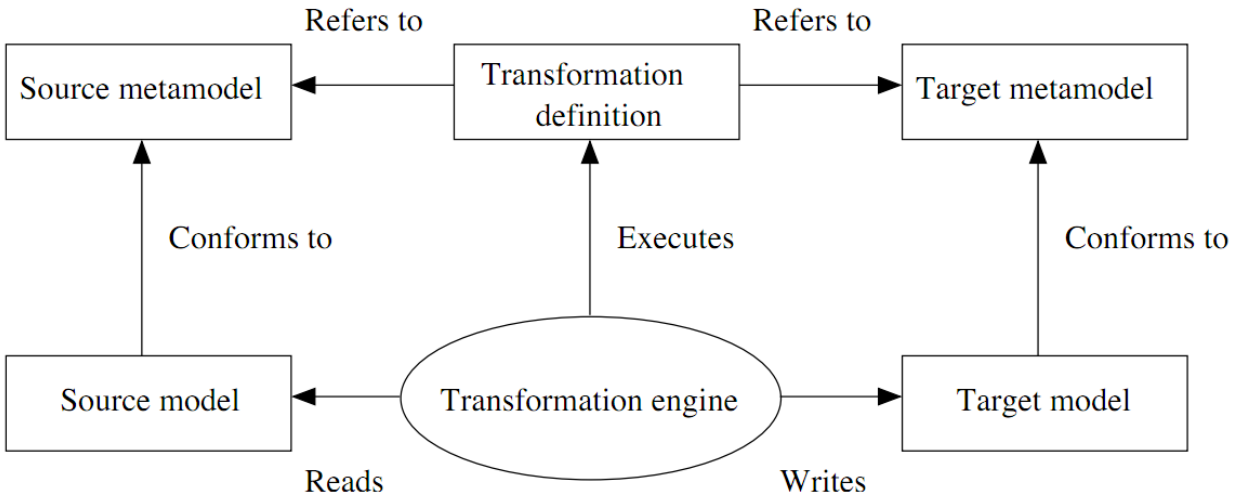
Dieter De Hen

Overview

- Model Transformation
- Explicit Transformation Modeling
  - Traffic and Petri Net Meta-Model
  - Transformation Formalism
  - Graph Grammar Meta-Model
  - Traffic Model
  - Transforming Traffic to Petri Net Models
  - The Result
- Conclusion & Future Work

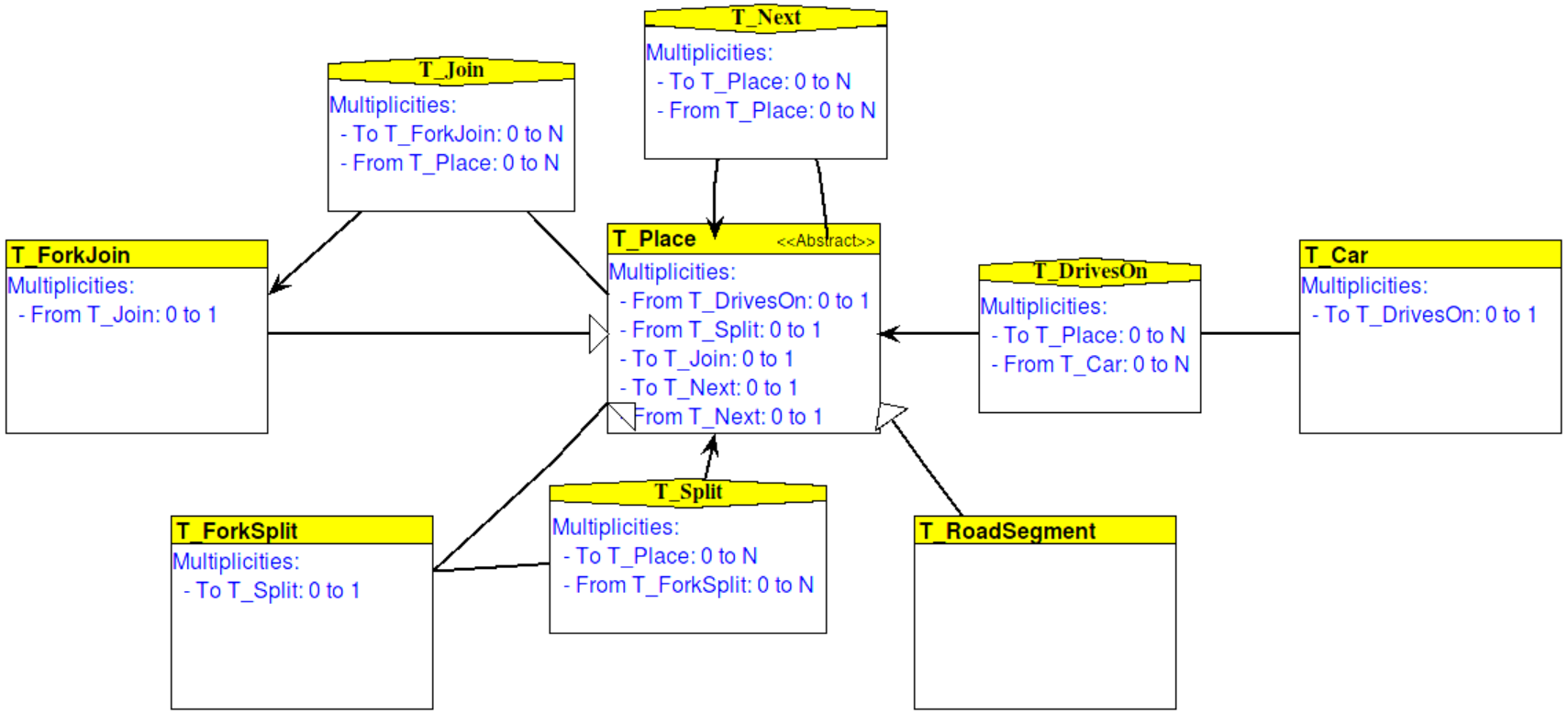
Model Transformation

- Model Transformation
  - →Closely related to program transformation
  - →Generate lower-level models from higher-level models



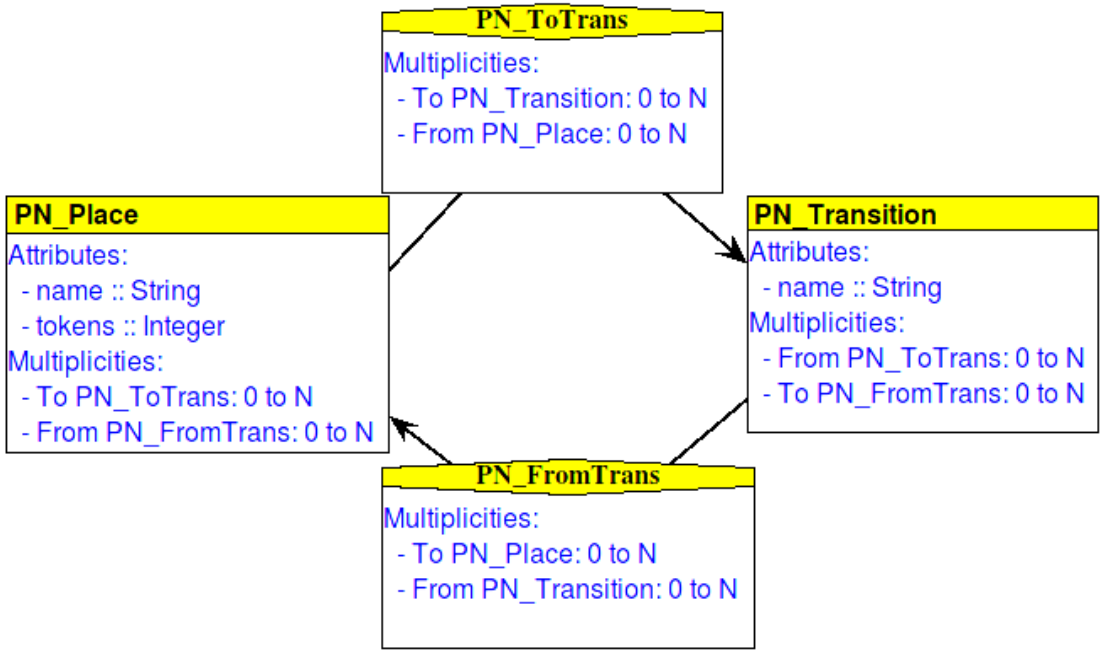
Explicit Transformation Modeling

Traffic Meta-Model



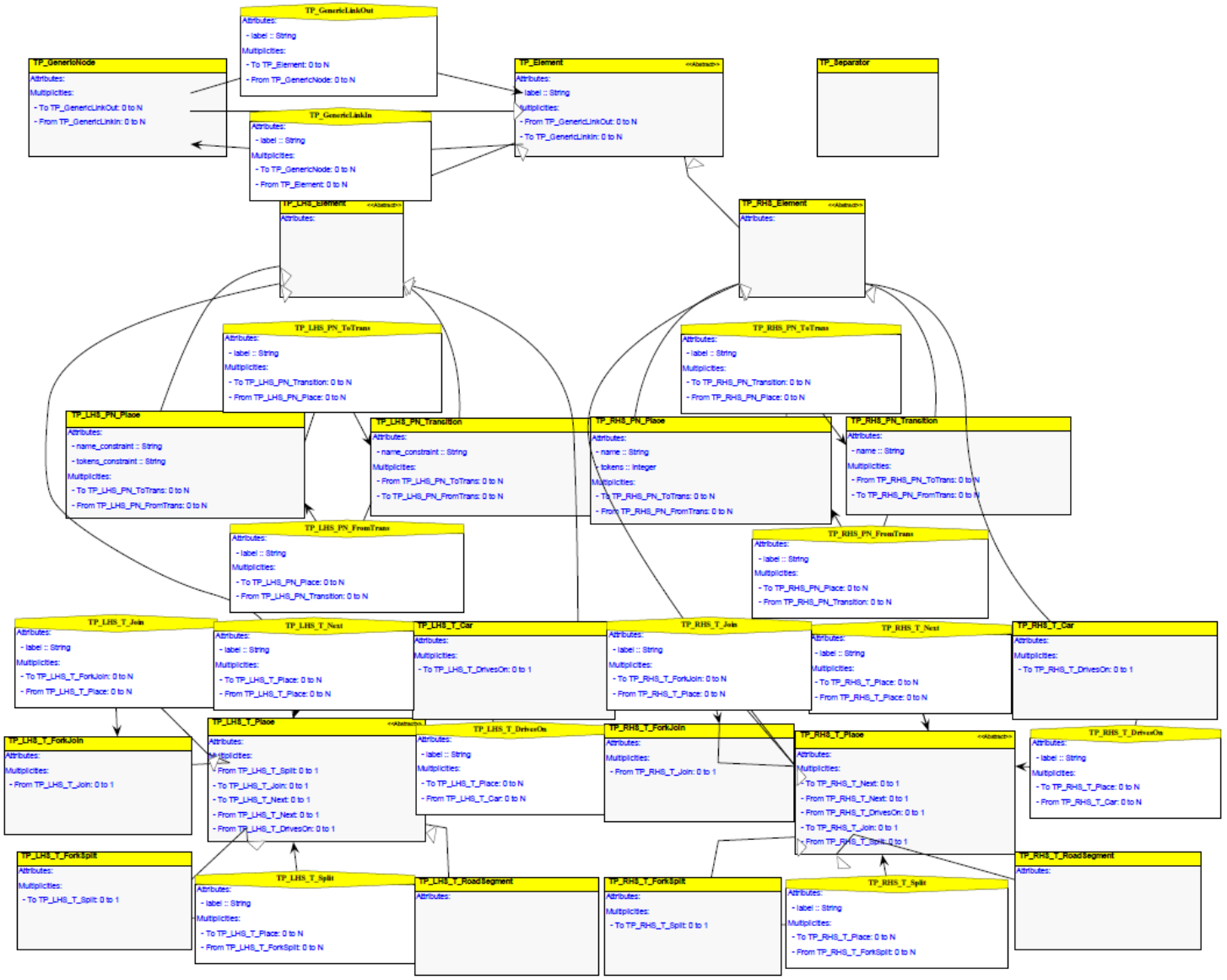
Explicit Transformation Modeling

Petri Net Meta-Model



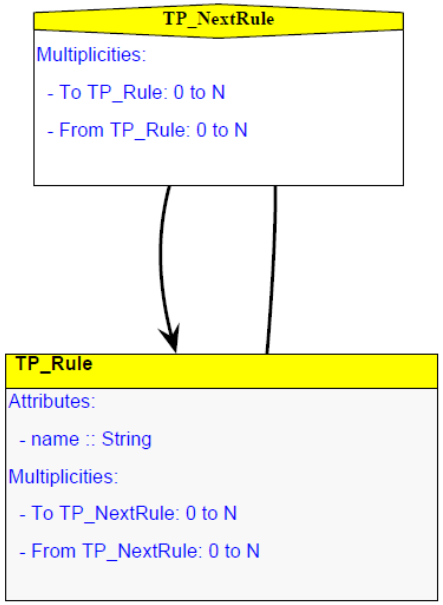
Explicit Transformation Modeling

Transformation Formalism



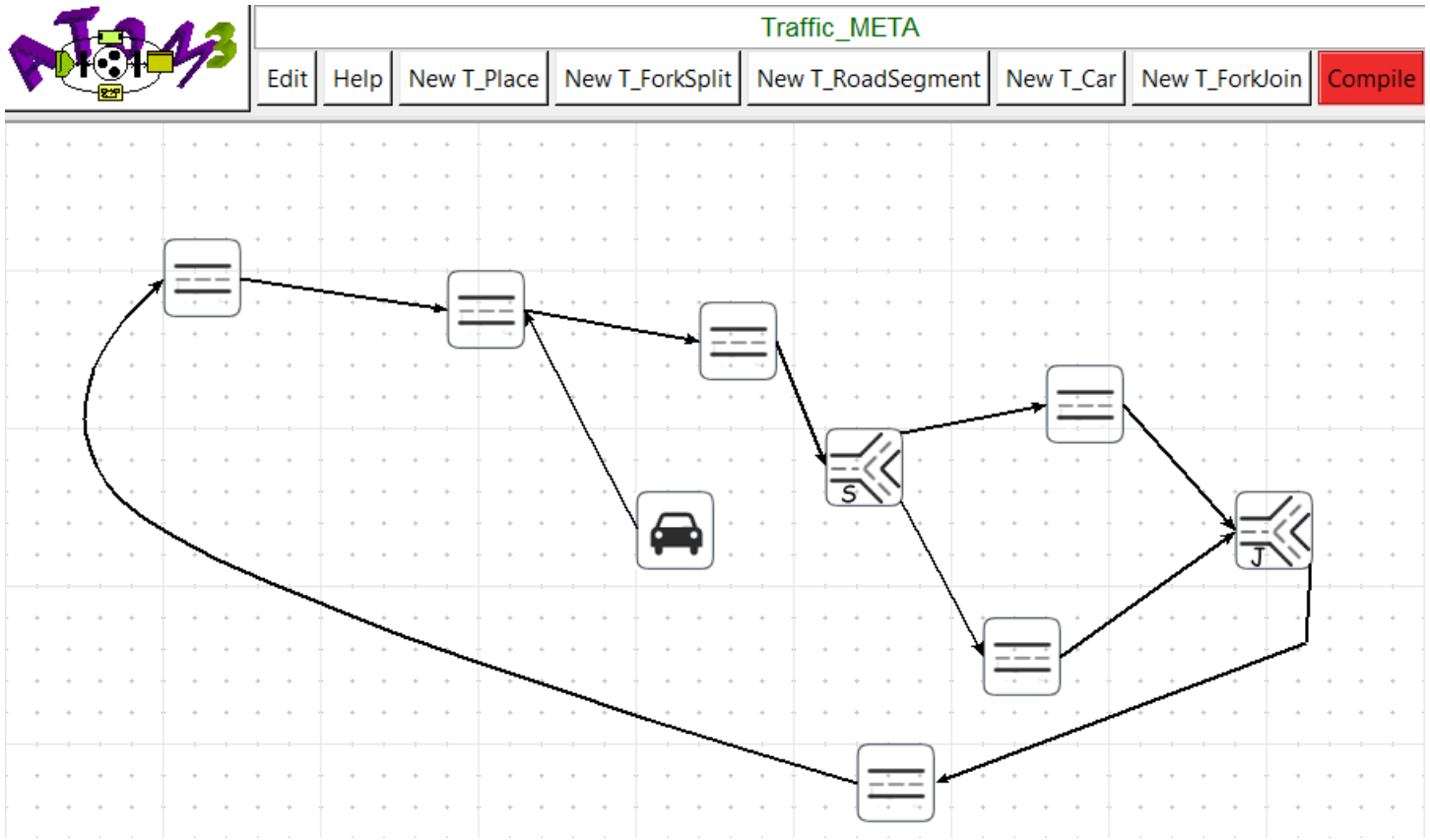
Explicit Transformation Modeling

Graph Gramar Meta-Model



Explicit Transformation Modeling

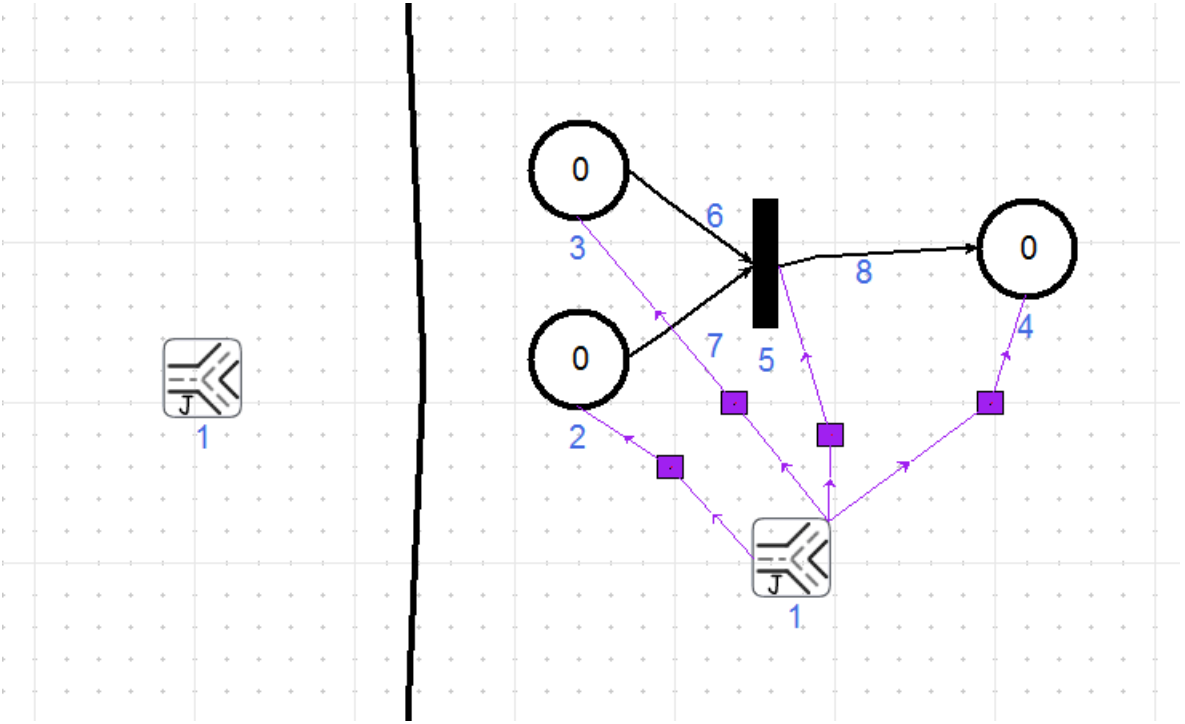
Traffic Model



Explicit Transformation Modeling

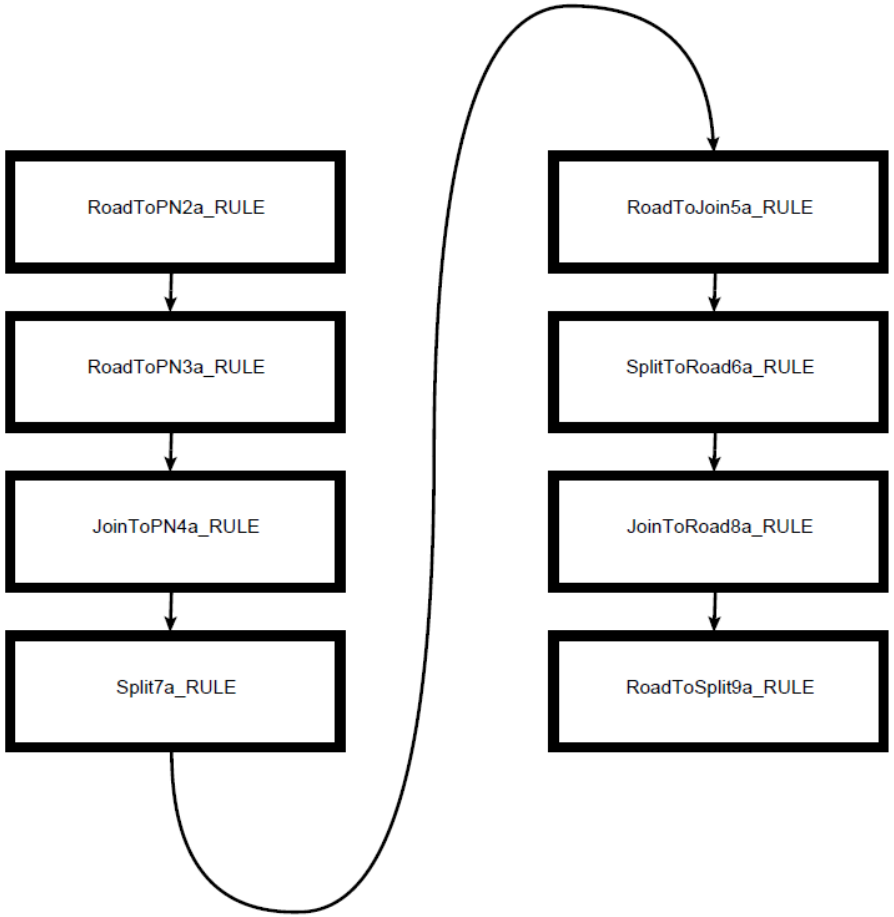
Transforming Traffic to Petri Net Models

- Compose rules
- Construct a graph grammar
- Sub-graph matching and model transformation



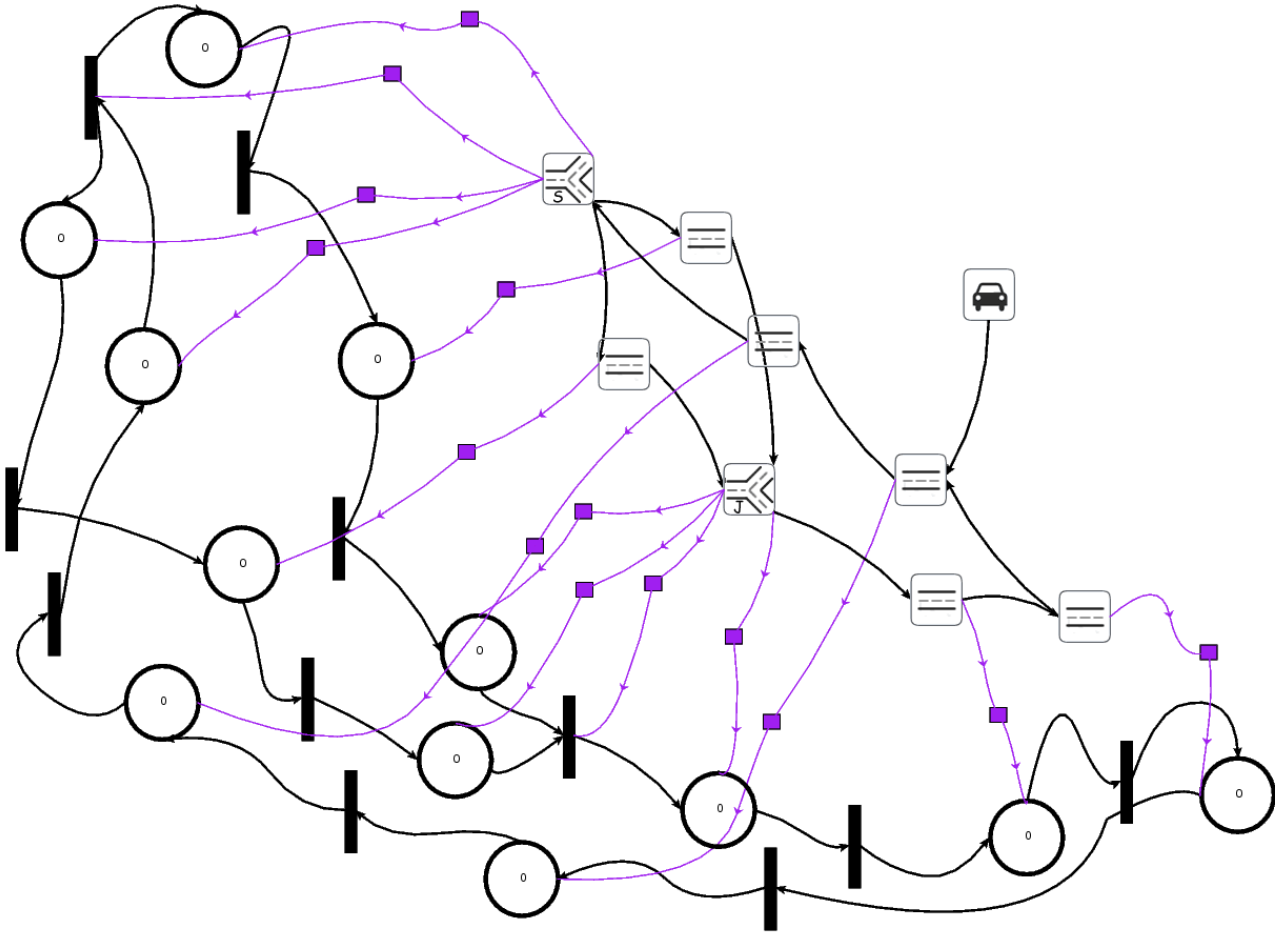
Explicit Transformation Modeling

Transforming Traffic to Petri Net Models



Explicit Transformation Modeling

The Result



Conclusion & Future Work

- Used relaxation, augmentation and modification to create a transformation formalism
- Results not bound to AToM^3

- Future work
  - →Also match on labels
  - →Use own generic entities