CoEXist

D5.3 Training Material from CoEXist Training

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Authors: Peter Sukennik, Charlotte Fléchon

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1 Introduction

As part as the CoEXist Final Conference which took place online on 25th and 26th March 2020, a training on Automation-ready Modelling with PTV Vissim has been offered to the participants.

The training was held on 26 march 2020, from 10:00 – 12:00 CET, with the objective of providing a comprehensive overview of the tool's functionalities, demonstrating its possible applications and explaining how to properly utilise it.

In this way, CoEXist aims to further enhance take-up and exploitation of the project's results and output, and strengthen the capacities of mobility stakeholders to plan for the effective deployment of Cooperative, Connected and Automated Mobility.

2 Training session: Automation-ready Modelling Tools

2.1 Scope and format

The training consisted on a combination of theory and practical examples in PTV Vissim. After a conceptual explanation of key aspect automation-ready modelling tool, a series of demonstrations and examples ensured a thorough illustration of the process to be followed. Participants had the opportunity for the participants to ask questions after each demonstration. Also, an extended Q&A session took place at the end of the training.

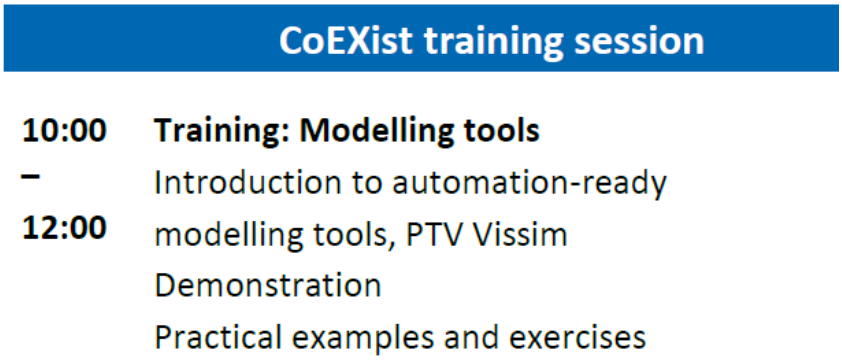

Figure 1: Training Programme

The following aspects have been treated:

1. Explicit versus implicit stochastics
2. New features related to AV: examples
3. Driving behavior parameters for AV
4. How to deal with cooperation & communication

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Before the training, the participants were invited to download the following materials via a link to the PTV Box:

- The last version of Vissim 2020
- Some relevant deliverables from CoEXist[1]:
  - D2.6 Technical report on data collection and validation process
  - D2.8 Guide for the simulation of AVs with macroscopic modelling tool
  - D2.11 Guide for the simulation of AVs with microscopic modelling tool
  - D3.2 Definitions of performance metrics and qualitative indicators
  - The master thesis from Verena Zeidler: “Evaluation and development of the simulation of autonomous vehicles with PTV Vissim” (only available in German)[2]
- 6 Vissim examples:
  - Consider Vehicles in Dynamic Potential

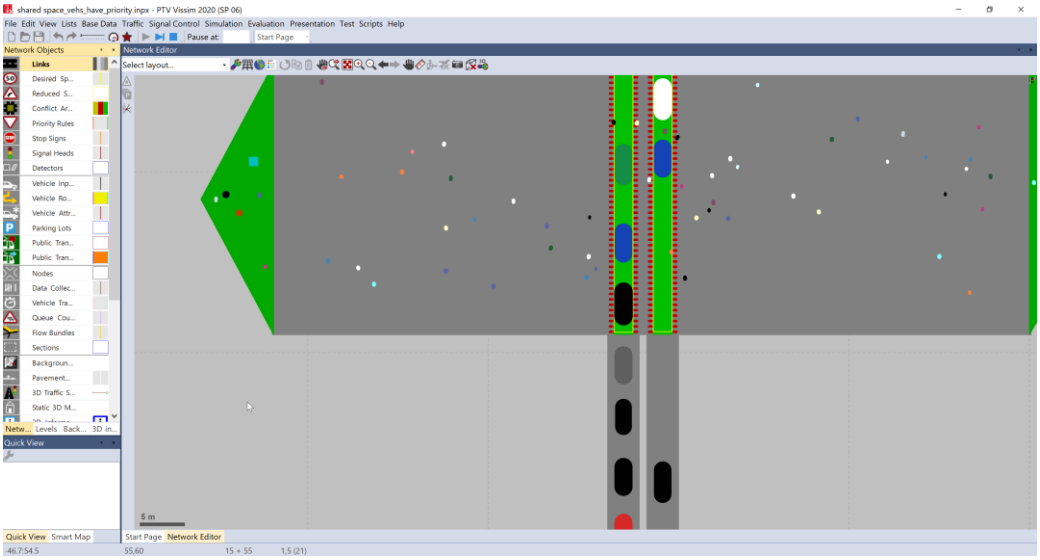

Figure 2 Screenshot of the example “Consider Vehicles in Dynamic potential”

  - Enforce Absolute Breaking Distance

[1] All deliverables from CoEXist are available on the CoEXist Website: https://www.h2020-coexist.eu/resources/

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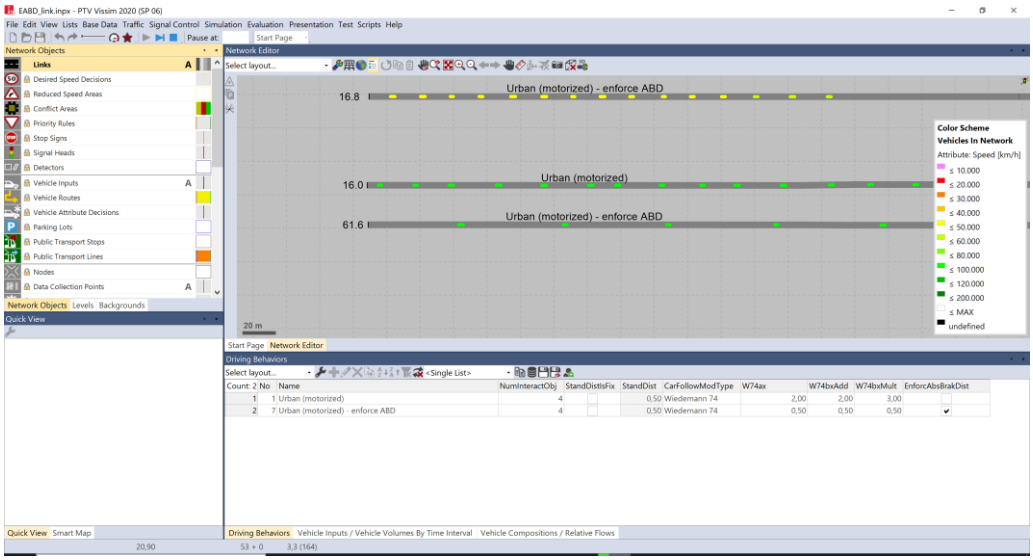

Figure 3 Screenshot of the example "Enforce absolute breaking distance_Link"

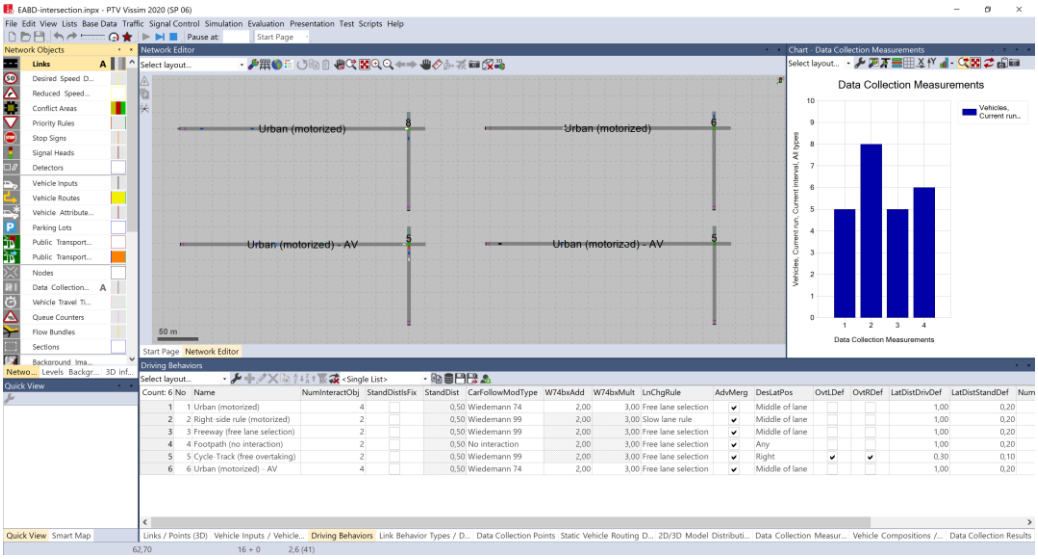

Figure 4 Screenshot of the example "Enforce absolute breaking distance_intersection"

- Headway based on leading vehicle class

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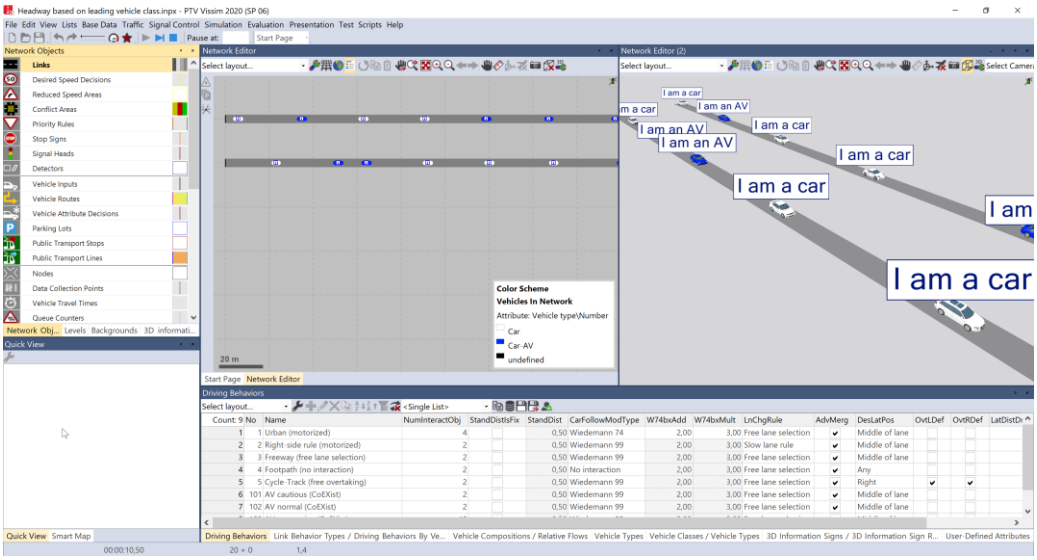

Figure 5 Screenshot of the example "Headway based on leading vehicle class"

- Number of interaction vehicles

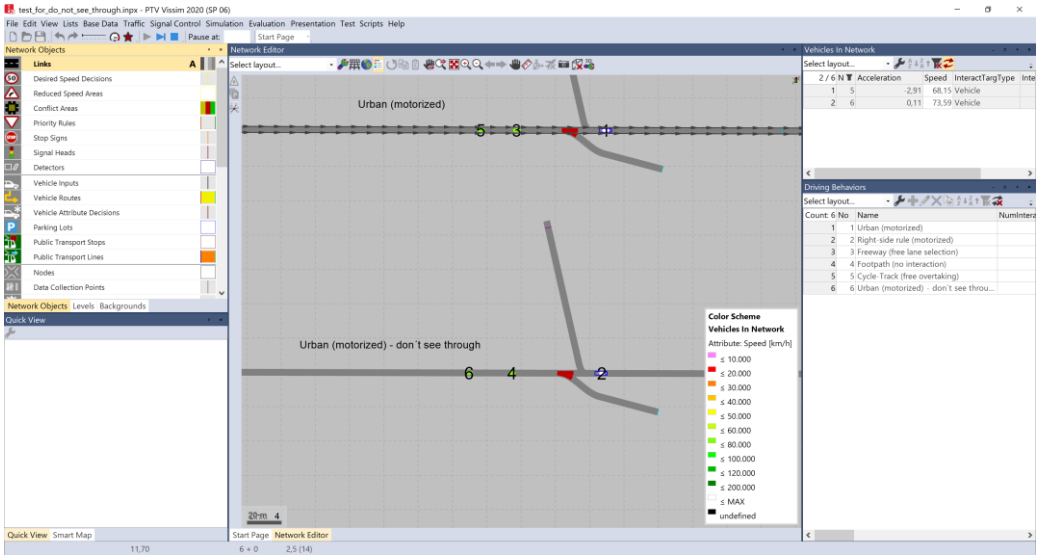

Figure 6 Screenshot of the example "number of interaction vehicles"

- Platooning

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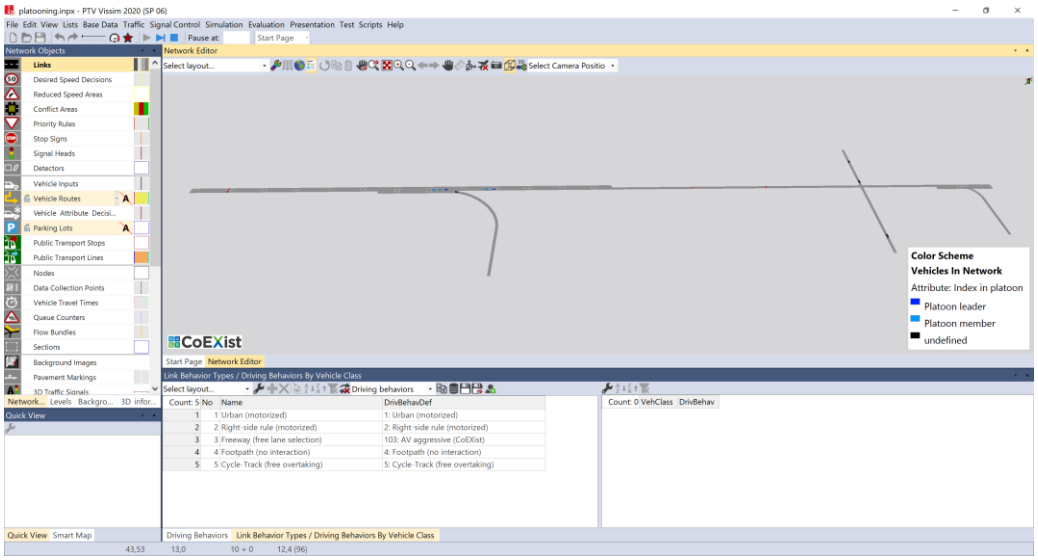

Figure 7 Screenshot of the example "platooning"

- Use implicit stochastics

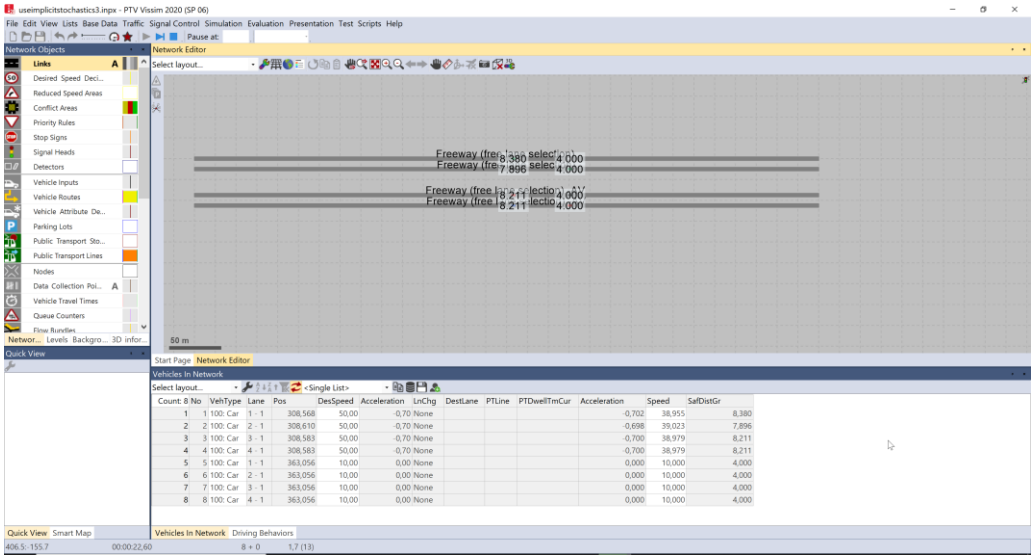

Figure 8 Screenshot of the example "use implicit stochastics"

And two links:

- Link to the resources of CoEXist: https://www.h2020-coexist.eu/resources/
- Link to a scientific article: https://trid.trb.org/view/1638609 "Simulation of Autonomous Vehicles Based on Wiedemann's Car Following Model in PTV Vissim"

2.2 Participants

A total of 25 participants joined CoEXist's Training session, including 9 consortium partners. The external attendees included public authorities, consultants and academics.

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3 Presentation and video-recording

The complete video-recording of the training is available on YouTube under the link:
https://youtu.be/HL-NPQNsJV8

The slides used for the training were the following: