Yutraffic Tools Aimsun Export

User documentation

YUNEX
TRAFFIC

1. Introduction

This user documentation describes how to export planning configuration data out of Office by using the Yutraffic Aimsun Export tool. The output format of this converter tool contains files for one intersection version, which can be imported into AIMSUN Next.

In Aimsun the in Office configured data can be used to test the planned traffic actuation with specialized test editors and to start micro simulations with given planning data from Yutraffic Office.

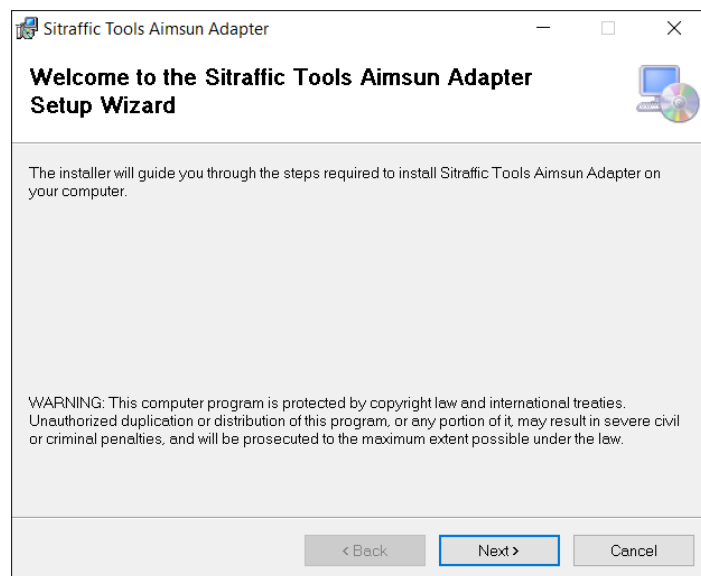In general, the setup of the Yutraffic Aimsun Export makes available two major parts:

•   The static configuration information to Aimsun

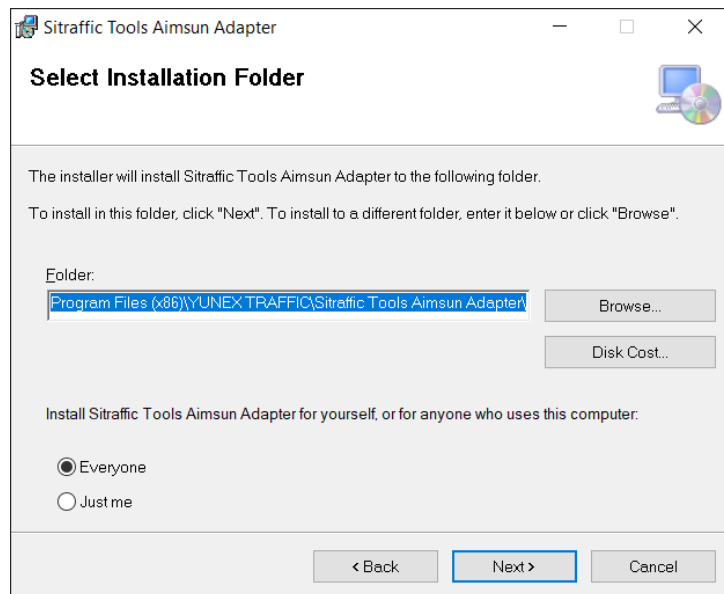•   The dynamic communication interface between Aimsun and the traffic actuation

2. How to

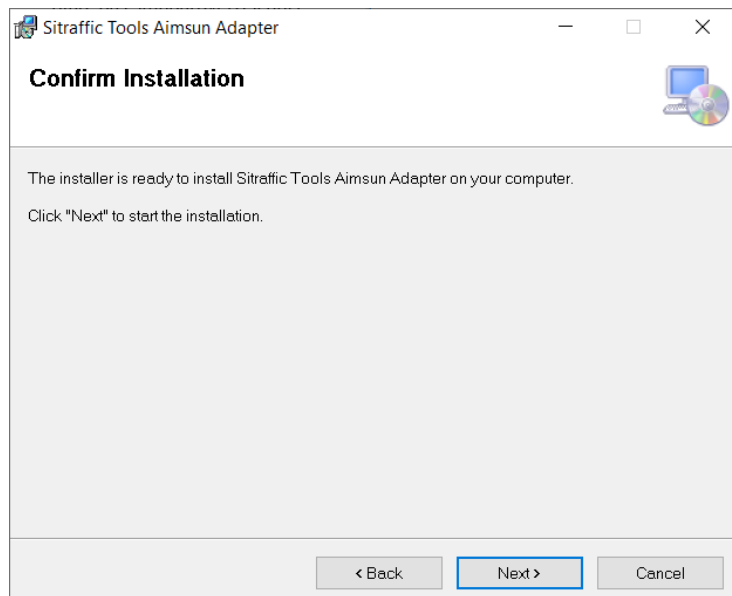## 2.1. Setup

Install via double click on Setup *.exe* file:
• click Next

- Select the installation path, default is recommended
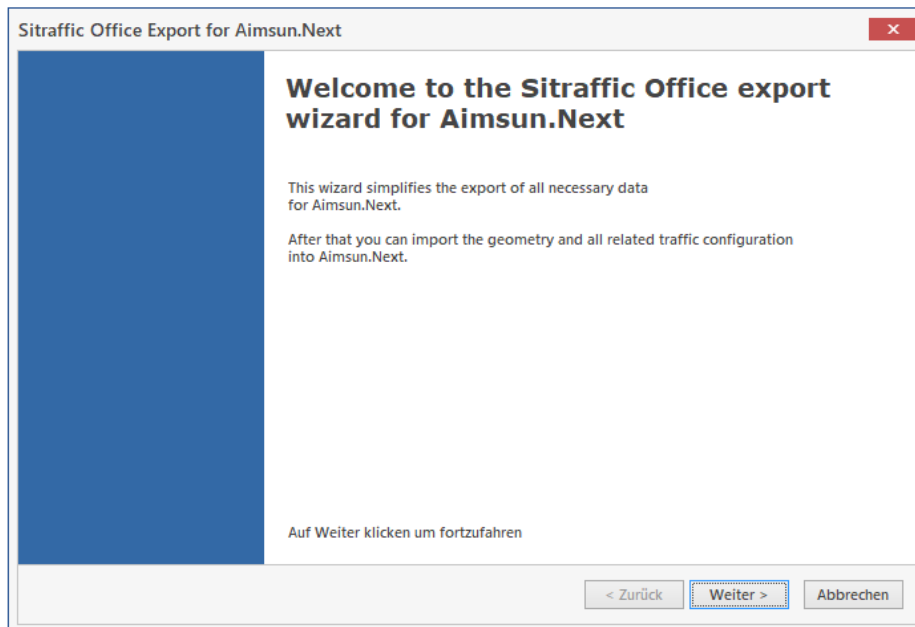- click next to start the installation

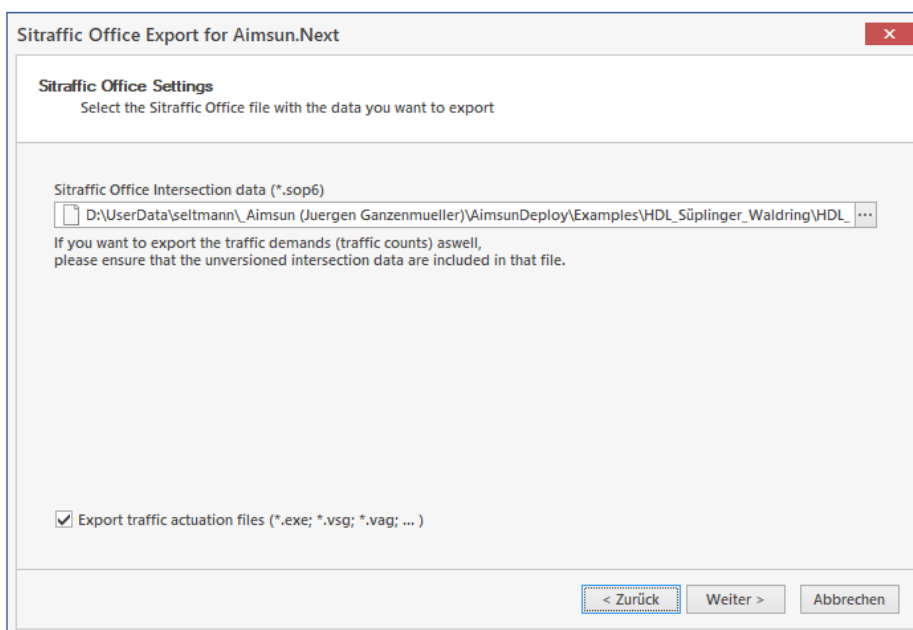- and accept the prompt for Administrative Rights, if necessary
- click next

2.2. Usage of Yutraffic Aimsun Converter

From the Programs Menu, start the *Yutraffic Tools Aimsun Export* → "*Run Aimsun Export*":

- A wizard will openup

- select the input sop6 file

- select ta.exe, vag, vsg , wtt files

Sitraffic Office Export for Aimsun.Next

Traffic Actuation Configuration
    Which data / program should be used for simulation?

Simulation Executable (*.exe)

Base configuration (*.VSG)
FNr50079.VSG

TA configuration (*.VAG)
FNr50079.VAG

AP Values in Wtt Files (*.wtt)
"D:\SiTRAFFIC\WTT\sle30200.wtt";"D:\SiTRAFFIC\WTT\vke30200.wtt"

< Zurück   Weiter >   Abbrechen

- configure output folder (by default, this should be the folder, where the input sop6 was selected)

Sitraffic Office Export for Aimsun.Next
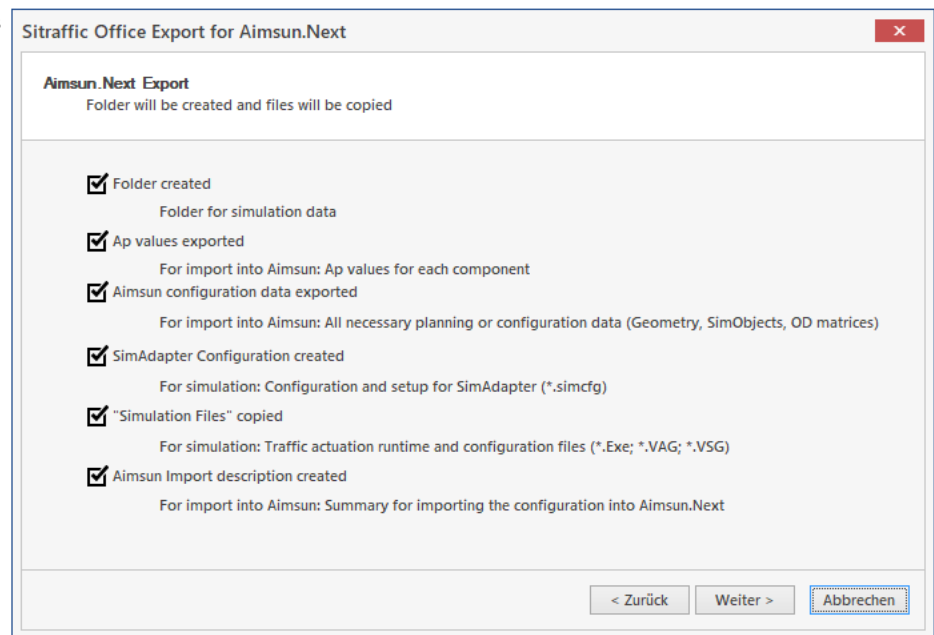
Export Settings
    Untertitel: Dieser sollte dem Benutzer helfen die Aufgabe abzuschließen

Output folder

☑ Open Folder in Explorer after export.

< Zurück   Weiter >   Abbrechen

- Press Next and check Step results

Sitraffic Office Export for Aimsun.Next

Aimsun.Next Export
Folder will be created and files will be copied

☑ Folder created
    Folder for simulation data

☑ Ap values exported
    For import into Aimsun: Ap values for each component

☑ Aimsun configuration data exported
    For import into Aimsun: All necessary planning or configuration data (Geometry, SimObjects, OD matrices)

☑ SimAdapter Configuration created
    For simulation: Configuration and setup for SimAdapter (*.simcfg)

☑ "Simulation Files" copied
    For simulation: Traffic actuation runtime and configuration files (*.Exe; *.VAG; *.VSG)

☑ Aimsun Import description created
    For import into Aimsun: Summary for importing the configuration into Aimsun.Next

            [< Zurück] [Weiter >] [Abbrechen]

- Finish Wizard

Sitraffic Office Export for Aimsun.Next

Export from Sitraffic Office to Aimsun.Next done

You have successfully completed the wizard.
Files are written to the output folder.

Drücken sie auf Fertigstellen um den Assistenten zu schließen

            [< Zurück] [Fertig stellen] [Abbrechen]

- the output folder will be opened, containing all files needed for the Simulation with Aimsun

91.exe	15.01.2018 16:05	Anwendung	636 KB
Aimsun.PNG	31.08.2018 12:35	PNG-Datei	10 KB
ApValues.json	31.08.2018 12:31	JSON-Datei	10 KB
Bi91_Geometriedaten.png	31.08.2018 10:13	PNG-Datei	18 KB
FNr91.VAG	14.03.2018 08:48	VAG-Datei	89 KB
FNr91.VSG	14.03.2018 08:48	VSG-Datei	395 KB
Geometry.geojson	31.08.2018 12:31	GEOJSON-Datei	11 KB
IntersectionConfig.sac	31.08.2018 12:31	SAC-Datei	1 KB
LayoutplanBitmap.json	31.08.2018 12:31	JSON-Datei	1.046 KB
Office.PNG	31.08.2018 12:37	PNG-Datei	147 KB
SimObjects.json	31.08.2018 15:32	JSON-Datei	7 KB
SimSetup.simcfg	31.08.2018 12:31	SIMCFG-Datei	1 KB
simulation_adapter_objects.json	31.08.2018 12:31	JSON-Datei	2 KB

2.3. Quick introduction for import and usage in Aimsun.Next

- Select File → Import → "Yutraffic Office files"

- go to previous output folder

- select **IntersectionConfig.sac** file and commit

  o The geometry should be imported and all existing data applied, eg.

  o gemeotry such as lanes, turns etc

  o OdMatrices, Centroids,

  o controller including signalgroups detectors etc
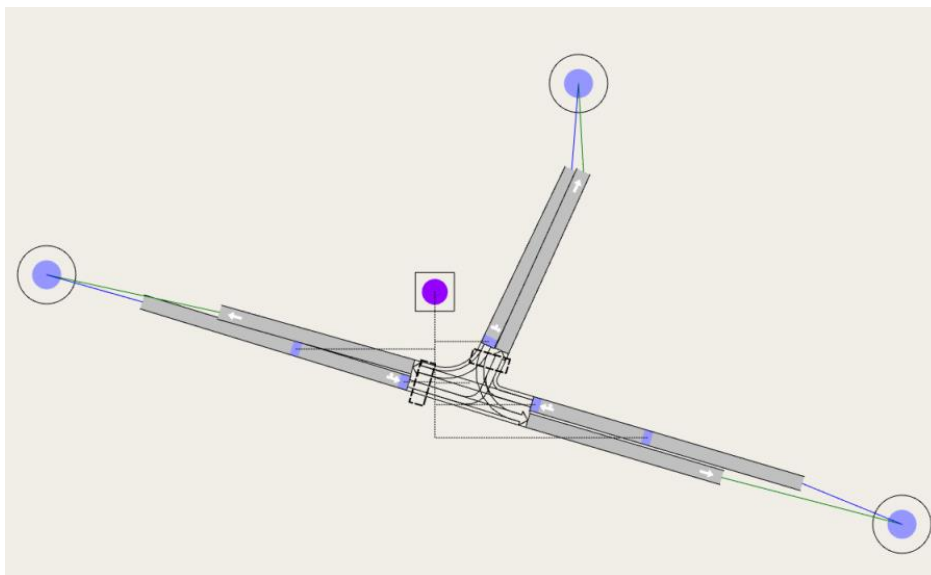
Aimsun basic settings:
- switch on layer view: Window→ Windows→ Layers

  o untick "HD Map" and "Sidewalks"

- "View settings": Data Analysis→ New View Style Wizard

- Next → Next → Finish

- View style can be found in project tree Project → Data Analysis → View Styles

- 2. Step: Data Analysis → New View Mode Wizard

- Next→ Select created View Style → finish

- Activate the created View Mode:

Comments:

- Detector / calling point (de-registration PT) cannot be located inside of the intersection

2.4. Necessary project elements in Aimsun

- Lane-to-Lane connections
    - Double click on intersection
    - Main-Tab
    - If necessary, change lane-connections, so that it's equal to the topology in Yutraffic Office

- Signalgroups
    - Double click on intersection
    - Signal-Groups-Tab
    - If necessary, change Signal-Groups with the correct lane-connections and name as in Yutraffic Office configured

- Control Plan
    - Right click on intersection
    - Edit Control Plan

- Master-Control Plan
    - View Project → Control

- Traffic Demand
    - View Project → Demand → Centroid Configuration
    - Centroids for simulation of vehicles
        - centroid should be existing, wherever cars are entering or leaving the simulation
        - lanes should be connected to the centroid
    - Centroid Configuration → OD Matrices → Matrix for Simulation. Necessray: Duration and filled Cells with Vehicle data
    - Demand Data →Traffic Demands → OdMatrices must be assigned

- Simulation scenario:

    o   Scenarios

    o   Double click on Dynamic Scenario

    o   Traffic Demand & Master Control Plan must be assigned

    o   Micro Experiment must exist

    o   Replication must exist

3. Running the Simulation

- Check, that the elements mentioned in the previous chapter are existing

- Check, that Od Matrices are existing, filled with trip data and assigned to a traffic demand

- Check, that Master Control Plan and Traffic Demand are assigned in the simulation scenario

- Start the simulation with „*Run Animated Simulation*" (NOT Autorun)

- Open up the graphical view by double clicking on controller object

- Run the Simulation

4. Testing the logic

- Check, that the elements mentioned in the previous chapter are existing

- Check, that Master Control Plan and empty Traffic Demand are assigned

- Create a detection pattern template with one row per vehicle type, you want to test

- Create a new detection pattern for testing

- Open template and concrete pattern

- Start the simulation with „Run Animated Simulation" (NOT Autorun)

- Open up the graphical view by double clicking on controller object

- Run the Simulation

- Focus the row in the detection pattern template

- For single call:

    o   Click on the detector or calling point to trigger the detector

    o   Detector presence should be visible in graphical view

- For permanent demand:

    o   close detection pattern template and click detector once for activating and twice for deactivating.

    o   Save the detection pattern and check, that it is assigned in scenario. Rerun the simulation to see the permanent demand in graphical view

- No extra mode for demand with gap yet

Example: