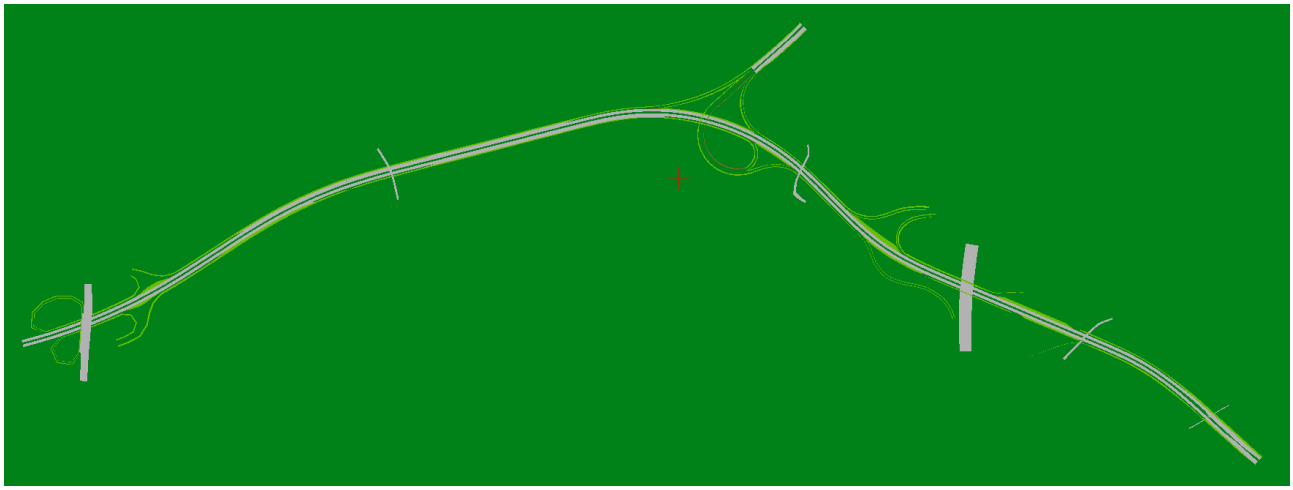
Atlatec OpenDrive Sample

The file “KA-Suedtangente.xodr” was created as a sample dataset by Atlatec GmbH. It demonstrates the capabilities of atlatec to create OpenDrive files compatible with VIRES tools.

The main motorway as well as the ramps in the middle of the dataset were mapped based on atlatec's high precision surveying technology. The remaining ramps and bridges were mapped from aerial images and thus do not exhibit the highest precision. These parts also lack details.

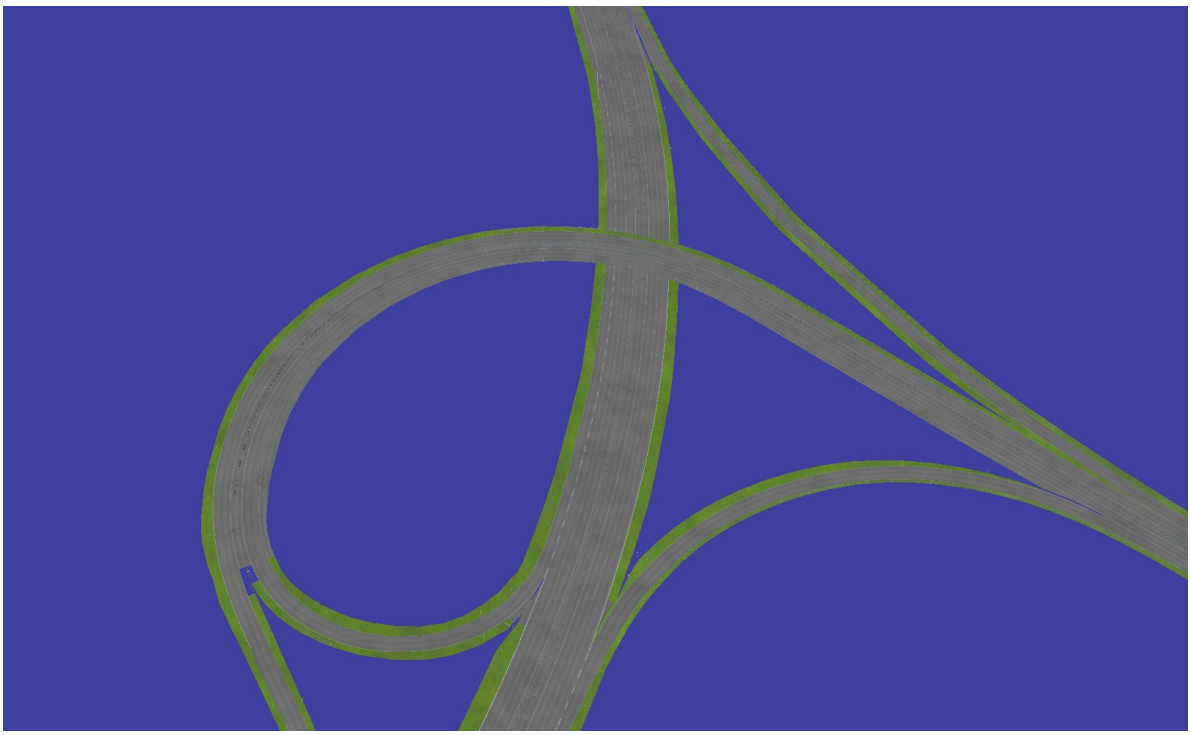
Note: To generate an OSG representation from the file, please use Vires ROD 4.5.5 or above. You may experience issues with older versions.

Overview



Screenshot from VIRES XodrViewer

The file contains a city motorway (“Südtangente” in Karlsruhe, Germany) including several exits and entries as well as a few bridges over the motorway.



Screenshot after generating an OSG-Model using ROD 4.5.5. Textures are selected based on lane types.

File contents

The OpenDrive file exhibits the following features.

Geo-referencing

The file header contains the information required to calculate earth-centered coordinates from the elements in the file.

Lanes

All driving lanes were mapped. Shoulder lanes were partly added to ensure that objects are placed on the road, not outside.

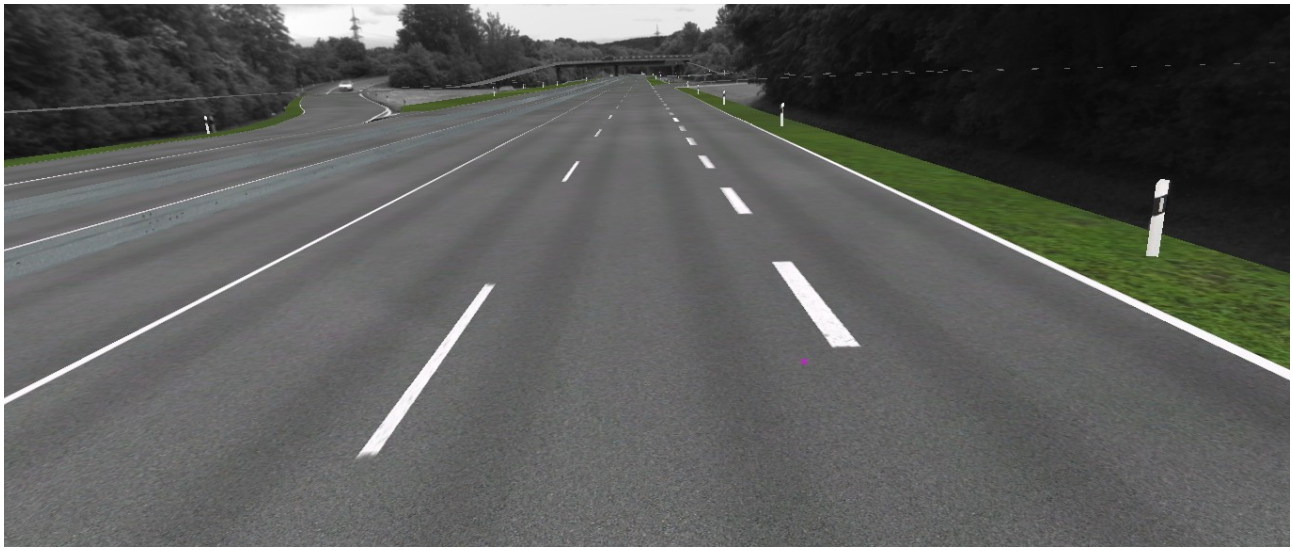
Junctions and topology

Lane and road topology information is contained. It was checked in Vires ScenarioEditor that all drivable paths are correctly represented by lane and road successor/predecessor links.

Lane markings

All lane markings were surveyed including type (dashed, solid), width as well as the individual (longitudinal) position of each dash. For the sake of simplicity of the OpenDrive file as well as for better compatibility with tools like ROD, the single dashes were approximated by broken road marks algorithmically.

The following images show that in many cases the approximation error is small:



Further markings

Direction arrows as well as stop lines were surveyed and exported:

Road signs

Road signs relevant for traffic were labelled. Please note that not all road signs might be displayed even though they are contained in the OpenDrive file (due to missing models in ROD).

Road signs are represented by type, height, size and heading angle.

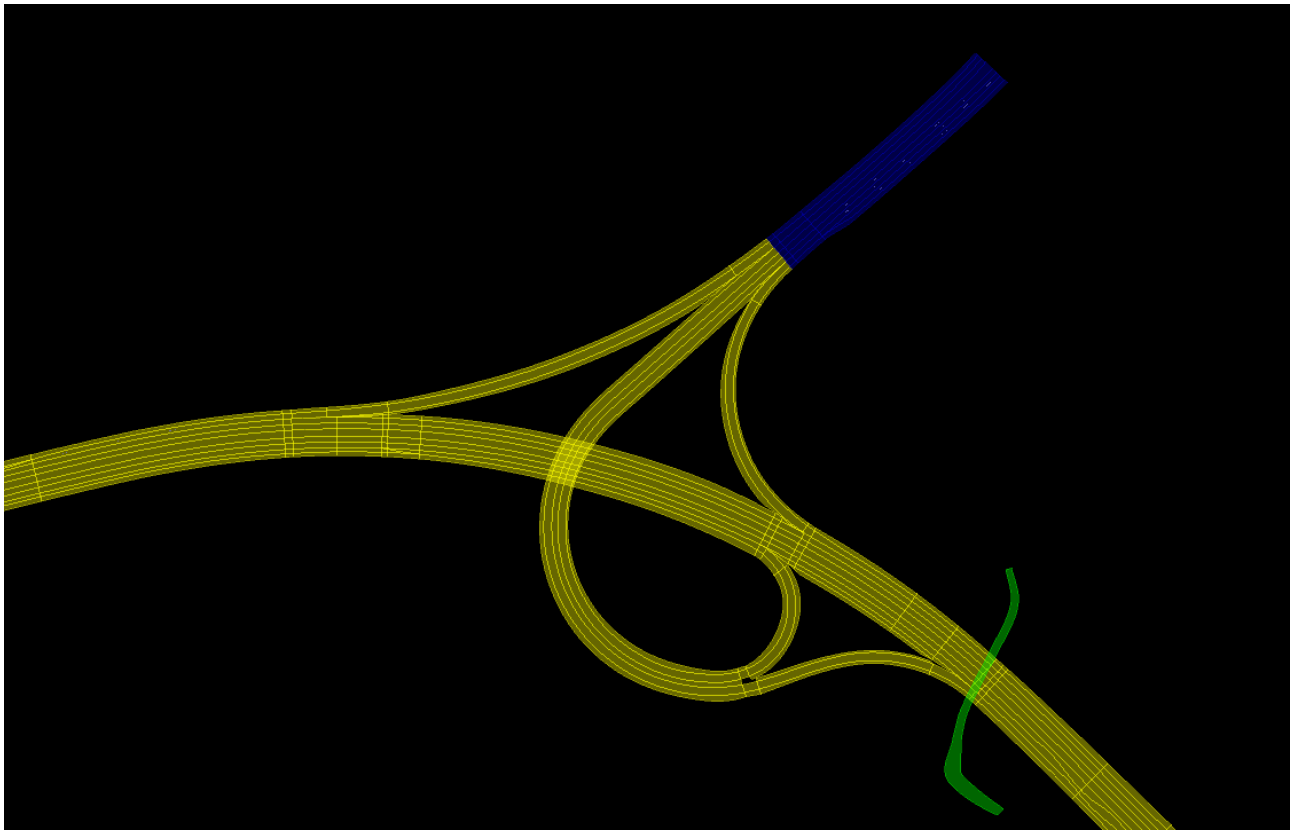
Barriers and guide posts

Barriers include height information. Barrier posts were not exported.

Guide posts were surveyed individually:

Additional attributes

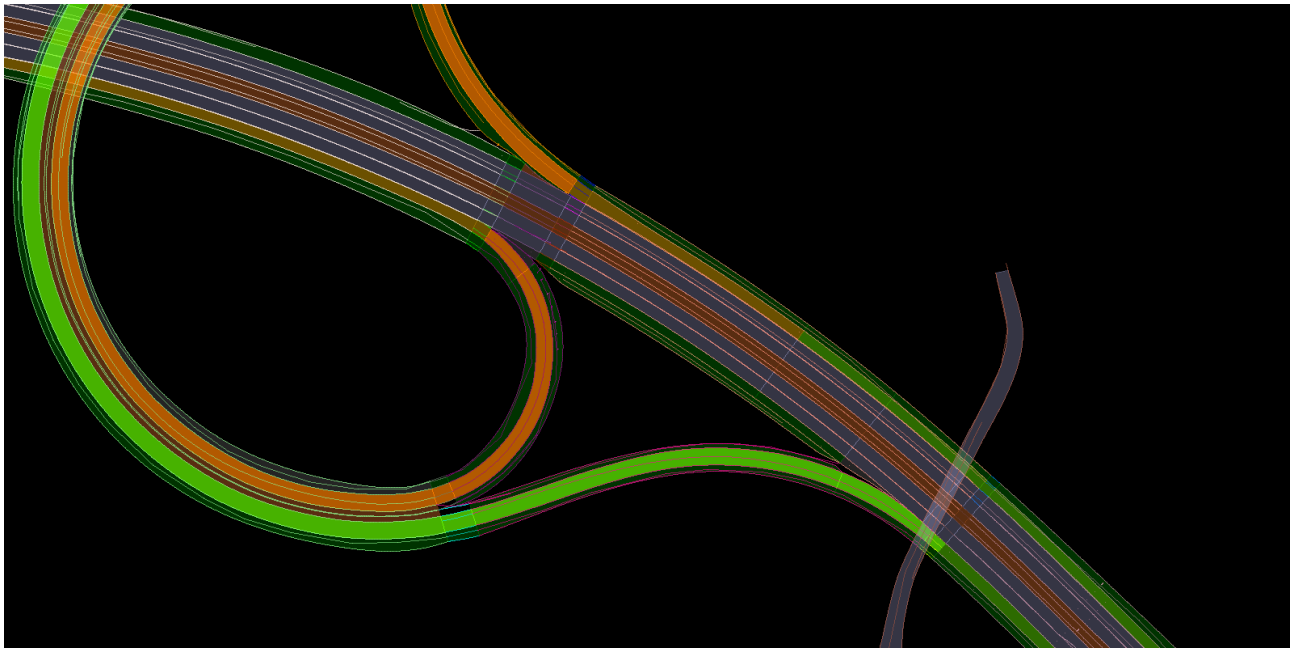
Road type



Each road has a type according to the OpenDrive specification. This datasets contains roads of type “town” (blue), “motorway” (yellow) and “rural” (green).

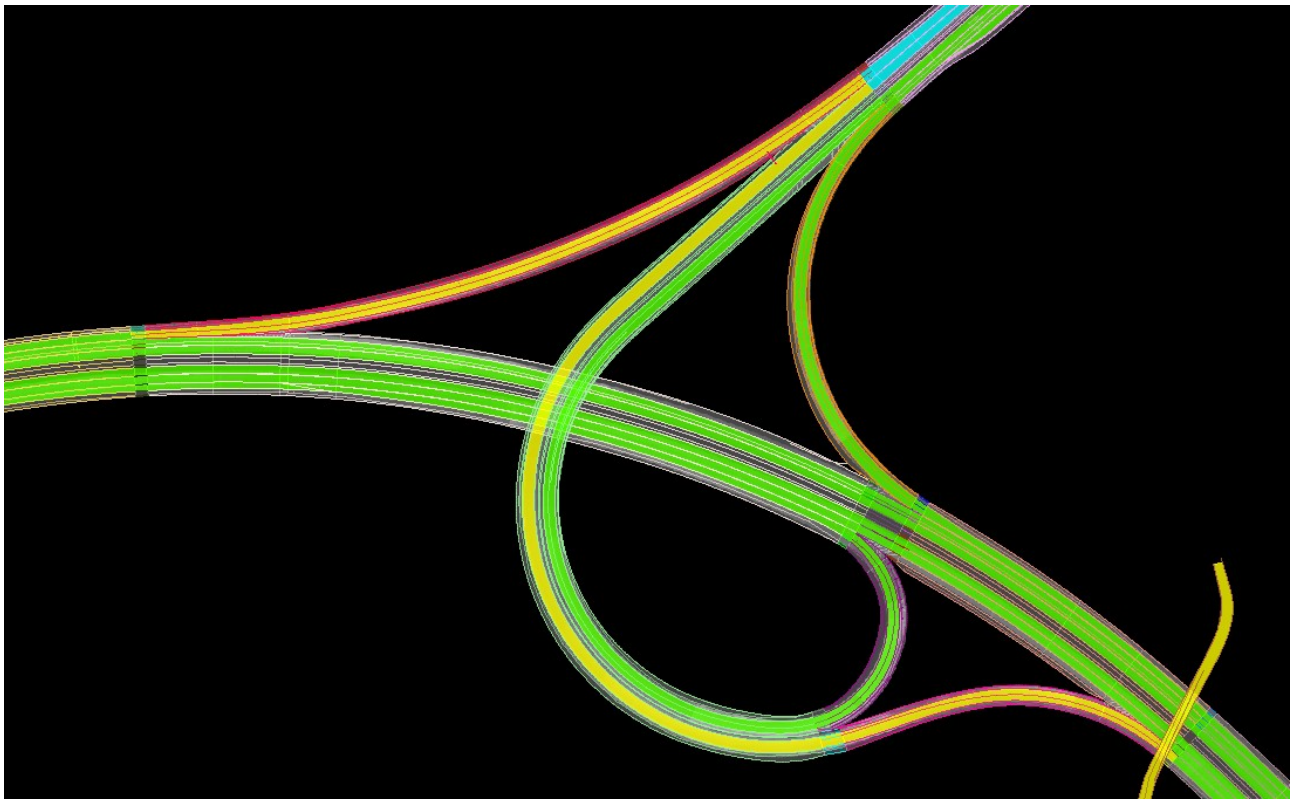
KA-Suedtangente - Philipp Crocoll, atlatec GmbH, 12.04.2017

Lane type



Each lane has a type according to the OpenDrive specification. This datasets contains lanes of type “shoulder” (dark green), “driving” (gray), “offRamp” (orange), “exit” (brown), “entry” (medium green), “onRamp” (light green) and “restricted” (dark grey).

Speed limit



Each drivable lane has speed limit information (green=80km/h, yellow=100km/h, cyan=50km/h).

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