

VBOX File Processor

- Intersection Plugin -



VBOX File Processor Intersection plugin allows you to calculate the proximity to multiple lanes, target vehicles and static points with respect to a subject test vehicle.

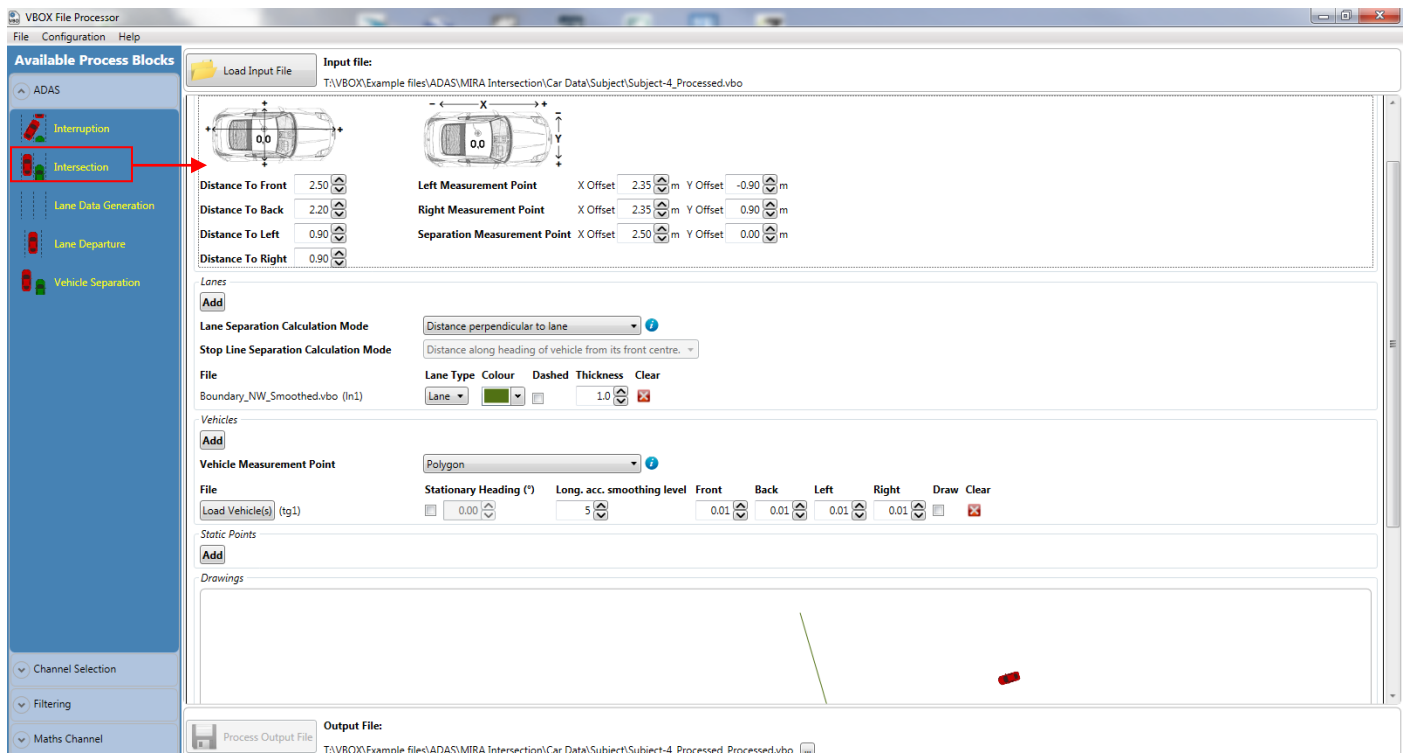
Intersection calculations can be mixed with existing VBOX File Processor plugin functions such as filtering, renaming, smoothing, synchronising or math channel generation.

The customised lane departure and vehicle separation data can be output in KML, VBO and CSV file format for use in VBOX Tools or other data analysis software.



How does it work?

Simply drag and drop the Intersection process block from the ADAS menu into the working area and load the VBOX file recorded in the subject vehicle during the test manoeuvre. Add the target vehicle data and relevant intersection data mapped with a VBOX survey trolley, configure calculation parameters and channels, and create the output file.



Screenshot 1: VBOX File Processor – Intersection plugin loaded into working area.

Features

- Calculates and processes lane departure and vehicle separation data
- Fully configurable calculation modes
- Exports to VBO, CSV, KML
- Filtering and smoothing
- Standard and custom math channels
- Batch processing of VBO files
- Data preview within the software

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Channel configuration options

The VBOX Intersection plugin allows you to configure how distances between the subject vehicle and lane edges, target vehicles and static points are calculated.

Intersection

Subject Vehicle Measurement Points

Distance To Front: 2.50

Distance To Back: 2.20

Distance To Left: 0.90

Distance To Right: 0.90

Left Measurement Point: X Offset 2.35 m, Y Offset -0.90 m

Right Measurement Point: X Offset 2.35 m, Y Offset 0.90 m

Separation Measurement Point: X Offset 2.50 m, Y Offset 0.00 m

Vehicles

Add

Vehicle Measurement Point: Polygon

File: target right turn.VBO (tg1)

Level: 0.00, Draw: 5

Front: 2.10, Back: 2.10, Left: 0.80, Right: 0.80, Draw: [Color]

Static Points

Add

Vehicle Measurement Point: Polygon

Name: Point 1 (sp1)

Latitude (°): 52.5636216067, Longitude (°): -1.4461134862, Height (m): 144.4200000000

Draw: [Color], Size: 1, Actions: [Icons]

Screenshot 1 and 2: A vehicle can be referenced by fixed points or a polygon.

Lanes

Add

Lane Separation Calculation Mode: Distance perpendicular to lane

Stop Line Separation Calculation Mode: Distance perpendicular to lane

File: Shortest distance

Screenshot 3: Lane departure can be set to represent 'distance perpendicular to lane', 'distance perpendicular to vehicle' or 'shortest distance'.

Configurations and calculation sequences can be saved and applied to other files.

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Lanes

Add

Lane Separation Calculation Mode: Distance perpendicular to lane

Stop Line Separation Calculation Mode: Distance along heading of vehicle from its front centre.

File	Lane Type	Colour	Dashed	Thickness	Clear
South_Lane1.VBO (In1)	Lane	Blue	<input type="checkbox"/>	1.0	<input type="checkbox"/>
South_Lane2.VBO (In2)	Lane	Blue	<input type="checkbox"/>	1.0	<input type="checkbox"/>
East_Stop Line.vbo (In3)	Lane	Red	<input type="checkbox"/>	1.0	<input type="checkbox"/>
North_Stop Line.VBO (In4)	Lane	Red	<input type="checkbox"/>	1.0	<input type="checkbox"/>
South_Stop Line.VBO (In5)	Lane	Red	<input type="checkbox"/>	1.0	<input type="checkbox"/>
West_Stop Line.vbo (In6)	Lane	Red	<input type="checkbox"/>	1.0	<input type="checkbox"/>
Boundary_NE.vbo (In7)	Lane	Black	<input type="checkbox"/>	1.0	<input type="checkbox"/>
Boundary_NW.vbo (In8)	Lane	Black	<input type="checkbox"/>	1.0	<input type="checkbox"/>
Boundary_SE.VBO (In9)	Lane	Black	<input type="checkbox"/>	1.0	<input type="checkbox"/>
Boundary_SW.vbo (In10)	Lane	Black	<input type="checkbox"/>	1.0	<input type="checkbox"/>

Screenshot 4: Surveyed lane edges, stop lines and static point can be previewed in the software to make sure that the correct lanes have been referenced.

Output

Time Range: 12:18:05.79 - 12:18:35.58

Smoothing Distance: 2.00 m

Minimum Speed Threshold: 5.00 kmh

<input checked="" type="checkbox"/> Range_Lt	<input checked="" type="checkbox"/> Angle_Lt	<input checked="" type="checkbox"/> LatSpd_Lt	<input checked="" type="checkbox"/> TTC_Lt	<input checked="" type="checkbox"/> Range_Rt	<input checked="" type="checkbox"/> Angle_Rt
<input checked="" type="checkbox"/> LatSpd_Rt	<input checked="" type="checkbox"/> TTC_Rt	<input checked="" type="checkbox"/> Rngsv_tg1	<input checked="" type="checkbox"/> LatRsv_tg1	<input checked="" type="checkbox"/> LngRsv_tg1	<input checked="" type="checkbox"/> LatDsv_tg1
<input checked="" type="checkbox"/> LatRtg_tg1	<input checked="" type="checkbox"/> LngRtg_tg1	<input checked="" type="checkbox"/> LatSsv_tg1	<input checked="" type="checkbox"/> LngSsv_tg1	<input checked="" type="checkbox"/> RelSsv_tg1	<input checked="" type="checkbox"/> Speed_tg1
<input checked="" type="checkbox"/> LngAcc_tg1	<input checked="" type="checkbox"/> Head_tg1	<input checked="" type="checkbox"/> T2Csv_tg1	<input checked="" type="checkbox"/> Rngsv_sp1	<input checked="" type="checkbox"/> LatRsv_sp1	<input checked="" type="checkbox"/> LatSsv_sp1
<input checked="" type="checkbox"/> LngSsv_sp1	<input checked="" type="checkbox"/> RelSsv_sp1	<input checked="" type="checkbox"/> T2Csv_sp1			

Screenshot 5: Channels can be deselected if looking for a specific set of outputs, and smoothing distance/speed threshold can be set.

Other ADAS Plugins

- Vehicle Separation Software
- Lane Departure Software
- Intersection Software
- Vehicle Interruption Software