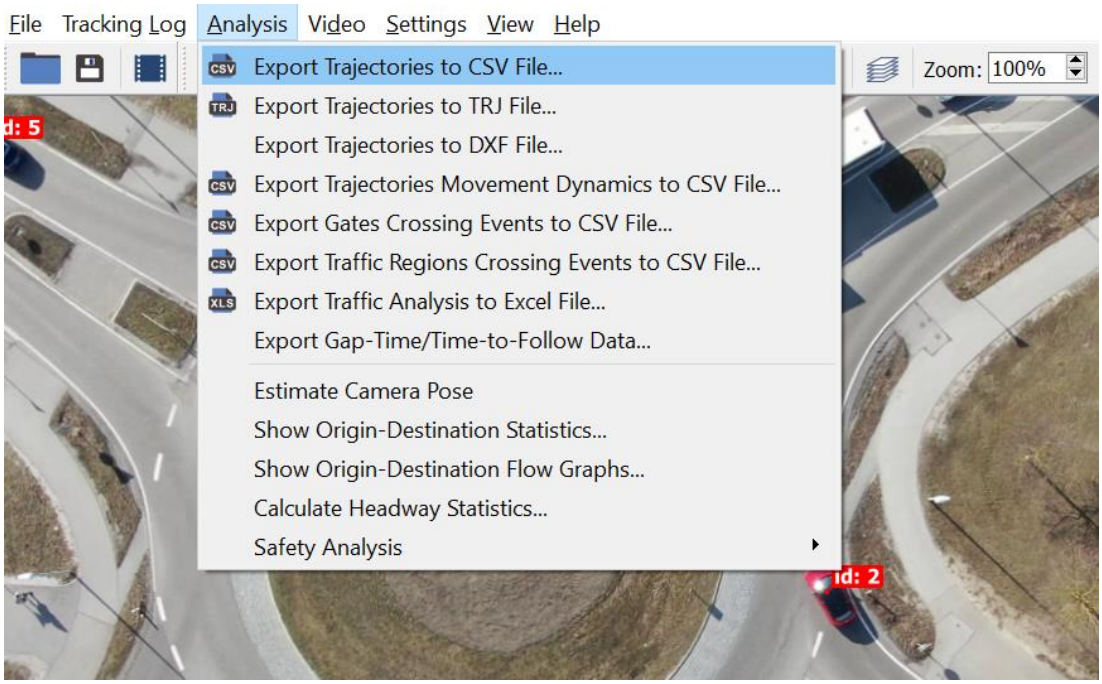
version 1.0

How to export raw telemetry data?

What you see is what you get. Export movement and location data about each object in raw format.

Do you want to **analyse the behaviour of each object?** You can export raw telemetry data of each detected object to a .CSV file, where you can get information about **position, speed, acceleration and other useful information for each millisecond of the video** needed for further analysis.

To **export raw telemetry data**, go to Analysis - Export Trajectories to CSV File or click the icon on main toolbar. Choose what kind of data you do want to export and submit your requirements for the export.



Once you export data to .CSV file, you can open the file by **Microsoft Excel**. Now you can see the following document.

Track ID	Type	Entry Gate	Entry Time [s]	Exit Gate	Exit Time [s]	Traveled Dist. [m]	Avg. Speed [km/h]	Trajectory x [deg]	y [deg]	Speed [km/h]	Tan. Acc. [ms-2]	Lat. Acc. [ms-2]	Time [s]	Angle [rad]	Traffic Regions (list)
1	Car	Entry Gate 3	3.737067	Exit Gate 1	10.076733	41.73	23.699151	48.791515	11.377668	24.0395	-0.0253	1.2099	3.737067	2.1467	; 48.791517; 11.377667; 24.0368; -0.0193; 1.1776; 3.770433; 2.1405;
14	Car	Entry Gate 3	11.578233	Exit Gate 4	23.857167	73.30	21.490992	48.791518	11.377669	25.3895	0.9121	1.3563	11.578233	2.0817	; 48.791520; 11.377667; 25.4969; 0.8773; 1.2971; 11.611600; 2.0750;
18	Car	Entry Gate 3	18.718700	Exit Gate 4	28.428400	73.81	27.365537	48.791514	11.377668	22.3186	1.1810	1.2155	18.718700	2.1879	; 48.791516; 11.377666; 22.4623; 1.2128; 1.2120; 18.752067; 2.1808;
20	Car	Entry Gate 3	21.321300	Exit Gate 2	23.790433	20.01	29.175032	48.791521	11.377670	22.0829	1.1537	0.3708	21.321300	2.0804	"Traffic Region 63"
22	Car	Entry Gate 4	22.055367	Exit Gate 2	27.827800	42.65	26.599857	48.791360	11.377446	18.7345	1.1690	1.2237	22.055367	0.7697	; 48.791361; 11.377448; 18.8768; 1.1995; 1.1777; 22.088733; 0.7652;
24	Car	Entry Gate 1	28.328300	Exit Gate 3	35.635600	42.57	20.973158	48.791561	11.377136	14.3563	1.3219	0.8268	28.328300	5.3491	; 48.791560; 11.377137; 14.5128; 1.2827; 0.8373; 28.361667; 5.3398;
26	Car	Entry Gate 1	33.933900	Exit Gate 3	39.672967	41.58	26.079326	48.791560	11.377137	17.6124	1.7606	1.0333	33.933900	5.2745	; 48.791558; 11.377138; 17.8223; 1.7332; 1.0134; 33.967267; 5.2673;
29	Car	Entry Gate 4	41.941900	Exit Gate 2	49.382667	44.92	21.731296	48.791359	11.377439	18.0233	1.7408	1.1572	41.941900	0.8686	; 48.791360; 11.377441; 18.2281; 1.6689; 1.1564; 41.975267; 0.8571;
31	Car	Entry Gate 2	38.271567	Exit Gate 4	44.411033	44.09	25.851227	48.791719	11.377374	23.1353	-0.1407	2.7388	38.271567	4.0420	; 48.791718; 11.377372; 23.1205; -0.1061; 2.7156; 38.304933; 4.0265;
33	Car	Entry Gate 2	43.576867	Exit Gate 3	53.420033	63.32	23.157973	48.791719	11.377364	21.9310	-0.2002	1.5237	43.576867	4.0891	; 48.791718; 11.377362; 21.9053; -0.2282; 1.5589; 43.610233; 4.0805;
34	Car	Entry Gate 1	43.243200	Exit Gate 3	48.381667	41.28	28.923219	48.791554	11.377135	31.6923	-0.3872	2.2764	43.243200	5.3223	; 48.791551; 11.377137; 31.6450; -0.3998; 2.2251; 43.276567; 5.3126;
36	Car	Entry Gate 1	51.317933	Exit Gate 3	57.157100	41.24	25.426818	48.791553	11.377135	25.9946	-0.7952	1.5708	51.317933	5.2839	; 48.791551; 11.377137; 25.8996; -0.7866; 1.5222; 51.351300; 5.2765;
37	Medium Vehicle	Entry Gate 4	58.291567	Exit Gate 2	65.865800	42.23	20.073256	48.791360	11.377444	14.6337	0.7450	0.6933	58.291567	0.8503	; 48.791360; 11.377445; 14.7230; 0.7419; 0.6755; 58.324933; 0.8447;
39	Car	Entry Gate 1	57.791067	Exit Gate 2	68.368300	73.54	25.030354	48.791548	11.377134	25.2792	0.3150	0.7716	57.791067	5.2467	; 48.791546; 11.377136; 25.3173; 0.3201; 0.7378; 57.824433; 5.2432;
41	Car	Entry Gate 3	59.926533	Exit Gate 4	71.438033	72.71	22.737163	48.791519	11.377669	19.7727	0.6374	0.8602	59.926533	2.1187	; 48.791521; 11.377668; 19.8507; 0.6615; 0.8516; 59.959900; 2.1134;
42	Car	Entry Gate 1	61.027633	Exit Gate 3	67.033633	41.16	24.669583	48.791552	11.377134	26.1280	0.8878	1.4333	61.027633	5.2813	; 48.791550; 11.377136; 26.2306; 0.8218; 1.3986; 61.061000; 5.2744;
45	Car	Entry Gate 1	62.729333	Exit Gate 3	68.568500	41.19	25.392400	48.791551	11.377135	24.3907	0.1885	0.8368	62.729333	5.2382	; 48.791550; 11.377136; 24.4144; 0.2064; 0.7888; 62.762700; 5.2343;
46	Car	Entry Gate 4	64.097367	Exit Gate 1	72.205467	62.40	27.704101	48.791361	11.377462	21.9181	1.9631	0.5582	64.097367	0.7584	; 48.791362; 11.377464; 22.1544; 1.9723; 0.5063; 64.130733; 0.7550;
47	Car	Entry Gate 3	71.504767	Exit Gate 1	77.544133	40.94	24.403378	48.791524	11.377670	21.6822	0.2635	0.6773	71.504767	2.1588	; 48.791526; 11.377668; 21.7126; 0.2416; 0.6824; 71.538133; 2.1549;
48	Car	Entry Gate 1	64.364300	Exit Gate 3	70.403667	41.93	24.996283	48.791552	11.377134	25.7641	-0.4582	1.3482	64.364300	5.2284	; 48.791550; 11.377136; 25.7080; -0.4758; 1.2834; 64.397667; 5.2221;
50	Car	Entry Gate 4	70.870800	Exit Gate 2	77.477400	42.22	23.003710	48.791360	11.377453	16.5848	1.5509	0.6040	70.870800	0.8361	; 48.791361; 11.377455; 16.5707; 1.5439; 0.5949; 70.904167; 0.8316;
54	Car	Entry Gate 4	75.075000	Exit Gate 2	80.246833	41.33	28.769901	48.791361	11.377450	24.5443	1.2503	1.4214	75.075000	0.8353	; 48.791362; 11.377452; 24.6941; 1.2442; 1.1705; 75.108367; 0.8285;
57	Car	Entry Gate 4	76.609867	Exit Gate 2	81.781700	41.99	29.228321	48.791360	11.377451	27.3171	0.4794	1.7307	76.609867	0.8378	; 48.791362; 11.377453; 27.3742; 0.4712; 1.6578; 76.643233; 0.8303;
58	Medium Vehicle	Entry Gate 3	88.922167	Exit Gate 4	101.835067	73.62	20.524897	48.791517	11.377669	11.8508	0.5110	0.1751	88.922167	2.1115	; 48.791518; 11.377668; 11.9121; 0.5094; 0.1775; 88.955533; 2.1090;

The extracted file includes **information about objects and their trajectories** defined by:

- **Track ID and Type of object** - Unique ID and type of identified object.
- **Entry Gate and its Entry Time [s]** - Exact time when vehicle passed through entry gate that you have set.
- **Exit Gate and its Exit Time [s]** - Exact Time when vehicle passed through exit gate that you have set.
- **Travelled Dist. [m] and Its Avg. Speed [km/h]** - Travelled distance and average speed between gates.

And following columns that are repeated **for each frame of the video**. Each set of columns interprets one frame of the video when vehicle was moving between set entry and exit gate.

- **Trajectory - x [deg], y [deg]** - Position of the object within UTM or WGS84 system (based on your settings).
- **Speed [km/h]** - Speed of an object at a specific moment.
- **Tan. Acc. [ms-2], Lat. Acc. [ms-2]** - Tangential and Lateral acceleration of the object at a specific moment.
- **Time [s]** - Seconds from the beginning of the video, where the position, speed and acceleration of the vehicle are measured.
- **Angle [rad]** - Vehicle angle for each exported position of a Trajectory.
- **Traffic Regions (list)** - Information about which Traffic Region a given Trajectory belongs to. This can be used for further analysis, e.g. if you define Traffic Regions as a road lane, you can detect the moment when a vehicle has moved from one lane to another.

See **other useful articles** on how to export data about detected objects:

- **How to visualize objects and their interactions?**
- **How to export TMC (turning movement counts)?**
- **How to export Origin-Destination matrix?**
- **How to set traffic region and export traffic-region data?**
- **What is action region and how to set it?**
- **How to export gate crossing data?**