

Calculating Line Lengths and Statistics

QGIS Tutorials and Tips



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`Natural Earth
<<http://www.naturalearthdata.com/downloads/10m-cultural-vectors/railroads/>>`_□□
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For convenience, you may directly download a copy of the dataset from the link below:

[ne_10m_railroads_north_america..zip](#)

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1. □□□□ :menuselection: `Layer --> Add Vector Layer` □ □□□□.



2. ``ne_10m_railroads_north_america.zip`` □□□ □□□ :guilabel: `OK` □ □□□□□.



3. In the Select layers to add... dialog, choose *ne_10m_railroads_north_america.shp* layer.



4. 이 레이어를 추가한 후, 레이어 목록에서 'ne_10m_railroads_north_america.shp' 레이어를 선택하고, 레이어 속성 대화 상자에서 'Open Attribute Table' 버튼을 클릭합니다.

Attribute table - ne_10m_railroads_north_america :: Features total: 1127, filtered: 1127, selected: 0

	scalerank	featurecla	sov_a3	uident	add	natrscale	continent
0	8	Railroad	USA	1506	0	0	North America
1	9	Railroad	USA	1606	1	5	North America
2	8	Railroad	USA	1706	0	0	North America
3	8	Railroad	USA	1806	0	0	North America
4	8	Railroad	USA	1906	0	0	North America
5	8	Railroad	USA	2006	0	0	North America
6	8	Railroad	USA	2106	0	0	North America
7	9	Railroad	USA	2206	1	5	North America
8	8	Railroad	USA	2306	0	0	North America
9	8	Railroad	USA	2406	0	0	North America
10	8	Railroad	USA	2506	0	0	North America
11	8	Railroad	USA	2606	0	0	North America
12	8	Railroad	USA	2706	0	0	North America
13	8	Railroad	USA	2806	0	0	North America
14	9	Railroad	USA	2906	1	5	North America
15	9	Railroad	USA	3006	1	5	North America
16	8	Railroad	USA	3106	0	0	North America
17	8	Railroad	USA	3206	0	0	North America
18	8	Railroad	USA	3306	0	0	North America
19	8	Railroad	USA	3506	0	0	North America
20	8	Railroad	USA	3606	0	0	North America
21	8	Railroad	USA	3706	0	0	North America
22	8	Railroad	USA	3806	0	0	North America
23	9	Railroad	USA	3906	1	5	North America

Show All Features

6. ☐ ☐ ☐ Attribute Table` ☐ ☐ ☐ ☐ ☐ :guilabel:`Select features using an expression ☐ ☐ ☐ ☐.



8. Back in the main QGIS window, you will see that all lines that fall in USA are selected and appear in yellow.



9. `ne_10m_railroads_north_america`, `Save Selection As...`



10. `:guilabel: 'Browse'` `usa_railroads.shp` `:guilabel: 'CRS'` `:guilabel: 'Browse'`

Note

CRS `EPSG:4326` `**degrees**` `**degrees**`, `square degrees**` `**meters` `**feet**`



11. `Filter`` `north america equ`` `CRS`` `North_America_Equidistant_Conic` `EPSG:102010`` `OK``



12. □ □□□ □ □□ □□□ Save vector layer as... □□□□□ □□ □□ □□ □□
 :guilabel: `Add saved file to map` □ □□□ :guilabel: `OK` □ □□□□.



13. □□ □□□□ □□□ □□□ □□□□ □□□
 usa_railroads`~■■■■■ QGIS ■■■■■. ■■■■ ``ne_10m_railroads_north_america
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14. ``usa_railroads`` 〇〇〇〇 〇〇〇 〇〇〇 〇〇〇〇 〇〇 〇〇〇 〇〇 :guilabel: ``Open Attribute Table`` 〇 〇〇〇〇〇.

Attribute table - usa_railroads :: Features total: 752, filtered: 752, selected: 0



	scalerank	featurda	sov_a3	uident		continent
0	8	Railroad	USA	1506	0	North America
1	9	Railroad	USA	1606	1	North America
2	8	Railroad	USA	1706	0	North America
3	8	Railroad	USA	1806	0	North America
4	8	Railroad	USA	1906	0	North America
5	8	Railroad	USA	2006	0	North America
6	8	Railroad	USA	2106	0	North America
7	9	Railroad	USA	2206	1	North America
8	8	Railroad	USA	2306	0	North America
9	8	Railroad	USA	2406	0	North America
10	8	Railroad	USA	2506	0	North America
11	8	Railroad	USA	2606	0	North America
12	8	Railroad	USA	2706	0	North America
13	8	Railroad	USA	2806	0	North America
14	9	Railroad	USA	2906	1	North America
15	9	Railroad	USA	3006	1	North America
16	8	Railroad	USA	3106	0	North America
17	8	Railroad	USA	3206	0	North America
18	8	Railroad	USA	3306	0	North America
19	8	Railroad	USA	3506	0	North America
20	8	Railroad	USA	3606	0	North America
21	8	Railroad	USA	3706	0	North America
22	8	Railroad	USA	3806	0	North America
23	9	Railroad	USA	3906	1	North America

Show All Features

16. `Field Calculator` `Create a new field` `Output field name` `**length_km**` `Output field type` `Decimal number (real)` `Precision` `**2**` `Function list` `Geometry` `$length` `Expression` `$length / 1000` `CRS` `meters` `**km**` `OK`



17. 属性表 Attribute Table 中，单击“长度”列，在“表达式”框中输入：`$length / 1000`。单击“确定”按钮，将长度单位转换为千米。

Basics statistics

Input Vector Layer
usa_railroads

☐ Use only selected features

Target field
length_km

Statistics output

Parameter	Value
Mean	127.751569149
StdDev	125.80562595
Sum	96069.18
Min	0.01
Max	936.6
N	752.0
CV	0.984767755...
Number of unique values	743

Press Ctrl+C to copy results to the clipboard

0% OK Close