

# 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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□□□ □□ [NATURALEARTH]

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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 클릭하여 레이어의 속성 테이블을 열어보십시오.



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 = 'Filter'` `crs = 'north america equ'` `crs = 'North_America_Equidistant_Conic'` `EPSG:102010` `ok = '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`` ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ :guilabel: ``Open Attribute Table`` ☐ ☐ ☐ ☐ ☐.



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“表达式生成器”对话框中，将“输出字段名”设置为 length\_km，将“输出字段类型”设置为“十进制数（实数）”，将“输出字段宽度”设置为 10，将“精度”设置为 2，单击“确定”按钮，将“长度”列的表达式设置为 \$length / 1000，单击“确定”按钮，完成长度单位的转换。





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