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Used data: [United States roads (2000) -DC](https://networks.skewed.de/net/us_roads#DC_draw)

**Applied Network Analysis: Data Report**

*General data description*

The chosen data network corresponds to the District of Columbia from the Urban Areas Census of 2000. The complete data sets were assembled by Dominik Schultes and the complete description of the data can be found [here](https://www.diag.uniroma1.it/challenge9/data/tiger/).

In this network, the edges (links between nodes) represent stretches of road, while the vertices (nodes) are intersections of roads. Additionally, the network is defined as undirected and unipartite. In the one hand, regarding the undirected nature of the network, this means that the edges between nodes have no inherent direction, so the relationship between nodes is symmetric. In the other hand, the unipartite nature of the network indicates that all nodes belong to a single category or set. In this case, the single category is defined as “intersection of roads”.

Apart from the characteristics mentioned above, the Netzschleuder website also mentions the following characteristics from the network:

* The network consists of 9,559 nodes in total. Since the network is undirected, there is no division between in and out nodes.
* There is a total of 14,909 links. Which means that the average degree of the nodes in the network (⟨k⟩) can be calculated as . Additionally, the standard deviation given by the website is 0.91. This means that, on average, a node in this network has 3.12±0.91 links.

Finally, from the data above, one can calculate that the maximum number of links that can be found in this network is **.** Since this network describes the spatial relationship between roads, it is clear that roads that are distant from each other cannot have a direct connection. This fact is helpful to understand why the number of links found in the network differs significantly from the its Lmax.