

## LECTURE – 10

# NETWORK ANALYSIS

*Course Instructor:*

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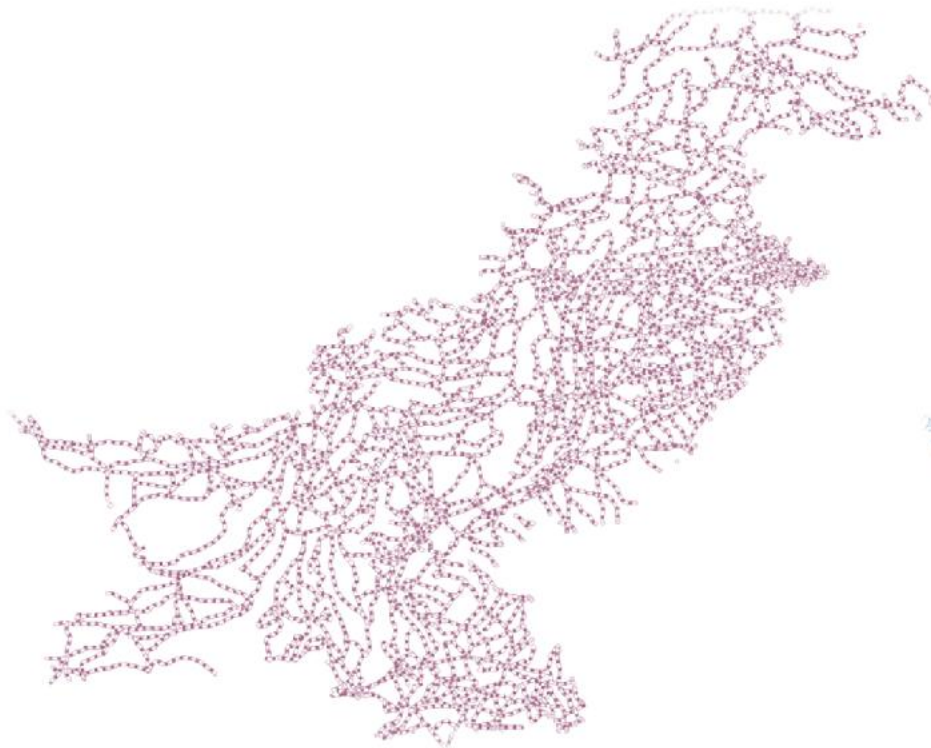
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- Network Analysis
- Network Analysis in QGIS

# Network Analysis

- A network can be defined as a set of linear features through which resources flow.
- Nodes (the end points of lines) are used as origins and destinations, and links (lines) travers from one node to the other.
- Networks are all around us!
  - Roads, railway, rivers, waterlines, communication lines, etc.

# Network Analysis



**Roads - Pakistan**



**Waterlines - Pakistan**

# Network Analysis

## ■ What is Network Analysis

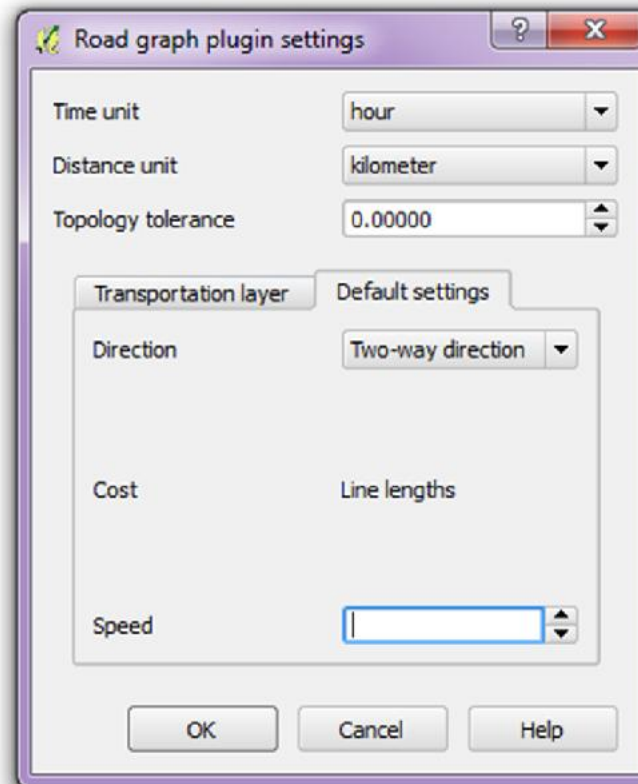
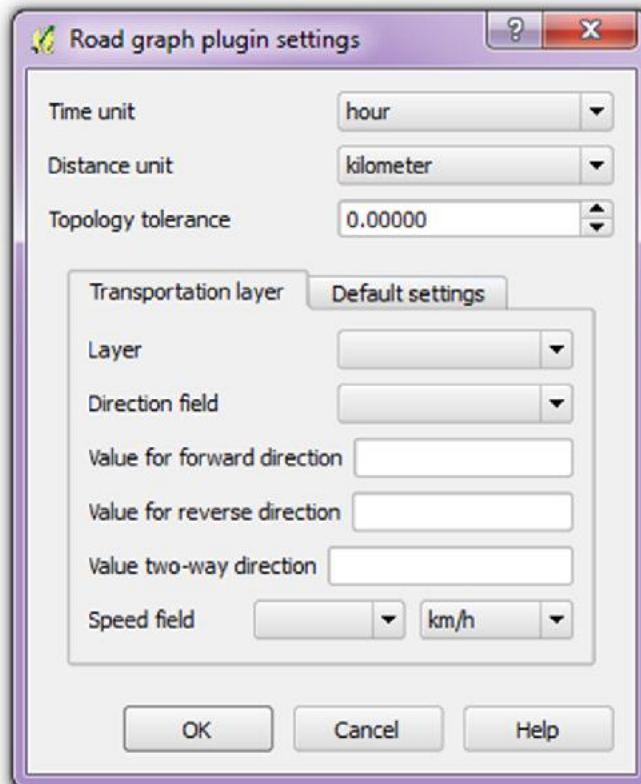
- Network analysis enables you to solve problems, such as:
  - finding the most efficient travel route,
  - generating travel directions,
  - finding the closest facility,
  - defining service areas based on travel time.

## Network Analysis in QGIS

- In QGIS, **Road Graph Plugin** is used for network analysis
- **To install Road Graph Plugin:**
  - Plugins > Manage and Install Plugin
  - Search for Road Graph and click Install
- **For configuring the plugin:**
  - Vector > Road Graph > Settings

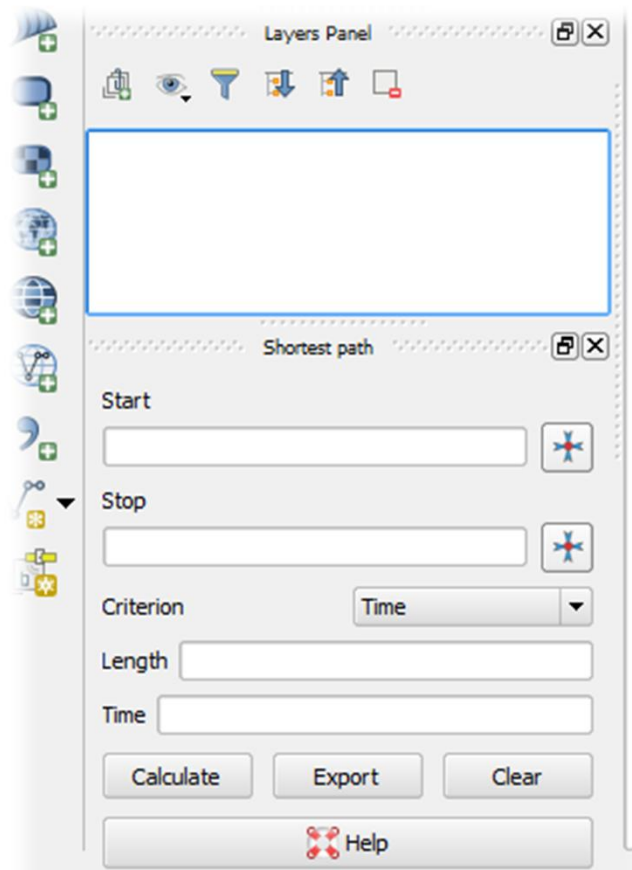
# Network Analysis in QGIS

## ■ Configure the plugin



# Network Analysis in QGIS

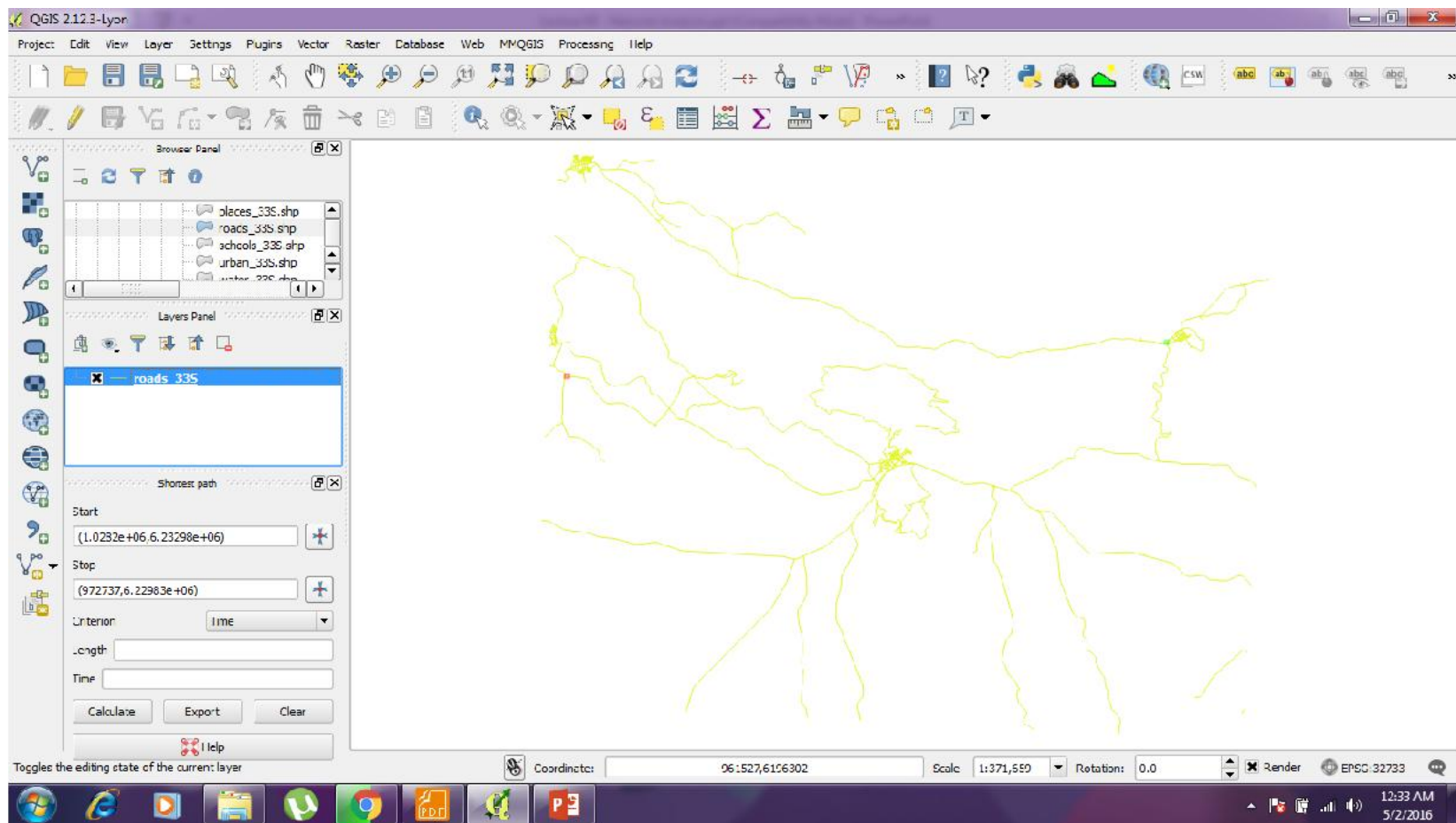
- Now, Go to View > Panels > Shortest Path





# Methods of Spatial Interpolation

Give **Start** and **Stop** points from map canvas



## References

- QGIS Training Manual
- A Gentle Introduction to GIS