CVEN 2401 Notes

Week 1, 26/2/18

Introduction to Transport Planning

Transport Systems

Role of transport in society

- Facilitates the movement of people, goods and ideas
- Provides connectivity between people and places
- Provides an efficient way to meet population's need for mobility

Types of transport

- **Land:** highway; rail
- **Air:** domestic; international
- **Water:** inland; coastal; ocean
- **Pipeline:** oil; gas

Transport planning entities

- **Regional planning:** regional land use planning, housing, public transport
- **City traffic engineering:** efficient and safe urban street network operation
- **State highway:** connectivity of intra/interstate highway networks
- **Federal:** fund, build and maintain interstate highway networks

Components of the transport system

- **Fixed facilities:** fixed physical components which constitute the network
  - **Node:** a point representing an aspect or quantity of travel **demand**
    - A **centroid** is a source/sink node
    - E.g. intersection, stop
  - **Link:** a pathway representing measurements of **congestion**
    - Often ways of travelling between nodes
    - E.g. road segments, railway tracks
- **Flow entities:** units that traverse the fixed facilities, e.g. vehicles, containers
  - **Private:** for hire by general public, e.g. taxi
  - **Public:** not-for-hire i.e. available to general public, e.g. bus
- **Flow control system:** means that permit efficient operation of flow, e.g. signals
- **Demand and supply:**
  - Demand determined by people travelling to fulfil needs
    - Type: goods →freight; people → trips
    - Characteristics: volume, mode etc
  - Supply must meet needs determined by demand
    - Type: infrastructure, vehicles, services
    - Purpose: time of day, journey purpose
- **Human dimension**