Traffic Engineering

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WHAT IS TRANSPORTATION ENGINEERING

- **Approach** - application of technology and scientific principles

- **Scope** - planning, functional design, operations, and maintenance of transportation facilities

- **Objective**
  - movement of people and goods
  - safe, rapid, comfortable, convenient, economical, and environmentally compatible
TRANSPORTATION ENGINEERING (cont.)

- Multi-modal: highway, rail, air, water ....
TRANSPORTATION ENGINEERING AT UNR

Highway Transportation Engineering

Traffic Engineering

Planning

*Operation

Design

Pavement Materials
WHAT IS TRAFFIC ENGINEERING

- Highway/Surface Street
- Planning, Design, and Operations
TRAFFIC IMPACT ANALYSIS

- Site Development
- Traffic Generation
- Area of Impact
- Operational Analysis
- Mitigation Measures
- Submit for Approval
LOS = A

LOS = B

LOS = C
THINGS TO COVER

- Traffic impact analysis
  - Trip generation, Distribution (ITE Manual)
  - LOS Analysis

- Highway capacity procedures
  - Signalized intersections
  - Unsignalized intersections
  - Arterial streets

- Traffic software and tools
  - Synchro
  - Traffix

- Team project
Software: Synchro & Traffix

- **Synchro** by Trafficware Inc.
  - A comprehensive traffic analysis software for capacity analysis, signal timing design, and simulation

- **Traffix** by Dowling and Associates, Inc.
  - Capacity analysis, site impact analysis
Professional Organizations

- Institute of Transportation Engineers (ITE)
  - http://www.ite.org/
- Transportation Research Board (TRB)
  - http://gulliver.trb.org/
- ITS America
  - http://www.itsa.org/
- Women’s Transportation Seminar (WTS)
  - http://www.wtsnational.org/
- ASCE