Route Selection

Basic Principles
Procedures

Principle:
Balance User Costs & Highway Costs
Lower design standard –
Less construction cost, higher
User’s cost

Higher design standard – higher
Construction cost, lower user’s cost

Study of Existing Information

- Conducted in office prior to any field investigation
- Obtained from existing reports, maps etc.
- Collect & evaluate all available info. of the area
  - Engineering-related (topography, geology, climate, Average Daily Traffic (ADT))
  - Social & demographic (land use, zoning)
Study of Existing Information

- Environmental
  - wildlife, historic, archeological, recreational
  - Pollution (air, noise, water)
- Economic
  - construction, maintenance & operational costs
  - Trends in area economic activities

Conduct Reconnaissance survey:

- Identify several feasible routes
- Aerial photography used if info. is scarce.
- Factors considered:
  - Terrain & soil conditions
  - serviceability to industrial & population areas
Conduct Reconnaissance survey:

- Intersections with other transportation facilities
  - rivers, railroads, other highways
- Directness of route
  - Establish control points, if any

Route Selection (cont’d)

Determining route alternatives

Preliminary alignment profiles
Route Selection (cont’d)

Alternative #2

![Plan of Route 2](image)

Route Selection (cont’d)

Alternative #3

![Plan of Route 3](image)
Route Selection (cont’d)

Evaluating route alternatives

- Use preliminary alignments to perform
  - Economic evaluation
  - Environmental evaluation
- At this stage, environmental impact studies are conducted for each alternative, when required.
- Select the best alternative as preliminary alignment
Route Selection (cont’d)

Final Location Survey

- Involves detailed layout of selected route
- Establishes final horizontal & vertical alignments
- Establishes final positions of structures & drainage channels
- Establish special requirements
  - recreational areas
  - schools