Cost Per Mile Construction Estimation Methodology for Railroads

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Objective: To develop a railway cost per mile (CPM) estimate methodology to be used for planning analysis, that is based on intended service and/or location characteristics, from which infrastructure investment estimates and cost analysis decisions can be made.

Factors & Components

The CPM depends on factors;
- Geography
- Land use
- Intended speed
- Motive power
- Materials
- Route Geometry
- Structures online
- Crossings & interchanges
- Labor
- Intended level of use
- Signaling system

Factors are categorized as;
- Location Influences
- Service Influences

Cost per Mile examples
Costs show that costs changes as design requirements change due to restrictions or needs of terrain, land use, and speed.

Service Influences
Speed: 79, 110, 125, 150, 220 mph

Findings
- Results may prove useful for planning analysis and activities
- State level categorization may not be
- Right of way cost sources hard to determine
- Prior studies based on out of date assumptions or inputs
- Many studies have not begun or been finished, thus costs are unverifiable
- Fine line balancing ease of use and size of data input requirements.

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