

MIT

Federal Transit Administration (FTA) *New Starts* Criteria

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Urban Transportation Planning

MIT Course 1.252j/11.380j

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Historical Development

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- First Policy Statement (1976)
- Policy on Rail Transit (1978)
- Statement of Policy on Major Urban Mass Transportation Capital Investments (1984)
- Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA)
- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
- Executive Order 12893 (1994)
- Policy Discussion Paper (1994)
- The 1996 Statement of Policy
- Transportation Equity Act for the 21st Century (TEA-21)

Historical Development

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- First Policy Statement (1976)
 - A process-oriented approach
 - A new start project subjected to alternatives analyses, including Transportation System Management (TSM)
 - Projects had to be cost-effective
- Policy on Rail Transit (1978)
 - Local financial commitment
 - Local Govt supporting local land use actions
 - Environmental Impact Statement

Historical Development

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- Statement of Policy on Major Urban Mass Transportation Capital Investments (1984)
 - Comparisons between competing projects:
 - Cost effectiveness index of forecast incremental cost per incremental rider for the build alternative
 - Minimum threshold values for funding
- Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA)
 - Regulated the “Cost per New Rider” index and threshold values

Historical Development

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- **Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)**
 - “Cost effectiveness” \Rightarrow project justified on comprehensive review of mobility improvements, environmental benefits, cost-effectiveness and operating efficiencies
- **Executive Order 12893 (1994)**
 - Systematic analysis of costs and benefits
 - Quantifiable and qualitative measures of benefits
 - Efficient management of infrastructure:
 - Operation and management of facilities
 - Use of pricing to manage demand

Historical Development

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- Policy Discussion Paper (1994)
 - Various approaches for project evaluation
- The 1996 Statement of Policy
 - Multiple-measure method of project evaluation
- Transportation Equity Act for the 21st Century (TEA-21):
 - www.fta.dot.gov in the New Starts section

- Transportation Equity Act for the 21st Century (TEA-21) - June 1998
 - Integration of Major Investment Study (MIS) into the FTA/FHWA planning regulations
 - Overall FTA project ratings: “highly recommended”, “recommended” and “not recommended”
 - FTA approval prior to project development
 - Other considerations:
 - Cost of sprawl and infrastructure savings due to compact land use
 - Population density and current transit ridership
 - Technical capacity of grantee to undertake the project

System Planning

- FTA review of alternatives

- FTA approves New Starts Baseline alternative

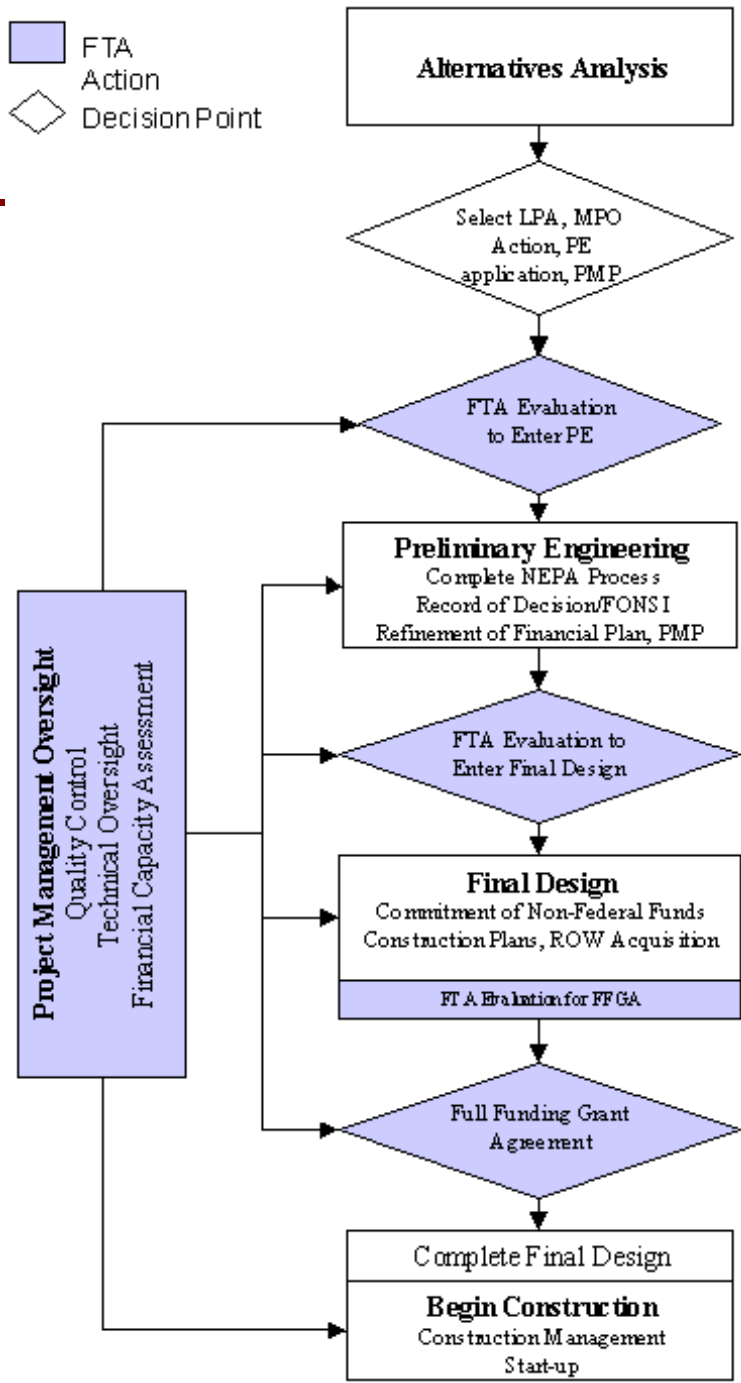
Preliminary Engineering

Final Design

- Before and after data collection plan

Construction

FTA New Starts Planning and Project Development Process

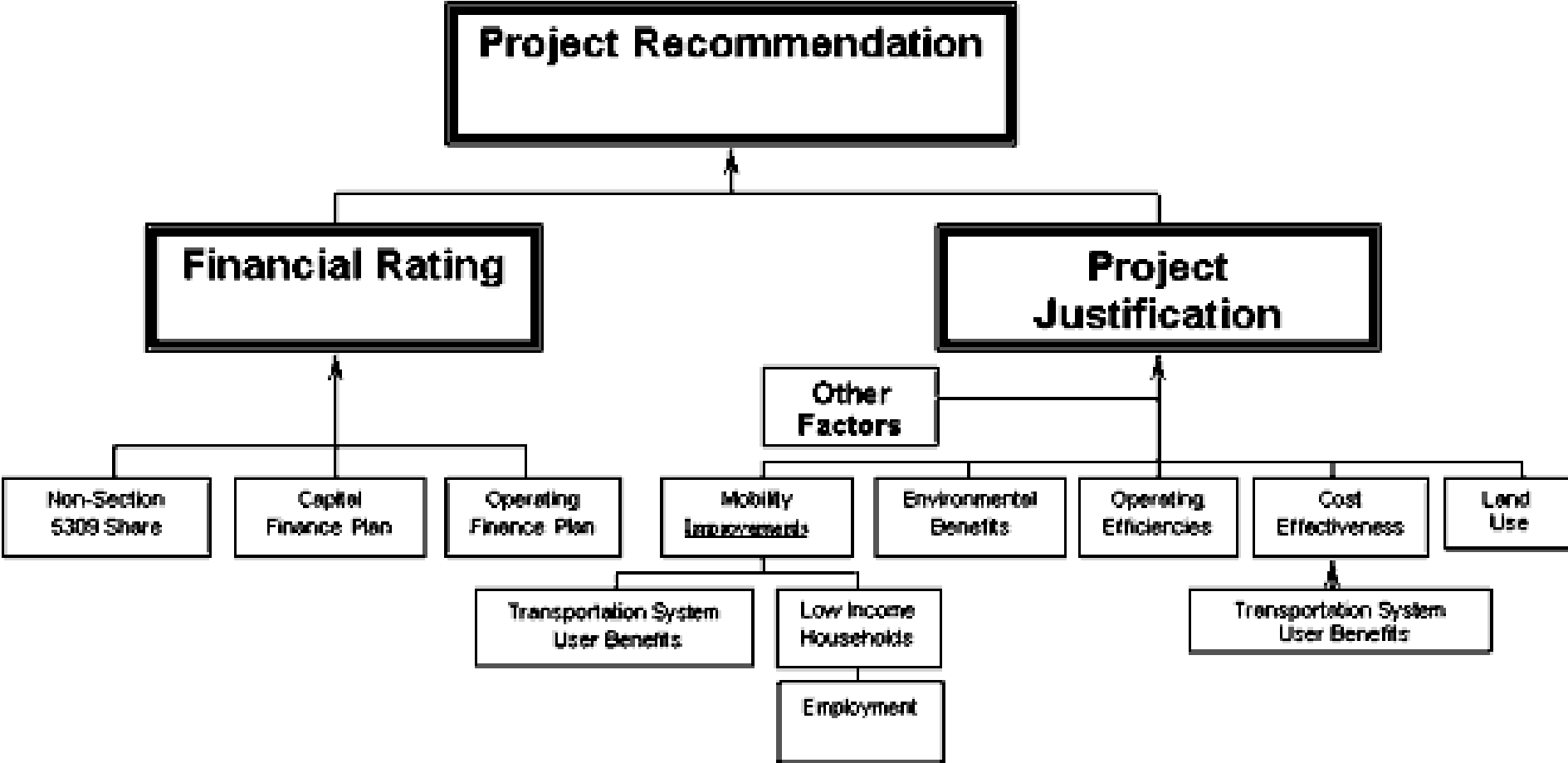


FTA Action
 Decision Point



TEA-21: Criteria

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TEA-21: Project Justification Criteria

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- FTA descriptive criteria (“high”, “medium-high”, “medium”, “low-medium” or “low”) on:
 - Mobility Improvements (20-year horizon):
 - Time savings (annualize properly working day figures)
 - Captives mobility:
 - No of low income households within ½ miles radius from station
 - Plus no of jobs within a ½ mile radius from stations
 - Environmental Benefits (VMT-Vehicle miles traveled):
 - Air and noise pollution annual tons (CO,NOx,VOC and PM)
 - Energy consumption in BTUs
 - Current regional air quality designation by EPA
 - Operating Efficiencies:
 - Operating cost per passenger-mile. Favor crowding?

TEA-21: Project Justification Criteria

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- FTA descriptive criteria (“high”, “medium-high”, “medium”, “low-medium” or “low”) on:
 - Transport System User Benefits (Cost Effectiveness):
 - Goal: To reduce the travel time and out-of-pocket costs
 - Measure changes on capital and operating costs and travel time changes to users of transit, highway and other travel modes
 - It replaces “the cost per new rider” so as:
 - To show benefits to existing users using different modes
 - To avoid bias against existing systems improving travel times and/or crowding
 - Incremental Cost per Incremental Passenger:
 - It utilizes linked trips (from origin to final destination) which may be composed of several unlinked trips.

TEA-21: Project Justification Criteria

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- FTA descriptive criteria (“high”, “medium-high”, “medium”, “low-medium” or “low”) on:
 - Existing land use, transit supportive land use policies and future patterns:
 - Growth management policies:
 - Concentration of development. Land conservation
 - Transit supportive corridor policies:
 - Transit-friendly character. Pedestrians. Parking. Mixed-uses
 - Supportive zoning regulations near stations
 - Facilities to enhance pedestrian mobility
 - Tools to implement land use policies

TEA-21: Project Justification Criteria

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- FTA descriptive criteria (“high”, “medium-high”, “medium”, “low-medium” or “low”) on:
 - Financial Criteria:
 - Proposed share of project capital costs:
 - Innovative financing techniques
 - Stability and reliability of proposed capital financing plan:
 - Provisions for cost overruns
 - Capital needs for the entire system as planned
 - Operating funding over a 20-year horizon

TEA-21: Project Justification Criteria

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- FTA descriptive criteria (“high”, “medium-high”, “medium”, “low-medium” or “low”) on:
 - Other factors (*an open-ended approach*):
 - Degree to which policies and programs are in place as assumed in forecasts (ie parking)
 - Project management capability
 - Innovative financial schemes
 - Additional factors relevant to local and national priorities and to the success of the project
 - Equity issues
 - Quality of life issues

TEA-21: Final considerations

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- The project “No-Build Alternative”
 - Not necessarily a “do nothing” scenario
 - It is hard to accept that no improvement will occur if the proposed new start does not go ahead
 - A single “baseline alternative”:
 - Transit improvements lower in cost than the new start:
 - Traffic engineering measures, reserved lanes, enhanced bus service...
 - “The best you can do” w/o the new start investment
 - It may include highway improvements
 - Same policy measures as for the new start (i.e. parking, land use patterns, transit fares...) Will they be possible??

TEA-21: Final considerations

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- Travel Demand Forecasting Assumptions:
 - Same assumptions on socio-economic variables and land use
 - Consistency among alternatives on speeds and out-of-vehicle times (access, wait, transfers...)
 - Transit speeds must reflect congestion
 - Consistent highway volume-time functions
 - Identical factors among alternatives (tolls, parking...)

TEA-21: Final considerations

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Item:	Useful life	Annualization Factor
Right-of-way	100	0.07
Structures	30	0.081
Trackwork	30	0.081
Signals, electrificacion...	30	0.081
Rail Vehicles	25	0.086
Buses	12	0.126

TEA-21: Final considerations

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- Follow-up studies:
 - Two years after revenue operation
 - Before-and-after data to evaluate project:
 - Capital costs
 - Operation and maintenance costs
 - System utilization (ridership, O-D, trip purpose, LOS, user profile, demographics...)
 - External factors relevant to the project: gas prices, employment trends...

Closing Thought

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- FHWA does not have to follow an equivalent procedure to that of FTA
- Even UK's DETR induced demand procedure has not become very popular
- Any transit project is scrutinized to a point far deeper than any highway project