Evaluation Methodology

The keeping with the intent of project's goals and objectives and consistent with Federal Transit Administration guidance, the evaluation methodology will be developed in consideration of the project Purpose and Need. Criteria will be developed and used that show how the alternatives to be tested meet the project objectives.

Project Purpose

The purpose of the project is *"to identify a sustainable high capacity transportation system linking Northwest Albuquerque and Southern Sandoval County with activity centers in the Albuquerque metropolitan area, and to identify a starter system that crosses the river and focuses on serving the North I-25 Business Center (Journal Center)."* The purpose also states that "*the proposed improvements would represent one of the initial efforts in the AMPA to implement an element of the high capacity transportation system identified in the 2035 MTP."*

Demonstration of Need

The need for the project arises from the recognized extent and pace of development in Northwest Albuquerque and Southern Sandoval County, and the extent to which that development is dependent upon access to the metropolitan area east of the Rio Grande. The need is demonstrated by the following:

- There is a large and growing numeric imbalance between population and employment west of the river, with the result that many trips to and from work and other activities entail cross-river travel. The population west of the Rio Grande is projected to double between 2008 and 2035.
- The ratio of jobs to population is now and is projected to continue to be approximately twice as high east of the Rio Grande as it is to the west.
- Consequent use of the available river crossings already results in traffic congestion that is severe during peak periods, particularly within the Paseo del Norte, Alameda Boulevard and Montaño Road corridors.

Travel demand is projected to grow within the near future to levels far beyond available transportation capacity. The result is already undesirable in terms of travel delay, and these effects will only grow worse with time, threatening the economic health of the region.

Evaluation Process

The evaluation process for the Paseo del Norte High Capacity Corridor Project will follow a multi-step progressively refined analysis of the alternatives, eliminating the least productive options at each step. The first level screening will be a largely qualitative review to determine which of the "long list" of alternatives qualify for further consideration as "conceptual" alternatives or short list. The second level of analysis will compare the conceptual alternatives in more detail, leading to a Locally Preferred Alternative (LPA) or, if appropriate, a third level assessment further refining a set of "final" alternatives from which the LPA will be selected. At all levels, the categories of investigation are the same though the criteria in each category can differ in the number and the detail to which the component measures are defined.

Project Evaluation Categories

During this study, the performance of each alternative will be assessed on the basis of criteria within the following four evaluation categories:

1. Community Access and Compatibility – An assessment of the ability of each alternative to attract patrons. As a preliminary measure, this will be a compilation of information about population and employment around station locations. This category responds to the Purpose and Need in that it provides an alternative means to access employment, residential and other land uses in the corridor.
2. Environment – Measure the effect of the project alternatives on the environment, including the effect on sensitive species or habitat, cultural resources, etc. This category is an underlying precept of good planning to minimize the impacts of the proposed alternatives on sensitive resources within the corridor.
3. Operational Characteristics – Consideration of operational questions that need to be addressed to ensure the alternative can be implemented (e.g., if the route alternative operates on an existing roadway, what are the current and anticipated operating characteristics of that roadway and how will affect the proposed route. This category provides for the reliable and safe travel expectations outlined in the Purpose and Need.
4. Financial Feasibility – A cost to build the alternatives taking account of construction costs, rights-of-way, operations, revenue potential (i.e., ridership), financial opportunities (e.g., federal funding, public-private partnerships, etc.) This category responds to the Purpose and Need by ensuring efficient use of resources in providing for an alternative mode of travel.

Level 1 – Initial Screening

The first step is designed to eliminate the alternatives that do not meet the purpose and need or do so ineffectively compared to other choices. This is primarily a qualitative evaluation to identify alternatives with obvious disadvantages and/or fatal flaws. Primary evaluation factors are summarized in Table 1.

The results of the Initial Screening will be presented as a qualitative comparison that will permit identification of the alternatives that offer the greatest promise. The alternatives carried forward from the Initial Screening will be the subject of a Conceptual Alternatives evaluation.

It may be appropriate to assign a higher weight to categories, criteria or measures. For example, in Table 1, Financial Feasibility might carry a higher level of influence than Community Access and would be weighted accordingly. For transit usage analysis, existing conditions generally carry a higher level of influence over future conditions (consistent with FTA guidance.) The determination of the final category or measure weightings will be reviewed with the project Technical Committee. In all cases, as appropriate, quantitative information will be normalized to ensure comparisons are based on compatible information.

The screening evaluation will be performed for three primary segments within the study area. This will allow a thorough assessment of each segment and form a basis for defining the most effective conceptual alternatives.

1. Northwest Albuquerque/Southern Sandoval County to west of the Rio Grande
2. West of the Rio Grande to 2nd Street
3. 2nd Street to the Journal Center and other key destinations

The results of the initial screening in each segment will determine the individual segment configurations that will become part of the conceptual alternatives to be evaluated at the next level.

Table 1 - Route Alignment Initial Screening Evaluation Criteria

Category	Criteria	Measures – *(Potential Effect)*
Community Access and Compatibility	**Criterion 1: General Market Access** – Potential ridership *(this is all about reaching population and jobs to improve the odds of success)*	• **Existing** population per mile within five miles of proposed station or park-and-ride and existing employment within ½ mile of proposed stations - *(Population is assumed to access the HCT service from within a five mile tributary area, but only walk up to ½ mile at the destination end of the trip)* • **Future** population per mile within five miles of proposed park and rides or stations and future employment within ½ mile of proposed stations
	Criterion 2: Compatibility with Plans and Policies - Fits with adopted local land use and transportation plans	• Qualitative assessment of transit-supportive policies along each route
	Criterion 3: Service to Other Underserved Destinations	• Determination of the effectiveness of access to other destinations beyond the corridor
Environment	**Criterion 4: Infringement upon Sensitive Environments** - Minimize impact(s) on sensitive environments	• Length of segment in identified resource - (*longer segments may have greater potential impacts*) • Proximity or encroachment into National Monuments - *(potential impact that requires Congressional approval & potential 4(f) considerations)*
Operational Characteristics	**Criterion 5: Existing Transportation Use in Corridor** – Identifies potential conflicts of introducing a transit route	• Average weighted V/C ratio along each proposed route • Number of critical intersections along the route *(intersections with identified congestion issues)*
Financial Feasibility	**Criterion 6: Preliminary Assessment of Route Alignment Cost Factors**	• Total length of route(s) – (which has implications for cost, ridership, etc. *The longer, the higher the potential cost of construction, impact mitigation, ridership considerations, etc.)* • Number of park and ride lots identified • Preliminary assessment of constructability

Level 2 – Conceptual Alternatives Evaluation

The alternatives that emerge from the Initial Screening will be assessed using more criteria within the main categories and, generally, a more detailed definition of each criterion to better determine the performance of each conceptual alternative against the others as noted in Table 2. The analysis to be conducted at this level will allow consideration of each proposed route's ability to serve the particular demand within or near its path, its ability to perform effectively compared to other travel choices with more emphasis on the quantitative comparison of the alternatives. Where possible, quantitative information will be presented that shows the relative performance of the alternatives against each other and in which categories they perform well or poorly. Depending on the number of alternatives, this step could yield an LPA. If the comparison between any two alternatives is highly competitive, another refinement step can be added to identify the best LPA.

Locally Preferred Alternative

The best alternative based on the evaluation and the input from stakeholders and the public will be recommended as the Locally Preferred Alternative. This option will also be the basis for final cost estimates to be used in the AA and as a basis for any future federal funding applications.

Table 2 - Route Alignment Second Level Evaluation Criteria

Category	Criteria	Measures – *(Potential Effect)*
Community Access and Compatibility	**Criterion 1: General Market Access** – Potential ridership *(this is all about reaching population and jobs to improve the odds of success)*	• **Existing** population within five miles of proposed stations or park-and-rides and existing employment within ½ mile of proposed stations – *(Population is assumed to access the HCT service from within a five mile tributary area, but only walk up to ½ mile at the destination end of the trip)* • **Future** population within five miles of proposed stations and park-and-rides and future employment within ½ mile of proposed stations
	Criterion 2: High Potential Markets – Likely users	• Transit-oriented population within ½ mile of proposed route - (e.g., low income, zero auto ownership, students, etc.)
	Criterion 3: Compatibility with Plans and Policies - Fits with adopted local land use and transportation plans	• Qualitative assessment of transit-supportive policies along each route
Environment	**Criterion 4: Infringement upon Sensitive Environments** - Minimize impact(s) on sensitive environments	• Length of route in identified resource - (*Longer routes have greater potential impacts, but they may be offset to a degree by a reduction in the number of vehicles in the corridor*) • Number of resources listed on National Register of Historic Places within 300 feet of route - (*Potential 4(f) implications*) • Impact on adjacent neighborhoods (e.g., number of homes within 300 ft of a new facility in the corridor)
	Criterion 5: Institutional Considerations - Assessment of jurisdictional issues	• Proximity or encroachment into National Monuments - *(Potential 4(f) considerations and requires Congressional approval)* • Number of existing or future parks/preserves, wilderness areas along proposed route(s) - *(Also carries potential 4(f) considerations)* • Federal Lands (BLM or Bureau of Reclamation) - *(Requires Federal approval)*

Table 2 - Route Alignment Second Level Evaluation Criteria (continued)

Category	Criteria	Measures – (Potential Effect)
Operational Characteristics	**Criterion 6: Existing Transportation Use in Corridor** - Minimizes conflict of transit corridor	• Average weighted V/C ratio along each proposed route - (*Higher suggests more need, but more difficulty in implementation*) • Estimated travel time savings compared to other modes available (*i.e., car. This is a basic objective of the project and part of the Purpose and Need.*) • % of route on existing or planned road corridor - *(Transportation purpose consistent with current system plans*) • % of route on a new alignment - *(Introduces transportation use in a new corridor with the potential impacts that represents*) • Number of HCT route access points along PDN • Number of critical intersections along the route *(intersections with known congestion issues)*
Financial Feasibility	**Criterion 7: Cost** – Preliminary assessment of alignment costs	• Estimated cost of proposed route - (*Affects cost effectiveness calculations*) • Additional ROW needed for each route - (*Impact on project implementation costs*) • Preliminary constructability assessment - (*Impact on project costs based on number and types of facilities to be built or limitations to building them*) • Estimated operating costs for new or modified service (*Impact on lifecycle costs*) • Number of park and ride lots