



MID-COAST CORRIDOR
TRANSIT PROJECT

Chapter 2 Process for Development and Screening of Alternatives



2.0 PROCESS FOR DEVELOPMENT AND SCREENING OF ALTERNATIVES

This chapter describes the process for the evaluation and screening of transit alternatives for the Mid-Coast Corridor. The process provides the basis for narrowing the alternatives from a wide range of mode and alignment alternatives at the initiation of the environmental review process to a decision by the San Diego Association of Governments (SANDAG) on a single mode and alignment (a Locally Preferred Alternative or LPA) or a set of alternatives to analyze further in the Draft Supplemental Environmental Impact Statement/ Subsequent Environmental Impact Report (SEIS/SEIR).

The process began with the identification of project goals and objectives, based on the Mid-Coast Corridor Transit Project purpose and need and the SANDAG regional goals summarized in Chapter 1, respectively. The project goals and objectives serve as the foundation for the evaluation criteria used in a three-step screening process for narrowing the alternatives, as described further below.

2.1 Project Goals and Objectives

The project goals and objectives were established to address the transportation needs identified for the Mid-Coast Corridor and to support regional policy objectives. As shown in Table 2-1, the project goals were derived based on the project needs. The project goals were used at all stages of the alternatives development process, initially, to identify the alternatives that address the project needs and, following, to guide the evaluation of the developed alternative modes and alignments. The project objectives were established to account for other regional policy objectives not fully reflected by the project needs, but which have a bearing on the evaluation of the alternatives. The SANDAG regional policy objectives considered important in selecting an LPA for the Mid-Coast Corridor Transit Project, as listed within the *2030 San Diego Regional Transportation Plan: Pathways for the Future* (RTP) (SANDAG 2007), are identified in Table 2-2. The evaluation of the alternatives is consistent with Federal Transit Administration (FTA) New Starts requirements (*49 United States Code [USC] 5309*).

Those alternatives that best meet the project goals and objectives, and that are financially feasible, are the most meritorious choices for investment and further study in the Draft SEIS/SEIR.

2.2 Screening Process

The Draft SEIS/SEIR for the Mid-Coast Corridor Transit Project is being prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 USC 4321 et seq.) and the California Environmental Quality Act (CEQA) (PRC 21000 et seq.). NEPA and CEQA require consideration of reasonably feasible alternatives. The alternatives developed for the Mid-Coast Corridor Transit Project were evaluated in light of the established project goals and objectives, based on the project purpose and need statement and regional policy objectives. The alternatives determined to be unreasonable may be eliminated prior to preparation of the Draft SEIR/SEIS, provided



Table 2-1. Mid-Coast Corridor Transit Project Goals

Project Need	Project Goal
Transportation Capacity Needs to be Expanded	<ul style="list-style-type: none"> • Increase the overall capacity of the transportation system serving the study area
Alternatives to Congested Highways and Roadways Need to be Provided	<ul style="list-style-type: none"> • Reduce auto person trips and vehicles miles and hours of travel
Improvements That Complement and Integrate With Existing Transit Systems Need to be Provided	<ul style="list-style-type: none"> • Link study area transit services with existing transit facilities and services to improve regional connectivity and mobility
Transit Improvements that Minimize Dependence on Auto Travel Need to be Provided	<ul style="list-style-type: none"> • Increase transit ridership and mode share
Transit Needs to be Reliable and Competitive with the Auto Travel Time	<ul style="list-style-type: none"> • Increase transit on-time performance • Reduce the disparity between highway and transit speeds and travel times
Transit Needs to Effectively Serve the University of California, San Diego (UCSD) and University City Areas	<ul style="list-style-type: none"> • Provide fast and efficient transit service to the University City area. • Provide direct transit connections to UCSD West Campus
Transit Needs to Better Support -- and be Supported by -- Planned Development and Growth in the Corridor	<ul style="list-style-type: none"> • Provide high capacity and quality transit service to those parts of the study area with existing or planned density and other transit friendly characteristics • Help shape local land use planning to help foster transit oriented development near stations



Table 2-2. Mid-Coast Corridor Transit Project Objectives

Regional Goal	Project Objective
Livability: Focus transit investments in areas with compatible land uses that support an efficient transit system	<ul style="list-style-type: none">• Provide high capacity and quality transit service to those parts of the study area with existing or planned smart growth and other transit friendly characteristics• Consistency with regional and local plans
Sustainability: Improve air quality and reduce greenhouse gas (GHG) emissions	<ul style="list-style-type: none">• Reduce GHG emissions• Limit impacts to sensitive habitats
Equity: Provide equitable levels of transportation service and avoid disparate impacts	<ul style="list-style-type: none">• Improve access for low-income, minority, elderly, and disabled persons• Avoid adverse impacts to low-income, minority, elderly, and disabled persons

the reasons for their elimination are documented (40 *Code of Federal Regulations* [CFR] 1502.14; Cal Code of Regulations, Title 14 (CEQA Guidelines 15126.6)).

For the Mid-Coast Corridor Transit Project, alternatives were identified and evaluated in three separate steps, as shown in Figure 2-1 and described below:

1. An initial screening of a reasonable set of transit modes and segment alignments to determine a set of conceptual corridor alternatives for further definition and evaluation in this comparative evaluation of alternatives.
2. A comparative evaluation of the conceptual corridor alternatives to identify the build alternatives to be recommended for presentation to the public and agencies as part of the CEQA scoping process. In addition to the build alternatives, a No-Build Alternative and a Transportation System Management (TSM) Alternative are to be presented at scoping.
3. A final evaluation of alternatives was performed after the completion of the CEQA scoping process and following the review of comments received during scoping. At the end of this step, either a single transit mode and general alignment (i.e., an LPA), or multiple alternatives will be selected by the SANDAG Board of Directors for further evaluation in the Draft SEIS/SEIR.

2.3 Step 1 – Initial Screening of Transit Mode and Alignment Alternatives

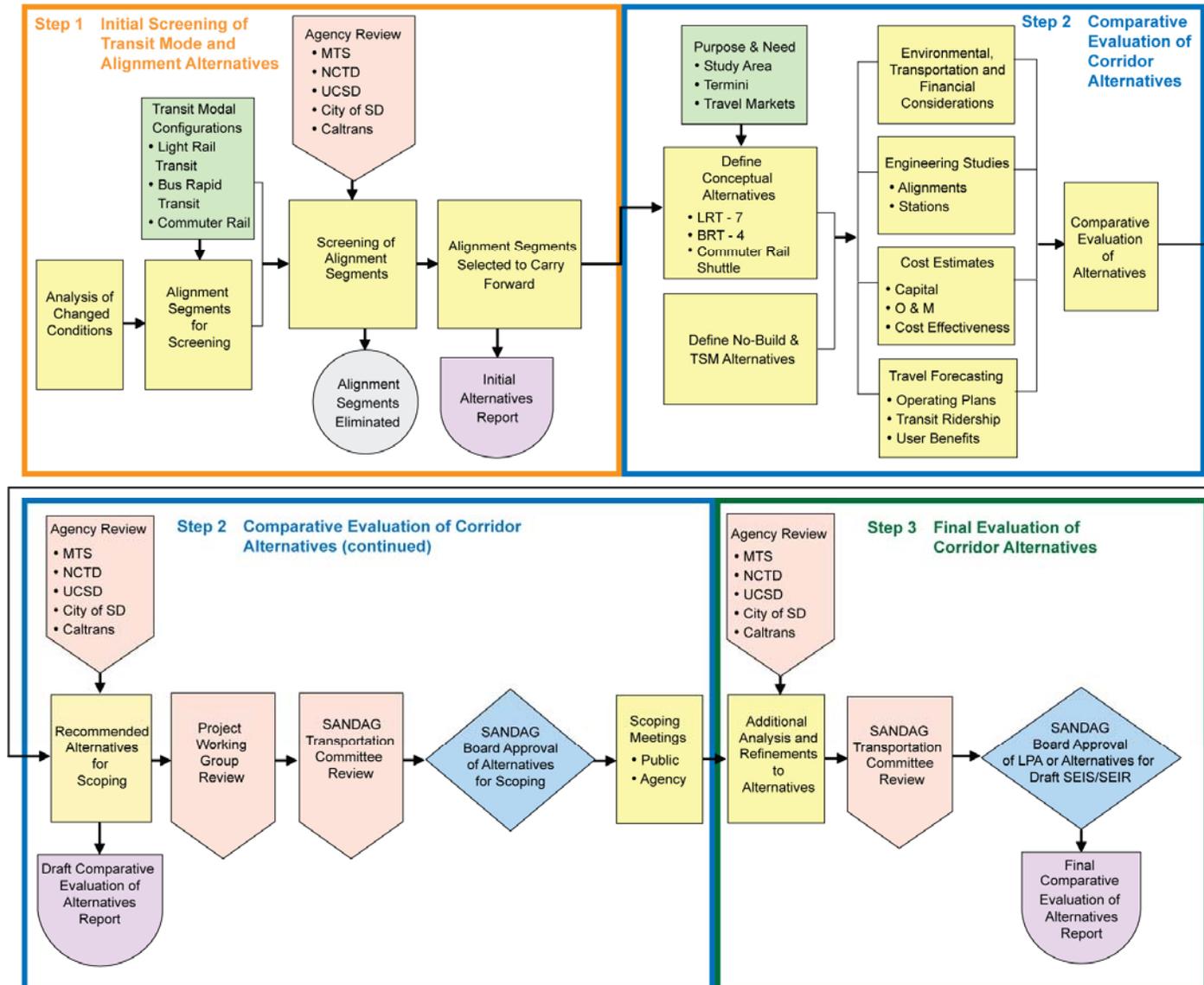
Following an analysis of changed conditions, transit modes and initial alignment segments were identified and screened, resulting in a set of alignment segments for further evaluation and alignment segments recommended for elimination from further study. At the end of this step, the alignment segments selected to carry forward were combined into a set of full-length corridor conceptual alternatives representing each mode under consideration.

The screening of the initial set of transit modes and alignments was based on a review of the alternatives against the project goals and objectives. Additionally, the alternatives were evaluated based on a preliminary review of engineering, environmental, and cost constraints, which were studied in more detail in Step 2.

The results of this analysis are documented in the *Draft Initial Alternatives Screening Report* (Parsons Brinckerhoff [PB] 2009).



Figure 2-1. Flow Chart of Alternatives Development and Screening Process



2.4 Step 2 – Comparative Evaluation of Corridor Alternatives

In this step, the physical and operating characteristics of the alternatives were defined in greater detail and the performance and potential impacts of the alternatives were further analyzed. The comparative evaluation of alternatives reviewed environmental, transportation, and cost/financial considerations. The environmental issues included land use and economic development, displacements and relocations, community facilities, business and economics, social and environmental justice, biological resources, water resources, air quality, geology and soils, visual and aesthetics, noise and vibration, cultural resources, parklands, hazardous materials, energy, electromagnetic interference, utilities, and safety and security. This evaluation was not intended to represent the more detailed baseline and impact analyses to be conducted as part of the environmental studies in support of preparing the Draft SEIS/SEIR. Travel forecasting was also performed under this step.

In addition to ensuring that the alternatives meet the project goals and objectives, the alternatives were further evaluated to ensure that they do not have a high potential for adverse impacts, are cost effective, and are financially feasible. These additional considerations are further described below.

- **Potential Environmental and Local Traffic Impacts**—An assessment of potential adverse environmental impacts (potential impacts to sensitive habitats, the community, the built environment, and natural and cultural resources) and local traffic impacts (the removal of travel lanes, increased transit movements on and across public streets, and traffic signalization changes that could potentially impact street and highway traffic).
- **Cost Effectiveness**—An assessment of the benefits of each alternative relative to the costs needed to achieve them. To determine an alternative's likely competitiveness for FTA New Starts funding¹, the cost effectiveness of each alternative, using the FTA New Starts Cost-Effectiveness Index (CEI), will be measured. The CEI is a ratio calculated by dividing an alternative's incremental cost, measured as the annualized capital costs plus annual operating and maintenance (O&M) costs, by the alternative's forecast of incremental user benefits. Per the FTA New Starts rating system, the alternatives with the lowest CEI are considered to be most cost effective.
- **Financial Feasibility**—An assessment of SANDAG's ability to fund the associated capital and O&M costs of each alternative, considering additional funding that would be required above the budget allocated in the *Regional Transportation Improvement Program* (RTIP) (SANDAG 2008) and the likelihood of securing FTA New Starts funds.

The evaluation measures used in this step, to summarize the trade-offs of each alternative, are shown in Table 2-3.

¹ The discretionary FTA New Starts program is the Federal government's primary financial resource for supporting locally-planned, implemented, and operated fixed-guideway capital investments.



Table 2-3. Mid-Coast Corridor Transit Project Evaluation Measures

Project Goals and Objectives	Evaluation Criteria
Increase the overall capacity of the transportation system serving the study area	<ul style="list-style-type: none"> • Increase in daily place miles of transit service • Total peak hour, peak direction capacity
Reduce auto-person trips and VMT and VHT	<ul style="list-style-type: none"> • Change in daily auto-person trips compared to No-Build • Change in daily VMT compared to No-Build • Change in daily VHT compared to No-Build
Link study area transit services with existing transit facilities and services to improve regional connectivity and mobility	<ul style="list-style-type: none"> • Transit user benefits (equivalent hours per year) • Transfer rate (range of transit boardings per transit trip for major travel markets)
Increase transit ridership and mode share	<ul style="list-style-type: none"> • Daily new transit trips compared to No-Build • Daily new transit boardings compared to No-Build
Increase transit on-time performance	<ul style="list-style-type: none"> • Percentage transit alignment exclusive guideway • Number of at-grade intersection crossings
Reduce the disparity between highway and transit speeds and travel times	<ul style="list-style-type: none"> • Change in transit travel time from University Towne Centre (UTC) to Downtown San Diego compared to No-Build • Change in transit travel time from Downtown San Diego to UCSD West Campus compared to No-Build • Change in transit travel time from South Bay to UCSD West Campus compared to No-Build • Change in transit travel time from Mission Valley to UCSD West Campus compared to No-Build
Provide fast and efficient transit service to the University City area	<ul style="list-style-type: none"> • Transit travel time from Mission Valley to UTC • Transit travel time from Downtown San Diego to UTC
Provide direct transit connections to the UCSD West Campus	<ul style="list-style-type: none"> • Transit travel time from Downtown San Diego to UCSD • Transit travel time from South Bay to UCSD • Transit travel time from South San Diego to UCSD • Transit travel time from Mission Valley to UCSD
Provide high capacity and quality transit service to those parts of the study area with existing or planned density and other transit friendly characteristics	<ul style="list-style-type: none"> • Number of stations with forecast medium- and high-employment density within 1/4 mile of stations • Number of stations with forecast medium- and high-population density within 1/4 mile of stations
Help shape local land use planning to help foster TOD near stations	<ul style="list-style-type: none"> • Number and type of planned smart growth centers within which stations are located
Maintain consistency with regional and local plans	<ul style="list-style-type: none"> • Consistent with regional plans • Consistent with local plans
Reduce GHG emissions	<ul style="list-style-type: none"> • Change in daily VMT compared to No-Build



Table 2-3. Mid-Coast Corridor Transit Project Evaluation Measures (continued)

Project Goals and Objectives	Evaluation Criteria
Limit impacts to sensitive habitats	<ul style="list-style-type: none"> • Length of alignment with construction activities within 100 feet of special-status vegetation communities • Acreage of suitable habitat for federal or state listed species within 500 feet of alignment
Improve access for low-income, minority, elderly, and disabled persons	<ul style="list-style-type: none"> • Total population residing within 1/4 mile of stations (2000 U.S. Census) • Low-income population residing within 1/4 mile of stations (2000 U.S. Census) • Minority population residing within 1/4 mile of stations (2000 U.S. Census) • Transit-dependent households located within 1/4 mile of stations (2000 U.S. Census)
Avoid adverse impacts to low-income, minority, elderly, and disabled persons	<ul style="list-style-type: none"> • Proportion of displaced residences located in disadvantaged neighborhoods
Other Considerations	Evaluation Criteria
Potential environmental impacts	<ul style="list-style-type: none"> • Number of new crossings of jurisdictional waters • Visual impacts • Number of dwelling units within 300 feet
Potential local traffic impacts	<ul style="list-style-type: none"> • Roadway lane miles converted to transit
Cost effectiveness	<ul style="list-style-type: none"> • FTA CEI
Financial feasibility	<ul style="list-style-type: none"> • Additional funding required above RTIP • Likelihood of securing FTA New Starts funding



The results of the analysis and recommendations on alternatives for CEQA scoping were presented to the agencies with jurisdiction over specific project aspects for their review and comment prior to scoping. These agencies include University of California San Diego (UCSD), Metropolitan Transit System (MTS), California Department of Transportation (Caltrans), North County Transit District (NCTD), and the City of San Diego. The project team also presented its recommendations to the SANDAG Project Working Group (PWG) and to the SANDAG Transportation Committee. The SANDAG Transportation Committee made a recommendation to the SANDAG Board. The second step concluded with decisions by the SANDAG Board on which alternatives to present during the CEQA scoping process. Comments received from agencies and the PWG were presented to the SANDAG Board and are summarized in Chapter 7 of this report.

Under CEQA, scoping is designed to examine a proposed project early in the environmental impact report (EIR) environmental analysis/review process, and is intended to identify the range of issues pertinent to the proposed project and feasible alternatives or mitigation measures to avoid potentially significant environmental effects. The scoping process inherently stresses early consultation with resource agencies, other state and local agencies, tribal governments, and any federal agency whose approval or funding of the proposed project will be required for completion of the project. Scoping is an effective way to bring together and resolve the concerns of other agencies potentially affected by the project as well as other interested persons, such as the general public.

2.5 Step 3 – Final Evaluation of Corridor Alternatives

After completing CEQA scoping, the comments received were reviewed and summarized for consideration. Comments that required additional technical analysis and/or refinements to the alternatives were identified. After review and consideration of the comments, no additional analysis was completed, nor were the alternatives modified.

The SANDAG Transportation Committee will review the results and public comments and prepare a recommendation to the SANDAG Board. The SANDAG Board will then either select a transit mode and alignment alternative to carry into the Draft SEIS/SEIR as the LPA, or select multiple alternatives for further evaluation in the Draft SEIS/SEIR. In addition, the No-Build Alternative will be evaluated in the Draft SEIS/SEIR, with the former serving as the baseline for comparison of the environmental impacts of the build alternative(s), as required by NEPA and CEQA. The TSM alternative will also continue to be evaluated as the baseline for the FTA New Starts evaluation. Although it will be carried forward to the next study phase, the TSM Alternative will no longer be considered as a potential build alternative, and it will not be included in the Draft SEIS/SEIR.

