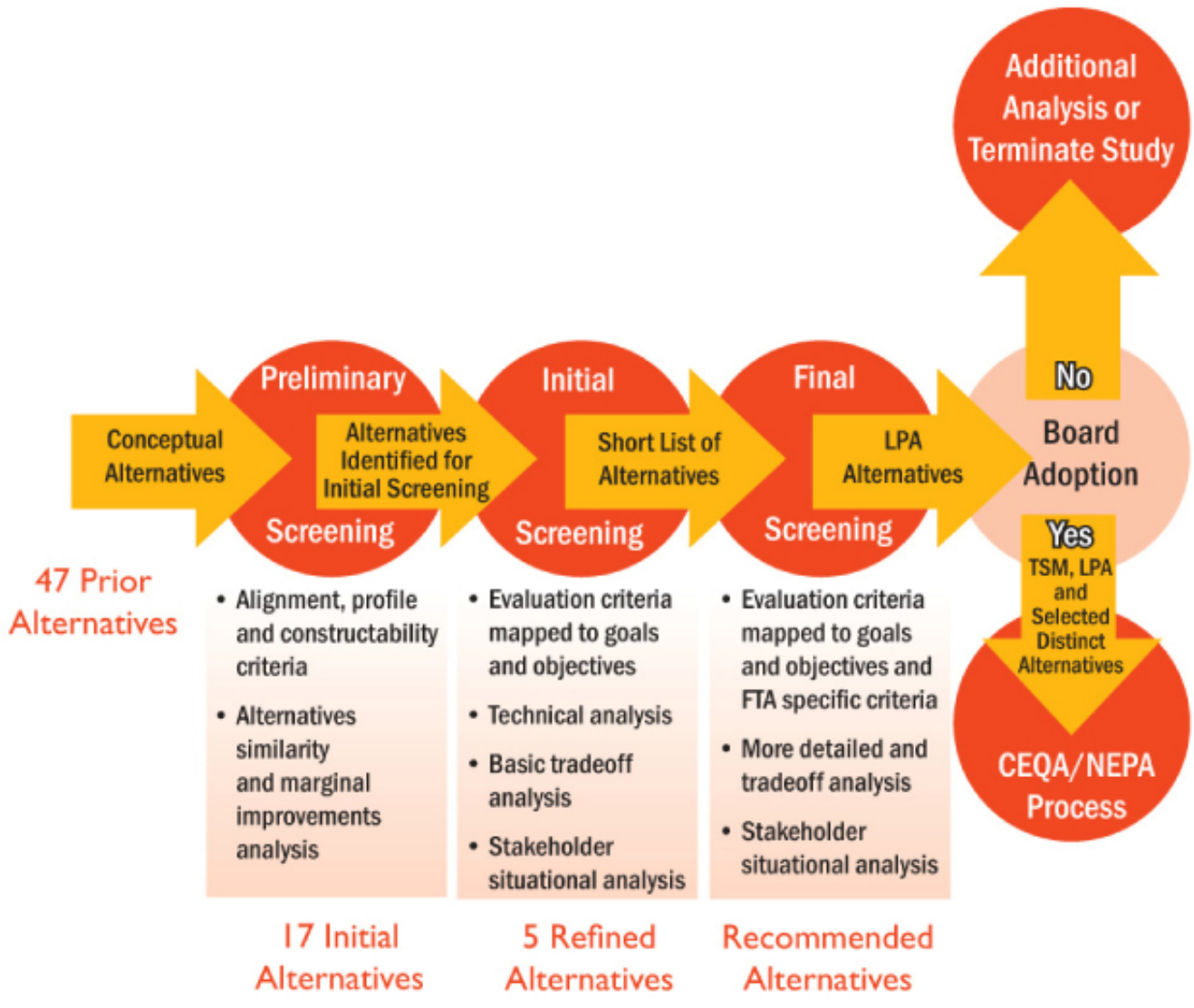
2.0 ALTERNATIVES CONSIDERED

2.1 Screening and Selection Process

The *Eastside Transit Corridor Phase 2 AA* study included three phases of screening: preliminary, initial, and final. Each process built on the previous, including more specific evaluation criteria. The methodology for the screening process included goals, objectives and evaluation criteria that were applied to the proposed alternatives to determine their relative performance and areas for further refinement. The *Eastside Transit Corridor Phase 2 Methodology Report* provides detailed information on the evaluation criteria and screening process. Figure 2-1 below illustrates the AA study screening process.

Figure 2-1 AA Screening Process



Source: Graphic developed by CDM. 2008.

The preliminary screening evaluated 47 alternatives, which were identified through the previous corridor studies and the early scoping process. Preliminary alternatives were eliminated and refined based on stakeholder input, fatal flaws, and technical faults. The result of the preliminary evaluation resulted in 17 "feasible alternatives". These 17 alternatives were

subjected to the initial screening process. The highest performing and most promising alternatives based on the comparative analysis were then refined to a smaller set of five alternatives. The five "refined alternatives" are the subject of the final screening process, which is detailed throughout this report. A comparative analysis of these alternatives, based on the project goals, objectives and evaluation criteria, reveals the recommended set of alternatives that best meets the corridor needs. Subsequent sections of this report provide results on the comparative evaluation and recommendations to move into the Draft EIR/EIS process.

These goals, objectives and criteria, used to evaluate the alternatives were developed in accordance with FTA New Starts guidelines, Metro objectives for the corridor and comments received from the community and stakeholders. Figure 2-2 below illustrates the qualitative and quantitative criteria used in both the initial and final screening process. The criteria range from the effects on surrounding land uses to financial feasibility and operational constraints. The criteria are used to assess each alternative's potential performance relative to other alternatives.

Initial Screening

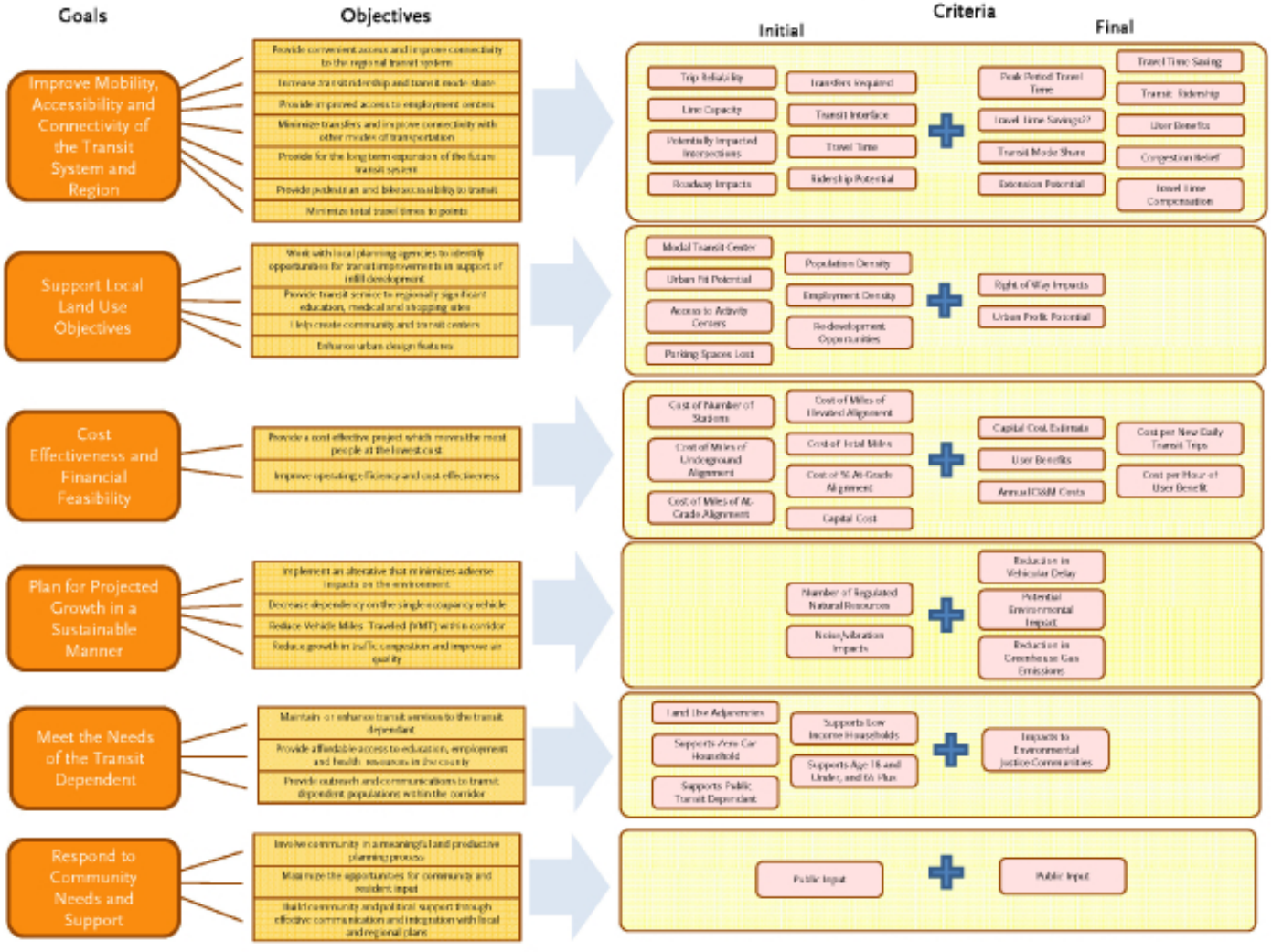
The initial set of conceptual alternatives represented appropriate alignments along the various corridors within the PSA. A total of 17 Initial Conceptual Alternatives were identified for the initial screening process, including 14 light rail alternatives and three bus rapid transit options.

Subsequently, a detailed screening of the initial 17 alternatives was conducted to identify which of the alternatives performed best based on the project goals, objectives and evaluation criteria.

The methodology used in the initial screening process involved two levels of analysis. First, the initial screening evaluation criteria was applied to each alternative, results were ranked high, medium, or low per objective. Each alternative was then given an overall ranking for how well it meets the objectives of each individual goal. Second, the goal rankings for each alternative were compared. The alternatives that showed the highest ranking and greatest promise in meeting all of the six goals were selected to move forward into the next phase of study. Dependant

Table 2-1 illustrates the ranking of the comparative evaluation of initial screening applied to the 17 initial alternatives. The alternatives are grouped by corridor and mode: SR-60 and North, Beverly Blvd., Whittier Blvd., Washington Blvd., and Bus Rapid Transit. The *Eastside Transit Corridor Phase 2* AA Initial Screening Report provides detailed information on the analysis and evaluation of the initial screening process.

Figure 2-2 Evaluation Criteria in Initial & Final Screening



Final Screening

The initial screening process resulted in the selection of five (5) alternatives. The five alternatives were further refined to incorporate their most promising characteristics and features. For example, the Washington alignment was refined to include additional aerial segments to improve travel time, and avoid traffic issues identified in the initial screening process. These five refined alternatives selected for final screening are discussed in greater detail in subsequent sections. The final alternatives are described in detail in section 2.2 of this report.

In addition, the final screening process involved the application of more detailed evaluation criteria, developed during alternative refinement, including detailed cost estimates and travel forecast modeling. The result of the final screening process is the set of recommended alternatives.

The project team has identified a recommended set as a result of quantitative and qualitative analysis outlined in the final screening process, which in addition to quantitative measures and modeling, takes into consideration, agency stakeholder, and community feedback. The recommended alternatives will be presented to the Metro Board in the Winter of 2009. If approved, then these recommendations will undergo further detailed analysis during the subsequent Draft EIR/EIS. Findings from the final screening and comparative evaluation process are presented and discussed in subsequent sections of this report. The report concludes with the comparative analysis and recommendations. In addition, proceeding sections describe all the elements that served as the basis for the initial screening process and criteria development, including past studies, current conditions, and scoping and public involvement.

Table 2-1 Ranking of the Comparative Evaluation of Initial Screening

		Alternative	Goal 1 Improve Mobility, Accessibility and Connectivity	Goal 2 Support Local Land Use Objectives	Goal 3 Cost Effectiveness and Financial Feasibility	Goal 4 Plan for Projected Growth in a Sustainable Manner	Goal 5 Meet the Needs of the Transit Dependent	Goal 6 Respond to Community Needs and Support
SR-60 and North	1	Atlantic - Garvey - Santa Anita to El Monte Busway	Medium	High	Medium	Low	Medium	Medium
	2	Pomona Blvd - SR-60 to I-605	High	Medium	High	High	Low	Medium
	3	Pomona Blvd - SR-60 - Rosemead - Whittier to Whittier/Washington	Medium	Medium	Low	Medium	Medium	High
	4	SR-60 - South San Gabriel - Rosemead - Beverly to Whittier Greenway	Low	High	Medium	Medium	Low	Medium
Beverly Boulevard	5	Beverly Mixed Flow LRT to Uptown Whittier Loop	Low	Medium	High	Medium	High	Medium
	6	SR-60 - Garfield - Beverly LRT - Whittier Greenway to Mar Vista	Medium	Medium	High	Medium	Medium	Medium
	7	Pomona Blvd - SR-60 - Garfield - Beverly Aerial - Whittier Greenway to Mart Vista	High	Medium	Medium	Medium	Medium	Medium
	8	Beverly - Montebello - Whittier Subway to Whittier/Philadelphia	High	High	Low	Medium	Medium	Medium
Whittier Boulevard	9	Pomona Blvd - SR-60 - Garfield - Whittier Mixed Flow LRT to Uptown Whittier	Low	High	Medium	Medium	High	High
	10	Atlantic - Whittier Underground & Aerial/ At-grade along Whittier Greenway to Mar Vista	Medium	Medium	Medium	Medium	Medium	High
	11	Pomona Blvd - SR-60 - Garfield - Whittier Aerial to Whittier/Philadelphia	High	High	Medium	Medium	Medium	High
	12	Atlantic - Olympic - Whittier - Philadelphia to Philadelphia/ Painter	Medium	High	Medium	Medium	High	High
Washington	13	Pomona Blvd - SR-60 - Garfield Aerial - Washington LRT to Whittier/Washington	Medium	High	High	Medium	Medium	High
	14	Pomona Blvd - SR-60 - Washington Aerial to Whittier/Washington	Medium	High	Medium	Medium	Medium	High
BRT	15	Pomona Blvd - SR-60 Busway to I-605	Medium	Medium	Medium	High	Low	Low
	16	Beverly Bus Rapid Transit to Philadelphia/ Painter	Low	Medium	High	High	High	Low
	17	Whittier Bus Rapid Transit to Whittier/ Washington	Low	High	High	High	High	Medium

High
Medium
Low

2.1.1 Metro/FTA Scoping

Early scoping was conducted in order to inform the public, organizations, and local, regional, state, and federal agencies on all issues concerning the project, including benefits, costs, and impacts. The early scoping period was also intended to address needs for improvements in the corridor and identify how a project will fit into a long range transportation plan. As part of the AA process, the Early Scoping Period for the Eastside Transit Corridor Phase 2 project occurred over a 30-day period in November 2007 and was initiated with the publication of the Early Scoping Notice in the Federal Register on October 31, 2007. Placement of the legal notice provided information with regards to the study, its associated meetings, as well as other opportunities to provide public comment concerning the scope of the AA. In total, there were four early scoping public meetings and a resource meeting held between November 8th and 15th with over 214 community members and interested parties involved. A summary of scoping activities including meeting schedules, comments received, and materials can be found in the *Eastside Transit Corridor Phase 2 Early Scoping Outreach Report,* March 2008.

In addition, the project team conducted ongoing outreach and stakeholder involvement. A second round of public meetings was held in April of 2008. Ongoing meetings with stakeholder groups, elected officials, and community members have also continued throughout the process. Input from this process is discussed in more detail later in this report, in the section on Public Involvement Process and Agency Coordination.

2.1.2 Screening Criteria

The goals and objectives of the Eastside Transit Corridor Phase 2 have been developed out of the extensive corridor and systems planning studies carried out over the last ten years, including Metro Draft 2008 Long Range Transportation Plan and the Eastside Transit Corridor Re-Evaluation/Major Investment Study process. The process of development of these goals in the AA also complies specifically with the Federal Transit Administration (FTA) requirements related to alternatives analysis for New Starts funding. The goals, objectives and evaluation criteria are also consistent with the Regional Transportation Plan for the Southern California Association of Governments (SCAG) Region. Strong emphasis is placed on improving mobility by supporting efforts to increase use of public transportation and reduce the reliance on single occupancy vehicles.

Based on regional efforts to improve land use and transportation coordination, past Metro corridor planning efforts, community involvement activities, and the Early Scoping process as part of the Eastside Transit Corridor Phase 2 AA study, the following goals and objectives were established. They are based on transportation and land use goals and objectives of the major government jurisdictions along the corridor, local cities and the County of Los Angeles.

There are six major goals and multiple objectives for the advancement of the Eastside Transit Corridor Phase 2 project. They are listed below:

Goal 1: Improve Mobility, Accessibility and Connectivity of the Transit System and Region

- Provide convenient access and improve connectivity to the regional transit system
- Reduce congestion by increasing transit ridership and transit mode split
- Provide improved access to employment centers
- Minimize transfers and improve connectivity with other modes of transportation
- Provide for the long term expansion of the future transit system
- Provide pedestrian and bike accessibility to transit
- Minimize travel times to points accessible from the Metro rail and bus network

Goal 2: Support Local Land Use Objectives

- Work with local planning agencies to identify and implement transit improvements in support of infill development
- Provide transit service to regionally significant education, medical and shopping sites
- Help create community and transit centers
- Identify joint development opportunities
- Enhance urban design features

Goal 3: Cost Effectiveness

- Provide a cost effective project that moves the most people at the lowest cost
- Improve operating efficiency and cost effectiveness

Goal 4: Plan for Projected Growth in an Environmentally Sustainable Manner

- Implement an alternative that minimizes adverse impacts on the environment
- Decrease dependency on single occupancy vehicle
- Reduce Vehicles Miles Traveled (VMT) within corridor
- Reduce growth in traffic congestion and improve air quality

Goal 5: Meet the Needs of the Transit Dependent

- Maintain or enhance transit services to the transit dependent
- Provide affordable access to education, employment and health resources in the County
- Provide outreach and communication to transit dependent populations within the project corridor

Goal 6: Respond to Community Needs and Support

- Involve community in a meaningful and productive planning process
- Maximize the opportunities for community and resident input
- Build community and political support through effective communication and integration with local and regional plans

2.1.3 Evaluation Criteria Development

In addition to the goals/objectives hierarchy, evaluation criteria that evaluate different performance measures were applied to each of the alternatives in the screening process. Evaluation criteria are very specific and detailed measures that were established for each of the goals for the purpose of measuring the performance of the alternatives. The evaluation criteria were developed in accordance with FTA guidance criteria, Metro corridor goals and feedback from stakeholders, the Technical Advisory Committee, and the public comments during the early scoping meetings. The evaluation process reduced the initial alternatives identified for screening to the current five refined alternatives.

As mentioned in sections 2.1 and 2.1.3, the evaluation criteria used in the initial screening were each linked to a specific methodology in the goals/objectives/criteria hierarchy. Table 2-2 below provides a detailed list of the evaluation criteria established for each goal and set of objectives.

Table 2-2 Goals, Objectives and Evaluation Criteria

Goal	Objectives	Initial Screening Criteria	Final Screening Criteria *(additional considerations)*
1 **Improve Mobility, Accessibility and Connectivity of the Transit System and Region** *Develop an efficient connection with the Metro Gold Line Eastside Extension that provides a greater number of transit options connecting residents and commuters to Union Station and all Metro transit services*	➢ Provide convenient access and improve connectivity to the regional transit system ➢ Increase transit ridership and transit mode share ➢ Provide improved access to employment centers ➢ Minimize transfers and improve connectivity with other modes of transportation ➢ Provide for the long term expansion of the future transit system ➢ Provide pedestrian and bike accessibility to transit ➢ Minimize travel times to points accessible from the Metro rail and bus network	➢ *Number of transfers required* ➢ *Interface with existing transit (number of stations that connect with existing bus routes, ranked High, Medium, Low)* ➢ *Travel time (Eastside Gold Line Extension terminus to Phase 2 end point)* ➢ *Ridership potential (number of riders ranked High, Medium, Low)* ➢ *Trip Reliability (ranked High, Medium, Low)* ➢ *Trip Capacity(ranked High, Medium, Low)* ➢ *Number of potentially impacted intersections (number where operational impacts may occur to reduce level of service)* ➢ *Parallel roadway congestion (ranked High, Medium, Low)*	➢ *Travel time savings (to Union Station compared to No-Build and TSM alternatives)* ➢ *Transit ridership potential (number of transit riders)* ➢ *Hours of transportation user benefits* ➢ *Congestion relief (reduction in highway travel demand in the PSA)* ➢ *Comparison of highway, bus and fixed guideway peak period travel times between major travel pairs (run times, headways, average speed, station spacing)* ➢ *Peak period travel time* ➢ *Estimated change in transit mode share* ➢ *Assessment of expandability*
2 **Support Local Land Use Objectives** *Integrate transit with local land uses to provide economic benefits and enhanced urban design*	➢ Work with local planning agencies to identify and implement transit improvements in support of infill development ➢ Provide transit service to regionally significant education, medical and shopping sites	➢ *Population density within ¼ mile of stations* ➢ *Employment density within ¼ mile of stations* ➢ *Re-development opportunities within ¼ mile of stations*	➢ *Number of Right-of-Way impacts* ➢ *Urban fit potential, including pedestrian accessibility and urban design enhancement opportunities*

Table 2-2 Goals, Objectives and Evaluation Criteria

Goal	Objectives	Initial Screening Criteria	Final Screening Criteria *(additional considerations)*
features to the local communities	➢ Help create community and transit centers ➢ Identify joint development opportunities ➢ Enhance urban design features	➢ *Potential for park-n-ride/multi modal transit center (based on existing and/or potential land use)* ➢ *Urban fit potential (qualitative list of benefits and problem locations)* ➢ *Provides access to activity centers (number of activity centers provided direct access)* ➢ *Number of parking spaces lost (ranked High, Medium, Low)*	

3 Cost Effectiveness and Financial Feasibility
Develop solutions that ensure capital costs are commensurate with benefits and ensure financial feasibility
	➢ Provide a cost effective project which moves the most people at the lowest cost
	➢ Improve operating efficiency and cost effectiveness
		➢ *Rough order of magnitude of Capital cost (ranked High, Medium, Low)*
		  ➢ *Number of stations*
		  ➢ *Miles of underground alignment*
		  ➢ *Miles of at-grade alignment*
		  ➢ *Miles of elevated alignment*
		  ➢ *Total miles*
		  ➢ *Percent of alternative that is at-grade*
		➢ *Capital cost vs. benefit (ranked High, Medium, Low)*
			➢ *Capital cost estimate*
			➢ *User benefits per passenger mile*
			➢ *Annual O&M costs*
			➢ *Annualized cost per new daily transit trips compared to No-Build and TSM alternatives*
			➢ *Annualized cost per hour of transit system user benefit compared to No-Build and TSM alternatives*

4 Plan for Projected Growth in a Sustainable Manner *Incorporate project within*	➢ Implement an alternative that minimizes adverse impacts on the environment ➢ Decrease dependency on the single	➢ *Number of regulated natural resources (number of potential wetlands, river crossings, parks intersected or adjacent)* ➢ *Potential Noise/Vibration Impacts*	➢ *Reduction in vehicular delay compared to No-Build* ➢ *Expected level of impact after mitigation to biological, social*