



I-20 EAST TRANSIT INITIATIVE

Tier 1 and Tier 2 Alternatives Screening Report

Prepared for:
Metropolitan Atlanta Rapid Transit Authority

Prepared by:
AECOM/JJG Joint Venture
Atlanta, GA

February 2013

General Planning Consultant Services RFP P5413
Contract No. 200703566
Work Order No. 2009-06



Table of Contents

EXECUTIVE SUMMARY.....	ES-1
1.0 INTRODUCTION	1-1
1.1 EVALUATION METHODOLOGY.....	1-1
1.1.1 Tier 1 Screening	1-1
1.1.2 Tier 2 Screening	1-2
1.1.3 Evaluation Criteria and Measures of Effectiveness	1-2
2.0 TIER 1 EVALUATION CRITERIA AND MOES	2-1
2.1 MAINLINE ALTERNATIVES.....	2-1
2.1.1 Parallel I-20 Alignment	2-1
2.1.2 Connection to Edgewood Station Alignment.....	2-1
2.1.3 Heavy Rail Extension from Indian Creek	2-3
2.2 PANOLA ROAD AREA ALTERNATIVES	2-3
2.2.1 Parallel I-20 Sub-Alignment.....	2-3
2.2.2 Snapfinger Woods Drive Sub-Alignment	2-3
2.3 DOWNTOWN CONNECTIVITY ALTERNATIVES.....	2-3
2.3.1 Alternative 1 – Connection to King Memorial Station via Memorial Drive .	2-3
2.3.2 Alternative 2 – King Memorial Station and Downtown via Streetcar	2-3
2.3.3 Alternative 3 – King Memorial via Hill Street.....	2-5
2.3.4 Alternative 4 – Downtown via Streetcar	2-5
2.3.5 Alternative 5 – Garnett and Five Points	2-5
2.3.6 Alternative 6 – MMPT/Five Points.....	2-5
2.3.7 Alternative 7 – West End Station/Atlanta University Station/Ashby.....	2-5
2.3.8 Alternative 8 – Inman Park Station and Midtown via BeltLine	2-5
3.0 TIER 1 SCREENING.....	3-1
3.1 TIER 1 MEASURES OF EFFECTIVENESS	3-1
3.2 ALTERNATIVES EVALUATION RATINGS AND SCORES	3-2
3.3 GOAL 1: INCREASE MOBILITY AND ACCESSIBILITY.....	3-3
3.3.1 MOE: Transit Travel Times from Stonecrest to Five Points Station	3-3
3.3.2 Goal 1 Performance Ratings.....	3-3
3.3.3 Goal 1 Evaluation Results	3-3
3.4 GOAL 2: PROVIDE IMPROVED TRANSIT SERVICE WITHIN THE CORRIDOR ..	3-5
3.4.1 MOE: Total Transit Boardings.....	3-5
3.4.2 MOE: New Transit Riders.....	3-5
3.4.3 Goal 2 Performance Ratings	3-5
3.4.4 Goal 2 Evaluation Results	3-5
3.5 GOAL 3: SUPPORT LAND USE AND DEVELOPMENT GOALS.....	3-7
3.5.1 MOE: Land Available for Development or Redevelopment	3-7
3.5.2 Goal 3 Performance Ratings	3-8



3.5.3	Goal 3 Evaluation Results	3-10
3.6	GOAL 4: PROMOTE COST EFFECTIVE TRANSIT INVESTMENTS	3-11
3.6.1	MOE: Total Cost	3-11
3.6.2	Goal 4 Performance Ratings	3-11
3.6.3	Goal 4 Evaluation Results	3-11
3.7	GOAL 5: PRESERVE NATURAL AND BUILT ENVIRONMENT.....	3-13
3.7.1	MOE: Total Potential Residential and Commercial Displacements.....	3-13
3.7.2	Goal 5 Performance Ratings	3-13
3.7.3	Goal 5 Evaluation Results	3-13
3.8	GOAL 6: ACHIEVE A HIGH LEVEL OF COMMUNITY SUPPORT.....	3-15
3.8.1	MOE: Compliance with SAC Guiding Principles	3-15
3.8.2	MOE: Degree of Public Support.....	3-16
3.8.3	Goal 6 Performance Ratings	3-16
3.8.4	Goal 6 Evaluation Results	3-18
3.9	CUMULATIVE TIER 1 EVALUATION RESULTS.....	3-19
3.10	SUMMARY OF TIER 1 SCREENING.....	3-21
3.11	TIER 1 ALTERNATIVES ADVANCED TO TIER 2 SCREENING	3-25
3.11.1	Mainline Alternatives	3-25
3.11.2	Panola Road Area Alternatives	3-25
3.11.3	Downtown Connectivity Alternatives	3-25
4.0	TIER 2 ALTERNATIVES	4-1
4.1	TRANSIT TECHNOLOGIES CONSIDERED	4-1
4.2	DESCRIPTION OF TIER 2 ALTERNATIVES	4-1
4.2.1	Heavy Rail Transit Alternative 1 (HRT1).....	4-1
4.2.2	Light Rail Transit Alternative 1 (LRT1).....	4-4
4.2.3	Bus Rapid Transit Alternative 1 (BRT1).....	4-6
4.2.4	Heavy Rail Transit Alternative 2 (HRT2).....	4-8
4.2.5	Light Rail Alternative 2 (LRT2).....	4-10
4.2.6	Heavy Rail Transit Alternative 3 (HRT3).....	4-12
4.2.7	Baseline/TSM Alternative	4-14
4.2.8	No Build Alternative	4-14
4.2.9	Cost Estimates for Tier 2 Build Alternatives.....	4-16
4.3	ASSUMPTIONS AND DESIGN CRITERIA.....	4-16
5.0	TIER 2 SCREENING	5-1
5.1	TIER 2 SCREENING EVALUATION CRITERIA AND MOES.....	5-1
5.2	GOAL 1: INCREASE MOBILITY AND ACCESSIBILITY.....	5-1
5.2.1	Project Objective 1.1: Improve travel times for east-west travel.....	5-4
5.2.2	Project Objective 1.2: Improve transit accessibility within the corridor.....	5-4
5.2.3	Project Objective 1.3: Improve transit accessibility within the corridor.....	5-5
5.2.4	Project Objective 1.4: Improve travel options within the corridor.....	5-6



5.2.5	Goal 1 Evaluation Results	5-6
5.3	GOAL 2: PROVIDE IMPROVED TRANSIT SERVICE WITHIN THE CORRIDOR ..	5-9
5.3.1	Project Objective 2.1: Provide transit service with sufficient capacity to accommodate growing demand	5-9
5.3.2	Project Objective 2.2: Provide travel time competitive transit service in the corridor.....	5-10
5.3.3	Project Objective 2.3: Provide transit service for traditionally underserved populations	5-10
5.3.4	Goal 2 Evaluation Results	5-11
5.4	GOAL 3: SUPPORT LAND USE AND DEVELOPMENT GOALS.....	5-13
5.4.1	Project Objective 3.1: Promote economic development and revitalization.5-13	
5.4.2	Project Objective 3.2: Support adopted local land use plans	5-14
5.4.3	Project Objective 3.3: Encourage transit supportive land use and development patterns.....	5-14
5.4.4	Goal 3 Evaluation Results	5-15
5.5	GOAL 4: PROMOTE COST EFFECTIVE TRANSIT INVESTMENTS	5-17
5.5.1	Project Objective 4.1: Provide transit service that can be implemented, operated, and maintained with available resources.....	5-17
5.5.2	Goal 4 Evaluation Results	5-18
5.6	GOAL 5: PRESERVE THE NATURAL AND BUILT ENVIRONMENT	5-20
5.6.1	Project Objective 5.1: Provide transit service that can be implemented, operated, and maintained with available resources.....	5-21
5.6.2	Goal 5 Evaluation Results	5-21
5.7	GOAL 6: ACHIEVE A HIGH LEVEL OF COMMUNITY SUPPORT.....	5-23
5.7.1	Project Objective 6.1: Provide Transit Investments that are Supported by Local Stakeholders and the General Public.....	5-24
5.7.2	Goal 6 Evaluation Results	5-26
5.8	CUMULATIVE TIER 2 ALTERNATIVES EVALUATION RESULTS.....	5-28
5.9	TIER 2 SCREENING SUMMARY	5-29
6.0	NEXT STEPS.....	6-1



List of Tables

Table ES-1: Tier 1 Alignment Alternatives.....	ES2
Table ES-2: Tier 2 Description of Alternatives.....	ES-5
Table ES-3: Tier 2 Comparison of Alternatives	ES-7
Table ES-4: Assumptions	ES-7
Table ES-5: Tier 2 Evaluation Matrix	ES-8
Table 1-1: Evaluation Criteria and Measures of Effectiveness	1-3
Table 2-1: Tier 1 Build Alternatives.....	2-1
Table 3-1: Tier 1 Screening	3-1
Table 3-2: Sample MOE Ratings	3-2
Table 3-3: Sample MOE Ratings	3-2
Table 3-4: Sample MOE Ratings	3-2
Table 3-5: Performance Ratings for Goal 1 MOE	3-3
Table 3-6: Goal 1 Evaluation of Mainline Alternatives.....	3-4
Table 3-7: Goal 1 Evaluation of Panola Road Area Alternatives	3-4
Table 3-8: Goal 1 Evaluation of Downtown Connectivity Alternatives	3-4
Table 3-9: Performance Ratings for Goal 2 MOEs.....	3-5
Table 3-10: Goal 2 Evaluation of Mainline Alternatives.....	3-6
Table 3-11: Goal 2 Evaluation of Panola Road Area Alternatives	3-6
Table 3-12: Goal 2 Evaluation of Downtown Connectivity Alternatives	3-7
Table 3-13: Potential New Stations Associated with Tier 1 Mainline Alternatives	3-8
Table 3-14: Potential New Stations Associated with Tier 1 Panola Road Area Alternatives	3-8
Table 3-15: Acreage of Vacant and Underutilized Land within One-Half Mile of Proposed Stations	3-8
Table 3-16: Performance Ratings for Goal 3 MOEs.....	3-8
Table 3-17: Goal 3 Evaluation of Mainline Alternatives.....	3-10
Table 3-18: Goal 3 Evaluation of Panola Road Area Alternatives	3-10
Table 3-19: Goal 3 Evaluation of Downtown Connectivity Alternatives	3-11
Table 3-20: Performance Ratings for Goal 4 MOE	3-11
Table 3-21: Goal 4 Evaluation of Mainline Alternatives.....	3-12
Table 3-22: Goal 4 Evaluation of Panola Road Area Alternatives	3-12
Table 3-23: Goal 4 Evaluation of Downtown Connectivity Alternatives	3-13
Table 3-24: Ratings for Performance under Goal 5 MOEs	3-13
Table 3-25: Goal 5 Evaluation of Mainline Alternatives.....	3-14
Table 3-26: Goal 5 Evaluation of Panola Road Area Alternatives	3-14
Table 3-27: Goal 5 Evaluation of Downtown Connectivity Alternatives	3-15
Table 3-29: Ratings for Performance under Goal 6 MOEs	3-16
Table 3-28: Alternatives' Compliance with SAC Guiding Principles.....	3-17
Table 3-30: Goal 6 Evaluation of Mainline Alternatives.....	3-18
Table 3-31: Goal 6 Evaluation of Panola Road Area Alternatives	3-18
Table 3-32: Goal 6 Evaluation of Downtown Connectivity Alternatives	3-19
Table 3-33: Cumulative Tier 1 Evaluation of Alternatives	3-20
Table 3-34: Summary Comparison of Mainline Alternatives	3-21



Table 3-35: Summary Comparison of Panola Road Area Alternatives	3-21
Table 3-36: Summary Comparison of Downtown Connectivity Alternatives.....	3-22
Table 3-37: Advantages and Disadvantages of Mainline Alternatives.....	3-23
Table 3-38: Advantages and Disadvantages of Panola Road Area Alternatives.....	3-23
Table 3-39: Advantages and Disadvantages of Downtown Connectivity Alternatives.....	3-24
Table 4-1: Cost Estimates for Tier 2 Alternatives	4-16
Table 4-2: Major Assumptions	4-17
Table 4-3: Design Criteria	4-18
Table 5-1: Tier 2 Evaluation.....	5-2
Table 5-2: Performance Ratings for Objective 1.1 MOEs	5-4
Table 5-3: Performance Ratings for Objective 1.2 MOEs	5-5
Table 5-4: Performance Ratings for Objective 1.3 MOEs	5-5
Table 5-5: Performance Ratings for Objective 1.4 MOEs	5-6
Table 5-6: Goal 1 Evaluation Results	5-7
Table 5-7: Performance Ratings for Objective 2.1 MOEs	5-9
Table 5-8: Performance Ratings for Objective 2.2 MOEs	5-10
Table 5-9: Performance Ratings for Objective 2.2 MOEs	5-11
Table 5-10: Goal 2 Evaluation Results	5-12
Table 5-11: Performance Ratings for Objective 3.1 MOE	5-14
Table 5-12: Performance Ratings for Objective 3.2 MOE	5-14
Table 5-13: Performance Ratings for Objective 3.3 MOEs	5-14
Table 5-14: Goal 3 Evaluation Results	5-16
Table 5-15: Performance Ratings for Objective 4.1 MOEs	5-18
Table 5-16: Goal 4 Evaluation Results	5-19
Table 5-17: Performance Ratings for Objective 5.1 MOEs	5-21
Table 5-18: Goal 5 Evaluation Results	5-22
Table 5-19: Alternatives' Compliance with SAC Guiding Principles.....	5-25
Table 5-20: Performance Ratings for Objective 5.1 MOEs	5-26
Table 5-21: Goal 6 Evaluation Results	5-27
Table 5-22: Overall Tier 2 Evaluation Results	5-28
Table 5-23: Summary Comparison of Tier 2 Alternatives	5-29
Table 5-24: Advantages and Disadvantages of Tier 2 Alternatives	5-30



List of Figures

Figure ES-1: The DCA Process	ES-1
Figure ES-2: Tier 1 Alignment Alternatives	ES-3
Figure ES-3: Tier 1 Screening Results	ES-4
Figure ES-4: Transit Technologies Considered.....	ES-5
Figure ES-5: Map of Tier 2 Alternatives.....	ES-6
Figure 2-1: Mainline Alternatives and Panola Road Alternatives	2-2
Figure 2-2: Downtown Connectivity Alternatives	2-4
Figure 3-1: Proposed Stations for Tier 1 Mainline and Panola Road Area Alternatives	3-9
Figure 4-1: Transit Technologies Considered	4-1
Figure 4-2: HRT1 Alternative Concept.....	4-2
Figure 4-3: HRT1 Alternative Map	4-3
Figure 4-4: LRT1 Alternative Concept	4-4
Figure 4-5: LRT1 Alternative Map.....	4-5
Figure 4-6: BRT1 Alternative Concept.....	4-6
Figure 4-7: BRT1 Alternative Map	4-7
Figure 4-8: HRT2 Alternative Concept.....	4-8
Figure 4-9: HRT2 Alternative Map	4-9
Figure 4-10: LRT2 Alternative Concept.....	4-10
Figure 4-11: LRT2 Alternative Map.....	4-11
Figure 4-12: HRT3 Alternative Concept	4-12
Figure 4-13: HRT3 Alternative Map	4-13
Figure 4-14: Baseline/TSM Alternative	4-15