



Contents

S. Executive Summary ES-1

S.1	Introduction.....	ES-1
S.2	Purpose of this Study.....	ES-3
S.3	Background	ES-6
S.4	Purpose and Need for Transit Investment.....	ES-10
S.5	Community Input Process	ES-30
S.6	Alternatives Identification and Evaluation Methodology	ES-31
S.7	Alternative Recommendations	ES-40
S.8	Transportation Impacts & Benefits	ES-54
S.9	Environmental Impacts & Benefits	ES-63
S.10	Financial Analysis.....	ES-71
S.11	Issues to be Resolved	ES-72
S.12	Conclusion.....	ES-74

1.0 Overview of Purpose & Need..... 1-1

1.1	Introduction.....	1-1
1.2	History and Background	1-3
1.2.1	Location	1-3
1.2.2	Study Area History	1-3
1.3	Past Studies.....	1-4
1.4	Study Area Demographics	1-7
1.5	Transportation Facilities and Services	1-18
1.5.1	Regional Transit Context.....	1-18
1.5.2	Transportation Facilities and Services in the Study Area	1-19
1.5.2.1	Metro Rail	1-19
1.5.2.2	Metro Bus	1-22
1.5.2.3	Commuter Rail	1-24
1.6	Performance of the Travel System.....	1-24
1.6.1	Traffic Volumes and Operating Conditions	1-25
1.6.2	Transit Operating Conditions.....	1-37
1.6.3	Regional Objectives	1-49
1.7	Project Purpose	1-51
1.8	Major Themes Supporting Transit Needs in the Study Area	1-51
1.8.1	Need for Transit Improvements Based on Current and Future Transit Conditions	1-51
1.8.2	Transit Usage	1-53
1.8.3	Regional Population and Employment Growth	1-54
1.8.4	Significant Transit Dependent Populations in the Study Area	1-62



1.8.5 Population and Employment Densities	1-75
1.8.6 Travel Demand Justifies the Need for Transit Services	1-80
1.8.7 Local Land Use Policies and Guidelines that Support Transit	1-82
1.9 Potential Transit Markets.....	1-83
1.9.1 Activity Centers and Destinations	1-83
1.9.2 Local Redevelopment Plans and Transit Improvements.....	1-88
1.9.3 Air Quality and Environmental Sustainability	1-90
1.9.4 Travel Demand and Patterns	1-90
1.9.5 Summary of Travel Markets.....	1-91
1.10 Goals and Objectives	1-94
1.11 Role of this Alternatives Analysis Study	1-95

2.0 Alternatives Considered 2-1

2.1 Screened and Selection Process	2-1
2.1.1 Previous Studies.....	2-4
2.1.2 MTA/ FTA Scoping.....	2-4
2.1.3 Screening Criteria.....	2-4
2.1.4 Evaluation Criteria Development.....	2-6
2.2 Screening and Selection Process.....	2-15
2.3 Definition of Alternatives for further Study	2-42
2.3.1 No Build	2-42
2.3.2 Transportation System Management.....	2-46
2.3.3 At-Grade Emphasis LRT Alternative (Option A & B)	2-52
2.3.4 Underground Emphasis LRT Alternative.....	2-78
2.3.5 Station Locations	2-90
2.3.5.1 Underground Station on Flower St.....	2-90
2.3.5.2 At-Grade Station on Flower St.....	2-91
2.3.5.3 Grand Avenue Station.....	2-92
2.3.5.4 Split Station (City Hall)	2-92
2.3.5.5 Underground Station on 2 nd St.....	2-93
2.3.5.6 Optional Station o n 2 nd St	2-94

3. 0 Transportation Issues and Analysis 3-1

3.1 Introduction.....	3-1
3.2 Transit Analysis	3-1
3.2.1 Existing Service.....	3-2
3.2.2 No Build Alternative.....	3-5
3.2.3 Transportation System Management (TSM) Alternative	3-6
3.2.4 At-Grade Emphasis LRT Alternative	3-7



3.2.5	Underground Emphasis LRT Alternative.....	3-7
3.2.6	Ridership	3-8
3.3	Roadway Analysis.....	3-10
3.3.1	Parking Evaluation	3-21
3.4	Summary of Transportation Analysis	3-22
3.5	Conclusions.....	3-24

4.0 Affected Environment and Environmental Issues 4-1

4.1	Introduction.....	4-1
4.2	Land-Use and Economic Development.....	4-1
	4.2.1 Affected Environment	4-2
	4.2.1.1 Regulatory Framework	4-2
	4.2.1.2 Existing Conditions	4-4
	4.2.2 Evaluation Methodology	4-6
	4.2.3 Environmental Issues	4-7
4.3	Displacement and Relocation of Existing Uses	4-8
	4.3.1 Affected Environment	4-8
	4.3.1.1 Regulatory Framework	4-8
	4.3.1.2 Existing Conditions	4-8
	4.3.2 Evaluation Methodology	4-9
	4.3.3 Environmental Issues	4-10
4.4	Community and Neighborhood Impacts	4-10
	4.4.1 Affected Environment	4-11
	4.4.1.1 Existing Conditions	4-11
	4.4.1.2 Transit – Relevant Demographic Characteristics	4-13
	4.4.2 Evaluation Methodology	4-15
	4.4.3 Environmental Issues	4-15
4.5	Visual and Aesthetic Impacts	4-16
	4.5.1 Affected Environment	4-16
	4.5.1.1 Regulatory Framework	4-16
	4.5.1.2 Existing Conditions	4-16
	4.5.1.3 Potential Impacts	4-17
	4.5.2 Evaluation Methodology	4-22
	4.5.3 Environmental Issues	4-23
4.6	Air Quality Impacts	4-25
	4.6.1 Affected Environment	4-25
	4.6.1.1 Regulatory Framework	4-25
	4.6.1.2 Existing Conditions	4-28
	4.6.2 Evaluation Methodology	4-29
	4.6.3 Environmental Issues	4-29
4.7	Noise and Vibration	4-30



4.7.1 Affected Environment	4-30
4.7.1.1 Regulatory Framework	4-30
4.7.1.2 Existing Conditions	4-31
4.7.2 Evaluation Methodology	4-32
4.7.3 Environmental Issues	4-33
4.8 Ecosystems/Biological Resources	4-34
4.8.1 Affected Environment	4-34
4.8.1.1 Regulatory Framework	4-34
4.8.1.2 Existing Conditions	4-35
4.8.2 Evaluation Methodology	4-36
4.8.3 Environmental Issues	4-36
4.9 Geotechnical: Subsurface and Hazardous.....	4-36
4.9.1 Affected Environment	4-36
4.9.1.1 Geology and Subsurface Conditions- Geologic Features and Soils	4-36
4.9.1.2 Hazardous Materials.....	4-42
4.9.2 Evaluation Methodology	4-46
4.9.3 Environmental Issues	4-46
4.9.3.1 Geology and Subsurface Conditions	4-46
4.9.3.2 Hazardous Materials.....	4-47
4.10 Water Resources	4-47
4.10.1 Affected Environment	4-47
4.10.1.1 Regulatory Framework	4-47
4.10.1.2 Existing Conditions	4-49
4.10.2 Evaluation Methodology	4-51
4.10.3 Environmental Issues	4-51
4.11 Energy	4-53
4.11.1 Affected Environment	4-53
4.11.2 Evaluation Methodology	4-54
4.11.3 Environmental Issues	4-54
4.12 Historic, Archeological & Paleontological Resources.....	4-54
4.12.1 Affected Environment	4-55
4.12.1.1 Regulatory Framework	4-55
4.12.1.2 Existing Conditions	4-58
4.12.2 Evaluation Methodology	4-76
4.12.3 Environmental Issues	4-76
4.12.3.1 Construction.....	4-76
4.12.3.2 Operation	4-77
4.12.3.3 Paleontological Resources	4-78
4.13 Parklands and Other Community Facilities	4-79
4.13.1 Affected Environment	4-80
4.13.1.1 Regulatory Framework	4-80
4.13.1.2 Existing Conditions	4-80



	4.13.2 Evaluation Methodology	4-82
	4.13.3 Environmental Issues	4-82
4.14	Economic & Fiscal Impacts	4-84
	4.14.1 Affected Environment	4-84
	4.14.1.1 Existing Conditions	4-84
	4.14.2 Evaluation Methodology	4-85
	4.14.3 Environmental Issues	4-86
	4.14.3.1 Tax Revenue Impacts	4-86
	4.14.3.2 Construction – Related Economic Impacts	4-88
	4.14.3.3 Constriction – Related Employment	4-97
	4.14.3.4 Construction Spending on the Regional Economy.....	4-97
4.15	Safety & Security	4-98
	4.15.1 Affected Environment	4-98
	4.15.1.1 Existing Conditions	4-99
	4.15.1.2 Evaluation Methodology	4-100
	4.15.3 Environmental Issues	4-101
	4.15.3.1 Pedestrian Safety	4-101
	4.15.3.2 Motorist Safety	4-102
	4.15.3.3 Security	4-103
4.16	Construction Impacts	4-104
	4.16.1 Affected Environment	4-105
	4.16.1.1 Construction Methods	4-105
	4.16.1.2 General Construction Scenario.....	4-106
	4.16.1.3 Regulatory Framework	4-107
	4.16.1.4 Existing Conditions	4-107
	4.16.2 Evaluation Methodology	4-108
	4.16.3 Environmental Issues	4-109
4.17	Growth – Inducing Impacts.....	4-110
	4.17.1 Affected Environment	4-110
	4.17.1.1 Regulatory Framework	4-110
	4.17.1.2 Existing Conditions	4-111
	4.17.1.3 Regional Growth Projections	4-113
	4.17.1.4 PSA Growth Projections.....	4-113
	4.17.2 Evaluation Methodology	4-114
	4.17.3 Environmental Issues	4-114
4.18	Environmental Justice	4-115
	4.18.1 Affected Environment	4-115
	4.18.1.1 Regulatory Framework	4-115
	4.18.1.2 Existing Conditions – Sociodemographic Characteristics.....	4-116
	4.18.1.3 Public Participation	4-128
	4.18.1.4 Project Alignment Alternatives Screening Process	4-129
	4.18.2 Evaluation Methodology	4-130



4.19	4.18.3 Environmental Issues	4-130
4.19	Major Utilities.....	4-131
	4.19.1 Affected Environment	4-131
	4.19.2 Evaluation Methodology	4-132
	4.19.3 Environmental Issues	4-132
4.20	Summary of Environmental Issues	4-136
5.0 Financial Analysis		5-1
5.1	Introduction.....	5-1
	5.1.1 Background	5-2
	5.1.2 Status of the Regional Connector Transit Corridor in Existing Long Range Financial Plans.....	5-2
	5.1.3 Description of the Alternatives	5-2
5.2	Capitol Costs	5-6
	5.2.1 Capital Costs of the Alternatives	5-6
	5.2.2 Year of Expenditure Cost Analysis	5-10
5.3	Potential Capital Revenue Sources	5-12
	5.3.1 Conceptually Proposed Funding Sources	5-13
	5.3.1.1 Conceptually Proposed Federal Sources	5-13
	5.3.1.2 Conceptually Proposed Local/State Funding Sources.....	5-15
	5.3.2 Other Potential Funding Sources	5-17
	5.3.2.1 Potential State Source.....	5-17
	5.3.3 Potential Financing Strategies	5-22
5.4	Operations and Maintenance (O & M) Costs and Revenues	5-23
	5.4.1 O & M Costs.....	5-23
	5.4.2 O & M Revenue Sources.....	5-25
	5.4.2.1 Farebox Revenues and Farebox Recovery.....	5-25
	5.4.2.2 Operating Support from Metro	2-25
5.5	Summary of Findings.....	5-26
6.0 Community Outreach and Public Involvement		6-1
6.1	Understanding of Public Outreach Challenges and Opportunities	6-1
	6.1.2 Community Outreach and Public Involvement Program	6-1
	6.1.3 Stakeholder Identification and Database Development.....	6-2
6.2	Public Meetings.....	6-2
	6.2.1 Early Scoping Meetings	6-2
	6.2.2 Agency Early Scoping Meeting	6-4
	6.2.3 Public Early Scoping Meetings	6-4
	6.2.3.1 Overview of Comments Received.....	6-5
6.3	Community Update Meeting Series #1	6-7



6.4	6.4.1 Overview of Comments Received.....	6-9
	Community Update Meeting Series #2	6-10
6.5	6.4.1 Overview of Comments Received.....	6-11
	Additional Meetings.....	6-12
	6.5.1 Additional Stakeholder Outreach Meetings	6-12
	6.5.1.1 Little Tokyo	6-13
	6.5.1.2 Bringing Back Broadway	6-14
6.6	Collateral Materials	6-19
	6.6.1 Meeting Notices.....	6-19
	6.6.2 Fact Sheets	6-20
	6.6.3 FAQs	6-20
	6.6.4 Project Website	6-20
	6.6.5 Project Information Line	6-20
	6.6.6 Media Relations (Print & Broadcast)	6-20
	6.6.7 New Media	6-21

7.0 Comparative Analysis of Alternatives..... 7-1

7.1	Introduction	7-1
7.2	Approach	7-1
7.3	Goal 1: Support Community Planning Efforts	7-3
	7.3.1 Initial Screening Criteria	7-3
	7.3.2 Final Screening Criteria.....	7-5
7.4	Goal 2: Support Public Involvement and Community.....	7-6
	7.4.1 Initial Screening Criteria	7-7
	7.4.2 Final Screening Criteria.....	7-9
7.5	Goal 3: Improve Mobility and Accessibility both Locally and Regionally.....	7-11
	7.5.1 Initial Screening Criteria	7-11
	7.5.2 Final Screening Criteria.....	7-14
7.6	Goal 4: Support Efforts to Improve Environmental Quality	7-17
	7.6.1 Initial Screening Criteria	7-17
	7.6.2 Final Screening Criteria.....	7-18
7.7	Goal 5: Provide a Cost Effective Alternative Transportation System	7-20
	7.7.1 Initial Screening Criteria	7-20
	7.7.2 Final Screening Criteria.....	7-21
7.8	Goal 6: Achieve a financially Feasible Project	7-21
	7.8.1 Initial Screening Criteria`	7-21
	7.8.2 Final Screening Criteria.....	7-23
7.9	Goal 7: Provide a Safe and Secure Alternative Transportation System	7-23
	7.9.1 Initial Screening Criteria	7-24
	7.9.2 Final Screening Criteria.....	7-25
7.10	Summary of Recommendations	7-26
7.11	Tradeoffs Between Alternatives	7-27



Appendices

Appendix A References

Appendix B Transit Lines Serving the Project Study Area

Appendix C Bus Lines Serving both Union Station and 7th St./Metro Center Station

Appendix D Acronyms

Appendix E List of Preparers