

TABLE OF CONTENTS

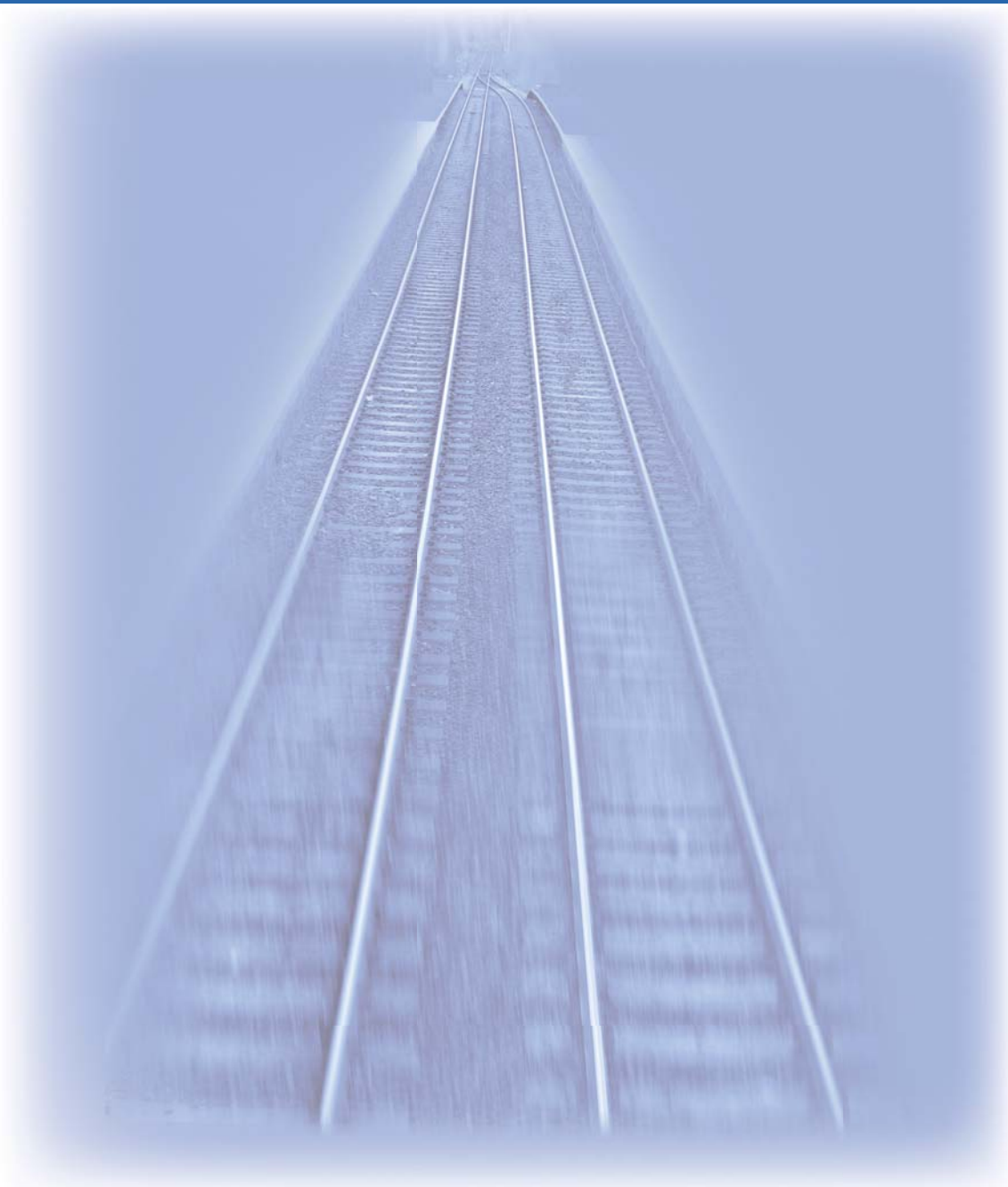


Table of Contents

S.1 Tier 2 Evaluation: Springfield Rail Improvements Project (Volume II)	
Summary	S-1
S.1.1 Springfield Background	S-1
S.1.2 Springfield Purpose and Need	S-1
S.1.3 Springfield Alternatives Considered	S-4
S.1.4 Summary of Springfield Impacts.....	S-4
S.1.5 Environmental Justice	S-6
S.1.6 Springfield Preferred Alternative	S-8
S.1.7 Summary of Mitigation.....	S-9
1.0 INTRODUCTION	1-1
1.1 Tiering Process.....	1-1
1.2 Tier 1 Alternatives in Springfield	1-1
1.3 Springfield Rail Improvement Alternatives	1-2
1.4 Anticipated Decisions	1-4
2.0 PURPOSE AND NEED FOR THE SPRINGFIELD RAIL IMPROVEMENTS PROJECT	2-1
2.1 Project Background	2-1
2.1.1 Springfield Rail Improvements Project.....	2-1
2.2 Purpose.....	2-5
2.2.1 Chicago to St. Louis High-Speed Rail	2-5
2.2.2 Springfield Rail Improvements Project.....	2-5
2.3 Need.....	2-5
2.3.1 Chicago to St. Louis High-Speed Rail Program Need	2-5
2.3.2 Springfield Rail Improvements Project Need	2-8
2.3.3 Goals and Objectives.....	2-16
2.4 Major Authorizing Laws and Regulations	2-17
2.5 Scoping.....	2-17
3.0 ALTERNATIVES	3-1
3.1 Tier 2 Alternatives Screening Process	3-1
3.1.1 Alternatives Screening and Selection Process	3-1
3.2 No-Build Alternative	3-4

3.3	Build Alternatives	3-4
3.3.1	Alternative 1.....	3-5
3.3.2	Alternative 2.....	3-13
3.4	Springfield Tier 2 Screening of Alternatives.....	3-13
3.4.1	Safety	3-13
3.4.2	Congestion.....	3-17
3.4.3	Livability and Commercial Activity	3-18
3.4.4	Present Value and Capital Costs.....	3-19
3.4.5	Operational Issues	3-23
3.4.6	Right-of-Way Required	3-23
3.4.7	Impacts to Social and Economic Resources	3-24
3.4.8	Tier 2 Screening Results.....	3-25
3.5	Alternatives Carried Forward for Detailed Study	3-25
3.6	Preferred Alternative	3-26
4.0	AFFECTED ENVIRONMENT	4-1
4.1	Existing Land Use.....	4-1
4.2	Socio-economic and Environmental Justice Population Characteristics ..	4-3
4.2.1	Population and Population Distribution	4-3
4.2.2	Demographics.....	4-3
4.2.3	Economics and Employment.....	4-4
4.2.4	Income and Wages	4-7
4.2.5	Environmental Justice and Title VI.....	4-7
4.2.6	Transportation Network	4-17
4.2.7	Communities, Facilities, and Services	4-17
4.3	Energy.....	4-25
4.4	Agriculture.....	4-25
4.5	Cultural Resources	4-25
4.5.1	Historic Resources in the Area of Potential Effect.....	4-29
4.5.2	Archaeological Resources	4-32
4.6	Natural Resources	4-33
4.6.1	Ecological Resources.....	4-33
4.6.2	Threatened and Endangered Species	4-35
4.6.3	Natural Areas.....	4-38
4.7	Air Quality.....	4-38
4.7.1	Air Quality Conformity	4-38
4.7.2	Mobile Source Air Toxics	4-39
4.7.3	Ambient Air Quality	4-39
4.8	Noise/Vibration	4-40
4.8.1	Noise and Vibration Impact Criteria	4-40

4.8.2	Existing Conditions	4-45
4.9	Water Quality/Resources	4-51
4.9.1	Surface Water Resources	4-51
4.9.2	Water Quality	4-53
4.9.3	Groundwater	4-53
4.10	Floodplains	4-53
4.11	Wetlands	4-54
4.12	Utilities	4-54
4.13	Visual and Aesthetic Quality	4-56
4.14	Special Waste	4-56
4.15	Section 4(f)/6(f) and Parklands	4-59
4.15.1	Section 4(f) Resources	4-59
4.15.2	Section 6(f) Lands	4-62
4.16	Safety and Security	4-62
4.16.1	Rail Operations Safety and Security	4-62
4.16.2	Crossing Safety	4-63
5.0	ENVIRONMENTAL CONSEQUENCES	5-1
5.1	Land Use Impacts	5-2
5.1.1	No-Build Alternative	5-2
5.1.2	The Preferred Alternative and Alternative 2B	5-2
5.2	Socio-economics, Environmental Justice, and Community Impacts	5-3
5.2.1	Relocation	5-3
5.2.2	Environmental Justice and Title VI	5-8
5.2.3	Public Services/Facilities	5-13
5.2.4	Community Impacts	5-14
5.2.5	Economic Benefits and Impacts	5-27
5.3	Energy	5-28
5.4	Agriculture	5-29
5.5	Cultural Resources	5-29
5.5.1	Archaeological Resources	5-33
5.6	Natural Resources	5-34
5.6.1	Threatened and Endangered Species	5-34
5.6.2	Natural Areas	5-34
5.7	Air Quality	5-34
5.7.1	Conformity	5-34
5.7.2	Mobile Source Air Toxics	5-35
5.7.3	Local Air Quality	5-35

5.7.4	Construction Impacts.....	5-37
5.8	Noise/Vibration	5-37
5.8.1	Noise and Vibration Projections	5-37
5.8.2	Noise and Vibration Impact Assessment.....	5-41
5.8.3	Construction Noise Impact Assessment	5-45
5.8.4	Noise and Vibration Mitigation	5-46
5.9	Water Quality/Resources	5-48
5.9.1	Surface Water Impacts.....	5-48
5.9.2	Groundwater.....	5-49
5.10	Floodplains	5-49
5.11	Wetlands	5-50
5.12	Utilities.....	5-50
5.13	Visual and Aesthetic Quality	5-50
5.14	Special Waste	5-50
5.15	Section 4(f)/6(f) and Parklands	5-50
5.16	Safety and Security	5-50
5.17	Permits.....	5-54
5.18	Construction Impacts.....	5-54
5.19	Indirect and Cumulative Impacts.....	5-55
5.19.1	Indirect Impacts.....	5-55
5.19.2	Cumulative Impacts.....	5-56
5.20	Other Impacts.....	5-57
5.20.1	Railroad Operations.....	5-57
5.20.2	Reduce Train Horn Blowing	5-58
5.21	The Relationship Between Local Short-Term Uses and Man’s Environment and the Maintenance and Enhancement of Long-Term Productivity	5-59
5.22	Irreversible and Irretrievable Commitments of Resources.....	5-59
5.23	Transportation Impacts	5-60
5.23.1	Service Development Plan	5-60
5.23.2	Capital Cost.....	5-60
5.23.3	Travel Benefits	5-60
5.23.4	Additional Impacts to Rail, Air and Bus Service	5-61
5.24	Mitigation Actions	5-61
6.0	COMMENTS AND COORDINATION.....	6-1
6.1	Agency Coordination.....	6-1

6.1.1	Federal Agency Coordination	6-1
6.1.2	State Agency Coordination	6-2
6.1.3	Local Governments	6-2
6.2	Technical Committee.....	6-3
6.3	Public Involvement Activities	6-3
6.3.1	Stakeholder Interviews.....	6-3
6.3.2	Stakeholder Advisory Groups.....	6-3
6.3.3	Communications, Outreach, and Engagement.....	6-4
6.3.4	Public Open Houses Prior to Draft EIS	6-6
6.3.5	Springfield Public Hearing	6-11
6.3.6	Comments on the Tier 2 Draft EIS	6-12
7.0	LIST OF PREPARERS.....	7-1
8.0	DISTRIBUTION OF THE FINAL EIS	8-1
9.0	REFERENCES.....	9-1
APPENDICES		
Appendix A Correspondence		
Appendix B Alternatives 2A and 2B Exhibits		
Appendix C Environmental Justice Analysis Technical Report		
Appendix D Special Waste		
Appendix E Public Involvement		
Appendix F Public Hearing Documentation		

Exhibits

Exhibit S.1-1. Existing Railroad Corridors	S-3
Exhibit 2-1A. Project Location	2-2
Exhibit 2-1B. Project Area Location.....	2-3
Exhibit 2-2. Existing Railroad Corridors	2-7
Exhibit 2-3. Existing Tracks on 3 rd Street	2-11
Exhibit 2-4. Location and Magnitude of Crossing Delays	2-13
Exhibit 2-5. Springfield’s Medical District	2-15
Exhibit 3-1. Alternative 1A	3-8
Exhibit 3-2. Alternative 1B.....	3-9
Exhibit 3-3. Alternative 1C	3-10
Exhibit 3-4. Passenger Station on 3 rd Street.....	3-12
Exhibit 3-5. Alternative 2A	3-14
Exhibit 3-6. Alternative 2B.....	3-15
Exhibit 3-7. Passenger Station on 10 th Street	3-16
Exhibit 4-1. Existing Land Use.....	4-2
Exhibit 4-2. Economic Activity Centers	4-6
Exhibit 4-3. Racial Minority Percentages by Census Block.....	4-12
Exhibit 4-4. Black Population percentages by Census Block	4-13
Exhibit 4-5. Racial Minority other than Black Percentages by Census Block.....	4-14
Exhibit 4-6. Hispanic or Latino Minority Percentages by Census Block	4-15
Exhibit 4-7. Low-Income Percentages by Census Block.....	4-16
Exhibit 4-8. Roadways	4-18
Exhibit 4-9. Bus Routes	4-22
Exhibit 4-10. Neighborhood Associations.....	4-23
Exhibit 4-11. Community Facilities	4-24
Exhibit 4-12. Bike Trails	4-26
Exhibit 4-13. National Register Sites within the Area of Potential Effect (APE)	4-28
Exhibit 4-14. Noise and Vibration Locations	4-46
Exhibit 4-15. Watersheds	4-51
Exhibit 4-16. Streams and Floodplains	4-52
Exhibit 4-17. NWI Mapped Wetlands.....	4-55
Exhibit 4-18. Section 4/6(f) Parks and Recreational Facilities	4-61
Exhibit 5-1A. Adverse Travel Preferred Alternative	5-15
Exhibit 5-1B. Adverse Travel Preferred Alternative.....	5-16
Exhibit 5-1C. Adverse Travel Preferred Alternative	5-17
Exhibit 5-2A. Adverse Travel Alternative 2B	5-18
Exhibit 5-2B. Adverse Travel Alternative 2B.....	5-19
Exhibit 5-2C. Adverse Travel Alternative 2B.....	5-20
Exhibit 5-3. Underpass – 10 th Street.....	5-23
Exhibit 5-4. Underpass Separation – 19 th Street.....	5-24

Tables

Table S.1-1. Environmental Impact Summary of Alternatives 2A and 2B	S-4
Table S.1-2. Mitigation	S-9
Table 1-1. Summary of Springfield Tier 1 Screening.....	1-3
Table 2-1. Number of Trains Through Springfield	2-8
Table 2-2. Springfield At-Grade Crossings and Grade Separations.....	2-9
Table 2-3. Springfield Illinois ICC Accident Data for all Years (1955-2010).....	2-9
Table 2-4. Springfield Illinois ICC Trespassing Incidents, 2000-2010	2-9
Table 2-5. Community Buildings Along 3 rd Street and 10 th Street Corridors	2-15
Table 3-1. Tier 2 Objectives and Screening Criteria	3-2
Table 3-2. Tier 2 Alternatives	3-7
Table 3-3. Predicted Crashes	3-17
Table 3-4. Vehicle Delays.....	3-17
Table 3-5. Horn Blowing.....	3-18
Table 3-6. Annual and Rehabilitation Cost Assumptions.....	3-19
Table 3-7. Present Value of Annual and Rehabilitation Costs (Millions)	3-21
Table 3-8. Capital Cost for Each Alternative.....	3-21
Table 3-9. Number of At-Grade Street Crossings and New Grade Separations.....	3-23
Table 3-10. Additional Right-of-Way.....	3-24
Table 3-11. Displacements and Access Changes	3-24
Table 3-12. Summary of Springfield Tier 2 Screening.....	3-28
Table 4-1. Land Uses Within the Project Area	4-1
Table 4-2. Populations and Households.....	4-3
Table 4-3. Population by Racial Composition (2010).....	4-4
Table 4-4. Labor Force Estimates for 2010.....	4-4
Table 4-5. Employment by Industry Category for Sangamon County for 2009	4-5
Table 4-6. Major Employers in Sangamon County (November 2009).....	4-5
Table 4-7. Median Household Income.....	4-7
Table 4-8. Race and Ethnic Characteristics in 2010 by Percent	4-10
Table 4-9. Median Household Income and Poverty Status in 2010.....	4-10
Table 4-10. Racial and Ethnic Minorities, and Low-Income Populations.....	4-11
Table 4-11. Streets Crossed by Rail Corridor	4-19
Table 4-12. NHRP and NHRP-Eligible Resources within the APE - 10 th Street Corridor ⁽¹⁾	4-30
Table 4-13. Air Quality Monitor Data for Springfield, Illinois (2007-2009)	4-39
Table 4-14. FTA Land Use Categories.....	4-41
Table 4-15. FTA Ground-Borne Vibration and Ground-Borne Noise Impact Criteria .	4-44
Table 4-16. Ground-Borne Vibration and Noise Impact Criteria for Special Buildings	4-44
Table 4-17. FTA Construction Noise Criteria	4-45
Table 4-18. Summary of Existing Ambient Noise Measurement Results.....	4-47
Table 4-19. Existing Vibration Measurements Locations ⁽¹⁾	4-50

Table 4-20. CERCLIS Sites within the Project Area	4-58
Table 4-21. Hazardous Materials Sites within Project Area (10 th Street Corridor)	4-58
Table 5-1. Environmental Impact Summary of the Preferred Alternative and Alternative 2B.....	5-1
Table 5-2. Residential and Commercial Displacements	5-3
Table 5-3. Environmental Justice Analysis Summary	5-10
Table 5-4. Miles of Rail Corridor Through Residential Neighborhoods	5-21
Table 5-5. Grade Separations	5-22
Table 5-6. Maximum Adverse Travel for Enterprise Street.....	5-25
Table 5-7. Properties of Architectural Significance within the Area of Potential Effect- 10 th Street Corridor ⁽¹⁾	5-32
Table 5-8. Summary of Noise Impact Results.....	5-42
Table 5-9. The Preferred Alternative and Alternative 2B Land Use Category 2 Vibration Impact Summary	5-43
Table 5-10. The Preferred Alternative and Alternative 2B Land Use Category 3 Vibration Impact Summary	5-44
Table 5-11. Potential Resources Not Qualifying for Protection Under Section 4(f)	5-53
Table 5-12. Predicted Crashes	5-53
Table 5-13. Number of At-Grade Street Crossing for each Alternative	5-58
Table 5-14. Horn Blowing	5-58
Table 5-15. Capital Cost for each Alternative	5-60
Table 5-16. Mitigation Commitments	5-62
Table 6-1. Community Presentations.....	6-5
Table 6-2. Public Response Summary - Alternative Which Best Addresses Accommodating Increasing Rail Traffic.....	6-9
Table 6-3. Public Response Summary - Factors Considered in Alternative Selection ..	6-10

Charts

Chart 4-1. FTA Project Noise Impact Criteria..... 4-42

Chart 4-2. Increase in Cumulative Noise Exposure Allowed by FTA Criteria 4-43