

ACRONYMS AND ABBREVIATIONS

AADT Annual Average Daily Traffic

ACHP Advisory Council on Historic Preservation

ADT Average Daily Traffic

AST Above Ground Storage Tank

ASTM American Society for Testing and Materials

BDE Bureau of Design and Environment

BMPs Best Management Practices

BSRS Biological Stream Rating System

CAGs Community Advisory Groups

CBD Central Business District

C-D Collector-Distributor

CDAP Community Development Assistance Program

CEQ Council on Environmental Quality

CERCLIS Comprehensive Environmental Response Compensation and Liability Information System

CFR Code of Federal Regulations

CH₄ Methane

CIPD Central Illinois Public Transit

CNE Common Noise Environment

CO Carbon Monoxide

CO₂ Carbon Dioxide

CO₂e Carbon Dioxide Equivalent

CPL US Census-American Community Survey Census Poverty Level

CR County Road

CRP Conservation Reserve Program

CSS Context Sensitive Solutions

CWA Clean Water Act

dB(A) A-Weighted Decibel

DEIS Draft Environmental Impact Statement

DNR Department of Natural Resources

DO Dissolved Oxygen

DOT Department of Transportation

EIA Energy Information Administration

EIS Environmental Impact Statement

EPA Environmental Protection Agency

EPT Ephemeroptera (mayflies); Plecoptera (stoneflies); and Trichoptera (caddisflies)

ESA Endangered Species Act

ESDA Emergency Services Disaster Agency

FAA Federal Aviation Administration

FAQ Frequently Asked Question

FEIS Final Environmental Impact Statement

FEMA Federal Emergency Management Agency

FHWA Federal Highway Administration

FQI Floristic Quality Index

FSA Farm Service Agency

FTA Federal Transit Administration

GHG Greenhouse Gas

HHS US Department of Health and Human Services

IDNR Illinois Department of Natural Resources

IDOA Illinois Department of Agriculture

IDOT Illinois Department of Transportation

IDPH Illinois Department of Public Health

IEMA Illinois Emergency Management Agency

IEPA Illinois Environmental Protection Agency

IHPA Illinois Historic Preservation Agency

IL Illinois

INAI Illinois Natural Area Inventory

INHS Illinois Natural History Survey

IPCB Illinois Pollution Control Board

ISAS Illinois State Archaeological Survey

ISGS Illinois State Geological Survey

IWPA Interagency Wetland Policy Act of 1989

L(eq) Noise Level

LESA Land Evaluation and Site Assessment

LUST Leaking Underground Storage Tank

mg/L Milligrams per Liter

MOVES Motor Vehicle Emission Simulator

mph Miles per Hour

N₂O Nitrogen Dioxide

NAC Noise Abatement Criteria

NASS National Agricultural Statistics Service

NCHRP National Cooperative Highway Research Program

NEPA National Environmental Policy Act

NFR No Further Remediation

NHPA National Historic Preservation Act

NPDES National Pollutant Discharge Elimination System

NPS National Park Service

NRI Nationwide Rivers Inventory

NRCS Natural Resources Conservation Service

NS Not Sampled

NWI National Wetland Inventory

OWR Office of Water Resources

PCBs Polychlorinated Biphenyls

PESA Preliminary Environmental Site Assessment

PIM Public Information Meeting

ppm Parts per Million

PSG Project Study Group

PSI Preliminary Site Investigation

RAG Regional Advisory Group

RCOA Ramsey Creek Option A

RCOB Ramsey Creek Option B

RCRA Resource Conservation and Recovery Act

REC Recognized Environmental Condition

ROW Right of Way

SAFETEA-LU Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users

SCIRPDC South Central Illinois Regional Planning and Development Commission

SCT South Central Transit

SDWA Safe Drinking Water Act

SHPO State Historic Preservation Office

SIP State Implementation Plan

TDM Travel Demand Management

TMDL Total Maximum Daily Load

TNM Traffic Noise Model

TSM Transportation System Management

US United States

USACE United States Army Corps of Engineers

USC United States Code

USDA United States Department of Agriculture

USDOT United States Department of Transportation

USEPA United States Environmental Protection Agency

USFS United States Forest Service

USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

UST Underground Storage Tank

VCAG Reorganized Vandalia Community Advisory Group

VMT Vehicle Miles Traveled

VOC Volatile Organic Compound

vpd Vehicles per Day

WQC Water Quality Certification

Yr Year

This page intentionally left blank.

TABLE OF CONTENTS

VOLUME I

Executive Summary	i
Chapter 1. Purpose and Need	
1.1 Project Location and Background.....	1-2
1.2 The Project Need.	1-5
Chapter 2. Alternatives	
2.1 Alternative Development.....	2-1
2.2 Alternative Evaluation.....	2-5
2.3 Remaining Alternatives Carried Forward for Detailed Study.....	2-32
2.4 Preferred Alternative.....	2-57
Chapter 3. Environmental Resources, Impacts, and Mitigation	
3.1 Social and Economic Impacts.....	3-1
3.1.1 Land Use and Zoning.....	3-2
3.1.2 Public Facilities.....	3-12
3.1.3 Population Characteristics.....	3-19
3.1.4 Neighborhoods.....	3-32
3.1.5 Jobs and Economics.....	3-45
3.1.6 Property Acquisition.....	3-57
3.2 Agricultural Resources.....	3-69
3.3 Historic, Cultural, and Archaeological Resources.....	3-85
3.4 Air Quality.....	3-88
3.5 Noise.....	3-93
3.6 Energy.....	3-111
3.7 Natural Resources.....	3-111
3.7.1 Vegetation and Land Cover.....	3-111
3.7.2 Wildlife Resources.....	3-122
3.7.3 Threatened and Endangered Species.....	3-129
3.7.4 Natural Areas.....	3-138
3.8 Water Resources and Aquatic Habitats.....	3-143
3.9 Groundwater Resources.....	3-167
3.10 Floodplains.....	3-175
3.11 Wetlands.....	3-191
3.12 Special Waste.....	3-213
3.13 Recreation and Special Lands.....	3-221
3.14 Permits and Certifications.....	3-222
3.15 Visual Resources.....	3-222

3.16 Indirect Impacts and Cumulative Impacts.....	3-226
3.17 Short-Term Uses versus Long-Term Productivity.....	3-235
3.18 Irreversible and Irretrievable Commitment of Resources.....	3-235
3.19 Environmental Commitments and Mitigation.....	3-237
Chapter 4. Agency Coordination and Public Involvement	
4.1 Agency Coordination.....	4-1
4.2 Public Involvement.....	4-7
Chapter 5. List of Preparers	
Chapter 6. List of Agencies, Organizations, and Persons to Whom Copies of this Statement are Sent	
6.1 Federal Agencies.....	6-1
6.2 State Agencies.....	6-1
6.3 Local Agencies.....	6-2
6.4 Other Stakeholder Groups.....	6-4
6.5 Public Review Locations.....	6-5

Figures

Figure 1.1-1: Project Study Area.....	1-3
Figure 1.2-1: Major Employers Near Project Area.....	1-7
Figure 1.2-2: Crash Locations of Importance Based on Severity and Occurrence..	1-11
Figure 1.2-3: 2040 Average Daily Traffic.....	1-12
Figure 2.2-1: Alternative Screening in Centralia-Sandoval Area.....	2-17
Figure 2.2-2: Alternative Screening in Vernon-Patoka.....	2-20
Figure 2.2-3: Alternative Screening in Vandalia.....	2-26
Figure 2.2-4: Alternative Screening in Ramsey.....	2-29
Figure 2.2-5: Preliminary Alternatives near Ramsey Creek.....	2-30
Figure 2.2-6: Preliminary Alternatives near Opossum Creek.....	2-31
Figure 2.3-1: Alternatives Carried Forward for Detailed Study.....	2-34, 2-35
Figure 2.3-2: US 51 Build Alternative - Wamac to Junction City.....	2-36
Figure 2.3-3: CS Alt 1.....	2-37
Figure 2.3-4: CS Alt 2.....	2-38
Figure 2.3-5: US 51 Build Alternative - South of Patoka to Vandalia.....	2-39
Figure 2.3-6: V Alt 1.....	2-40
Figure 2.3-7: V Alt 2.....	2-41
Figure 2.3-8: V Alt 3.....	2-42
Figure 2.3-9: V Alt 4.....	2-43
Figure 2.3-10: Ramsey Creek Option A (RCOA).....	2-44

Figures

Figure 2.3-11: Ramsey Creek Option B (RCOB)..... 2-45

Figure 2.3-12: R Alt 1..... 2-46

Figure 2.3-13: R Alt 2..... 2-47

Figure 2.3-14: US 51 Build Alternative - North of Ramsey to Christian/Shelby County Line..... 2-48

Figure 2.3-15: US 51 Build Alternative Interchange with Existing US 51 near Wamac..... 2-50

Figure 2.3-16: US 51 Build Alternative Interchange with IL 161 in Centralia..... 2-50

Figure 2.3-17: CS Alt 1 and CS Alt 2 Interchanges with US 50 near Sandoval..... 2-51

Figure 2.3-18: V Alt 4 Interchanges with I-70 West of Vandalia..... 2-51

Figure 2.3-19: V Alt 4 Reconfiguration of Existing Interchange with I-70 on the East Side of Vandalia..... 2-52

Figure 2.4-1: US 51 Build Alternative..... 2-58

Figure 2.4-2: Remaining Alternatives in Centralia-Sandoval..... 2-59

Figure 2.4-3: Remaining Alternatives in Vandalia..... 2-61

Figure 2.4-4: Remaining Alternatives near Ramsey Creek..... 2-63

Figure 2.4-5: Remaining Alternatives in Ramsey..... 2-65

Figure 3.1-1: 2007 Centralia Land Use Map..... 3-6

Figure 3.1-2: 2011 Vandalia Zoning Map..... 3-9

Figure 3.1-3: Greenview Church and School on Greenview Church Road..... 3-14

Figure 3.1-4: Patoka School Campus on Kinoka Road..... 3-15

Figure 3.1-5: Vandalia Correctional Center..... 3-16

Figure 3.1-6 Kingdom Hall Jehovah’s Witness..... 3-17

Figure 3.1-7 Hopewell Baptist Church..... 3-18

Figure 3.1-8: Neighborhood on the West Side of Centralia..... 3-33

Figure 3.1-9: Neighborhoods on the North Side of Vandalia..... 3-34

Figure 3.1-10: Neighborhood North of Ramsey..... 3-35

Figure 3.1-11: CR 1550 N and CR 475 E (V Alt 4) at I-70 west of Vandalia..... 3-43

Figure 3.1-12: State and County Unemployment Rates..... 3-47

Figure 3.1-13: Location of Coals Mines, Oil Wells, and Gas Wells..... 3-56

Figure 3.1-14: US 51 Build Alternative Displacements..... 3-59, 3-60

Figure 3.1-15: Centralia-Sandoval Alternative Displacements..... 3-61

Figure 3.1-16: Vandalia Alternative Displacements..... 3-62

Figure 3.1-17: Ramsey Creek Options Alternative Displacements..... 3-63

Figure 3.1-18: Ramsey Alternative Displacements..... 3-64

Figure 3.2-1: Land Enrolled in the Conservation Reserve Program..... 3-72

Figure 3.2-2: Location of Centennial and Sesquicentennial Farms..... 3-74, 3-75

Figures

Figure 3.5-1: Common Indoor and Outdoor Sound Levels..... 3-95

Figure 3.5-2: Noise Receptor Locations..... 3-96, 3-97

Figure 3.7-1: Illinois Natural Areas Inventory Sites..... 3-139, 3-140

Figure 3.8-1: Location of Surface Water Resources..... 3-144, 3-145

Figure 3.8-2: Summary of Level of Organic Pollution in Project Area Streams.... 3-146

Figure 3.9-1: Private Wells in the Vandalia Area of Fayette County..... 3-169

Figure 3.10-1: Regulatory Floodplains in Project Study Area..... 3-177, 3-178

Figure 3.10-2: Kaskaskia River System Floodplain on the North Side of Vandalia 3-182

Figure 3.10-3: Crooked Creek Floodplain West of Centralia..... 3-186

Figure 3.10-4: Kaskaskia River System Floodplain South of Vandalia..... 3-187

Figure 3.11-1: Wetland Plant Communities by Percent (Based upon Number of Wetlands)..... 3-192

Figure 3.11-2: Wetland Plant Communities by Percent (Based upon Area of Wetlands)..... 3-193

Figure 3.11-3: Distribution of Floristic Quality of Wetlands..... 3-195

Figure 3.11-4: Wetland Impacts by Type Centralia-Sandoval Alternatives..... 3-199

Figure 3.11-5: Wetland Impacts by Type Vandalia Alternatives..... 3-200

Figure 3.11-6: Wetland Impacts by Type Ramsey Alternatives..... 3-201

Figure 3.12-1: Impacted REC Locations 3-216, 3-217

Figure 3.16-1: Land Cover..... 3-228

Figure 3.16-2: Trends In Number Of Farms..... 3-230

Figure 3.16-3: Trends In Farm Acres..... 3-231

Figure 3-16.4: Trends in Wetland Acres..... 3-232

Tables

Table 2.2-1: Criteria Considered in the Screening Analysis..... 2-6

Table 2.2-2: Criteria Considered in the Purpose and Need Analysis..... 2-8

Table 2.2-3: Resources Evaluated in the Macro Analysis and Alignment Analysis 2-9

Table 2.3-1 Summary of Alternatives Carried Forward for Detailed Study..... 2-33

Table 2.3-2: Design Characteristics and Resources Affected by the Alternatives Carried Forward for Detailed Study 2-55, 2-56

Table 2.4-1: Centralia-Sandoval Alternatives Design Characteristics and Resource Impacts..... 2-60

Table 2.4-2: Vandalia Alternatives Design Characteristics and Resource Impacts. 2-62

Table 2.4-3: Ramsey Creek Alternative Design Characteristics and Resource Impacts..... 2-64

Tables

Table 2.4-4: Ramsey Alternatives Design Characteristics and Resource Impacts...	2-66
Table 3.1-1: Population.....	3-21
Table 3.1-2: Age Composition (2010).....	3-22
Table 3.1-3 Racial & Ethnic Composition (2010).....	3-26
Table 3.1-4 Income (2006-2010).....	3-27
Table 3.1-5: Poverty Status (2006-2010).....	3-30
Table 3.1-6: Housing Characteristic (2006-2010).....	3-31
Table 3.1-7: Access Changes – US 51 Build Alternative.....	3-37, 3-38, 3-39
Table 3.1-8: Access Changes – Centralia-Sandoval Alternatives.....	3-39
Table 3.1-9: Access Changes – Vandalia Alternatives.....	3-40, 3-41
Table 3.1-10: Access Changes – Ramsey Creek Alternatives.....	3-42
Table 3.1-11: Access Changes – Ramsey Alternatives.....	3-42
Table 3.1-12: Driveway Access Impacts.....	3-44
Table 3.1-13: Major Employers in Study Area.....	3-46
Table 3.1-14: Unemployment Rate.....	3-46
Table 3.1-15: Construction-Related Employment (number of employees).....	3-49
Table 3.1-16: Travel-Dependent Businesses.....	3-50
Table 3.1-17: Travel-Dependent Businesses along Existing US 51.....	3-52
Table 3.1-18: Summary of Oil and Gas Wells by County.....	3-55
Table 3.1-19: Residential Displacements.....	3-65
Table 3.2-1: Farm Characteristics.....	3-70
Table 3.2-2: Prime and Farmland of Statewide Importance Statistics.....	3-71
Table 3.2-3: Centennial and Sesquicentennial Farm Statistics.....	3-73
Table 3.2-4: Farm Operation Impacts.....	3-78
Table 3.4-1: Global and Illinois GHG Emissions in Million Metric Tons CO ₂ Equivalent per Year.....	3-91
Table 3.5-1: NAC Categories in US 51 Study Area.....	3-94
Table 3.5-2: Traffic Noise Modeling Results S1: South Limit to Wamac (Rural Section).....	3-100
Table 3.5-3: Traffic Noise Modeling Results S2: Wamac, Centralia, Central City, Junction City, and Sandoval (Urban).....	3-101
Table 3.5-4: Traffic Noise Modeling Results S3: Sandoval to Patoka (Rural).....	3-102
Table 3.5-5: Traffic Noise Modeling Results S4: Patoka and Vernon (Urban) S5: Vernon to Shobonier (Rural).....	3-103
Table 3.5-6: Traffic Noise Modeling Results S6: Shobonier and Vandalia (Urban).....	3-104
Table 3.5-7: Traffic Noise Modeling Results S7: Vandalia to Ramsey (Rural).....	3-105

Tables

Table 3.5-8: Traffic Noise Modeling Results S8: Ramsey (Urban).....	3-106
Table 3.5-9: Traffic Noise Modeling Results S9: Ramsey to Oconee (Rural).....	3-106
Table 3.5-10: Traffic Noise Modeling Results S10: Oconee (Urban).....	3-107
Table 3.5-11: Traffic Noise Modeling Results S11: Oconee to North Limit (Rural).....	3-108
Table 3.7-1. Land Cover Types within Study Area.....	3-112
Table 3.7-2: Acres of Cover Type Impacted.....	3-119
Table 3.7-3: Acres Impacted of Large Forest Stands.....	3-121
Table 3.7-4: Acres of Predominant Wildlife Habitat Impacted by Cover Type.....	3-127
Table 3.7-5: Federally Threatened or Endangered Species by County.....	3-129
Table 3.8-1: Summary of Special Designation Stream Characteristics.....	3-148
Table 3.8-2: Summary of Stream Crossings for the Alternatives.....	3-160
Table 3.8-3: Construction Impacts for Special Designation Streams.....	3-162
Table 3.9-1: Summary of Private Water Wells by County.....	3-168
Table 3.9-2: Summary of Private Water Wells Potentially impacted by Alternatives.....	3-171
Table 3.9-3: Summary of Vandalia Private Water Wells Outside of Right-of- Way and within 200 Feet of Alternative.....	3-173
Table 3.10-1: Regulatory Floodplains in Project Study Area.....	3-176
Table 3.10-2: Centralia-Sandoval Alternative Floodplain Impact Summary.....	3-181
Table 3.10-3: Vandalia Alternative Floodplain Impact Summary.....	3-183
Table 3.10-4: Ramsey Creek Options Floodplain Impact Summary.....	3-184
Table 3.10-5: US 51 Build Alternative Floodplain Impacts.....	3-185
Table 3.10-6: US 51 Build Alternative Floodplain Impact Summary.....	3-188
Table 3.11-1: Description of Plant Community Types.....	3-193
Table 3.11-2: Wetland Impacts by Alternative.....	3-197
Table 3.11-3: Wetland Impacts for US 51 Build Alternative.....	3-198
Table 3.11-4: Wetland Impacts for Centralia-Sandoval Alternatives.....	3-198
Table 3.11-5: Wetland Impacts for Vandalia Alternatives.....	3-199
Table 3.11-6: Wetland Impacts for Ramsey Creek Options.....	3-200
Table 3.11-7: Wetland Impacts for the Ramsey Alternatives.....	3-201
Table 3.11-8: Anticipated Wetland Mitigation by Alternative.....	3-205
Table 3.11- 9: Anticipated Wetland Mitigation – US 51 Build Alternative.....	3-206, 3-207
Table 3.11- 10: Anticipated Wetland Mitigation – Centralia-Sandoval Alternatives.....	3-208
Table 3.11- 11: Anticipated Wetland Mitigation – Vandalia Alternatives.....	3-209, 3-210

Tables

Table 3.11- 12: Anticipated Wetland Mitigation – Ramsey Creek Options.....	3-211
Table 3.11- 13: Anticipated Wetland Mitigation – Ramsey Alternatives.....	3-211
Table 3.12-1: Special Waste Sites by Alternative.....	3-218
Table 3.12-2: REC Impacts by Vandalia Alternatives.....	3-218
Table 4.1-1: Project Study Group Meeting Summary.....	4-2
Table 4.1-2: NEPA/404 Merger Meeting Summary.....	4-5
Table 4.1-3: Federal and State Agency Meeting Summary.....	4-6
Table 4.1-4: Local Agency Meeting Summary.....	4-7
Table 4.2-1: Community Advisory Group (CAG) Meeting Summary.....	4-12
Table 4.2-2: Reorganized Vandalia Community Advisory Group (VCAG) Meeting Summary.....	4-16
Table 4.2-3: Regional Advisory Group (RAG) Meeting Summary.....	4-20
Table 4.2-4: Public Information Meeting (PIM) Summary.....	4-22
Table 5-1. Federal Highway Administration (FHWA)	5-1
Table 5-2. Illinois Department of Transportation (IDOT)	5-1
Table 5-3. Consultant Team.....	5-2

VOLUME II: Map Book**VOLUME III: Technical Appendix** (*electronic only*)

Air Quality

Noise Technical Report

Water Quality Technical Report

VOLUME IV: Agency Coordination and Public Involvement Materials
(*electronic only*)

Part A: Agency Coordination

Part B: Public Information Meetings and Stakeholder Outreach Materials

Part C: Stakeholder Advisory Groups

This page intentionally left blank.