11400 South Study Area

Identification Number:
FHWA-UT-EIS-04-03-F

Final Environmental Impact Statement
and Final Section 4(f) Evaluation

Submitted Pursuant to 42 U.S.C 4332 (2) (c) and 49 U.S.C. 303

by the

U.S. Department of Transportation, Federal Highway Administration

and

Utah Department of Transportation

6/1/05
Date of Approval

For Utah Department of Transportation

06/01/05
Date of Approval

For FHWA

The following persons may be contacted for additional information concerning this document:

Jeff Berna, Environmental Specialist
Federal Highway Administration
2520 West 4700 South, Suite 9A
Salt Lake City, UT 84118-1847
801-963-0182

Joe Kammerer, Project Manager
Utah Department of Transportation
2010 South 2760 West
Salt Lake City, UT 84104-4592
801-887-3435

This Final Environmental Impact Statement (FEIS)/Final Section 4(f) Evaluation analyzes the environmental consequences of proposed improvements to the transportation network in the southern Salt Lake Valley. The project study area extends from 12300/12600 South to 10400/10600 South, and from Bangerter Highway to 700 East. Maintaining the current quality of life is important to the cities and the residents within the study area. The purpose of this project is to maintain, protect, and improve the quality of life in the study area by improving mobility and providing transportation infrastructure to support economic development within the study area through the year 2030. Five alternatives, including the No-Build Alternative, were advanced and have been evaluated in this FEIS. The Build Alternatives include various combinations of the following actions: making improvements to existing roadways, constructing a new bridge and connecting roadway over the Jordan River, and constructing a new interchange on Interstate-15 (I-15).

Comments on this FEIS are due by July 10, 2005 and should be sent to:
11400 South EIS, c/o URS Corporation
756 East Winchester Street, Suite 400
Salt Lake City, UT 84107

11400 SOUTH

Environmental Impact Statement

Final Environmental Impact Statement and Final Section 4(f) Evaluation

May 2005

UDOT CONNECTING COMMUNITIES

Page

Executive Summary ES-1

Section 1 Purpose and Need 1-1
1.1 Description of Proposed Action 1-1
1.2 History 1-1
1.3 Need for the Proposed Action 1-4
1.4 Purpose of the Project 1-5
1.4.1 Description of Study Area 1-7
1.4.2 Need for Mobility Improvements 1-8
1.4.3 Economic Development 1-17
1.4.4 Context Sensitive Solutions/Public Input 1-21
1.4.5 Input from Cities 1-23
1.5 Purpose and Need Summary 1-23

Section 2 Alternatives 2-1
2.1 Alternatives Development 2-1
2.1.1 Initial Transportation Options 2-1
2.2 Tier 1 Screening Analysis 2-3
2.2.1 Alternatives Eliminated from Further Consideration by the Tier 1 Screening Analysis 2-3
2.2.2 Alternatives Carried Forward as a Result of the Tier 1 Screening Analysis 2-5
2.3 Tier 2 Screening Analysis 2-29
2.3.1 Level of Service and Mobility Analysis 2-29
2.3.2 Preliminary Economic Considerations 2-32
2.3.3 Relocations 2-32
2.3.4 Cost Analysis 2-32
2.3.5 Summary of the Tier 2 Screening Analysis 2-33
2.4 Alternatives Advanced for Detailed Analysis 2-34
2.4.1 Typical Cross Section for All Alternatives 2-34

2.4.2 Modifications to Typical Cross Section 2-36
2.4.3 Components of Alternatives Advanced 2-37
2.5 Comparison of Alternatives and Identification of Preferred Alternative 2-38

Section 3 Affected Environment 3-1
3.1 Land Use 3-1
3.1.1 Draper 3-1
3.1.2 Riverton 3-5
3.1.3 Sandy 3-5
3.1.4 South Jordan 3-5
3.2 Prime & Unique Farmland, and Farmland of Local Importance 3-6
3.3 Social Conditions, Including Environmental Justice 3-6
3.3.1 Social Conditions 3-6
3.3.2 Environmental Justice 3-8
3.4 Economic Conditions 3-13
3.5 Recreational Resources 3-16
3.6 Air Quality 3-21
3.7 Noise 3-24
3.8 Water Resources 3-27
3.8.1 Surface Water 3-27
3.8.2 Detention / Retention Basins 3-32
3.8.3 Groundwater 3-33
3.8.4 Floodplains 3-34
3.9 Wetlands 3-34
3.9.1 Introduction 3-34
3.9.2 Methods 3-35
3.9.3 Natural Wetlands 3-35
3.9.4 Irrigation and Stormwater-Related Wetlands 3-39
3.9.5 Other Waters 3-39
3.9.6 Creeks and Rivers 3-39
3.9.7 Ponds 3-40

3.10 Wildlife and Special Status Species, Including Threatened or Endangered Species 3-40
3.10.1 Wildlife Habitat 3-41
3.10.2 Wildlife Species 3-43
3.10.3 Special Status Species 3-45
3.11 Historic and Archaeological Preservation 3-47
3.11.1 Introduction 3-47
3.11.2 Methods 3-47
3.11.3 Resources Identified 3-49
3.12 Hazardous Waste Sites 3-63
3.12.1 EPA CERCLIS Sites 3-63
3.12.2 Leaking Underground Storage Tank Sites 3-64
3.12.3 Underground Storage Tank Sites 3-64
3.12.4 Resource Conservation and Recovery Act Sites 3-64
3.12.5 Other Sites 3-64
3.13 Visual Qualities 3-68
3.14 Utilities 3-69

Section 4 Environmental Impacts 4-1
4.1 Direct and Indirect Land Use Impacts 4-1
4.1.1 Mitigation Measures 4-5
4.2 Prime and Unique Farmland, and Farmland of Local Importance 4-5
4.3 Direct and Indirect Social Impacts 4-5
4.3.1 Community Quality / Cohesion 4-6
4.3.1.1 Mitigation Measures for Community Impacts 4-10
4.3.2 Property Acquisitions and Relocations 4-10
4.3.2.1 Mitigation Measures for Property Acquisitions 4-13
4.3.3 Environmental Justice 4-13
4.3.4 Safety 4-14
4.3.4.1 Mitigation Measures 4-18
4.3.5 Construction Phasing 4-19
4.4 Direct and Indirect Economic Impacts 4-21

4.4.1 Direct Impacts 4-21
4.4.1.1 Mitigation Measures for Direct Impacts 4-23
4.4.2 Indirect Impacts 4-23
4.4.3 Net Present Value 4-24
4.4.4 Induced Growth 4-25
4.5 Recreational Impacts 4-25
4.5.1 Mitigation Measures 4-30
4.5.2 Joint Development 4-30
4.5.3 Section 6(f) Properties 4-30
4.6 Air Quality Impacts 4-31
4.6.1 Carbon Monoxide Analysis 4-33
4.6.2 PM_{10} Analysis 4-34
4.6.3 Ozone Analysis 4-35
4.6.4 Sulfur Dioxide, Nitrogen Oxide, and Lead Analysis 4-36
4.6.5 Mobile Source Air Toxics 4-36
4.6.6 Mitigation Measures 4-39
4.7 Direct and Indirect Noise Impacts 4-39
4.7.1 Mitigation Measures 4-40
4.8 Direct and Indirect Impacts to Water Resources 4-58
4.8.1 Surface Water 4-58
4.8.1.1 Direct Impacts to Surface Waters 4-62
4.8.1.2 Indirect Impacts to Surface Waters 4-63
4.8.1.3 Mitigation Measures for Impacts to Surface Waters 4-63
4.8.2 Groundwater 4-67
4.8.3 Floodplain Impacts 4-68
4.8.3.1 Mitigation Measures for Floodplain Impacts 4-69
4.9 Direct and Indirect Wetland Impacts 4-70
4.9.1 Direct Impacts 4-70
4.9.2 Indirect Impacts 4-71
4.9.3 Temporary Impacts 4-72
4.9.4 Impacts by Alternative 4-72

4.9.5 Section 404 (b)(1) Guidelines Analysis 4-75
4.9.6 Mitigation Measures 4-75
4.10 Direct and Indirect Wildlife Impacts 4-76
4.10.1 Wildlife and Fisheries 4-76
4.10.2 Special Status Species 4-82
4.10.3 Mitigation Measures 4-85
4.11 Impacts to Historical and Archaeological Resources 4-87
4.11.1 Methodology 4-87
4.11.2 Impacts by Alternative 4-89
4.11.3 Mitigation Measures 4-89
4.12 Hazardous Waste Site Impacts 4-93
4.12.1 Mitigation Measures 4-94
4.13 Visual Impacts 4-95
4.13.1 Mitigation Measures 4-96
4.14 Energy 4-96
4.14.1 Mitigation Measures 4-96
4.15 Construction Impacts 4-102
4.15.1 Water Quality 4-102
4.15.1.1 Mitigation Measures 4-102
4.15.2 Vehicle, Pedestrian, and Bicycle Traffic 4-102
4.15.2.1 Mitigation Measures 4-103
4.15.3 Air Quality 4-103
4.15.3.1 Mitigation Measures 4-103
4.15.4 Noise 4-103
4.15.4.1 Mitigation Measures 4-103
4.15.5 Vegetation 4-104
4.15.5.1 Mitigation Measures 4-104
4.15.6 Utilities 4-104
4.15.6.1 Mitigation Measures 4-104
4.15.7 Hazardous Materials 4-106
4.15.7.1 Mitigation Measures 4-106

4.15.8 Cultural Resources 4-106
4.15.8.1 Mitigation Measures 4-106
4.16 Permits 4-106
4.17 Relationship Between Local Short-term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity 4-107
4.18 Irreversible and Irretrievable Commitments of Resources which would be Involved in the Proposed Action 4-108
4.19 Cumulative Impacts 4-108
4.19.1 Past, Present, and Reasonably Foreseeable Future Projects 4-108
4.19.2 Cumulative Impacts to Land Use 4-112
4.19.3 Cumulative Impacts to Wetlands 4-112
4.19.4 Cumulative Impacts to Wildlife Habitat 4-113
4.19.5 Cumulative Impacts to Water Quality 4-114
4.19.6 Cumulative Impacts to Floodplains 4-115
4.19.7 Cumulative Impacts to Historical and Archaeological Resources 4-116
4.20 Impact Summary Table 4-116

Section 5 Final Section 4(f) Evaluation 5-1
5.1 Introduction 5-1
5.2 Proposed Action 5-2
5.3 Section 4(f) Resources 5-7
5.3.1 Public Park, Recreation, and Wildlife Properties 5-7
5.3.1.1 Jordan River Parkway and Trail 5-9
5.3.1.2 URMCC Migratory Bird Habitat Restoration Project 5-13
5.3.1.3 10600 South Class 1 Bicycle Trail 5-13
5.3.1.4 Willow Creek Park 5-13
5.3.1.5 Salt Lake County Equestrian Park 5-14
5.3.1.6 Galena Hills Community Park 5-14
5.3.1.7 Jordan River Rotary Park 5-14
5.3.1.8 I-15 Wetland Mitigation Site / Wildlife Preservation Area 5-14
5.3.1.9 Riverton City Skate Park 5-14

5.3.2 Historic Properties 5-14
5.4 Impacts to Section 4(f) Resources 5-18
5.4.1 Park, Recreation, and Wildlife Resources 5-18
5.4.2 Historic Resources 5-26
5.5 Avoidance Alternatives 5-35
5.6 Measures to Minimize Harm 5-35
5.6.1 Recreational and Wildlife Resources 5-35
5.6.2 Historic Resources 5-37
5.7 Mitigation Measures 5-44
5.8 Summary of 4(f) Impacts 5-45
5.8.1 Summary of Section 4(f) Recreation and Wildlife Resource Impacts by Alternative 5-45
5.8.2 Comparison of Section 4(f) Recreation and Wildlife Resource Uses 5-46
5.8.3 Summary of Section 4(f) Historic Property Uses by Alternative 5-47
5.8.4 Comparison of Section 4(f) Historic Property Uses 5-49
5.8.5 Overall Comparison of Section 4(f) Uses 5-50
5.9 Coordination 5-53

Section 6 Comments and Coordination 6-1
6.1 Public Involvement Plan 6-1
6.2 Information Campaign and Small Group Meetings 6-2
6.3 Elected Officials Meetings 6-3
6.4 Focus Group Meetings 6-4
6.5 Telephone Survey 6-4
6.6 Project Website 6-6
6.7 Project Information and Comment Telephone Line 6-6
6.8 Mailing and e-Mail Lists 6-7
6.9 Transportation Ideas Exchange 6-7
6.10 Public Meetings 6-9
6.11 Media Relations 6-10
6.12 Environmental Justice Outreach Activities 6-10

6.13 Tracking and Responding to Public Comments 6-11
6.14 Agency Coordination 6-12
6.15 Public Hearing, Final EIS, and Record of Decision 6-13

Section 7 List of Preparers 7-1

Section 8 List of Agencies, Organizations and Persons to Whom Copies of the Statement are Sent 8-1

Section 9 References 9-1

List of Tables

Table ES-1 Impact Summary Table ES-7
Table 1-1 Population and Employment Projections 1-9
Table 1-2 Intersections At or Over Capacity 1-13
Table 1-3 Roadways or Roadway Segments At or Over Capacity 1-15
Table 2-1 Summary of Improvements by Alternative 2-28
Table 2-2 2030 Critical Intersection Analyses – P.M. Peak Hour Level of Service 2-30
Table 2-3 2030 Interstate 15 Freeway Segments / Ramps- P.M. Peak Hour Level of Service 2-31
Table 2-4 Preliminary Cost Estimate by Alternative 2-33
Table 2-5 Tier 2 Screening Summary 2-34
Table 2-6 Impact Summary Table 2-39
Table 3-1 2000 Demographics 3-10
Table 3-2 Revenue Source Descriptions 3-14
Table 3-3 Average Growth Rate of Gross Retail Sales 3-14
Table 3-4 Current and Projected 3-mile Radius Population Base at Potential Major Retail Locations 3-15
Table 3-5 Current and Projected 1-mile Radius Population Base at Potential Major Retail Locations 3-15
Table 3-6 Approximate Percentage of Acres by Taxing Designation of Land Use (2004) 3-16
Table 3-7 Approximate 2004 Taxable Value by Land Use Type 3-16
Table 3-8 Recreational Resources 3-16
Table 3-9 National Ambient Air Quality Standards and Salt Lake County Compliance 3-22

Table 3-10 UDOT Noise Abatement Criteria 3-26
Table 3-11 Existing Ambient Noise Measurements 3-27
Table 3-12 Dominant Wetland Vegetation by Wetland Group 3-37
Table 3-13 Common Vegetation in the Riparian / Urban Woodland Habitat 3-41
Table 3-14 Special Status Species That May Occur in the Study Area 3-46
Table 3-15 Historic Properties Located within Area of Potential Effect 3-50
Table 3-16 Underground Storage Tanks (USTs) and Leaking Underground Storage Tanks (LUSTs) 3-66
Table 4-1 Acreage of Land Use Changes to Transportation Use by Alternative 4-1
Table 4-2 Relocations by Alternative 4-10
Table 4-3 Partial Property Impacts by Alternative 4-12
Table 4-4 Existing and New Traffic Signals by Alternative 4-16
Table 4-5 Estimated Construction Employment 4-22
Table 4-6 Estimated Worker Spending 4-22
Table 4-7 Impacts on Development, Amount of Sales, and Sales Tax per Alternative 4-24
Table 4-8 Summary of Monitored Pollutant Concentrations for Salt Lake County 4-32
Table 4-9 2030 Annual Emission Impacts by Alternative vs. Existing Emissions 4-32
Table 4-10 Additional Study Area Projects Included in the WFRC 2030 Long-Range Plan 4-34
Table 4-11 Decibel Increase vs. Audible Difference 4-37
Table 4-12 Number of Impacted Receivers per Alternative 4-42
Table 4-13 Potential Noise Barriers 4-43
Table 4-14 Pollutant of Concern in Surface Water Runoff 4-59
Table 4-15 Surface Waters Crossed by Build Alternatives 4-59
Table 4-16 Surface Water Discharge Locations 4-60
Table 4-17 Allowable Run-off Concentrations (mg/l) 4-60
Table 4-18 Expected TDS Concentrations During Winter Storm Events 4-61
Table 4-19 Storm Drainage System 4-64
Table 4-20 Permanent Impacts to Wetlands 4-70
Table 4-21 Permanent Impacts to Other Waters by Alternative 4-71
Table 4-22 Temporary Impacts to Wetlands by Alternative 4-72
Table 4-23 Impacts to Wildlife Habitat by Alternative 4-78
Table 4-24 Impacts to Riparian/Urban Forest Habitat by Alternative 4-78

Table 4-25 Historic Property Impacts by Alternative 4-90
Table 4-26 Impact Summary Table 4-117
Table 5-1 Section 4(f) Public Park, Recreation, and Wildlife Resources 5-7
Table 5-2 Section 4(f) Historic Properties 5-16
Table 5-3 Jordan River Parkway/Trail Noise Impacts by Alternative 5-19
Table 5-4 Recreational and Wildlife Property Impacts and Uses by Alternative 5-25
Table 5-5 Historic Properties Impacted by Alternative 5-27
Table 5-6 Avoidance and Minimization Measures by Historic Property 5-38
Table 5-7 Summary of Section 4(f) Uses by Alternative 5-52
Table 5-8 Agency Coordination 5-53
Table 6-1 Small Group Meetings 6-2
Table 6-2 TIE Members 6-7
Table 6-3 TIE Meeting Dates and Purpose 6-8
Table 6-4 Public Open Houses 6-9
Table 6-5 Individual Agency Meetings 6-12

List of Figures

Figure 1-1 Study Area in Relation to Salt Lake Valley 1-1
Figure 1-2 Study Area and Current Transportation Projects and Studies 1-2
Figure 1-3 Jordan River Wetlands at 10600 South in South Jordan City 1-7
Figure 1-4 Level of Service Summary 1-11
Figure 1-5 Intersections At or Over Capacity, 2003 and 2030 1-14
Figure 1-6 Roadway Segments At or Over Capacity, 2003 and 2030 1-16
Figure 1-7 Existing Commercial and Industrial Development and Planned Future Commercial, Industrial and Residential Development 1-18
Figure 1-8 Planned Daybreak Development West of Study Area 1-21
Figure 1-9 Telephone Survey Results Regarding Residents' Desires for Future Development in Their Communities 1-22
Figure 2-1 Preferred Alternative Evaluation Process 2-2
Figure 2-2 Half Diamond Interchange 2-4
Figure 2-3 No Build Alternative 2-7

Figure 2-4 Alternative 1 2-9
Figure 2-5 Alternative 2 2-11
Figure 2-6 Alternative 3A 2-13
Figure 2-7 Alternative 3B 2-15
Figure 2-8 Alternative 3C 2-17
Figure 2-9 Alternative 4 2-19
Figure 2-10 Alternative 5 2-21
Figure 2-11 Alternative 6 2-23
Figure 2-12 Alternative 7 2-25
Figure 2-13 Alternative 9 2-27
Figure 2-14 Typical 2-Lane Cross Section 2-35
Figure 2-15 Typical 4-Lane Cross Section 2-36
Figure 2-16 Typical 6-Lane Cross Section 2-36
Figure 2-17a though 2-17o – Alternative 1 Details ..... end of Section 2
Figure 2-18a through 2-18l – Alternative 3A Details ..... end of Section 2
Figure 2-19a through 2-19i – Alternative 4 Details ..... end of Section 2
Figure 2-20a through 2-20j – Alternative 7 Details ..... end of Section 2
Figure 3-1a Study Area Land Use in 1987 3-2
Figure 3-1b Study Area Land Use in 2003 3-3
Figure 3-1c Existing Land Use (Current Zoning) and Planned Development 3-4
Figure 3-2 Minority Population of Study Area Census Block Groups 3-9
Figure 3-3 Recreation Resources 3-18
Figure 3-4 Examples of Typical Outdoor Noise Exposure 3-25
Figure 3-5 Surface Water Resources and Floodplains 3-28
Figure 3-6 Wetlands 3-36
Figure 3-7 Historic Properties on Affected Corridors 3-53
Figure 3-8 Hazardous Materials Locations on Affected Corridors 3-65
Figure 3-9 Utilities on Affected Corridors 3-70
Figure 4-1 Indirect Commercial Development by Alternative 4-2
Figure 4-2 Conceptual Parkway Trail Connections at 11400 South 4-27
Figure 4-3a Alternative 1, Proposed and Existing Noise Walls 4-46

Figure 4-3b Alternative 3a, Proposed and Existing Noise Walls 4-47
Figure 4-3c Alternative 4, Proposed and Existing Noise Walls 4-48
Figure 4-3d Alternative 7, Proposed and Existing Noise Walls 4-49
Figure 4-4 Cut and Fill Wall Heights 11400 South: 1300 West to River Front Parkway 4-97
Figure 4-5 Existing and Simulation of New 11400 South Roadway 4-98
Figure 4-6 Existing and Simulation looking at 11400 South Noise Wall 4-99
Figure 4-7 Existing and Simulation of Proposed Jordan River Crossing 4-100
Figure 4-8 Existing and Simulation of the 10600 South Roadway near 1300 West 4-101
Figure 4-9 Shoofly Extent Impacts 4-105
Figure 4-10 Cumulative Impacts 4-110
Figure 5-1 Study Area in Relation to Salt Lake Valley 5-3
Figure 5-2 Alternative 1 5-5
Figure 5-3 Alternative 3A 5-5
Figure 5-4 Alternative 4 5-6
Figure 5-5 Alternative 7 5-6
Figure 5-6 Section 4(f) Resources 5-8
Figure 5-7a Jordan River Parkway Publicly Owned Parcels and Section 4(f) Resources Map 1 5-11
Figure 5-7b Jordan River Parkway Publicly Owned Parcels and Section 4(f) Resources Map 2 5-12
Figure 5-8a Recreational and Wildlife 4(f) Impacts at 10600 South 5-54
Figure 5-8b Recreational 4(f) Resource Impacts at 11400 South 5-55
Figure 5-8c Recreational 4(f) Impacts at 12300 South 5-56
Figure 5-8d Recreational 4(f) Resource Impacts at Galena Park 5-57
Figure 5-8e Recreational 4(f) Resource Impacts at Riverton Skate Park 5-58
Figure 5-8e Recreational 4(f) Resource Impacts at Riverton Skate Park 5-58
Figure 5-9a through 5-9l Historic 4(f) Resource Impacts ..... 5-59 – 5-70
Figure 6-1 Preferred Sources of Information on Transportation Planning 6-5
Figure 6-2 Project Web Site Home Page 6-6

Appendix Updates

Appendix A Traffic Analysis Information
Appendix B Public Involvement
Appendix D Agency Correspondence
Appendix I Storm Water Analysis

List of Acronyms

AADT	Average annual daily traffic
AAGR	Average annual growth rate
AASHTO	American Association of State and Highway Transportation Officials
ac-ft	acre-foot
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
ADT	Average daily traffic
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
BMP	Best management practice
BOD	Biological oxygen demand
BRT	Bus Rapid Transit
CAL3QHC	transportation air quality dispersion model
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
cfs	cubic feet per second
CO	Carbon monoxide
CONSENT	Superfund (CERCLA) Consent Decrees
CORRACTS	Corrective Action Report

CSS	Context Sensitive Solutions
CWA	Clean Water Act
D&RG	Denver and Rio Grande Railroad
dB	decibel
dBA	unit of measure of sound pressure levels using the A-weighted network
DEIS	Draft Environmental Impact Statement
DO	Dissolved oxygen
DOD	U.S. Department of Defense
DWQ	Division of Water Quality
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMC	Event mean concentration
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAC	Facultative species
FACU	Facultative upland species
FACW	Facultative wetland species
FAQ	Frequently asked questions
FEMA	Federal Emergency Management Agency
FFSL	Utah Department of Forestry, Fire and State Lands
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FT	Federally Threatened
ft/mile	feet per mile
FTA	Federal Transit Administration
HHS	U.S. Department of Health and Human Services
HOV	High-occupancy vehicle
I-15	Interstate 15
IHC	Intermountain Healthcare
kV	kilovolt
Ldn	day-night average noise level

Leq	equivalent continuous noise level
Leq(h)	equivalent continuous noise level per hour
LOS	Level of service
LRP	Long-Range Plan
LUST	Leaking underground storage tank
LWCFA	Land and Water Conservation Fund Act
MBTA	Migratory Bird Treaty Act
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
MINES	Mines Mater Index File
MOA	Memorandum of Agreement
mph	miles per hour
N/A	Not Available
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NFRAP	No Further Remedial Action Planned
NHPA	National Historic Preservation Act
NI	No indicator
NL	Not listed
NO_2	Nitrogen dioxide
NPL	National Priority List
NPV	Net Present Value
NRCS	Natural Resources Conservation Services
NRHP	National Register of Historic Places
O_3	Ozone
OBL	Obligated wetland species
PADS	PCB Activity Database System
P_b	Lead
PM_{10}	Particulate matter less than 10 microns in diameter
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter

ppm	parts per million
RAATS	Resource Conservation and Recovery Act Administrative Action Tracking System
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation Recovery Information System
ROD	Record of Decisions
ROW	Right-of-way
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJC	South Jordan Canal
SO_2	Sulfur dioxide
SOC	Species of concern
SOV	Single-occupancy vehicle
SR	State Route
SSTS	Section 7 Tracking Systems
STIP	Statewide Transportation Improvement Plan
SWPPP	Storm Pollution Prevention Plan
SWF/LF	List of Landfills
TCP	Traditional cultural property
TDM	Transportation demand management
TDS	Total dissolved solids
TEA-21	Transportation Equity Act for the 21st Century
TIE	Transportation Ideas Exchange
TIP	Transportation Improvement Plan
TM	Transportation management
TNM	Traffic Noise Model
TSCA	Toxic Substances Control Act
TSM	Transportation system management
TSS	Total suspended solids
U	Utah
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality

UDEQ	Utah Department of Environmental Quality
UDERR	Utah Department of Environmental Quality, Division of Environmental Response and Remediation
UDOT	Utah Department of Transportation
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geological Survey
UPDES	Utah Pollution Discharge Elimination System
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Services
USGS	U.S. Geological Survey
UST	Underground storage tank
UTA	Utah Transit Authority
v/c	volume to capacity
VCP	Voluntary Cleanup
vph	Vehicles per hour
WFRC	Wasatch Front Regional Council
$\mu g/m^3$	micrograms per cubic meter