



ALABAMA DEPARTMENT OF
TRANSPORTATION

***LPA Manual for Federal-Aid
Projects in Alabama***

A Summary of State and Federal Requirements



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This LPA Manual has been prepared by the Alabama Department of Transportation, Bureau of Transportation Planning and Modal Programs, Metropolitan Planning Section, as a primary resource document for local governments, state and federal agencies, consultants and contractors, Metropolitan Planning Organizations, and the general public requiring information on administering Local Public Agency Projects in Alabama. The contents of this document do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

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Table of Contents

Title and Contacts, Cooperating Agency Statement, USDOT Disclaimer, Cover	
Attribution.....	i
ALDOT Development Staff and Acknowledgments	ii
Table of Contents.....	iii

Chapter 1.0

Introduction

1.1	Background	1-1
1.2	Purpose.....	1-2
1.2.1	Agreement Process.....	1-2
1.2.2	Environmental/Permitting	1-3
1.2.3	Plans, Specifications, and Estimates (PS&E)	1-3
1.2.4	Right of Way/Utilities Coordination	1-4
1.2.5	Transportation Enhancement (TE) Projects.....	1-4
1.2.6	Transportation Alternatives Program (TAP).....	1-4
1.3	Legal and Regulatory Authority	1-5
1.4	ALDOT Local Public Agency Administration	1-6
1.5	Agency Roles and Responsibilities	1-6
1.6	Guide and Manual Maintenance and Updates	1-7

Chapter 2.0

Programming the Project

2.1	Introduction	2-1
2.2	Annual Federal Apportionment	2-2
2.3	Planning	2-2
2.4	Finding the Appropriate Funds	2-3
2.5	State Transportation Improvement Program	2-4
2.6	ALDOT Internal Programming Procedures	2-4
2.7	Obligation, Authorization, and Notice-to-Proceed	2-5
2.8	Project Agreement.....	2-6
2.9	Supplemental Program Agreements.....	2-6
2.10	Synopsis of Each Funding Program	2-6
2.10.1	National Highway Performance Program (NHPP)	2-6
2.10.2	STP – Urban	2-7
2.10.3	STP – Rural	2-8
2.10.4	Transportation Alternatives Program (TAP).....	2-9
2.10.5	Congestion Management and Air Quality Improvement Program (CMAQ)	2-11
2.10.6	Bridges (Urban and Rural)	2-11
2.10.7	Highway Safety Improvement Program – HSIP	2-12
2.10.8	Railway-Highway Crossings (HSIP set-aside)	2-13
2.10.9	Metropolitan Planning	2-14
2.10.10	Emergency Relief Program (ER)	2-15
2.11	Submittal Checklists	2-19
2.11.1	Federal-Aid Widening and Resurfacing Project	2-20

2.11.2	Federal-Aid Bridge Replacement	2-21
2.11.3	Federal-Aid Project, Plans and Supporting Data	2-22
2.11.4	Industrial Access and 2¢ Project, State Contract.....	2-23
2.11.5	Industrial Access and 2¢ Project, State Contract, Plans and Supporting Data	2-24
2.11.6	Federal-Aid Project, Resurfacing, Restoration and Rehabilitation (3R)	2-25
2.11.7	Federal-Aid Project, Bridge Replacement	2-29
2.11.8	Federal-Aid Project, other than Bridge Replacement or 3R.....	2-36
2.11.9	State and Industrial Access Project.....	2-40

Chapter 3.0

Managing the Project

3.1	Introduction	3-1
3.2	Project Roles and Responsibilities.....	3-1
3.3	Timeline for Infrastructure Projects	3-4
3.4	Project Deliverables.....	3-5
3.5	Project File Organization	3-10

Chapter 4.0

Consultant Services

4.1	Introduction	4-1
4.1.1	Initial Obligation of Funds.....	4-1
4.1.2	LPA Responsible Charge Oversight of Consultants	4-1
4.2	Conflict of Interest Policy	4-2
4.3	Consultant Selection.....	4-3
4.3.1	Large-purchase Procurement Procedure	4-4
4.3.1.1	Solicitation	4-5
4.3.1.2	Solicitation Plan: Documentation.....	4-6
4.3.1.3	Analysis and Selection.....	4-6
4.3.1.4	Detailed Work Plan and Work Plan Matrix	4-7
4.3.1.5	Negotiation	4-8
4.3.1.6	Agreement and Federal Funding Obligation and Notice to Proceed (NTP).....	4-8
4.3.1.7	Consultant Selection Folder	4-9
4.3.2	Small-Purchase Procurement Procedure	4-9
4.3.2.1	Solicitation	4-9
4.3.2.2	Solicitation Plan Documentation.....	4-10
4.3.2.3	Analysis and Selection.....	4-10
4.3.2.4	Detailed Work Plan and Work Plan Matrix	4-11
4.3.2.5	Preparation of Cost Estimate (CE).....	4-11
4.3.2.6	Negotiation	4-12
4.3.2.7	Agreement, Federal Funding Obligation, and Notice to Proceed (NTP).....	4-13
4.3.2.8	Consultant Selection Folder	4-13
4.3.3	Locally-funded Procurement Procedure	4-14
4.3.3.1	Assumptions and Understanding	4-14
4.3.3.2	Procedure	4-15

	4.3.3.2.1	ALDOT Advanced Approval.....	4-15
	4.3.3.2.2	Public Notice	4-15
	4.3.3.2.3	Ranking.....	4-15
	4.3.3.2.4	Scope of Services, Fee Proposal, and Negotiation	4-16
	4.3.3.2.5	Agreement.....	4-16
4.3.4		Summary and Comparison of Procedures.....	4-16
4.4		Consultant Management	4-17
	4.4.1	Agreements.....	4-18
	4.4.1.1	Professional Service Agreements	4-18
	4.4.1.2	Supplemental Professional Services Agreements.....	4-18
4.4.2		Consultant Invoicing.....	4-19
	4.4.2.1	Consultant Invoice Review, Approval, and Payment	4-19
	4.4.2.2	Reimbursable and Non-reimbursable Costs.....	4-20
4.4.3		Consultant Contract Administration	4-24
	4.4.3.1	Change of Project Team/Staff Commitments	4-24
	4.4.3.2	Documentation of Deliverables Review.....	4-24
	4.4.3.3	Breach and Default of Contract.....	4-25
	4.4.3.4	Consultant Negligence – Identification and Procedures	4-25
	4.4.3.5	Dispute Resolution.....	4-27
	4.4.3.6	Retention of Contractual Records	4-29
4.4.4		Consultant Evaluation	4-29
4.4.5		Professional Services Agreement Closeout.....	4-30

Chapter 5.0

Environmental

5.1		Introduction	5-1
5.2		National Environmental Policy Act of 1969 (NEPA)	5-1
5.3		Defining the Purpose and Need.....	5-3
5.4		Class of Action	5-4
	5.4.1	Categorical Exclusion (CE)	5-5
	5.4.2	Environmental Assessment (EA).....	5-5
	5.4.3	Finding of No Significant Impact (FONSI).....	5-5
	5.4.4	Environmental Impact Statement (EIS)	5-6
5.5		Range of Alternatives or Alternative Analysis	5-7
5.6		NEPA Determination	5-8
5.7		Administrative Record	5-10
5.8		Re-evaluations	5-10
5.9		Public Involvement for the NEPA Process	5-12
5.10		Environmental Studies.....	5-13
	5.10.1	Water Resources	5-14
	5.10.2	Streams, Channels, and Wetlands – Clean Water Act.....	5-14
	5.10.3	Navigable Waters – Rivers and Harbors Act	5-16
	5.10.4	Floodplain Management (Executive Order 11988)	5-17
	5.10.5	Wild and Scenic Rivers	5-17
	5.10.6	Protected, Threatened, and Endangered Species.....	5-18
	5.10.7	Historical, Archaeological, and Traditional Cultural Properties Preservation National Historic Preservation Act (Section 106; 36 CFR 800 – Protection of Historic Properties – <i>as amended</i>)	5-18

5.10.8	Tribal Lands	5-20
5.10.9	Air Quality – Clean Air Act.....	5-20
5.10.10	Noise Analysis and Abatement.....	5-21
5.10.11	Hazardous Waste.....	5-21
5.10.12	Social Impacts.....	5-22
5.10.13	Relocation Impacts.....	5-23
5.10.14	Environmental Justice and Title VI	5-23
5.10.15	Section 4(f).....	5-24
5.10.16	Land and Water Conservation Fund Act – Section 6(f).....	5-27
5.10.17	Farmlands Protection Policy Act (FPPA)	5-28
5.10.18	Bicycle and Pedestrian Coordination.....	5-28
5.11	Permits and Concurrences	5-28
5.11.1	Streams, Channels, and Wetlands – Section 404 and 401 Permits.....	5-29
5.11.2	National Pollution Discharge Elimination System – (NPDES) Storm Water Runoff Permit	5-30
5.11.3	Navigable Waters – Section 10 Permit.....	5-31
5.11.4	Navigable Waterways - Section 9 Permit	5-31
5.11.5	USFWS and Incidental Take Permit or Statement.....	5-32
5.12	Environmental Commitments.....	5-32
5.13	Environmental Assurance.....	5-32
5.14	Chapter Summary	5-32
5.15	Federal Laws, Regulations, and Guidance Materials	5-33
5.16	Review Agencies.....	5-35

Chapter 6.0

Design

6.1	Introduction	6-1
6.2	Types of Project Improvements	6-2
6.2.1	New Construction.....	6-2
6.2.2	Reconstruction	6-2
6.2.3	Resurfacing, Restoration, Rehabilitation (3R).....	6-2
6.2.4	Preventive Maintenance.....	6-4
6.2.5	Landscaping/Streetscaping	6-4
6.3	Design Criteria.....	6-4
Figure 6.1	Typical Rural Cross Section Elements.....	6-6
Figure 6.2	Recoverable Roadside Clear Zone.....	6-6
Figure 6.3	Typical Urban Cross Section Elements	6-7
6.4	Preliminary Design	6-10
6.4.1	Traffic Characteristics.....	6-11
6.4.1.1	Crash Data	6-13
6.4.2	Design Elements.....	6-13
6.4.2.1	Design Speed	6-15
6.4.2.2	Sight Distance.....	6-15
6.4.2.3	Lane Width	6-16
6.4.2.4	Shoulder Width	6-16
6.4.2.5	Bridge Width	6-16
6.4.2.6	Grades.....	6-16
6.4.2.7	Cross Slopes	6-16
6.4.2.8	Superelevation.....	6-16

	6.4.2.9	Horizontal Alignment.....	6-17
	6.4.2.10	Lateral Offset to Obstruction	6-17
	6.4.2.11	Vertical Alignment.....	6-19
	6.4.2.12	Vertical Clearance	6-19
	6.4.2.13	Clear Zones	6-19
	6.4.2.14	Barrier Crashworthiness	6-20
	6.4.2.15	Hydraulic Design.....	6-20
	6.4.2.16	Pavement Design	6-21
	6.4.2.17	Safety and Operational Risks.....	6-22
	6.4.2.18	Level of Service (LOS).....	6-23
	6.4.2.19	LOS for At-Grade Intersections	6-24
	6.4.2.20	Modern Roundabouts	6-25
6.4.3		Drainage	6-25
	6.4.3.1	Culvert Design	6-26
	6.4.3.2	Hydraulic Analysis	6-27
	6.4.3.3	New and Reconstructed Projects.....	6-27
	6.4.3.4	3R Projects	6-27
	6.4.3.5	Culvert Design Features	6-27
	6.4.3.6	Storm Sewers	6-28
6.4.4		Multimodal Accommodations and Cross Sectional Elements	6-29
6.4.5		Sidewalks.....	6-29
6.4.6		Curb Ramps.....	6-30
6.4.7		Medians	6-32
6.4.8		Driveways	6-34
6.4.9		Passing Lanes	6-34
6.4.10		Turn lanes.....	6-35
6.4.11		Bicycle Trails.....	6-37
6.4.12		Safe Routes Pedestrian Facilities.....	6-39
6.4.13		Historic Preservation	6-39
6.4.14		Bridges (Non-Historic).....	6-40
6.4.15		Control of Access	6-41
6.4.16		Erosion and Sediment Control.....	6-42
6.4.17		Aesthetic Considerations.....	6-43
6.4.18		Plan-in-Hand Field Review	6-44
6.4.19		Estimates	6-45
6.4.20		Design Plans.....	6-47
6.5		Design Exceptions.....	6-50
6.6		Final Design	6-53
	6.6.1	Final Plan Review	6-53
	6.6.2	PS&E Submittal.....	6-53
	6.6.3	Final Estimate	6-53
	6.6.4	Specifications and Project Special Provisions	6-54
	6.6.5	Temporary Traffic Control	6-54
	6.6.6	Standard Plans	6-55
6.7		Value Engineering	6-55
6.8		ALDOT LPA Design Requirements.....	6-57
	6.8.1	Clear Zone	6-57
	6.8.2	Scope of Work Review Requirements	6-58
	6.8.3	Guardrail Requirements	6-58

6.8.4	Resurfacing, Restoration, and Rehabilitation (3R) Projects	6-59
6.8.5	Design Criteria – New and Reconstructed Roadways and Bridges with Traffic Volumes Less than 2,500 ADT	6-60
6.8.6	Design Criteria – Resurfacing, Restoration, and Rehabilitation (3R) of Existing County Roadways and Bridges for All Traffic Volumes with Design Speeds of 45 MPH or Less.....	6-67
6.9	ALDOT LPA Plans Preparation.....	6-74
6.9.1	Title Sheet.....	6-74
6.9.2	Project Note Sheet.....	6-79
6.9.3	Summary of Quantity Sheet	6-79
6.9.4	Plan and Profile Sheets.....	6-84
6.9.5	Miscellaneous Items and Sheets	6-85
6.9.6	Erosion and Sediment Control.....	6-87
6.9.7	Maintenance of LPA Roads.....	6-91

Note: Utility Agreements are located in Chapter 8.

Chapter 7.0

Right of Way

7.1	Right of Way Acquisition Federal-Aid	7-1
7.1.1	Environmental Coordination	7-1
7.1.2	Right-of-Way Plans	7-2
7.1.3	Valuation	7-2
	7.1.3.1 Just Compensation	7-2
	7.1.3.2 Donation	7-3
	7.1.3.3 Appraisal.....	7-3
	7.1.3.4 Appraisal Waiver and Waiver Valuation	7-3
7.1.4	Acquisition	7-5
	7.1.4.1 Negotiation	7-5
	7.1.4.2 Negotiators Log	7-5
	7.1.4.3 Condemnation	7-5
7.1.5	Right-of-Way Certification	7-6
7.2	Relocation Assistance	7-6
7.2.1	Relocation Planning	7-6
7.2.2	Notices.....	7-7
7.2.3	Relocation Assistance Payments	7-7
7.2.4	Personal Property Move	7-7
7.2.5	Residential Relocation.....	7-7
7.2.6	Advisory Services.....	7-7
7.2.7	Relocation Assistance Payments	7-7
7.2.8	Residential Displacements	7-7
	7.2.8.1 Personal Property Move	7-7
	7.2.8.2 Replacement Housing Payments.....	7-8
	7.2.8.3 Replacement Housing Standards.....	7-8
	7.2.8.4 Increased Mortgage Payments	7-9
	7.2.8.5 Incidental Expenses.....	7-9
	7.2.8.6 Moving Expenses	7-9
7.2.9	Non-Residential Relocation	7-9
	7.2.9.1 Moving Expenses	7-9

	7.2.9.2	Reestablishment Expenses.....	7-9
	7.2.9.3	Searching Expenses.....	7-10
	7.2.9.4	Fixed Moving Expenses (In Lieu of Payment).....	7-10
7.3		Incidental Expenses.....	7-10
7.4		Appeals.....	7-10
7.5		Document Samples.....	7-10
		Letter to Property Owner.....	7-11
		Written Offer – Appraisal.....	7-12
		Written Offer – No Appraisal.....	7-14
		Waiver Valuation.....	7-16
		Project Relocation Analysis.....	7-18
		Right-of-Way Recording – Acquired.....	7-21
		Right-of-Way Recording – Existing.....	7-22
		City and Other Local Public Agency Certification for Physical Construction.....	7-23
		Negotiator’s Report – LPA Project.....	7-25

Chapter 8.0

Utility Projects

8.1		Introduction.....	8-1
8.2		Responsibilities.....	8-2
8.3		General Policy.....	8-2
	8.3.1	Protection of the Traveling Public during Installation of Utilities.....	8-2
	8.3.2	One-Call Notification Act.....	8-3
8.4		Identifying and Avoiding Utility Conflicts.....	8-4
8.5		Coordinating with the Utility Schedule.....	8-4
8.6		Utility Agreements.....	8-5
	8.6.1	Non-Reimbursable Agreement.....	8-6
	8.6.2	Reimbursable Agreement – Ex: 1.....	8-9
	8.6.3	Reimbursable Agreement – Ex: 2.....	8-16
	8.6.4	Supplemental Agreement.....	8-21
	8.6.5	Utility Certificate – Ex: 1.....	8-23
	8.6.6	Utility Certificate – Ex: 2.....	8-24
8.7		Utility Relocation Plans and Estimates.....	8-25
8.8		Authorization to Proceed.....	8-25
8.9		Construction.....	8-25
8.10		Federal Reimbursement of Utility Costs.....	8-26
	8.10.1	Eligibility.....	8-26
	8.10.2	Right of Occupancy.....	8-26
	8.10.3	Labor Statement.....	8-27
	8.10.4	Professional Services - Engineer.....	8-27
	8.10.5	Materials.....	8-28
	8.10.6	Physical Relocation of Utilities.....	8-28
	8.10.7	Equipment Charges.....	8-29
	8.10.8	Retired Material and Salvage.....	8-29
	8.10.9	Credits.....	8-30
8.11		Status of Utilities.....	8-30

Chapter 9.0

Railroad Coordination

9.1	Introduction	9-1
9.2	Rail/Highway Safety Projects.....	9-1
9.3	Railroad Involvement in Projects	9-2
9.3.1	Requesting a Project.....	9-2
9.3.2	ALDOT Diagnostic Review and Recommendation	9-2
9.3.3	Railroad-initiated Projects	9-3
9.3.4	LPA-initiated Projects.....	9-3
9.4	Grade Separations	9-4
9.4.1	Initial Contact with ALDOT	9-4
9.4.2	Location Study	9-4
9.4.3	Program the Project	9-5
9.4.4	Program Agreement.....	9-5
9.4.5	Project Coordination.....	9-5
9.5	Shared Use Path Projects	9-5
9.5.1	Documented Initial contact with the Railroad	9-5
9.5.2	LPA Field Review.....	9-6
9.5.3	Project Coordination.....	9-6
9.6	Railroad Memoranda of Understanding (MOU) Project Requirements.....	9-7
9.7	Funding Projects	9-8
9.8	Insurance Protection.....	9-9
9.9	Railroad Project Requirements.....	9-9
9.9.1	Rail Projects.....	9-9
9.9.2	Bridge Replacement.....	9-9
9.9.3	Resurfacing and Minor Widening	9-10
9.9.4	Railroad Request for Memorandum of Understanding (MOU)	9-11
9.9.5	Railroad Involvement Certification.....	9-12
9.10	Railroad Company Notes.....	9-13
9.10.1	CSX Transportation.....	9-13
9.10.2	Norfolk Southern Railway.....	9-14
9.10.3	Burlington Northern and Santa Fe Railway.....	9-15

Chapter 10.0***Civil Rights***

10.1	Introduction	10-1
10.2	Non-discrimination: Title VI of the Civil Rights Act of 1964.....	10-1
10.2.1	Title VI Policy	10-1
10.2.2	Implementation	10-1
10.2.3	Monitoring	10-3
10.2.4	Complaints	10-4
10.3	Equal Employment Opportunity (EEO)	10-5
10.3.1	EEO Policy.....	10-5
10.3.2	Implementation	10-5
10.3.3	Monitoring	10-6
10.3.4	Complaints.....	10-6
10.4	Alabama Immigration Law Compliance.....	10-7
10.5	Labor Compliance	10-7
10.5.1	Applicability of the Davis-Bacon Act.....	10-7

10.5.2	Labor Interviews.....	10-8
10.6	Americans with Disabilities Act (ADA) /Section 504 of the Rehab Act of 1973	10-8
10.6.1	ADA Policy	10-8
10.6.2	Implementation	10-9
10.6.3	Monitoring	10-9
10.6.4	Complaints	10-9
10.7	Disadvantaged Business Enterprise (DBE)	10-10
10.7.1	DBE Policy	10-10
10.7.2	Establishment of the DBE Goal	10-10
10.7.3	DBE Contract Requirement.....	10-10
10.7.4	Monitoring DBE Goal Achievement	10-11

Chapter 11.0

Plans, Specifications, & Estimates (PS&E) and Bid Letting

11.1	Introduction	11-1
11.2	PS&E Review and Letting Schedule.....	11-1
11.3	Development of the PS&E Package	11-2
11.4	Required Federal Contract Provisions	11-3
11.4.1	Federal Wage Rates and Provisions Relating to Prevailing Wages/Convict Labor.....	11-3
11.4.2	Non-discrimination Clauses.....	11-3
11.4.3	DBE Requirements as Mandated by Federal Law	11-3
11.4.4	Use of Local Hiring Preferences.....	11-4
11.4.5	Subletting or Assigning the Contract	11-4
11.4.6	Implementation of the Clean Air Act and Federal Water Pollution Control Act	11-4
11.4.7	Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion.....	11-5
11.4.8	Certification Regarding the Use of Contract Funds for Lobbying	11-5
11.4.9	Non-collusion Affidavit.....	11-5
11.4.10	Buy America Provision	11-6
11.4.11	Native American Preference on Federal-Aid Projects.....	11-6
11.4.12	On-the-Job Training (OJT)	11-7
11.4.13	Standardized Changed Conditions Contract Clauses	11-9
11.5	Federal Authorization for the Construction Work Phase	11-10
11.6	Sole Source Procurement.....	11-10
11.7	Pre-Bid Meeting.....	11-11
11.8	Competitive Bidding.....	11-11
11.8.1	Emergency Project Interruption	11-12
11.8.2	Force Account Work.....	11-12
11.9	Other Contracting Procedures	11-12
11.9.1	Incentive/Disincentive Clauses	11-12
11.9.2	A + B Bidding	11-13
11.9.3	Lane Rental.....	11-14
11.9.4	FHWA Special Experimental Project No. 14 (SEP-14) – Alternative Contracting.....	11-14
11.10	Alternate Bids	11-15
11.11	Bidding Procedures for Locally Let Projects	11-15

11.11.1	Amendments to the Bid Documents	11-16
11.11.2	Bid Opening	11-16
11.11.3	LPA Bid Analysis and Evaluation	11-17
11.11.4	ALDOT Bid Concurrence.....	11-18
11.11.5	Awarding and Executing the Construction Contract.....	11-18
11.12	Bidding Procedures for State Let Projects	11-19

Chapter 12.0

Construction

12.1	Introduction	12-1
12.2	Notice-to-Proceed with Construction	12-1
12.3	Pre-Construction Conference	12-1
12.4	Construction Administration.....	12-2
12.4.1	LPA Quality Control.....	12-3
12.4.2	ALDOT Quality Control Responsibilities	12-4
12.4.3	FHWA QC Involvement.....	12-5
12.4.4	Inspection-in-Depth.....	12-5
12.4.5	Project Inspection.....	12-5
12.4.6	Final Inspection.....	12-5
12.5	Construction Engineering Agreement	12-5
12.5.1	Monitoring Construction Engineering Consultants.....	12-6
12.6	Construction Schedule	12-7
12.7	Construction Field Reports and Project Files.....	12-8
12.8	Preservation/Architectural Standards	12-9
12.9	Change Orders.....	12-10
12.9.1	Major Changes.....	12-11
12.9.2	Minor Changes.....	12-12
12.10	Construction Materials Quality Control/Quality Assurance.....	12-13
12.10.1	Materials Sampling and Testing Requirements	12-14
12.10.2	Testing Qualifications.....	12-14
12.11	Project Documentation for the Construction Work Phase	12-15
12.11.1	Project Documentation.....	12-15
12.11.2	Project Files	12-17
12.11.3	Construction Records for Accounting Procedures	12-18
12.11.4	Availability	12-19
12.12	Claims	12-19
12.12.1	Contractor Claims against the LPA.....	12-19
12.12.2	Entitlement and Damages	12-20
12.12.3	Damage Mitigation	12-20
12.12.4	Delays.....	12-20
12.12.5	Filing a Claim	12-20
12.12.6	Payment of Interest.....	12-21
12.12.7	Attorney Fees.....	12-21
12.13	Termination of Contract	12-22
12.14	Liquidated Damages.....	12-23

Chapter 13.0

Reimbursements

13.1	Introduction	13-1
13.2	Number and Timing of Submittals.....	13-1
13.3	Billing Procedures	13-1
13.3.1	Inactive Obligations.....	13-3
13.3.2	Non-completed/Advanced Projects	13-4
13.3.3	Invoice Review Checklist.....	13-4
13.4	Identification of Eligible Work Phase Expenses	13-5
13.4.1	Preliminary Engineering	13-5
13.4.2	Right-of-Way	13-6
13.4.3	Utilities	13-6
13.4.4	Railroad	13-6
13.4.5	Construction.....	13-7
13.4.5.1	Weight/Quantity Tickets	13-7
13.4.5.2	Volume	13-7
13.4.5.3	Cross Section	13-7
13.4.5.4	Measurements Detailed in Contract Plans	13-8
13.4.5.5	Items Measured by the Hour/Day.....	13-8
13.4.5.6	Lump Sum	13-8
13.4.5.7	Linear Feet	13-8
13.4.5.8	Area Measurements.....	13-8
13.4.5.9	Per Unit.....	13-8
13.4.5.10	Time and Material	13-8
13.4.6	Construction Engineering	13-8
13.4.7	LPA Salaries and Wages	13-9
13.5	Unallowable Project Costs.....	13-9
13.5.1	Bad Debts	13-9
13.5.2	Contingencies	13-9
13.5.3	Contributions and Donations	13-9
13.5.4	Entertainment.....	13-9
13.5.5	Fines and Penalties.....	13-9
13.5.6	Interest and Other Financial Costs	13-9
13.5.7	Material Not Incorporated into the Project	13-9
13.5.8	Under-recovery of Costs Under Grant Agreements	13-10
13.5.9	Unauthorized Engineering Services	13-10
13.5.10	Change Orders	13-10
13.5.11	Other.....	13-10
13.6	Direct and Indirect Costs	13-10
13.6.1	Direct Costs	13-10
13.6.2	Indirect Costs	13-11
13.7	Project Retention/Retainage.....	13-11
13.8	Final Reimbursement	13-12
13.9	Documentation	13-12

Chapter 14.0

Project Closeout

14.1	Introduction	14-1
14.2	Final Field Review and Inspection	14-1
14.3	Final Contractor Payment.....	14-1
14.4	Notification of Project Completion.....	14-3

14.4.1	Verifying DBE Goal Achievement.....	14-4
14.5	As-built Plans	14-4
14.6	Project Audit.....	14-5
14.7	Final Cost Settlement with LPA	14-5
14.8	Records and File Retention	14-5
14.9	Project Maintenance.....	14-7

Chapter 15.0

Quality Control

15.1	Introduction	15-1
15.2	Quality Management Approach	15-1
15.2.1	Implementing the QC/QA Process	15-2
15.2.2	Roles and Responsibilities for Administrative Activities	15-2
15.2.3	Roles and Responsibilities for Technical Implementation Activities	15-4
15.3	Qualifications.....	15-6
15.3.1	Responsible Charge (RC)	15-7
15.3.2	Process to Become a Certified LPA	15-7
15.4	Program Oversight	15-8
15.4.1	Quality Assurance Reviews.....	15-8
15.4.2	LPA Compliance Reviews	15-9
15.4.3	ALDOT Functional Area Process Reviews	15-9
15.4.4	Annual Single Audits	15-9
15.4.5	Other Federal Audit Activities	15-10
15.5	Project Oversight.....	15-10
15.5.1	QC/QA Activity Table	15-10
15.5.2	QC/QA Activity Table Acronyms and Reference List.....	15-24
15.6	Deficiencies.....	15-25
15.6.1	Procedural Deficiencies.....	15-26
15.6.2	Major Deficiencies.....	15-26
15.6.3	Unrecoverable Project Deficiency	15-27
15.7	Sanctions	15-28

APPENDICES

16.1	Terms and Definitions.....	16-1
16.2	Commonly Used Acronyms and Abbreviations	16-15
16.3	Value Engineering	16-19
16.4	Performance Measures – Closeout Survey	16-20

[Note: This Manual and the supplementary LPA Project Guide, are intended for general use by both practitioners and those unfamiliar with the many acronyms and abbreviations common in government. Where possible, we've included definitions within the narrative, but we haven't always succeeded in terms of clarity. With this in mind, ALDOT staff has compiled many of the more common acronyms, abbreviations, and terms under 16.0 Appendices of the Manual. (Sections 16.1 Terms and Definitions and 16.2 Commonly Used Acronyms and Abbreviations.)

Chapter 1.0

Introduction

1.1 Background

The Alabama Department of Transportation (ALDOT), as the recipient of Federal transportation funds for the State, is responsible for ensuring that all Federal funds are expended in accordance with applicable laws and regulations. When ALDOT passes Federal funds through to a sub-grantee (sub-recipient) to carry out a project, it is the responsibility of ALDOT to ensure that the sub-grantee is aware of all Federal and State laws and regulations that apply to the project and that the sub-grantee complies with those laws and regulations. Failure to do so can jeopardize or severely restrict Federal or State funding. Sub-recipients may include: local governments and agencies (cities, counties), local government members of Metropolitan Planning Organizations (MPOs), state-approved universities and private non-profit entities, or state-certified Special Authorities. All these sub-recipients are considered to be Local Public Agencies (LPA). If an LPA is to receive Federal funding for any portion of work on a project, all phases of that project must comply with Federal and State requirements.

Once an LPA has made application to the State for project work and has met all US Code (USC) and Code of Federal Regulations (CFR) requirements under Titles 23 and 49, that agency may be certified by the State to manage, administer, or accomplish the following on Federal-Aid Projects within the State of Alabama:

1. Planning
2. Design
3. Execute Railroad, Utility, Consultant, and Technical Services Agreements
4. Environmental Documentation [under ALDOT Environmental Technical Section guidance only]
5. Bid and Award
6. Right-of-Way Documentation
7. Consultant Selection
8. Construction Administration

Note: State Certification in Alabama is by letter from the Region or Division Engineer. Under certain conditions, approval of the Chief Engineer may also be required.

Note: The Manual has been updated to reflect the most recent transportation legislation signed into law in July 2012, *Moving Ahead for Progress in the 21st Century* (MAP-21), also known as Public Law 112-141.

The Alabama Department of Transportation and the Federal Highway Administration retain approval authority and oversight responsibility for the following:

1. Authorization of Funds
2. Determination of Environmental Class of Action (Pre-NEPA and NEPA actions)
3. Right-of-Way Certification
4. Plans, Specifications, and Estimates (PS&E)
5. Final Inspection
6. Equal Employment Opportunity (EEO) Program
7. American Disabilities Act (ADA) Program
8. Disadvantaged Business Enterprise (DBE) Program
9. Force Account Actions (Performing Work Using State or Local Government Employees, Materials, or Equipment)

1.2 Purpose

This manual is intended to provide public agency officials and consultants-for-hire sufficient guidance to apply for, accurately document, and successfully manage or administer a transportation project under LPA process procedures as established under 23 CFR 1.11 and 635.105. Information is presented herein for the general public, other government support agencies, and ALDOT Central Office and Region or Division staff.

View the *Local Public Agency (LPA) Project Guide* on the ALDOT LPA site main page, and contact the appropriate Division for instructions. An LPA Application may be downloaded from the site, if the LPA is so directed by the Division Engineer.

The *LPA Project Guide* is an introductory supplement to this *Manual*. The *Guide* describes **process and procedures** for applying for and managing a project. This *Manual* provides additional, specific, and more detailed, project level material. It is recommended the agency be thoroughly familiar with the *Project Guide* first, and be guided by Division instructions before using this resource. **Since the *Manual* is a sizeable document, readers should save a version to their desktop, rather than attempt to review on-line.**

This procedural manual has been prepared to aid LPAs in planning, organizing, designing, constructing, and maintaining their transportation facility, after requesting and receiving Federal Highway Administration (FHWA) Federal transportation funds. This manual identifies responsibilities and describes the processes, procedures, documents, authorizations, approvals, and certifications, which are required in order to receive Federal-Aid and/or State funds for many types of local transportation projects. To that end, there are certain topics that are introduced in Chapter 1.0 that will need to be addressed in more detail later in this document.

1.2.1 Agreement Process

Past practice has allowed only Transportation Enhancement (TE) projects to be let by a local agency. However, approval of LPA applications by the Division Engineer, and concurrence by FHWA, now provides for local agencies to let their own projects with language in the project agreement stating that the agency will be responsible for payments to contractors or consultants hired by the public agency. This follows conditions set forth in the FHWA LPA Federally-funded

program. If, however, the *state* is to let the contract, abrogating the requirements of the federal LPA program in favor of either County Transportation Bureau, Innovative Programs Bureau, or Division oversight, then payment of contractors and consultants will be according to state practice and that language will be in the agreement. Specific only to the federal LPA program, LPA agreement preparation will be coordinated between Division, the Local Public Agency, and the Bureau of Transportation Planning and Modal Programs staff (Metropolitan Planning Section or Special Programs Office.)

1.2.2 Environmental/Permitting

Projects determined through FHWA/ALDOT consultation to require a Categorical Exclusion (CE), Environmental Assessment (EA), or higher, are automatically referred to ETS for pre-NEPA or NEPA (National Environmental Policy Act of 1969), processing. See [42 USC 4321](#). The increased scope of the LPA program will require some adjustment to environmental activities, including the preparation of all environmental documentation. Past practice has allowed traditional Transportation Enhancement (TE) projects to be processed within Special Programs Office as *Programmatic* Categorical Exclusions (PCEs), without necessarily coordinating with ALDOT Environmental Technical Section (ETS). That practice *will continue*, but that office will be expected to coordinate with ETS in the presence of potential or unforeseen project impacts exceeding the scope of the programmatic document. Since this LPA Manual in effect codifies LPA as *statewide* process and allows for an LPA to make application for projects other than the traditional types of enhancement projects as described in 23 USC and TEA-21, (See [FHWA Guidance Transportation Enhancement](#)), then that likelihood has to be expressed and it will fall to Special Programs to recognize when consultation is necessary.

The federal LPA process encourages Division Engineers, when appropriate, to declare a project as a PCE during the certification process and so state in the certification letter to the LPA. When applied properly, this action can effectively reduce project implementation by as much as a year to eighteen months.

Documentation outside the scope of Programmatic CEs requires *coordination with the ALDOT Environmental Technical Section (ETS) in all instances* to determine Class of Action and agency task assignment.

Note: The Transportation Enhancement program is discontinued in the most recent transportation legislation, *Moving Ahead for Progress in the 21st Century (MAP-21, July 2012)*, with most project types, but not all, continued under the Transportation Alternatives Program (TAP). Program information is found in this document under Section 1.2.6. LPAs should also visit the FHWA TAP Program guidance website for more detail. Go to: <http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm>.

1.2.3 Plans, Specifications, and Estimates (PS&E)

FHWA has requested specific concurrence points in LPA processing, with one such being the point at which PS&E documentation is available for final review, but prior to execution of the final agreement. *Federal LPA process PS&E package assembly will be approved at the Division level and ALDOT, FHWA, and the Local Agency will consult and concur at this point on the items presented in the PS&E package.* In the event of disagreement, ALDOT will engage the

agencies in dispute resolution. The complete PS&E package must be approved by FHWA prior to funding authorization.

1.2.4 Right-of-Way/Utilities Coordination

Many, if not most current LPA projects, will not involve additional property acquisition for right-of-way or utility relocations/adjustments. With the increased scope of the federal LPA program, however, the potential is there for ROW and utilities to be an issue. Representatives of Local Public Agencies are cautioned to consult with the Division Engineer or designee, or the Division LPA Coordinator, to determine if property acquisition or utility concerns are being, or have been, addressed during early scoping, field review, and project development.

Note: A construction authorization cannot be requested or granted without completion or resolution of items 1.2.1 through 1.2.4 to the satisfaction of the Department.

1.2.5 Transportation Enhancement (TE) Projects

Certain transportation improvement projects, other than capacity-building, were federally-funded under authority of 23 USC 101(a)(35), amended under SAFETEA-LU in sections 113, 1122, and 6003, and carried specific and exclusive provisions. Such projects were to “...offer broad opportunities and federal funding for creative projects that integrate transportation into our communities and environment. The legislation designates twelve (12) activities meant to improve non-motorized transportation, enhance the public’s traveling experience, revitalize communities, and improve the quality of life.” - Virginia Department of Transportation. Many such projects (but not all), were environmentally related and intended as a means of promoting additional efforts, projects, and activities relating to transportation, but going beyond what is considered ordinary.

The TE link referenced in section 1.2.2 Environmental/Permitting above is the original guidance issued in December of 1999. Changes and adjustments to the program through 2008 may be found at two additional sites. For more information, go to:

[FHWA Transportation Enhancement Activities](#) and, [FHWA Final TE Guidance](#).

As expressed earlier under 1.2.2, the statewide LPA process continues the existing practice of processing TE projects within Special Programs of the Multimodal Section of the Bureau, with the one difference being the necessary consultation with ETS in the event of impacts that exceed the PCE scope. This will provide continuity for the existing program, but will also ensure a consultative check with ETS as early as possible for those projects in which the project application is clearly outside the purview of the Transportation Enhancement Program.

The TE Program was not carried forward in the new MAP-21 transportation legislation (July 2012). *TE Projects will continue to be let by ALDOT until program funds are expended.* Many of the projects under TE are now available through the Transportation Alternatives Program (TAP). This program is discussed in the following section (1.2.6).

1.2.6 Transportation Alternatives Program (TAP)

Authorized under Section 1122 of MAP-21 and 23 US Code 213(b) and 101(a)(29), TAP provides for funding of specific project types, many of which are carried forward from the defunct Transportation Enhancement Program. Eligible project types include, but are not limited to:

- On and off road pedestrian and bicycle facilities
- Infrastructure improvements for non-driver access to public transportation
- Community improvement activities
- Environmental mitigation
- Recreational Trails program projects
- Safe Routes to School projects
- Planning, Designing, and Constructing boulevards and roadways in the right-of-way of former Interstate System routes or other divided highway routes

LPAs wishing to pursue a TAP project for local or state letting should contact their Region or Division offices for additional information, and if for local let, follow the procedures for LPA and project certification.

The FHWA TAP website is located at [Transportation Alternatives Program](#).

1.3 Legal and Regulatory Authority

Federal-Aid funds shall not participate in any cost which is not incurred in conformity with applicable Federal and State Law, the regulations in 23 Code of Federal Regulations (CFR), and 49 CFR, and policies and procedures established by FHWA and ALDOT. *Federal funds shall not be reimbursed for any cost incurred prior to FHWA project authorization and subsequent ALDOT approval to proceed with the project, either in part or in its entirety.* For additional information, visit the following FHWA LPA website at [FHWA Local Public Agency](#).

23 CFR 630.112, [Agreement Provisions](#), is the applicable regulation for agreements. As specified in 630.112(a), when ALDOT authorizes a project, ALDOT “.....agrees to comply with the applicable terms and conditions set forth in Title 23 USC (United States Code) [Amended Public law 109-59 SAFETEA-LU, Sections 1501-1503, August 2005], the regulations issued pursuant thereto, the policies and procedures promulgated by the FHWA relative to the designated project covered by the agreement, and all other applicable Federal laws and regulations.” Laws and regulations related to the oversight of LPA administered projects include:

23 USC §106 [Project Approval and Oversight](#), amended in SAFETEA-LU Section 1904 and affirmed in MAP-21 January 4, 2012, is relevant to FHWA oversight.

OMB Circular – 133, [Financial Integrity Review Order 4560.1B](#), or the (FIRE) program. In general and specifically, Subpart D, §400(d) (2) and (3), are applicable provisions governing monitoring and reporting of sub-recipients.

[49 CFR Part 18](#) Agreements for Federal Grants in general and specifically.

18.1 Financial reporting.

18.26(a) (1) and (2) Rules and requirements for sub-grants and sub-grantees.

18.26(b) (1) and (2) Non-Federal audit and auditor selection rules.

18.40(a) Monitoring and reporting program performance.

ALDOT is responsible for ensuring that sub-recipients of Federal funds have adequate delivery systems for projects and sufficient accounting controls to manage such Federal funds. FHWA,

ALDOT, and/or any authorized representatives have the right of access to review or audit LPA records (invoices, project records) at any stage of the project.

1.4 ALDOT Local Public Agency Administration

A number of Department bureaus, sections, offices, and divisions have certain responsibilities in fulfilling oversight requirements, actions, and tasks specific to the LPA program, both at the process and the project level. Overall **program** coordination and LPA primary contact is through the Metropolitan Planning Section of the Bureau of Transportation Planning and Modal Programs, as well as for those activities that enable and support the process.

The one **Region Engineer** (consolidated eighth and ninth Divisions) and eight **ALDOT Division Engineers** have sole project level responsibility and control within their divisions and coordinate with Metropolitan Planning Section, Special Programs Office of the Modal Programs Section, LPAs, and other bureaus, offices, sections, and divisions within the Department as needed.

General activities include providing State and Federal guidance, processing project funding and agreements, and giving instruction on project administration and documentation to local governments, cities, towns, counties, various state and federal agencies, state universities, and state-approved, private, non-profit entities, and special authorities. The overarching purpose is to improve local transportation infrastructure and provide certain transportation services through the federally funded LPA program with State (ALDOT) oversight. This funding comes from various Federal and State programs specifically designed to assist the transportation needs of LPAs.

Mr. Robert Jilla, as the Transportation Planning and Modal Programs Bureau Chief, directs Metropolitan Planning Section staff and Special Programs staff who are involved in LPA activities. **Metropolitan Planning Section** is the **Primary Contact office** for the ALDOT LPA program, providing information to peer state DOTs and LPA offices, other Alabama state agencies, Metropolitan Planning Organizations (MPOs), and the general public; maintaining the Department LPA website; providing LPA project level support to the Divisions; coordinating project agreement preparation and funding activities with the Divisions and other Bureaus; and inputting CPMS (Comprehensive Project Management System) updates when required. **Metropolitan Planning Section** also provides policy and procedural review and assessment for senior ALDOT staff.

Special Programs Office of Modal Programs processes Transportation Enhancement (TE) projects only and coordinates with Divisions and other ALDOT bureaus and offices. As the TE funding program has not been renewed under MAP-21, this office will also process Transportation Alternative Program projects in addition to projects funded with the remaining Transportation Enhancement program funds.

The Metropolitan Planning Section and Special Programs Office guide the administrative actions, rules, regulations, and legislative affairs of the Department in terms of the LPA process. At project level, they provide any needed administrative support and assistance to the Region and Division Engineers (DEs), their designees, and the Division LPA Project Coordinator, and serve as information resources to counties, municipalities, and MPO staffs and member governments in administering transportation projects and programs.

1.5 Agency Roles and Responsibilities

The **ALDOT** director is responsible for establishing State policy, developing procedures, and providing oversight to the LPA on their Federal-aid transportation projects. ALDOT staff project coordination, quality assurance, and supervision of the program for reimbursement, project planning and development, environmental studies, design, right-of-way acquisition, construction of transportation facilities, and transportation enhancement (TE) activities. ALDOT also updates the *LPA Project Guide* and the *LPA Manual for Federal-Aid Projects in Alabama*, and other items on the ALDOT LPA website.

FHWA – Alabama Division has the authority and responsibility for implementing and monitoring Federal laws, regulations, and executive orders affecting the LPA program and projects. FHWA will conduct process reviews or project audits to ensure compliance with applicable laws and regulations. FHWA – Alabama Division personnel provide Federal-aid program delivery in planning, preliminary engineering, technology transfer, real property acquisition and management, bridge expertise, roadway safety, traffic operations, environmental support, design, construction, asset management, and civil rights.

The **LPA**, once certified, is responsible for the selection, planning, programming, design, right-of-way acquisition, construction, and maintenance of their projects, including inspection oversight and the development of necessary project documentation.

Note: See sections 1.2.2 and 1.2.5. Environmental investigation and mitigation of potential impacts, and all pre-NEPA and NEPA scoping and reviews, and necessary agency coordination are the responsibility of ALDOT. Transportation Enhancement (TE) projects are processed through Special Programs under a Programmatic Categorical Exclusion (CE), unless it is determined potential project impacts exceed the scope of that document.

The LPA must ensure that its staff members, consultants, and contractors comply with all applicable State and Federal laws, regulations, and procedures in developing and constructing its projects. The LPA must provide a qualified full-time public employee to be the **Responsible Charge (RC)** for a project. Throughout the manual, this individual may be referred to as the LPA Responsible Charge (RC), but could be identified in other ways; LPA Manager, Administrator, or Project Engineer. Although a consultant cannot serve as RC, in the event that the LPA is inadequately staffed to provide technical delivery of the project, they may choose to utilize a consulting firm as an extension of their staff. Using a consultant does not relieve the LPA for the overall responsibility of project conformity with the *LPA Project Guide* and the *LPA Manual for Federal-Aid Projects in Alabama* and all applicable Federal and State rules and regulations. Throughout this manual, the term LPA will refer to the Local Public Agency in general or directly/indirectly to a Responsible Charge (RC) party, staff, and/or its consultants. [2011 FHWA Guidance on Responsible Charge](#) The consultant hire process will be referred to in several locations within the Manual. As of June, 2013 the Division Engineer has the authority to approve or disapprove the use and selection of consultants by the LPAs, and to review and approve many-day and fee proposals.

1.6 Guide and Manual Maintenance and Updates

FHWA funding programs, eligibility requirements, and procedures frequently change. Therefore, this Manual, and the *LPA Project Guide* support document preceding it, are considered 'living' documents,' and **may be updated frequently and without notice**. The LPA website will note the date of the most recent updates next to the titles on the main page. When critical changes are necessary, ALDOT LPA staff may issue advance notice through the bureaus and divisions,

direct contact with currently active LPAs and local governments, FHWA – Alabama staff, and email notification to other parties, where appropriate. Notices will generally include topics and the relevant page numbers that have undergone revision. The LPA website will always have the current version of the *Guide* and the *Manual*, and website viewers are invited to comment on either documents or website by downloading a comment form and forwarding as indicated.

A Process Review and website audit will be done annually, either in July or August.

Note: A primary function of the ALDOT LPA website is to provide a source for document download. The cost involved in printing and distributing documents has become prohibitive and ALDOT cannot provide paper copies of the *LPA Project Guide*, the *LPA Manual for Federal-Aid Projects in Alabama*, or any other project documents.

Chapter 2.0

Programming the Project

2.1 Introduction

This chapter describes the funding programs, processes, documents, and approvals necessary for obtaining Federal funds through the ALDOT. Each Federal fiscal year (October 1 to September 30), ALDOT makes Federal funds available for use by LPAs.

If an LPA intends to seek Federal funds for any phase of a project, ***it must be programmed as a Federal-aid project from its inception***, and all phases of the project must be developed in compliance with this manual. Federal funds include discretionary or demonstration funds (Earmarks). Projects not programmed as Federal-aid will not be processed through ALDOT or FHWA.

LPAs may apply to ALDOT for Federal-aid funding from the following programs:

- National Highway Performance Program (NHPP)
- Surface Transportation Program (STP)
 - Urban
 - Rural
- Transportation Alternatives Program (Funding from NHPP, STP, HSIP, CMAQ) – covers Safe Routes to School, *Transportation Enhancement, and Recreational Trails Programs
 - Infrastructure
 - Non-infrastructure
- Congestion Mitigation and Air Quality (CMAQ)
- Bridges (Urban and Rural)
- Highway Safety Improvement Program (HSIP)
 - Highway Safety Improvement
 - High Risk Rural Road
- Railway-Highway Crossings (HSIP set-aside)
 - Hazard Elimination
 - Protective Devices
- Metropolitan Planning

Note: *The Transportation Enhancement Program was not renewed by MAP-21. The Department will continue to fund projects until all remaining funds are expended. Most activities are now covered by the Transportation Alternatives Program (Section 2.10.4).

Note: For review and application purposes, the Alabama Department of Transportation will consider LPA project eligibility subject to the following provisions:

- 1) **Capacity projects (adding travel lanes), interchanges, or on-system bridge projects will not be considered without the written approval of the Chief Engineer.**

- 2) **Any project exceeding an initial cost estimate of \$2,000,000.00 (current dollars) is subject to review and written approval by the Chief Engineer.**

2.2 Annual Federal Apportionment

Federal-aid Transportation funds are authorized by Congress to assist the states and in maintaining and reconstructing roads and bridges on eligible Federal-aid roadway routes and for other special purpose programs and projects. Federal funds apportionment typically occurs at the beginning of every Federal fiscal year (October 1). ALDOT will then re-allocate Federal funds to each of the different Federal-aid programs in the form of sub-grants. All Federal funds remain available for **three (3) years** after the close of the fiscal year of funding authorization. **ALDOT may withdraw unused funds** to make other arrangements for qualified expenditures. This may be necessary in order to prevent loss of the funds through statutory lapse. FHWA is a reimbursable agency, which means that the ALDOT/LPA incurs the costs initially (after receiving the FHWA authorization). When ALDOT receives a correct invoice from the LPA, ALDOT forwards it to FHWA for reimbursement.

2.3 Planning

The LPAs initial planning process, generally reflecting the MAP-21 *Scope of the Planning Process* guidelines, should provide consideration of projects and strategies that:

- Increase safety and security of the transportation system for vehicular and pedestrian users;
- Increase accessibility and mobility options available to people and freight;
- Protect and enhance the environment, promote energy conservation, and improve the quality of life;
- Enhance the integration and connectivity of the transportation system;
- Promote an efficient system of management and operation; and
- Emphasize the preservation of the existing transportation system

The LPA is encouraged to perform a life-cycle cost analysis of all projects under consideration. Life-cycle cost analysis is an economic evaluation of all current and future costs associated with investment alternatives. This is a valuable technique to evaluate transportation programs and projects requiring long-term capital and maintenance expenditures. Discounting future costs, use an appropriate discount rate to compare costs incurred at different points in time. See the [Life Cycle Cost Analysis Primer](#) or [FHWA website](#) for more details.

Note: Life-cycle techniques are not required on all projects and may be ineffective for relatively small projects. It is recommended the LPA be guided by Division staff on project suitability for Life-cycle.

The LPA must provide an accurate initial estimate that reflects the anticipated cost of the project and that would be the measure against all other activities and procedures. There are three ways the LPA can prepare and document the initial cost estimate:

1. The use of historical data from recently awarded contracts is the most common approach. Under this approach, a summary of previous unit bid prices and data adjusted for project and market conditions derives an estimate of the anticipated cost.
2. The actual cost approach takes into consideration factors related to actual performances of the work such as cost of labor, equipment, and materials. This approach is especially useful in estimating unique items of work where there is insufficient bid history.
3. A combination of historical bid data with actual cost development is another approach to estimate costs. Estimated prices for these items, derived from actual costs, adjusted for specific project conditions, along remaining items based on historical prices, and adjusted as appropriate for the specific project is an acceptable method of analysis.

2.4 Finding the Appropriate Funds

The table below shows Federal funding programs that are available for the different types of improvements. Use this table for determining which funding type would best fit the project. See *ALDOT restrictions listed in Chapter 6.0, Section 6.1.*

Note:

X = Typical funding source available for this type of project. Additional funding options and project types may be available.

Type of Improvement	Funding Categories						
	NHPP	STP-Urban/Rural	CMAQ	Trans Alternative/TE	HSIP - Safety	SRTS – Safe Routes	Rail Highway Crossing
Roadway: New Construction (See Restrictions)	X	X	X	X			X
Rehabilitation	X	X	X	X			X
Widening	X	X					X
Resurfacing	X	X					
Intersection Improvement	X	X			X		
Bridge: New Construction (See Restrictions)	X	X					X
Replacement	X	X	X				
Rehabilitation	X	X	X				
Traffic Signals/Roadway Lighting	X	X			X		
New Railroad Viaduct	X	X					X
Rail Crossing Protection					X		X
Bicycle/Pedestrian Trails and Facilities	X	X		X	X	X	
Landscaping/Streetscaping	X	X		X			
Sidewalks within Two Miles of Schools				X		X	
Non-infrastructure Outreach Activities				X			
Traffic Calming and Speed Reduction Improvements				X	X	X	
Traffic Diversion Improvements in the Vicinity of Schools				X	X	X	
Community Improvements				X			
Planning Building Roadways in former Divided Highway ROW				X			

2.5 Statewide Transportation Improvement Program (STIP)

Federal law requires each state to develop a Statewide Transportation Improvement Program (STIP), listing all regionally significant projects, along with anticipated costs and funding sources planned for the upcoming four (4) years. ALDOT Bureau of Office Engineer, Project Management Section, is responsible for inputting and updating the Comprehensive Project Management System (CPMS) in cooperation with the ALDOT Divisions, Bureaus, the MPOs and other affected Federal and State agencies, and developing the STIP annually. Project authorization requires identification of all federally funded projects within the STIP. ALDOT works with LPAs to ensure every new or current project appears in all required formal Plans, including the Transportation Improvement Program (TIP) prepared by the MPOs, and the STIP prepared by ALDOT. The MPO TIPs must be completed and approved by the ALDOT and FHWA before they can be incorporated into the statewide STIP document. For more information go to the following website: [ALDOT Statewide Transportation Improvement Program](#).

Each MPO must develop a Transportation Improvement Program (TIP) for projects that fall within their metropolitan area within a given four-year cycle. ALDOT and FHWA approve the TIPs, and TIP projects are then included in the STIP. *LPAs have the responsibility of ensuring their projects, whether road, sidewalk, trail, or bridge, are included in all formal MPO planning documents, including the TIP.* The projects are required for those documents if they fall within the boundaries of a Metropolitan Planning Area (MPA) or a Transportation Management Area (TMA).

For each LPA outside an MPO, the STIP development occurs in consultation between ALDOT and the local officials with responsibility for transportation projects.

For each area of the State under the jurisdiction of an Indian tribal government, the STIP development occurs in consultation with the tribal government and the U. S. Secretary of the Interior.

Federal law also requires that ALDOT and the MPOs provide citizens, affected public agencies, representatives of transportation agency employees, representatives of users of public transit, and other interested parties with a reasonable opportunity to comment on the proposed STIP. Public meetings are held annually in each of the eight (8) ALDOT divisions and one (1) Region, and in each of the MPO areas to accomplish this task.

2.6 ALDOT Internal Programming Procedures

Once it is determined who will let the project, ALDOT or the LPA, the project development track is established and preparation continues accordingly. Division staff will coordinate agreement preparation with the LPA if the LPA is to let. If ALDOT lets, either Metropolitan Planning staff or Special Programs staff (Modal Programs) will prepare the agreement, depending on project type. Special Programs Section will be responsible only if the project is a *Transportation Enhancement or Transportation Alternatives* type project.

The respective section determines funding sources and the project is routed through the appropriate Division Engineer offices, and other offices, bureaus, and sections for final approval.

After final approval, the project is approved for entry of the project data into the ALDOT CPMS (Comprehensive Project Management System).

The project is considered **programmed** when entered into CPMS. ALDOT will then proceed with the preparation of the ALDOT/LPA Project Program Agreement.

Note: During early programming discussions, care will be needed to differentiate between a federally funded LPA project and an ALDOT County Transportation Bureau LPA project. If agreement is reached for ALDOT to let and actually carry out the project, by definition it is not a Federal LPA Program project and will be processed differently. Federal LPA projects are only those that are *federally funded* and are *managed by the local agency or government*.

2.7 Obligation, Authorization, and Notice-to-Proceed

An obligation is a commitment by the Federal government to reimburse ALDOT for the Federal share of eligible project cost. This commitment occurs when the project is ready to advance into the next phase of work. Obligated funds are considered “used” and therefore, are unavailable for other purposes even though no cash has been transferred.

Completing work in these phases develops a Federal aid transportation project:

1. Preliminary Engineering/NEPA (PE)
2. Final Design
3. Right-of-Way (ROW)
4. Utilities
5. Construction Engineering (CE)
6. Construction

Each new work phase requires FHWA to 1) approve the obligation of funds through the formal funding authorization process, 2) approve the work in that phase to begin, and 3) for ALDOT to issue a Notice-to-Proceed to the LPA.

It is the responsibility of ALDOT to request authorization of funds. It is the responsibility of FHWA to **authorize the reimbursement of eligible expenses**. When a Federal authorization date for a specific phase is given, ALDOT issues a Notice-to-Proceed to the LPA. On this authorization date, incurred expenses for eligible work may begin.

ALDOT approval of an executed project program agreement **is not** a general Notice-to-Proceed for the entire project. The LPA must have a **written Notice-to-Proceed** prior to the performance of each new Federal phase of work.

It is important to understand that the obligation of funds to the work phase does not automatically make expenses for that phase eligible for Federal-aid. For project costs to remain eligible, LPAs must follow all Federal and State regulations and requirements.

Note: Any expenses incurred in a work phase prior to the authorization of Federal funds will not be eligible for Federal reimbursement. Other sanctions as described in Chapter 13 may also apply.

2.8 Project Agreement (PA)

The ALDOT/LPA Project Agreement is the binding contract that empowers the LPA to administer a federally funded project, and it places the responsibility of adherence to all Federal and State regulations with the LPA. The agreement defines the project scope, project responsibilities, Federal and State requirements and regulations, design guidelines, detailed funding amounts, maintenance responsibilities, and payment obligations. When an LPA uses Federal funds for a project, the LPA is required to maintain the completed project.

ALDOT develops the Project Agreement and forwards it to the ALDOT Division Engineer. The Division Engineer reviews the agreement and forwards it to the LPA. A resolution from the MPO, City Council, or the County Commission must accompany to the project program agreement as an exhibit indicating commitment to the project. This resolution authorizes the MPO Chair, Mayor, or the County Commission Chair to sign the agreement. The LPA forwards the signed agreement and resolution to the ALDOT Division Engineer. When routing the program agreement to ALDOT for execution, the LPA is required to submit a cost estimate of the PE work phase. The ALDOT Division Engineer recommends execution of the agreement and returns it to either **Metropolitan Planning Section** or **Special Programs** (Modal Programs). ALDOT then executes the PA and returns one original to the LPA.

Note: ALDOT approval of an executed PA is not a *Notice-to-Proceed* for the PE phase of the project.

2.9 Supplemental Program Agreements

Occasionally, the conditions of the ALDOT/LPA Program Agreements change. This may be due to adjustments in the project limits, project costs, responsibilities, or specific project details. If this is needed, the ALDOT Division Engineer will approve a Supplemental Project Agreement, amending the existing conditions, and initiate the same approval process, including obligation, authorization, and Notice-to-Proceed, as for the original agreement.

2.10 Synopsis of Each Funding Program

Information about types and application of funding under MAP-21 is briefly outlined in the summaries below. These synopses will follow the outline provided under Section 2.1. Projects initiated under various funding types will carry project and fund coding specific to ALDOT's Comprehensive Project Management System (CPMS) and therefore may not be readily identified in project information except by Federal or State code numbers. Descriptions here address funding and project application only. Performance measures and Transportation Performance Management guidelines have not yet been released and therefore will be added at the next annual LPA Manual update.

2.10.1 National Highway Performance Program (NHPP)

Under MAP-21, NHPP becomes an enhanced National Highway system that takes in the Interstate System, rural and urban roads serving population centers, border crossings, intermodal facilities, and major travel destinations. The new program includes all principal arterials as well as STRAHNET connectors to major military installations. While typical LPA funding needs would probably be addressed through other programs, it is conceivable that some future projects could be partially or completely funded under NHPP. For additional information, visit the FHWA website at: [National Highway Performance Program](#)

2.10.2 Surface Transportation Program (STP – Urban)

Background

MAP-21 continues the STP funding generally prescribed in SAFETEA-LU, but with some changes. Typically, the Surface Transportation Program (STP) provides flexible funding used by ALDOT for projects on any Federal-aid highway, bridge or tunnel projects, bicycle and pedestrian facilities and transit capital projects. Funds distribution undergoes a formula modification, however, with shares to the new Transportation Alternatives Program (TAP), a minimum 15% set aside for off-system bridges, and 2% for State Planning and Research (SPR). Visit the FHWA website at: [STP Surface Transportation Program](#)

Eligibility

Half of available funds, after TAP and SPR, go to urbanized areas of up to 200,000 population. The remaining 50% can be used in any area of the State. The list of eligible projects is lengthy, with some restrictions, and LPA and Division staffs are urged to visit the STP website at [Surface Transportation Program \(STP\)](#) for specific information. ALDOT designates Federal STP urban funds to areas with populations up to 200,000 and to the fourteen (14) areas in Alabama where planning responsibility is assigned to a Metropolitan Planning Organization (MPO) or Transportation Management Area (TMA). Distribution of Federal STP urban funds is made according to population percentages. The Metropolitan Planning Section of the Bureau of Transportation Planning and Modal Programs manages and administers these funds.

Application

While *Eligibility* addresses STP Federal aid in general terms, for application purposes ALDOT guidelines are more circumspect. As established in the *LPA Project Guide* and the LPA Certification Process, ALDOT does not limit the LPA application process by type or overall cost. The Department does require *additional approvals* for capacity building projects (adding lanes), interchange, on-system bridges, or projects in which cost estimates exceed \$1,000,000. It is within these defining parameters that ALDOT Division Engineers determine whether to certify LPAs to oversee projects in Alabama and whether the projects themselves are suitable for the Federal LPA process.

When a proposed project meets the eligibility criteria, the LPA must complete an LPA Project Application and Financial History, and an LPA Project Programming Request, both found on the LPA website under General Application/LPA Application. All documentation requested by the ALDOT Division Engineer and/or Division LPA Coordinator must be completed and returned to the Division Office.

LPA local government officials will interact directly with ALDOT in submitting applications and all required documentation. In many cases, LPAs may be members of MPOs, *and in some circumstances*, the State may allow an MPO to provide assistance to the LPA in making application. As the MPO would be responsible for including LPA projects in the appropriate Long Range and TIP plans, the LPA must provide project information to the MPO. The LPA may proceed with programming the project at any point in the process, once approved by ALDOT.

The LPA Programming Request form provides specific information about the project to ALDOT. The completed document must thoroughly and accurately represent the project in order that it may be approved by the Division Engineer and ultimately, FHWA. The LPA Programming Request is available on the ALDOT LPA website. LPAs are required to complete all relevant information and attach a typical section and location map. The Responsible Charge (RC) of the LPA must sign the form and submit it to the ALDOT Division Engineer.

As described under section 2.6, on approval, ALDOT assigns project number, control number, project title, and proposed letting date. The ALDOT Division Engineer, designee, or Division LPA Project Coordinator assigned to the project notifies the LPA of the project approval and relays all appropriate information regarding the project.

Match

Federal and match share is determined by 23 USC 120. Federal share can be as much as one hundred percent (100%), based on project type and application. LPAs are encouraged to visit the following website for additional information, or discuss with the ALDOT Division Engineer or LPA Coordinator. [STP Federal Share 23 USC 120](#)

Contact

The ALDOT Division Engineer is the primary **project** contact (see the Project Guide for locations and phone numbers.) Metropolitan Planning Section is the primary **information** contact at (334) 242-6830.

2.10.3 Surface Transportation Program (STP - Rural)

Eligibility

ALDOT designates Federal STP rural funds to counties and to cities with populations less than 5,000. A project using STP Rural funds must be on the Highway National Functional Classification for Federal-aid routes. For a rural area, Federal functional routes include arterials and collectors. Roads classified as local roads or rural minor collectors are not eligible to receive STP rural funding.* Federal legislation allows eligible STP rural funds used for project expenses related to preliminary engineering, environmental obligations, right-of-way costs, non-betterment utility relocation/rehabilitation, construction, and construction engineering. Typical STP rural projects include upgrading an existing road to current minimum standards, roadway widening, reconstruction, mill and overlay, ADA improvements, and off-system bridge projects.

**Normally local roads are ineligible for STP funding, but a special rule is added by MAP-21 to allow some funding on rural minor collectors. Additional funding is set aside for off-system*

bridges. MAP-21 language encourages State and local government consultation with Rural Planning Organizations (RPOs) to maximize available funding.

The County Transportation Bureau manages and administers STP rural funds. Visit the County Transportation website at [County Transportation](#).

Application

On meeting the basic eligibility criteria discussed above, the local government (city or county) must contact County Transportation Bureau or the Division Engineer in order to continue processing a request for rural STP funding. The city or county may request **LPA funding**, if the intent is for the city or county to **use Federal funds and oversee the project**. If the intent is for the **State** to let and do the work, then County Transportation Bureau, Division Engineer, and the city or county staff will coordinate. Under these conditions, **it is not a Federal LPA project**. The County Transportation Bureau will provide guidelines for application and relevant documentation, such as typical section, project location map, and checklists to complete the application process.

Local government representatives must comply with forms requirements as provided by County Bureau or the Division Engineer. Actions of county representatives will be authorized by the county board and a copy of the board Resolution, signed by the Chairman of the County Board, or a commissioner or a mayor, must accompany the application. Upon approval, the project is assigned a project number, a state control number, and a project title.

Match

Federal and match share is determined by 23 USC 120. Federal share can be as much as one hundred percent (100%), based on project type and application. LPAs are encouraged to visit the following website for additional information, or discuss with the ALDOT Division Engineer or LPA Coordinator. [STP Federal Share](#).

2.10.4 Transportation Alternatives Program (TAP)

This new program was established during the MAP-21 restructuring of the core formula programs, in effect consolidating some project activities that derive funding from a number of other programs, including NHPP, STP, HSIP, CMAQ, and Metropolitan Planning. Most of the Transportation Enhancement project types (but not all) are now under TAP, as is **Recreational Trails** and **Safe Routes to School**.

Eligibility

The Transportation Alternatives Program provides funding for on and off-roadway pedestrian and bicycle facilities, no-driver access infrastructure projects, community improvement projects, environmental and air quality mitigation, and design, planning, and construction of boulevards and roadways using former interstate and divided highway right-of-way. As previously mentioned Recreational Trails Program and the Safe Routes to School programs now fall under TAP. This program encompasses most of the traditional Transportation Enhancement project activities, but the TE program itself will cease to exist once that program funding has been expended. Only state, LPA, or political subdivisions within the State of Alabama are eligible to receive TAP funding.

Safe Routes To School (STRS) activities will be eligible to compete for funding alongside other programs, including the Transportation Enhancements program and Recreational Trails program, as part of Transportation Alternatives.

For STRS, the Safe Routes Alabama Program provides funding to complete infrastructure and non-infrastructure projects that will better enable and encourage K-8 school children to walk and ride bicycles to school. Most State and local governmental agencies or political subdivisions within the State of Alabama are eligible to apply.

Eligible projects include infrastructure-related projects that will substantially improve the ability of students to walk and bike to school. Other eligible projects include non-infrastructure activities that will educate students how to walk and bike to school safely, and also encourage students and parents to choose walking and bicycling over motorized transportation.

Three required criteria establish project eligibility:

1. The project must fit within the eligible project types listed above
2. Infrastructure projects must be within a two (2) mile radius of a K-8 school. Non-infrastructure projects related to traffic education and enforcement activities must meet the two (2) mile criteria. However, all other eligible activities under the non-infrastructure portion of the program have no location restriction
3. The applicant must commit to provide future maintenance of infrastructure projects and provide a sustainability plan for non-infrastructure projects.

For STRS projects, the LPA Letter of Intent must include a description of the proposed project, specifically stating what aspect(s) of the project require the use of Safe Routes funds under TAP. A description of how the project fulfills eligibility requirements is mandatory.

If the proposed STRS project meets eligibility requirements, the LPA must submit three original applications to the appropriate Division Office, who will forward to and coordinate with Special Programs Office of Modal Programs for processing. On receipt of the application, and after initial review, *Special Programs* schedules an interview with the applicant at the Division Office.

Special Programs reviews the proposed project and makes funding recommendations. The ALDOT Safety Schedule of Improvements includes approved projects.

Match

For most TAP projects, the federal funding to local match ratio remains 80% federal, 20% local. This includes Recreational Trails Program projects not funded through the RTP set-aside. The *General Matching or Cost Sharing Rule* provisions of 49 CFR 18.24 will be applicable under this program. Key features include: 1) Matching share cost cannot be met by share costs required under another Federal grant, 2) Costs or values of third-party contributions cannot be counted toward match share costs if they have been counted toward a match share on another Federal grant.

All **SRTS** projects funded with 100% federal funds (there is no local match requirement) under SAFETEA-LU Section 1404(i), **will continue until funds are expended**. MAP-21 TAP projects are 80% Federal and 20% Local Match, but subject to the sliding scale adjustment provision (23 USC 120).

Contact

For information on eligibility, application and required match, go to the [FHWA TAP Funding Guidelines](#) website.

2.10.5 Congestion Management and Air Quality Improvement Program (CMAQ)

Eligibility

The CMAQ Program continues under MAP-21, providing State and local governments with funding to help meet the requirements of the Clean Air Act. This is primarily intended for use in urban areas to help relieve the effects of congestion and to improve air quality and meet EPA's National Ambient Air Quality Standards (NAAQS) for violating pollutants. In Alabama, this is most often ozone (O₃) and fine particulate matter 2.5 (PM_{2.5}), but some data is collected on carbon monoxide (CO).

In 2013, only the Birmingham area receives CMAQ funding due to that area's previous designation as *nonconforming* for ozone and current *maintenance* status. Adjustment of the NAAQS thresholds would determine future involvement of other Alabama MPOs in the Air Quality Conformity Process and their access to CMAQ project funding.

For PM_{2.5}, eligible projects can include transit operating assistance, electrical charging stations, and natural gas facilities.

Match

Match is generally the 80% Federal 20% Local. However, Federal funds are available to finance up to 100% of eligible project costs under certain conditions. Visit the FHWA CMAQ website for further detail. [FHWA CMAQ Guidance](#)

2.10.6 Bridges (Urban and Rural)

The Bridge Program was not continued under MAP-21. Bridges in Alabama are funded through the Surface Transportation Program (STP), with additional funding made available for rural Off-system bridges. Funding is provided to improve the condition of Federal-aid bridges through replacement or rehabilitation of bridges that are structurally deficient or functionally obsolete. These funds are also available for systematic preventive maintenance of bridges regardless of their eligibility for replacement or rehabilitation.

All eligible structures are included on a bridge selection list compiled from the National Bridge Inventory. This list contains all structurally deficient or functionally obsolete bridges with a sufficiency rating less than or equal to 80. All bridges on the list are eligible for rehabilitation funding. Bridges with a sufficiency rating of less than 50 are eligible for replacement funding. ALDOT will send the LPA a copy of the current NBIS list upon request or download from the site. [FHWA - Bridges](#)

The Divisions will accept all applications for bridge projects. For Federal LPA purposes, and has been previously stated in the LPA Project Guide and earlier in this Manual, on-system bridge projects and all projects exceeding an estimated current dollar cost of \$2,000,000.00, require review and written approval of the Chief Engineer.

Eligible construction expenses for off-system bridges include removal of the old structure, construction cost of the replacement structure and any drop-pipe culverts at the bridge location, safety improvements, erosion and sediment control, and construction engineering. Credit is disallowed for preliminary engineering, design engineering, preparation of plans and specifications, advertising for bids, or approach grading and surfacing.

Definitions

Bridge A structure over a depression or obstruction having a track or passageway for carrying traffic or other moving loads and having a length of over twenty (20) feet measured along the centerline of the roadway. Concrete box culverts meeting these criteria are also included in this definition.

Sufficiency Rating The numerical rating of a bridge based on its structural and functional adequacy, safety, and serviceability. For sufficiency ratings, please contact the ALDOT Division Engineer.

Rehabilitation The major work required to restore the structural integrity of a bridge, as well as work necessary to correct major safety defects. The work performed should be sufficient to remove the structure from the structurally deficient or functionally obsolete classification for a minimum of ten (10) years.

Reconstruction/construction Total replacement of a structurally deficient or functionally obsolete bridge in the same general traffic corridor.

Match

Typically the match share ratio is Federal 80%, Local Match 20%. Federal and match share is determined by 23 USC 120. Under STP funding, Federal share can be as much as 100%, based on project type and application. LPAs are encouraged to visit the following website for additional information, or discuss with the ALDOT Division Engineer or LPA Coordinator. [STP Federal Share](#).

Application

For urban projects, the LPA should complete an LPA Programming Request (as described above) and forward to the ALDOT Division Engineer. Counties should complete the documentation provided by County Transportation Bureau (see above) and forward to the Division Engineer and/or County Transportation Bureau at Montgomery. Visit the County Transportation website (noted above) for more information.

2.10.7 Highway Safety Improvement Program - HSIP

MAP-21 (Section 1112) continues safety as a primary concern of USDOT, and if anything extends its reach into most if not all transportation funding programs. HSIP is carried forward, with additional funding for the Rail-Highway Crossings program. Every state, including Alabama, has developed a Strategic Highway Safety Plan (SHSP) to address key problems. Implementation will feature Performance Measures and tracking systems within the Transportation Performance Management System, both as yet to be officially announced with startup dates.

States are no longer required to set aside funds for High Risk Rural Road (HRRR), but as a caveat, must do so if there is an increase in fatalities on those roads. For additional information, visit the FHWA website at: [FHWA Highway Safety Improvement Program](#)

Eligibility

This program provides Federal funding to assist ALDOT and LPAs in addressing transportation safety issues, with the intent of reducing fatalities and life-altering injuries. The required use of HSIP funds is to make improvements at locations that constitute an existing or potential danger to vehicles or pedestrians as measured by the frequency and severity of crashes. Eligible improvements may include adding turn lanes, geometric/alignment modifications, pavement and shoulder widening, signalization, and lighting, and should address one of the following five critical emphasis areas of the Strategic Highway Safety Program (SHSP):

- 1) Increase use of safety belts;
- 2) Reduce impaired or distracted driving;
- 3) Reduce crashes involving younger drivers;
- 4) Reduce intersection crashes; and
- 5) Reduce run-off the road crashes

Major reconstruction of any appreciable length of roadway will not qualify for funding under this program.

Application

The ALDOT Division Engineer reviews proposals for the use of HSIP funds. The committee selects projects based on volume of traffic, frequency, and severity of crashes, and a benefit/cost analysis. ALDOT adds approved projects to its Safety Schedule of Improvements.

An LPA must request Safety funds through the ALDOT Division Engineer. Application and supporting documentation also goes to Modal Programs - Special Programs Section of the Bureau of Transportation Planning and Modal Programs.

When submitting a request to obtain HSIP funds, the Division Engineer, designee, or Division LPA Project Coordinator, reviews the following items:

- Location map and/or aerial photo
- Evidence of a high crash location
- Proposed improvements to decrease the hazard
- Cost estimates of the proposed improvement

If ALDOT staff approves the project and the project passes the benefit/cost analysis, the Division and the LPA will coordinate in programming the project. For projects in **rural areas**, the local government or county must complete and submit application material provided by County Transportation Bureau and provide a Resolution of Intent from the County Board to the County Transportation Engineer.

Upon formal approval of the programming request, ALDOT assigns a project number, control number, project title, and proposed letting date. County Transportation Bureau notifies the county of project approval and relays all appropriate assigned information regarding the project.

Match

Up to **90% Federal funding with a minimum 10% cash match** from the county or local government.

2.10.8 Railway-Highway Crossings (HSIP set-aside)

Eligibility

This program in MAP-21 (Section 1519) provides funding to address safety issues involving rail public roadway crossing facilities, and specifically to reduce numbers of fatalities, injuries, and crashes. Funds come to the state from a national guaranteed .5% per state set-aside from the Highway Safety Improvement Program (HSIP). Each state must further set aside half of the state's allocated amount for crossing protective devices (23 USC 130(e)). Eligible improvements range from closing crossings to constructing new viaducts to the installation of roadway/rail crossing warning devices. Because this program is so broad, Chapter 9 of this manual is devoted to the details of programming and administering projects using these rail funds. For additional information, go to the websites below:

[MAP-21 Railway-Highway Crossings](#)

[FHWA Railway-Highways Crossing \(Section 130\) Program](#)

[23 USC 130](#)

Application

The ALDOT Rail Section coordinates all requests for Rail Safety funds. If the proposed project is approved, the Rail Section assists the LPA and Division in coordinating with the appropriate ALDOT Bureaus and Offices to advance the project.

Match

The typical match ratio is Federal 90% - Local 10%, but Federal can be extended to 100%.

2.10.9 Metropolitan Planning

Eligibility

MAP-21 (Sections 1201 and 1202) continues the Transportation Planning process set forth in amended 23 USC 134 and 135, but enhanced by Performance Measures and Targets established between the State and the MPOs. Final guidance on Measures and Targets has not been forthcoming from FHWA at this writing, but requirements for Long Range Plans and Transportation Improvement Programs remain unchanged, with funding for MPO projects, including annual allocations, derived from NHPP, STP, TAP, HSIP, CMAQ and other sources.

The Highway Bridge Program is discontinued, but funding for new bridges, bridge reconstruction, and bridge repair is available through the Surface Transportation Program

(STP). Funds access for bridge projects in nonmetropolitan areas would be through an LPA or a Rural Planning Organization (RPO).

If an LPA project is in an area with a Metropolitan Planning Organization (MPO), it is the responsibility of the LPA to advise the MPO of the project in order that the project is presented in the appropriate formal planning documents of the MPO. The MPO must determine if the project should be included in a particular document. Projects should be in the Transportation Improvement Program (TIP), regardless of size or complexity, if for no other reason than for purposes of information only.

Please visit the attached website links for additional information on Title 23 and the Statewide and Metropolitan Planning and Funding Processes:

[Title 23 Factsheets](#)

[Federal Aid Apportionment](#)

[23 USC 104\(c\)](#)

Match

The match ratio using project funds under Statewide and Metropolitan Planning provisions of 23 USC 134 and 135 is Federal 80%, Local 20% in most instances. Thus, there must be a minimum of twenty percent (20%) in matching funds for the project. This matching requirement can be satisfied in whole or in part with State, LPA, private sector, or Federal land management agency funds. Additionally, the State's share of the project cost can be from verifiable third party in-kind donations, but this alternative requires careful review and documentation.

2.10.10 Emergency Relief Program (ER)

Eligibility

Emergency Relief under MAP-21 remains unchanged and readers are referred to Section 1107 and 1508 of that law and 23 USC 120(e). While application for EA funds is not specifically project related at the time an emergency occurs, local governments do need to be aware this funding exists and how it is implemented for future damage repair effort.

Typically the States seek emergency relief at the Congressional level and tap into the permanent emergency authorization of \$100 million from the Highway Trust Fund. There are allowances in place if disasters or emergencies need funds exceeding the original authorization.

The decision to seek ER financial assistance for repair of either State or LPA Federal-aid highways or roads rests with ALDOT, and coordination and consultation with local governments is key. FHWA may approve Federal ER funding for roads and bridges on damaged Federal-aid system as a direct result of a proclaimed natural disaster or catastrophic failure. Since rural minor collectors and local roads are not part of the Federal-aid system, the *Governor*, or the President, must make an official disaster proclamation. Application of funds:

- Emergency repair to restore essential travel in the first 180 days, reimbursed at 100%
- Eligible permanent repairs to restore facilities, reimbursed at 90% subject to provisions of 23 USC 104

- Repair work on Federal land, access, and tribal transportation facilities, 100%

Changes to existing eligible activities:

- Addition of costs for maintenance and operation of transit service as substitute for highway traffic service
- Debris removal eligible, but subject to declaration of the President or applicability under the Stafford Act
- ER may participate in costs to repair or reconstruct a comparable facility that meets current design and construction standards
- Construction phase redefined to cover a bridge replacement structure – *No funds may be used for repair or reconstruction of a bridge if the construction phase of a replacement structure is included in a State’s approved transportation improvement program at the time of the event.*

ER funds must be used to restore a roadway or bridge to *pre-disaster* condition. **Betterments are typically not eligible for ER funding.** Betterments include enhancing or upgrading the project to where the repair would be greater than restoring to its original state. Betterments may be approved by FHWA with proper justification, such as increasing culvert size or meeting current standards, in which a well-documented life-cycle cost analysis is *required*. Early in the process, consult the following websites for eligibility requirements and other issues associated with the FHWA and Homeland Security programs:

[MAP-21 Emergency Relief](#)

[Stafford Act](#)

[Special Federal-Aid Funding](#)

[Special Federal-Aid Funding](#)

Damage to roadways or bridges must be severe, occur over a wide area, and result in unusually high expenses to the LPA. The ER program also applies to catastrophic failures (sudden and complete failures due to an external cause), which result in a disastrous impact on transportation services and unusually high expenses to the LPA. Economic hardship is not a basis to support use of ER funds.

Emergency vs. Permanent Repairs

Emergency repairs are those done immediately following a disaster to restore essential traffic and minimize the extent of damage or protect the remaining facilities. This work cannot wait for a finding of eligibility and programming of a project. This work must occur within the first 180 days following the disaster. The intent of the law is that the 180-day period starts on the initial day of the disaster. However, in certain circumstances, emergency repair may not be able to begin on the initial day of the disaster. In such cases, FHWA may consider the date on which the first emergency repairs work begins as the beginning of the 180-day period. Examples of eligible emergency repairs include:

- Re-grading of roadway surfaces, roadway fills, and embankments
- Debris removal

- Installation (and removal) of barricades and detour signs, flagging, and pilot cars during the emergency period
- Placement of riprap around piers and bridge abutments to relieve severe on-going scour action
- Construction of temporary detours and detour bridges

Permanent repairs are those done (normally after emergency repairs have been completed) to restore the highway to its pre-disaster condition. **To be eligible for Federal reimbursement, FHWA must authorize permanent repairs prior to initiation.** In some instances, permanent work done before authorization may receive approval after initiation if the LPA can document that it was more practical or economical to perform the work as part of the emergency repairs.

Procedures

1. When a disaster or catastrophic failure occurs, the LPA immediately begins collecting and documenting their costs for emergency repairs. The LPA must document, in detail, the equipment, hourly equipment rates, labor, hourly wage rates, materials quantities, materials unit prices, material type, and location of work performed. The LPA must take photos to document the damage; this is especially important when the damage will be repaired before ALDOT or FHWA can make a site visit. The LPA should contact the ALDOT Division Engineer if there is a question as to whether the damaged route is on the Federal-aid system.
2. As soon as possible after the event and resulting damage occurs, the LPA must inform and provide documentation to the ALDOT Division Engineer of the damage and request consideration (**LPAs do not apply directly for ER funds**) for Federal ER funding.
 - ALDOT, in cooperation with FHWA and in coordination with the LPA, shall perform damage assessments. The damage assessments involve site visits to verify the extent of the damage, determine the cost of repairs, and determine site eligibility for ER funding
 - Detailed damage assessments are to be conducted at most, if not all, sites
 - Disaster inspection teams shall consist of representatives from ALDOT, FHWA, and the LPA working the request
3. The Division Engineer or designee will provide information to ALDOT Central Office in Montgomery and those Bureaus, Sections, and Offices directly affected. The Divisions will contact FHWA and begin the formal process to request funds.
4. The FHWA Division office will prepare a Field Report based on the field damage assessments and will make a recommendation for ER funding to its Headquarters.
5. Once FHWA approves the disaster, the Divisions will coordinate as to have projects programmed and approved for reimbursement.

Note: Due to limited funding made available by FHWA for ER, reimbursement to the State/LPA for submitted charges could take a period of time.

6. ALDOT and the LPAs have [FHWA Revised May 31 2013 ER Manual](#) available as a reference to provide program guidance and instructions on policies and procedures when they seek ER funding.

2.11 Submittal Checklists

2.11.1 FEDERAL-AID WIDENING AND RESURFACING PROJECT

Date

Name

Transportation Planning and Modal Programs Engineer
Alabama Department of Transportation
P. O. Box 303050
Montgomery, AL 36130-3050

Dear _____:

RE: Project#

LPA

County

Enclosed is data to initiate this project as indicated:

- _____ Resolution (Location Map and Link Node Map)
- _____ Letter of Intent to Use Federal Funds
- _____ Request Will Use MPO Funds
- _____ Letter of Involvement (Section 4(f), 106 lands, etc.)
- _____ Traffic Counts or Letter of Request for Traffic Counts by ALDOT
- _____ Airport Involvement Letter, if applicable
- _____ Right-of-Way Recording Data Letter
- _____ Newspaper Advertisement
- _____ Other: _____

We anticipate this project be let to contract during the month of _____, 20____.
Please contact this office if additional information is required.

Sincerely,

LPA Engineer
Enclosures

2.11.2 FEDERAL-AID BRIDGE REPLACEMENT PROJECT

Date

Name

Transportation Planning and Modal Programs Engineer
Alabama Department of Transportation
P. O. Box 303050
Montgomery, AL 36130-3050

Dear _____:

RE: Project#

LPA

County

Enclosed is data to initiate this project as indicated:

- _____ Resolution (Location Map)
- _____ USGS Map
- _____ Request for Bridge Hydraulic Design/Review
- _____ Pictures for Hydraulic Design/Review
- _____ Plans and Profile Sheets
- _____ Project Review Consultation (Alabama Historical Commission)
- _____ Pictures for Alabama Historical Commission
- _____ Letter of Intent to Use Federal Funds
- _____ Letter of Involvement (Section 4(f), 106 lands, etc.)
- _____ Traffic Counts or Letter or Request for Traffic Counts by ALDOT
- _____ Airport Involvement Letter, if applicable
- _____ Right-of-Way Recording Data Letter
- _____ Right-of-Way RA-1 Form
- _____ Newspaper Advertisement
- _____ Views and Comments Letter
- _____ Other: _____

We anticipate this project be let to contract during the month of _____, 20____.

Please contact this office if additional information is required.

Sincerely,

LPA Engineer

Enclosures

2.11.3 FEDERAL-AID PROJECTS, PLANS, AND SUPPORTING DATA

The Division Engineer prepares a Scope of Work (if applicable), **Plans, Specifications, and Estimates (PS&E) Report**, and a Proposal and Estimate System (PES) estimate. A copy of the electronic **Proposal and Estimate System (PES)** file should be submitted to the Transportation Planning and Modal Programs Bureau. The materials report is approved by the Division Materials Engineer. The LPA will generate a project cost estimate utilizing AASHTOWare and submit an electronic file and a hard copy to the Division. The Division will be responsible for converting this estimate to the Proposal and Estimate System (PES) format.

Date

Name

Division Engineer
Alabama Department of Transportation
Mailing Address
City, State Zip Code

RE: Project# LPA _____ County _____

Enclosed are the original plans and supporting data as indicated:

- _____ Acquired Right-of-Way Recording Data Letter, if applicable
- _____ BI-1 Form (BIN Assignment Card) for Proposed Bridge Size Structure, if applicable
- _____ LPA Cost Estimate
- _____ Earthwork Summary Submittal Sheet, if applicable
- _____ Engineering and Inspection (E&I) Reduction Letter, if applicable
- _____ Engineering Personnel and Equipment Certification
- _____ Hydraulic Data Sheets, if applicable
- _____ Materials Report
- _____ National Pollutant Discharge Elimination System (NPDES) Permit Certification
- _____ Plans Checklist
- _____ Right-of-Way Certification
- _____ Right-of-Way Encroachment Certification
- _____ Utility Agreements, if applicable
- _____ Utility Certificate
- _____ Other: _____

It is requested this project be let to contract during the month of _____, 20____ (at least 16 weeks after submittal to the division). The LPA recommends the contractor/LPA be allowed ____ working days to complete this project.

Sincerely,

LPA Engineer

Enclosures

2.11.4 INDUSTRIAL ACCESS AND 2^c PROJECT

LET TO CONTRACT THROUGH THE STATE

Date

Name

Division Engineer
Alabama Department of Transportation
Mailing Address
City, State Zip Code

Dear _____:

RE: Project#

LPA

County

Enclosed is data to initiate this project as indicated:

- _____ Resolution (Location Map and Link Node Map)
- _____ USGS Map (Bridge Projects Only)
- _____ Plans and Profile Sheets (Bridge Projects Only)
- _____ Traffic Counts or Letter of Request for Traffic Counts by ALDOT
- _____ Request for Bridge Hydraulic Design/Review (Bridge Projects Only)
- _____ Pictures for Bridge Hydraulic Design/Review (Bridge Projects Only)
- _____ Right-of-Way Letter (indicating LPA has Right of Way)
- _____ Other: _____

We anticipate this project be let to contract during the month of _____, 20__.

Please contact this office if additional information is required.

Sincerely,

LPA Engineer

Enclosures

2.11.5 INDUSTRIAL ACCESS AND 2¢ PROJECT

LET TO CONTRACT THROUGH THE STATE PLANS AND SUPPORTING DATA

This is to be forwarded to the Transportation Planning and Modal Programs Bureau for **Industrial Access (IA)** and **2¢** projects to be let to contract by the state. See Section 5 for IA project procedures that are to be let to contract by the LPA. The Division Engineer prepares and submits the scope of work, if applicable, the plans, specifications, and estimate (PS&E) report, and a copy of the Proposal and Estimate System (PES) estimate (not required on 2¢ projects) to the Transportation Planning and Modal Programs Bureau. The electronic PES estimate file should be submitted to the Transportation Planning and Modal Programs Bureau. The materials report is approved by the division materials engineer. The LPA will generate a project cost estimate utilizing AASHTOWare and submit an electronic file and a hard copy to the division. The division will be responsible for converting this estimate to Proposal and Estimate System (PES) format.

Date

Name

Division Engineer
Alabama Department of Transportation
Mailing Address
City, State Zip Code

RE: Project# _____ LPA _____ County _____

Enclosed are the original plans and the supporting data as indicated:

- _____ Acquired Right-of-Way Recording Data Letter, if applicable
- _____ LPA Cost Estimate
- _____ Earthwork Summary Submittal Sheet, if applicable
- _____ Engineering and Inspection (E&I) Reduction Letter, if applicable
- _____ High Density Criteria Letter (2¢ projects only)
- _____ Hydraulic Data Sheets, if applicable
- _____ Materials Report (not required on 2¢ projects unless let through state services)
- _____ National Pollutant Discharge Elimination System (NPDES) Permit Certification (not required on 2¢ projects unless let through state services)
- _____ Plans Checklist
- _____ Utility Agreements, if applicable
- _____ Utility Certificate
- _____ Other: _____

It is requested this project be let to contract during the month of _____, 20____ (at least 16 weeks after submittal to the division). The LPA recommends the LPA/Contractor/Consultant be allowed _____ working days to complete this project.

Sincerely,

LPA Engineer

Enclosures

2.11.6 FEDERAL-AID PROJECT RESURFACING, RESTORATION, AND REHABILITATION (3R)

Any federal-aid LPA ***Resurfacing, Restoration, and Rehabilitation (3R)*** project must be processed in accordance with the following guidelines. The LPA Engineer must prepare the necessary documents and submit them to the Transportation Planning and Modal Programs Bureau, ***through the appropriate division office***. The division will retain a copy of all documents. The transmittal letter submitting the initial information must state what month and year the project should be let. The date requested must be a minimum of 6 months from the time the resolution and supporting data are submitted to the Transportation Planning and Modal Programs Bureau.

The LPA special work authorization account will be used to pay for Preliminary Engineering (PE) costs incurred by state personnel. If the balance drops below \$1,000, the LPA will be invoiced the amount required to bring the balance back up to \$2,000.

The following data must be resubmitted if the project has not been authorized within 3 years of the date of the resolution.

1. The following information must be submitted together:
 - a. **RESOLUTION**: Depending on agency type, submit a fully-executed Resolution or Letter of Intent stating the desire of the LPA to undertake the project. Attach a good-quality, letter-sized location map, and a link node map.
 - b. **INTENTION**: State within the Resolution or Letter of Intent the intention of the LPA to use federal-aid funds. The instrument must be signed by the mayor, chairperson, or executive officer of the LPA. Attach a letter-sized location map.
 - c. **LETTER OF INVOLVEMENT – Section 4(f), 106, etc.**: Submit a letter stating whether or not there is any involvement with lands from a public park, recreation area, wildlife refuge, archaeological or historical site, navigable water, airport or railroad.

Submit a letter if an active-use airport or landing strip is located within 2 miles (3.2 kilometers) of the project. Contact the Transportation Planning and Modal Programs Bureau if the project is causing a significant increase in elevation of the roadway in relation to the airport. The Transportation Planning and Modal Programs Bureau will provide the proper procedures to follow.

A railroad agreement or memorandum of understanding will be required if the project has a railroad grade crossing within the limits of the project and work is to be performed within the railroad right of way. Submit a letter if no work is to be conducted within the railroad right of way. See Chapter 9 for railroad procedures.
 - d. **RIGHT-OF-WAY RECORDING LETTER**: Submit a letter stating the basic dimensions or width of the existing right of way, the date the right of way was acquired, the recording information (location of recording, deed book, and page), and whether or not any additional right of way is required for the project. An example is on page 6-15.

If no recorded right of way exists, submit a letter indicating how much right of way will be required. If additional right of way is necessary, submit a preliminary relocation assistance analysis using the Form ROW-RA-1. See Chapter 7.0, ROW.
 - e. **ADVERTISEMENT**: Place an advertisement in a local newspaper stating the LPA intends to apply for federal-aid funds to construct the project. This advertisement should be published on ***all federal-aid projects***, whether additional right of way is

required or not. No publisher's affidavit is required. Submit one copy of the actual advertisement as it appears in the newspaper.

2. As soon as the Transportation Planning and Modal Programs Bureau receives the above information, an up-to-date traffic count will be requested from the Traffic Monitoring Section, or provided by the LPA, in accordance with the Standards for Traffic Volume and Classification Counts. The latest accident data on record will also be requested from the Transportation Planning and Modal Programs Bureau. The LPA Engineer should not proceed with any plan work until this information is received.
3. As soon as the accident data and traffic counts are received by this office, the LPA Engineer will be furnished an up-to-date copy of the most current environmental document, be it Categorical Exclusion (CE) or higher, or most recent document re-evaluation, and instructed to contact the division to arrange for a Scope of Work review to be conducted by the Division Engineer and accompanied by the LPA Engineer. (Environmental review and assessment procedures will be determined by the ALDOT Environmental Technical Section.) During the Scope of Work review, the designer should make recommendations for safety requirements, design standards, etc. See the requirements for analyzing existing horizontal and vertical deficiencies. The Division Engineer must compile this information and submit a written report to the Transportation Planning and Modal Programs Bureau.

After the scope of work review is completed, the Environmental Technical Section should prepare required documentation and submit the requested environmental document. The Categorical Exclusion, or relevant environmental document, must be signed by the LPA Engineer. The Scope of Work included with the Categorical Exclusion, or relevant document, should conform to the recommendations made by the division during the Scope of Work review.

4. The LPA Engineer should prepare and submit a Materials Report, which will be reviewed and approved by the Division Materials Engineer. The Materials Report must be signed by the LPA Engineer. To avoid a possible delay in letting the project, the Materials Report should be submitted to the division as soon as possible. The Materials Report should include any requested waivers to the materials specifications. The division will submit a copy of the approved Materials Report to the Transportation Planning and Modal Programs Bureau and the Construction Bureau.
5. When the Categorical Exclusion or relevant environmental document is approved by the Chief Engineer or Transportation Planning and Modal Programs Engineer, as appropriate, the LPA Engineer will be advised to proceed with plans preparation. Final plan preparation or right-of-way acquisition should not begin until the Categorical Exclusion or environmental document is approved. ***The project will be ineligible for federal funds if the right of way is acquired prior to approval of the Categorical Exclusion or approved environmental document.***
6. The LPA Engineer should contact the division when the plans and cost estimates are completed and arrange for a **Plans, Specifications, and Estimates (PS&E)** review. The division will notify the Transportation Planning and Modal Programs Bureau, in writing, of the time, date, and location of the PS&E review. A report of the PS&E review will be submitted by the Division Engineer to the Transportation Planning and Modal Programs Bureau. The Division Engineer must ensure the final plans conform to the recommendations made in the Scope of Work review, the PS&E review and the approved Categorical Exclusion or environmental document.
7. The following information should be submitted to the appropriate division office for review and approval at least 16 weeks prior to the letting date:

ITEM

Final Plans

LPA Cost Estimate (See note below)*

Acquired ROW Recording Data Letter, if applicable

Earthwork Summary Submittal Sheet, if applicable

Engineering and Inspection (E&I) Reduction Letter, if applicable.....

Engineering Personnel and Equipment Certification.....

Hydraulic Data Sheets, if applicable

NPDES Permit Certification

Plan Checklist

Right-of-Way Certification

Right-of-Way Encroachment Certification

Utility Agreements, if applicable

Utility Certificate

*The LPA will generate a project cost estimate utilizing AASHTOWare. The LPA will submit the project cost estimate electronically to the division, as well as a photocopy along with the plans. The division will be responsible for converting the estimate to Proposal and Estimate System (PES) format and verifying unique item numbers, quantities, and unit bid prices. The division must submit electronically to the Transportation Planning and Modal Programs Bureau, as well as a photocopy.

8. Project detail drawings that are not included in, or modified from, ALDOT’s most current *Standard and Special Drawings for Highway Construction* are added to the plans. The plans and supporting data are submitted to the Construction Bureau for review at least 12 weeks prior to the letting date. This review is made to ensure that the plans conform to federal and state requirements. The Construction Bureau also recommends special provisions to be included in the bid proposal. Any comments made by the Construction Bureau must be resolved during the first 4 weeks of this 12-week period.

Any major changes or corrections will require the plans to be returned to the LPA with a copy of the letter to the division. After the LPA has addressed all changes or corrections, the plans should be resubmitted to the Division Engineer for review and approval. All changes must be made and the project must be ready to go to contract **at least 8 weeks prior to the letting date.**

9. The Transportation Planning and Modal Programs Bureau will prepare a **project agreement** approximately 4 weeks prior to the scheduled letting date for contract projects. The agreement must be approved by all parties prior to award of the contract. All material is submitted to the Federal Highway Administration requesting authorization 4 weeks prior to the letting date.
10. As soon as possible after the letting date, invoices will be prepared and sent to the LPA. The LPA portion of the project cost and the award of the contract must be completed within 30 days of the letting date. If the LPA check is not received by this office by the deadline, the bids will have to be rejected and the Local Public Agency’s federal funds will revert to the Alabama Department of Transportation.

11. After the award is made, the contractor has 15 days to return the contract to the Alabama Department of Transportation, and then the Transportation Director and the Governor have 20 days to sign the contract. After the contract is signed by all parties, the Office Engineer has 15 days to issue the work order. After the work order is issued, the contractor has 15 days to begin work unless modified by a special provision.

2.11.7 Federal-Aid Project, Bridge Replacement

Any federal-aid LPA bridge replacement project must be processed in accordance with the following guidelines. The LPA Engineer must prepare the necessary documents and submit them to the Transportation Planning and Modal Programs Bureau, ***through the appropriate division office***. The division will retain a copy of all documents. The transmittal letter submitting the initial information must state when the project is to be let to contract. The date requested must be a minimum of 6 months from the time the resolution and supporting data are submitted to the Transportation Planning and Modal Programs Bureau.

Any bridge being replaced with federal-aid bridge replacement funds must be on the bridge inventory, must have a sufficiency rating less than 50.0, and must be either structurally deficient or functionally obsolete. This is not a requirement when federal-aid Surface Transportation Program funds are used.

The LPA's special work authorization (SWA) account will be used to pay for preliminary engineering costs incurred by state personnel. If the balance drops below \$1,000, the LPA will be invoiced the amount required to bring the balance back up to \$2,000.

The following data must be resubmitted if the project has not been authorized within 3 years of the date of the resolution.

1. The following information must be submitted together:

- a. **RESOLUTION**: Submit a resolution stating the LPA's desire to set up the project. The resolution must include the complete structure number, bridge identification number, sufficiency rating, status, creek name, location, and county route number. Attach a letter-sized location map and 2 letter-sized portions of a 7½" USGS map showing the project location. Examples are on pages 12.31, 12.63 and 12.68.
- b. **PLAN AND PROFILE SHEET**: Submit 4 prints of the plan and profile sheet. A letter-sized location map and a 7½" USGS map showing the project location must be attached to each print.

The plan view must show the in-place and proposed horizontal alignment (show geometric data). The plan view must also show the location of the downstream floodplain cross-section (distances, angles, stations, etc., as related to the roadway alignment).

The profile view must show the in-place and proposed vertical alignment (show geometric data). The profile view must also show the profile alignment under in-place bridges.

The profile view must show the floodplain cross-section taken downstream of the proposed structure. This section should be taken far enough downstream to ensure the cross-section is taken in the natural floodplain and streambed. This section should be taken 90 degrees to the floodplain which is not always parallel to the proposed structure or roadway alignment.

The streambed profile must be 500 feet (150 meters) upstream and 500 feet (150 meters) downstream of the proposed structure, for all sites with a drainage area less than 20 square miles (50 square kilometers).

No plan and profile sheets are required for bridge replacement projects that will not require bridge size structures. However, the LPA must submit hydraulic data showing the size structure required, flow, etc. Examples are on pages 12.14 – 12.27.

- c. **HYDRAULIC REVIEW**: Submit a request for an on-site hydraulic review. An example

of the Request for Bridge Hydraulic Design is on pages 12.55 and 12.56. Requests for hydraulic site inspections will not be forwarded to the Bridge Bureau until the plan and profile sheet is received. A color photograph of each of the following must be provided: present structure, upstream channel, downstream channel.

- d. PROJECT REVIEW CONSULTATION FORM: An example is on pages 12.57 and 12.58.
- e. LETTER OF INTENT: Submit a letter stating the LPA intent to use federal-aid funds. The letter must be signed by the mayor of the LPA. Attach a letter-sized location map. An example is on page 12.28.
- f. LETTER OF INVOLVEMENT 4(f), Section 106 LANDS, etc.): Submit a letter stating whether or not there is any involvement with lands from a public park, recreation area, wildlife refuge, historical site, navigable water, airport, or railroad. An example is on page 12.28.

Submit a letter if an airport is located within 2 miles (3.2 kilometers) of the project. An example is on page 12.1. Contact the Transportation Planning and Modal Programs Bureau if the project is causing a significant increase in elevation of the roadway in relation to the airport. The Transportation Planning and Modal Programs Bureau will provide the proper procedures to follow.

A railroad agreement will be required if the bridge replacement project involves a structure over a railroad. See Section 8 for railroad procedures.

- g. RIGHT-OF-WAY RECORDING LETTER: Submit a letter stating the basic width of the existing right-of-way, the date the right of way was acquired, the recording information (location of recording, deed book, and page), and whether or not additional right-of-way is required. An example is on page 6.15.

If no recorded right of way exists, submit a letter indicating the type of project (e.g., Bridge Replacement, Resurfacing, etc.) and how much right of way will be required. If additional right of way is necessary, submit a preliminary relocation assistance analysis using the Form ROW-RA-1. An example is on pages 6.12 and 6.13.

- h. ADVERTISEMENT: Place an advertisement in a local newspaper stating that the LPA intends to apply for federal-aid funds to construct the project. This advertisement must be published on all federal-aid projects, whether additional right of way is required or not. No publisher's affidavit is required. Submit 1 copy of the actual advertisement as it appears in the newspaper. An example is on page 12.40.
- i. VIEWS AND COMMENTS LETTER: Submit a letter requesting views and comments of the review agencies if the project requires additional right of way. An example is on page 12.89. A list of the review agencies is on pages 12.90 and 12.91.

2. As soon as the Transportation Planning and Modal Programs Bureau receives the above information, an up-to-date traffic count will be requested from the Transportation Planning and Modal Programs Bureau or provided by the LPA, in accordance with the Standards for Traffic Volume and Classification Counts as shown on page 12.67. The latest accident data on record will also be requested from the Transportation Planning and Modal Programs Bureau. The LPA Engineer must not proceed with any plan work until advised.
3. The LPA Engineer will be advised to prepare the categorical exclusion as soon as the site inspection has been made, the traffic count has been received, and the required reviews of other agencies completed. An up-to-date example of the categorical exclusion will be furnished by the Transportation Planning and Modal Programs Bureau. This example must

be followed as closely as possible, changing only the project description and information pertinent to the project.

If additional right of way is required, USDA Form AD-1006, Farmland Conversion Impact Rating, must be attached to each copy of the categorical exclusion. Completion of the Form AD-1006 must be initiated by the LPA. An example is on page 12.9. In addition to completing Parts I and III, the LPA must use ALDOT's Assessment Criteria to complete Part VI. See the criteria on pages 12.10 – 12.13. If Part VI total site assessment points are less than 60, the form will not have to be sent to USDA's Natural Resources Conservation Service (NRCS) and will be ready to accompany the submission of the categorical exclusion for the project. If the assessment points are 60 points or greater, the form will have to be forwarded to the NRCS for evaluation and processing.

5. Environmental Technical Section prepares the Categorical Exclusion. After review and approval by the Design Bureau, the Categorical Exclusion will be forwarded to the Office Engineer for further review and submission to FHWA for approval. Approved copies of this document are sent to the LPA Engineer, the Division Engineer, the Design Bureau's Environmental Technical Section and the Transportation Planning and Modal Programs Bureau for permanent filing. The LPA Engineer must not proceed with final plan preparation or right-of-way acquisition until the Categorical Exclusion is approved. Acquisition of right of way prior to approval of the Categorical Exclusion will render the project ineligible for federal funds.
6. In the event the project is determined not to be a Categorical Exclusion, the LPA Engineer, assisted by the Transportation Planning and Modal Programs Bureau, in consultation with the Design Bureau's Environmental Technical Section, must prepare the necessary documents and process the project as required.
7. If the LPA needs the Bridge Bureau to design the required structures, a request must be sent to the Transportation Planning and Modal Programs Bureau. The request must include 6 copies of the title sheet, typical sections, plan and profile sheets, and a 3-line profile. The Transportation Planning and Modal Programs Bureau will request the Bridge Bureau to provide a cost estimate for the foundation investigation and bridge plan preparation. Once this estimate has been received, the LPA will be invoiced this amount. No design work will be performed until the funding for this cost has been added to the LPA's SWA account.
8. PRELIMINARY BRIDGE SUBMITTAL – PLANS BY LPA OR CONSULTANT

If the LPA utilizes consultant contract services or LPA personnel for the design of the required structure, a preliminary bridge layout must be submitted to the Bridge Bureau for concurrence prior to beginning work on the final bridge plans. This applies to all bridge projects (with the exception of ALDOT standard precast structures) that are to be reviewed and approved by ALDOT's Bridge Engineer. This transmittal must include the following:

- a. A roadway plan and profile drawing that provides sufficient information to establish the geometrics of the proposed structure.
- b. A preliminary bridge layout showing the type, size and location (TS&L) of the proposed structure. The TS&L drawing must include proposed span lengths, types of girders, girder spacing, alignment information, stationing of abutment and bents, skew, if applicable, ground line (three line profiles) information and profile grade data.
- c. The proposed foundation type along with justification for the type of foundations being proposed.
- d. The name of the contact person, telephone number and e-mail address.

9. FINAL BRIDGE PLANS – LPA OR CONSULTANT

Once the preliminary layout has been approved by the Bridge Bureau, the LPA or consultant may begin work on the final bridge plans.

One set of prints of the final bridge plans, including the title sheet and the typical section must be submitted to the Bridge Bureau at least 24 weeks prior to the requested letting date. This transmittal must include a stamped copy of the bridge design calculations and a copy of the foundation report.

The Bridge Bureau will review a set of marked up plans to the LPA or consultant and return a set of marked up plans to the LPA or consultant with review comments and corrections. Once the LPA or consultant has addressed all the Bridge Bureau review comments, the following items must be transmitted to the Bridge Bureau:

- a. One set of final bridge plans on Mylar film for final approval. All required signatures and seals must be affixed; i.e., LPA Engineer and designer of record.
- b. The original checked plans with review comments.
- c. One set of the revised plans for the standard HS-20 trucks and operating ratings.
- d. Under separate cover, submit to the Transportation Planning and Modal Programs Bureau, 1 set of revised prints for the overtopping elevation data. This must include a copy of the plan and profile sheet, the bridge general plan and elevation sheet and any additional bridge sheets necessary to calculate the actual low girder elevation. Include the new BIN if available. An example is on page 12.41.

10. POLICY FOR LPA BRIDGES WITH SPAN LENGTHS OF 41 FEET OR LESS USING PILE BENT CONSTRUCTION

The minimum pile size used on all bridges will be HP 12 x 53 inch piling. No longer being allowed in any location will be HP 10 x 42 inch piling.

Piling used in the wire rope abutment anchor assemblies and wing piles must be driven to refusal or 20 feet, whichever is less. Abutment and bent piles must be driven to refusal or to the minimum tip elevation shown on the plans. The minimum penetration for any pile must not be less than 10 feet into natural ground and not less than $\frac{1}{3}$ the length of the pile. If at least 10 feet of pile penetration cannot be obtained, then concrete pedestals or pilot holes must be used.

- a. A minimum of 1 core boring for foundation design will be required and shown on the plans with sufficient data obtained to conduct a scour analysis and a static analysis to determine minimum and estimated pile tip elevations. If the scour analysis indicates the scour depth could extend within 10 feet of the minimum tip elevation for the piling, the LPA will have the option of plating the entire footprint of the structure with riprap, even if the recommended bridge is greater than 5 spans, or considering a different foundation design with longer spans. A comparative cost analysis must be prepared by the LPA and approved by the state to determine which option should be used.

OR

- b. Representative samples of soil defining the bed material size, gradation and distribution will be obtained from the stream bed and overbank under the proposed bridge for the purpose of performing a scour analysis as outlined in FHWA's HEC-18, Evaluating Scour at Bridges. These samples must be furnished to an independent certified lab, the Division's Materials Lab or the Materials and Tests Bureau's Lab for them to furnish the LPA a D-50 to be furnished with the plan and profile sheet and other required data submitted for a hydraulic site inspection. This D-50 will be used to

calculate scour. If the scour analysis indicates that the area is highly susceptible to scour or if excessive velocities (greater than 5 feet/second) are calculated, the site report will indicate that the entire footprint of the bridge must be plated with riprap in accordance with current standard drawings.

The LPA will have the option of plating the entire footprint of the structure with riprap even if the recommended bridge is greater than 5 spans, or considering a different foundation design with longer spans. A comparative cost analysis must be prepared by the LPA and approved by the state to determine which option should be used.

If this option is chosen and the recommended bridge is 5 spans or less, piling must be driven to refusal as defined by the specifications and no core boring is required.

If the site inspection determines that a structure longer than 5 spans is required, then at least 1 core boring will be required for foundation design and scour analysis. More than 1 core boring is desirable for bridges longer than 5 spans.

A load test will be included as a pay item on all short span (41-foot length spans or less) LPA bridges. The purpose of the load test is to confirm pile bearing capacity; therefore, a pile driving hammer approval will be waived.

11. The LPA Engineer prepares a materials report and submits it to the division for review by the Division Materials Engineer. To avoid a possible delay in letting the project, this report must be submitted to the division as soon as possible. Any requested waivers to the materials specifications must be included in the materials report. The report must be signed by the LPA Engineer. The materials report will be reviewed and approved by the Division Materials Engineer. A copy of the approved materials report will be sent by the division to the Transportation Planning and Modal Programs Bureau and the Construction Bureau. An example is on pages 12.32 – 12.38.
12. The LPA Engineer must contact the division when the plans and cost estimate are complete and arrange for a PS&E review. The Transportation Planning and Modal Programs Bureau must be notified, in writing, of the time, date and location of the PS&E review. A PS&E report must be prepared by the Division Engineer and submitted to the Transportation Planning and Modal Programs Bureau with the plans. An example is on pages 12.54 – 12.56. The Division Engineer should ensure the final plans conform to the recommendations made in the PS&E inspection and the approved categorical exclusion.
13. The following information must be submitted to the appropriate division office for review and approval at least 16 weeks prior to the letting date:

ITEM

Final Plans
LPA Cost Estimate (See note below)*
Acquired ROW Recording Data Letter, if applicable
Earthwork Summary Submittal Sheet, if applicable
BI-1 Form (BIN Assignment Card) for Proposed Structure, if applicable
Engineering and Inspection (E&I) Reduction Letter, if applicable.....
Engineering Personnel and Equipment Certification.....
Hydraulic Data Sheets, if applicable
NPDES Permit Certification

Plan Checklist
 Right-of-Way Certification
 Right-of-Way Encroachment Certification
 Utility Agreements, if applicable
 Utility Certificate

*The LPA will generate a project cost estimate utilizing AASHTO-ware. The LPA will submit the project cost estimate electronically to the division, as well as a photocopy along with the plans. The division will be responsible for converting the estimate to Proposal and Estimate System (PES) format and verifying unique item numbers, quantities, and unit bid prices. The division must submit the reduced cost estimate electronically to the Transportation Planning and Modal Programs Bureau, as well as a photocopy along with the final plans.

14. The division must submit the final plans and supporting data at least 14 weeks prior to the letting date. The plan checklist, which has been used by the LPA and division to check the various items, must be submitted with the plans. If the checklist does not accompany the plan assembly, the plans will be returned to the division. Plans are checked by the Transportation Planning and Modal Programs Bureau for accuracy. Project detail drawings that are not included in, or modified from, the current book of ALDOT Standard and Special Drawings for Highway Construction are added to the plans. The plans and supporting data are submitted to the Construction Bureau for review at least 10 weeks prior to the letting date. This review is made to ensure that the plans conform to federal and state requirements. The Construction Bureau also recommends special provisions to be included in the bid proposal. Any comments made by the Construction Bureau must be resolved during the first 4 weeks of this 10-week period.
15. A design risk assessment is required on all federal-aid bridge replacement projects involving waterways or drainage relief structures. This form must be prepared and submitted to the Transportation Planning and Modal Programs Bureau after the LPA has received the overtopping flood data provided by the Transportation Planning and Modal Programs Bureau. Example on pages 12.3 and 12.4.

 Minor changes and corrections in the plans will be made by the Transportation Planning and Modal Programs Bureau. Any major changes or corrections will require the plans to be returned to the LPA (copy of letter to the division). After the LPA has addressed all changes or corrections, the plans must be resubmitted to the Division Engineer for review and approval. The division will then forward the revised plans to the Transportation Planning and Modal Programs Bureau. All changes have to be made and the project has to be ready to go to contract at least 6 weeks prior to the letting date.
16. The Transportation Planning and Modal Programs Bureau will prepare a project agreement approximately 4 weeks prior to the scheduled letting date for contract projects. The agreement must be approved by all parties prior to award of the contract. All material is submitted to the Federal Highway Administration requesting authorization 4 weeks prior to the letting date.
17. As soon as possible after the letting date, invoices will be prepared and sent to the LPA. The LPA's portion of the project cost and the award of the contract must be completed within 30 days of the letting date. If the LPA's check is not received by this office by the deadline, the bids will have to be rejected and the LPA's federal funds will revert to the Alabama Department of Transportation.

18. After the award is made, the contractor has 15 days to return the contract to the Department of Transportation, and then the Transportation Director and the Governor have 20 days to sign the contract. After the contract is signed by all parties, the Office Engineer has 15 days to issue the work order. After the work order is issued, the contractor has 15 days to begin work unless modified by a special provision.

2.11.8 FEDERAL-AID PROJECT OTHER THAN BRIDGE REPLACEMENT - OR (3R)

Any federal-aid LPA project, other than bridge replacement or resurfacing, restoration and rehabilitation (3R), must be processed in accordance with the following guidelines. The LPA Engineer must prepare the necessary documents and submit them to the Transportation Planning and Modal Programs Bureau, through the appropriate division office. The transmittal letter submitting the initial information should state when the project is to be let to contract. The date requested should be a minimum of six 6 months from the time the resolution and supporting data are submitted to the Transportation Planning and Modal Programs Bureau.

The LPA Special Work Authorization (SWA) account will be used to pay for preliminary engineering costs incurred by state personnel. If the balance drops below \$1,000, the LPA will be invoiced the amount required to bring the balance back up to \$2,000.

The following data must be resubmitted if the project has not been authorized within 3 years of the date of the resolution.

1. The following information should be submitted together:
 - a. RESOLUTION: Depending on organization type, a letter of authorization or a Resolution stating the will of the organization must be generated to set up the project. Attach a good quality, letter-sized location map and 2 letter-sized portions of a 7.5 minute USGS quadrant map showing the project location. Examples are on pages 12.31, 12.63 and 12.68.
 - b. PROJECT REVIEW CONSULTATION FORM: An example of the form is on pages 12.57 and 12.58.
 - c. LETTER OF INTENT: Submit a letter stating the LPA's intent to use federal-aid funds. The letter must be signed by the mayor of the LPA. Attach a letter-sized location map. An example is on page 12.28.
 - d. LETTER OF INVOLVEMENT - 4(f) or Section 106 lands, etc.: Submit a letter stating whether or not there is any involvement with lands from a public park, recreation area, wildlife refuge, historical site, navigable water, airport or railroad. An example is on page 12.29.

Submit a letter if an active airport or landing strip is located within 2 miles (3.2 kilometers) of the project. An example is on page 12.1. Contact the Transportation Planning and Modal Programs Bureau if the project is causing a significant increase in elevation of the roadway in relation to the airport. The Transportation Planning and Modal Programs Bureau will provide the proper procedures to follow.

A railroad agreement or memorandum of understanding will be required if the project has a railroad grade crossing within the limits of the project and work is to be performed within the railroad right of way. Submit a letter if no work is to be conducted within the railroad right of way. See Section 8 for railroad procedures.

- e. RIGHT-OF-WAY RECORDING LETTER: Submit a letter stating the basic width of the existing right-of-way, the date the right of way was acquired, the recording information (location of recording, deed book and page) and whether or not additional right-of-way is required. An example is on page 6.15.

If no recorded right of way exists, submit a letter indicating how much right of way will be required. If additional right of way is necessary, submit a preliminary relocation

- assistance analysis using the Form ROW-RA-1. An example is on pages 6.12 and 6.13.
- f. **ADVERTISEMENT:** Place an advertisement in a local newspaper stating that the LPA intends to apply for federal-aid funds to construct the project. This advertisement should be published on all federal-aid projects, whether additional right of way is required or not. No publisher's affidavit is required. Submit 1 copy of the actual advertisement as it appears in the newspaper. An example is on page 12.40.
 - g. **VIEWS AND COMMENTS LETTER:** Submit a letter requesting views and comments of the review agencies if the project requires additional right of way. An example is on page 12.89. A list of the review agencies is on pages 12.90 and 12.91.
2. As soon as the Transportation Planning and Modal Programs Bureau receives the above information, an up-to-date traffic count will be requested from the Traffic Monitoring Section of Transportation Planning and Modal Programs Bureau or provided by the LPA, in accordance with the Standards for Traffic Volume and Classification Counts as shown on page 12.67.
 3. The LPA Engineer will be advised to prepare the categorical exclusion as soon as the traffic count has been received and the required reviews of other agencies completed. An up-to-date example of the categorical exclusion will be furnished by the Transportation Planning and Modal Programs Bureau. This example should be followed as closely as possible changing only the project description and information pertinent to the project.
 4. The LPA Engineer should prepare and submit the categorical exclusion. The categorical exclusion must be signed by the LPA Engineer. Do not send the categorical exclusion or a copy to the Federal Highway Administration (FHWA). The division will review the categorical exclusion and forward it to the Design Bureau's Environmental Technical Section for review and approval. After review and approval by the Design Bureau, the categorical exclusion will be forwarded to the Office Engineer for further review and submission to FHWA for approval. Approved copies of this document are sent to the LPA Engineer, the Division Engineer, the Design Bureau's Environmental Technical Section and the Transportation Planning and Modal Programs Bureau for permanent filing. The LPA Engineer should not proceed with final plan preparation or right-of-way acquisition until the categorical exclusion is approved. Acquisition of right of way prior to approval of the categorical exclusion will cause the project ineligible for federal funds.
 5. In the event the project is determined not to be a categorical exclusion, the LPA Engineer, assisted by the Transportation Planning and Modal Programs Bureau, in consultation with the Design Bureau's Environmental Technical Section, must prepare the necessary documents and process the project as required.
 6. The LPA Engineer prepares a materials report and submits it to the division for review by the Division Materials Engineer. To avoid a possible delay in letting the project, this report should be submitted to the division as soon as possible. Any requested waivers to the materials specifications should be included in the materials report. The report must be signed by the LPA Engineer. The materials report will be reviewed and approved by the Division Materials Engineer. A copy of the approved materials report will be sent by the division to the Transportation Planning and Modal Programs Bureau and the Construction Bureau. An example is on pages 12.32 – 12.38.
 7. The LPA Engineer should contact the division when the plans and cost estimate are complete and arrange for a PS&E review. The Transportation Planning and Modal Programs Bureau must be notified, in writing, of the time, date and location of the PS&E review. A PS&E report should be prepared by the Division Engineer and submitted to the

Transportation Planning and Modal Programs Bureau with the plans. An example is on pages 12.54 – 12.56. The Division Engineer should be sure the final plans conform to the recommendations made in the PS&E inspection and the approved categorical exclusion.

8. The following information should be submitted to the appropriate division office for review and approval at least 16 weeks prior to the letting date:

ITEM

Final Plans	
LPA Cost Estimate (See note below)*	
Acquired ROW Recording Data Letter, if applicable	
Earthwork Summary Submittal Sheet, if applicable	
BI-1 Form (BIN Assignment Card) for Proposed Structure, if applicable	
Engineering and Inspection (E&I) Reduction Letter, if applicable.....	
Engineering Personnel and Equipment Certification.....	
Hydraulic Data Sheets, if applicable	
NPDES Permit Certification	
Plan Checklist	
Right-of-Way Certification	
Right-of-Way Encroachment Certification	
Utility Agreements, if applicable	
Utility Certificate	

*The LPA will generate a project cost estimate utilizing AASHTO-ware. The LPA will submit the project cost estimate electronically to the division, as well as a photocopy along with the plans. The division will be responsible for converting the estimate to Proposal and Estimate System (PES) format and verifying unique item numbers, quantities, and unit bid prices. The division must submit the reduced cost estimate electronically to the Transportation Planning and Modal Programs Bureau, as well as a photocopy along with the final plans.

9. The division must submit the final plans and supporting data at least 14 weeks prior to the letting date. The plan checklist, which has been used by the LPA and division to check the various items, must be submitted with the plans. If the checklist does not accompany the plan assembly, the plans will be returned to the division. Plans are checked by the Transportation Planning and Modal Programs Bureau for accuracy. Project detail drawings that are not included in, or modified from, ALDOT *Standard and Special Drawings for Highway Construction* are added to the plans. The plans and supporting data are submitted to the Construction Bureau for review at least 10 weeks prior to the letting date. This review is made to ensure that the plans conform to federal and state requirements. The Construction Bureau also recommends special provisions to be included in the bid proposal. Any comments made by the Construction Bureau must be resolved during the first 4 weeks of this 10-week period.

Minor changes and corrections in the plans will be made by the Transportation Planning and Modal Programs Bureau. Any major changes or corrections will require the plans to be returned to the LPA (copy of letter to the division). After the LPA has addressed all changes or corrections, the plans should be resubmitted to the Division Engineer for

review and approval. The division will then forward the revised plans to the Transportation Planning and Modal Programs Bureau. All changes have to be made and the project has to be ready to go to contract at least 6 weeks prior to the letting date.

10. The Transportation Planning and Modal Programs Bureau will prepare a project agreement approximately 4 weeks prior to the scheduled letting date for contract projects. The agreement must be approved by all parties prior to award of the contract. All material is submitted to the Federal Highway Administration requesting authorization 4 weeks prior to the letting date.
11. As soon as possible after the letting date, invoices will be prepared and sent to the LPA. The LPA portion of the project cost and the award of the contract must be completed within 30 days of the letting date. If the LPA check is not received by this office by the deadline, the bids will have to be rejected and the LPA's federal funds will revert to the Alabama Department of Transportation.
12. After the award is made, the contractor has 15 days to return the contract to the Department of Transportation, and then the Transportation Director and the Governor have 20 days to sign the contract. After the contract is signed by all parties, the Office Engineer has 15 days to issue the work order. After the work order is issued, the contractor has 15 days to begin work unless modified by a special provision.

2.11.9 STATE AND INDUSTRIAL ACCESS PROJECT

Note: This section is included for information purposes only. Although certain state and IA projects are often referred to as 'LPA' projects, by definition only locally managed or administered projects are eligible for federal funds under the FHWA LPA Program. In this section, *local government* is used to describe the sponsoring party.

Any state funded and industrial access funded project must be processed in accordance with the following guidelines. These procedures are in accordance with ALDOT Guidelines for Operation Section 1, Administrative, page 1-20 approved on February 14, 2001.

No work can be performed and no contracts can be let prior to having a fully executed project agreement, project plans submitted to the division and notification from the division that advertisement for bids can be made, or in the case of negotiated projects, work can begin.

A project agreement will be prepared and furnished to the local government upon receipt of the grant award letter signed by the Transportation Director or the Governor. The division will prepare and submit an F-7A, Budget Allotment, upon receipt of a project funding agreement at the time it is submitted to the local government for their execution.

The local government will submit plans prepared and signed by a registered professional engineer showing work to be performed. Plans must match the project agreement description. It is not necessary for the division to perform an in-depth review of plans. The local government will submit a certification signed by a registered professional engineer stating that the plans have been prepared so that all items included in the plans meet ALDOT specifications. The local government will include a letter certifying that the local government owns all of the right of way on which the project is to be constructed.

Upon receipt of the executed agreement, the executed F-7A, final plans from the local government and the right-of-way certification, the division may notify the local government to proceed with advertising the project for letting, or in the case of a negotiated project, work can begin.

For negotiated projects, the division will prepare a cost estimate following normal estimating procedures; then reduce each computer generated unit cost by 10%. This will be the amount used by the local government on their estimate for reimbursement. In the case where a local government is using an in-place annual bid, the local government will furnish the division a copy of their bid and this bid price will be used for reimbursement.

For contracts let locally, the local government will furnish the division the three lowest bids with their recommendation for award. The division will review the bids, and if in order, advise the local government to proceed with the award of the contract to the lowest responsible bidder. The local government estimate for reimbursement will be based on the bid prices concurred in by the state and supported with documentation that the contractor has been paid for work performed; i.e., a copy of the cancelled check.

A certification will be submitted with the local government's final estimate stating that the project was constructed in accordance with final plans submitted to the state and with the specifications, supplemental specifications, and special provisions which were shown on the plans, or with the state's latest specifications which were applicable at the time of plan approval.

The local government will notify the division when the project is complete. The division will perform a final ride-through to determine whether the project was completed in substantial compliance with the original final plans. Final acceptance will be made by the division with a copy of the letter furnished to the Transportation Planning and Modal Programs Bureau.

All required test reports, weight tickets, materials receipts and other project documentation required by the specifications, applicable supplemental specifications and special provisions, will be retained by the local government for a period of three (3) years following receipt of the final payment and made available for an audit by the state, upon request. If an audit is performed and proper documentation is not available to verify quantities and compliance with specifications, the local government will refund the project cost to the state or do whatever is necessary to correct the project at their cost.

All local government-sponsored Industrial Access or state funded projects, let to contract by the state, will follow normal project procedures and comply with all current plan processing requirements. For additional information, visit the [ALDOT State Industrial Access](#) website.

Chapter 3.0

Managing the Project

3.1 Introduction

ALDOT is responsible to FHWA for the local program and must assure compliance with all federal and state laws, regulations, policies and procedures. ALDOT has the option to authorize LPAs to perform selected project activities on Federal-aid projects.

LPAs must possess a minimum organizational structure, credentialed employees, and must have appropriate processes and experience in order for ALDOT to certify the LPA to administer Federal-aid projects. [See Chapter 1, Introduction, of the *LPA Project Guide*.] These considerations apply beyond the specific project development disciplines associated with design and construction, to the general aspects of public business, fiscal accountability, and other applicable requirements associated with Federal and State funding. ALDOT will determine if an LPA possesses the qualified staff, experience, and management oversight capability to administer a project from preliminary development through construction and long-term project maintenance.*

***Note: This assessment is by the Division Engineer. Factors playing a role in this assessment are project scope, project type, staff qualifications, professional experience, and input from other bureaus as needed.**

3.2 Project Roles and Responsibilities

In order to ensure a high level of success in project delivery, the ALDOT Division Engineer may designate or assign some oversight responsibilities to a *Division LPA Project Coordinator* to monitor and coordinate the project. As the LPA Federal-aid project advances, ALDOT Division staff provides direction, assistance, and necessary information to assist the LPA through the entire project.

The LPA assigns the responsibility of completing the required work tasks to a project team. LPA staff, their public employee in Responsible Charge (RC), and any contractors and consulting firms comprise the LPA team.

ALDOT describes state and Federal policies and procedures throughout this manual to assist LPAs in meeting requirements for their projects. FHWA interprets the applicable Federal laws, rules, and regulations. Although LPAs assume the responsibility for day-to-day project administration, ALDOT is ultimately responsible to FHWA to ensure that local projects conform to Federal and State requirements. Requests for information and assistance concerning Federal requirements must be coordinated through ALDOT.

ALDOT responsibilities include, but are not limited to, the following

- Certifying an LPA to manage a Federal-aid project
- Administering and managing Federal funds
- Reviewing and approving projects and/or phases

- Preparing the project interagency agreement [Project Agreement (PA)]
- Requesting obligation of Federal funds and obtaining authorization from FHWA for phases of work
- Issuing a Notice-to-Proceed for each work phase
- Approving consultant selection
- Reviewing, preparing, and recommending NEPA documentation to FHWA for approval
- Certifying ROW
- Reviewing and approving PS&E package (with FHWA concurrence)
- Setting and verifying DBE goal compliance (if applicable)
- Concurring with the lowest responsive bid or awarding of the construction contract
- Reviewing and approving construction documentation
- Reviewing, verifying, and approving requests for Federal reimbursement
- Auditing and closing out the project

The LPA must appoint a current employee or hire a **full-time public employee**, acceptable as qualified by ALDOT, to be in responsible charge of the project. (One or more LPA employees may share responsibilities.) The individual, known as the **RC**, is accountable for all phases of the work, manages the day-to-day operations on the project, is involved in all project related decisions, monitors the progress and schedule of the project, and visits the project during construction to perform LPA quality control responsibility as described in Chapter 15.

The LPA must assure that an RC has sufficient education, experience, and/or training to perform LPA oversight responsibility of a Federal-aid project. *The RC cannot be an employee of a consulting firm.*

Note: A project Scope and Agreement may cede day-to-day management and other responsibilities to a consultant/contractor, in effect defining the roles of LPA, RC, and project consultant. The Scope, Agreement, and consultant hire all require ALDOT approval.

Projects must adhere to both the policies and guidelines of the ALDOT *LPA Project Guide* and the *LPA Manual for Federal-aid Projects in Alabama*. LPA responsibilities include, but are not limited to, the following:

- Obtaining sufficient trained and experienced personnel to adequately manage the project
- Selecting and planning a new project
- Preparing a project schedule
- Assembling the LPA team, including the RC

- Selecting a consultant to prepare a Scope of Work and Independent Cost Estimate (hereafter Cost Estimate)
- Day-to-day project decision making
- Submitting reimbursement requests of eligible project expenses for all phases of work
- Preliminary Engineering and final design
- Supporting ALDOT Environmental Technical Section (ETS) in environmental investigation and preparation of pre-NEPA and NEPA documentation
- Obtaining ROW in accordance with the Uniform Act
- Coordinating utility installation, rehabilitation, or relocation
- Coordinating impacts to the railroad
- Administering the construction contract
- Certifying substantial project completion
- Maintaining and following through with the environmental commitments after project completion
- Keeping an official record of all project documents for a minimum of three (3) years after the project has been closed

FHWA maintains responsibility for transportation projects undertaken with Federal funding and is the approving authority for the programs discussed in this manual. FHWA has delegated authority and responsibility to ALDOT for local federal-aid programs as allowed under the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU August 2005), Moving Ahead for Progress in the 21st Century (MAP-21, July 2012) and previous transportation acts. ALDOT has the responsibility to ensure that LPAs are administering the Federal-aid program in conformance with all applicable Federal requirements.

FHWA's responsibilities include, but are not limited to, the following:

- Authorizing Federal funds;
- Approving NEPA documents;
- Approving access points on the Interstate; and
- Auditing project documentation.

Note: ALDOT will not provide training or certify as to the *competency* of LPA staff. For that reason, considerable weight is placed on the LPA application and certification process, and staff credentialing will be similarly evaluated. The LPA may be asked to provide information pertinent to LPA project management. [See also Chapter 1, LPA Project Guide, Sections 1.1 and 1.2.]

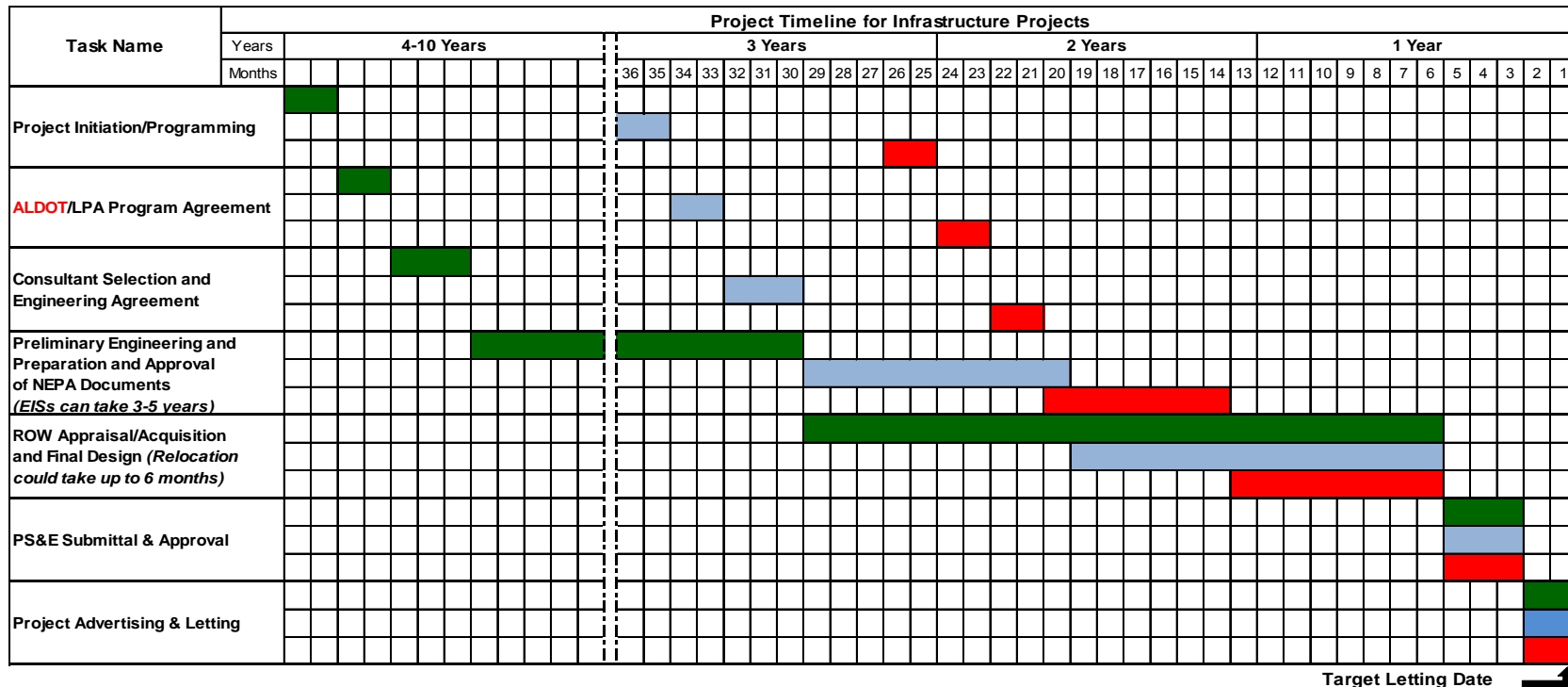
3.3 Timeline for Infrastructure Projects

After the LPA submits the LPA Application, ALDOT and the LPA discuss the project in order to come to a common understanding of the project issues and transportation goals. Considerations include location, type, size, scope and phasing for a facility, mode, and operational or management solutions to solve the identified transportation problem. Attendees must define at a minimum the general work requirements, develop an initial scope of work and discuss the development of a Request for Proposal (RFP) if needed to hire a consultant. These discussions take place before time and money is expended to advance extensive environmental analysis and design work.

After defining the project scope, the LPA determines the project schedule. The project schedule is crucial to managing transportation funding. The project schedule will vary depending on project type and complexity. Good planning on the part of the LPA is essential. LPAs must realistically plan adequate time for development, coordination, and project delivery. Time for reviews and quality control activities must be built into the project schedule.

Figure 3.1 shows a range of approximate project timelines based on representative project types and project scope assumptions. Each project is unique; having its own circumstances, and therefore may not fit into the timeframes shown. The purpose is to convey the idea that some activities, such as environmental or ROW, need to be allowed enough time and may extend a Federal-aid project well beyond three (3) or four (4) years.

An LPA project becomes a Federal-aid project only with execution of an LPA project agreement.



Target Letting Date

Not Available to LPA

Complex Project: Major urban/rural reconstruction, new capacity adding lanes, major interchange, on-system bridge, or bridge replacement project.
(EA or EIS with significant ROW taking)

Available to LPA

Intermediate Project: Typical urban/rural improvement project, off-system bridge rehab/replacement, Enhancement projects such as *Safe Routes to School*, and *Transportation Alternatives Program (TAP)* projects. *(Programmatic or new CE with minor ROW taking) * Acquisition of less than 1 acre.*

Available to LPA

Simple Project: Hazard Elimination improvement project, roadway resurfacing/maintenance project, traffic signal installation project.
(Programmatic CE with no ROW taking)

NOTE: *These are possible scenarios and the project timeline for each project can vary.*

Figure 3.1

3.4 Project Deliverables

The following pages list LPA major deliverables. The list is a useful guide for the LPA through a Federal-aid project from initial project application through construction and closeout. Refer to Chapters 14 and 15, respectively, for Closeout and Quality Control roles and responsibilities.

Unless specified otherwise, direct submittals to the ALDOT Division Engineer or Division LPA Project Coordinator. Colored lines or cells are key points of authorization.

LPA Major Project Deliverables

1	Submit project application/programming request
2	Submit executed project program agreement
3	Distribute project setup meeting minutes
4	Submit scope of work and Cost Estimate (CE) of PE services
5	Submit PE solicitation plan or method, selection panel names and titles, selection criteria (<i>evaluation factors, including weighting</i>), and draft RFP, draft public announcement or draft solicitation letter
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT NTP LETTER FOR SOLICITING PE SERVICES
6	Submit the short list of consulting firms (<i>required only for large purchase procedure</i>), copies of final RFP, final public announcement or solicitation letters, proof of any advertisement, listing of responding firms, correspondence with responding firms, and copies of completed evaluation forms from each of the selection committee members
	STOP (<i>LARGE PURCHASE PROCEDURE</i>) - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE WITH SHORT-LISTED PE FIRMS
7	Submit copies of completed evaluation forms (<i>for short-listed firms, required only for large purchase procedure</i>), ranking of firms, final selection, the proposal submitted by the selected firm, related correspondence or notes related to the evaluation and decision, correspondence with consulting firms, and verification of selected firm's Title VI compliance.
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE OF FINAL PE SELECTION
8	Submit PE negotiation documentation: final scope of work, any revisions to the Cost Estimate and consultant fee proposal, an explanation of any significant differences between the original LPA estimate and the final fee agreed upon
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE WITH THE LPA RECORD OF NEGOTIATION

9	Submit executed PE agreement
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT NTP LETTER FOR PROCEEDING WITH PE SERVICES
10	Submit Plan-in-Hand plans
11	Distribute Plan-in-Hand report
12	Submit NEPA Determination Form
13	Submit a Public Involvement Plan, as required
14	Submit updated NEPA statement (<i>CE, EA or EIS</i>) prior to public meeting
15	Submit Functional Design Plans
16	Submit public meeting documentation
17	Submit draft Categorical Exclusion or EA document. <i>Advise EIS potential, if any.</i>
	STOP - PROCEED PAST THIS POINT ONLY AFTER ENVIRONMENTAL DOCUMENT IS APPROVED BY ALDOT AND/OR FHWA, AND AFTER RECEIVING ALDOT NTP LETTER FOR FINAL DESIGN
18	Submit 90% plans, bridge plans, updated project cost estimate and applicable permits
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT NTP LETTER FOR ROW ACTIVITIES
19	Submit ROW Plans, Cost Estimates, and identified encroachments
	STOP – DO NOT PROCEED TO APPRAISALS UNTIL NTP LETTER RECEIVED
20	Submit scope of work and a ICE of PE services for Supplemental Agreement as applicable
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE OF SCOPE OF WORK AND INDEPENDENT COST ESTIMATE
21	Submit PE negotiation documentation and draft Supplemental Agreement. For time extensions only, submit justification and draft PE Supplemental Agreement
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE WITH NEGOTIATION DOCUMENTATION AND DRAFT SUPPLEMENTAL AGREEMENT
22	Submit executed Supplemental PE Agreement

	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING A LDOT NTP LETTER FOR PROCEEDING WITH SUPPLEMENTAL PE SERVICES
23	Submit Utilities Plans
24	Submit RR Plans
25	Submit LPA concurrence in eligible utility rehabilitation costs
26	Submit draft utilities agreement
27	Submit RR concurrence of ROW appraisal plans
28	Submit ROW Compensation Estimates, Appraisals and Appraisal Reviews
	STOP – PROCEED PAST THIS POINT TO ROW ACQUISITION ONLY AFTER ALDOT ISSUES NTP LETTER AND RELOCATION STUDIES AS APPLICABLE (ONLY THOSE THAT <i>DO NOT REQUIRE RELOCATIONS</i>)
29	Submit Relocation Assistance Benefit Studies (<i>if needed</i>)
	STOP – PROCEED PAST THIS POINT ONLY AFTER ALDOT ISSUES NTP LETTER TO CONTINUE TO ROW RELOCATION ASSISTANCE
30	Submit ROW Relocation Assistance Claims
31	Submit ROW acquisition files
32	Submit ROW administrative settlements
33	Submit RR concurrence with final plans
34	Submit draft RR agreement
35	Submit executed RR agreement
36	Submit environmental commitments file
37	Submit Final Plans
38	Submit executed Utilities Agreement
	STOP – PROCEED PAST THIS POINT ONLY IF UTILITY WORK IS TO BE DONE PRIOR TO CONSTRUCTION AND ALDOT ISSUES NTP LETTER AUTHORIZING UTILITY WORK

39	Submit scope of work and independent cost estimate of CE services
40	Submit CE solicitation plan, selection panel, selection criteria (<i>evaluation factors, including weighting</i>), draft RFP, draft public announcement, or draft solicitation letter
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT NTP LETTER FOR SOLICITING CE SERVICES
41	Submit the short list of consulting firms (<i>required only for large purchase procedure</i>), copies of final RFP, final public announcement or solicitation letters, proof of any advertisement, listing of responding firms, correspondence with responding firms, and copies of completed evaluation forms from each of the selection committee members
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE WITH SHORT-LISTED CE FIRMS
42	Submit copies of completed evaluation forms (<i>for short-listed firms, required only for large purchase procedure</i>), ranking of firms, final selection, the proposal submitted by the selected firm, related correspondence or notes related to the evaluation and decision, correspondence with consulting firms, and verification of selected firm's Title VI compliance
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE OF FINAL CE SELECTION
43	Submit the following CE negotiation documentation: final scope of work, any revisions to the Cost Estimates, and consultant fee proposal, an explanation of any significant differences between the original LPA estimate and the final fee agreed upon
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE WITH LPA RECORD OF NEGOTIATION
44	Submit executed CE agreement
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT NTP LETTER FOR PROCEEDING WITH CE SERVICES
45	Submit PS&E package
	STOP - DO NOT PROCEED WITH THE PROJECT UNTIL ALDOT APPROVES THE PS&E PACKAGE AND ISSUES NTP LETTER TO ADVERTISE FOR BIDS
46	Submit proof of advertisement
47	Submit bid addendums (<i>local let</i>)
48	Submit documentation for any non-responsive bids and get ALDOT concurrence (<i>local let</i>)
49	Submit award recommendation (<i>local let</i>), or LPA's concurrence with reject/award recommendation (<i>state let</i>)

50	Submit list of subcontractors and certificate of insurance to ALDOT Division Engineer (<i>local let</i>) or ALDOT Bureau of Office Engineer (<i>State let projects</i>)
51	Submit list of DBE subcontractors, certificate of insurance and contracts to ALDOT Division Engineer (<i>local let projects</i>) or ALDOT Construction Division (<i>State let projects</i>)
52	Submit preconstruction meeting agenda to ALDOT Division Engineer
53	Distribute preconstruction meeting minutes
54	Submit materials testing requirements (<i>local let projects</i>) to ALDOT Division Engineer
55	Submit final Utilities invoice to ALDOT Division Engineer
56	Submit required <i>DBE</i> forms to ALDOT Division Engineer
57	Submit documentation verifying contractor compliance with Title VI, labor/wage rates, DBE and EEO requirements to ALDOT Division Engineer
58	Submit proposed change orders to ALDOT Division Engineer
59	Submit progress payments for CE to ALDOT Division Engineer
60	Submit progress payments for construction to ALDOT Division Engineer
61	Submit scope of work and ICE of CE services for Supplemental Agreement as applicable
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE OF SCOPE OF WORK AND COST ESTIMATES
	Submit CE negotiation documentation and draft Supplemental Agreement. For time extensions only, submit justification and draft CE Supplemental Agreement
62	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT WRITTEN CONCURRENCE WITH SUPPORTING DOCUMENTATION AND DRAFT SUPPLEMENTAL AGREEMENT
63	Submit executed Supplemental CE Agreement
	STOP - PROCEED PAST THIS POINT ONLY AFTER RECEIVING ALDOT NTP LETTER FOR PROCEEDING WITH SUPPLEMENTAL CE SERVICES
64	Submit project punch list from project final walkthrough, and submit (<i>after resolution of punch list items</i>) to ALDOT Division Engineer
65	Submit final records to ALDOT Division Engineer
66	Continue to monitor and maintain environmental commitments after construction; submit documentation as required
67	Submit permit close-out documentation to ALDOT Division Engineer

3.5 Project File Organization

Organization of Federal-aid transportation project files must occur in the following format. The categories correspond to phases or key activities that occur during a project. The main goals of keeping an organized filing system are to ensure completeness of documentation and to have the ability to retrieve information quickly in event of an audit request or a need for timely conflict resolution. Federal and State auditors are able to determine immediately that the LPA has complied with all laws and requirements. The contents outlined below are not intended to be exclusive or exhaustive, but the project files **must include these items**.

All project related correspondence (*including emails*) and documents must have complete project identification which includes: ALDOT Project ID numbers, **full project description** (to include, if roadway project, route numbers, termini, and secondary description if applicable), Purpose and Need statement, State control numbers, and Federal Program Numbers.

A project can be documented using the following main categories or “folders:”

1. Pre-construction
2. Construction
3. Agreements
4. Consultant Selection
5. Reimbursements
6. Plans and maps

Each main folder consists of sub-folders and/or files within those subfolders.

Main Folder #1: Pre-Construction

Sub-project folders/files

1. Project Initiation

- Qualification of LPA to administer the Federal-aid project
 - Interview
 - Title VI Plan
- Preliminary work done prior to project request file contains preliminary project development information
 - scope definition
 - Concept
 - Basis for cost estimate
 - Purpose/need
 - Project maps/plans

- Documentation of public involvement
- Project application/programming request (*LPA Application Form*) with initial project approvals by local agency and ALDOT
 - Project schedule
- Project setup meeting report

2. Preliminary Engineering/NEPA Phase

- **Preliminary Design**
 - NTP letter from ALDOT authorizing work for PE/NEPA phase
 - Preliminary design information
 - Plan-in-Hand agenda
 - Plan-in-Hand documentation of invitations
 - Plan-in-Hand report
 - Traffic Study if applicable
 - Any public involvement minutes, transcripts, and meeting notes
 - **Environmental** Requests to and clearances from resource agencies
 - NEPA determination form and attachments
 - Permit requests and approvals and issued permits
 - Evidence that any project change orders were reviewed for environmental impact and potential changes to conditions of permits
 - A plan for compliance with post-construction environmental commitments
 - Evidence of follow-up visits or activity must be placed in this file
 - Public Involvement Plan, as required
 - Documentation (*transcripts, etc*) for any public meetings held
 - Title VI compliance documentation
 - Draft and final environmental documents (*CE/EA/FONSI as applicable*)
 - Environmental commitments
 - ALDOT and FHWA approvals
- **Utilities**
 - Proof that utilities were contacted, provided with plan-in-hand plans, and invited to the Plan-in-Hand site visit
 - Documentation of scope of utilities work; i.e., utility rehabilitation plan
 - Documentation of estimate(s) of cost for utilities work

- Maps
- Meeting notes
- NTP letter from ALDOT authorizing utilities work, if work is to be done prior to construction
- Reimbursements received from the utility for their portion of the work
- **Railroad file**
 - Proof that railroad was contacted, provided with Plan-in-Hand plans, and invited to the Plan-in-Hand site visit
 - RR concurrence of ROW appraisal plans
 - RR concurrence with final plans
- 3. Final Design/ROW Phase**
 - **Final Design** NTP letter from ALDOT authorizing Final Design and ROW Plans/Estimates
 - Functional design plans
 - 90% plans and 70% bridge plans
 - Any public involvement minutes or transcripts
 - Meeting notes
 - Documentation of major decisions
 - Final plans
 - **ROW** [ALDOT ROW Bureau website](#)
 - Project plans/estimates with the tracts involved identified
 - NTP letter from ALDOT ROW Bureau approving plans/estimates authorizing appraisals
 - Tract - a separate file/folder for each tract to be obtained
 - Compensation Estimate, if applicable
 - Appraisal and appraisal review, if applicable
 - NTP letter from ALDOT approving appraisal and authorizing acquisition, and a relocation study if applicable
 - Relocation Assistance Benefit Study, if applicable
 - NTP letter from ALDOT authorizing Relocation, if applicable
 - All meeting notes with landowners
 - Correspondence

- Administrative settlement, if applicable
- Copies of condemnation proceedings and outcomes
- Warranty deeds
- LPA ROW Certificate
- ALDOT ROW Certificate

4. PS&E

- PS&E package
- NTP letter from ALDOT authorizing advertising for bids
- Proof of advertisement (LPA Let Projects)
- Bid addendums (LPA Let Projects)
- Documentation for non-responsive bides, if applicable
 - ALDOT written concurrence.
- Award recommendation to ALDOT (LPA Let Projects)
- Concur/reject award documentation

5. General Project Correspondence – Pre-construction

- Correspondence related to the project but would not easily be identified with any of the other previously identified project folders
- Maintain in date – time (chronological) sequence

Main Folder #2: Construction

Sub-project folders/files

1. Construction file

- Engineer estimate just prior to letting
- Bid tabs and notice of project contractor selection (including ALDOT approval, as required)
- Copy of construction contract
- NTP to contractor
- Copies of all certified payrolls (as they correspond to construction contractor progress estimates)

2. On-site inspector (CE) file

- If Site Manager is not available, documentation is required in written form in a field book or some other type of permanent record, as described below.
- Documentation that supports the amounts reimbursed

- Group so that comparisons can readily be made between supporting documentation and invoices and progress payments. (Progress **payment number** must be included with each group of documents).
- Diaries, to document daily project facts such as
 - Weather
 - Contractors working on the project
 - Activities being performed
 - Unusual incidents affecting the work
 - Any pertinent conversation held
- Field books, to document:
 - Daily work activities, for specific pay items at specific locations,
 - Computations of work performed,
 - Measurements of work performed, and
 - Tests performed in the field.
- Other documentation supporting progress payments:
 - Materials certifications
 - Bills of lading
 - Scale (weight) tickets
 - Test reports from an off-site laboratory
 - CE time and expenses records
- Survey field books

3. Change order file

[Change orders are discouraged by the Department, but once initiated complete documentation in project files is mandatory.]

- Project change orders and associated documentation
- ALDOT / FHWA correspondence **and approvals**
- Environmental re-evaluations / **approvals** needed as a result of changes

4. State Quality Control and Oversight file

- Personnel must document every onsite visit made by ALDOT (who, when, where, and what was reviewed and corrective action recommendation)
- Exceptions or comments requiring modifications to the project and any follow-up documentation

5. Project Completion/Acceptance

- All final project acceptance documents including the final project progress estimate, approved by contractor
- LPA/Project Sponsor project acceptance and ALDOT and FHWA approvals, and all official project completion notices

6. General Project Correspondence - Construction

- Correspondence related to the project but would not easily be identified with any of the other previously identified project folders
- Maintain in date – time (chronological) sequence

Main Folder #3: Agreements**Sub-project folders/files**

1. Program/project Agreements (and any supplemental agreements) between LPA and ALDOT
2. Inter-local or Interagency Agreement(s) between the LPA and other public entities or groups, if applicable
3. PE Agreement (and any supplemental PE agreements) between LPA and Design Consulting Firm
4. CE Agreement (and any supplemental CE agreements) between ALDOT Design Bureau (ETS) and Construction Engineer/Inspector
5. Utility agreements
6. Railroad agreements

Main Folder #4: Consultant Selection**Sub-project folders/files****1. PE Selection**

- Submittal to ALDOT prior to advertising
 - Scope of Work
 - Cost Estimate of PE services
 - Evaluation criteria and form to be used
 - Members of the selection panel
 - Draft RFP
 - Advertisement plan
- NTP letter from ALDOT to advertise RFP
- Submittal to ALDOT

- Proof of advertisement
- List of firms that responded to the RFP
- Short list of firms
- Documentation of interviews, with completed evaluation forms
- Correspondence with firms
- Final selection documented
- Verification of PE Title VI compliance
- Documentation of the negotiation process and details including correspondence
- ALDOT/FHWA agreement on NEPA Class of Action and notification to LPA

2. CE Selection

Note: A consulting firm may perform both the preliminary engineering and construction engineering services on the same project with written approval of the ALDOT Region/Division Engineer.

- Submittal to ALDOT prior to advertising
 - Scope of Work
 - Cost Estimate of CE services
 - Evaluation criteria and form to be used
 - Members of the selection panel
 - Draft RFP
 - Advertisement plan
- NTP letter from ALDOT to advertise RFP
- Submittal to ALDOT
 - Proof of advertisement
 - Short list
 - Documentation of interviews, with completed evaluation forms
 - Final selection documented,
 - Verification of CE Title VI compliance
 - Documentation of the negotiation process and details including correspondence
- ALDOT approval (NTP letter to proceed into Construction/CE phase)

Main Folder #5: Reimbursements**Sub-project files/folders**

1. All funding approvals
2. Notices to Proceed
3. Invoices
4. Progress payments to contractors and consultants
5. Supporting documentation for all progress payments
6. Project closeout documentation

Main Folder #6: Plans and Maps**Sub-project files/folders**

1. Map/Plan file – copies of all required plans/maps (*properly noted*) must be in the file.
This consists of all maps/plans used throughout the project, including the “as built” plans.

Chapter 4.0

Consultant Services

4.1 Introduction

An LPA may engage consultants to perform architectural, engineering, and related services to develop a Federal-aid and/or State funded project. LPAs must follow the selection and contracting procedures detailed in this chapter. The provisions of the Brooks Act (40 USC 1101 – aka Public Law 92-582) and Alabama State statutes §SS41-16-51(a.3) must be followed. The Brooks Act requires engineering and design contracts utilizing Federal funds be awarded on the basis of fair and open competitive negotiations, demonstrated competence, and professional qualifications (23 CFR, Section 172.5). This latter provision is often referred to as **Qualifications Based Selection (QBS)**.

Additional regulations that govern consultant selection and administration include:

- [23 CFR 172](#) – Administration of Engineering and Design Related Service Contracts
- [48 CFR, Part 31](#) - addresses Contract Cost Principles and Procedures;
- [49 C FR, Section 18](#) – Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local governments;
- [23 USC 112B](#) - amended by [Section 307 of the 1995 NHS Act](#) - prohibits limits on indirect cost rates (overhead) and requires ALDOT to accept overhead rates established by a Federal or State government agency;
- Employment of Consultants [FHWA - Consultant Services](#)
- Federal Policy in selecting architects and engineers, [Brooks Act \(Public Law 89-306 October 1965\)](#)
- Office of Inspector General Audit Report July 2011. A copy of this Report may be found on the LPA website under *Consultant Management – Office of Inspector General Audit Report*.

4.1.1 Initial Obligation of Funds

Alabama Department of Transportation (ALDOT), may request a nominal dollar amount be obligated in CPMS (Comprehensive Project Management System) for project setup and to prepare a Request for Proposal (RFP) for professional services. This obligation will allow charges towards the project by both ALDOT and the LPA Responsible Charge to initiate the project and to procure consultant services. These preliminary activities include the preparation of an RFP, completion of the Qualifications Based Selection (QBS) process, development of a Cost Estimate (CE or ICE), and negotiation of a detailed work plan with the selected consultant.

4.1.2 LPA Responsible Charge (RC) Oversight of Consultants

The LPA must provide a qualified, full-time, public employee to be the Responsible Charge (RC) of its Federal-aid project. It is the duty of the LPA RC to competently manage and coordinate the project day-to-day operations, including all project related decisions, on behalf of the LPA,

which includes the LPAs governing body, staff and any extended staff dedicated to the project, such as consulting engineers. The roles, duties, and responsibilities of the RC may be further established in the ALDOT/LPA project agreement.

Note: See Chapters 3.2 and 15 of this Manual for additional requirements and guidance concerning the LPA RC.

4.2 Conflict of Interest Policy

Federal conflict of interest provisions prohibit public employees, public officials, officers, agents and others from having a direct or indirect financial interest, real or apparent, in any contract with the public entity for which he or she is a public official or is employed. This includes real estate interests adjacent to or within the limits of the project that is owned by an official or employee of the LPA, or by an owner or employee of the selected consultant firm. An example of a prohibited financial interest would be a situation involving a part-time County Highway Superintendent awarding a professional service contract to a firm in which the Superintendent is presently a partner. Many other less obvious situations may also represent a conflict of interest. The LPA is encouraged to contact the Division Engineer or the ALDOT Legal Bureau for further clarification. Visit the Legal Bureau website for additional information at [ALDOT Legal](#).

State law prohibits public employees or public officials from having certain personal interests in contracts entered into by the employee or the official's governmental entity. See, for example, AL Rev. Stat. § 39-1509 (County Highway Superintendent), AL Rev. Stat. § 23-3113 (County Purchasing Agent), and the Alabama Political Accountability and Disclosure Act, AL Rev. Stat. §§ 49-1401 to 1444 and 49-1493 to 14,104, in particular 49-14,101 to 14,103.07. The same, or a financially related, professional services consulting firm cannot serve as City Engineer/City Street Superintendent/County Highway Superintendent of record and also provide professional services [Preliminary Engineering (PE) or Construction Engineering (CE)] for a transportation project (23 CFR 1.33 and Alabama State Law).

The LPA must comply with all these and any other provisions of law or risk the project being determined to be ineligible for federal funding, in addition to all other state law sanctions, penalties, or remedies. *It is the responsibility of the LPA, its public employees and their contracted consultants to be familiar with federal and state conflict of interest laws that apply to Federal-aid projects.* The laws and statutes identified above serve only as a guide. The LPA must adhere to any local laws and policies, and any new or revised federal laws or state statutes.

An LPA interested in completing a Federal-aid project is required when making application to disclose potential and actual conflicts of interest as described in the 2011 Alabama Ethics Law. Documentation is to be retained in ALDOT permanent project and consultant/contractor files and are to be reviewed prior to all consultant selection processes.

Engineering and architectural firms responding to professional services RFPs are required to be familiar with and have access to a copy of the [2012 Alabama Ethics Act](#), and to so state in project applications. The form is designed to assist consultants in disclosing potential and actual conflicts of interest within the project. For assistance with questions on ethics, conflicts of interest, and consultant/contractor issues, contact the ALDOT Legal Bureau.

At any time during the progress of the project, if the LPA and/or its contracted consulting firms recognize changes that might result in a Conflict of Interest, they shall immediately notify the Division Engineer and submit revised Conflict of Interest documents.

4.3 Consultant Selection

An LPA may supplement its staff by hiring a consulting engineer or architect to provide professional services. In order for the Consultant to be eligible to respond to an LPA's RFP, ALDOT must determine if the Consultant is qualified to perform the scope of services requested by the LPA. Costs of professional services are eligible for Federal-aid reimbursement provided that applicable processes have been followed and requirements have been met. A list of consultants certified to provide services for specific categories can be provided by the Division Engineer or may be found on the Consultant Management website at: [Consultant Management](#). The Alabama LPA process requires that a consultant/contractor that is to be reimbursed with Federal funds, must come from the ALDOT pre-qualified listing.

If an LPA elects to retain a consultant to perform right-of-way appraisal, they must follow guidelines and procedures established in the Negotiation and Relocation Manuals on the ALDOT Right-of-Way Bureau website at [ROW Bureau](#). Procurement of Right-of-Way appraisal and negotiation services is not subject to the Brooks Act.

The LPA must use a Qualifications-Based Selection (QBS) process to select an engineering or architectural firm to provide professional services. The objective is to select the most qualified firm for the proposed services. In a QBS process, price cannot be a selection factor; i.e., a bidding process for professional services is prohibited.

There are three ALDOT approved procedures for procuring professional services. These are the only ALDOT allowed methods of procuring professional services for Federal-aid transportation projects, i.e. if there are Federal and/or State funds in any phase of the project.

The three methods are:

1. Large Purchase Procurement Process
2. Small Purchase Procurement Process
3. Locally Funded Procurement Process (approved procedure only when there are no Federal or State funds used to pay for the professional services)

If the total estimated consultant fees from project conception through construction (PE and CE combined, independent of funding source) are anticipated to exceed \$150,000 or if a project's basic construction cost is estimated to be more than \$900,000, the LPA must follow the Large Purchase Procurement Process or the Locally Funded Procurement Process. For projects where professional services from all phases are anticipated to be less than \$150,000, the LPA may follow any of the three procurement processes defined in this Chapter. Regardless of contract amount, a Qualifications Based Selection (QBS) process must be followed. The criteria that the LPA can use to determine which procurement procedure to use, is summarized in the table below:

Professional Services Procurement Procedures

Procurement Procedure	Federal and/or State Funds for Professional Services:	Cost Thresholds	
		Professional Services	Project Construction
Large	Yes	≥\$150,000	or ≥\$900,000
Small ^{1,2}	Yes	< \$150,000	
Locally Funded ³	No	N/A	

¹If an estimate is close to the threshold (\$150,000 or \$900,000), it is recommended that the LPA use the large purchase method, as supplemental agreements or change orders may result in exceeding the threshold, which may in turn jeopardize Federal and/or State funding.

²The contract cannot be separated into smaller contracts merely to permit the use of the small purchase procurement procedure.

³The use of the locally-funded method is an option the LPA can choose if the LPA has no intention of using any federal or state funding for the contemplated professional services.

[FHWA Procurement 23 CFR 172.5](#)

The LPA shall take affirmative steps when soliciting a consultant to assure that, if possible, Disadvantaged Business Enterprise (DBE) consultants are included in the solicitation process. Examples of affirmative steps may be found in [49 CFR 18.36 Procurement](#).

One consultant contract of ten contains multiple Federal phases. ALDOT approval of the executed agreement with the consultant shall not be considered a general Notice-to-Proceed for all phases. The LPA must have a Notice-to-Proceed prior to the performance of each new Federal phase of work.

The subsections below describe state and federal requirements for the three ALDOT approved procedures for procuring professional services: Large Purchase, Small Purchase and Locally funded. LPAs must also comply with local laws and ordinances.

Note: Prior to installation of a formal LPA process, when projects were generally small in size, funding in keeping with the size, and staff available to track DBE usage was limited, projects were for the most part considered *Race Neutral* with no contract goals. With the prospect of increased LPA activity, larger and more complex projects, and available funding, contract goals will be considered henceforth and established under certain conditions.

4.3.1 Large Purchase Procurement Procedure

The steps to procure a large purchase contract involve: issuing an RFP to the public, responding to consultants who inquire about the RFP, amending the RFP (if required), receiving and evaluating proposals, determining capability of prospective consultants, interviewing short-listed consultants, selecting the most qualified consultant, developing a detailed work plan, preparing an independent cost estimate, negotiating the price, and awarding the contract.

4.3.1.1 Solicitation

The need for professional services must be advertised in sufficient national, state and local publications and websites to elicit a minimum of three competitive responses. In accordance with ALDOT rules and regulations, the RFP must be advertised for a minimum of three weeks. Direct mailing may be used to supplement the public announcement or advertising. The process must assure in-state and out-of-state consultants are given a fair opportunity to be considered for award of the contract. The LPA must select a firm that has been certified by ALDOT to perform the scope of services that are being procured by the LPA. A list of consultants certified to provide services for specific categories can be provided by the Division Engineer or Consultant Management Section of Design Bureau. A few of the lists are posted on the ALDOT LPA website.

The RFP must include the following items:

- A basic scope of services with at least a planning-level of detail indicating general work categories;
- Basic project information such as a project description, project limits, extent of the study area and complexity of the project;
- Project schedule for the completion of services;
- Criteria that will be used to rank responding consultants during the consultant selection process;
- Statements that indicate this is a Federal-aid Project, all rules in LPA Guidelines must be followed, and price is not a factor in selection;
- Indicate the method of payment to be used (lump sum or cost plus fixed fee)
- Submittal and selection protocol includes, but is not limited to: proposal page limits, software/hardware requirements, deadline & address for submittal, contact for questions, schedule for the review of the proposals, duration and method of interview, notification procedure, etc.
- A list of items required in the consultants response to the RFP:
 - Letter of interest;
 - Narrative approach to the project and project schedule;
 - Experience on similar projects;
 - Organization chart of the team identifying the Project Manager and other key personnel;
 - Completed forms available from the ALDOT LPA site; and
 - Proof of Insurance.

The LPA selection committee must consist of at least three public employees or elected officials; one of whom is trained as an LPA RC in Federal-aid highway projects.

All firms must be given the same information to base their proposals on. If the LPA receives questions to clarify the RFP, the LPA must take action to communicate the clarification to all firms who were notified of the original RFP.

4.3.1.2 Solicitation Plan: Documentation

Prior to advertising the RFP, the LPA must submit the following documents to the Division Engineer for review and acceptance:

- The draft RFP.
- Consultant selection criteria that will be used by the selection committee for short-listing and final ranking of consultants. A list of qualified consultants for work in Alabama is available on-line at [ALDOT Consultant Management website](#).

Note: Caution - If location criteria are used, the weight must be equal to or less than 10% of the overall score. Location criteria cannot be based on a political boundary.

- Membership of the selection committee;
- Draft public announcement and solicitation method (Be sure to include where the announcement will be placed, and proposed advertising dates, and any additional methods of communicating with consultants such as e-mails, website, phone calls, etc.); and
- Samples of these forms can also be obtained by contacting the Division Engineer or Consultant Management Section of Design Bureau. On review and approval of submitted documents and verification of funds, the Division Engineer will issue the LPA a NTP with RFP advertisement.

4.3.1.3 Analysis and Selection

- a. Short-Listing - Each LPA selection committee member shall evaluate every consultant proposal submitted in response to an RFP. The proposals shall be evaluated and ranked using the list of qualified consultants, which was submitted by the LPA with the draft RFP, and approved by the Division Engineer and Consultant Management Section. Price cannot be a selection factor and must not be mentioned or requested in any proposal or RFP. When three or more qualified firms submit proposals, the short-list evaluation will narrow those being considered to a minimum three (3) firms. When fewer than three firms respond to an RFP, the LPA must notify the Division Engineer to request concurrence to proceed with the final selection process. The LPA may be required to re-advertise or extend the advertisement period to establish more competition. The top ranked (three or more unless special concurrence) short-listed firms will be further evaluated in the final ranking process.
- b. Interviews and Final Ranking - Interviews shall be conducted with the top ranked firms, and shall be performed in person or via telephone. All firms shall be interviewed in the

same manner. The interview provides top ranked firms an opportunity to present their qualifications, experiences and approach to the project prior to the final ranking. The interview details (e.g. date, time, length of each interview), ranking forms, and notes of committee members must be documented and retained in the LPA files.

Firms shall be evaluated and ranked from the ALDOT list of qualified consultants, which was submitted by the LPA with the draft RFP, and approved by Division Engineer. The LPA shall rank the firms, and submit them to the Division Engineer requesting concurrence and NTP with consultant selection process. The LPA must provide the Division Engineer with the following documents when requesting approval to proceed with consultant selection:

- Final RFP;
- Proof of public advertisement and duration, or listing of firms the RFP was sent to (if direct mailing is used);
- List of firms responding to the RFP;
- Completed Short List from the selection committee members;
- Completed Short List Summary identifying the firms considered in the Final Ranking;
- Completed rankings from each selection committee member;
- Selection committee members notes concerning the evaluation (if available);
- Completed Summary of all rankings;
- Copy of the top ranked consultants proposals, including current forms. The Division Engineer will review the selection documentation and upon concurrence, provide the LPA a written NTP with the consultant selection process. Upon receipt of the written NTP, the LPA shall prepare formal notification of their selection to all submitting firms, with a copy to Division.

4.3.1.4 Detailed Work Plan and Work Plan Matrix

The LPA and selected consultant may jointly develop a detailed work plan which includes a detailed Scope of Services (SOS) and a staffing plan.

The detailed SOS is developed from the general scope of services and/or standardized work categories outlined in the RFP. The detailed SOS expands on the specific work categories and sub-categories. The detailed SOS describes what services will be required, a schedule of milestones, a list of deliverables, expectations for quality, and the responsibilities of both the consultant and the LPA. An effective detailed SOS is written in clear language and is an integral part of the contract development process. Costly modifications (in time and money) can often be avoided with a well-written SOS and effective consultant contract management.

A staffing plan contains employee classifications specific to the procured services and their associated labor rates.

A detailed work plan matrix can be developed by merging the detailed SOS and staffing plan into a spreadsheet. A detailed work plan matrix typically includes a detailed breakdown of tasks (work categories and sub-categories) and a breakdown of employee classifications. The detailed work plan matrix would also include the application of an overhead rate, and fee for profit rate (if applicable), along with direct labor costs. This matrix can be used independently to estimate hours and direct costs during the development of the LPAs ICE and the consultant's fee proposal.

Examples of Scope, Cost Estimates, Expenses, and additional information are posted on the LPA website.

Note: The detailed work plan must stay within the general scope identified in the RFP, and there must be no discussion of work hours, costs or expenses with the consultant prior to development of the Cost Estimate (CE).

4.3.1.5 Negotiation

Prior to negotiation, and after receiving the ALDOT NTP, the LPA may share the ICE with the consultant. The LPA and the consultant will negotiate a final detailed work plan and cost. It is important to document a record of negotiations and include it in the project file. A post negotiation memorandum shall be prepared by the LPA to document negotiations and to justify any changes in cost and/or scope. Discussions should be conducted to reach a fair and reasonable fee for the agreed upon scope of services.

In the event negotiations are terminated with the first-ranked consultant, the LPA shall initiate discussions with the second-ranked consultant. The process will continue until an agreement is reached with a qualified firm. Once negotiations have been terminated with a firm and established with another, they cannot be reopened with the former firm. If agreement cannot be reached with any of the short-listed firms, the project may need to be re-scoped and re-advertised, or the decision to utilize consultant services may need to be revisited.

After negotiations have taken place, the LPA must submit a Negotiated Scope of Services, Fee Proposals, Schedules, and Expenses to ALDOT for review and approval:

4.3.1.6 Agreement, Federal Funding Authority, and Notice to Proceed (NTP)

On completion of an ALDOT review and approval of the pre and post negotiation memos, negotiated work plan and fee proposal, the Division Engineer will:

- Prepare a professional services agreement between the LPA and consultant;
- Request obligation authority from the ALDOT Highway Project Funds Manager; and
- Forward required documentation to FHWA for review and approval, for the purpose of authorizing additional funds in CPMS.

Duplicate original agreements will be mailed to the LPA to obtain the appropriate approvals and signatures. Once the LPA and consultant sign the agreement, the originals must be returned to the Division Engineer for final approval and processing. The Division Engineer will review the agreement to verify that the appropriate signatures and attachments are included. Attachments

include, but are not limited to the following: scope of services, consultant fee proposal, maps/charts, and insurance requirements. If the contents of the agreement are complete and Federal obligation of funds via CPMS is authorized, ALDOT will issue a formal NTP to the LPA. It is strongly recommended that the LPA RC obtain proof of the Federal authorization from ALDOT as an attachment to the NTP. The LPA in turn will issue a NTP to the consultant with a copy to ALDOT. Work performed prior to this NTP will not be eligible for reimbursement with Federal funds.

Concurrent to ALDOT issuance of a NTP to the LPA, an agreement will be signed by the Division Engineer, or designee, as to form, and originals will be returned to the parties.

4.3.1.7 Consultant Selection Folder

The LPA must maintain a consultant selection folder as detailed in Chapter 3, Section 5. The folder must include the information identified under the previous section defining Large Purchase Contracts:

- Selection supporting notes and documents;
- Copies of proposals; and
- Related correspondence.

4.3.2 Small Purchase Procurement Procedure

The LPA may not split professional services costing more than \$150,000 into several smaller purchases in order to use the small purchase procurement procedure. The \$150,000 engineering threshold amount is a total of all professional services from project conception to completion (PE plus CE). The need for potential supplemental agreements must be considered when determining the small purchasing threshold.

Small purchase procurement procedures are an abbreviated version of the large purchase procurement procedures. The steps to procure a small purchase contract involve: a streamlined solicitation process (RFP), receiving and evaluating proposals, determining capability of prospective consultants, selecting the most qualified consultant, developing a detailed work plan, preparing an independent cost estimate, negotiating the price, and awarding the contract.

LPAs must promote competition to the maximum extent practicable. The LPA shall provide the RFP to at least three qualified firms. In the event less than three firms respond, the LPA must justify the absence of more competition.

4.3.2.1 Solicitation

The RFP content requirements for the small purchase procedures are the same as the large purchase procedures defined earlier in this chapter. The LPA may choose to follow the large purchase solicitation requirements. However, at a minimum the LPA must submit the RFP by public notice, e-mail, and/or by sending it to at least three ALDOT-certified firms.

The selection can be made by the LPA RC or, if required by local policy or ordinance, by a selection committee.

4.3.2.2 Solicitation Plan Documentation

Prior to advertising the RFP, the following documents shall be submitted to the Division Engineer for review and acceptance:

- Draft RFP which includes a sufficient description of the scope of services including general work categories.
- Criteria that will be used to rank responding consultants during the consultant selection process;

Note: Caution - If location criteria is used, the weight must be equal to or less than ten percent (10%) of the overall score. Location ranking cannot be based on a political boundary.

- The name of the LPA RC making the selection or, if required by local policy or ordinance, the membership of the selection committee; and
- Draft public announcement and solicitation method (Be sure to include where the announcement will be placed, proposed advertising dates, and any additional methods of communicating with consultants such as e-mails, website, phone calls, etc.)

The Division Engineer will review documents submitted for the Solicitation Plan, and verify initial obligation of funds. Upon approval of documents and verification of funds, the Division Engineer will issue the LPA a NTP allowing advertisement of the RFP.

4.3.2.3 Analysis and Selection

Consultant Ranking Criteria

The LPA RC or each selection committee member shall evaluate every consultant proposal submitted in response to an RFP. Price cannot be a selection factor and must not be requested in the RFP or mentioned in the proposal prior to selection.

Consultant Interviews and Final Ranking

Interviews are not required, but may be conducted at the discretion of the LPA. If the LPA chooses to conduct an interview, refer to the short-listing and final ranking requirements in the Large Purchase Procurement Procedure Section of this chapter.

The LPA shall prepare a final candidate listing and submit it to the Division Engineer requesting concurrence and NTP with consultant selection process. On approval, the LPA shall furnish the Division Engineer a copy of the following:

- Final RFP;
- Proof of public advertisement and/or RFP solicitation letters listing firms the RFP was sent to;
- Listing of firms that responded to the RFP and documentation of those firms who were contacted and indicated they were not interested;

- Final rankings and correspondence or notes related to the evaluation of the selected firm;
- Final selection memo and
- Copy of the proposal and all current forms submitted by the selected firm.

The Division Engineer will review the selection documentation and upon concurrence provide the LPA with a written NTP indicating concurrence. Upon receipt of written NTP, the LPA shall prepare formal notifications of the LPA's selection to the submitting firms with a copy to Division.

4.3.2.4 Detailed Work Plan and Work Plan Matrix

The detailed Scope of Services (SOS) is developed from the general scope of services and/or standardized work categories outlined in the RFP. The detailed SOS expands on the specific work categories and sub-categories. The detailed SOS describes what services will be required, a schedule of milestones, a list of deliverables, expectations for quality, and the responsibilities of both the consultant and the LPA. An effective detailed SOS is written in clear language and is an integral part of the contract development process. Costly modifications (in time and money) can often be avoided with a well-written SOS and effective consultant contract management.

A staffing plan contains employee classifications specific to the procured services and their associated labor rates.

A detailed work plan matrix can be developed by merging the detailed SOS and staffing plan into a spreadsheet. A detailed work plan matrix typically includes a detailed breakdown of tasks (work categories and sub-categories) and a breakdown of employee classifications. The detailed work plan matrix must also include the application of an overhead rate, and fee for profit rate (if applicable), along with direct labor costs. This matrix can be used independently to estimate hours and direct costs during the development of the LPA's ICE and the consultants fee proposal.

Note: Caution - the detailed work plan must stay within the general scope identified in the RFP, and there must be no discussion of work hours, costs or expenses between the LPA and the consultant prior to LPA development of the Cost Estimate (CE), and ALDOT review and approval of the CE.

4.3.2.5 Preparation of Cost Estimate (CE)

An independent cost estimate (ICE or CE) is required for each contract and contract modification. The LPA and the selected consultant must separately and independently develop cost estimates. The CE becomes the basis for ensuring that the consultant work and services are obtained at a fair and reasonable cost. It will be used as a basis for the LPA negotiations with the selected consultant. [FHWA Consultant Services](#)

The CE is based on detailed breakdown of tasks, an appropriate breakdown of specific types of labor (employee classifications) required, work hours, indirect costs, and an estimate of the consultant's fixed fee for profit to be used during negotiations. The fixed fee for profit is calculated by multiplying the total labor costs and indirect costs by a percentage that generally ranges between nine and thirteen percent (%). The LPA and selected consultant may independently use a detailed work plan matrix outlined in the previous section. The ICE will be

used by the LPAs negotiating team and is to be kept confidential. If the detailed work plan is found to be insufficiently detailed to prepare the estimate, the detailed work plan must be updated before the ICE is completed.

For every contract modification, the LPA RC must sign and date the ICE, submit it to ALDOT for review and approval, and retain a copy of the documentation including ALDOT NTP and letter of concurrence for their records.

After the detailed work plan and LPA CE, including the completed work schedule, are approved in writing by ALDOT, the consultant shall submit their fee proposal to the LPA.

Note: Caution to LPAs and consultants - consultants are not permitted to submit their fee proposal to the LPA until after ALDOT approves the LPA CE. Further, per FHWA Procurement, Management, and Administration of Engineering and Design Related Services, Section V, item 3, [Application of Rates](#), once consultant's proposal is received, the labor rates and Indirect Cost Rates from that proposal must be included in the CE prior to negotiations.

Note: A consulting firm may be allowed to perform both the preliminary engineering and construction engineering services on the same project, but the firm must obtain written approval from the Region/Division Engineer.

The consultant's fee proposal should include a detailed estimate of the hours for each of the major tasks. The estimated labor costs are determined by applying the employee's labor rates shown in the staffing, along with the consultant's current overhead rate, and a completed work schedule and expenses estimate. In addition to charges for labor, the consultant should, if appropriate, indicate the costs for subcontractors, travel, living expenses, reproduction, and other out-of-pocket expenses expected to be incurred.

The LPA will review the submitted fee proposal, compare it to the CE, and prepare a pre-negotiation memorandum. The memo will identify the differences between the two estimates, and document the LPA negotiation strategy. The pre-negotiation memorandum is intended to help the LPA prepare for the negotiations and identify misunderstandings and portions of the detailed work plan that require discussion.

Prior to negotiation with the consultant, the LPA must send the following to Division Engineer for review and approval:

- All fee worksheets completed by the consultant; and
- Consultant fee proposal.

Note: The reader should be aware that 'CE' has multiple meanings in project development and may be found in other sections and chapters representing *Categorical Exclusions* or *Construction Engineering*.

4.3.2.6 Negotiation

Prior to negotiation, and after receiving the ALDOT NTP, the LPA may share the ICE with the consultant. The LPA and the consultant will negotiate a final detailed work plan and cost. It is important to document a record of negotiations and include it in the project file. A post

negotiation memorandum shall be prepared by the LPA to document negotiations and to justify any changes in cost and/or scope. Discussions should be conducted to reach a fair and reasonable fee for the agreed upon scope of services.

In the event negotiations are terminated with the first-ranked consultant, the LPAs shall initiate discussions with the second-ranked consultant. The process will continue until an agreement is reached with a qualified firm. Once negotiations have been terminated with a firm and begun with another, they cannot be reopened with the former firm. If agreement cannot be reached with any of the short-listed firms, the project may need to be re-scoped and re-advertised, or the decision to utilize consultant services may need to be revisited.

The LPA must submit a Scope of Services, consultant fee proposal, and schedule/timeline of work to ALDOT for review and approval:

4.3.2.7 Agreement, Federal Funding Obligation, and Notice to Proceed (NTP)

Once ALDOT has completed review and approval of the pre and post negotiation memos, negotiated work plan, and fee proposal, the Division Engineer will:

- Prepare a professional services agreement between the LPA and consultant;
- Request obligation authority from the ALDOT Highway Project Funds Manager;
- Forward required documentation to FHWA for review and approval, for the purpose of authorizing additional funds in the Fiscal Management Information System (FMIS). [FHWA FMIS](#)

Duplicate original agreements will be mailed to the LPA to obtain the appropriate approvals and signatures. Once the LPA and consultant sign the agreement, the originals must be returned to the Division Engineer for final approval and processing. The Division Engineer will review the agreement to verify that the appropriate signatures and attachments are included. Required attachments include, but are not limited to the following: scope of services, consultant fee proposal, maps/charts, and insurance requirements. If the contents of the agreement are complete and Federal obligation of funds via FMIS is authorized, ALDOT will issue a formal NTP to the LPA. It is strongly recommended that the LPA RC obtain proof of the Federal authorization from ALDOT as an attachment to the NTP. The LPA in turn will issue a NTP to the consultant with a copy to ALDOT. Work performed prior to this NTP will not be eligible for reimbursement with Federal funds.

Concurrent to ALDOT issuance of a NTP to the LPA, the agreement will be signed by the Division Engineer or designee, as to form, and originals will be returned to the parties.

4.3.2.8 Consultant Selection Folder

The LPA must maintain a consultant selection record folder. The folder must include the information identified under the previous section defining Small Purchase Contracts:

- Selection forms supporting notes and documents
- Copies of proposals

- Related correspondence

The folder must be available for audit review.

4.3.3 Locally Funded Procurement Procedure

If a local public agency chooses to locally fund professional engineering or architectural services or task(s), on a Federal-aid project, they must use the following procedure. The local agency will not be reimbursed for these tasks with State or Federal funds. If this procedure is used by the LPA, it is critical that applicable local policies or ordinances are followed.

Note: Caution - failure to follow local policies or ordinances may jeopardize Federal-aid on all phases of a Federal-aid project.

4.3.3.1 Assumptions and Understanding

1. Unless **Local** jurisdictional regulations require it, applicable State statutes do not apply when State and Federal funds are not used.
2. This procedure may be used regardless of the cost of professional services or the total project cost.
3. This procedure describes the minimum effort required by an LPA when procuring one hundred per cent (100%) locally funded (i.e., no Federal or State reimbursement) professional services. If the LPA procurement procedures refer to, or have adopted Alabama statutes, or the LPA governing body requires additional steps, the LPA will follow them.
4. In order to maintain Federal-aid eligibility, the *LPA Project Guide* and *LPA Manual for Federal-Aid Projects in Alabama (LPA Manual)* will be followed.
5. The LPA shall provide documentation that there are no conflicts of interest.
6. A Scope of Services shall be developed in accordance with requirements of the *LPA Project Guide* and this chapter of the *LPA Manual*. If the final scope of services needs to be modified or expanded the LPA shall pay for the cost associated with additional professional services.
7. Federal-aid will not be allowed for supplemental agreements.
8. Division Engineer will review documentation to check that the procurement procedure was followed.
9. ALDOT will perform quality assurance audits to determine conformance with the LPA Guidelines Manual and local procurement procedures.
10. It is permissible for the LPA to pay for professional services with local funds for some services, and to seek Federal-aid or even State aid (e.g., state-aid bridge funds) for other professional services. Contracts paid for with local funds will count toward Federal and State thresholds.

Note: Segmentation of professional services in order to stay under Federal and State thresholds is not allowed.

11. Locally-funded contracts and associated costs must be included in documentation necessary for inclusion in project programming and required planning documents, to include the TIP/STIP.
12. This procedure is not to be used for services that have already been procured in a Federal or State-aid participating professional services agreement. In addition, this is not intended for use in cases where the contracted firm is qualified and available to provide additional required services.
13. It is the intention of this procedure to require that professional services be awarded using a qualification-based selection (QBS) process.
Note: Caution - bidding for professional services is not allowed.
14. The LPA must select a firm that has been certified by ALDOT to perform the scope of services requested by the LPA.
15. If the LPA has an on-call contract, contact the Division Engineer for further guidance.

4.3.3.2 Procedure

4.3.3.2.1 ALDOT Advanced Approval

LPA must notify ALDOT in writing that they intend to use this Locally Funded Procurement procedure. Upon receipt and approval of this notification, the Division Engineer will issue a written NTP to the LPA for each instance of a Federal-aid transportation project that the LPA wishes to procure and fund professional services.

4.3.3.2.2 Public Notice

The RFP can be accomplished through a newspaper advertisement, solicitation letters, documented phone calls, emails, website notices, or any combination of them. As a minimum, it should include a general project description and work categories, a statement that the project is funded in part with Federal funds, and statements that the LPA Guidelines Manual for Federal-aid Projects and applicable Federal and State laws and requirements all apply. The LPA must select a firm that has been certified by ALDOT to perform the scope of services requested by the LPA. A list of consultants certified to provide services for specific categories can be provided by the Division Engineer. The lists are also posted on the following website: [ALDOT Consultant Management website](#).

4.3.3.2.3 Ranking

The firms which submit their qualifications shall be ranked by the LPA. The LPA must justify and document the ranking in a selection memo, identifying the selected firm. If less than three firms submit proposals, the LPA shall document efforts made and steps taken to seek additional firms. Consultant rankings must be justified based on the following criterion:

- Professional qualification necessary for satisfactory performance;
- Specialized experience and technical competence in the type of services required;
- Past performance on contracts with government agencies and private industry;

- Capacity to accomplish the work in the required timeframe; and
- Location of the project and knowledge of the area. If this criterion is used, it cannot account for more than ten percent of the total score.

Interviews are not required under this procedure, but LPA's may elect to do so for more complex projects.

4.3.3.2.4 Scope of Services, Fee Proposal, and Negotiation

The LPA shall jointly work with the selected firm to create a detailed scope of services along with a staff plan. The selected firm shall then submit a fee proposal. The agency head or designee shall attempt to negotiate professional services at a compensation which the agency head determines is fair and reasonable. In determining fair and reasonable compensation, the agency head or designee shall consider the scope, complexity, professional nature, and estimated value of the services to be rendered. If the agency head or designee is unable to negotiate a satisfactory contract with the firm, they shall formally terminate negotiations and then undertake negotiations with the next most qualified firm, continuing the process until an agreement is reached. If the agency head or designee is unable to negotiate a satisfactory contract with any of the selected firms, the agency head or designee shall consult with ALDOT. One of the outcomes could be to start the process over.

After successful negotiations, the LPA shall submit the following documentation to the Division Engineer:

- Public Notice and solicitation documentation;
- Selection memo, justifying the ranking of firms based on qualifications. Also, if less than three firms responded, the documentation efforts made and steps taken to seek additional firms;
- A justification memo for any instances when negotiations were terminated;
- Agreement, including scope of services and final consultant fee proposal;
- Certification statement that the LPA followed state and local laws and ordinances.

4.3.3.2.5 Agreement

The LPA must use the ALDOT template for an LPA/Consultant Locally Funded Professional Services Agreement. The LPA will obtain the template agreement from the Division Engineer or Metropolitan Planning Section prior to entering into any agreement with a consultant.

4.3.4 Summary and Comparison of Procedures

This section provides an overall summary and comparison between the various methods of procuring professional services. The purpose is to clarify under what circumstances it is required or appropriate to use each method, and also point out the differences between the methods. Since this section is for clarification purposes only, the information presented does not supersede or take precedence over information in other parts of this chapter.

Previously in this Chapter 4, procurement procedures were described for professional services. The table below provides a summary of Criteria for Comparison regarding the three methods.

Criteria for Comparison	Procurement Process Type		
	Large	Small	Locally Funded ¹
Does the LPA need to develop evaluation factors and rank responding firms?	Yes	Yes	Yes
Does the LPA need to maintain documentation of all selection procedure activities, and submit copies to ALDOT?	Yes	Yes	Yes
Does the LPA need ALDOT approval prior to advertisement?	Yes	Yes	Yes
Does the LPA need to identify the consultant selection committee prior to selection?	Yes	No	No
Are LPA's required to short-list firms prior to final selection?	Yes	No	No
Is the LPA required to conduct consultant interviews prior to final selection?	Yes	No	No
Does the LPA need ALDOT to concur with the final selection prior to development of Detailed Work Plan and ICE?	Yes	Yes	No
Does the LPA need ALDOT's approval of the ICE prior to negotiating with the Consultant?	Yes	Yes	No
After negotiation, does the LPA need to wait for ALDOT to issue a NTP, before they provide the Consultant with a NTP?	Yes	Yes	No

¹The LPA must get ALDOT concurrence in advance of using the locally-funded purchase method, and must use the most current template agreement, obtained from the Division Engineer.

4.4 Consultant Management

The LPA Responsible Charge (RC) is responsible and accountable for maintaining technical and administrative control of both the project and the consultant. This manual has been prepared to help LPAs administer federally funded projects with the assistance of ALDOT. This can be done with varying degrees of assistance from the selected consultant; however, the LPA RC is the LPA representative responsible for administration of the contract. The LPA RC is responsible for the delivery of a final product, which is of high quality and within the scope, budget, and schedule specified in the contract.

The LPA RC will monitor the contract schedule and budget. The LPA RC must inform ALDOT well in advance when either costs or schedule are approaching the original contract amount so that timely supplemental agreements can be prepared if needed. The LPA can seek additional

funds or grant time extensions for consultant agreements with documented justification. Time extensions can be given in cases where there is a change in scope of services, a delay caused by the Contractor or the LPA, or other justifiable conditions. It is not justifiable to overlook consultant related delays on the basis of these time extensions. Requests for additional funds must be justified and require a detailed work plan, ICE, and potentially a negotiation process. It is anticipated that these costs would be associated with scope of services, not used to supplement hours due to mismanagement of resources, or to redo work that did not meet minimum requirements.

The steps that shall be followed for initiating a supplemental agreement are defined in the Supplemental Professional Services Agreement Section found later in this chapter.

The following sections outline consultant agreements and provide guidance and tools for supplementing those agreements when necessary. It should be noted that supplemental agreements require the same review and approval process as the original agreement. Please notify ALDOT at the earliest possible date if changes are anticipated.

4.4.1. Agreements

4.4.1.1 Professional Service Agreements

Professional Service agreements between the LPA and the selected consultant will be prepared by the Division Engineer using the applicable ALDOT template agreements. Duplicate original agreements will be mailed to the LPA to obtain the appropriate approvals and signatures. Once the LPA and consultant sign the agreement, the originals must be returned to the Division Engineer for final approval and processing. The Division Engineer will review the agreement to verify that the appropriate signatures and attachments are included. Required attachments include, but are not limited to the following: scope of services, consultant fee proposal, maps/charts, and insurance requirements. Work performed prior to receiving a formal NTP from the Division Engineer will not be eligible for reimbursement with Federal funds.

4.4.1.2 Supplemental Professional Service Agreements

Occasionally, it is necessary to change the terms of an agreement. This may be due to a change in scope or level of effort (addition, reduction, substitution or a revision in the complexity, character or duration) that may result in a change in the agreement. In order to justify the need to modify the agreement, the LPA must determine that additional professional services are necessary to complete the work originally negotiated, and verify that they were not included in the original RFP.

Once the need for a supplement agreement is established, due to change in scope or level of effort, the LPA will follow the Professional Services Agreement process described in Small and Large Purchase Procurement Procedure Sections in this chapter. This includes, but is not limited to: development of a detailed work plan, work plan matrix, ICE, fee proposal, and negotiating the supplemental agreement.

The Division Engineer will mail duplicate original supplemental agreements to the LPA who will obtain the appropriate approvals and signatures. Once the LPA and consultant sign the agreement, the originals must be returned to the Division Engineer for final approval and

processing. The Division Engineer will review the agreement to verify that the appropriate signatures and attachments are included. If the contents of the agreement are complete and Federal obligation of funds via FMIS is authorized, ALDOT will issue a formal NTP to the LPA. The LPA will in turn will issue a NTP to the consultant with a copy to ALDOT. Work performed prior to this NTP will not be eligible for reimbursement with Federal funds.

Concurrent to ALDOT issuance of a NTP to the LPA, the agreement will be signed by the Division Engineer, or designee, as to form, and originals will be returned to the parties.

4.4.2 Consultant Invoicing

Consultants shall submit their invoices for professional services to the LPA RC in accordance with the LPA/Consultant Agreement and the LPA Reimbursement procedures. The consultant invoice must be accompanied by a progress report and a completed cost breakdown. It is the responsibility of the LPA RC and Consultant to keep track of expenses. Payments will be made only up to the maximum that is federally authorized. If the consultant expects to incur eligible expenses beyond the authorized amount, the consultant must give advance notice and justification for the proposed additional expenses to the LPA RC immediately. The LPA RC must review and upon approval, shall notify ALDOT. ALDOT must review and upon approval, shall obtain the necessary Federal authorization and send an NTP to all parties once authorization is given. Work performed beyond the authorized amount prior to receiving authorization for additional expenses will not be reimbursed.

4.4.2.1 Consultant Invoice Review, Approval and Payment

The LPA RC must review and approve the consultant invoices and accompanying documentation to verify the following:

- Invoice is set up and formatted as per the project agreement's requirements. The invoice must include the following breakdown of costs:

For Lump Sum Agreements:

- Total Costs multiplied by the percentage of work completed.

For Actual Cost Agreements:

- Direct Labor Costs (hours worked multiplied by the actual labor rate);
- Labor Fringe Benefits and/or if appropriate Indirect (Overhead) Costs;
- Fee For Profit (as negotiated in the professional services agreement); and
- Direct Non-Labor Costs.
- Invoice arithmetic is correct and overhead and fixed fee are properly applied:
- The Progress Report reflects the actual work complete and includes the following:
 - A description of the work completed within current billing period;
 - A description of work anticipated for next billing period;
 - A list of information required from LPA and/ or Division Engineer in order to complete the work for the next billing period and beyond;
 - A list of unresolved issues that will impede the progress of the work; and

- The percent of authorized work completed.
- Amount invoiced correlates with the Progress Report;
- Progress report discusses work within the scope of services identified in the agreement;
- The report should include a percentage of work completed, which correlates with the amount invoiced to date; and
- The total amount invoiced to date does not exceed the contract amount.

After the LPA RC has reviewed and approved the consultant invoice and accompanying documentation, the LPA RC will prepare and send a Reimbursement Request Package to the Division Engineer with copies to the Bureau of Finance and Audit.

The Reimbursement Request Package must include:

- A completed RC Transmittal Memo. The transmittal forms and templates are available on the LPA website. Reimbursement Request Packages that are not accompanied by a properly prepared, signed and dated transmittal memo will be returned to the issuing LPA.
- Consultant Invoice;
- Completed and Signed cost breakdown, and
- Consultant Progress Report.

Upon review and approval of the Reimbursement Request Package, the Division Engineer will coordinate with the Division Engineer, Bureau of Transportation Planning and Modal Programs, and Bureau of Finance and Audit to process the reimbursement. ALDOT will make every effort to pay the invoice within thirty (30) days of receiving the Reimbursement Request Package. Prompt payment is dependent upon the accuracy and completeness of the documentation submitted by the consultant and the LPA RC.

4.4.2.2 Reimbursable and Non-Reimbursable Costs

Costs submitted for reimbursement must be consistent with the Federal cost principles contained in [48 CFR Part 31](#) and [FHWA 23 CFR Part 172](#), as well as the terms and conditions contained in the project professional services agreement.

The following are typical costs allowable under the above regulations:

Direct Labor Costs

- Direct labor cost represents the cost of salaries/wages paid to company personnel for time that is directly chargeable to the project;
- Salary/wage rates must be calculated according to the terms of the professional service agreement;
- Consultants should make certain they understand whether premium overtime pay is reimbursable as a direct project labor and how the hourly rate for salaried individuals should be computed in pay periods where salaried individuals work more than the normal amount of hours but receive no additional compensation; and

- Consultants are responsible for determining if the salary/wage rate terms in the project agreement will require any modifications to their normal labor accounting policies and overhead rate methodology. If changes in their overhead rate are necessary, they should notify LPA and ALDOT officials prior to signing the professional services agreement.

Pre-Award Review

ALDOT may conduct a pre-award review of the selected consultant to:

- Confirm the acceptability of the consultant accounting system's ability to track direct labor costs, overhead costs and direct non-labor expenses, and its ability to keep separate non-allowable costs; and
- to determine the reasonableness of the basis of proposed overhead, labor and direct non-labor rates.

ALDOT or the LPA will consider requesting a pre-award review whenever one or more of the following circumstances exist:

- There is insufficient knowledge of the adequacy of the consultant's accounting system;
- The consultant's proposed overhead rate is not reasonable in comparison to the most recent ALDOT accepted rate. If the accounting period covered by the most recent ALDOT accepted rate is more than two fiscal years prior to the proposed rate, the proposed rate should be submitted for review by the ALDOT Audit Section; or
- The LPA desires additional assurances that the labor and/or direct non-labor cost rates are representative of current actual rates.

Requests for pre-award review should be submitted to the ALDOT Bureau of Finance and Audits - External Audit Section. Requests should be specific as to the areas that need to be reviewed. (i.e. accounting system, overhead rate, labor rates, direct non-salary rates). Upon completion of the pre-award review, the Audit Section will issue an opinion regarding the areas reviewed, and concerns related to the accounting system or proposed rates.

Overhead Costs

Overhead costs include labor fringe benefits and indirect general and administrative costs that are allowable in accordance with costs principles and procedures contained in 48 CFR Part 31. These costs are billed to a project as a percentage of the direct labor costs billed to the project.

The percentage for labor overhead allocable to a project is the ratio of a firm's total allowable overhead costs to a firm's total direct salary costs for a given period.

On agreements that do not allow the premium portion of overtime pay as a direct labor expense, consultants are permitted to use an overhead rate method that excludes the premium overtime pay from the direct labor base and includes it in the indirect labor cost pool.

Suggested guidance for preparing overhead rates is contained within the latest edition of the AASHTO Uniform Audit and Accounting Guide, available on-line at: [Uniform Audit and Accounting Guide 2010](#).

Typical overhead costs include but are not limited to:

- Labor Fringe Benefits: Includes sick leave, vacation, and holiday pay; unemployment, excise, and payroll taxes; contributions for social security, employment compensation insurance, retirement benefits, and medical insurance benefits; and any other benefits customarily paid to or available to all employees; and
- General and Administrative Overhead: Includes the following indirect costs which are not directly attributable to specific projects:
 - Provisions for office, light, heat, and similar items for working space, depreciation allowances or rental of furniture, computer equipment and engineering instruments, and office and computer/CADD supplies not identifiable to specific projects;
 - Taxes and insurance other than those included as salary cost, but excluding Federal income taxes;
 - Library and periodical expenses and other means of keeping abreast of advances in engineering such as attendance at technical and professional meetings and subscriptions to trade, business, professional, or technical periodicals;
 - Executive, administrative, accounting, legal, and administrative support salaries and expenses (other than identifiable salaries included in salary costs and expenses included in reimbursable non-salary expenses, plus salaries or imputed salaries of partners and principals) to the extent that they perform general executive and administrative services as distinguished from technical or advisory services directly applicable to particular projects;
 - Costs of memberships in trade, business, technical, and professional organizations;
 - Incentive compensation for management employees; cash bonuses except for early completion of work; suggestion awards, safety awards, and incentive compensation based on production; cost reduction, and efficient performance are allowable to the extent that the overall compensation is determined to be reasonable. Such costs must be paid or accrued pursuant to an agreement entered into in good faith between the consultant and the employees before the services are rendered, or pursuant to an established plan followed by the consultant so consistently as to imply, in effect, an agreement to make such payment. The allowable percentage for general and administrative overhead allocable to a project is the ratio of all general and administrative costs to the total direct salary costs (excluding overtime) for a given period; and

- Identifiable computer and office supplies and stenographic supplies and expenses charged to the sponsor's work as distinguished from such supplies and expenses that are applicable to two or more projects.

Direct Non-labor Costs

Direct non-labor costs must be reasonable and otherwise allowable in accordance with 48 CFR Part 31 and the terms and conditions contained in the project professional services agreement. Detailed records must be kept to support charges and allow auditing.

The billing of direct non-labor costs must also be consistent with the consultant's overhead rate methodology. If there are cost categories for which all costs are included within the consultant's overhead rate, then no costs from that category can be direct billed to a LPA/ALDOT project. For instance, if all company vehicle costs are included as overhead costs, then no company vehicle costs can be billed to project as a direct expense. Similar examples would include computer use, postage, printing, supplies, etc.

Typical examples of direct non-labor costs include but are not limited to:

- Living and traveling expenses of employees and principals when away from the home office on business connected with the project. (Records must include employee name, dates, points of travel, mileage rate, lodging, and meals.);
- Identifiable communication expenses such as long-distance telephone, cable, express charges, and postage, other than for general correspondence;
- Services directly applicable to the work such as special legal and accounting expenses, computer rental and programming costs, special consultants, borings, laboratory charges, commercial printing and bindings, and similar costs not applicable to general overhead;
- Identifiable reproduction costs applicable to the work;
- Advertising costs that are solely for the recruitment of personnel required for the performance by the consultant of obligations arising under the contract; and
- Sub-consultant and outside services.

Non-allowable Costs

The cost principles in 48 CFR Part 31 identify a number of cost categories that are unallowable. Consultants are responsible for ensuring that unallowable costs are not included in the overhead rate or directly billed to government projects. Typical examples of unallowable costs include but are not limited to:

- Costs of amusement and social activities and incidental costs such as meals, lodging, rentals, transportation, and gratuities;
- Contributions and donations;
- Bad debts, including losses due to uncollectible customer's accounts and other claims, related collection costs, and related legal costs, arising from other businesses of the consultant;

- Dividend provisions or payments and, in the case of sole proprietors and partners, distributions of profit;
- Interest on borrowed capital;
- Bonus payment for early completion of work;
- Lobbying costs;
- Losses on other contracts;
- Memberships in social, dining and country clubs;
- Personal use of company vehicles; and
- Alcoholic beverages.

4.4.3 Consultant Contract Administration

4.4.3.1 Change of Project Team/Staff Commitments

One of the major factors in the selection of a consultant to provide professional services is the make-up of the consultant's proposed project team. Both the Letter of Interest and consultant proposal require that consultant key personnel be identified. The LPA selects the consultant based on this promise and must ensure that the identified key personnel actually produce the work. The staff commitment is a contractual commitment and any major deviation from or revision in the classifications or key personnel must receive prior approval of the LPA. In the event that the consultant has failed to fulfill the staff commitment, the LPA shall investigate the situation and take appropriate actions which may include suspension of work on a contract.

4.4.3.2 Documentation of Deliverables Review

Comprehensive documentation of plan/documentation reviews is vital to effective consultant administration by both ALDOT and the LPA. When the LPA forwards deliverables to ALDOT for review, it is recommended that a copy of the LPA comments be included with the submittal. Proper review documentation should include the following:

- A log of all reviews performed on the project. The log must indicate the date of submission, name of reviewer, and the date comments were transmitted to the consultant; and
- A copy of the comments transmitted to the consultant. These comments may be delivered by providing written comments, marked up prints, annotated comments on documents or reports, or documentation of all communication between the LPA and the consultant.

If marked up prints or annotated comments are used as the official means of communicating the comments to the consultant, then it is the LPA's responsibility to ensure that the comments are legible and clear. A copy of the marked up prints or annotated comments shall be kept in the project file where they can be easily accessed until such time that the project construction has been finalized. Original documents, such as tracings, plans, specifications, maps, basic survey

notes and sketches, charts, computations, and other data prepared shall be defined under the terms of the consultant contract as property of the LPA.

4.4.3.3 Breach and Default of Contract

Problems discovered during a subsequent phase of project development will usually be categorized as negligent acts, errors or omissions. Additionally, breach of contract results from a consultant's failure to address an identified problem in the performance of the agreement. The LPA shall notify the consultant in writing of deficient performance, identify required solutions, and set a deadline for cure. After these steps have been carried out and the consultant has failed to address the deficiency, the consultant may be declared in default of contract and additional administrative remedies may be pursued by the LPA.

Unsatisfactory technical performance by the consultant must be addressed in writing by the LPA. The letter to the consultant must cite the specific areas of unsatisfactory performance, require a return to an acceptable level, and set a time limit for response by the consultant. The consultant's continued failure to provide an acceptable level of performance may result in default of contract with appropriate actions by the LPA.

4.4.3.4 Consultant Negligence - Identification and Procedures

The purpose of this section is to provide, for the use of those charged with administration of agreements, guidelines for identifying errors, omissions and negligent acts by consultants, and procedures for dealing with each situation.

Identification of Consultant Negligence

Services provided by the consultant shall be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

This definition obviously does not define every error by a consultant as a negligent act that must be pursued for reparation of damages, but in all cases of consultant error the consultant must:

- Respond promptly to the LPA request for clarification/correction; or
- Prepare any plans or data needed to correct the negligent act, error or omission without additional compensation.

The "negligent act, error or omission" will in most cases be identified during a subsequent phase of the work. Detection of errors, even major errors, during the review process would not normally fall within the negligent standard that is the subject of this section. Such errors and other review comments must be corrected by the consultant at no cost and later considered in rating the consultant's performance.

Negligent acts, errors or omissions as discussed herein will generally consist of harm to the LPA based on the LPA's use of the consultant's completed work. The most common occurrence will be design errors discovered during bidding or construction. Some additional examples are: wetlands not identified during an environmental investigation that are discovered during later design or construction; failure to identify dangerous conditions during a bridge inspection; or

acceptance of a contractor's work (i.e., a bridge painting based on a report by a consultant inspector) that is later proved deficient.

Procedures for Dealing with *Negligent Acts, Errors or Omissions*

Upon discovery of an alleged error by a consultant, the LPA shall carry out the following steps:

1. Notify ALDOT of the problem either by telephone or in writing: a telephone call will be sufficient in most cases;
2. Notify the consultant of the problem either by telephone or in writing; a telephone call will be sufficient in most cases. This is the beginning of the "discovery phase" of investigation that is intended to fully identify the problem (or possibly determine that a problem does not exist).

Do:

- Ask for clarification of the discrepancy;
- Agree to a deadline for response; and
- Fully document the call in writing.

Do Not:

- Characterize the discrepancy as an error; and
 - Negotiate, reach agreement or sign any document relative to the consultant's responsibility for the problem.
3. Fully investigate the discrepancy to determine the extent, impacts (harm to the LPA) and source of the discrepancy. Notify other LPA personnel as appropriate. The consultant response to the LPA initial contact should be obtained and considered in completing the investigation. The consultant's scope of services must be considered in reaching any conclusions regarding responsibility for any error or omission. Relevant facts may include:
 - A determination that the project was constructed in accordance with plans and specifications and the problem did not result from consultant error; or
 - Reasonable assurance that the project was inspected properly.
 4. Fully document the investigation in writing including conclusions reached concerning responsibility for the error or omission. All communications with the consultant shall be documented.

Procedures for Corrective Actions

Upon agreement with the consultant and/or the consultant's professional liability insurance company that a negligent act was committed and corrective actions are required, the following steps should be initiated:

1. Enter into negotiation with the consultant and/or the consultant's insurer;
2. Corrective plans (or other documents) should be completed by the consultant or another consultant chosen by the insurer. Any payment to a third party consultant will be made

by the insurer. Do not enter into agreement with any other consultant for the corrective plans;

3. All plans, once accepted, must be constructed by an ALDOT qualified contractor. The cost of corrective construction may be negotiated by the insurer or may be let competitively through a competitive bid letting process. All payment will be made by the consultant or insurer either directly or indirectly.

4.4.3.5 Dispute Resolution – (ALDOT policy already in place)

These procedures are nonbinding steps that a consultant will use to attempt to resolve disputes it has with an LPA arising from work covered under the original and subsequent agreements. When a consultant invokes these dispute resolution procedures, the LPA and consultant agree to make a reasonable effort to resolve the dispute using these procedures.

These procedures are designed to assist all parties in identifying, managing, and attempting to resolve conflicts that may arise.

There are several guiding principles to be considered:

- Engage relevant representatives early, actively, and continually in collaborative problem solving for work covered under the original and any supplemental agreements;
- Attempt to resolve disagreements at the earliest stage possible and at the appropriate organizational level; and
- Seek resolution first by focusing on how to meet interests and needs in the context of existing laws and regulations in order to resolve the disputed issues.

The following are several potential benefits to be gained from these principles:

- Minimizes or avoids unnecessary delays in developing transportation projects;
- Encourages collaborative decision making and coordination among all parties;
- Attempts to resolve disputes early in the process; and
- Builds trust and respect among all parties.

The relationship between the consultant and the LPA should always be on a professional level. All parties to a contract should have a thorough understanding of the dispute resolution process. Each party should make every attempt to fully understand the dispute and express honest statements of fact prior to initiating dispute resolution processes.

Prior to initiating dispute resolution processes, the following activities should occur:

STAGE ONE – INFORMAL ACTION

The Consultant will first attempt to resolve any contract dispute by discussing the dispute directly with the LPA RC.

STAGE TWO – REVIEW BY ALDOT Division Engineer

1. Consultant may invoke this nonbinding Stage Two procedure in an attempt to resolve a dispute it has with any LPA interpretation of the requirements of the contract, so long as the rules set forth herein are met or followed.
2. The Stage Two process will be invoked by submitting to ALDOT Division Engineer, with a copy to the Chief Engineer for assignment and resolution, with a written statement setting out his/her understanding of the:
 - Facts of the dispute;
 - Listing and discussion of all applicable contract provisions or law; and
 - Argument of the party in support of that party's position.
3. The Chief Engineer or State Engineer will designate an ALDOT employee who has not previously been involved in the dispute to serve as his/her representative to consider the merits of the dispute. The Division Engineer shall notify the Consultant and the LPA RC of the name and contact information of the Designated Representative. The Designated Representative shall not meet with either party to the dispute or otherwise independently investigate the dispute while serving as the Designated Representative.
4. The LPA RC will have 7 calendar days after receiving the Consultant's written statement, to submit a written response to the Director's Representative, with a copy to Consultant, including his/her understanding of the:
 - Facts of the dispute;
 - Listing and discussion of all applicable contract provisions or law; and
 - Argument of the party in support of that party's position.
5. Consultant and the LPA RC will participate in a face-to-face meeting with the Designated Representative within seven (7) calendar days of the receipt of LPA written statements to discuss the submittals and to respond to the other party's facts and arguments concerning the dispute.
6. Within fourteen (14) calendar days, the Designated Representative will provide a written recommendation to the Chief Engineer (in the case of a CE contract) or the State Engineer (in the case of a PE contract) setting out his/her:
 - Findings of fact;
 - Interpretation of the applicable contract and legal provisions; and
 - A proposed resolution of the dispute.
7. The Chief Engineer (for CE contracts), or State Engineer (for PE contracts) will review the findings and conclusions of the Designated Representative and may accept or reject the conclusions in whole, or modify the recommendations of the Designated Representative as deemed appropriate. Additionally, the Designated Representative must notify the LPA and Consultant of the official ALDOT proposed resolution, if any, concerning this dispute.
8. The following statements apply to this nonbinding dispute resolution process:

- The process is in addition to, and does not replace, any other legal or equitable remedy the defense Consultant, LPA, or State may have.
 - Because this process is nonbinding, this process is not intended to delay or impact in any way the calculation of any applicable statute of limitations related to any claim of Consultant under this contract.
 - This process may only be used by the Consultant for an actual contract dispute between the LPA and Consultant. This process may not be used to determine a hypothetical question.
 - This process is nonbinding and shall not be treated by LPA or Consultant as a Contested Case under Alabama Case Law. It is not intended to provide either party with an independent right of appeal.
 - Failure to follow this process shall not constitute a breach and shall not provide a separate basis for relief under this contract.
 - Consultant's decision to invoke this process shall not limit the Consultant's right to simultaneously pursue any legal remedy.
9. If the Consultant does not agree with the findings and conclusions of the Deputy Director, the Consultant may avail itself of any additional remedy, including the filing of a contract claim under Alabama law.

4.4.3.6 Retention of Contractual Records

Retention of contractual records is required by [49 C FR, Part 18.42](#), *Retention and Access Requirements for Records*. The LPA shall retain project records for a minimum of three years after project audit, final payment and close-out have taken place. Such records may be required in any future dispute concerning the agreement, federal or state audit, etc.

4.4.4 Consultant Evaluation

Introduction

The Codes of Federal Regulations [48 CFR Part 18.42](#), Performance Evaluations and [23 CFR 172.9\(a\), Written Procedures](#), require government agencies to have procedures in place to evaluate the performance of engineers and architects performing Federally-funded services. Evaluations are required for contracts totaling more than \$30,000 but may be performed on all contracts. The code requires an evaluation be conducted after the contracted work is completed.

Evaluation Guidance

During the review of the scope of services, the Division Engineer or the LPA RC and the consultant will designate key points during a project to conduct performance evaluations. Performance evaluations will generally be associated with submittal points, but can occur anytime during a project. When services are based on submittals, performance evaluations will be scheduled during the course of work to benefit the communication and the quality of the services. Performance evaluation dates will be identified in the agreement. A final evaluation is required and shall be conducted after all services are accepted or after contract termination.

Additional evaluations may be performed at any time over the duration of a contract, if agreed to by the project sponsor and the consultant.

The LPA RC is responsible for ensuring the performance evaluations are conducted, and that the required documents are submitted. The evaluations should be performed within one (1) month of a designated date or submittal.

If the LPA RC concludes that a consultant's overall performance is unsatisfactory, the consultant shall be advised in writing that a report of unsatisfactory performance is being prepared identifying the conditions leading to the unsatisfactory performance rating. If the consultant submits any written comments, the LPA RC shall include them in the report, resolve any factual discrepancies and make appropriate changes in the report.

Performance evaluations must be completed in a fair and honest manner; personal dislikes and biased opinions must be set aside. Ratings shall be based on facts and documentation and not personal prejudices. The evaluations should consider only the performance of the consultant during the services specific to the contract.

Attention must be paid to the rating values. A description of each rating is provided on the evaluation forms. Scores below satisfactory require supporting comments.

The final ratings from the consultant evaluation will be organized, filed, and maintained by the project sponsor in a manner such that they can be readily available. The performance evaluation forms will be retained for six (6) years as required by the federal code.

If an agreement is of such a nature that no useful purpose will be served by periodic evaluations, the project sponsor may exempt the agreement from the evaluation procedures and substitute other procedures deemed appropriate to accomplish the intended purpose. The reasons for exemption and the substitute procedures must be documented in the project file.

In the event the consultant's performance is unsatisfactory, or it is deemed in the best interest of the project sponsor to cease work on a project, a written notification to stop work shall be issued to the consultant. The consultant may not proceed with work on the project unless a subsequent written NTP is given. If the project sponsor decides to terminate the contract, it must be done in compliance with the terms and conditions stated in the agreement.

4.4.5 Professional Services Agreement Closeout

When the LPA determines that all of the work associated with a professional services agreement is completed, the LPA RC shall prepare the agreement closeout memo to be sent to the State Engineer for CE agreements and the Division Engineer for PE agreements.

Upon review and approval of the agreement closeout memo, the Division Engineer will forward the approved completion memo to the Metropolitan Planning Section or Special Programs Section. Those sections will conduct a review of the documents submitted, depending on project type, and will initiate the Audit Process.

The memo shall include a statement confirming that all the invoices (including the entire eligible fixed-fee-for-profit) have been submitted by the Consultant.

[Forms, samples, examples, flowcharts, procedures, and templates referenced herein may be found on the ALDOT LPA website or on individual sites within the ALDOT web domain [ALDOT Bureaus, Offices, Sections, and Divisions](#).]

Chapter 5.0

Environmental

5.1 Introduction

One of the most important phases of an LPA project is the environmental phase. LPAs may not proceed with final design, right of way acquisition, or construction until full compliance with the National Environmental Policy Act (NEPA) of 1969 and other applicable laws have been completed and approval has been received from FHWA. **Failure to do this will make the project ineligible for FHWA participation in funding (i.e., no reimbursement).** This chapter provides a brief glimpse into the efforts needed to comply with NEPA and other laws. LPAs must confer with ALDOT's Environmental Technical Section (ETS) for detailed instructions on consultation and coordination, prior to and during preparation of environmental documentation for all proposed transportation projects with Federal funding.

Note: LPAs will provide information and assistance as needed in order to expedite the environmental process and completion of the required environmental documents. ETS will coordinate with resource agencies and interested parties and will consult with FHWA on draft and final document approval. FHWA approval is required before a project may proceed. For additional information, visit Chapter 1.0, Section 1.2.2.

This chapter provides guidance and an introduction to the considerations that must be documented in order to continue project development through to construction, migration and monitoring. In addition to the required NEPA documentation, ALDOT must also comply with other applicable Federal, State, and Local laws, statutes, policies, and permits. Public and agency involvement throughout the environmental phase is necessary. Early and continued coordination is beneficial while completing the environmental and design phases that ALDOT, on behalf of the LPA, is required to complete prior to construction. ALDOT fully recognizes the complexity of these requirements and is available for consultation and assistance.

5.2 National Environmental Policy Act (NEPA) of 1969

[NEPA](#) The Act articulated the national environmental policy, established Federal agency responsibility, and created the basis or foundation of the Federal decision-making process. The fundamentals of the NEPA process include purpose and need, consideration of alternatives, examination of potential environmental impacts and mitigation (avoidance, minimization, and mitigation, if necessary), interagency coordination, public involvement, and documentation. The Council on Environmental Quality (CEQ) has established that the lead Federal agency is the agency responsible for NEPA compliance, although non-Federal project sponsors may conduct studies and prepare certain pre-NEPA documentation in support of a draft document. In Alabama, FHWA is the lead agency for projects funded with Federal-aid highway funds. [FHWA: NEPA and Project Development](#) Environmental document (all classes) clearance approval rests with FHWA; ETS maintains close control of impact documentation and process at project level. Interagency consultation occurs regularly between the parties during the NEPA process; for

example, FHWA will make determination on the Class of Action to be undertaken and provide assistance to ALDOT and the LPA in structuring and processing the draft document. [NEPA Implementation](#)

The goal of the NEPA process is to make better environmental decisions through interdisciplinary and interagency review and coordination and public involvement. Environmental documents must be concise, clear, and to the point. The goal of the NEPA process is better decision-making and not more documentation, thus the document must provide evidence that the necessary analyses occurred. The document must consider those areas that project development is likely to affect and provide analyses of any relevant impacts. Areas with lesser or no impacts should require only a brief discussion. The **SCOPE** and **ADEQUACY** of the analyses are the keys to a successful document, and the length of the environmental document must be commensurate with the overall size, complexity, number of impacts, and any potential controversial aspects of the project.

Early and continued coordination with appropriate Federal, State, and Local agencies, resource agencies, and the public, from inception of the proposed project to completion of the environmental document, is necessary in order to determine the scope of a project, identify possible project impacts, and all issues related to avoiding, minimizing, and mitigating/compensating impacts.

The [Council on Environmental Quality](#) (CEQ) regulations, Purpose, Policy, and Mandate [40 CFR 1500 - 1508](#), address the basic decision-making framework and action-forcing provisions established in the NEPA. The principles or essential elements of NEPA decision-making include:

- Assessment of the social, economic, and environmental impacts of a proposed action or project
- Analysis of a range of reasonable alternatives to the proposed project based on the defined Purpose and Need
- Consideration of appropriate impact mitigation: avoidance, minimization, or mitigation
- Interagency participation: coordination and consultation
- Public involvement, including opportunities to participate and comment
- Documentation and disclosure of relevant information

FHWA adopted the policy of managing the NEPA project development and decision-making process as an *umbrella*, under which all applicable environmental laws, executive orders, and regulations are considered and addressed prior to the final NEPA project decision and document approval. Conclusion of the NEPA process results in a decision that addresses multiple concerns and requirements. The NEPA process allows transportation officials to make project decisions that balance engineering and transportation needs with social, economic, and natural environmental factors. During the process, a wide range of stakeholders, including the

public, businesses, interest groups, and agencies at all levels of government provide input into the project and environmental decisions.

FHWA is the lead agency, with regard to NEPA compliance, and ALDOT is the lead State agency for projects expending Title 23 funds. Depending on the project, when an environmental document is prepared, another agency may be a **cooperating** or a **participating agency**. According to CEQ, a cooperating agency is any Federal agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative

Participating agencies are specifically defined when an environmental document is prepared for a project. Participating agencies include Federal, State, and local governmental agencies and Indian tribal governments with an interest in the project. Designation as a participating agency does not imply that the agency either supports the proposal or has any special expertise with respect to evaluation of the project. Non-governmental organizations and private entities or agencies cannot serve as participating agencies. Instead, such organizations and entities are included in public involvement.

The roles and responsibilities of cooperating and participating agencies are similar, but *cooperating agencies have a higher degree of authority, responsibility, and involvement* in the environmental review process. The role of both is to identify, as early as practicable, any issues or concerns regarding the potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval needed for the project. Specifically, agencies provide meaningful and early input on defining the purpose and need, determining the range of considered alternatives, and the methodologies and level of detail required in alternatives analysis. [Cooperating versus Participating Agencies \(Florida Dept of Transportation\)](#)

5.3 Defining the Purpose and Need

The purpose and need statement establishes the reason for the project and describes the existing conditions that require the needed modification or improvement. The core of the purpose and need statement should be no more than one or two sentences long. However, beyond that core statement, additional information must be provided to clearly demonstrate that a transportation need exists. The statement must provide factual, objective, and quantifiable data to support the need for the project, and it must be comprehensive, yet concise. Care must be taken that the purpose and need statement is not so narrowly drafted that it unreasonably points to a single solution. The following FHWA website provides additional information on the [Purpose and Need](#) requirement.

Confirmation of the purpose and need for the project and establishing the logical termini are critical to the overall process. A clear, well-defined purpose and need also is an essential element for successful agency coordination during NEPA. Without a well-defined, well-established, and well-justified purpose and need, it is difficult to determine which alternatives are reasonable, prudent, and practical.

The better the project need is established, the better the following are justified:

- Project expenditures
- Impacts of the action, and why they are necessary
- Defense and basis for decision-making
- Support of alternatives analysis, and why one alternative was selected over another.

The purpose and need establishes two necessary critical items for a project scope at the beginning of the NEPA process: **logical termini** and **independent utility**.

Logical termini for a project are defined as 1) rational end points for a transportation improvement, 2) rational end points for a review of the environmental impacts, and 3) end points chosen so as not to preclude alternatives for future reasonably foreseeable transportation improvements. When establishing logical termini and independent utility, assess the following questions:

- Why does the action begin and end where it does?
- Can the proposed improvement be constructed and operated independently without the need for additional improvements?

Independent Utility means that the project or improvement is considered to be a usable and a reasonable expenditure even if no additional transportation improvements in the area are made.

The purpose and need statement serves as the cornerstone for the alternatives analysis, but *does not* discuss alternatives. The alternatives analysis section of the NEPA document must explain how the considered range of alternatives meets the purpose and need. LPA consultation with ALDOT and FHWA to determine and approve appropriate purpose and need, and logical termini, may avoid additional delay.

5.4 Class of Action

Proposed projects require proper study and coordination to be compliant with NEPA. The information in this section is intended to guide the LPA through the critical decision-making areas typically experienced in the preparation of environmental documents.

Transportation projects vary in type, size and complexity, and potential to affect the environment. Transportation project effects can impact the human and natural environment. To account for the variability of project impacts, FHWA defines three, basic [Classes of Action](#) and identifies NEPA compliance and documentation. They are in order of relative document and process size and complexity, rather than Class, with CEs the least of the three:

- [Categorical Exclusion \(CE\)](#) – [Class II]
- [Environmental Assessment \(EA\)](#) - [Class III]
- [Environmental Impact Statement \(EIS\)](#) – [Class I]

All projects must have environmental approval and clearance prior to the project moving forward with final design, property appraisal, property acquisition, and construction. Refer to [Title 23 CFR 771](#) for additional information.

Transportation Enhancement (TE) and more recently, Transportation Alternatives Program (TAP) projects, with slight or minimal environmental impacts, are frequently covered under a ***Programmatic Categorical Exclusion (PCE)***. The LPA consults with FHWA and ALDOT Modal Programs Bureau to determine the level of NEPA analysis and applicable Class of Action to avoid additional work and delay. [PCE](#) [State of Maryland example]

Note: The reader should be aware that ‘CE’ has multiple meanings in project development and may be found in other sections and chapters representing *Cost Estimates or Construction Engineering*.

5.4.1 Categorical Exclusion (CE)

Categorical exclusions are actions which meet the definition contained in [NEPA Documentation 40 CFR 1508.4 and 23 CFR 771.117](#). CEs are projects that are not expected to have an impact on cultural or natural resources.

5.4.2 Environmental Assessment (EA)

EA documentation descriptions and requirements are primarily found in FHWA 23 CFR 771.117 and 40 CFR 1508.9. An EA assists in determining if an EIS is needed and the impacts are unknown. For projects that require an EA, ALDOT will provide support as needed to the LPA in assessing project impacts and developing the Environmental Assessment. ALDOT will assist the LPA with the FHWA consultation on Class of Action and begin coordination with interested agencies and others to advise them of the scope of the project and to achieve the following objectives:

- Determine which aspects of the proposed action have potential for social, economic, or environmental impact
- Identify alternatives (including No Build) and measures which might mitigate adverse environmental impacts
- Identify other environmental review and consultation requirements which must be performed concurrently with the EA

ALDOT ETS will accomplish these objectives through views and comments and sometimes a scoping process. The results of agency coordination are included in the EA (see Section 5.12 Public Involvement for the NEPA Process). FHWA NEPA regulations (23 CFR 771.111(d)) require that those agencies with jurisdiction by law or special expertise be designated *cooperating agencies*.

If no significant impacts are identified, agencies must be sent hard copies of the final EA document, electronic versions as requested, and where applicable, copies of any comments received and responses thereto. ALDOT will submit copies of the EA documentation to FHWA for approval. The EA must also document compliance, to the extent possible, with all applicable Federal, State, and Local environmental laws, Executive Orders, and regulations or provide reasonable assurance that their requirements can be met.

At any point in the EA process, if ALDOT in consultation with FHWA determines that the action is likely to have a significant impact on the environment, the preparation of a Draft EIS (DEIS) document is required.

5.4.3 Finding of No Significant Impact (FONSI)

The FHWA will review the EA, public hearing transcripts, and other comments received regarding the EA. If FHWA agrees with ALDOT recommendations, ALDOT will prepare a separate written document called a *Finding of No Significant Impact (FONSI)*, summarizing the EA findings, incorporating comments of reviewing agencies and the public, and, if omitted from the EA, the preferred alternative. Copies of other appropriate environmental documents may be included. The FONSI is submitted to FHWA and returned to ALDOT.

After a FONSI has been signed by FHWA, a notice of availability of the FONSI is circulated to affected units of Federal, State, and local governments. Documents are available to interested parties on written request. For additional assistance on EAs or FONSI, contact the ALDOT Division Engineer, the Division LPA Project Coordinator, or the Environmental Technical Section (ETS) Coordinator in Central Office, Montgomery. Visit the FHWA website for further information on FONSI preparation. [FONSI](#)

Note: There is no established position of Division LPA Project Coordinator. However, the Division Engineer may find it useful to delegate or assign duties to a staff person as an LPA Project Coordinator when needed.

5.4.4 Environmental Impact Statement (EIS)

The EIS document is prepared by ETS, or a consultant for ETS, when, in concurrence with FHWA, it is determined that the action is likely to cause significant impacts on the environment.

Notice of Intent (NOI) and Notice to Initiate the Environmental Review Process are generated to state and federal agencies, the presumed cooperating and participating parties, and resource agencies. **The initial coordination (IC), or Early Coordination, activities are the responsibility of ALDOT ETS and associated offices.**

In instances where a project would likely result in significant impacts, ALDOT and FHWA will discuss project scope and impacts, and if parties agree that preparing an EIS is appropriate, the ALDOT will forward a letter to FHWA notifying of intentions to initiate the environmental review process and prepare an Draft EIS. This letter or notice needs to indicate the type of work, termini, length, general location, and a list of Federal approvals. Importantly, this notice also identifies the timeframe within which this process must begin based upon the project sponsor scheduling of committed staff, consultant services, financial resources, and leadership attention. When ALDOT and FHWA decide that an EIS is appropriate, the FHWA will issue an NOI for publication in the Federal Register. The letter to initiate the environmental review process may also contain a request to FHWA to prepare and publish a NOI. LPAs are encouraged to announce the intent of ALDOT to prepare an EIS by appropriate means at the local level. ALDOT will proceed with the following steps:

1. Coordination Plan and Schedule

2. Scoping
3. Purpose and Need as related to the EIS
4. Technical Studies and Coordination
5. Draft Environmental Impact Statement
6. Review and Comment Period
7. Final Environmental Impact Statement
8. Review and Comment Period
9. Record of Decision

Supplemental Environmental Impact Statement (SEIS)

A Draft Environmental Impact Statement (DEIS) or Final Environmental Statement (FEIS) may be supplemented at any time whenever the FHWA determines that:

- Changes to the proposed action would result in relevant environmental impacts that were not evaluated in the DEIS or FEIS
- New information or circumstances relevant to environmental concerns and bearings on the proposed action or its impacts would result in significant environmental impacts not evaluated in the DEIS or FEIS

However, a supplemental DEIS or FEIS will not be necessary where:

- The changes to the proposed action, new information, or new circumstances result in a lessening of adverse environmental impacts evaluated in the DEIS or FEIS without causing other relevant environmental impacts that were not previously evaluated in the DEIS or FEIS
- The FHWA decides to approve an alternative fully evaluated in an approved FEIS but not identified as the preferred alternative

Where the FHWA is uncertain of the significance of the new impacts, the LPA and ALDOT will develop appropriate environmental studies or, if the FHWA deems appropriate, an EA to assess the impacts of the changes, new information, or new circumstances. If, based upon the studies, the FHWA determines that SEIS is not necessary, the FHWA will so indicate in the project file.

A supplement is developed following the same process and format (i.e., DEIS, FEIS, and ROD) as an original EIS, except that scoping is not required.

In some cases, SEIS may be required to address issues of limited scope, such as the extent of proposed mitigation or the evaluation of location or design variations for a limited portion of the overall project. Where this is the case, the preparation of SEIS will not necessarily:

- Prevent the granting of new approvals
- Require the withdrawal of previous approvals
- Require the suspension of project activities; for any activity not directly affected by the supplement. If the changes in question are of such magnitude to require a reassessment of the entire action, or more than a limited portion of the overall action, the FHWA will

suspend any activities which would have an adverse environmental impact or limit the choice of reasonable alternatives, until the SEIS is completed.

5.5 Range of Alternatives or Alternative Analysis

Delineation of identification and consideration of proposed alternatives must occur. All proposed projects **must** consider and include a No Build alternative. The number of alternatives considered depends on the type of project and its size and complexity. Carrying only **one** Build Alternative through an EA for consideration must receive prior approval from FHWA.

Evaluation of alternatives must present the proposed action and all the alternatives in comparative form, define the issues, and provide for a clear basis for choice among the options. Regardless of whether there are multiple alternatives or just a build and no-build option, the alternative evaluation needs to explain the rationale for identifying a preferred alternative, if a preferred alternative exists. Just as important in this process is the examination and documentation of elimination of alternatives from consideration during the NEPA process. Dropping alternatives should be coordinated with FHWA. Affected agencies and the public must have opportunities to provide input into the development of considered alternatives.

Under CEQ regulations, federal agencies are required to evaluate alternatives to identify impacts to the environment. Other regulations also require consideration of *avoidance* alternatives. Specifically, Section 4(f) of the Department of Transportation Act of 1966, the Executive Orders on Wetlands (E.O. 12898), and the USACE Section 404 (b) (1) guidelines, require agencies to develop alternatives that would avoid or minimize impacts. In meeting the Section 4(f) regulations (as described in Section 5.13.21), it must be determined if a feasible and prudent *avoidance* alternative exists. If no feasible and prudent avoidance alternative exists, and all alternatives have 4(f) impacts, then it must be determined which alternative causes the least overall harm. [Development and Evaluation of Alternatives](#)

What is feasible? An alternative is feasible if it can be constructed as a matter of sound engineering.

What is prudent? FHWA requires consideration and documentation of factors in a Section 4(f) evaluation [Section 4\(f\) Overview](#), including the project context and the severity of impacts, in determining what is prudent. An alternative may *only* be rejected as not prudent for the following reasons:

- It does not meet the project purpose and need
- It involves extraordinary operational or safety problems
- There are unique problems or truly unusual factors present with it
- It results in unacceptable and severe adverse social, economic, or other environmental impacts

- It would cause extraordinary community disruption
- It has additional construction costs of an extraordinary magnitude
- There is an accumulation of factors that collectively, rather than individually, have adverse impacts that present unique problems or reach extraordinary magnitudes

5.6 NEPA Determination

ALDOT Environmental Technical Section (ETS) and all associated offices are responsible for implementing the pre-NEPA and NEPA processes in Alabama. ALDOT in consultation with FHWA will determine the type of environmental review required for federal action (Class of Action), to include the eventual type of environmental document. The NEPA environmental review process is a stepped process with incremental reviews and approvals as the project moves forward. [FHWA NEPA Implementation Non-Regulatory Guidance](#) *If the proposed project is classified as a Programmatic CE by ALDOT, no additional environmental approvals will be required by FHWA.* Other than the Programmatic CE, however, consultation with ALDOT and FHWA will determine the Class of Action and document; Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS).

ETS is responsible for Early Coordination with all appropriate resource and regulatory agencies to insure all potential issues and impacts are clearly identified. Close communication between the ETS and the LPA is required in this process and both agencies certify the information provided in the draft Class of Action. **Coordination must occur early and continue throughout the entire NEPA process.** To ensure that the proposed action will comply with the requirements of NEPA, the Endangered Species Act, the National Historic Preservation Act, the Clean Water Act, and other applicable federal and state laws, ETS will solicit comments from all resource agencies applicable to the project, including the agencies listed below, and will incorporate that correspondence into the NEPA documentation files. **This contact is to begin the NEPA process and not the application process for permits.** Applying for permits is initiated **after** NEPA approval.

1. U.S. Fish and Wildlife Service (for information regarding Federally-listed threatened and endangered species and/or critical habitat that may occur in the project area, or for general project input, Migratory Bird Treaty Act, Fish and Wildlife Coordination Act, and Bald and Golden Eagle Act). [US Fish and Wildlife](#)
2. U.S. Army Corps of Engineers (for comment on the possibility of impacting wetlands and other Waters of the US). [US Corps of Engineers](#)
3. Alabama Historical Commission (for information on resources that may occur within the project area and for general project input). [Alabama Historical Commission](#)
4. Alabama Department of Environmental Management (for comment on the possibility of impacting water quality, storm water runoff permit, or hazardous waste compliance). [ADEM](#)

5. U.S. Environmental Protection Agency (USEPA) (for comment on protection of human health, and the natural environment, including land, air, and water resources). [EPA Region 4 Atlanta](#)
6. ALDOT and FHWA must be the starting point of contact for discussion on where there could be potential Tribal impacts. [FHWA Tribal Q and A](#) FHWA, as the federal agency, is responsible for coordinating with the Tribes on Section 106 consultation, as required in 36 C FR 800. Tribes are considered sovereign nations and are therefore shown the respect due all other independent nations.

Agency review may result in a determination that additional documentation is needed for compliance with Federal or State regulations. ALDOT and FHWA will jointly decide the appropriate NEPA document needed for the action.

Construction activities, Right-of-Way (ROW) appraisal and acquisition, and final design may not begin until the NEPA document is approved. ALDOT may undertake appropriate environmental studies (e.g., scoping field reviews, technical studies) and develop preliminary engineering detail in order to make an informed determination of potential impacts. Throughout project development, changes in the project scope or the project limits require the project sponsor (LPA) to contact ALDOT Environmental Section to reevaluate potential impacts.

5.7 Administrative Record

There is always potential for legal challenge of a NEPA document and Federal permits that can seriously delay or even cancel a project that an LPA has spent years planning. Managing the risk of possible litigation must be part of good project planning. In addition to diligent adherence to NEPA procedures, careful, coordinated preparation of the Administrative Record by an LPA, ALDOT, and FHWA is an important component of risk management.

Beginning in the earliest phases of project development, it is wise to begin to develop a project Administrative Record. The Administrative Record is a written record supporting the agency's decisions on a particular project. While there is no statutory requirement for an administrative record, court cases have essentially established the requirement that the project record must include everything the agency considered in reaching its decision.

Visit the [FHWA Every Day Counts website](#) and review [Implementing Quality Environmental Documentation](#) for further information.

Documents considered as Federal records include:

- Minutes
- Directives
- Phone logs
- Personnel folders
- Engineering records
- Email and other correspondence

- Record of agency publications
- Environmental documents
- Project and fiscal files

FHWA has two internal guidance documents that address the administrative record and that provide some assistance in understanding and developing the record.

- Memorandum from Director, Office of Environmental Policy, FHWA, to Regional Federal Highway Administrators (September 25, 1985)
- FHWA Memorandum, *Presenting and Defending Administrative Records* (February 1992).

5.8 Re-evaluations

The approved CE, FONSI, and ROD (Record of Decision) documents represent final environmental approvals under NEPA. Once an environmental document has been approved, ALDOT shall consult with the FHWA to assure the environmental designation remains valid for the project as described in 23 CFR 771.129(c). **Re-evaluation or consultation with FHWA is required prior to each major approval or action such as authorizations to acquire ROW, to advertise for bids, or award construction contracts.** The purpose of the re-evaluation is to assure that the original basis for the CE approval or FONSI/ROD decision is still valid.

During the project development period between the environmental approval and project construction, the environmental baseline conditions of the project area may change, as well as environmental regulations and policies that govern impact analyses and the development of mitigation measures. There may also be changes to the project during the project development and design process that require additional review of environmental impacts.

For DEIS, FEIS, or SEIS documents, if a Record of Decision or other declaration of completion of project has not been issued after a period of three years, a written re-evaluation must be prepared and coordinated with FHWA in order to evaluate whether any changes have occurred that would require reconsideration of the NEPA approval. **Likewise, a re-evaluation is required if the scope of the project has changed, the limits changed, if there is a change in regulations, or a change in existing conditions since the previously approved NEPA document (the exception to this is when a SEIS is required as opposed to a re-evaluation).** The re-evaluation focuses on changes in the project, its surroundings, and impacts, and any new issues identified since the last environmental documentation. To accomplish the re-evaluation, the current ROW or construction plans must be reviewed to ensure that no significant changes have occurred. It may be necessary to conduct field reviews, additional studies, and agency coordination. Any additional public involvement that has occurred must be described in these re-evaluations. [Re-evaluations](#)

Note: ALDOT is currently developing new re-evaluation procedures, which will be posted to the LPA site on publication.

If the scope, parameters, and overall dimensions of the original EIS have not been exceeded or compromised by other actions and time and costs are a consideration, then re-evaluation

should be considered before undertaking a Supplemental. The case should be heavily tilted in favor of a Supplemental before undertaking.

Projects are often broken into smaller sections for funding and/or construction purposes. The re-evaluation for the various sections must consider the entire project addressed in the original environmental document. The re-evaluation must mention which sections of the project are being advanced to ROW or construction.

If the project decision, affected environment, mitigation or other environmental commitments, or environmental requirements have not changed or if the changes examined do not result in the determination by FHWA that the Original NEPA approval is no longer valid, the re-evaluation process is complete. Through the re-evaluation process, if it is determined that the previously approved environmental document is no longer adequate, and then supplemental environmental documentation is needed to analyze the changes that have occurred. FHWA must be consulted for the appropriate written re-evaluation format.

5.9 Public Involvement for the NEPA Process

The goal of public involvement is to promote an exchange of information between the public and the project team so that information about a project and its impacts may be disclosed and the project team may consider concerns and issues raised by the public. A public involvement plan is created, proposed, and agreed at the scope meeting by an LPA and ALDOT with concurrence from FHWA. The level of public involvement is based on the scope, complexity of the proposed project, and in accordance with ALDOT Public Involvement Guidelines. Public involvement may be as simple as informal conversations with property owners in the project area, notification letters to property owners, or announcement in local newspapers. Projects that are more complex may require multiple public involvement meetings and/or hearings. FHWA and ALDOT must be invited to attend all meetings/hearings and be given the opportunity to comment on the location and format of the meeting/hearing prior to its announcement. Accomplishing the goals of public involvement include but are not limited to:

- Public Involvement Plan
- Initial Contact Letters
- Mailing Lists
- Public Meeting
- What is the expected attendance and are there adequate copies of handouts?
- Do the handouts coincide with the relevant project?
- Is the location of the meeting in the vicinity of the impacted communities?
- Are there alternative transportation routes providing access to the meeting?
- Is it ADA accessible?
- Will interpreters be needed (foreign or sign language)?
- The meeting location should have restroom facilities?
- Will a microphone, speaker system, projector be needed?
- Are there community activities on certain nights that may limit attendance?

- Should multiple meetings be held at different times of the day, different days, and multiple locations to ensure comprehensive coverage of interested parties created by the proposed project?
- Are subject matter experts needed?
- How to address the public for that particular project

Public Hearings

A public hearing is necessary for projects that are complex. Public hearings have a number of requirements. The deadline for notification of a public hearing will not be less than thirty (30) days after the date of publication of the first notice, not less than fifteen (15) days after the date of publication of the second notice. For EAs, FHWA approval must be obtained *to be exempt* from holding a hearing or meeting between the signed EA and the FONSI submittal.

If the hearing covers controversial issues, LPA must consider selecting a neutral person, who has no interest in the project, to act as presiding officer. The following main topics are presented to the public at the public hearing:

- A brief introduction stating Local, State, and Federal roles
- A summary of coordination and interaction to date
- Explain the purpose and need of the project
- Logical termini
- State the design assumptions
- Summarize the traffic analysis
- Review the major features of all project alternatives
- A short discussion on the draft NEPA document
- Present potential impacts
- Identify the location of any wetlands crossed or impacted by the project
- Present the noise study and air quality findings
- Discuss the tentative ROW impacts such as: the schedule of acquisition, the estimated number of families, business and other concerns to be relocated, housing availability, and the relocation assistance program
- Provide a tentative time schedule for construction noting any significant items that may affect the schedule
- Other information items that may be of particular concern within the proposed project area
- Reasonably foreseeable actions affecting the same resources as the proposed project

LPA must document any public meeting, including sign-in sheet(s), a discussion of who attended, any handouts provided for the meeting, what issues were discussed or comments and how they were addressed. All coordination needs to be fully documented and summarized in the environmental document.

Record of Public Hearing

After a formal (project specific with public notice), or open forum public hearing (MPO or other type of meeting with public forum component) is held, a Record of Public Hearing must be prepared by the LPA to document the proceeding. The Record of Public Hearing includes a title page, table of contents, resume of the hearing, index of speakers, a verbatim transcript,

reproductions of displays, documents submitted for the record, reproductions of publicity items (including public hearing notices) and a list of invitations. The open forum hearing record will also include a synopsis of the comments, concerns and questions discussed with the public but not entered into the formal verbatim transcript. Copies of the Record of Public Hearing are forwarded to FHWA, the ALDOT's Environmental Technical Section, Metropolitan Planning Section in the Bureau of Transportation Planning and Modal Programs, who will keep it on file.

5.10 Environmental Studies

FHWA policy states “.....to the fullest extent possible, all environmental investigations, reviews, and consultations are coordinated as a single process, and compliance with all applicable environmental requirements be reflected in the environmental document.” View the FHWA Policy documents at [Environment](#) and [23 CFR 771.105](#), for environmental impacts and procedures.

5.10.1 Water Resources

For additional information, see the following resource:

[Water Resources Affected by Highway Projects](#)

As noted above, the Fish and Wildlife Coordination Act of 1956 (FWCA) applies to projects that receive federal funding. If a project is coordinated under FWCA, and either USFWS or the State Wildlife Agency makes a report or recommendations for wildlife mitigation or enhancement, the report or recommendation may be:

- implemented in its entirety
- partially implemented
- not implemented

Failure to fully consider a report or recommendation made by USFWS or State Wildlife Agency could jeopardize either FHWA funding for the project or receipt of any required permits from USACE. Decisions on implementation of reports or recommendations must be fully described in the project environmental documents. If reports or recommendations are partially or completely rejected for implementation, the environmental document must contain a justification that is satisfactory to FHWA.

5.10.2 Streams, Channels, and Wetlands - Clean Water Act

[Clean Water Act](#)

Coordination with the USACE is important because they have jurisdiction to review and analyze actions which result in impacts caused by filling and/or excavating in the *Waters of the United States*. Waters of the U.S. are administratively defined as follows:

- The traditional *navigable waters of the U.S.* including adjacent wetlands
- All interstate waters including interstate wetlands
- All other waters such as interstate lakes, rivers, streams (including intermittent streams), prairie potholes, mudflats, playa lakes, etc.

- All impoundments of these waters
- Tributaries of the above listed waters
- Wetlands adjacent to the above waters
- Arroyos

Generally, the following waters will require a more lengthy (fact-specific analysis) prior to determining jurisdiction:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

When coordinating with the USACE, LPA is required to submit detailed drawings which clearly show the scope, size, and the location of the project in relation to wetlands, creeks, rivers, or other water bodies. The environmental document must indicate if any streams are present and whether they are impacted (i.e., work will occur below ordinary high water level). The stream name, quality designation, and the type and nature of the impact must be described. If a stream is present but no impacts are expected, the documentation must state why there is no impact. If stream impacts occur, discuss what type of structure(s) are proposed versus what is currently in place and quantify the impacts. If stream work is extensive, the discussion must include mapping and/or site plans to aid in the impact interpretation. Impacts to fish and wildlife resulting from the loss, degradation, or modification of aquatic or terrestrial habitat must be discussed. The discussion must also include what coordination has taken place to date and any commitments or design issues resulting from the coordination.

LPA must coordinate with State and Local entities that have responsibility for impacts to water and ensure that the project complies with Executive Order 11990 Protection of Wetlands. The Order requires Federal agencies, in planning their actions, to avoid to the extent possible the long and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. If a avoidance is not possible, agencies need to minimize impacts to wetland sites and mitigate the impacts affecting a wetland.

When a proposed alignment or project impacts wetlands, documentation must:

- Identify the type, quality, and function of wetlands involved
- Describe the impacts to the wetlands
- Evaluate alternatives which would avoid these wetlands
- Identify practicable measures to minimize harm to the wetlands

Wetlands must be identified by using the definition of [EPA Water and Wetlands](#), which requires the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Exhibits showing wetlands in the project impact area in relation to the alternatives must be provided.

The wetlands analysis must sufficiently detail an understanding of the following elements:

- The importance of the impacted wetland(s)
- The severity of this impact

In evaluating the importance of the wetlands, the analysis must consider such factors as:

- The primary functions of the wetlands (e.g., flood control, wildlife habitat, ground water recharge, etc.
- The relative importance of these functions to the total wetland resource of the area
- Other factors such as uniqueness that may contribute to the wetlands importance

In determining the wetland impact, the analysis must show the project's effects on the stability and quality of the wetland(s). This analysis must consider the short and long-term effects on the wetlands and the importance of any loss such as:

- Flood control capacity
- Water pollution abatement capacity
- Fish and wildlife habitat value

The methodology developed by FHWA and described in reports numbered FHWA-IP-82-23 and FHWA IP-82-24, *A Method for Wetland Functional Assessment Volumes I and II*, is recommended for use in conducting this analysis. (See FHWA's Technical Advisory T6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, dated October 30, 1987). Knowing the importance of the wetlands involved and the degree of the impact, LPA is in a better position to determine the mitigation efforts necessary to minimize harm to these wetlands. Mitigation measures requiring consideration must include preservation and improvement of existing wetlands and creation of new wetlands (consistent with 23 CFR 777). Project mitigation measures shall be listed as environmental commitments in the document. [Wetlands and Aquatic Resources](#) If the preferred alternative is located in wetlands, to the fullest extent possible, the documentation needs to contain the finding required by [Executive Order 11990](#), that there are no practicable alternatives to construction in wetlands. The finding must be included in a separate subsection entitled *Wetland Finding* and must support the following information:

- A reference to Executive Order 11990
- An explanation why there are no practicable alternatives to the proposed action
- An explanation why the proposed action includes all practicable measures to minimize harm to wetlands
- A concluding statement that: "Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use."

If an LPA has a proposed project that impacts the waters of the U.S., a permit must be obtained from the USACE. LPA will obtain this permit.

5.10.3 Navigable Waters – Rivers and Harbor Act

The Division LPA Coordinator and the LPA RC will determine during initial meeting and agreement negotiation the extent of consultation and coordination with the USACE and U.S. Coast Guard (USCG) on proposed projects that cross navigable waters of the U.S. If an LPA has a proposed project for construction, maintenance, and/or operations of a bridge or approaches that crosses navigable waters of the U.S., a permit must be obtained from the USACE. The LPA will obtain this permit. [Rivers and Harbors Act of 1899](#)

All parties involved in a project must take measures to prohibit the obstruction or alteration of U.S. navigable waters. The USCG is also responsible for security along navigable rivers and will determine extent of security coverage while the project is underway.

5.10.4 Floodplain Management (Executive Order 11988)

Floodplain management is the operation of a community program of corrective and preventative measures for reducing flood damage. These measures take a variety of forms and generally include requirements for zoning, subdivision or building, and special-purpose floodplain ordinances. FHWA has a responsibility to evaluate the potential effects of any actions it may take in a floodplain. [Location and Hydraulic Design of Encroachments on Flood Plains](#)

Protection of floodways and floodplains is required under [23 CFR 650A](#), which is explained in 650.103 of that regulation. Protection of floodplains and floodways is also required by Executive Order 11988 Floodplain Management and US DOT Order 550.2 Floodplain Management and Protection.

5.10.5 Wild and Scenic Rivers

The Wild and Scenic Rivers Act protects the free-flowing waters of many of our nation's most spectacular rivers. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for appropriate use and development. These living landscapes are uniquely managed to protect the public's enjoyment of these heritage resources for present and future generations. The managing agencies also try to accommodate and reflect community and landowner interests. The Act purposefully strives to balance river development with permanent protection for the country's most outstanding free-flowing rivers. To accomplish this, the Act prohibits federal support for actions, such as the construction of dams or other in-stream activities that would diminish the river's free flow or outstanding resource values.

Designation neither prohibits development nor gives the Federal government control over private property. The Act specifically:

- Prohibits dams and other Federally-assisted water resources projects that would adversely affect river values
- Protects outstanding natural, cultural, or recreational values
- Ensures water quality is maintained

- Requires the creation of a comprehensive river management plan that addresses resource protection, development of lands and facilities, user capacities, and other management practices necessary to achieve purposes of the Act

Therefore, proposed projects must be examined for conformance to the Wild and Scenic Rivers Act of 1968. A determination of whether the proposal would invade the river area or unreasonably diminish the wild, scenic, recreational, and fish and wildlife values present in the area is required. Consultation is initiated by the LPA when the project:

- Would be in close proximity of the river
- Involves withdrawing water from the river or discharging water to the river via a point source
- Would be visible from the river

The National Park Service (NPS) has compiled and maintains a Nationwide Rivers Inventory (NRI), a register of river segments that potentially qualify as national wild, scenic, or recreational river areas. Further, all agencies are required to consult with the NPS prior to taking actions which could effectively foreclose wild, scenic or recreational status for rivers on the inventory. Inventory Rivers within Alabama are found on the [NPS Nationwide Rivers Inventory](#).

Publicly-owned waters of designated wild and scenic rivers are protected by Section 4(f). Additionally, public lands adjacent to a wild and scenic river may be subject to Section 4(f) protection. An examination of any adopted or proposed management plan for a listed river must be helpful in making the determination on applicability of Section 4(f).

5.10.6 Protected, Threatened, and Endangered Species

Section 7 of the Endangered Species Act (ESA) of 1973, as amended, and the Fish and Wildlife Coordination Act requires that each federal agency confer with the USFWS on any action which is likely to jeopardize the continued existence of any protected species or result in the destruction or adverse modification of critical habitat. FHWA guidance may be found at: [FHWA Water, Wetlands, and Wildlife](#).

Responsibilities to Protect Migratory Birds (Executive Order 13186) see FHWA [Migratory Birds and Executive Order 13186](#)

The Migratory Bird Treaty Act (MBTA) provides that it is unlawful for any person or agency to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg of any such bird, unless authorized under a permit issued by the Secretary of the Interior. Some regulatory exceptions apply. Take is defined in regulations as “.....*pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.*” The MBTA has no provision for incidental take. All take prohibitions refer to direct take of birds, bird parts, or eggs. The MBTA has no requirement for protection of habitat. The MBTA protects over 800 species of birds that occur in the US For more information and to check species lists, visit:

5.10.7 Historical, Archeological, and Traditional Cultural Properties Preservation - National Historic Preservation Act

(Section 106; 36CFR 800 – Protection of Historic Properties - as amended)

**** See note, 5.1 Introduction ****

The National Historic Preservation Act requires all Federal agencies to consider historic properties in their actions or undertakings and to afford the Advisory Council on Historic Preservation or the State Historic Preservation Officer as their agent, an opportunity to comment. This means that coordination and consultation with the State Historic Preservation Office or Officer (commonly referred to as the SHPO) on individual projects is necessary. Federal officials or official (FHWA for transportation projects) is responsible under the Act to consult with the SHPO and concur with, or not object, to the agency decisions on the preservation of historic properties. LPA coordination with SHPO is directed through the ALDOT Environmental Technical Section.

Federal Review and Compliance Defined - Section 106 LPA Manual December 2011 5-22

Section 106 of the National Historic Preservation Act requires FHWA [through their agent, ALDOT (for the LPA)] to take into account the effect of their undertakings on historic properties, seek ways to avoid or reduce adverse effects their projects may have on historic properties, and afford the Federal Advisory Council on Historic Preservation, or the State Historic Preservation Officer as their agent, an opportunity to comment on the project and its effects on historic properties.

The regulations that govern the *Section 106 process* also require that the federal agency consult with the State Historic Preservation Office (SHPO) to:

- Identify historic properties in the project area;
- Assess the effects a project may have on historic properties located in the project area
- Seek ways to avoid or reduce adverse effects the project may have on historic properties.

Section 106 regulations identify the Federal Official, (FHWA for transportation projects), as the agency responsible for decisions on identifying and evaluating the eligibility of historic properties, what effects the project would have on historic properties, and if properties are affected, how to resolve adverse effects. The role of the SHPO is to offer information, advice, and to either concur in or object to FHWA findings of eligibility, effect, and ways to resolve adverse effects.

LPA will coordinate with ALDOT to obtain information for documenting the following, in order to initiate and complete the Section 106 process:

- Description of the APE (determined in consultation with the SHPO), including the legal description(s), detailed maps, and photos of the project site
- Drafting of a Scope of Work
- Circulation of RFPs to *qualified** cultural resource professionals for Phase I survey (*consultants are to meet Secretary of Interior Standards for archaeology and historic resources as listed in Code of Federal Regulations 36 CFR Part 61)
- Cultural Resources reports should be produced in accordance with *Alabama Historical Commission Policy for Archaeological Survey and Testing in Alabama* and, *Alabama Guidelines for Preparing Reports for Historic Architectural Resources under Section 106 of the National Historic Preservation Act of 1966 (as amended)*. This material is available at: [Alabama Historical Commission](#)

- Submittal of completed reports to the ALDOT Environmental Technical Section for review and forwarding to the Alabama SHPO for review and concurrence. Copies of resulting correspondence will be provided to the LPA by ETS.

The following information should be included in the Environmental Document:

- A description of the steps taken to identify historic properties
- A draft recommendation of effect determinations
- Justification for the effect determination including efforts to avoid, minimize and mitigate impacts
- Summary of coordination efforts with the public, SHPO, and other interested parties. Remember, consultation regarding eligibility of sites and effects to historic resources with the SHPO, tribes, and other agencies is completed by ALDOT/FHWA

Depending on the evaluation and the extent of the project's impacts, the effect determination is one of the following conclusions:

- No historic properties affected (or no effects to historic properties)
- No adverse effect (or no historic properties adversely affected)
- Adverse effect (or historic properties are adversely affected)

5.10.8 Tribal Lands

If tribal lands are present within the proposed project limits, study area, or is impacted by the proposed project, coordination efforts must occur with the tribe(s) and be documented. Even though the project sponsor is LPA (with ALDOT acting on behalf of the LPA), because the project is a Federal undertaking, due to the use of Federal funding, FHWA will consult with the tribes rather than ALDOT. FHWA is obligated by law to consult with Federally recognized Indian tribes. Topics to be coordinated by ALDOT include:

- Coordinate new development with ongoing land use planning by the tribe
- Coordinate related tribal programs and clarify areas where regulations overlap or leave gaps that affect the environment such as land use plans, water quality regulations, fish and wildlife protections, building codes, solid waste codes, preservation of historic sites, preservation of spiritual sites, and cemetery preservation
- Facilitate public participation in planning and development decisions through public hearings and comments on proposed projects
- Provide procedures for tribes to monitor ongoing development projects for consistency with permits and plans
- Coordinate tribal compliance with Federal environmental laws as they apply to tribal lands, and provide a framework for compliance with both Federal and tribal environmental requirements

The LPA and ALDOT, in developing environmental documentation, must consider traditional cultural properties as sacred and historic land use. Also, information disclosed to ALDOT about locations that a tribe has attached religious and cultural importance must be treated as confidential. Care needs to be taken to protect that information from inadvertent disclosure and may be addressed by keeping reports of that information stored at the FHWA office.

5.10.9 Air Quality – Clean Air Act

The Clean Air Act Amendments of 1990, Titles I, III, and V contain guidance for air quality issues. They cover the provisions for attainment and maintenance of ambient air quality standards, the reduction of hazardous-air-pollutant emissions and new operating permits for all major sources of these emissions. [Clean Air Act](#)

An air quality analysis is required by law for Federally-funded projects and required by State policy for other funded projects that:

- Involve construction of new roadway
- Significantly change the horizontal or vertical alignment of an existing roadway
- Increase the number of through traffic lanes on an existing roadway

Generally, recipients must refrain from projects that either increase air pollution or expose residents to excessive levels of air pollution. Projects that involve installation of large fuel burning equipment, demolition, sandblasting, or paint removal, spray painting, etc., must be evaluated to determine applicable requirements and compliance methods.

In addition, at the Federal and State level, a wide variety of asbestos regulations and guidelines have been established that require training and licensing of contractors and inspectors, and abatement actions. Contact the ADEM or ALDOT to determine compliance with Alabama Air Quality Standards.

5.10.10 Noise Analysis and Abatement

A traffic noise analysis is required for all Type I projects as described per 23 Code of Federal Regulations (CFR) Part 772 for projects that receive Federal-aid funding or are otherwise subject to FHWA approval. A Type I project can consist of the construction of a highway on new location; substantial horizontal or vertical alteration of an existing highway; the addition of through traffic lanes; the addition of an auxiliary lane except for when it is a turn lane; the addition or relocation of interchange ramps or lanes added to a quadrant to complete an existing partial interchange; restriping existing pavement to provide an additional through traffic lane or auxiliary lane; or the addition of a new or substantial alteration of a weigh station, rest stop, ride-share or toll plaza. If any part of a project is considered to be Type I under these guidelines, the whole project area is defined as a Type I project in the environmental document.

If impacts are determined on a Type I project, noise abatement measures must be considered and evaluated for feasibility and reasonableness per the latest version of the ALDOT Noise Policy.

It is important for ALDOT ETS, acting for the LPA, to consider not only projected noise impacts (based on the 20 year design) resulting from a proposed project in an alternative analysis, but the temporary impacts caused by construction necessary to build the alternative. See Noise Standards for regulations and information concerning project applicability. [FHWA Noise Standards](#). The *ALDOT Noise Policy and Guidance 2011* is available for viewing on the LPA website under *Project Planning/Development - Environmental*.

5.10.11 Hazardous Waste

According to the Council on Environmental Quality (CEQ), which is responsible for implementing the National Environmental Policy Act (NEPA), the requirements of the NEPA

should be integrated with other planning and environmental review procedures. Therefore, environmental studies established to meet appropriate inquiry or due diligence requirements under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or to determine appropriate hazardous material management and disposal plans, should be combined with the NEPA process.

The FHWA, American Association of Highway Transportation Officials (AASHTO), National Highway Institute (NHI), National Cooperative Highway Research Program (NCHRP) and ASTM International provide guidance for conducting environmental studies and investigations for hazardous material contamination. FHWA Interim Guidance provides only general guidelines for identification or site assessment. A copy of this guide is provided in Chapter 1 of the Texas DOT web document *Hazardous Materials in Project Development: Additional Guidance*. AASHTO also outlines a general procedure and the terminology to identify and assess projects throughout project development. This policy and the resolutions that are not copyrighted are outlined in Chapter 2 of the above Texas document. The United States Department of Transportation (DOT) has provided preliminary information on brownfields in Chapter 3.

The ASTM standard practices and guides include:

- ASTM E 1528-06 - Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (Transaction Screen)
- ASTM E 1527-05 - Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (Phase I ESA)
- ASTM E 1903-97 (2002) - Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process (Phase II ESA).

The ASTM Standard Practices and Guide were developed for commercial real estate transactions to provide guidance on industry standards. To specifically address transportation or corridor projects, additional services or modifications to the ASTM Standard Practices are needed. During the advanced planning stage, the ASTM Transaction Screen is more practically used as a documentation tool for an individual site or parcel. The ASTM Transaction Screen is only sufficient when:

- interviews with the property owners and/or operators are practical
- right of entry can be obtained
- Knowledge of the site and/or initial surveys does not indicate concerns.

5.10.12 Social Impacts

Where there are foreseeable impacts to a community or group of people, the LPA must analyze and document the level of impacts to the extent they are distinguishable:

- Changes in the neighborhoods or community cohesion for the various social groups as a result of the project
- Changes in travel patterns and accessibility to vehicular traffic, bicycles, or pedestrians
- Direct impacts to school districts, churches, police, and fire protection
- Impacts to overall public safety
- General social groups specifically impacted by the project such as the elderly, handicapped, transit-dependent, and minority/ethnic groups

The LPA's documentation shall address the severity of possible impacts and identify the mitigation measures to avoid or minimize any adverse effects.

Community Impacts

The LPA must consider a Community Impact Assessment (CIA) [Impact Assessment](#), as an important part of transportation planning and project implementation. The inclusion of a CIA allows for a community's concerns (mobility, safety, employment effects, relocation, isolation, etc.) to be addressed in transportation decision-making. Various laws, publications, and events have impacted the development of CIA policies and measures. The history of CIA in transportation began with the National Environmental Policy Act of 1969 and the process continues to develop.

More recently, the FHWA, at the request of AASHTO, began efforts to refocus transportation professionals and enhance their expertise on addressing community impact issues. A CIA outlines the community impact assessment process, highlights critical issues, identifies tools and sources, and heightens awareness of the impacts of proposed transportation actions on communities, neighborhoods, and people.

Zoning

LPA must consult with local counties, cities, and towns in the immediate area to ensure that the proposed project is consistent with local zoning and land-use planning.

5.10.13 Relocation Impacts

The relocation information provided by ALDOT shall be summarized in sufficient detail for all proposed alternatives to adequately explain the relocation situation including anticipated problems and proposed solutions. Where a proposed project will result in displacements, the following information regarding households and businesses must be discussed:

- An estimate of the number of household to be displaced, including the family characteristics such as: minority, ethnic, income level, large family, elderly, and owner/tenant status
- A discussion comparing available (decent, safe, and sanitary) housing in the area with the housing needs of the displaced
- A discussion of any affected neighborhoods, public facilities, non-profit organizations, and families with needs that may require special relocation considerations
- A discussion of the measures to be taken where the existing housing inventory is insufficient, does not meet relocation standards, or is not within the financial capability of the displaced persons

For more information concerning relocation, see Chapter 7.0, Right-of-Way. There is extensive information on relocations. Also visit [NEPA Implementation](#), Section G, sub-sections 4, 5, and 6.

5.10.14 Environmental Justice, and Title VI

Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

Executive Order 12898, Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations (2/11/94), requires all Federal agencies, to the extent allowed by law, to administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid *disproportionately high and adverse effects* on minority and low-income populations. [Executive Order 12898](#)

Adverse Effects means the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of manmade or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community the denial of, reduction in, or significant delay in the receipt of benefits of FHWA programs, policies, or activities.

Disproportionately High and Adverse Effect on Minority and Low-Income Populations means an adverse effect that:

- Is predominately borne by a minority population and/or a low-income population
- Is suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect is that is suffered by the nonminority population and/or non-low income population.

5.10.15 Section 4(f)

[Section 4\(f\) FHWA Program Overview](#)

The purpose of Section 4(f) is to preserve public parks and recreation lands, wildlife and waterfowl refuges, and historic sites by limiting their use by transportation projects. Section 4(f) of the Department of Transportation Act of 1966 prohibits FHWA from approving the use of land from these resources unless a determination is made that:

- There is no feasible and prudent alternative to the use of land from the property (except in the case of *de minimus*)
- The proposed action includes all possible planning to minimize harm to the property resulting from such use

Section 4(f) applies to all historic sites, except for most National Register of Historic Places (NRHP) criterion for non-eligible sites.* Historic sites are historic or prehistoric properties on or eligible for the National Register of Historic Places. Section 4(f) also applies to all publicly owned parks, recreation areas, and wildlife and waterfowl refuges. Section 4(f) substantially limits “use” of these protected properties for actions funded or approved by the US DOT. Three conditions exist under which a *use* occurs:

- When Section 4(f) property is acquired outright for a transportation project

- When there is occupancy of property that is adverse in terms of the preservationist purposes of Section 4(f)
- When the proximity impacts of a project on Section 4(f) property, even without the acquisition of the property, are so great that the purposes of the property that qualify the resource for protection are substantially impaired

***Note:** [This North Dakota website offered a good description of the NRHP Criteria for Evaluation.](#)

Use also falls into one of four types:

- Fee simple: An acquisition of ROW through direct purchase, permanently converting the property to a transportation use
- Permanent easement: acquisition of an easement for maintenance or utility access
- Temporary easement or temporary use: An easement or use that is only needed on a short-term basis, for construction, for example, and then is restored to its original condition
- Constructive use: Occurs when the project does not physically incorporate land from the resource into the project, but is so close that it severely impacts the resource's activities, and FHWA determines that the project *substantially* impairs the resource. An example of constructive use could be the expansion of a roadway next to an outdoor amphitheater within a public park. If the noise associated with the improved roadway facility affects the use of that amphitheater, even though the amphitheater is not physically touched, this would be a constructive use.

SAFETEA-LU Section 6009(a) amended the existing Section 4(f) legislation in 23 U.S.C. 138 and 49 U.S.C. 303 to simplify the processing and approval of projects that have only *de minimis* impacts. See the FHWA memorandum at [Section 4\(f\) Policy Paper](#).

For additional information, go to [FHWA de minimis Questions and Answers](#).

LPA needs to identify if Section 4(f) resources exist in the study area. A resource's status is determined not by its name, but by the criteria that define it. Significance is determined by FHWA and by the agency with jurisdiction over the property. Historic resources do not have to be in public ownership for Section 4(f) to apply. In order to qualify for protection under Section 4(f), a historic resource must meet the following criteria:

- It must be of national, state, or local significance
- Listed on or eligible for the NRHP, or its protection must be considered appropriate by the FHWA

The items in the group of "other considerations" may or may not be Section 4(f) resources, depending on certain conditions. Some of them may fit into multiple categories - parks and refuges, for example, while others may fit into one category or another, depending on how they are used. The list of other considerations may include:

- Wildlife Management Areas

- School Playgrounds
- Fairgrounds
- Public Multiple-Use Land Holdings
- Wild and Scenic Rivers
- Bodies of Water
- Planned Facilities
- Bikeways
- Trails

Types of Section 4(f) Analysis

De minimis Use

The passage of SAFETEA-LU offers an option to address potential Section 4(f) impacts. A determination is based on the impacts of the proposed project on the resource, as well as consideration of any proposed mitigation measures to minimize the impacts of the proposed project. [Section 4\(f\)](#)

De minimis impacts are defined as those that do not "adversely affect the activities, features, and attributes" of the resource. If a *de minimis* finding is appropriate, LPA will rigorously examine the activities, features, and attributes of the Section 4(f) resource. LPA needs to show that some portion of the 4(f) resource is used by the project and whether that use adversely affects the activities, features, or attributes of the 4(f) resource. The following steps are used to document a *de minimis* finding.

- Provide a summary statement of the proposed action's purpose and need
- Describe the existing activities, features, and attributes of the Section 4(f) resource (the no build). In describing the Section 4(f) resource, the following content is expected to be provided
 - A detailed map or drawing of sufficient scale to identify the relationship of the alternatives to the Section 4(f) property, (include sidewalks and roadway design features, etc)
 - Size (acres or square feet) and location (maps or other exhibits such as photographs, sketches, etc.) of the affected Section 4(f) property
 - Ownership (city, county, State, etc.) and type of Section 4(f) property (park, recreation, historic site, etc)
 - Function of or available activities on the property (walking trail, ball playing, etc)
 - Description and location of all existing and planned facilities (length of trail, landscaping, proposed improvements, etc)
 - Access (pedestrian, vehicular) and usage (approximate number of users/visitors, and where they are coming from, etc)
 - Relationship to other similarly used lands in the vicinity
 - Applicable clauses affecting the ownership, such as lease, easement, covenants, restrictions, or conditions, including forfeiture.

- Unusual characteristics of the Section 4(f) property (flooding problems, terrain conditions, or other features) that either reduce or enhance the value of all or part of the property
- Significance and primary use of the Section 4(f) property

Programmatic 4(f) Evaluations

There are five national Programmatic 4(f) Evaluations that apply to resource and use type. These are generally used for projects where the use is considered minor, either in size or in level of effect for resources. If the LPA has a proposed project that falls into one of the categories, they must discuss the option of using a programmatic 4(f) evaluation with ALDOT and FHWA. FHWA can use Programmatic 4(f) Evaluation for one of the following:

- Independent Walkway and Bikeways Construction Project
- Historic Bridges
- Minor Involvements with Historic Sites
- Minor Involvements with Parks, Recreation Areas and Waterfowl, and Wildlife Refuges
- Net Benefits to a Section 4(f) Property

For more information, Nationwide Section 4(f) Programmatic Evaluations can be found at [4\(f\) Evaluations](#).

Individual Section 4(f) Evaluation

Whenever there is a use of at least one property that does not conform to the criteria specified in a Programmatic Section 4(f) Evaluation allowance (or the de minimis criteria), an Individual Section 4(f) Evaluation must be prepared, circulated for review, and a determination made by FHWA. A project undertaking necessitates an Individual Section 4(f) Evaluation regardless if one or more property(s) falls within the parameters of the Programmatic Section 4(f) Evaluation (or the de minimis criteria).

For more information, see the links to the following resources:

[Superfund Sites](#)

[A 5-Minute Look at Section 4\(f\)](#)

[Executive Order 12898](#)

5.10.16 Land and Water Conservation Fund Act - Section 6(f)

The Land and Water Conservation Fund Act (LWCF Act) of 1965 (16 USC 4601-4 to 4601-11) was enacted to establish a funding source to assist the states and Federal agencies in meeting present and future outdoor recreation demands and needs. Federal funds from the LWCF are authorized to the states for the planning, acquisition, and/or development of needed land and water or utilized, directly, by Federal agencies for the ROW acquisition and development of "certain lands" such as:

- Wildlife refuges
- Waterfowl refuges
- Fish hatcheries

- Bird sanctuaries
- State recreational areas

[Land and Water Conservation Fund - Wikipedia site](#)

5.10.17 Farmlands Protection Policy Act

The purpose of the Farmlands Protection Policy Act (FPPA) of 1981 (7 USC 42014209) is to minimize impacts on farmlands and maximize compatibility with state and local farmland programs. Farmlands are classified as prime, unique, or of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forestland, pastureland, cropland, or other land, but not water or urban built-up land.

Additional information can be found at [USDA website for FPPA](#).

5.10.18 Bicycle and Pedestrian Coordination

FHWA considers non-motorized modes of transportation to be an integral part of their mission and a critical element of the local, regional, and national transportation system. To varying extents, pedestrians and bicycles are present on many transportation facilities, and it was the intent of TEA-21 that all new and improved transportation facilities be planned, designed, and constructed with this in mind. The passage of SAFETEA-LU has not altered the intent of TEA-21. *Due consideration* of bicycle and pedestrian needs must include, at a minimum, a presumption that bicyclists and pedestrians are accommodated in the design of new and improved transportation facilities. Bicycle and Pedestrian project guidance is provided at: [FHWA Bicycle/Pedestrian](#)

5.11 Permits and Concurrences

Proposed transportation projects may require numerous federal, state, and local permits, approvals, or concurrences. The following is NOT an exhaustive list but a representation of what an LPA can expect to consider, and be expected to acquire. **The LPA must recognize, and to which ALDOT can attest, that obtaining permits can be a lengthy and time-consuming process depending on a number of factors.** If a proposed action may need a permit, appropriate project scheduling is necessary and time must be added to the process. Early coordination during scoping and continued coordination through the study phase must minimize re-work and additional information during the permitting phase. It is best if permit application and coordination occurs concurrently. Copies of all permits must be kept at the project construction site and made available to regulatory inspectors upon request.

NEPA Phase Permits in Project Development Process

Prior to beginning archaeological field work on State or Federally-owned or managed lands, ALDOT or its archaeological sub-consultants must apply for and secure a State Archaeological Permit or a Federal Permit, or ARPA (Archaeological Resources Protection Act of 1979). At the expiration of the permit, the applicant must surrender all artifact materials and all project records. Federal regulations govern the disposition of all archaeological resources removed or excavated.

Post NEPA Phase Permits in Project Development Process

The post-NEPA permitting process, undertaken by LPA, essentially begins after the NEPA related technical studies have been completed. The process begins after the final NEPA document is approved and during the design phase at the point where plans are completed to the level required for permit review by permitting agencies. LPA obtains the permits required for their projects prior to the advertisement of construction contracts so that the permit requirements are included in the contract book, construction plans, and specifications and on-site at projects.

LPA must also obtain completed technical studies, agency letters, and copies of the project plans. If the plans are insufficient for the permit application to be made or, if the plans would present problems in securing a permit, the plans will need to be revised. Once the plans are sufficient LPA prepares an application for the needed permits. **Permit application shall be made only after approval of the NEPA document and six to seven months prior to contract letting.**

5.11.1 Streams, Channels, and Wetlands – Section 404 and 401 Permits

The Section 404 Permit is obtained from the USACE for projects that have the potential to discharge dredged or fill materials into waters of the US, including wetlands. The legal reference is Section 404 of the Water Pollution Control Act of 1972, as amended by the Clean Water Act (1977 and 1987). The purpose of the law is to restore and maintain the chemical, physical, and biological integrity of waters of the US through prevention, reduction, and elimination of pollution. The permit application allows the USACE to review the project plans and potential impacts to waters of the United States and to ensure that the project is designed to prevent or reduce harm to these waters. In addition to USACE, the USFWS, the National Marine Fisheries Service (NMFS), and the EPA may also be involved in Section 404 permitting.

NOTE: [These agencies review the 404 Permit applications through the 404 public notice process and comment to the USACE. Their comments may include recommendations to incorporate into permit conditions.](#)

Both the NEPA and Section 404 processes involve the evaluation of alternatives, the assessment of impacts to resources, and the balancing of resource impacts and project need.

The two types of Section 404 Permits are:

1. Nationwide Permit (NWP) – Nationwide permits are a type of regional or general permit issued on a pre-discharge basis for minor activities with minimal impacts. There are several types of nationwide permits and the particular activity must meet all general, regional, and special terms and conditions of the specific nationwide permit.
2. Individual Permit – for more severe impacts, typically one-half acre or more of impacts to waters of the US. If jurisdictional waters do not fall within the NWP program, an individual permit is required.

LPA will prepare an application to the USACE furnishing the following:

- Completed USACE Application Form 4345

- Location map
- Preliminary plan sheets or sketches of project
- Aerial or field photographs

The USACE evaluates the application and the other information provided to determine if the authorization for the work may be issued under a NWP. If the scope of the project allows the use of a NWP, then a permit is issued.

Individual Permits – Section 401 Permits

Any project that exceeds the requirements of an applicable NWP or other regional or general permit requires LPA to obtain an Individual Permit (IP). Following the LPA permit application, the USACE will solicit comments through the public comment process from adjacent landowners, and appropriate Federal and State agencies. ADEM is one of those agencies notified by the USACE. An individual LPA may be needed for the following:

- Dredging, excavation, widening, or straightening of a channel
- Discharge (fill) into a special aquatic site, including wetlands
- Bank sloping or stabilization
- Channel relocation
- Water diversions or withdrawals
- Construction or repair of dams, weirs, dikes, or levees
- Flooding, excavating, draining and/or filling of a wetland

5.11.2 National Pollution Discharge Elimination System (NPDES)/Storm Water Runoff Permit

The responsibility for issuing permits under the National Pollutant Discharge Elimination System (NPDES) has been delegated by the EPA to ADEM. The legal reference of the NPDES is Section 402 of the Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act (1977 and 1987). The ADEM storm water permitting program is intended to improve the quality of the nation's rivers, lakes, and streams by reducing pollution from non-point sources.

Storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts that impair aquatic biological communities or other beneficial uses of waters such as fishing and swimming. Water quality impairments result when ground disturbing activities dislodge excess sediments (clean, chemical-laden, and/or nutrient-laden) and excess organic material that are carried to river, streams, wetlands, and lakes via storm water.

[FHWA Environmental Restoration website](#)

[ALDOT Stormwater Guidance](#)

5.11.3 Navigable Waters – Section 10 Permit

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through COE, for the construction of any structure in or over any navigable water of the US. Structures or work outside the limits defined for navigable waters of the US

require a Section 10 Permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the US, and applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. LPA must take measures to prohibit the obstruction or alteration of these navigable waters. When coordinating with the USACE, LPA is required to submit detailed drawings that clearly show the scope and size of the project and the location of the project in relation to wetlands, creeks, rivers, or other water bodies.

The USACE can authorize activities by a standard individual permit, letter-of-permission, nationwide permit, or regional permit. The USACE will determine what type of permit is needed based on the information provided by LPA and issue the permit if the proposed project falls within the criteria. [Section 10 Permit](#)

The project may also affect threatened or endangered species or their designated critical habitat as described under the Endangered Species Act. If so, the USACE must consult with the USFWS before they make a permit decision. LPA is required to submit a Biological Evaluation describing the species in the area, the impact the project may have on the species and measures LPA will take to minimize impacts to these species and their habitat.

Processing time for individual permits can range from six (6) to twenty-four (24) months. Nationwide permits are usually processed within three (3) to six (6) months, though it can take up to twelve (12) months. The timeframe is dependent on the complexity of the impacts on aquatic resources, endangered species, archeological or tribal concerns, and workload.

5.11.4 Navigable Waterways - Section 9 Permit

If applicable, it is LPA responsibility to obtain a Section 9 Permit as required by the USCG for construction, modification, replacement, or removal of any bridge or causeway over a navigable waterway. The legal reference is Section 9 of the Rivers and Harbors Act of 1899, as amended. Its purpose is to ensure that a project will not interfere with navigation on US navigable waterways. This permit is obtained for construction of projects along portions of the Missouri River. [US Coast Guard Section 9 Permit](#)

5.11.5 USFWS and Incidental Take Permit or Statement

Regional USFWS offices administer endangered and threatened species permits/statements under the Endangered Species Act. Permits may be issued to qualified applicants for the following types of activities:

- Enhancement of survival associated with Safe Harbor Agreements and Candidate Conservation Agreements with Assurances
- Incidental take associated with Habitat Conservation Plans, recovery
- Interstate commerce

- Other projects which will not result in jeopardy to a listed species

These offices may also administer permit activities involving bald and golden eagles, as authorized by the Bald and Golden Eagle Protection Act and migratory birds (*Migratory Bird Treaty Act*).

5.12 Environmental Commitments

Environmental commitments are promises that are made to coordinating resource agencies by LPA in return for approval of the project. All environmental commitments (if any) must be included and detailed in all applicable NEPA environmental documents.

Mitigation measures are design commitments made during the environmental evaluation and study process that serve to moderate or lessen negative impacts of the proposed action. Prior to committing to any mitigation efforts, LPA must assure constructability. Failure to follow through with the project environmental commitments could result in the revocation of the NEPA document approval by FHWA, federal funding, and/or revocation of the permit by the COE.

5.13 Environmental Assurance

The LPA is responsible for assuring that all commitments made in the NEPA document and all stipulations agreed to among agencies throughout the environmental phase are completed, addressed, accomplished through the construction contracts, and/or included in the PS&E contract. The LPA is also responsible for coordinating and tracking these commitments through design, construction, and maintenance.

Failure by the LPA to comply with permitting stipulations or commitments will result in citations for permit violations by the federal, state, or local regulatory agency. Violations result in delay of construction, work stopping, fines, and/or possible criminal actions. It is also a possibility that federal monies may have to be returned if a project does not comply with regulations.

5.14 Chapter Summary

LPA can achieve significant benefits by incorporating environmental and community values into transportation decisions early in project development. The environmental and public involvement phase is crucial to a successful context sensitive design and construction project, and it is critical to ensuring participation in funding and partnerships with FHWA. By carrying these considerations through project development and delivery, a LPA project will yield benefits such as the following:

- **Relationship-building benefits:** By enhancing inter-agency participation and coordination efforts and procedures, transportation agencies can establish more positive working relationships with resource agencies and the public. This pays dividend on future phases of the immediate project, as well as future projects within the program.
- **Process efficiency benefits:** Improvements to inter-agency relationships may help to resolve differences on key issues as transportation programs and projects move through the development phases (planning, environmental, design, and implementation). Reduce duplication of work, leading to reductions in costs and time requirements, thus moving through the project development process faster and with fewer issues.

- ***On-the-ground outcome benefits:*** When transportation agencies conduct activities equipped with information about resource considerations and in coordination with resource agencies and the public, they are better able to manage transportation projects that serve the community's transportation needs more effectively. This leads to smaller negative impacts and incorporates more effective environmental stewardship. Long-term these efforts aid in better transportation programs.

Finally, the LPA can maintain success throughout the remaining developmental phases by incorporating environmental and community values into design and construction. LPA is responsible to ensure public involvement and consultations continue and that all commitments are taken care of through the construction project phase and mitigation monitoring if required.

5.15 Federal Laws, Regulations, and Guidance Materials

General

- Council on Environmental Quality Regulations
- National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321 et seq.
- Department of Transportation Act of 1966, Section 4(f)
- Federal-Aid Highway Act of 1970, 23 U.S.C 109, particularly section (h) - Economic, Social, and Environmental Effects
- Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991
- Transportation Efficiency Act for the 21ST Century (*TEA-21*), P.L. 105-178
- Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (*SAFETEA-LU*), P.L. 109-59
- Freedom of Information Act.

Physical Environment

- Clean Air Act Amendments of 1990 (*CAAA*)
- Clean Water Act of 1977 and 1987
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (*CERCLA*)
- Federal Water Pollution Control Act of 1972 (*see Clean Water Act of 1977 & 1987*)
- Federal Land Policy and Management Act of 1976 (*Paleontological Resources*)
- Hazardous and Solid Waste Amendments (*HSWA*) of 1984 (*see Resource Conservation and Recovery Act of 1976*)
- Noise Control Act of 1972
- Pollution Prevention Act of 1990
- Resource Conservation and Recovery Act of 1976 (*RCRA*)
- Safe Drinking Water Act of 1944, as amended
- Solid Waste Disposal Act (*see Resource Conservation and Recovery Act of 1976*)
- Superfund Amendments and Reauthorization Act (*SARA*) of 1986

Natural Environment

- Emergency Wetlands Resources Act of 1986

- Endangered Species Act of 1973
- Executive Order 11990, Protection of Wetlands
- Executive Order 12962, Recreational Fisheries
- Executive Order 13186, Migratory Birds
- Fish and Wildlife Coordination Act of 1934, as amended
- Marine Mammal Protection Act of 1972, as amended
- Marine Protection Research and Sanctuaries Act of 1972, as amended
- Migratory Bird Treaty Act
- Water Bank Act Wetlands Mitigation Banks, ISTEA 1991, Sections 1006-1007
- Wildflowers, Surface Transportation and Uniform Relocation Act of 1987 Section 130

Special Status Land Use

- Coastal Zone Management Act of 1972
- Coastal Zone Management Act Reauthorization Amendments of 1990
- Executive Order 11988, Floodplain Management
- Flood Disaster Protection Act
- Land and Water Conservation Fund Act of 1964, as amended Section 6(f)
- National Trails System Act
- Rivers and Harbors Appropriation Act of 1899, Sections 9 and 10
- Wild and Scenic Rivers Act of 1968, as amended
- Wilderness Act of 1964

Community

- American Indian Religious Freedom Act of 1978
- Executive Order 12898 - Environmental Justice
- CEQ Guidance - Environmental Justice (1997b)
- Executive Order 13166 - Improving Access to Services for Persons with Limited English Proficiency
- Farmland Protection Policy Act of 1981
- Public Hearings, 23 U.S.C. 128
- Title VI of the Civil Rights Act of 1964, as amended
- Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended

Cultural Resources

- Act for the Preservation of American Antiquities (1906)
- Archaeological and Historical Preservation Act of 1974
- Archeological Resources Protection Act of 1979
- Executive Order 11593 - Protection and Enhancement of Cultural Environment (1971)
- Executive Order 13007 - Indian Sacred Sites (1996)
- Executive Order 13287 - Preserve America (2003)
- Historic Bridges, Surface Transportation and Uniform Relocation Act of 1987 Section 123(f)
- Historic Sites and Buildings Act of 1935

- National Historic Preservation Act of 1966, as amended (Section 106)
- Native American Graves Protection and Repatriation Act of 1990
- Reservoir Salvage Act of 1960

5.16 Review Agencies

US Environmental Protection Agency Region 4 Environmental Assessment Staff 100 Alabama Street Atlanta, GA 30303-3104	Alabama Dept of Economic and Community Affairs (ADECA) Planning and Economic Division Review 401 Adams Avenue Montgomery, AL 36130
Director Office of Environmental Planning and Compliance US Department of Interior 1849 C Street NW MS-2340 Washington, DC 20240	USGS Water Resources Division US Department of Interior 2350 Fairlane Drive, Suite 120 Montgomery, AL 36117
Chief, Environmental Impact Assessment USGS, US Department of Interior 12201 Sunrise Valley Drive Reston, VA 20192	Conservation Chairman Alabama Chapter Sierra Club PO Box 395 Double Springs, AL 35553
Chief, Traffic Safety Division ADECA 401 Adams Avenue Montgomery, AL 36130	Director, Soil Conservation Service USDA PO Box 311 Auburn, AL 36830
Corporate Real Estate Alabama Power Company PO Box 2641 Birmingham, AL 35291	Assistant to the Director Council on Arts and Humanities 201 Monroe Street, Suite 110 Montgomery, AL 36130
Supervisor, US Forest Service USDA 2946 Chestnut Street Montgomery, AL 36107	Director, Geological Survey of Alabama Alabama Oil and Gas Board PO box 869999 Tuscaloosa, AL 35486-6999
Director Alabama Dept of Industrial Relations 649 Monroe Street Montgomery, AL 36130	Director Alabama Dept Tourism and Travel 401 Adams Avenue, Suite 126 Montgomery, AL 36104
Project Manager FAA/Airports District Office 100 West Cross Street, Suite B Jackson, MS 39208-2307	Alabama Forestry Commission 513 Madison Avenue Montgomery, AL 36130
Superintendent Alabama Department of Education 50 North Ripley Street Montgomery, AL 36130-2101	ADEM Water Division Mining and Nonpoint Source 1400 Coliseum Boulevard Montgomery, AL 36130
Director, Alabama Development Office 401 Adams Avenue 6 th Floor Montgomery, AL 36130-4106	Director, Alabama Emergency Mgmt PO Box 2160 Clanton, AL 35046
Chairman, Transportation Committee	Cahaba River Society

The Alabama Conservancy 1920 Rosalie Ridge Huntsville, AL 35811	2717 7 th Avenue South, Suite 205 Birmingham, AL 35233
US Dept Housing Urban Development 950 22 nd Street N, Suite 900 Birmingham, AL 35203-5302	Attorney General of Alabama 11 South Union Street Montgomery, AL 36130
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Chapter 6.0

Design

6.1 Introduction

Project construction plans and specifications must provide for a facility that will adequately meet the existing and planned future traffic in a manner conducive to safety, project economics, durability, environmental compatibility, and economy of maintenance. This chapter presents the design standards the LPA or their consulting engineer must use when designing a project and summarize the key design elements. The LPA will be responsible for determining the appropriate design parameters for the project while using good engineering judgment. The LPA RC shall gather all the engineering and environmental input required to provide a complete and acceptable PS&E plan package.

ALDOT has an operational as well as administrative responsibility to require that plans and specifications used in bid letting and construction of LPA projects are sufficient for doing so in accordance with the provisions of the various federal and state funding acts, legislation, programs, and agreements that are applicable to the respective project types and funding sources. To that end, ALDOT Division or designated Central Office personnel will review and comment on bid packages (including all plans and specifications) before notifying the LPA that they may proceed with bid advertisement. Bid package reviews will vary in scope and detail, depending on project type and funding sources. ALDOT staff will comment on possible problems, potential conflicts, or inconsistencies during the review process, **but this will not relieve the LPA of full responsibility for the adequacy, accuracy, and completeness** of the plans and specifications prepared by or for them.

ALDOT will review all LPA project plans, specifications, and engineer's estimates for projects to be bid.

Potential LPA applicants, consultants, contractors, local officials, and interested parties should view various form and document downloads available on the Design Bureau website. Some key document links are included here:

[Design Bureau](#)

[Roadway Plans Preparation Manual \(Dec 2008\)](#)

[Guidelines for Operations \(June 2013\)](#)

[Guide for Developing Construction Plans \(Sept 2013\)](#)

[Stormwater Guidance](#)

Note: LPA applications for *Capacity* projects (adding lanes) must be reviewed and approved by the Chief Engineer. If an application includes design specifications for two-way, continuous left-turn lane(s), that also must be reviewed and approved. Since 2009, as part of a working arrangement with FHWA-Alabama Division, Bureau of Transportation Planning and Modal Programs has not allowed two-way, continuous left-turn lane, project *descriptions* be used in MPO formal planning documents, including Long Range Plans and Transportation Improvement Programs, citing safety concerns. It

is recognized that two-way, continuous left-turn lanes are currently in use in Alabama, but application is now restricted for use as a *specific location solution* and only at Division request.

6.2 Types of Project Improvements

The design of the project will vary based on the type of improvement. The typical improvement types include:

6.2.1 New Construction

New construction is an improvement to build a road, trail, and/or bridge on completely new alignment. This might take the form of a bypass constructed to carry through traffic around a town or it might be a new access route linking an existing roadway with a new recreational facility.

The project must be constructed to full geometric standards to fulfill both the current as well as long-term transportation needs of the area.

6.2.2 Reconstruction

Reconstruction is defined as rebuilding an existing facility along an existing alignment to include the pavement and base or replacing a bridge superstructure. Reconstruction may involve making substantial modifications to the existing roadway or trail horizontal and vertical alignment, including alignment shifts, in order to improve safety and traffic operations. Reconstruction work normally involves a substantial construction effort to rebuild the existing facility to, at, or near full geometric and safety standards to provide long-term, multi-modal transportation performance. The complete spectrum of design deficiencies and functional obsolescence of the roadway and structures, as well as the future transportation needs, should be addressed by this level of upgrading. Typical work includes roadway and shoulder widening, grading of a safety section, realignment, access improvement, and replacement of bridges. While reconstruction approximately follows an existing road corridor, it may deviate significantly in width and alignment from the present road to achieve the project's purpose and need and achieve full geometric standards. This type of improvement could involve:

- Addition of a through lane(s);
- Significant change in horizontal and/or vertical alignment;
- Reconstruction of an interchange by adding lanes or relocating ramps (widening ramps for storage, turning movements or ramp metering are not included);
- Replacement of an entire bridge including the substructure and foundation; and
- Replacement of the pavement, including removal of substantial modification to the base. Replacement of the pavement without replacing the base or significant adjustment of the vertical profile shall be considered rehabilitation as described below.

6.2.3 Resurfacing, Restoration, Rehabilitation (3R)

3R projects focus primarily on the preservation and extension of the service life of existing facilities and on safety enhancements. The improvements, whether only at spot locations or continuous, should acceptably meet existing and preferably future (i.e., 10 to 20 years) traffic needs and conditions in a manner conducive to safety, durability, and economy of maintenance. A 3R project rarely addresses all the deficiencies of the roadway or trail. Some potential problem areas or substandard features may remain to be addressed as part of a future reconstruction.

Under the classification of 3R projects, the types of improvements to existing Federal-aid facilities include, but are not limited to: resurfacing, pavement structural and joint repair, minor lane and shoulder widening, minor alterations to vertical grades and horizontal curves, upgrading guardrail, bridge repair, and removal or protection of roadside obstacles. Specifically, 3R work typically involves pavement improvement (down to but not including the base course) and is generally described as the following:

- Resurfacing generally consists of placing additional surface over a structurally sound roadway or bridge that requires treatment to extend its useful service life;
- Restoration means returning a road, structure, trail, or collateral facility to the as-built condition existing after original construction or reconstruction; and
- Rehabilitation implies providing some betterment, such as widening shoulders.

Pavement rehabilitation consists of "structural enhancements that extend the service life of an existing pavement and/or improve its load carrying capacity." (Source: AASHTO Highway Committee on Maintenance)

As there is no separate minimum design standard for 3R projects on the local system shown in the Minimum Design Standards, the minimum standards are the same as for new construction and reconstruction.

When the pavement condition reaches its minimal service level, there is a need for cost-effective pavement and roadway improvement projects. 3R projects reflect and emphasize economic management of the roadway or trail system and provide an opportunity for the LPA to provide cost effective safety improvements. Therefore, economic considerations will largely determine the scope of work. The following are factors that may influence the scope of a 3R project:

- Pavement conditions;
- Roadside conditions;
- Funding constraints;
- Environmental concerns;
- Changing traffic and land use patterns;
- Traffic data; and
- Crash data.

The limits of construction for resurfacing projects are generally within the existing roadbed bench, consisting of the roadway surface and subsurface, adjacent fore slope, and ditch. Rehabilitation and restoration projects can and often do involve the widening of shoulders or flattening of side slopes to meet design requirements. Acquisition of additional ROW to construct 3R improvements is sometimes necessary. Horizontal and vertical alignment modifications, if any, should be minor and should be consistent with the geometry of adjoining roadway and trail segments. However, the proposed work on the roadway will typically affect the fore slopes from the edge of pavement to the hinge point of the fill slope and to the bottom of ditch slopes. A 3R project shall not reduce the existing geometrics of the roadway section and shall not reduce the safety at the intersection.

6.2.4 Preventive Maintenance

Preventive Maintenance is a planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without significantly increasing the structural capacity).

Preventive maintenance will preserve the pavement and bridge structure and extend the pavement and bridge life to achieve, at a minimum, the design life of the facility. Preventive maintenance is typically applied to pavements in good condition having significant remaining service life. As a major component of pavement preservation, preventive maintenance is a strategy of extending the service life by applying cost-effective treatments to the surface or near-surface of structurally sound pavements. Examples of preventive pavement treatments include asphalt crack sealing, chip sealing, slurry or micro-surfacing, thin and ultra-thin hot-mix asphalt overlay, concrete joint sealing, diamond grinding, dowel-bar retrofit, and isolated, partial and/or full-depth concrete repairs to restore functionality of the slab. Examples of preventive bridge treatments are crack sealing, joint repair, scour countermeasures, overlays, and painting.

6.2.5 Landscaping/Streetscaping

Landscape is used to define all parts of the exterior environment including vegetation, walks, drives, walls, fountains, and possibly street lighting. Landscape design can serve several important functions within the roadway environment. In addition to making the roadway more aesthetically pleasing, landscaping can also be used as a form of erosion control to preserve the natural environment and minimize maintenance requirements and costs. Streetscape refers to the visual image of a street, including the buildings, paving, utilities, signs, street furniture, plantings, and other design elements. The most important component of this is to strengthen the linkages between healthy neighborhoods and viable neighborhood commercial corridors.

6.3 Design Criteria

Current FHWA and AASHTO guidelines, such as flexibility in Highway Design (found at [FHWA Highway Design Standards – AASHTO Green Book](#)), are about designing projects that balance the needs of the transportation user with the context of the facility. This requires an understanding of social, economic, and environmental concerns and effects, as well as the concerns and effects for capacity, speed, safety, quality, and efficiency. Achieving an

appropriate balance of the needs of the transportation facility users with values of the environment and communities that are affected involves seeking Context Sensitive Solutions (CSS) and applying innovative decision-making approaches to the project development, design, and delivery process. Refer to [NCHRP Report 480](#), A Guide to Best Practices for Achieving Context Sensitive Solutions.

Design criteria are developed to provide a systematic means of achieving quality roadway design in a uniform manner. Geometric design standards relate to the functional classification of roadways, types of users, traffic density and character, design speed, capacity, safety, terrain, and land use. These criteria incorporate basic design considerations and design controls for various types of improvements.

The existing geometric elements of a roadway are used to describe in conventional engineering terms the physical, structural, safety, and operational characteristics of the facility. While a number of elements of design (i.e., stopping sight distance, grades, horizontal/vertical alignment, super-elevation) must be established to develop a roadway design, only a few controlling elements are essential to evaluate it at the conceptual stage. Roadway width (i.e., lanes, shoulders), design speed, surfacing type and alignment location, or new corridor location, if applicable, are the main criteria for studying roadway alternatives. Other than for roads entirely on new location, these criteria for studying roadway alternatives consists of an inventory of the physical features and operational characteristics of the existing roadway. Most of this information may be available in road monitoring reports and/or planning/inventory studies the LPA or the ALDOT may have developed. In addition to reviewing any available As-built plans and reports, the LPA and their engineer should determine and verify through field inspections the road's length, width, surfacing type, traffic control devices, and roadside features along with their current condition. The LPA should evaluate the available sight distance along the roadway and at intersections, and identify discernible sight distance restrictions.

Figure 6.1 provides an illustration of typical rural cross section elements; **Figure 6.2** shows a recoverable roadside including clear zone and **Figure 6.3** shows a typical urban cross section element.

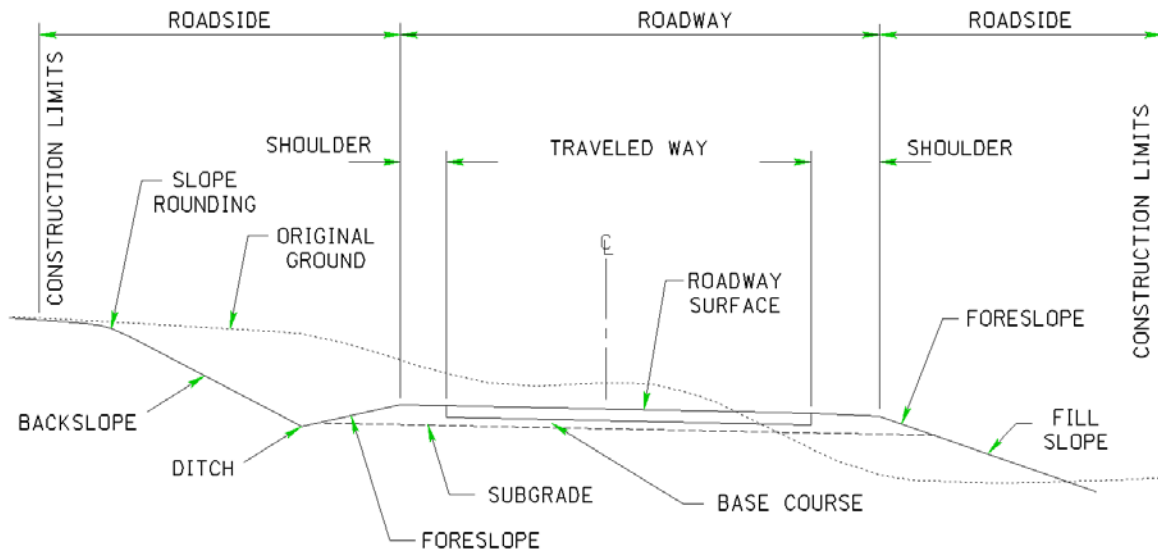


Figure 6.1 Typical Rural Cross Section Elements

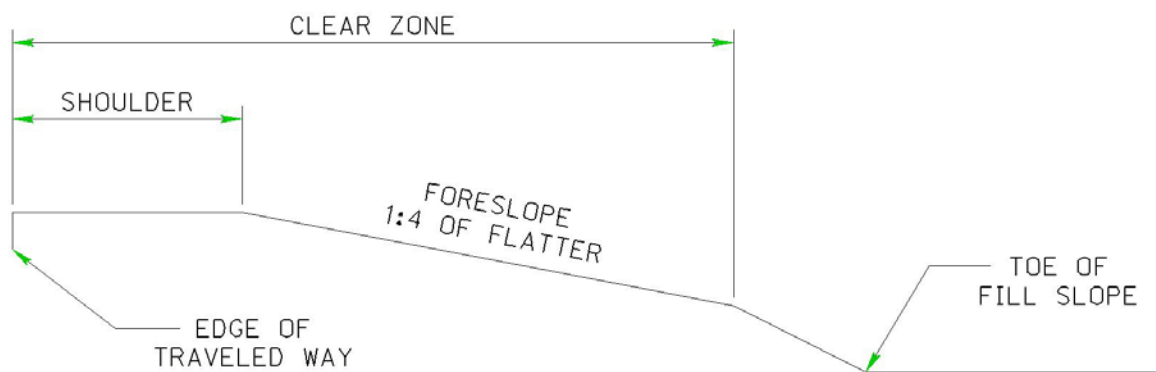


Figure 6.2 Recoverable Roadside Clear Zone

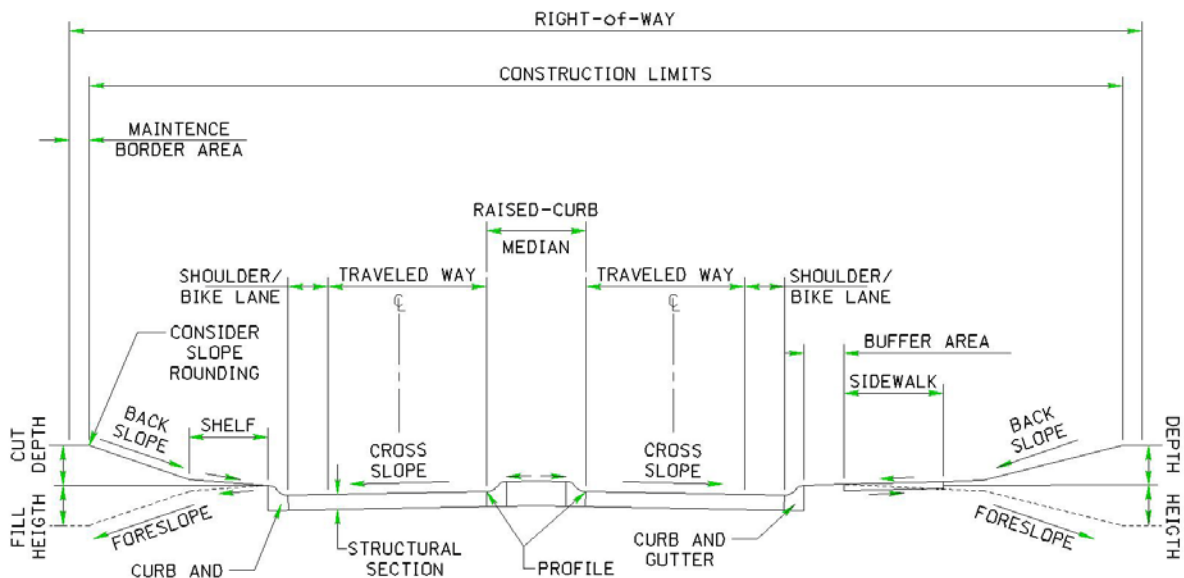


Figure 6.3 Typical Urban Cross Section Elements

Project design should be done to a consistent standard. The LPA should evaluate the route between major termini to assure uniformity in the application of design features on the overall route that may be constructed or reconstructed in stages. The LPA should identify contextual features and qualitative aspects of each project early in the design process, before design standards are selected, and consider them throughout the design process.

FHWA has adopted policies and standards for Federal-aid roadway design that recognize these concepts. The policies and standards are listed in 23 CFR Part 625 - Design Standards for Highways. These standards adopt AASHTO policy for projects on the National Highway System (NHS) and refer to the approved State or local design guidelines, standards and procedures for non-NHS projects.

It is important the LPA recognize that any projects located on the NHS, regardless of the funding source, are to be developed in compliance with a number of AASHTO publications including "A Policy on Geometric Design of Highways and Streets" (Green Book). Although the Green Book was developed as a guide and not a standard, FHWA has adopted it as their applicable standard for new or reconstructed projects. For 3R type activities, the Green Book references TRB Special Report 214, Designing Safer Roads. 23 CFR Part 625 also specifies that there is no provision for 3R Standards on the Interstate or freeway system, although specific 3R criterion for the Interstate system is noted in the AASHTO publication A Policy on Design Standards – Interstate System.

Federal-aid projects not on the NHS are to be designed, constructed, operated, and maintained in accordance with State laws, regulations, directives, safety standards, design standards, and construction standards. These projects must, as a minimum, be designed to comply with the Alabama Board of Public Roads Classifications and Standards - Alabama Minimum Design Standards and applicable Federal laws, rules, and regulations. The LPA should consider higher than minimum values for the geometric design standard if analyses of design traffic volumes, percent truck traffic, level of pedestrian, bicycle or transit use, safety performance, level of service (LOS), future transportation needs, or other factors, either separately or in combination, indicate such values are appropriate.

LPAs may use their specifications, special provisions, or supplemental specifications on a project. However, the LPA must have these documents reviewed and approved by ALDOT prior to bid advertisement. The LPA must assure, and ALDOT must certify, that all project documents and processes followed meet Federal regulations and requirements. Typically, the use of plans, specifications, special provisions, or supplemental specifications, other than ALDOT specs, will be approved as part of the Plan-In-Hand submittal. However, for program consistency, it is recommended that the LPA use ALDOT processes, plans, specifications, special provisions, or supplemental specifications on a project.

Reference materials, standards, and criteria can be found in the following publications:

American Association of State Highway and Transportation Officials (AASHTO)

- A Policy on Geometric Design of Highways and Streets, 2004 Edition;
- A Policy on Design Standards, Interstate System;
- A Guide for Achieving Flexibility in Highway Design;
- A Policy on the Accommodation of Utilities within Highway Right-of-Way;
- Guide for Design of Pavement Structures;
- Highway Drainage Guidelines;
- Guide for Roadway Lighting;
- Roadside Design Guide;
- Guide for the Development of Bicycle Facilities;
- Geometric Design of Very Low Volume Local Roads (ADT<400);
- Guide Specifications for the Design of Pedestrian Bridges; and
- Guidelines for Landscaping.

Transportation Research Board (TRB)

- Highway Capacity Manual; and
- Designing Safer Roads (Practices for Resurfacing, Restoration and Rehabilitation), Special Report 214, Transportation Research Board.

Federal Highway Administration

- Manual of Uniform Traffic Control Devices (MUTCD);
- 49 CFR Part 27 and Designing Sidewalks & Trails for Access, Part II;
- 23 CFR Part 625 Design Standards for Highways;
- 23 CFR Part 650 Bridges, Structures, and Hydraulics;
- Flexibility in Highway Design;
- Federal Aid Policy Guide – Non-Regulatory Supplement NS CFR 23 625, Information on Application of Design Standards, Uniform Accessibility Standards, and Bridges; and
- Designing Sidewalks and Trails for Access.

Alabama Department of Transportation

- Drainage and Erosion Control Manual;
- Roadway Design Manual;
- Bridge Office Policies and Procedures;
- Standard Specifications for Highway Construction;
- Standard Item Listing;
- Right-of-Way Acquisition Guide for LPAs;
- Standard Plans; and
- Supplement to the Manual on Uniform Traffic Control Devices (MUTCD).

Alabama Board of Public Roads Classifications and Standards

- Alabama Board of Public Roads Classifications and Standards - Alabama Minimum Design Standard.

American with Disabilities Act (ADA)

- 28 CFR Part 35 – Nondiscrimination on the Basis of Disability in State and Local Government Services;
- Americans with Disabilities Act Accessibility Guidelines (ADAAG); and
- Public Rights-of-Way Accessibility Guidelines (PROWAG). [Accessibility Guidelines](#)

Other Publications

- Secretary of the Interior's Standards for the Treatment of Historic Properties. (60 FR 35.843);
- The 1995 Standards for the Treatment of Historic Properties regulations 36 CFR 68; and
- Evidencing Alabama Land Titles (Alabama Land Titles Association)

Many of these documents are available on various websites, and the ALDOT LPA Project Coordinator can assist the LPA in obtaining copies of applicable guidelines and standards upon request. The ALDOT Division LPA Project Coordinator will review and check the design plans to

ensure proper design. Any variances to these guidelines must be approved by ALDOT prior to preparation of the final plans. To request a design relaxation, the LPA must contact and work with the ALDOT Division LPA Project Coordinator.

6.4 Preliminary Design

There are several types of project plans which occur at various stages of preliminary design. The LPA will be required to prepare and submit a set of plans at each stage of the design. The various project plan types may include:

- Preliminary Design Plans (30-60%, used for the plan-in-hand field inspection);
- Functional Plans (60%, required for design public meetings/hearings); and/or
- Final Plans (100%, PS&E Package).

Consult with the ALDOT LPA Project Coordinator to help determine the type of plans to be submitted for the project. The plans will be thoroughly checked for completeness, accuracy, and formatting by ALDOT, and/or FHWA.

Preliminary design is the amount of design work necessary to acceptably complete the environmental document. The amount of design will depend on the complexity of the project and its effects on the environment. The preliminary design phase involves developing the engineering design and evaluation in collaboration with the various functional disciplines including ROW, surveys and mapping, environment, safety, roadway design, pavements, hydraulics, geotechnical, structural design, and construction, to support the identification of a preferred alternative and the decision-making process.

This phase may include developing multiple alignment configurations, roadway templates, pavement structures, roadside features, or other alternatives for evaluation. The preliminary design is typically developed to approximately the thirty (30) percent level of final design but may be developed to a greater extent to address the environmental review process. This phase typically includes identification of a detailed scope of engineering activities, estimated costs, and a project delivery plan for implementing the proposed project and achieving the project objectives on schedule and within budget. The preliminary design phase is performed in conjunction and concurrently with the environmental process.

Note: LPAs will not proceed to Final Design until ALDOT ETS determines the environmental process has been completed.

For example, projects such as 3R, isolated bridge replacements and other projects constrained by a limited or scope, the preliminary design and technical engineering activities may include:

- Develop survey and mapping for preliminary engineering and environmental activities;
- Develop design criteria for each alternative being considered;
- Develop initial alignments, typical sections and roadway design for each alternative;
- Determine proposed pavement structure options;

- Develop preliminary technical discipline recommendations, as applicable (e.g., cut/fill slopes, walls, major culverts, bridge foundations);
- Develop resource mapping and identify potential impacts of each alternative;
- Provide design information for the environmental analysis, such as: areas of impact, preliminary earthwork quantities, waste and staging areas, material source plans, preliminary drainage designs, bridge layout, ROW exhibits, construction phasing and closure schedules, and cost estimates; and
- Provide design information for other analyses, such as for a Value Engineering Analysis for projects costing \$25 million or more and \$20 million for any bridge project.

Deliverables or outputs from the preliminary design process may include:

- Feasibility study, if applicable;
- Plan-in-Hand report;
- Thirty (30) percent preliminary plans of the design alternatives (e.g., plan/profile sheets, typical sections, major work items identified and located); and
- Preliminary construction cost estimates for the design alternatives.

6.4.1 Traffic Characteristics

Traffic characteristics play a major role in establishing the concept and design of a roadway.

Traffic indicates the type of service for which the improvement is being made and directly affects the criteria for geometric design features (e.g., widths, alignment, grades). Basic traffic data (e.g., average daily traffic, vehicle classification, percent heavy trucks) can be readily obtained and provides a benchmark for traffic data in the study area. If traffic data is not available, the LPA should develop it by counting and analyzing existing traffic and their use patterns. If information is needed to verify the functional classification or other design controls, the LPA should obtain information on the user's origin and destination patterns and their functional use of the roadway.

Some common traffic data elements are listed below. Note that not all items listed are required for every project and can vary depending on specific project requirements:

- Average Annual Daily Traffic (AADT). The total yearly volume of automobiles and trucks divided by the number of days in the year;
- Average Daily Traffic (ADT). The calculation of average traffic volumes in a time period within the year, greater than a single day and less than one year;
- Peak-Hour Traffic (PH). The highest number of vehicles passing over a section of roadway during 60 consecutive minutes. Non-peak-hour traffic is representative of other times;
- Peak-Hour Factor (PHF). A ratio of the total volume occurring during the peak hour to the maximum rate of flow during a given time period with the peak hour (typically 15 minutes);

- Design Hourly Volume (DHV). The one-hour volume in the design year selected for determining the roadway design;
- K-factor (K). The K-factor is the percent of daily traffic that occurs during the peak-hour. A rule of thumb for rural roadways is approximately 11% of the ADT;
- Traffic Growth Rate. The trends and growth rates, past, and projected;
- Classification of Vehicles. Percent passenger vehicles, trucks, buses, recreational vehicles, etc.;
- Directional Split. Percentage of the design volumes in either direction;
- Turning movements. Traffic volumes of vehicles making allowable turns at major intersections, typically expressed as a portion of the DHV;
- Congestion data. Speed, density, volume, headway, percent of time following, and level of service data at identified traffic congestion areas;
- Speed and delay data. Measurements of operating speeds, running speeds, and amount of delay to vehicles at intersections; and
- Conflict study data. The identification of potential conflict points at intersections and the associated numbers of vehicles exposed to the potential conflicts.

As a minimum to designing a project, the LPA will need to determine the current ADT volume for the roadway, and then project that ADT to the design year. Studies to determine future traffic are not normally necessary on very low volume roads where even high-percentage increases in traffic do not significantly impact design decisions. The design year is typically projected twelve (12) or twenty (20) years into the future. Projecting the traffic data is known as "Traffic Forecasting." Traffic forecasting can be complicated. The LPA needs to realize that the historic growth rate of traffic on a road may not continue unchanged after it is improved which can lead to significant miscalculations of its actual future traffic. In fact, traffic levels on an improved road may increase faster than anticipated as drivers seek to take advantage of its better driving conditions.

The traffic forecasting process begins with the collection of data on current traffic on the facility and throughout the region, followed by the calculation of expected growth in traffic for the region in general. This base case regional traffic projection should reflect expected economic, demographic, and land use trends, based on historic and projected relationships between these factors and regional traffic growth.

Data on expected regional traffic growth can then be entered into the region's travel demand model to simulate regional traffic flows with and without the new roadway capacity. MPOs and States typically maintain the travel demand models for planning purposes. Most travel demand models now in use are effective at measuring the extent to which existing network traffic will divert to new capacity which is a major source of new traffic on improved roads. Other traffic responses can be approximated even when they are not measured explicitly by the models. For instance, the models can be manipulated, through various feedback adjustments, to simulate the effects of mode shifts and alternative destinations chosen by regional travelers in response

to a reduction in congestion. Although not explicitly captured in most travel demand models, the shifting of traffic to and from peak periods as congestion levels change can be estimated using supplemental methods. Identify any areas that are being considered for new traffic patterns, directional signing, revised pavement markings, and other change to traffic control devices that benefit traffic operations.

The AASHTO Green Book, Chapter 2, Traffic Characteristics section, provides a description of various traffic characteristics (e.g., volume, directional distribution, composition of traffic projections, speeds). While this information may have a greater bearing on design details, conceptual studies and associated alternative analyses are also dependent on overall traffic data. Sometimes traffic data (e.g., operating speeds, travel time and delay, occupancy rates) are needed to address a special issue (e.g., determining the design speed or the need for passing lanes). If traffic characteristics data is unavailable, the LPA should conduct a traffic study as described in the ITE Transportation and Traffic Engineering Handbook to collect this information.

6.4.1.1 Crash Data

The LPA should obtain the current traffic crash data for the project area. Vehicular crash data can provide excellent guidance in determining a road's past safety performance problems. If the LPA does not have these data and statistics readily available, they may be available from ALDOT, the Alabama State Patrol, or local law enforcement agencies responsible for the area. When this type of data is not immediately available, conduct a short-term traffic safety study or an assessment of crash potential. The crash history should cover a minimum of three years data for the roadway. If a formal traffic study is not available, anecdotal information from responsible sources can provide insight as well.

Figures for crash rates should be shown in crashes per million vehicle miles traveled. Figures for fatality rates should be shown in fatalities per one hundred million vehicle miles traveled.

6.4.2 Design Elements

Basic design controls serve as the foundation for establishing the physical form, safety, and functionality of the facility. Some design controls are inherent characteristics of the facility (e.g., its context and the transportation demands placed upon it). Other design controls are selected or determined in order to address a project's purpose and need. Selecting appropriate values or characteristics for these design controls is essential to achieve a safe, effective CSS. The LPA should evaluate the following design controls to understand the factors influencing the design and to determine the applicable criteria for establishing the standards for the project:

- Contextual factors and environmental constraints;
- Functional classification;
- Topography within the corridor;
- Location (e.g. rural or urban);
- Existing and expected traffic volumes and composition (e.g. ADT);

- LOS and mobility;
- Level of access and management;
- Cross section type and level of multi-modal accommodation;
- Existing and expected users and their characteristics;
- Existing and expected speed characteristics;
- Existing and expected safety performance; and
- Other technical factors such as geotechnical, hydraulic, pavement, structural, etc.

The FHWA has designated thirteen (13) geometric controlling criteria with a primary importance for safety in the selection of design standards for roadway and bridge projects and four (4) supplemental standards. The thirteen (13) controlling criteria are:

- Design Speed;
- Grades;
- Lane Width;
- Sight Distance;
- Shoulder Width;
- Cross Slopes;
- Bridge Width;
- Super-elevation;
- Horizontal Alignment;
- Lateral Clearance to Obstruction;
- Vertical Alignment;
- Vertical Clearance; and
- Structural Capacity.

Deviations that result in design values less than the minimum or greater than the maximum standards for any of the 13 geometric controlling criteria require the LPA to obtain formal approval by either ALDOT or FHWA in the form of a design relaxation (design exception) in accordance with the procedures described in Section 6.5 of this chapter.

6.4.2.1 Design Speed

Design speed is the safe speed that can be maintained when conditions are so favorable that the design features of the facility govern the speed a motorist is likely to use to traverse the roadway. The desirable design speed for a roadway project is the anticipated operating speed limit for the roadway.

The minimum design speed is the design speed shown in the Alabama Minimum Design Standards or the anticipated posted speed limit, whichever is greater. The LPA should establish the overall design speed to be used for their project (e.g., mainline, intersecting collectors, frontage/access roads, turnouts). For example, if the design speed from the Alabama Minimum Design Standards is 50 mph and the anticipated posted speed of the roadway is 55 mph, the LPA shall use a design speed of 55 mph on the project. In the event that a design exception is required for design speed and results in a reduction in stopping sight distance, the LPA shall design appropriate warning devices into the project to be placed to warn the driver.

Rural roadway projects should be designed to one design speed.

6.4.2.2 Sight Distance

Stopping Sight Distance (SSD) is defined by AASHTO as the distance needed for drivers to see an object on the roadway ahead and bring their vehicles to a safe stop before colliding with the object. It is the sum of the distance traversed by a vehicle from the instant the driver sees an object necessitating a stop to the instant the brakes are applied (brake reaction distance) plus the distance required to stop the vehicle from the instant brake application begins (braking distance). SSD is important for designing crest and sag vertical curves and for determining horizontal clearance on horizontal curves.

Decision Sight Distance (DSD) is the distance required for a driver to see a decision point or obstacle in the roadway environment, recognize that an action is required, choose the appropriate action (stop, accelerate, change lanes, etc.), and complete the chosen action. In visually cluttered environments such as interchanges, urban intersections, lane drops, and detours, the decision sight distance may be longer than the stopping sight distance.

Intersection Sight Distance (ISD) consists of the provision of sight triangles along each leg of an intersection, which are free of visual obstacles, giving a driver sufficient time and distance to avoid conflicts at the intersection.

Providing adequate SSD should be a priority during the design process. Locations along the roadway where adequate sight distance for the various listed maneuvers is not provided should be signed and/or marked according to accepted practice. There are complex realities of driver perception and behavior to be considered when evaluating sight distance problems and evaluate the sight distances available to support the various maneuvers (e.g., SSD, DSD, ISD, and Passing Sight Distance (PSD)). The roadway location may be divided into component sections based on specific driving demands (e.g. to perform a task or maneuver). The LPA should analyze each section in terms of its availability of sight distance to support the specific task or maneuver. The LPA should then compare the available sight distance with the required sight distance to safely perform the driving task. If there are locations where the stopping sight

distance cannot be addressed, describe where this occurs and any potential mitigation that could be incorporated into the design.

6.4.2.3 Lane Width

Through lane surface widths vary from nine (9) feet to twenty (20) feet. The normal lane width is twelve (12) feet and is determined by the roadway functional classification, traffic volumes and design speed. Minimum lane widths are presented in the Alabama Minimum Design Standards or the Green Book depending upon the facility being designed and type of improvement.

6.4.2.4 Shoulder Width

Shoulder widths vary from two (2) feet to twelve (12) feet and are determined by the roadway functional classification, traffic volumes, and design speed. Minimum shoulder widths are provided in the Alabama Minimum Design Standards or the Green Book depending upon the facility being designed and type of improvement. Where sidewalks are to be included in urban areas, a minimum ten-foot (10') shoulder width is desirable.

6.4.2.5 Bridge Width

Bridge width is the total width of all lanes and shoulders on the bridge measured between the elements of the bridge which project the farthest onto the roadway. The minimum bridge widths can be found in the Alabama minimum Design Standards, AASHTO Green Book, or Special Report 214 depending upon the facility being designed and type of improvement.

6.4.2.6 Grades

Grade is the rate of change of the vertical alignment expressed in percent rise (+) or fall (-). Grade affects the vehicle speed and control of vehicles, especially heavy commercial vehicles. The Board of Public Roads Classifications and Standards establishes maximum grades based on functional classification, type of improvement, design year traffic volumes, type of terrain, and design speed. Grades steeper than those shown in the Alabama Minimum Design Standards can only be used with ***an approved design exception***. Flatter than maximum grades should be used whenever possible. For roads on the NHS, the Green Book contains both minimum and maximum grades.

6.4.2.7 Cross Slopes

Crowned cross slopes are preferred for multi-lane divided interstates and expressways with depressed medians, to allow for proper drainage. For two-lane sections, the crowned typical section has the high point of the pavement located at the center of the travel lane and slopes to both shoulders, usually at 2%, minimizing the amount of storm water runoff on the roadway.

6.4.2.8 Super-elevation

Super-elevation is the rotation of the pavement on the approach to and through a horizontal curve. Super-elevation is intended to assist the driver in counteracting the lateral accelerations produced by tracking the curve. The minimum horizontal curve radius is limited by the design speed of the facility and by the maximum super-elevation rate (e_{max}) permitted. Selection of a maximum super-elevation rate depends on several factors. These factors include design speed,

location, climatic conditions, roadside conditions, future or ultimate development, roadway characteristics, facility type, and driver expectations.

Higher e_{\max} should be used for higher design speeds or friction demands. An e_{\max} of six (6) percent is typically recommended for higher design speeds, equal to or greater than 50 mph. In rural areas, the e_{\max} should typically be six (6) percent. In urban areas, the e_{\max} should typically be either four (4) or six (6) percent, due to the constraints imposed by adjacent development (e.g., intersecting curbs, sidewalks, driveways and streets).

In low-speed urban areas, less than 50 mph, the typical e_{\max} rates of four (4) or six (6) percent may not be desired or may be impractical. In such cases, the methodology used in the AASHTO Green Book under Horizontal Alignment, Theoretical Considerations may be used to balance the design elements of curves to minimize super-elevation. This method is based on an appropriate relationship between design speed and curvature and on their joint relationships with super-elevation and side friction. In such cases, the roadway may maintain a normal crown in curves so long as the resultant side friction demand is less than the allowable side friction factor, "f," for design (see the AASHTO Green Book, Exhibit 3-12).

In this part of the design, the LPA needs to:

- Determine the normal crown and maximum super-elevation of the roadway and curves;
- Determine if maximum super-elevation rates should vary, according to the elevation or climatic conditions on the project;
- Define the methodology for distribution of super-elevation on the curve and on the tangent and what the maximum and minimum rates are for various conditions.

6.4.2.9 Horizontal Alignment

Major considerations in horizontal alignment are safety, design speed, topography, the environment, and economics. Motorist' safety is important in all elements of roadway design. An alignment that follows the natural topography of the area generally provides the most aesthetically pleasing and most environmentally and economically constructed roadway. Other factors, such as maintenance considerations, may also influence selection of the final alignment. In urban and developed rural areas, ROW, and development considerations may have a greater impact on alignment.

ALDOT designs and designates horizontal curves based on the radius of the curve. The use of a minimum horizontal curve radius should be avoided, unless economically or environmentally necessary due to topographical conditions. Any change in direction with a deflection angle of 1 degree or greater will require a horizontal curve.

For the horizontal alignment, the LPA needs to establish the minimum radius to be used for each design speed and roadway section, and the requirements for SSD and PSD. Also, determine if there are horizontal clearance criteria constraints to be applied.

6.4.2.10 Lateral Offset to Obstruction

Lateral offset to obstruction (Clear Zone) is defined as the distance from the edge of the traveled way, shoulder, or other designated point to a vertical roadside element. The adopted criteria specify a minimum operational offset for all roadway conditions and classifications of 1.5 feet. Examples of these elements are curbs, walls, barriers, bridge piers, sign and signal supports, trees, and utility poles.

Lateral Offset can be thought of as an operational offset (vertical roadside elements offset) to the extent that they do not affect a driver's speed or lane position. Adequate clearance from mirrors on trucks and buses and for opening curbside doors should be provided. The LPA should attempt to provide an unobstructed, recoverable clear zone distance beyond the edge of the traveled way, as recommended by the AASHTO Roadside Design Guide for the applicable functional classification in urban or rural areas, traffic volume, speed, curvature, embankment and back slopes.

The LPA should determine the minimum clear zone distances commensurate with traffic volumes and speeds; however, the prescribed clear zone values represent only a general approximation of the needed clear zone distance. The effect of longitudinal grade, horizontal curves, drainage channels, and transverse slopes may influence the recommended clear zone distances. Engineering judgment must be used to determine how much clear zone to provide throughout the roadway corridor. The minimum clear zone distance values should be increased for horizontal curvature and for areas where there is a crash history or a relatively high potential for future crashes.

In cut areas, the clear zone should be extended to the back of the ditch, which may be a greater distance than is recommended elsewhere. Where minimum sight distance lines extend beyond the clear zone in rural areas, or in undeveloped urban areas, the design should be adjusted to maintain the necessary sight lines. For high-speed urban roadways with 50 mph or more posted speeds, the recommended clear zone distances apply. For low-speed urban roadways, the recommended clear zone distance should be provided wherever possible, such as in undeveloped areas. For low-speed urban roadways where adjacent development constrains the clear zone, and curbs are used, provide the maximum practical clear zone and the following guidance also applies:

- for lower-speed urban roadways with 40 mph or less posted speeds and parking lanes, the clear zone should extend at least to the minimum offset distance beyond the face of curb;
- for lower-speed urban roadways without parking lanes, the clear zone should extend at least four (4) feet beyond the edge of traveled way or turning lanes, or at least to the minimum offset distance beyond the face of curb, whichever is greater;
- for urban transitional roadways with 45 mph posted speed, in undeveloped areas, the recommended clear zone distance should be provided wherever possible; and
- for urban transitional roadways in developed areas, the clear zone should extend at least eight (8) feet beyond the edge of traveled way or auxiliary lanes, or at least to the

minimum offset distance beyond the face of curb and preferably two (2) feet beyond the face of curb, whichever is greater.

6.4.2.11 Vertical Alignment

The vertical alignment, (profile grade line), is a reference line that establishes the elevation of the pavement and other features of the roadway or trail. Vertical curves join two intersecting tangents to provide a smooth transition between changes in grade. Vertical curves should be simple in application and result in a design that is safe, comfortable, pleasing in appearance, and adequate for drainage.

Vertical alignment is controlled by safety, topography, sight distance, horizontal alignment, functional classification of the roadway, geology, drainage control, construction costs, and appearance considerations. The performance of heavy vehicles on grades is also significant. A practical vertical alignment design will be economically sound, keeping earthwork quantities to a minimum while meeting sight distance and other design requirements. All of these factors must be balanced to produce an alignment that is safe, economical, in harmony with the natural contour of the land, and at the same time adequate for the design classification of the roadway or trail.

The engineer should provide the longest vertical curve possible given ROW and design constraints. All intersections and driveways, except for field entrances, shall be evaluated for ISD.

The LPA should determine the minimum and maximum gradient to be used for each design speed and roadway or trail section. These may vary within a project as the terrain changes. If so, define where and why these changes occur. Determine the minimum vertical clearance and stopping sight distance requirements.

6.4.2.12 Vertical Clearance

Required minimum vertical clearance over or under an existing or future obstruction of known elevation often dictates that the vertical profile must pass through a particular point to satisfy minimum clearance criteria. The minimum vertical clearance shall be measured from the high point of the roadway, including the turf shoulders. If the minimum vertical clearance point on the profile is located on a vertical curve, the curve length will be dependent upon the required elevation of the given point.

In addition to the twelve (13) controlling criteria listed requiring formal approval, the LPA should document any other elements of the roadway design relating to safety, operational performance, or functionality that do not meet applicable guidance or standards, such as the following examples.

6.4.2.13 Clear Zones

An important consideration in defining the appropriate cross section for a particular highway facility is the width of the clear zone. As defined in Chapter IV of the AASHTO Green Book, the clear zone is "*...the unobstructed, relatively flat area provided beyond the edge of the traveled way for the recovery of errant vehicles.*"

The width of the clear zone is influenced by several factors, the most important of which are traffic volume, design speed of the highway, and slope of the embankments. The AASHTO Roadside Design Guide' is a primary reference for determining clear zone widths for freeways, rural arterials, and high speed rural collectors based on these factors. For low speed rural collectors and rural local roads, the AASHTO Green Book suggests providing a minimum clear zone width of ten (10) feet. For urban arterials, collectors, and local streets with curbs, the space available for clear zones is typically restricted.

6.4.2.14 Barrier Crashworthiness

The primary purpose of all roadside barriers is to prevent a vehicle from leaving the roadway and striking a fixed object or terrain feature that is less forgiving than striking the barrier itself. Barrier performance is assessed through a series of tests presented in the National Cooperative Highway Research Program Report No. 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features (NCHRP Report 350). For a listing of approved roadside appurtenances such as traffic barriers, barrier terminals and crash cushions, bridge railings, sign and light pole supports, and work zone hardware that have met the NCHRP Report 350 performance criteria, the LPA should access FHWA's website at: [FHWA Roadside Hardware Policy and Guidance](#).

6.4.2.15 Hydraulic Design

The LPA or their consultant will develop the conceptual hydrology and hydraulic design to be applied for the drainage watersheds where the project is located, including typical roadway ditches, and determine the location, type and size of major drainage crossings and culverts that have an impact on the preliminary roadway design or which control the alignment and grade. Design storm frequencies by drainage facility are given in the following table from [ALDOT Engineering Support](#).

Design Structure	Interstate	Expressways and Over 7500 ADT	2000 -7499 ADT	1999 ADT and Under
Culverts	50 year	50 year	50 year	25 year
Storm Sewer*	50 year	50 year	10 year	10 year
Storm Sewer on Depressed Roadways	50 year	50 year	50 year	25 year
Roadway Gutters	50 year	50 year	10 year	10 year
Median Pipe	50 year	50 year	10 year	10 year
Ditch Grade Control Drop	50 year	50 year	25 year	25 year
Intercepting Dike/Back Slope Pipe	25 year	25 year	25 year	25 year
Temporary Facilities** (Duration ≤2 yrs)	2 year	2 year	2 year	2 year

* The 10 year design storm for storm sewers does not include cross-drainage culverts.

** These frequencies are used for facilities to remain in place for less than two years. If a facility will be in use for more than two years, other appropriate storm frequencies should be considered.

Analysis should also include determination of any apparent existing drainage problems and develop the preliminary design of needed improvements based on field observations, previous safety reports, or discussions with the roadway maintenance staff or area residents. A determination may also need to be made if any special measures are required for erosion control or improvements to existing inlets/outlets that must occur. Also, determine any roadway profile issues that may need to be addressed during the final design (e.g., insufficient clearance over proposed culverts or adjustments in the roadway design or drainage facilities to prevent roadway flooding or overtopping).

If a proposed project includes a new or expanded encroachment on a FEMA regulated base (100 year) floodplain, or contains the potential for adversely impacting private property or insurable buildings on or near the base floodplain, the design will comply with the FEMA standards and criteria used to administer the National Flood Insurance Program in accordance with 23 CFR 650A, Section 650.115(a)(5), in addition to the other applicable standards and criteria contained within this chapter. These standards and criteria apply as minimums, regardless of the hydraulic structure proposed or the encroachment type (i.e., transverse or longitudinal). For the purposes of this chapter, adverse impacts to private property or insurable buildings will be defined, respectively, as follows:

- Damage to existing real or fixed private property, caused directly by the project during a 100-year flood, over the service life of the project; and
- Increased 100-year water-surface elevations that impact existing, insurable buildings.

6.4.2.16 Pavement Design

FHWA policy in 23 CFR 626 states that: “Pavement shall be designed to accommodate current and predicted traffic needs in a safe, durable, and cost effective manner.” It is essential that reconstruction and rehabilitation projects be properly engineered to achieve the best return possible for the money expended. When an existing pavement structure is sound, and the cost to restore serviceability is minor when compared to the cost of a new pavement structure or major rehabilitation, an engineering and economic analysis of alternative actions may not be necessary. In general, for all major rehabilitation or reconstruction projects, each of the following steps should be followed to properly analyze and design the project:

- Project Evaluation;
 - Obtain the necessary information to evaluate the performance and establish the condition of the in-place pavement with regard to traffic loading, environmental conditions, material strength, and quality. Historical pavement condition data, obtained from a Pavement Management System (PMS), can provide good initial information.
 - Identify the types of pavement distresses and the factors causing the distresses before developing appropriate alternatives. The tools necessary to analyze

- pavement failures such as coring, boring, trenching, and deflection measurements, can be employed.
- Evaluate the array of feasible alternatives in terms of how well they address the causes of the deterioration, repair the existing distress, and prevent the premature reoccurrence of the distress.
 - Project Analysis;
 - Perform an engineering and economic analysis of candidate strategies. The engineering analysis should consider the traffic loads, climate, materials, construction practices, and expected performance. The economic analysis should be based on life cycle costs and consider service life, initial cost, maintenance costs, user costs, and future rehabilitation requirements, including maintenance of traffic.
 - Select the rehabilitation or reconstruction alternative that best satisfies the needs of a particular project considering economics, budget constraints, traffic service, climate, and engineering judgment.
 - Project Design.
 - Conduct sufficient testing, both destructive and non-destructive, to verify the assumptions made during the alternative evaluation phase. The LPA should consider a new distress survey if the original condition survey was sample based or if the survey is not current in terms of the time the project is scheduled to go to contract.
 - Consider and address all factors causing the distress in addition to the surface indicators in the final design. Such factors as structural capacity, subgrade support, surface, and subsurface drainage characteristics need to be considered.
 - Once a rehabilitation or reconstruction alternative is selected, design the project using appropriate engineering techniques. A number of publications are available to guide the selection of these engineering techniques. The FHWA's "Pavement Rehabilitation Manual" and the NHI training course "Techniques for Pavement Rehabilitation" provide excellent guidelines. AASHTO's "Guide for the Design of Pavement Structures" and the "Mechanistic-Empirical Pavement Design Guide" are excellent design guide sources. There are also a number of excellent guides available from the asphalt and concrete industries.

6.4.2.17 Safety and Operational Risks

Safety and operational risks increase substantially as combinations of critical design elements meeting only minimum design standards are added together. Combinations of minimal horizontal curve geometry, minimal vertical curve geometry, minimal roadway width and cross section elements, steep grades, limited sight distance, presence of intersections and driveways, structures and barriers each add a greater level of risk to the users of the facility. Where use of the minimum design criteria for a single design element may not pose a great risk, the combination of minimum design criteria, or below minimum design criteria, or both, for several design elements at the same location may result in unacceptably high levels of safety or

operational risk. When the LPA proposes to use minimum design criteria, the combinations of other roadway and design elements and features should also be analyzed.

The LPA should consider the combinations of volume, speed and type of traffic that is exposed to the risk in evaluating the site-specific conditions (e.g., nighttime versus daytime traffic volume and speed) to factor into design risk decisions.

6.4.2.18 Level of Service (LOS)

Level of Service is a grading system for amount of congestion, using the letter A to represent the least amount of congestion and F to refer to the greatest amount. For a comprehensive treatment of this topic, refer to the Highway Capacity Manual (HCM). **Table 6.1** presents a brief description of the operating characteristics associated with each Level of Service.

The appropriate degree of congestion (that is, the Level of Service) to be used in planning and designing roadway improvements is determined by considering a variety of factors. These factors include the desires of the motorists, adjacent land use type and development intensity, environmental factors, and aesthetic and historic values. The factors must be weighed against the financial resources available to satisfy motorist desires.

Table 6.1 Level of Service Descriptions

Level of Service	Description
A	Free flow with low volumes and high speeds.
B	Reasonably free flow, but speeds beginning to be restricted by traffic conditions.
C	Stable flow zone, but drivers are restricted in the freedom to select their own speeds.
D	Approaching unstable flow; drivers have little freedom to select their own speeds.
E	Unstable flow; may be short stoppages
F	Unacceptable congestion; stop-and-go; forced flow.

Table 6.2 represents the relationship between roadway type and location and the Level of Service appropriate for design, suggested by the AASHTO Green Book. Taking into consideration specific traffic and environmental conditions, the LPA or their engineer should attempt to provide a reasonable and cost effective Level of Service.

Table 6.2 Recommended Levels of Service

Highway Type	Type of Area and Appropriate Level of Service			
	Rural Level	Rural Rolling	Rural Mountainous	Urban and Suburban
Freeway	B	B	C	C
Arterial	B	B	C	C
Collector	C	C	D	D
Local	D	D	D	D

While the HCM provides the analytical basis for design calculations and decisions, judgment must be used in the selection of the appropriate level of service for the facility under study. Once a Level of Service has been selected, all elements of the roadway should be designed consistently to that level. The selection of the desired level of service for a facility must be weighed carefully because the facility's overall adequacy depends on this decision.

6.4.2.19 LOS for At-Grade Intersections

The HCM defines level-of-service for signalized and non-signalized intersections as a function of the average vehicle control delay. LOS may be calculated per movement or per approach for any intersection configuration; however, LOS for the intersection as a whole is only defined for signalized and all-way stop configurations.

Table 6.3 Recommended Level of Service for At-Grade Intersections

LOS	Signalized Intersection	Non-signalized Intersection
A	≤10 seconds	≤ 10 seconds
B	10-20 seconds	10-15 seconds
C	20-35 seconds	15- 25 seconds
D	35-55 seconds	25-35 seconds
E	55-80 seconds	35-50 seconds
F	>80	>50

When analyzing non-signalized intersections that are not all-way, stop-controlled, each possible movement is considered individually. Each movement has a rank. Rank 1 movements have priority over Rank 2 movements, which have priority over Rank 3 movements, which have priority over Rank 4 movements. The rank of each movement is as follows, with the minor road being the road that is controlled by the stop signs and the major road being the road that

through movement moves freely. As for vehicular movements that conflict with pedestrian movements of the same rank, pedestrians have priority:

1. Movements of this rank are the through movements on the major road, parallel pedestrian movements, and right turns from the major road. LOS for movements of this rank is trivial, because LOS is determined by control delay. These are "free" movements, and as such the control delay is always zero.
2. Movements of this rank include left turns from the major road.
3. Movements of this rank include through movements on the minor road, parallel pedestrian movements, and right turns from the minor road.
4. Movements of this rank include left turns from the minor road. Movements are analyzed in order of rank (highest rank first), and any capacity that is left over from one rank devolves onto the next rank below. Because of this pecking order, depending on intersection volumes, there may be no capacity for lower-ranked movements.

6.4.2.20 Modern Roundabouts

The LPAs may utilize *Roundabouts: An Informational Guide*, which can be found at [Roundabouts](#) for introductory material through design detail, as well as the wide range of potential applications of roundabout intersections. This guide provides information and guidance on roundabouts, resulting in designs that are suitable for a variety of typical conditions. The scope is to provide general information, planning techniques, evaluation procedures for assessing operational and safety performance, and design guidelines for roundabouts.

Since there is no absolutely optimum design, the guide is not intended as an inflexible "rule book," but rather it attempts to explain some principles of good design and indicate potential tradeoffs. It has been structured to address the needs of a variety of readers, including the general public, policy-makers, transportation planners, operations and safety analysts, and conceptual and detail designers. This Guide distinguishes roundabouts from other traffic circles.

The 2000 HCM provides coverage of modern roundabouts, but does not define LOS at this time. Instead, the measure-of-effectiveness is the quotient of the volume to the capacity. A modern roundabout in the United States is a roundabout in which traffic inside the circle always has right-of-way. Entering traffic is controlled by a yield sign.

6.4.3 Drainage

The LPA should complete a drainage review for each new or reconstruction project. The review should include, where appropriate, a watershed study; hydrologic analysis; type, size, and location study; cost analysis; hydraulic design; and sediment, and scour analysis. All work items are considered equally important during drainage design.

In addition, the LPA should complete a hydraulic design for all facilities (culverts, storm drains, etc.). Hydraulic design of drainage structures should be based on hydrologic analysis of local site conditions and the type of facility being constructed. Where projects cross or encroach upon established or proposed regulatory flood plains, the flood frequency curve approved by the

Federal Emergency Management Agency (FEMA) and administering agencies should be used for design. The LPA should determine the 100-year and 500-year discharges for each crossing. For 3R projects, the LPA will evaluate the drainage system based upon the safety of the traveling public. Frequent overtopping of a roadway or a crash history due to hydraulic inefficiency would be reasons for considering reconstruction of a hydraulic system with a 3R project.

[Alabama Administrative code](#) provides rules and regulations related to construction in floodplains. No new construction, substantial improvements or other obstruction (including fill) shall be permitted in the floodplain of a base (100-year) flood, unless it is demonstrated that the cumulative effect of the proposed new construction, when combined with all other existing and anticipated new construction or substantial improvements, will not increase the water surface elevation of the base flood more than one (1) foot at any location.

A watercourse or drainway in the floodplain shall not be altered or relocated in any way which in the event of a base flood or more frequent flood will alter the flood carrying characteristics of the watercourse or drainway to the detriment of upstream, downstream, or adjacent locations. Furthermore, no new construction, substantial improvements, or other obstruction (including fill) shall be permitted within the floodway unless it has been demonstrated through hydrologic and hydraulic analyses that the proposed new construction would not result in any increase in water surface elevations along the floodway profile during the occurrence of the base flood.

For facilities without curbs, the depth of a roadside ditch should be designed so that the allowable headwater for the design discharge is at least one (1) foot below the outside edge of the finished shoulder. Typical ditch depths are shown on the typical roadway cross-sections in the Alabama Minimum Design Standards. Ditches of greater than normal depth are referred to as special ditches. When placing a special ditch, the designer shall use the fore slopes as specified in the Alabama Minimum Design Standards.

For curbed facilities, the type of facility limits the maximum width or spread of stormwater from the curb onto the roadway. Curb height, super-elevation, and longitudinal slope all impact drainage design for curbed facilities. Drainage design is further discussed on the [ALDOT Engineering Support](#) website.

6.4.3.1 Culvert Design

A roadway generally acts as a barrier to the flow of water in a stream or channel where the roadway crosses a watercourse. Culverts are conduits for conveying water from a stream or channel through the roadway embankment. In addition to their hydraulic function, culverts must also support construction equipment, roadway traffic, and earth loads. Therefore, culvert design involves both hydraulic and structural design.

Culverts are of great importance to adequate drainage and the integrity of the roadway facility. Improved traffic service and a reduction in the total cost of roadway construction and maintenance can be achieved by judicious choice of design criteria and careful attention to the hydraulic design of each culvert.

Any structure which measures less than twenty (20) feet from the inside face of the exterior wall to the inside face of the exterior wall (including interior walls) along the centerline of the roadway is classified as a culvert; any structure which measures twenty (20) feet or greater for the same dimensions is classified as a bridge or major structure.

6.4.3.2 Hydraulic Analysis

Hydraulic design procedures described in this section are based on Hydraulic Design Series No. 5, [FHWA Hydraulics Engineering](#).

Hydraulics analysis includes computation of the:

- Drainage area;
- Design flow;
- Allowable headwater; and
- Headwater at design flow.

6.4.3.3 New and Reconstructed Projects

Hydraulic analysis of culverts is required for all new and reconstructed projects, even if the existing vertical alignment is used in place. On new and reconstructed projects, culvert extensions should be discussed at the Plan-in-Hand inspection. The existing culvert size should be evaluated to determine if it is still within the allowable range.

6.4.3.4 3R Projects

3R projects do not require an hydraulic analysis of culverts, unless there is a known hydraulic problem since these projects normally involve only the driving surface. Some 3R projects may require extending the culvert end beyond the fixed obstacle clear distance. In these instances, the existing culvert may be extended without a hydraulic analysis.

6.4.3.5 Culvert Design Features

The LPA will need to note culvert locations on the preliminary plans. A design discharge should also be specified. Design discharge computations and culvert data will be reviewed, at all culvert locations, and at the Plan-in-Hand inspection. Additional information is required if the culvert is located in a floodplain. Culvert design involves consideration of the following factors:

- Inlet and outlet control;
- Culvert shape and cross-section;
- Location and material;
- Culvert length and extension;

- End treatments;
- Multiple installations;
- Inlet improvement;
- Outlet velocity;
- Culvert size;
- Slope and alignment;
- Camber; and
- Bedding and fill requirements.

6.4.3.6 Storm Sewers

Federal funds may be used to construct storm sewer drainage features only for the portion of the facility that serves the needs of the project. FHWA has determined that project needs drainage includes surface runoff within the project ROW plus surface runoff within one block of the ROW. Local drainage is considered surface runoff outside of the project needs drainage area.

Federal-aid Participation = (Project needs drainage) + (Local drainage)

When connecting a proposed storm sewer to an existing municipal system, the LPA should determine the proposed storm sewer does not overload the existing system. If the desired frequency storm design puts the existing system over capacity, the following alternatives should be investigated on a project-by-project basis:

- ALDOT will notify the LPA that it should upgrade its municipal drainage facilities;
- ALDOT will request, for safety and liability reasons, that the LPA commit to one of the following plans for upgrading their municipal drainage facilities;
 - The LPA provides the state with reasonable written assurances of a present plan for a future upgrade of its municipal facilities. The LPA shall provide the state with the details of its proposed improvements that will convey the design event determined by the state.
 - The LPA requests that the project include an upgrade of its municipal drainage facilities to be paid for solely by the LPA, and the LPA shall enter into an agreement with ALDOT concerning this upgrade of its facilities prior to beginning the final design of the project.
- Design for a 10-year frequency, connect to the existing municipal system, and assume the LPA will upgrade their system in the future (this alternative must not increase flood liability downstream); and
- Consider detention using 10-year frequency design.

6.4.4 Multimodal Accommodation and Cross Sectional Elements

The LPA should determine the design controls that will influence the overall roadway width and components of the cross section that will accommodate the various users. Approach the formulation of needed cross section components beginning from the ROW or construction limits edge to edge then inward, rather than the more traditional approach of beginning from the centerline outward. Through this approach, the accommodation of pedestrians and bicyclists should be positively encouraged and safely enhanced, and contextual elements considered from the outset.

Determine the level of multi-modal accommodation within the cross section for pedestrians, bicyclists, and motor vehicles, i.e., whether separate accommodation of travel for all type users must be provided (e.g., sidewalk, bike lane, shoulder, travel lane) or whether some form of shared use may be acceptable within the roadway. If a public transit system exists or is anticipated, determine the level of separate accommodation needed. Consider the operating speed of motor vehicles, and the relative volumes of pedestrians, or bicyclists, or both, the vehicular needs for usable shoulders, roadside or on-street parking, and environmental or ROW constraints in establishing the level of multi-modal separation or shared-use cross section relationships.

Consider the overall roadside including the criteria for slopes, clear zones, ditch sections, curbs, barrier systems, auxiliary lanes, and medians as these elements typically contribute greater influence and impact on the overall cross section than the range of travel lane and shoulder widths considered. Also, consider the needs for snow storage, maintenance, placement of utilities (poles and buried conduit), roadside signage, fencing, and other appurtenances for inclusion as cross section design controls.

Determine the various factors that control the range of travel lanes and shoulders that should be considered, such as: the roadway function, traffic volume, speed, and mix of motor vehicles and drivers that are anticipated to use the facility. Once the level of multimodal accommodation, roadside design criteria, and roadway cross section design controls are determined, the dimensions for each cross-sectional element can be identified and assembled. Consider a variety of alternative arrangements that can be combined for the various cross section elements, which optimizes the mobility and safety for all users, within the environmental and right of way constraints.

6.4.5 Sidewalks

Sidewalks are critical transportation routes for communities. They provide accessibility by allowing pedestrians to travel safely from one place to another. Consideration of including sidewalks into the project planning process is critical to the success of a transportation network.

The planning process pertains to project development planning, including pedestrian system planning, public outreach, land use considerations, and preliminary facility designs. In order to ensure that all pedestrians are considered throughout the planning, development, and

installation processes, interested parties must redefine internal goals and allocate the necessary resources to integrate accessibility into all transportation programs and projects.

Sidewalk construction will be considered during the preliminary design of a project. Discussion regarding sidewalk construction will be made at the Plan-in-Hand inspection. Final determination regarding sidewalk construction will be made during completion of the NEPA document and verified at the public hearing (if applicable). Where sidewalks currently exist along a roadway, the sidewalk will normally be reconstructed when impacted by the construction of a project or depending on the existing condition of the sidewalk. Public input is considered when determining if sidewalks should be constructed on both sides of a roadway where a sidewalk currently exists on only one side. If an existing bridge structure with a sidewalk is to be rehabilitated or replaced, the sidewalk will normally be retained.

Sidewalk widths may vary from four (4) to eight (8) feet. The typical recommended minimum sidewalk width is five (5) feet. If both pedestrians and bicyclists frequently use a sidewalk, a ten (10) foot (AASHTO recommended) sidewalk should be considered.

Where there is sufficient ROW, a ten (10) foot or wider buffer area between the back of the curb and the sidewalk is desirable. Generally, providing a four (4) foot wide buffer area between the back of curb and the edge of sidewalk is the most practical section based on available right of way. Where ROW is limited, a minimum two (2) foot buffer should be provided to allow adequate space for hydrants, parking meters, and other roadside appurtenances. If no buffer is provided, a minimum six (6) foot sidewalk width should be used to accommodate these appurtenances.

To provide safety when there are sidewalks adjacent to steep fill slopes (greater than 3:1) and where no safety barrier or guardrail is present, a chain-link fence may be considered at a typical distance of two (2) feet behind the sidewalk. The fence should have a minimum height of four (4) feet with the chain-link fabric facing the sidewalk. If the sidewalk and the steep slope are on the approach to a viaduct or overpass, the concrete bridge railing should be extended onto the approach slab and, where possible, the sidewalk flared away from the traffic.

6.4.6 Curb Ramps

Accessibility Policy for Applicable Projects or Activities: The following shall apply to projects or segments of projects.

- A. New Construction Projects – New construction projects are constructed in a new location and are designed to meet the new construction design standards. Accessibility features will be included to the extent required by Americans with Disabilities Act Accessibility Guidelines (ADAAG). [ADAAG Guidelines and Checklist](#)
- B. Reconstruction or Retrofit Projects – Reconstruction projects are projects designed to conform to reconstructed design standards in an existing location of a roadway. Accessibility features will be included to the extent technically feasible as provided by the ADAAG. However, when the project affects the public ROW, the accessibility in that section must be improved.
- C. Other Pavement Projects – Other pavement projects include:
 - Pavement overlays with a design thickness of 1.5 inches or greater; and
 - Pavement repair or patching that requires replacement of curb within a crosswalk that does not currently have a curb ramp.

The following subsections apply to other pavement projects:

- (1) Curb Ramps – Curb ramps will be constructed within project limits. Curb ramps should be constructed or reconstructed when necessary, whenever a construction activity alters the pavement in a crosswalk. When an activity causes a differential in elevation in gutter line at a crosswalk with a curb ramp in excess of 0.5 inch, the differential must be eliminated.
- (2) Landing Area of the Curb Ramp – Whenever a new curb ramp is installed as a part of a project, the landing area on the sidewalk side of the curb ramp will be evaluated to identify and implement, if reasonable, other improvements to provide an open and useable landing area. For example, reasonable steps should be taken to relocate signs and other objects to a location outside of the landing area.
- (3) Sidewalk – New sidewalks will not ordinarily be installed and existing sidewalks will not ordinarily be replaced except as necessary to create a transition from the new curb ramp or landing area to the adjacent sidewalk. Generally, cities and villages have the duty to construct, operate, and maintain sidewalks and curb ramps along the State Highway System within the corporate limits.

(4) Driveways – Ordinarily, driveways will not be replaced or reconstructed as a part of this policy.

D. Maintenance Activities – routine maintenance activities do not need to have accessibility improved.

Curb ramps may be constructed to meet local requirements if those requirements meet or exceed ADAAG standards.

When construction obstructs sidewalk access, the LPA's engineer shall assess the need for and provide if identified temporary access measures for pedestrians with disabilities. Access to businesses or other publicly-used facilities during the construction of the project is important to all involved. The LPA should also consider the needs of disabled individuals crossing the project during construction and the need for implementing temporary measures to meet these needs when identified.

An FHWA memorandum dated January 23, 2006 provides information that the Architectural and Transportation Barriers Compliance Board (Access Board) published revised [Proposed Accessibility Guidelines](#) (the Draft Guidelines) for public ROW in the Federal Register on November 23, 2005.

They cover pedestrian access to sidewalks and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public ROW.

The Draft Guidelines are not standards until adopted by the US DOJ and the US DOT. The present standards to be followed are the ADA Accessibility Guidelines (ADAAG) standards. However, the PROWAG Draft Guidelines are the currently recommended best practices and can be considered the state of the practice that could be followed for areas not fully addressed by the present ADAAG standards. Further, the Draft Guidelines are consistent with the ADA's requirement that all new facilities (and altered facilities to the maximum extent feasible) be designed and constructed to be accessible to and useable by people with disabilities.

For additional guidance, see the ADAAG Policy Guidelines. Go to [ADAAG Guidelines and Checklist](#).

6.4.7 Medians

The primary benefit of medians is to improve safety. Medians improve safety by separating opposing traffic, thus reducing head-on and sideswipe crashes; providing a recovery area for errant vehicles; and providing a refuge area for crossing and left-turning vehicles from intersecting roads. Medians also improve pedestrian and bicyclist safety by breaking up crossing distances and providing a refuge area for pedestrians and bicyclists crossing the roadway. Other benefits of medians include improving mainline traffic operations by controlling left turns and channelizing traffic movements; providing space for drainage and drainage facilities, bridge piers, and other structures; providing a refuge area for disabled vehicles, and providing a snow storage area. Medians provide opportunity for landscaping and aesthetic treatments, which help buffer visual impacts and noise, and generally provide for increased driver comfort and ease of operation.

There are also disadvantages to medians. Raised medians may complicate snow plowing, storage, and removal operations. In addition, plantings and other landscaping elements may obscure sight distance in horizontal curves and at intersections and may constitute roadside obstacles. Such elements should be consistent with the *AASHTO Roadside Design Guide*.

Urban Medians

Medians for urban roadways are either raised or flush. The raised area of urban medians should be curbed. To accommodate left-turn lanes with a raised median and offsets for them, the raised median width in lower-speed urban areas is sixteen (16) feet as a minimum with a range of eighteen (18) to twenty-four (24) feet being acceptable. Raised medians should be a minimum of four (4) foot width, which allows for a minimum four (4) foot width raised area with one-foot offset between the outside edge of the raised area and the travel lane. Provide a parabolic (desired) or semi-circular bullet nose at the end of all raised medians. Refer to the Green Book, Chapter 9 “Intersections” – Median Openings and Exhibit 9-76 through 9-87 for design of median openings.

Flush medians are typically four (4) to sixteen (16) feet and should be well delineated by striping, painting, or paving with a contrasting surfacing type, color, or texture.

Consider a Two-Way Continuous Left-Turn Lane (TWLTL) if necessary to provide access in areas with frequent driveway spacing in highly developed or commercialized areas. TWLTLs function well when traffic levels are moderate, the percentage of turning volumes are high, and the density of commercial driveways is low. TWLTLs will function well on most arterials with low to moderate commercial driveway density and where the AADT is in the range of 10,000 to 28,000 vehicles per day. TWLTLs can also work very well in places where the number of driveways per block or mile is high but where the land use does not produce many turning movements per hour. For example, an arterial through a predominantly residential area.

TWLTLs begin to lose their effectiveness when traffic volumes on a roadway are high. Studies indicate operating degradation occurs between an AADT of 24,000 to 28,000 vehicles per day which is a relatively high level of traffic for most Alabama locations. TWLTLs are also much less effective in situations where commercial driveway densities are high and these driveways are closely spaced.

Various studies have recommended for and against a TWLTL being implemented on roadways with more than two (2) through lanes in each direction or average operating speed over 45 mph. What is important to consider for this type of application is traffic volume, roadway function and environment, and ***crash history on safety and operational effects of the roadway***.

A center-lane width of between twelve (12) to sixteen (16) feet is acceptable for TWLTL with a fourteen (14) feet width being preferred. Careful evaluation of individual sites is required for design of a TWLTL, as it may be inappropriate at some locations. An alternative median treatment with dedicated left-turn lanes, where needed, may be preferable to a TWLTL for safety and access management.

Note: LPA applications for *Capacity* projects must be reviewed and approved by the Chief Engineer. If an application includes design specifications for two-way, continuous

left-turn lane(s), that too must be reviewed and approved. Since 2009, as part of a working arrangement with FHWA-Alabama, Bureau of Transportation Planning and Modal Programs has not allowed two-way, continuous left-turn lane project *descriptions* be used in MPO formal planning documents, including Long Range Plans and Transportation Improvement Programs, citing safety concerns. It is recognized that two-way, continuous left-turn lanes are currently in use in Alabama, but application is to be restricted for use as a *specific location solution* and only at Division request. This planning adjustment is not intended to affect use of three-lane design where needed, such as truck lanes on 5% grades or higher, or ramps.

Rural Medians

Depressed medians are generally used on rural divided roadways with median in excess of thirty (30) feet for more efficient drainage and snow removal. Median side slopes should follow the recommendations of the AASHTO *Roadside Design Guide*. Careful consideration of longitudinal and transverse slopes, ditches and drainage features is necessary. Drainage inlets in the median should be designed either with the top of the inlet flush with the ground or with culvert ends constructed with traversable safety grates.

6.4.8 Driveways

Driveways and non-public approach roads are not considered intersections; however, the requirements and criteria for design of turning movements are similar. Driveways are intended for low-speed vehicle operation, and should have corner radii reflecting low speeds. Single-lane driveways are appropriate for two-way traffic for single-family residential uses and small groups of residential units, and for small commercial for employees only (no retail customers or regular visitors). For larger groups of residential units, or commercial uses with retail customers and regular visitors, a two-lane driveway is appropriate. The steepest recommended grade for residential driveways is fifteen (15) percent depending on climate, terrain, and vehicle clearance and maximum five (5) to eight (8) percent for commercial and industrial uses. Provide a flatter landing area at the connection to the mainline.

Sidewalks and bikeways must be considered in the geometric design of driveways. A minimum four-foot wide path of two (2) percent maximum cross slope must be provided where a driveway crosses a sidewalk. Where possible, provide continuity of the sidewalk paving material across the driveway, rather than continuity of the driveway paving material across the sidewalk. Where paving materials are the same, the sidewalk should be outlined with joints or saw cuts across the driveway. Provide minimal change to grade and cross slope of the sidewalk, even if this requires a break in the driveway grade.

For further information on driveways, see the National Cooperative Highway Research Program (NCHRP) document [Guide for the Geometric Design of Driveways](#).

6.4.9 Passing Lanes

Passing lanes can be used in either rolling or level terrain when passing restrictions exist because of limited sight distances or high volumes of oncoming traffic. Consider providing passing lanes particularly on roadways with high traffic volumes including slow-moving trucks and recreational vehicles, and that lack frequent sections with adequate PSD, resulting in operational delays and potential safety conflicts. Consider passing lanes are less effective on sections that already provide good passing opportunities, at least during the off-peak periods. Although potentially more costly, it may be desirable to locate passing lane sections in the rolling terrain at locations where passing sight distance is generally unavailable, rather than in level terrain sections. Passing should be allowed within passing lane sections for the opposing traffic if PSD is available and access conditions are appropriate.

Refer to AASHTO, Chapter 3 - Vertical Alignment – Methods for Increasing Passing Opportunities on Two-Lane Roads, and the HCM for guidance on the design of passing lanes. Standard practice for design of passing lanes includes:

- Design passing lanes to be at least 1,000 feet long, excluding tapers;
- For two-way total Design Hourly Volume (DHV) less than 600, the desirable length of a passing lane is 0.5 mile to one mile, which does not include the taper length for the lane addition and lane drop;
- Design the lane addition taper at a ratio of 25:1;
- Design the lane drop taper in accordance with the MUTCD, Section 3B-8, or at a ratio of 50:1, whichever is longer;
- Super-elevate the passing lane in the same manner as for a multi-lane roadway; and
- Provide passing lane signing and markings in accordance with the MUTCD.

The lane addition and drop should be located in areas where sight distance is maximized, preferably where 1,000 feet of sight distance is available, to allow a driver to anticipate the passing opportunity and also its end. The end of the merging taper should be visible from the lane reduction sign. Because of sight distance concerns, the merging taper should not be located just beyond the midpoint of a crest vertical curve.

When determining where to locate passing lanes, consider the following factors:

1. **Costs and Impacts.** Locate passing lanes to minimize costs and impacts. Difficult terrain will generally increase the costs and impacts for construction of passing lanes.
2. **Appearance.** The passing lane location, and its value, should appear logical and be obvious to the driver.
3. **Horizontal Alignment.** Where practical, avoid locating passing lanes on segments with lower-speed horizontal curves that restrict the speed for all vehicles.
4. **Vertical Alignment.** Where practical, construct passing lanes on a sustained upgrade. The upgrade will generally cause a greater speed differential between slow-moving

vehicles and passing vehicles. However, passing lanes in level terrain still should be considered where the demand for passing opportunities exceeds supply.

5. **Intersections.** Locations should be avoided that include major intersections or high volume access points (*over 500 ADT*). Use special care when designing passing lanes through minor intersections and commercial entrances.
6. **Structures.** Avoid placing passing lanes where structures (*e.g., large culverts, bridges*) may restrict the overall width of the traveled way, passing lane, and shoulder.
7. **Tapers.** Avoid locating the ending or merging taper within 500 feet prior to an intersection or major side approach road. The merging taper should be located to avoid side approach roads or driveways on either side of the roadway.

6.4.10 Turn Lanes

Auxiliary lanes may be considered for designated left-turn lanes, right-turn lanes, or free-flow right-turn lanes as warranted. The *Intersection Channelization Design Guide* from TRB provides guidelines for auxiliary lane design. Remember that adding auxiliary lanes at signalized intersections affects the timing of phases based upon pedestrian travel time. Unwarranted auxiliary lanes can cause more delay than improvement by increasing required green time for pedestrian travel.

Turn lanes may be recommended as features to improve the capacity and safety aspects of a roadway. A right-turn lane may be added to the project for the following reasons:

- To serve right-turn vehicles required to slow for the turn, alleviating rear-end accident potential as well as delays to through traffic; and
- To move the stop bar position back on the minor approach thus widening the throat entry for left-turning vehicles from the arterial roadway which serves to provide better visual “targeting” for the driver, aids larger vehicles to avoid edge runoff, and permits faster turning, thus reducing the through lane clearance time requirements.

Left-turn lanes are provided on the mainline at signalized intersections if warranted. The following situations may necessitate provision of an exclusive left-turn lane:

- Where fully protected left-turn signal phasing is to be provided;
- Where left-turn volumes exceed 100 vehicles per hour (VPH) and space is available; and
- Where left-turn volumes exceed 300 VPH, a double left-turn lane should be considered.

Left-turn treatments may be necessary on two-lane roadways where traffic volumes are high and safety considerations are sufficient to warrant them. Left-turn lanes should be provided on divided arterials at intersections and at other median breaks where left-turn volumes and/or vehicle speeds are high. To reduce the opposing traffic obstruction of the line of sight, the left-turn lanes in sixteen (16) foot raised medians should be designed with a one (1) foot offset.

Wide striping on the right side of the left-turn lane should be used to encourage traffic to move closer to the median.

Intersections must be properly designed to accommodate the number and type of turning vehicles. This will significantly affect the geometric layout and operation of the intersection. The following must be considered:

- Select the design vehicle based on the largest vehicle likely to make the turn with considerable frequency;
- Select the speed at which the vehicle should be allowed to make the turn;
- Determine the tolerable encroachment onto other lanes. This will vary with functional class, design speed, traffic volumes, lane width, one-way or two-way operation, and traffic control device;
- Determine the need for a turn lane;
- Determine the availability of ROW;
- Determine the required length of turn lane based on turning movement volume;
- Evaluate the need to design for pedestrian traffic movements;
- Determine the need and location of signal poles; and
- Select the appropriate channelization treatment.

Note: LPA applications for *Capacity* projects must be reviewed and approved by the Chief Engineer. If an application includes specifications for two-way, continuous left-turn lane design, that also must be reviewed and approved. Since 2009, Bureau of Transportation Planning and Modal Programs has not allowed two-way, continuous left-turn lane project *descriptions* be used in MPO formal planning documents, including Long Range Plans and Transportation Improvement Programs, as part of a working arrangement with FHWA - Alabama. It is recognized that two-way, continuous left-turn lanes are currently in use in Alabama, but application is to be restricted for use as a specific location solution and only at Division request.

For further information, please review the ALDOT Construction Manual at the [ALDOT Construction Bureau](#) site. Additional information on intersection design is available at the following Texas DOT site: [Urban Intersection Design Guide Vol 1](#)

6.4.11 Bicycle Trails

Bicyclists have the same mobility needs as every other mode choice of the transportation system and use the roadway system as a means of access to jobs, services, and recreational activities. Planning for existing and potential bicycle use should be integrated into the overall transportation planning process. See [FHWA Bicycle and Pedestrian Policy](#).

Most bicyclists use public roads when no dedicated bicycle space is provided along the roadway section. Bicycle traffic can be expected on almost all roadways. ALDOT permits bicycles on all

state roadways, roadway shoulders, and most US routes, except where prohibited by law, on expressways (freeways), and the interstate systems. The exception would be where a dedicated bike trail is located adjacent to the roadway, and emphasizes how the bicycle has become an element for consideration in the roadway or trail design process. Federal policy, adjusted in June of 2009, provides that all new roadway facilities must include bicycle/pedestrian facilities except where "...exceptional circumstances exist."

[Code of Alabama 32-5A-260](#) Bicycles provided access to roadways.

[Code of Alabama 32-5A-92](#) Regulation of controlled-access roadway.

Additional links:

[Alabama Code 32-5A Art 12 and 13 260-186](#)

[Alabama Bicycle Coalition](#)

A bicycle lane is a portion of a roadway that has been designated by signage and pavement markings for the preferential or exclusive use of bicycles. Where feasible, bicycle traffic should be separated from vehicular traffic. A bicycle path is physically separated from vehicular traffic by an open space or barrier, either within the roadway ROW or within an independent ROW. In many instances, design features of separate bicycle facilities are controlled by the adjoining roadway and are an element of the design of the roadway itself.

In rural areas, for a shared-use facility that both bicycles and motor vehicles travel, it is recommended that the LPA design the roadway or trail for a combined lane and shoulder width of at least fourteen (14) feet, the minimum necessary for a motor vehicle and bicycle to operate side by side. In rural areas with motor vehicle design ADT greater than 1,000 and bicycle ADT greater than twenty-five (25), a paved shoulder width of five (5) feet is recommended to accommodate bicycle use. If rumble strips are to be installed on the shoulder, it is recommended that the shoulder be six (6) feet wide to accommodate the rumble strips and provide a four (4) foot wide path for the bicyclist.

Where applicable, the LPA should design bicycle lanes to provide a dedicated space for bicycle travel along the roadway or trail which provides for a consistent separation between bicyclists and passing motorists and pedestrians. Design striping and signing to designate bicycle lanes in accordance with MUTCD, or [Manual on Uniform Traffic Control Devices](#).

Bicycle lanes that are not physically separated from the roadway should be located between the travel lane and the edge of the roadway shoulder. A minimum width of four (4) feet is required for a bike lane; however, five (5) foot bicycle lanes are preferred for most conditions, especially when the lane is adjacent to a curb, curbside parking, or guardrail. Exclude the width of gutter from the bicycle lane design width. Where parking is permitted, the combined recommended width for bicycle travel and parking should be a minimum of fourteen (14) feet and sixteen (16) feet desired. Where motor vehicle operating speeds exceed 45 mph, or the volume of trucks and buses is thirty (30) or more per hour, the minimum recommended bicycle lane width is five (5) feet, and six (6) foot bicycle lane width is desirable. Bicycle lanes wider than six (6) feet are generally not used since they may encourage inappropriate use by motor vehicles. Designate

bicycle lanes with a six (6) inch solid white line on the right edge of the motor vehicle travel lane, bicycle lane pavement markings, and signs at periodic intervals. The solid lane marking should change to a broken white line before any intersections on the right side, providing sufficient distance for motorists to merge to the right side of the roadway before making a right turn. A four (4) inch solid white line, or parking space markings, on the right edge of the bicycle lane should be used when adjacent to parking areas or parking lanes.

Provide bicycle-safe drainage grates for all inlets adjacent to bicycle facilities. Design all grates and utility covers to be set flush with the pavement surface. Design the pavement cross slope to not exceed ten (10) percent and avoid design of an abrupt pavement edge at the inlet. Where shoulder width, or a bike lane, adjacent to a curb is less than five (5) feet, recessed drainage inlets, or curb inlets should be used.

Where the corridor is constrained and a separate bicycle lane or path is beneficial, it may be practical to provide the facility in only one direction of travel.

When applicable, consider including a separate two-way bikeway or shared-use path in the overall design of the highway project when the level of bicycle use is high and safety, operational or other benefits to the mix of facility users are sufficient to justify a designated bicycle facility, either on a separate independent alignment or parallel to the roadway. Provision of shared-use paths is particularly suited to high-speed, high-volume roadways where the traffic characteristics or the roadway geometry is incompatible with typical bicycle and pedestrian use. The LPA should exercise care in the design of shared-use paths to minimize the conflicts between bicyclists and pedestrians. Two-way bikeways and shared-use paths should always be physically separated from the roadway by a significant terrain feature and at least five (5) foot width, or by a crashworthy barrier system. The paved width of a two-way bike path should be a minimum of eight (8) feet. Where pedestrians will routinely share the path with bicyclists, it should be a minimum width of ten (10) feet, and twelve (12) feet desired. The presence of a bikeway or shared-use path near a roadway does not eliminate the need to consider the presence of bicyclists in the design of the roadway, unless bicycle use is specifically prohibited on the facility.

The [AASHTO Guide for the Development of Bicycle Facilities](#) provides guidance for the design of bikeways. For guidance on design of shared-use trails, refer to the FHWA TECHBRIEF, *Evaluation of Safety, Design, and Operation of Shared-Use Paths*, FHWA-HRT-05-139, March 2006 [FHWA Shared-Use Paths](#).

6.4.12 Safe Routes Pedestrian Facilities

Special consideration for sidewalks or shared use pathways should be given to schools, publicly-accessed government offices, and at all medical facilities. Projects specifically designed for the Safe Routes to School Program require some different design considerations and requirements. **The following ALDOT SRTS guidelines were effective December 17, 2008:**

Multi-use Facilities

- Width and clearance:
10 ft. recommended, 2 ft. minimum buffer
8 ft. minimum; 2 ft. buffer

Pedestrian Use

- Width and clearance:
6 ft. recommended; 2 ft. minimum buffer
4 ft. minimum (acceptable when funding is critical)
5 ft. preferred

6.4.13 Historic Preservation

The primary consideration in design is to avoid the historic property. The next design consideration is to minimize and mitigate the project impact. The following general standards apply to all projects undertaken on or adjacent to historic properties listed or eligible for listing in the National Register of Historic Places:

- A property will be used as it was historically or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken;
- The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided;
- Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research;
- Changes to a property that have acquired historic significance in their own right will be retained and preserved;
- Distinctive materials, features, finishes, and construction techniques, or examples of craftsmanship that characterize a property will be preserved;
- The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture;
- Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used; and
- Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

6.4.14 Bridges (Non-Historic)

Minimum bridge roadway widths for the different functional classifications are provided in the [Bridge Construction Hip Pocket Guide 2008](#). For higher traffic volumes, contact ALDOT Design Bureau and visit their website at [Roadway Design](#), or obtain a copy of the *AASHTO Standard Specification for Highway Bridges*.

A bridge to remain in place is any bridge that does not require widening or other extensive superstructure or substructure modifications to provide the required roadway width. A special study may be performed to provide details which allow bridges to remain in place if the existing roadway is within four (4) feet of the required roadway width. ALDOT Bridge Bureau must be consulted when determining whether to use an existing bridge in place.

Where possible, locate bridge structures entirely on tangents or curves. Construction of bridges on transitions for horizontal curves presents unique engineering and construction challenges due to the changing superstructure and deck geometry and should be avoided. This may require minor adjustments in horizontal alignment to avoid or minimize these types of combinations. Wherever possible, avoid the introduction of new cross section elements (widening, additional lanes, or shoulders) on the bridge. Instead, introduce the cross section element ahead of the bridge and carry the element across the bridge structure.

For every project consisting of a structure, the LPA will be required to submit a design data sheet at the time of the 30% plan submittal to the ALDOT LPA Project Coordinator. This bridge data sheet will provide background and/or design details such as: sufficiency rating, hydraulic information, bridge type, elevations, grades, traffic data, and bridge TS&L sheets. An example of the bridge data sheet can be found at the end of this chapter in the appendix section.

According to the Alabama 2012 Edition Standard Specifications Highway, any bridge on the State Highway System where the rehabilitation of the structure entails removing the entire superstructure, shall be designed to conform to the standards for a New or Reconstructed bridge. For more information on bridge design, please refer [ALDOT Bridge Bureau](#).

6.4.15 Control of Access

The LPA or its consultant should determine the level of access control and management to maintain safe and efficient roadway operations for all users. The LPA should also consider:

- The management of driveway locations, approach roads, median treatments, turn lanes, curbs, barriers, and other access management features. The degree of access management is influenced by both the function of the roadway and the roadway context;
- More stringent access control on arterials than on collectors and local roads, reflecting the mobility and land access functions of these roadways; and
- The existing access points along the roadway and the possibility for changes in access that are consistent with the project's objectives, and need for future access to developing areas. For example, it may be possible to relocate, redesign, or consolidate some driveways along an existing roadway to improve sight distances and safety.

Intersections

The LPA or its consultant should:

- Determine the location and density of intersections;
- Identify the standards and criteria to be used for the intersections contained within the project;
- Determine and provide a description of the design vehicle that will use the intersection and the minimum radius of the outside and inside radius returns;
- Determine the turn lanes, acceleration, and deceleration lanes that may be proposed;
- Determine the horizontal and vertical alignment of approaches, type of control, number and types of lanes, lane widths, median opening configuration, shoulders, islands, and auxiliary lane transitions and terminals; and
- Determine the intersection pavement cross slope, curve radii and tapers, sight distances, pedestrian facilities including sidewalks and crosswalks, and bicycle accommodation facilities.

For full controlled access facilities, determine the general configuration of interchanges, speeds, alignments and widths of ramps, and locations of auxiliary lanes. If there are known constraints that preclude obtaining the desired ISD, provide guidance on how to mitigate this safety concern.

6.4.16 Erosion and Sediment Control

The FHWA requires erosion and sediment control measures be included in the Plans, Specifications, and Estimates (PS&E) package for all Federal-aid projects. At a minimum, FHWA requires the identification of all erosion and sediment-sensitive areas and identification of the methods to be used for minimizing adverse effects. In addition to the FHWA requirements, the National Pollutant Discharge Elimination System (NPDES) permit requires erosion and sediment control plans for all sites that are one acre (0.4 hectare) or larger in size. However, ADEM Administrative Code 336-6-12-02(m), revised effective September 26, 2011, modifies this requirement for Alabama to state, 'An NPDES construction site also includes construction sites, **irrespective of size**, whose stormwater discharges have a potential to be a significant contributor of pollutants to a water of the state....' This latter guideline is to be followed.

Soil erosion is a naturally occurring phenomenon where soil particles are displaced and carried away by water, wind, or other agents. The rate at which erosion occurs depends upon the properties of the soil, terrain, climate, rainfall intensity and duration, and the volume and characteristics of the water flow.

Sedimentation is the deposition of eroded soil and may occur in lakes, reservoirs, streams, or other drainage ways. Sedimentation may restrict drainage ways, plug culverts, damage property, and adversely impact stream ecological systems. Erosion and sediment control is accomplished by:

- Absorbing the impact of rainfall;
- Slowing water's velocity, dividing water into smaller quantities;
- Infiltration by soil or vegetation; and
- Retention or temporary detention.

Roadway or trail construction may involve the disturbance of large land areas. Erosion and sediment control is a major concern in roadway or trail construction and is addressed during all phases of the project from planning and design through construction and continues into maintenance. An erosion and sediment control program includes the plans of action and provision of documents to achieve an acceptable level of erosion and sediment control.

Engineers must keep in mind the need for erosion and sediment control throughout the entire design phase. Erosion and sediment control plans must comply with applicable Federal, State, and local rules and regulations, including, but not limited to, the requirements of the NPDES issued by the NDEQ. An effective erosion and sediment control program must accomplish the following objectives:

- Limit both on-site and off-site impacts to acceptable levels both during and after construction;
- Facilitate project construction while minimizing overall costs;
- Aid in the restabilization of the construction site, reducing the long-term maintenance requirements;
- Comply with Federal, State, and local regulations; and
- Require minimal maintenance.

A preliminary erosion and sediment control plan should be completed prior to the Plan-in-Hand site visit. This will give the roadway designer an opportunity to review the plans for effectiveness and to make any necessary design changes. An excellent resource for the LPA designer to use as a tool is the ALDOT Environment and Technology Section website at [Environment and Technology](#). Find templates for erosion control, stormwater management, Best Practices, and checklists. Review prior to submittals and during the Plan-in-Hand. The Erosion Control Plan-In-Hand Checklist becomes part of the Plan-in-Hand package and is used for determining appropriate erosion controls as well as for estimating erosion control costs.

Information on erosion and sediment control may be shown on the:

- Erosion and Sediment Control plan sheets;
- Plan and Profile sheets;
- Summary of Quantities sheet;
- Removal and Construction plan sheets; and
- Drainage sheets.

6.4.17 Aesthetic Considerations

The LPA or its consultant should strive to accomplish the following:

- Apply the general considerations, general design controls, and alignment coordination found in the AASHTO Chapter 3 - Combinations of Horizontal and Vertical Alignment.
- Avoid short, abrupt horizontal and vertical grade changes, especially if the central angle or change in grade is small and a substantial length of both tangents is visible.
- Designate sufficient ROW area on the inside of curves, and at the ends of long tangents, to facilitate adequate control of vegetation or setback of potential future development that could impair sight distance, and tangential views.
- Provide curvilinear alignment through scenic terrain.

Broken-back vertical grade changes are visually unpleasing and undesired and should be substituted with a single overall vertical grade change when practical.

From an aesthetic standpoint, the geometric design for bridges should blend in with curvilinear alignment. Design super-elevation to avoid or minimize unsightly kinks, humps, or dips in bridge railing, or curbs. Coordinate the vertical alignment closely with the bridge location. Consider that bridges placed on conspicuous sag vertical curves can have an unfavorable appearance. Coordinate the clearing, slope design, and vegetation management in vista areas to provide a visual buffer, frame views, define spaces, or to provide visual context for the roadway. Consider aesthetic treatment of curbs, culvert headwalls, retaining walls, traffic barriers, and structures to blend and de-emphasize new features and enhance vistas. Consider the location and type of signing, posts, fencing and other appurtenances to minimize blockage of views. The ultimate test for an aesthetically pleasing facility is whether it complements the area through which it passes and enhances the user's appreciation of its context. The LPA should strive to achieve this goal.

6.4.18 Plan-in-Hand Field Review

A Plan-in-Hand (PIH) is a field review and/or meeting that should be conducted on every project that receives Federal-aid. This inspection typically takes place when the project plans are approximately thirty (30) to sixty (60) percent complete. The LPA RC, ALDOT Division Engineer, the ALDOT Division LPA Project Coordinator, and FHWA (on full oversight projects) must be notified and invited.

The purpose of the PIH review is to evaluate and resolve the roadway geometry, safety considerations, and environmental impact mitigation and cost effectiveness of the proposed improvement, and to support completion of the environmental document and decision-making process. The review should identify the revisions needed to bring the roadway design, plans, and estimate to a full thirty (30) percent stage. The field review should include verifying the mapped features and spot-check the topography, particularly in areas of narrow roadbed bench width.

This inspection should identify substantive issues of concern and serve as a check of the progress of a project. The issues that should be discussed and examined are additional survey needs, roadway alignment, environmental, ROW, utility issues, phasing, constructability issues,

surfacing types, and specific design questions such as any need for design exception requests.

The level of detail for the PIH review depends on the scale of proposed improvements and may be different for 3R projects than for reconstruction or new construction projects. The information to be available at the review includes detail maps or plans and profiles showing preliminary alignments and plotted cross sections of the mainline and major intersecting roadways for all alternatives being considered and preliminary construction cost estimate. The plans and cost estimate are developed to approximately the 30 percent level for preliminary design. The LPA RC should identify any design exceptions as part of this field review. The RC will need to document any exceptions to the standards, along with any associated hazards or risks so that all parties are aware of the potential consequences of the decisions made. Refer to Section 6.5 for a more detailed discussion on design relaxations/exception.

Following the PIH inspection, a report must be completed and submitted to the ALDOT Division LPA Project Coordinator. An outline of the PIH report can be found in the appendix section at the end of this chapter.

6.4.19 Estimates

Cost estimating is an integral part of the plan-design-construct process of roadway projects. The degree of detail and accuracy required for each estimate varies throughout the design process as the level of design detail and information about the project increases. Estimates, therefore, vary from general approximations at the early stages of a project to very detailed cost estimates at the bid letting stage. The engineer's estimate serves as the benchmark for analyzing bids and is an essential element in the project approval process. There are three basic approaches to estimating: actual cost, historic data, and a combination of historic data and actual cost.

Cost estimates are regularly scheduled during the planning and design process and generally coincide with project milestone activities. Estimates are revised as part of the annual update of programs and should also be updated whenever changes in the concept or in the scope of the project occur outside of the normal estimate activity schedule. The earlier that cost estimate updates are made in the process, the more likely it is that projects will be let in a timely manner.

Estimates should always be as detailed as possible. All of the items necessary for the construction of the project should be included in each estimate, even though detailed quantities may not yet be developed for some of the items. Any special conditions that would affect a bid should be incorporated into the estimates including such factors as tight work schedules, restricted working hours, incentives/disincentives, environmental compliance, etc.

The standard practice for developing and updating estimated prices for construction includes the following:

- Develop unit prices that consider the location, timing, and characteristics of the work to be performed;
- Estimated unit prices may be based on historical data (i.e., bid prices for previous contracts), or on actual costs, or a combination of both;

- For major items of work identify and analyze the primary factors and risks affecting the cost of the work (e.g., local labor rates, equipment rates, unusually small or large quantities, transportation distances, interest rates, time allowance, competition levels, material shortages);
- Document the methods and assumptions used to establish each unit price, including the primary unknowns and risks that are taken into consideration; and
- Perform periodic reviews of the unit prices and construction cost estimate during the design process, at each major project development phase, to confirm it is accurate and fully reflects the project scope and current market conditions.

Unit prices for the engineer's estimate should reflect the actual cost to the contractor of doing business, including a reasonable profit. Consider the two common methods to determine this cost; historical costs (bid-based estimating) and actual costs (cost-based estimating). With either method, the LPA should strive to predict the expected overall low bid, and develop unit prices that will at least equal, or slightly exceed, this amount. Develop unit prices for each defined pay item using either historic bid data that is factored for the project conditions, or cost based pricing (using costs for equipment, labor, material, and production rates applicable for the project conditions), or use a combination of both methods for comparison, as appropriate for each pay item.

1. **Historically Based Estimating.** Use historical bid data as a basis for estimating current costs. Consider the bids received for like items on recent (within the past two years), representative projects built under similar conditions that fairly represent the contractor's cost plus a reasonable profit. Consider the average of the low bids received on previous projects in similar locations, factored for project conditions and cost indices, as a basis for the anticipated minimum overall cost for current projects. However, do not use solely the lowest bids for analysis of historic unit prices, due to the variability in bids and costs for the individual bid items.

Consider that the lowest bid for a project may not represent a consistent distribution of costs among the bid items, and that the low bidder's prices on each individual item may not represent the lowest or most reasonable cost for every item. Therefore, it is recommended to use the average of the unit prices from the lowest three (3) bidders to verify that the low bid unit price is reasonable and consistent. Use the lowest three bidders' prices from representative past projects, and modify them to fit the conditions on the project, and adjust for increases in the overall cost of construction over time using an inflation index. Consider factors that may have a direct bearing on the historical bid prices in relation to the current project, including:

- Availability of construction material;
- Proximity of access roads and railroads;
- Distance from towns and travel speed;

- Timing of construction;
- Inflation indices; and
- Amounts of quantities.

The historical bid price approach, tempered with engineering judgment, is recommended for estimating the minor items of work on a project. For major items of work, it is recommended to also consider the cost-based estimating approach, in addition to the bid-based estimating approach, to verify the unit price analysis is reasonable.

- 2. Actual Cost Based Estimating.** Consider the cost-based approach for some items of work, especially major items such as roadway excavation, base and plant mix material, bridge material, etc. The actual costs to construct these items should be analyzed to ensure that all factors that bear on the cost of the item receive consideration. Use current labor, equipment and materials costs, production rates, as well as overhead and profit to develop cost-based unit prices.

When updating costs used in the engineer's estimates, consider the effects of inflation on pay items, wage rates, equipment rates and material costs. Use current inflation trends in roadway construction prices. Several cost inflation indexes are available to track short and long-term construction pricing trends, including:

- FHWA Price Trends in Federal-Aid Highway Construction Projects; and
- American Road and Transportation Builders Association (ARTBA) Price Index.

When updating historic bid prices or other cost data, use an inflation time period that begins at the year and month the historic bid or cost data originates from, and ends in the year and month of the proposed project's anticipated construction completion.

The LPA may also use a combination of the two methods above when preparing a cost estimate. For guidance on preparing Right-of-Way estimates, see Chapter 7 of this manual.

6.4.20 Design Plans

Design plans will be prepared by the LPA according to the updated ALDOT Guidelines for Operations (December 2011) and the Plans Preparation Manual (December 2008). Project plans are prepared at various stages of a project and ***the LPA will be required to prepare and submit a set of plans at each stage.*** Consult with the ALDOT Division Engineer, designee, or Division LPA Project Coordinator to help determine the type of plans to be submitted for the project. The plans will be thoroughly checked for completeness, accuracy, and formatting by ALDOT and/or FHWA.

[Guidelines for Operations Updated June 2013](#)

[ALDOT Plans Preparation Manual December 2008](#)

The design plans package should be developed to the sixty (60) percent level and should include cross-sections, major pay items with their associated quantities, major design details (e.g., intersections, turnouts, large culverts, guardrail, walls), and any items affecting permits

and ROW acquisition (e.g., erosion control plan). The completed plan package, with incorporation of review comments and revisions, should enable the development of final ROW plans and descriptions, final structural designs, final retaining wall designs, final hydraulic and geotechnical designs and for all major elements that other technical disciplines will develop or finalize as applicable for later inclusion in the PS&E.

ALDOT has three stages of design: thirty (30) percent, Plan in Hand (PIH), and plans for inclusion in the Plans, Specifications, and Estimates package. As plans are being developed, the plan sets should be organized in the following order:

1. Title Sheet;
2. Typical Sections;
3. Plan and Profile;
4. Bridges;
5. Drainage Facilities;
6. Environmental mitigation;
7. Preliminary Cross Sections;
8. Contiguous projects; and
9. ROW Ownership Plans (if not provided separately).

Consider the following information to develop the functional plans package:

- Summary of comments provided at the Plan in Hand (30%) review
- Preliminary Engineering Study Report
- Environmental commitments from the NEPA document
- Preliminary design plan and estimate

Activities required to develop the functional plans package include:

- Document the resolutions to the Plan in Hand field review comments and revise the PS&E package accordingly
- Update the design exception justification, if needed
- Incorporate any environmental commitments from the NEPA document
- Finalize construction limits
- Prepare draft environmental permit applications as needed. Develop the plans to sufficient detail to enable preparation of applications for permits
- As needed, provide design information to the ALDOT Division Engineer or Division LPA Project Coordinator for the development of the draft ROW plans and easement plats

- As applicable, for projects exceeding \$25 million in construction costs (or bridges over \$20 million), perform a Value Engineering study

Note: LPA projects adding capacity (lanes) or exceeding \$2,000,000 million in current dollar costs are subject to review and approval by the Chief Engineer. Value Engineering Studies (VEs) would not typically be required on LPA projects due to these constraints, but may be added at the direction of the Chief Engineer.

- Refine the preliminary cost estimate (from the preliminary design) to reflect all design changes
- Prepare a draft set of special contract requirements, as needed. This is recommended, but not required, at this point

Functional Plans Field Review

The purpose of the review (if applicable) is to resolve all aspects of the roadway geometry and design features that affect the physical disturbances, safety considerations, environmental impact mitigation, and cost of the proposed improvement to ensure that the design and PS&E:

- Are context sensitive
- Minimizes or avoids resource impacts
- Mitigates environmental impacts (wetlands, etc.)
- Addresses safety
- Has correct roadway geometrics
- Is cost-effective and constructible
- Integrates into the design the environmental mitigation and stipulations
- The plans are being developed with appropriate design and drafting standards

The extent of all proposed construction limits for the roadway footprint is typically a key issue that requires resolution at this stage. For the review, identify and document any exceptions to standards and the associated safety risks so that all parties are aware of the ramifications of the decisions.

The review may consist of an office review, or a field review at the project site, or both. The ALDOT review should preferably occur after an internal LPA review is performed, and preferably after the plans have been revised as necessary based on comments from the internal review. Provide copies of the plans, typical sections/cross sections, and Special Contract Requirements to ALDOT prior to performing the field review.

The result of the functional plans field review is the determination of the design features affecting the limits of disturbance for a project (e.g., horizontal and vertical alignments, cross sections, major approach roads, intersections, earthwork, and type, size location of structures and retaining walls). For some projects, this intermediate review may not be necessary to complete the design. The level of detail of the review depends on the scale of construction proposed (e.g., 3R to new construction). The information provided for the review includes:

- 60 percent plans containing detail plans and profiles showing preliminary alignments, grades, construction limits
- plotted cross sections
- Draft special contract requirements
- LPA engineer's cost estimates

6.5 Design Exceptions

Design policies and standards generally represent minimum values. Higher standards should be used within reasonable economic limits. If minimum design standards and the Americans with Disabilities Act (ADA) standards are not met, a design exception must be requested, unless the project is classified as a minimum maintenance project. ALDOT has approval authority for the departure from standards for LPA Federal-aid projects (FHWA must approve for full oversight projects).

As Department policy, ALDOT discourages consistent use of design exceptions as it may reflect inadequate preparation and planning. Before an exception is recommended, particularly an exception calling for less than the minimum standard, ***there must be compelling and demonstrated reasons why the approved standard criteria should not be used.*** The need for a design exception should be identified, evaluated, and decided as soon as possible in the design and decision-making process. The key milestone for identification and evaluation of design exceptions is at the completion of the preliminary design (30 percent) stage.

Environmental impacts and concerns, social impacts, extraordinary costs, or costs prohibitive of the limited available funds occasionally justify the need for design elements that are less than the minimum design standard. This can often be the case for 3R projects. Analysis should include consideration of adjacent roadway sections and the relationship to future improvements, as well as existing conditions, and operational and safety conditions that will result from completion of the project. When the analysis concludes that achieving full standards is not practical, evaluate the consequences and document each decision for exception to the standards. The design exception analysis and documentation process shall also include and discuss the incorporation in the design any existing substandard conditions or elements that are not reconstructed to approved current standards as part of the project.

Any substandard elements that will remain after completion of the project must be identified, evaluated, and documented in the same way as new design features.

There are basically two different approaches for evaluating and documenting design standard exceptions:

- A project-wide, or corridor design exception
- A site-specific design exception

A project-wide or corridor design exception may be advantageous for design consistency, maintaining driver expectancy, and to coordinate geometric design features within the corridor (albeit using lower design criteria), but may be disadvantageous if the necessity for the lower design criteria is not a prevailing condition throughout the corridor. A corridor design exception is best reserved for those elements (e.g., roadway width) that are not functions of the design speed. A design speed exception relates to either 1) the minimum design speed applicable to the functional classification and terrain, or 2) individual design elements that are based on design speed and addressed on an individual basis. The design speed is not necessarily constant within the corridor if there are distinct zones that are appropriate for a change in design speed.

A site-specific design exception acknowledges the necessity for using lower geometric design criteria for a specific feature while providing higher design criteria for the prevailing conditions along the corridor, and the exception will usually affect only a single element of the geometric design criteria (e.g., a horizontal curve radius, a vertical curve length) and other elements are not compromised.

The LPA shall describe and explain the conditions that preclude conformity to the applicable design standard. A preliminary estimate of the additional construction cost to conform to the applicable standard will be required, as compared with the proposed design exception. Safety enhancement is an essential element of any project design; therefore, a design exception should not be recommended if it would decrease the relative safety performance of the roadway in the affected area. Functional classification of the road, the amount, and character of the traffic, the type of project (i.e., new construction, reconstruction, 3R) and the crash history should be considered. The cost of attaining full standards and the resultant impacts on scenic, historic or other environmental features, as well as whether other future improvements are programmed, should also be taken into consideration. Consider as a minimum:

- What is the degree to which a standard is being reduced;
- Will the exception affect other standards or projects; and
- Are additional features being included in the project (e.g., improved roadway geometry, signing, delineation, roadside safety) that would adequately mitigate the safety and operational effects of the deviation?

Requests for design exceptions to the Alabama Minimum Design Standards must be submitted to the ALDOT Division Engineer by the LPA Project Engineer/Manager, a City Street Superintendent, or a County Highway Superintendent accompanied by supporting documentation, LPA or City/County certification, and/or resolution.

Note: *The Division Engineer must approve design exceptions, and request concurrence from FHWA. If the design exception is for a described safety-related project, or a project having a safety component, the exception must be reviewed and approved by the ALDOT Chief Engineer. There are no exceptions to this policy. For full oversight projects, FHWA must approve all changes.*

A design exception request letter shall contain, but not be limited to, the following items:

- **Project design:** basic design parameters for the project (e.g., design number, current and design traffic volumes, design speed, posted speed, percent trucks, etc.);
- **Degree of reduction in the standard:** both the required standard value and the proposed reduced value of the design feature should be clearly stated;
- **Design exception effect on other standards:** there should be clear discussion of the design exception's anticipated effect on the safety and operation of the facility, and its compatibility with adjacent sections of the roadway. Since safety enhancement is an essential element of any project design, exceptions should not degrade the overall safety of the roadway;
- **Crash history analysis:** Sufficient analysis should include the crash rate and/or history of the project to comparable routes, locating or identifying hazardous locations, and identifying crash trends within the project limits;
- **Cost of attaining full standards:** the cost of obtaining the full project standards versus providing the relaxed condition must be quantified. The costs should be realistically based on detailed cost analysis;
- **Mitigating features:** when features are added to the project to mitigate the effects of a design exception, they should be documented in the files;
- **Future improvements:** future work that will correct the substandard design feature should be documented in the files. This information should include the project numbers and their anticipated construction dates;
- **Resultant environmental impacts:** although avoidance, minimization or mitigation of environmental impacts has not typically been used to justify or approve design exceptions, there have been cases where full standards were not achieved due to their environmental implications; and
- **Other factors that could affect the decision:** for example, proposed development in the project area or local concerns may be issues to be addressed.

To coordinate the request for exception or to obtain an example design exception letter, contact the ALDOT Division Office (see LPA Project Guide) assigned to the project.

6.6 Final Design

6.6.1 Final Plan Review

The purpose of the final plan review is for the LPA to ensure that the appearance of the plans is uniform and consistent, containing all of the information required for the construction of the project. The use of duplicate data and cross references should be avoided; this is unnecessary and complicates the task of assembling, checking, and revising the plans. The 'Plans Not Final' note shall be removed and the 'Engineer's/Architects Seal' placed on all plan sheets at this time.

Final plan review also includes the review of the PS&E package. After revising the plans and specifications to show changes from the previous reviews, the PS&E package is typically distributed for a final review to ensure consistency with programming, environmental, geotechnical, hydraulics, bridge or other project requirements. A PS&E review meeting should be held, if comments need to be discussed and reconciled. Depending on the thoroughness of the previous reviews, an on-site inspection may or may not be required. In either case, resolve all comments received concerning the proposal so that the project may proceed to solicitation for construction. Incorporate the recommendations from any final geotechnical reports and permit requirements, and stipulations from ROW and utility agreements. Ensure that all necessary permits, agreements and other requirements for advertisement of the project are completed and are addressed in the PS&E.

The final design plans shall have all corrections made prior to submission for approval and authorization to the construction phase.

6.6.2 PS&E Submittal

After final design the PS&E package must be submitted to the ALDOT LPD Project Coordinator. The purpose of this activity is to advance the PS&E package for bid advertisement and letting. During this activity, the plans are signed and all specifications, estimates, certifications, and other documentation are reviewed and approved. The completion of this activity allows the solicitation of the contract package. See Chapter 11 for the complete PS&E review and authorization process.

6.6.3 Final Estimate

An Engineer's Estimate (EE) showing estimated quantities, unit prices, and extended totals of all items of work shall be submitted to ALDOT with the final plans. Subtotals shall be shown for roadway items, grading, paving, signals, lighting, signing, striping, and bridges, electrical, and miscellaneous items. Non-participating work (work that is not eligible for Federal participation) shall be identified in the estimate. To maintain the integrity of the bidding and procurement process, unit price analysis and the engineer's estimate must be treated as a confidential document.

The EE is a listing of all items of work in the contract, including appropriate incentive payments, makes up the construction estimate. Contingencies, construction engineering, project agreement costs, and other costs added to the construction estimate makes up the program amount.

When a contract is financed by multiple funds and expenditure of a fund is limited to a particular section, a separate estimate, summary sheet and bid schedule are necessary for each section. When a contract is financed by more than one type of fund, but expenditures are not limited to a particular section, only one bid schedule is necessary, supported by a combined estimate and summary sheet.

For final estimate all pay items and any pay item incentives should be known and specified, and no contingency is included for the final estimate. An allowance may be included within the tabulations of individual bid item quantities listed on the plans to address approximated quantities potentially needed to fit the project site conditions.

6.6.4 Specifications and Project Special Provisions

It is recommended that the LPA use the latest edition of the ALDOT 2012 Edition Standard Specifications for Highway Construction. The LPA may modify these specifications where appropriate for job-specific requirements or conditions, but the Division Engineer must be notified and approve of the change. Similarly, the LPA may write customized specifications for their projects, but with Division oversight and approval. These specifications shall be referenced on both the drawings and the specifications package as the basic standard for materials and construction. LPAs are urged to prepare the specifications and special provisions carefully to ensure that the inspection, testing, and sampling procedures anticipated by ALDOT staff are adequately covered.

6.6.5 Temporary Traffic Control

Traveling through a construction work zone or through a detour can be confusing to drivers. To alleviate the confusion, a well-designed temporary traffic control plan which includes but is not limited to: warning signs, markings, channelization devices, etc. should be developed. The LPA is fully responsible for developing the temporary traffic control plan. The LPA should address construction-sequencing issues and coordinate the development of the temporary traffic control plan with the ALDOT Division LPA Project Coordinator.

The LPA should consider both construction sequencing that maintains traffic on the section to be constructed or closing the project to all traffic and providing a detour route. The construction sequencing method selected needs to be detailed in the project's temporary traffic control plans.

A number of factors should be considered in determining the minimum acceptable traveled way width, including the presence and proximity of roadside features. As indicated by FHWA and AASHTO guidelines, vehicle speeds and position (i.e., lateral vehicle location) may be affected by roadside features. Section 9.2.1.1.2 of the *Roadside Design Guide* indicates that the minimum desirable offset from the edge of the travel lane to the temporary concrete barrier (TCB) is two (2) feet. A reliable source of information is the FHWA website for Clear Zone and Horizontal Clearance at [Clear Zone and Clearance](#).

Traveled way widths that result in twelve (12) foot wide travel lanes and provide offsets to constraining features (e.g., barriers) are desirable. However, lane constrictions are less than ideal conditions that must sometimes be provided as a matter of practicality. Factors that are sometimes considered in determining acceptable traveled way lane width include:

- Traffic volumes
- Heavy-vehicle (i.e., truck) volumes
- Lateral constraint
- Speed
- Horizontal curvature
- Duration of lane constriction
- One-way or two-way roadway (i.e., if all other factors are equal, the minimum traveled way width for an undivided two-way roadway should be greater than for the one-way roadway)
- Number of lanes

Traveled ways that result in travel lane widths of eleven (11) feet are fairly common in work zones; those that result in travel lanes less than ten (10) feet are generally not used for construction work zones on high-speed roads.

Stopping sight distance shall meet the minimums shown in the AASHTO publication, *A Policy on Geometric Design of Highways and Streets* [aka AASHTO Green Book], for the speed limit set in the construction zone.

Often road improvements such as milling, armor coat and asphalt surfacing, and shoulder work will require the closing or partial closing of travel lanes on roadways during construction. On roadways of four (4) lanes or more, this may simply involve reducing the number of lanes in each direction so construction work can be completed. On two-lane roadways this may involve the actual closing of an entire lane and the use of a flagger and associated signing and marking to direct traffic through the construction.

At the request of the LPA, ALDOT will recommend what type of temporary traffic control is needed in all situations.

6.6.6 Standard Plans

Standard Plans are engineering drawings showing standard details of various construction items, representing the current policies of the ALDOT, and approved for repetitive use where appropriate. The drawings are produced for statewide use by the Department, counties, and cities. Standard plans are used in conjunction with the Standard Specifications for Construction and other applicable specifications, policies, and manuals. These plans are prepared by the ALDOT Standard Plans Committee, are approved by FHWA, and signed by the appropriate ALDOT Division Engineer. These Standard Plans are available to the LPA from the Division Engineer or can be downloaded from the ALDOT LPA website.

6.7 Value Engineering

Value Engineering Studies (VEs) are required for all projects costing \$25 million or more on the NHS, and \$20 million for any Federal-aid bridge project. The \$25 million or \$20 million is an aggregate total from the estimated PE, ROW, Utilities, Construction and CE costs. Any project

that approaches this cost limit on the preliminary estimate should also have a VE study performed in anticipation of cost increases from preliminary design to the final PS&E stage of a project. VE is a tool that can provide: cost reduction, product or process improvement, and alternative means and materials for roadway construction and maintenance.

For VE studies relating to bridges, there is no qualifying road system classification (Federal-aid system as mentioned above) or funding source. Therefore, any bridge project that meets or exceeds the dollar amount must have a VE study completed. SAFETEA-LU also states that if the Secretary deems appropriate, the Secretary can require a VE study on any other Federal Aid project. This could be a unique project on or off the Federal-aid system.

However, VE analysis should not be limited to only projects meeting the monetary minimum cost estimate. It can also be highly effective when used on other projects when there is potential for a significant ratio of savings to the cost of the VE study or substantial improvements in project or program effectiveness. Federal agencies have applied VE to projects costing as little as \$500,000 and consider a savings to cost ratio of 2:1 significant. LPAs are encouraged to use VE throughout roadway project development, design, and construction. For more information, see: [FHWA Value Engineering](#).

VE is the systematic application of recognized techniques, by a multi-disciplined team to identify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking, and provide the needed functions to accomplish the original purpose of the project.

To be considered VE, the analysis process should incorporate each of the following characteristics:

- Multi-disciplinary team approach;
- The systematic application of a recognized technique (VE Job Plan);
- The identification and evaluation of function, cost, and worth;
- The use of creativity to speculate on alternatives that can provide the required functions (search for solutions from new and unusual sources);
- The evaluation of the best and lowest life-cycle cost alternatives;
- The development of acceptable alternatives into fully supported recommendations; and
- The presentation/formal reporting of all VE recommendations to management for review, approval, and implementation.

VE may be applied at any point in roadway development, operation, and maintenance. For maximum effectiveness, however, VE should be undertaken as early as possible (during the first 30 percent of design) when decisions on life-cycle costs are being made and valid project development recommendations can be implemented. When a complex, costly project is selected as a candidate for potential cost reductions, investigations should start as soon as a preliminary estimate is in hand.

VE should be considered on project when the ratio of potential savings to the cost of the VE study is significant. VE can also be used in evaluating standard details that are used repetitively on many projects. The cost of VE studies in preconstruction activities may be allocated to the preliminary engineering cost of the related project. LPAs are also encouraged to include a VE incentive clause in their construction specifications. Such clauses encourage contractors to propose changes to the contract that fulfill a project's functional requirements at less cost. The net savings of each proposal should be calculated in accordance with the ALDOT [Standard Specifications for Highway Construction 2012 Edition](#).

The VE Team should be comprised of at least five (5) members including the facilitator. One team member should have a background in bridge design (if a bridge is part of the project) or construction. If environmental factors are part of the study process, then the team should also include a member who has expertise on environmental issues.

Note: LPA projects are currently subject to review and approval constraints for applications 1) at or exceeding \$2 million total cost [current], and 2) any project calling for Capacity improvements [lane additions]. VE will be considered for the LPA project at this time and the requirement for studies will be at the discretion of the Chief Engineer.

6.8 ALDOT LPA Design Requirements

The design of new and reconstructed roadways with design traffic counts of >2,500 ADT or more will be based on the American Association of State Highway and Transportation Officials (AASHTO) publication *A Policy on Geometric Design of Highways and Streets, 2001 Edition*.

Chapter 5 applies to local roads and streets; Chapter 6 applies to collector roads and streets. Other sections of this book are also applicable to these projects.

The design of new and reconstructed roadways with design traffic counts below <2,500 ADT will be based on the Alabama Department of Transportation County Road Design Policy. All design criteria will be based on the future; i.e., 20-year, ADT. The Transportation Research Board (TRB) *Special Report 214* should be used as a guide for 3R projects designed for 50 mph or greater. If the recommended minimum geometric design values contained in *Special Report 214* are met, and the accident history and traffic counts are documented, then no design exception is required.

For 3R projects designed for <45 mph or less, refer to Chapter 2 of ALDOT County Road Design Policy. Design for 3R projects should be based on a 10-year ADT with the exception of Equivalent Single-Axle Load (ESAL) calculations, which will be based on a 20-year ADT.

Note: Any feature not meeting the above standards must be approved as a design exception by the ALDOT Chief Engineer.

6.8.1 CLEAR ZONE

The following is provided as guidance for clear zones and treatment for slope and drainage structure protection for different types of projects in the State of Alabama: [County Road Design Policy](#). Also visit the ALDOT Standard Specifications 2012 (see link above.)

The suggested clear zone width is as shown in the AASHTO Green Book (*A Policy on Geometric Design of Highways and Streets*).

Visit the FHWA website for additional information on [Clear Zone and Clearance](#).

6.8.2 SCOPE OF WORK REVIEW REQUIREMENTS

The Division Engineer, and/or a representative, is required to develop and prepare a project Scope of Work, conduct a field review in company with the County Engineer, the LPA Project Manager, or their designees, excluding bridge replacement projects with minor or no approach work. The Division Engineer should make recommendations for design and safety requirements. The following should be addressed, if applicable:

1. Provide a brief project description. Include the project limits, the date of the scope of work review, the names of the people attending and the tentative letting date.
2. Provide the design speed and the clear zone requirements of the section to be reviewed.
3. Provide the number and location of the existing horizontal and vertical curves that will not accommodate the design speed. Include the design speed of the existing sub-standard curves. Indicate the proposed improvements for these sub-standard curves.
4. Provide the accident data of the section to be reviewed. Include the present and future traffic counts and truck percentage.
5. Provide the width and type of the existing and proposed pavement. Include the general condition of the existing pavement. Indicate whether patching is needed and if leveling is required for cross slope correction.
6. Provide the widths and types of the existing and proposed shoulders. Indicate what type of work will need to be done to the shoulders; i.e., machine grading shoulders, additional borrow (fill) needed, etc.
7. Provide the width and condition of all existing bridges. Include the bridge identification number and the bridge stations. Guardrail related items are addressed in Guardrail Requirements on this chapter page 6-58.
8. Provide a general statement concerning the length and condition of existing culverts and cross drain pipes. Indicate any relocation or replacement of side drain pipes and headwalls.
9. Provide whether intersection improvements are required.
10. Provide any recommendations for eliminating any unusual condition that may be considered extremely hazardous.
11. Provide any environmental considerations; i.e., wetland impact, storm water permit, etc. Indicate if erosion or sedimentation control items are needed.
12. Provide a detailed description of the work to be performed by the contractor and the work to be performed by the LPA.
13. Provide the existing right-of-way width. Indicate whether right-of-way will be required.
14. Provide any utility conflicts.
15. The Scope of Work should be submitted to the LPA allowing ample time for preparing the Categorical Exclusion (or appropriate environmental documentation), and if applicable, completing the plans, conducting the PS&E review and submitting the plans to the division, who forwards to the Transportation Planning and Modal Programs Bureau at least 16 weeks prior to the anticipated letting date.

6.8.3 GUARDRAIL REQUIREMENTS

Any project utilizing federal-aid funds must require guardrail and end anchor protection at existing and proposed bridge and culvert structures in accordance with the following guidelines:

Design Speeds of 45 mph or Less and Design Year Traffic of 2,500 ADT or Less

The **length of need* requirement is waived and the approach guardrail length is dictated by the type of anchors used, applicable drawings and warranty criteria.

Design Speeds Greater Than 45 mph or Design Year Traffic Greater Than 2,500 ADT

A 75-foot length of need is applicable.

**Length of need* is defined as the total length of a longitudinal barrier needed to shield an area of concern.

The following site hosted by the Texas Department of Transportation includes calculations for determining Length of Need and additional information.

[*TxDOT: Determining Length of Need Calculations](#)

The Scope of Work review should include the following guardrail related items:

1. GUARDRAIL AND/OR END ANCHOR PLACEMENT
Provide the areas of proposed guardrail and/or end anchor placement, such as on bridges or at bridge ends, culverts and at other hazardous locations. Indicate whether there are any in-place guardrail or end anchors that will need to be removed and what type.
2. BRIDGES REQUIRING GUARDRAIL WORK
Provide the type of barrier that is across the structure; i.e., class A or class B steel beam guardrail, concrete rail, etc. Include the post spacing and the bridge clear width (curb to curb). Indicate whether the guardrail is blocked out properly or if the block outs are to be reconfigured. A project detail sketch should be added to the plans if block outs are to be reconfigured. Provide the condition of the existing bolts where steel beam guardrail across a structure is to be replaced. Indicate whether the bolts are to be retained or replaced.
3. CULVERTS REQUIRING GUARDRAIL AND/OR END ANCHOR WORK
Provide the length of parapet wall (station to station), the final proposed shoulder width, the distance from the outside edge of the proposed shoulder to the first edge of the parapet wall and the approximate slope from the outside edge of the final shoulder to the first edge of the parapet wall.

Guardrail should be considered for all slopes and structures within the clear zone that do not satisfy clear zone requirements.

6.8.4 RESURFACING, RESTORATION, & REHABILITATION (3R) PROJECTS

1. Retain current slopes, without steeping side slopes, when widening lane and shoulders, unless warranted by special circumstances.
2. Cross drain pipes and culverts will only be extended as required to provide the width for the pavement and shoulders. Headwalls will be retained on existing cross drain structures that will not require adjustment to obtain the width for the pavement and shoulders.

- Side drain pipe will be relocated, as required, to obtain the width for the pavement and shoulders and slope paved headwalls provided. Headwalls will not be replaced on existing side drain pipe that will remain in-place. Consideration will be given to replacing large vertical headwalls that are close to the pavement and are a potential hazard. Additionally, it will be determined during final review if existing side drain pipes without headwalls will be rebuilt with headwalls as part of the project.

A detailed scope of work is essential with these 3R guidelines and should include recommendations for eliminating any unusual condition which may be considered extremely hazardous.

These design criteria have been approved by the Alabama Department of Transportation (ALDOT) for LPA road projects that qualify for and are funded through the Alabama Department of Transportation.

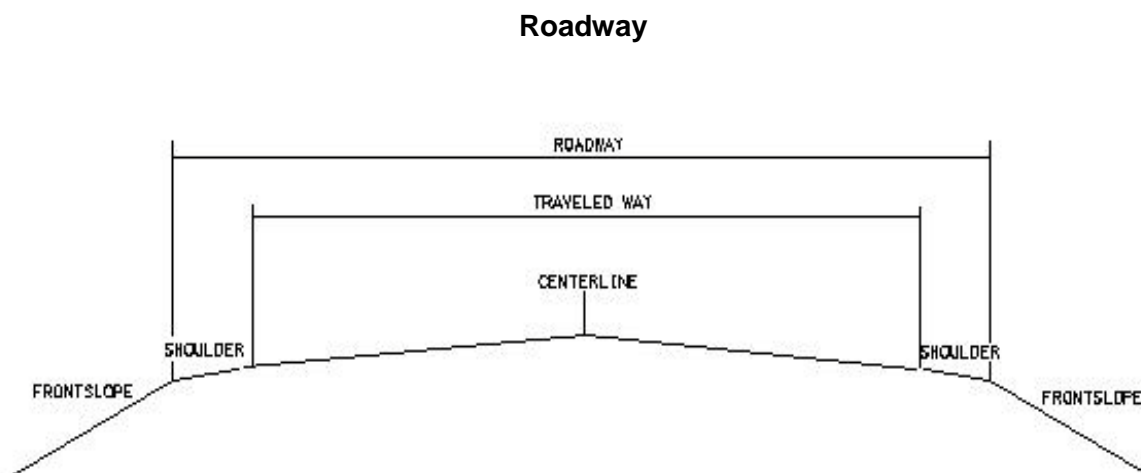
All projects approved by and funded through ALDOT must be designed and constructed according to these criteria.

These criteria should not apply to any roads not funded through ALDOT.

Projects funded through the Alabama Industrial Access Road and Bridge Corporation must meet the minimum cross sections of 1600-2500 ADT, regardless of actual design ADT unless the design ADT is greater than 2500, and then AASHTO criteria will apply.

6.8.5 Design Criteria - New and Reconstructed Roadways and Bridges with Traffic Volumes Less than 2,500 ADT

Typical Roadway Cross Section



Typical Design Speed¹

Type of Terrain	1 – 99 ADT (mph)	100 – 399 ADT (mph)	400 – 1599 ADT (mph)	1600 – 2500 ADT (mph)
Level	20	25	30	40
Rolling	15	20	25	30
Mountainous	10	15	20	25

¹Design speeds, for some roads, may be a lower or higher speed based on its functional classification. Consult the AASHTO guide, *A Policy on Geometric Design of Highway and Streets* for county road design projects involving traffic volumes greater than 2,500 ADT.

Minimum Hydrology

Side Drain	10 Year Flood
Cross Drain	25 Year Flood

Typical Bridge Width and Loading Design²

24' Minimum or Traveled Way + 4' (whichever is greater)	HS – 20
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²Bridge widths, for some roads, may need additional width based on its functional classification. Consult the AASHTO guide, *A Policy on Geometric Design of Highway and Streets* for county road design projects involving traffic volumes greater than 2,500 ADT.

Roadway Design Criteria for 1 – 99 ADT

Design Speed (mph)	Traveled Way Width (ft)	Shoulder Width (ft)	Clear Zone ³ (ft)
10	18	2	2
15	18	2	2
20	18	2	2
25	18	2	2
30	18	2	2
35	18	2	2
40	18	2	2
45	20	2	4

³Clear zone is the area adjacent to the traveled way that is clear of obstructions and has a fore-slope no steeper than a 3 horizontal to 1 vertical (3:1).

Roadway Design Criteria for 100 – 399 ADT

Design Speed (mph)	Traveled Way Width (ft)	Shoulder Width (ft)	Clear Zone ³ (ft)
15	18	2	2
20	18	2	2
25	18	2	2
30	18	2	2
35	18	2	4
40	18	2	4
45	20	2	6

³Clear zone is the area adjacent to the traveled way that is clear of obstructions and has a fore-slope no steeper than a 3 horizontal to 1 vertical (3:1).

Roadway Design Criteria for 400 – 1599 ADT

Design Speed (mph)	Traveled Way Width (ft)	Shoulder Width (ft)	Clear Zone ³ (ft)
20	18	2	2
25	18	3	4
30	20	3	4
35	20	3	4
40	20	3	6
45	22	3	6

³Clear zone is the area adjacent to the traveled way that is clear of obstructions and has a fore-slope no steeper than a 3 horizontal to 1 vertical (3:1).

Roadway Design Criteria for 1600 – 2500 ADT

Design Speed (mph)	Traveled Way Width (ft)	Shoulder Width (ft)	Clear Zone ³ (ft)
25	20	4	4
30	22	4	4
35	22	4	6
40	22	5	6
45	22	5	8

³Clear zone is the area adjacent to the traveled way that is clear of obstructions and has a fore-slope no steeper than 3 horizontal to 1 vertical (3:1).

Super-elevation

Conditions may warrant the elimination of superelevation with design speeds of 20 mph or less.

COUNTY ROAD DESIGN POLICY SUPERELEVATION CHART FOR 2-LANE ROADWAY

R of curve (ft)	DESIGN SPEED (MPH)												
	20	25	30	35	40	45	50	55	60	65	70	75	
	e%	e%	e%	e%	e%	e%	e%	e%	e%	e%	e%	e%	e%
23,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
20,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
17,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
14,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
8,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
6,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
5,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3,500	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,500	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,000	NC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
1,800	NC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
1,600	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
1,400	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
1,200	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
1,000	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
900	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
800	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
700	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
600	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
500	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
450	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
400	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
350	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
300	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
250	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
200	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC
150	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC	RC

Note - STL lengths as shown are based on 12' lanes, 2% NCS, and rotation about centerline of roadway. For lane widths less than 12', refer to Drawing SSEC 1 (Index No. 807) for STL calculations.

Crest and Sag Vertical Curves

Design Speed (mph)	Crest Vertical Rate, K^4	Sag Vertical Rate, K^4
10	2	5
15	3	10
20	7	17
25	12	26
30	19	37
35	29	49
40	44	64
45	61	79

⁴Rate of vertical curvature, K , is the length of curve per percent of algebraic difference in intersecting grade, A ; $K = L/A$.

Maximum Percent Grade

Design Speed (mph)	Percent Grade ⁵
10	18
15	17
20	16
25	15
30	14
35	13
40	13
45	12

⁵For roadway grade less than 1000 ft (300 m) in length, the maximum grade may be increased by 2%.

Stopping and Passing Sight Distances

Design Speed (mph)	Stopping Sight Distance (ft)	Passing Sight Distance (ft)
10	47	480
15	85	585
20	115	710
25	155	900
30	200	1090
35	250	1280
40	305	1470
45	360	1625

Intersection Sight Distance

Design Speed (mph)	Distance for Left Turn Maneuver from Stop ⁶
10	115
15	170
20	225
25	280
30	335
35	390
40	445
45	500

⁶Intersection sight distance is measured from a point on the minor road 15 feet from the edge of the major road pavement and measured from an eye height of 3.5 feet on the minor road to an object height of 3.5 feet on the major road. Guidance in determining additional sight distances is provided in the AASHTO *Policy on Geometric Design of Highways and Streets*.

6.8.6 Design Criteria - Resurfacing, Restoration and Rehabilitation (3R) of Existing County Roadways and Bridges for All Traffic Volumes with Design Speeds of 45 MPH or Less

Significant improvements in safety should be systematically designed into each LPA roadway 3R project. Designers should seek opportunities specific to each project and apply sound safety and traffic engineering principles. Attention to safety, along with documentation of the design process, improves design decisions. County agencies should incorporate the following recommendations.

Current Conditions

Recommendation 1: The designer should assess the existing physical and operational conditions affecting safety.

- Conduct and document a thorough site inspection of all physical elements and geometry within the roadway limits that are maintained by your agency.
- Analyze existing roadway users, functional classification, ADT and design criteria.
- Analyze crash data to include field inspection and concerns expressed by the public.

Project Scope

Recommendation 2: In addition to pavement repairs, where appropriate, the designers should consider intersection, roadside and traffic control improvements that may enhance safety. Based on Recommendation 1, the designer should:

- Determine the site-specific locations where physical elements should be replaced or improved. Field review the roadway for driveways hidden because of roadway geometry, especially if the driveway is used by large trucks or farm machinery, intersections with limited sight distance, sharp horizontal or vertical curves, narrow bridge, drainage areas close to the pavement, headwalls, obstructions within the right of way, etc.
- Determine the site-specific locations where crash data indicates the need for additional improvements. Review crash data information and develop collision diagrams.

Lane and Shoulder Width

Recommendation 3: The following values should be considered:

Design Year ADT ^a	Design Speed ^b (mph)	Trucks/Machinery ^c <10%		Trucks/Machinery ^c ≥10%	
		Lane Width	Shoulder Width	Lane Width	Shoulder Width
1 – 750	≤45	9 ft	2 ft	10 ft	2 ft
751 – 2000	≤45	10 ft	2 ft	10 ft	2 ft
2000>	≤45	11 ft	3 ft	12 ft	3 ft

^aDesign year ADT should be based on a 10-year projection.

^bDesign speed for 3R projects should be defined as the selected speed for the roadway determined by analyzing factors such as average speed, posted speed or roadway geometric features, along with a review of accident data. Projects with design speeds exceeding 45 mph should refer to TRB *Special Report 214*.

^cSome types of vehicles may require additional roadway widths.

Normal Pavement Crown

Recommendation 4: The designer should develop consistent procedures for evaluating the existing pavement crown with the following objectives:

- The pavement overlay should match new construction normal crown policies for your agency. Typically 2 – 2.5% cross slope.
- The shoulder cross slope should allow rainfall to drain the roadway. Typically 4 – 6% cross slope.

Horizontal Curvature and Super-elevation

Recommendation 5: The designer should review each horizontal curve to determine the appropriate action that may be required.

- The existing cross section with increased super-elevation should be adjusted to match the average speed of vehicles.
- Curves with Low Average Vehicle Speeds <45 mph: Resurface without changing the existing curve geometry and cross section if the nominal design speed of the curve is within 15 mph of the average vehicle speeds and if there is no clear evidence of a site-specific safety problem associated with the curve.

- Curves with High Average Vehicle Speeds ≥ 45 mph: Consider reconstruction when
- the nominal design speed of the existing curve is more than 15 mph below the
- average vehicle speeds and the projected traffic volume is greater than 1000 ADT, or if there is a site-specific safety problem associated with the curve.
- Acceptable substitutes for curve reconstruction include:
 - a. Measures to reduce speed; i.e., signing, pavement markings, rumble strips, traffic control devices, etc.
 - b. Measures to improve the roadside; i.e., clearing slopes, flattening steep side slopes, removing, relocating or shielding obstacles, etc.
 - c. Measures to improve the roadway; i.e., widening lane width, widening shoulder width, paving shoulders, etc.

Vertical Curvature and Stopping Sight Distance

Recommendation 6: The designer should review each vertical curve to determine the appropriate action that may be required.

- Curves with Low Average Vehicle Speeds < 45 mph: Resurface without changing the existing curve geometry if the nominal design speed of the curve is within 20 mph of the average vehicle speeds and if there is no clear evidence of a site-specific safety problem associated with the curve.
- Curves with High Average Vehicle Speeds ≥ 45 mph: Consider reconstruction when the design speed of the existing curve is more than 20 mph below the average vehicle speeds and the projected traffic volume is greater than 1000 ADT, or there is a site-specific safety problem associated with the curve.
- Acceptable substitutes for curve reconstruction include:
 - a. Measures to reduce speed; i.e., signing, traffic control devices, etc.
 - b. Measures to improve the roadside; i.e., removing, relocating or shielding driveways, intersections, sharp horizontal curves, narrow bridges, etc.
- Sag vertical curves typically do not create sight restrictions and do not have to be reconstructed unless there is a site-specific safety problem.

Bridge Width

Recommendation 7: The designer should evaluate bridge replacement or widening if the bridge is less than 100 feet long and the usable width of the bridge is less than:

Design Year ADT ^a	Design Speed (mph)	Usable Bridge Width ^{b, c, d}
1 – 1000	≤45	Width of Approach Lanes
1001 – 4000	≤45	Width of Approach Lanes + 2 feet
4000>	≤45	Width of Approach Lanes + 3 feet

^aDesign year ADT should be based on a 10-year projection.

^bThe bridge should be equal in width if the roadway width (lane plus shoulder) is paved.

^cBridge usage by trucks, farm machinery or recreational vehicles should be considered in determining the appropriate width.

^dExisting bridges may remain in place without widening unless there is evidence of a site-specific safety problem.

Side Slopes and Clear Zones

Recommendation 8: The designer should develop consistent procedures for evaluating and improving roadside features using the following objectives:

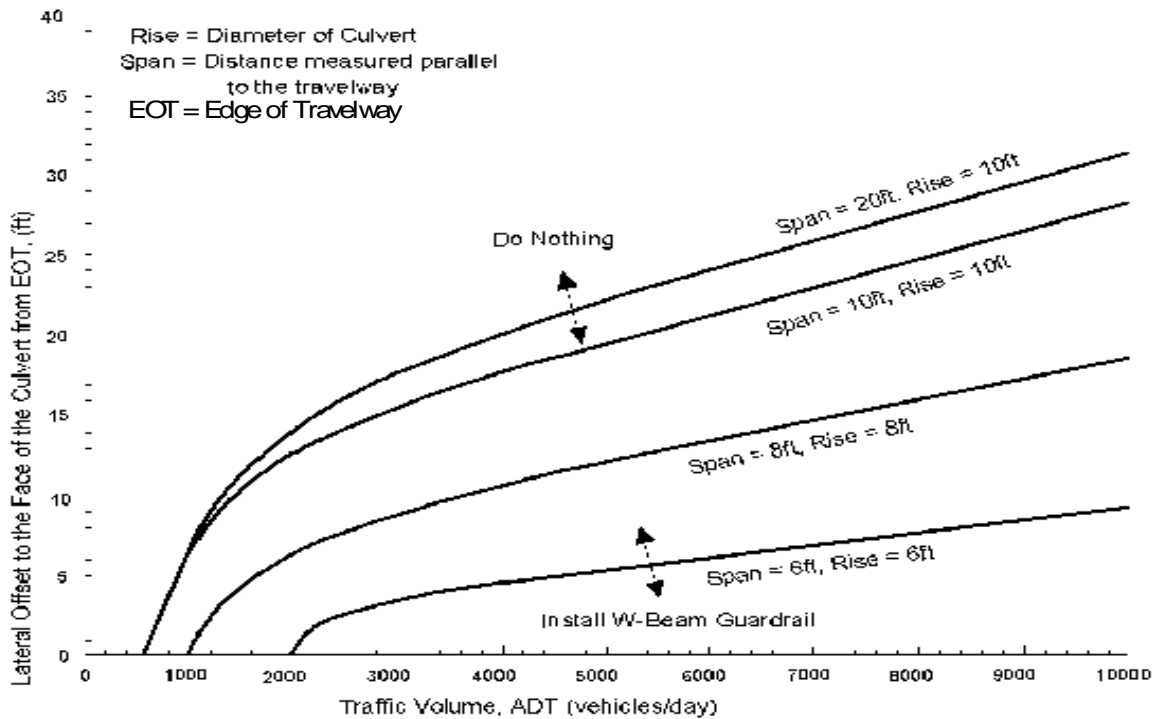
- A clear zone of any width should provide some contribution to safety. Where clear zones can be provided at little or no additional cost, incorporation in design should be considered. A 2 - 3 foot shoulder is recommended.
- Retain current slopes, without steepening side slopes, when widening lane and shoulders, unless warranted by special circumstances.
- Flatten side slopes steeper than 3:1 at site-specific locations where there is evidence of safety problems.
- Remove, relocate or shield isolated roadside obstacles.
- Clear recovery areas less than desired may be used when constraints of cost, terrain, right of way or potential social and/or environmental impacts make the provision for a clear recovery area impractical.

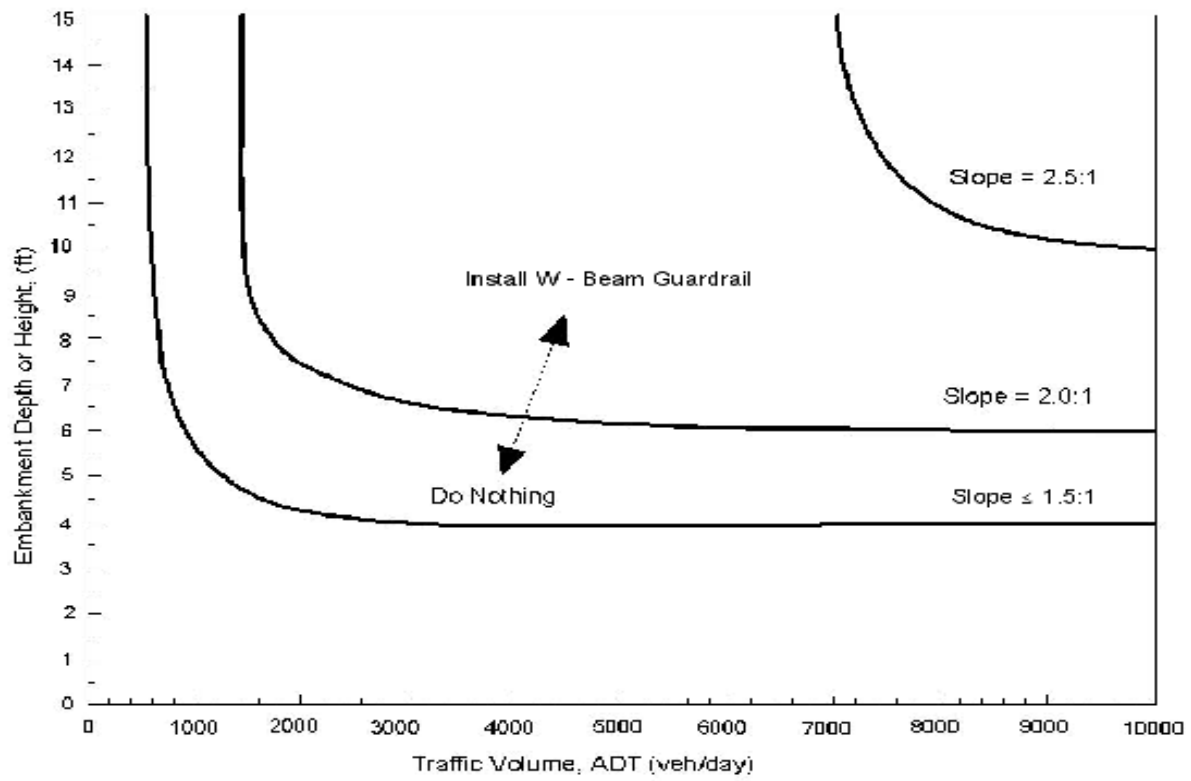
Guardrail Need for Embankments and Culverts

Recommendation 9: The designer should develop consistent procedures for evaluating guardrail need with the following considerations:

- Examine the shoulder slopes and culvert sizes.
- Identify site-specific safety locations.
- Clear zone encroachments.

The charts on page 9.19 are intended to aid the designer in the decision-making process. These curves are intended to eliminate the need for conducting benefit-cost analysis. These charts may be used if the slope or culvert is within the clear zone as recommended in Chapter 1 of this policy, or if there is a site-specific safety problem.





Pavement Edge Drop and Shoulder Type

Recommendation 10: The designer should develop consistent procedures for evaluating pavement edge drop problems and the type of shoulder construction using the following objective:

- Selectively pave shoulders at points where there is site-specific safety problems; i.e., outside or inside of horizontal curves, across from intersecting roads, etc.

Determine Intersection Improvements

Recommendation 11: The designer should develop consistent procedures for evaluating intersection improvements using the following:

- Collision diagrams showing vehicle paths, time of occurrence and weather conditions.
- Condition diagrams showing important physical features that affect traffic movements.
- Field review of the intersection to detect hazards not apparent from collision and condition diagrams.
- Consider intersection improvements to site-specific safety problem areas.
- Improvements may be organized on three primary design objectives:
 - a. Reduction of potential conflicts; i.e., traffic signals, turn lanes, etc.
 - b. Improve driver decision-making; i.e., longer lines of sight, lane markings, etc.
 - c. Improve the braking capability of the vehicle; i.e., warning signs, increased pavement skid resistance, etc.

Document the Design Process

Recommendation 12: Before developing construction plans and specifications, the designer(s) should prepare a safety and design report based on the above 11 recommendations. Additional information regarding specific elements, not mentioned above, may be included in this report.

The report should be submitted to ALDOT with the project design plans for review and approval. The format of the report will be established by ALDOT.

Any waivers of the design criteria should be submitted and approved by ALDOT.

6.9 LPA Plan Preparation

6.9.1 TITLE SHEET

1. INDEX TO SHEETS

- a. List all standard and special drawings pertaining to the project in accordance with the latest edition of the Alabama Department of Transportation's (ALDOT) [Roadway Plans Preparation Manual](#) (December 2008).
- b. Preparers should review the Index to Sheets General Guidelines (p. 1A.1) requirements first, before proceeding further. Several '*omitted*' sheets should be shown in the index. The reason for this is it may be necessary to add a project detail or other sheets. However, no '*omitted*' sheet should be listed as the last sheet in the plan assembly.

2. PROJECT LOCATION MAP ON TITLE SHEET

- a. Project location maps should be oriented with North at the top of the page and a North Arrow clearly displayed.
- b. Show the current population of all towns, cities, etc. Indicate the latest census year.
- c. Show range, township and section lines, indicating by their correct numbers.
- d. On the location map, show equations and exceptions, begin work, begin project, end work and end project stations. For bridge replacement projects, indicate on the map the stations, location and description of the in-place bridge (or bridge culvert) to be removed. Also show equations and exceptions and required bridges (or bridge culvert) with totals on the left side of the title sheet below the index.
- e. The following guidelines should be used for project/work limits and stationing:
 1. Bridge/Bridge Culvert (no approach work): Use the actual bridge or bridge culvert stationing for the begin project and end project limits. Note that the centerline length of a bridge culvert is measured from the inside faces of the exterior walls along the centerline of the project. This length must be reflected throughout the plans. The begin work and end work limits should be set to allow for guardrail placement (if part of contract), plus an additional 10 to 25 feet (3 to 8 meters) for working room.
 2. Bridge/Bridge Culvert (approach work as part of contract): The project limits should be based on either the vertical or horizontal ties to the existing roadway or profile. The greater limits must dictate the project limits. In the event that the horizontal approach work is on new alignment and ties to the present alignment with a horizontal curve, the *PC or *PT of the curve should be used for the project limits, but the super-elevation runoff distance should be considered in establishing the work limits.

***Note:** Geometric expressions used in determining the properties of

horizontal curves, where PC is Point of Curve and PT is Point of Tangent.

3. Grade, Drain, Base and Pave (new alignment): The same guidelines as noted in part 2 above will apply.
4. Resurfacing/Widening and Resurfacing: Typically, the work limits and project limits will be the same stationing.
5. Multiple Sites: Projects with multiple site locations within one set of plans should indicate only the begin work and end work limits at each site unless the sites are on the same route and are in proximity; i.e., a main channel structure and a relief structure, and the proposed project limits will encompass both sites.
6. Show all state, county and US routes on the map.
7. Show the north arrow on the right side of the map.
8. Show destination and distance to all major urban areas or routes;
i.e., “37 miles → to Montgomery” or “10 miles I-22 →”

3. HEADING OF THE TITLE SHEET

- a. ALDOT Project Identification Numbers (i.e., 100059602) must be on all plans if a number has been assigned. Project description and ID must be carried forward to all formal MPO and State Planning Documents (i.e., Long Range Transportation Plan [LRTP], Transportation Improvement Program [TIP], Congestion Management Plan [CMP], State Transportation Improvement Program [STIP]).

Note: It is the responsibility of the LPA to ensure that projects are included in all local planning documents and that project descriptions and project identification numbers are consistently applied to projects.

- b. On all federal-aid projects, including bridges using federal-aid funds, the Federal-aid Project Number must be shown on the plans; i.e., Federal-Aid Project STPNU-0922().
- c. On all bridge replacement projects using bridge replacement funds, the project number must be shown on the plans; i.e., Federal-Aid Bridge Replacement Project BRZ-0900 ().
- d. On all state projects, the project number must be shown; i.e., Project ST-034-888-001.
- e. Project termini, primary, and secondary description information must be shown on the plans for **all projects**. This includes type of work and its location; i.e., *Precast Concrete Bridge on County Road 55 at Dry Creek or Widening and Resurfacing on County Road 1 from County Road 2 to County Road 3; add sidewalks west side of road to Maple Street, safety improvements crosswalks and pedestrian signals; this is a designated evacuation route.*
- f. If the county route number differs from the number shown on the functional

classification map, indicate the old route number in parenthesis in the description; i.e., Widening and Resurfacing on County Road 29 (old County Road 10).

4. MILEAGE (KILOMETER) BOX

Below is an example of the mileage box as shown in the lower left-hand section of the title sheet. The following guidelines should be used for the calculation and display of the lengths as shown in this box.

	Feet	Miles
Total Stationing of Project	370.00	
Equations and Exceptions	0.00	
Net Length of Project	370.00	0.069
Net Length of Bridges	44.92	0.008
Net Length of Roadways	325.08	0.061

- a. Total Stationing of Project: This length is based on the actual project length expressed to two decimal places and is shown in the feet column (three decimal places for metric and is shown in the metric column). This length is not shown in the miles or kilometers column.
- b. Equations and Exceptions: List the net effect of any equations or exceptions. This length should be expressed to two decimal places and is shown in the feet column (three places for metric and is shown in the metric column). This length is not shown in the miles or kilometers column.
- c. Net Length of Project: This length as shown in the feet (meters) column will be the same length as shown in the total stationing of project unless there are equations or exceptions. This length should be expressed to two decimal places and shown in the feet column (three places for metric and shown in the meters column). Do not use this as the basis for calculating the net length as shown in the miles or kilometers column. This length will be the sum of the net length of roadways and the net length of bridges. There may be a slight round-off error because the mileage or kilometer lengths are truncated at three decimal places without rounding up. In the example above, 370' would convert to 0.070 miles instead of 0.069 miles as shown. It is recommended to set your calculator to four decimal places for calculation purposes.
- d. Net Length of Bridges: This is the actual stationing of the bridge or bridge culvert expressed to two decimal places and is shown in the feet column (three places for metric and shown in the meters column). This length should be shown in the miles or kilometers column expressed to three decimal places (no rounding).
- e. Net Length of Roadways: This is calculated by subtracting the net length of bridges from the net length of project. This length should be expressed to two decimal places and shown in the feet column (three places for metric and shown in the meters column). This length should be shown in the miles or kilometers column expressed to three decimal places (no rounding).

MILEAGE BOX – MULTIPLE SITES

	SITE 1		SITE 2		SITE 3		TOTAL	
	Feet	Miles	Feet	Miles	Feet	Miles	Feet	Miles
Total Stationing of Project	100.56		200.65		370.00		671.21	
Equations and Exceptions	0.00		0.00		0.00		0.00	
Net Length of Project	120.56	0.022	200.65	0.037	370.00	0.069	691.30	0.130
Net Length of Bridges	50.25	0.009	64.25	0.012	44.92	0.008	159.42	0.030
Net Length of Roadways	70.31	0.013	136.40	0.025	325.08	0.061	531.79	0.100

When a bridge is shown as in-place on a resurfacing type project, show the station to station limits and length on the left side. Indicate in parenthesis any work to be done; i.e., to be striped over only, plane and resurface, stripe over and guardrail replacement, etc. The net length of bridges will be equal to the total bridge length.

5. MISCELLANEOUS

- a. The title sheet must have the signatures of the LPA Engineer and the Division Engineer when received by the Transportation Planning and Modal Programs Bureau. Any plans that have been prepared by a consulting engineering firm must have the registered engineer's signature and professional stamp affixed to the title sheet. The Transportation Planning and Modal Programs Engineer's signature will be added in this office. Signatures of the Chief Engineer and the Transportation Director are obtained by the Bureau of Office Engineer.
- b. Show the bridge identification number (BIN) for the existing structure on all bridge replacement projects. Submit a construction activity form for the proposed structure to the Transportation Planning and Modal Programs Bureau. This should be submitted prior to or at the plan submittal stage.
- c. In the design designation box, the current and design traffic counts and years, *TADT, design speed, and stopping sight distance must be shown. The traffic counts should indicate current and 10-year counts for 3R projects and current and 20-year counts for bridge replacement and new location projects. The approval date for the categorical exclusion should also be shown below the design designation box and keyed to the design speed. If there is an addendum to the categorical exclusion, the approval date for the addendum should also be indicated. An example is shown on the following page. Traffic counts are based on calendar year and not fiscal year.

***Note:** Three different versions of the TADT abbreviation are in common use: a) **Twin Axle - Dual Tire**, b) **24 hr. percent Commercial Vehicle**, c) **Throughput/through traffic**. ALDOT Design and other bureaus use **24 hr. percent Commercial Vehicle**.

DESIGN DESIGNATION
ADT (2007) – 490
ADT (2017) – 600
K
D
TDHV
TADT – 4.5%
V (Design Speed) – 45 MPH*
Min. Stopping Sight Distance (ft.) – 360

*Categorical Exclusion Approved 04/08/06
Addendum Approved 06/04/06

TYPICAL SECTION SHEET

1. TYPICAL SECTION DRAWING

- a. In-place or required should be shown for all components; i.e., roadbed, bituminous treatments, base and sub-base course items, etc. Add, retain or remove to all existing components, as appropriate. See example below:

When item improved bituminous concrete wearing surface is set up for a project, the requirement on the typical will be:

Required Improved Bituminous Concrete Wearing Surface Layer, ____ in. (mm)
Maximum Aggregate Size Mix, ESAL Range ____ [approximately ____ lbs/yd²
(kg/m²)] (____ ft. (m) wide

- b. When leveling is used at a specific rate on a project, it should be shown on the typical section and the approximate rate shown in parenthesis. An application rate range may also be shown. Do not show patching, spot leveling or tack coat on the typical section.
- c. Indicate the cross slope for all required layers of surface, base, sub-base, widening and shoulders. The required cross slope should be labeled as Match Existing, unless the LPA plans to correct substandard pavement cross slopes as part of the scope of work for the project. If the LPA plans to correct the pavement cross slopes, then the typical section should indicate the required cross slope; i.e., 2% or the required super-elevation drawing should be indexed and the following note added to the plans:

THE LOCATION AND RATE OF PLACEMENT OF LEVELING SHALL BE AS DIRECTED BY THE ENGINEER. HOWEVER, THE PROJECT ENGINEER AND THE PROJECT SUPERINTENDENT WILL SURVEY THE PROJECT TO DETERMINE THE AREAS THAT ARE TO BE LEVELED INCLUDING THE REESTABLISHMENT OF SUPER-ELEVATION WITHIN THE CURVES.

This note may be modified if a specific placement method, such as drag box and patrol, is required. This note is not necessary if curve data is provided in the plans.

- d. Show the existing and/or proposed front slope and back slopes, as appropriate. If a
- e. cut and/or special ditch is required, show this on the typical section and detail the ditch appropriately; i.e., front slope, back slope, width and depth.
- f. Indicate the profile grade by an arrow if plan and profile sheet is included in the plans and show the proper notes on the first plan and profile sheet.

2. MISCELLANEOUS

Reference all notes pertaining to the typical section on that section sheet only. If no plan and profile sheet is in the plan assembly, list **all** applicable notes on the typical section sheet.

6.9.2 PROJECT NOTE SHEET

Number all notes according to the following:

<u>Note Series</u>	<u>Note Type</u>
100 – 199.....	See Special Drawing Notes
200 – 299.....	Typical Section Notes
300 – 399.....	Summary of Quantity Sheet Notes
400 – 499.....	Plan and Profile Sheet Notes
500 – 599.....	Signal Sheet Notes
600 – 699.....	Electrical Sheet Notes
700 – 799.....	Traffic Control Sheet Notes
800 – 899.....	Utility Sheet Notes
900 – 999.....	Railroad, NPDES, and other Notes that apply to other sheets
1000 – Series.....	Sign Notes

All numbered notes are to be placed under the appropriate category on a special project note sheet. The project note sheet is to be placed after the typical section sheet in the plan assembly. Leave space between each project note category so that additional notes may be inserted by the Transportation Planning and Modal Programs Bureau.

6.9.3 SUMMARY OF QUANTITY SHEET

1. ITEM NUMBERS

- a. Show item number, description, and unit exactly as written on the Alabama Department of Transportation item description list. This list is available on the ALDOT website on the Office Engineer Bureau webpage.
- b. Separate bridge quantities from roadway quantities, except for bridge replacement projects with no approach work, where the roadway items are incidental to the bridge or culvert construction; i.e., guardrail, riprap, silt fence, hay bales, etc. If two or more bridges are involved in the project, a summary box must be provided indicating quantities for each bridge and the total for each item shown on the main summary sheet. Separate quantities for non-federal participating and federal participating items.
- c. Projects using two types of funding must have the quantities separated by funding

category and a total column included.

2. ITEM - REMOVAL OF OLD BRIDGE/BRIDGE CULVERTS

- a. A separate unique item number should be provided for each existing bridge structure to be removed. Give a detailed description of the bridge to be removed in a summary box. Include the stations, length, and width, number of spans and deck, superstructure and substructure types. On sheet 4, flag the in-place bridge, provide the stationing and indicate the bridge is to be removed.
- b. If this item is not set up when there will be removal of an old bridge or bridge culvert, indicate by a note on the note sheet who will do this work, when it will be done and how it will be paid for.
- c. If the in-place structure is a culvert or bridge culvert, removal should be paid for as a removal of old box culvert, station [No.].

3. ITEM - BORROW EXCAVATION, UNCLASSIFIED EXCAVATION AND TOPSOIL

- a. The earthwork summary submittal sheet indicates the method for calculating borrow (fill or cut material) excavation, unclassified excavation, and topsoil. If these earthwork items are to be a part of the project, this sheet must be submitted as part of the supporting data throughout the plan assembly.
- b. An earthwork summary should be shown in the plans on the last cross section sheet. Shrinkage factors will not be shown in the plans.

4. ITEM - CHANNEL EXCAVATION

- a. Show a column and the quantity of channel excavation in the roadway culvert and bridge culvert summary boxes, if required.
- b. Show the traverse and channel excavation limits on the plan view of the plan and profile sheet and include cross sections in the plan assembly.

5. ITEM - FOUNDATION BACKFILL, LOCAL OR COMMERCIAL MATERIAL

Use one of these items, as applicable, when determining foundation backfill quantities:

- a. Foundation Backfill for Roadway and Bridge Culverts - Recommended Formula:

$$\text{Foundation Backfill (cu. yd.)} = L \times (W + 4) \times 1.5^* \div 27$$

L = average net length of the structure measured along the flow line, tip to tip of wings

W = outside width of the barrels at right angle to culvert skew

$$\text{Foundation Backfill (m}^3\text{)} = L \times (W + 1.2) \times 0.3^* \times 1.5$$

L = average net length of the structure measured along the flow line, tip to tip of wings

W = outside width of the barrels at right angle to culvert skew

*If more than 1.0 feet (0.3 meter) needs to be excavated below the bottom of the slab, the volume of foundation backfill will be fixed at 150 percent of the

volume of the excavation which it replaces. Any material to be removed within the limits of the culvert, above or below the flow line, will be classified as structure excavation (see ALDOT's latest edition of the *Standard Specifications for Highway Construction*).

Figure foundation backfill for culverts from the bottom of the bottom slab down. Set up removing 1.0 feet (0.3 meter) and replacing this material with 150 percent of foundation backfill material.

- b. Foundation Backfill for Roadway Pipes 48" (1200 mm) or Less Recommended Formula:

$$\text{Foundation Backfill (cu. yd.)} = L \times (W + 3) \times 1.5^* \div 27$$

L = average net length of the structure measured along the flow line, tip to tip of wings
W = inside diameter of pipe

$$\text{Foundation Backfill (m}^3\text{)} = L \times (W + 0.9) \times 0.3 \times 1.5^*$$

L = average net length of the structure measured along the flow line, tip to tip of wings
W = inside diameter of pipe

*If more than 1.0 feet (0.3 meter) needs to be excavated below the pipe, the volume of foundation backfill will be fixed at 150 percent of the excavation which it replaces.

Dimensions will vary for corrugated metal round pipe, but the above formula will be adequate for estimating the quantities of foundation backfill.

FOUNDATION BACKFILL – GENERAL INFORMATION (ALDOT's *Construction Manual*)

1. Additional structure excavation (undercut) to provide for placing foundation backfill will be measured in cubic yards by the cross section and average end area or other accepted feasible methods.
2. Foundation backfill will not be measured directly, but the volume will be fixed at 50 percent of the volume of the excavation which it replaces.
3. Where satisfactory structure foundation is provided by the normal process of removing and backfilling unsuitable material under fill areas during normal grading operations, none of such backfill removed and used when laying pipe will be classified as foundation backfill.
4. Foundation backfill may be defined as material taken from selected grading operations or areas beyond the right of way.

6. ITEM - STRUCTURE EXCAVATION

- a. Structure Excavation for Roadway and Bridge Culverts – Recommended Formula:

$$\text{Structure Excavation (cu. yd.)} = L \times (W + 4) \times \text{Vertical Depth}^{**} \div 27$$

L = average net length of the structure measured along the flow line, tip to tip of wings
W = outside width of the barrels at right angle to culvert skew

Structure Excavation (m³) = L x (W + 1.2) x Vertical Depth**

L = average net length of the structure measured along the flow line, tip to tip of wings

W = outside width of the barrels at right angle to culvert skew

**The average vertical depth is from ground elevation or sub-grade elevation, whichever is lower, to the bottom of the required bottom slab + 1.0 feet (0.3 meter).

If more than 1.0 feet (0.3 meter) needs to be excavated below the pipe, the volume of foundation backfill will be fixed at 150 percent of the excavation which it replaces.

Excavation above sub-grade elevation will be classified and paid for as unclassified excavation.

b. Structure Excavation for Roadway Pipe 48" (1200 mm) or Less – Recommended Formula:

Structure Excavation (cu. yd.) = L x (W + 3) x Trench Depth° ÷ 27

L = average net length of the structure measured along the flow line, tip to tip of wings

W = inside diameter of the pipe

Structure Excavation (m³) = L x (W + 300 mm) x Trench Depth*

L = average net length of the structure measured along the flow line, tip to tip of wings

W = inside diameter of the pipe

*Trench Depth – The depth of the excavation for the trench shall extend at least 1 foot (300 mm) above the elevation of the top of the pipe, or from sub-grade elevation in cut sections.

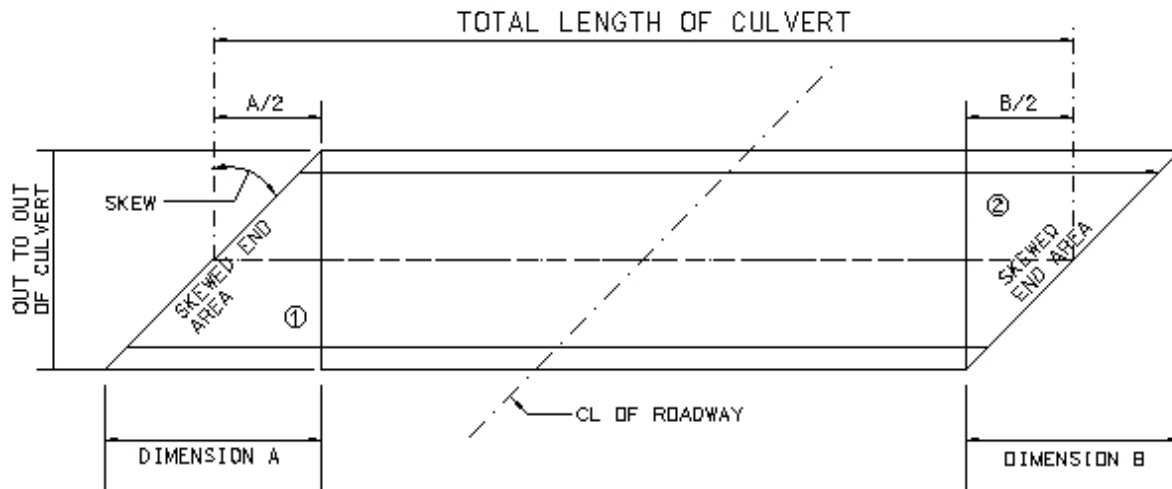
Excavation above the sub-grade elevation will be classified and paid for as unclassified excavation.

Dimensions will vary for corrugated metal round pipe, but the above formula will be adequate for estimating the quantities of structure excavation.

See page 2-13 of ALDOT's *Construction Manual* for guidelines regarding structure excavation and backfill.

7. CALCULATING STEEL REINFORCEMENT QUANTITIES FOR SKEWED CULVERTS

Standard Drawing CS-3-1 (Index 1509) requires a change in steel bar reinforcement and the spacing of the bars in the skewed end area of culverts on skew. This drawing should be referenced for details and a note specifying the bars to be eliminated, their replacement and spacing.



Calculate the reinforcing steel quantity for the total length of the culvert using the quantities shown on the standard drawing and add the following amounts for the skewed end areas:

Dimension A or B (feet) (m) = (Out to Out Culvert Length) X (Tangent of the Skew)

Additional Steel Reinforcement for Skewed End Area¹ – Lbs. (kg) =
 (lb./ft. for Fill Height on Skewed Area 1) X (0.3) X (Dimension A)
 (kg per m for Fill Height on Skewed Area 1) X (0.3) X (Dimension A)

Additional Steel Reinforcement for Skewed End Area² – Lbs. (kg) =
 (lb./ft. for Fill Height on Skewed Area 2) X (0.3) X (Dimension B)
 (kg per m for Fill Height on Skewed Area 2) X (0.3) X (Dimension B)

Add curb, toe wall and wing quantities to the above steel reinforcement quantities.

8. ITEM - TEMPORARY STRIPING

Set up the item of temporary striping on all resurfacing projects.

9. ROADWAY PIPE AND/OR CULVERT DATA, SELECTION AND SUMMARY BOXES

- a. When roadway pipes and/or roadway culverts are required on a project, the hydraulic data sheet must be submitted for each structure.
- b. The hydraulic data is also required if a structure is to be extended a significant amount. The Division Engineer, in consultation with the LPA Engineer, should make this determination. For projects involving structure extensions, whether of significant length or not, a letter must be provided to the Transportation Planning and Modal Programs Bureau, through the division, detailing the condition of the existing structure and any history of flooding.
- c. Show stations, size and quantity, standard, and special drawings, structure excavation, foundation backfill, fill height and skew columns in the required roadway pipe or

roadway culvert box. The pipe summary box should also include required end treatment and end treatment slope columns. Culvert concrete and steel reinforcement columns are required in the roadway culvert box.

- d. Show gauge on all metal pipes.
- e. See ALDOT's *Guidelines for Operation* for selection of the type of roadway pipe and possible testing requirements.

10. SEDIMENTATION CONTROL BOX

Show stations, items, quantities, and standard drawings columns. See sections on erosion and sediment control procedures.

6.9.4 PLAN AND PROFILE SHEETS

1. The first plan and profile sheet should always be sheet 4 in the plan assembly.
2. Show all notes that are applicable to the plan and profile sheet. Do not show any notes that apply to the typical section sheet.
3. Show names, addresses and contact person for all utilities within the project limits.
4. On all new bridge and bridge culvert projects, the following information will be needed:
 - a. Detour Information: If an onsite detour is required by the construction plans, whether it is to be built by the contractor or the LPA at no cost to the project, the following information should be shown:
 1. Vertical Alignment
 2. Horizontal Alignment
 3. Size and Type of Temporary Drainage Structure
 4. Typical Section Showing Width of Travel-Way and Shoulders
 5. Traffic Control Plan With All Required Traffic Control Devices

This information is needed in order to determine the design speed of the detour, adequacy of the temporary drainage structure, placement of the necessary traffic control devices and storm water permit requirements.

If the plans show an offsite detour, and after the project is let to contract the LPA decides to install an onsite detour, the LPA must provide a letter to the division confirming the detour is not constructed as part of the project and the costs are not charged against the project. Furthermore, the LPA assumes all responsibility for the placement and maintenance of the detour and shall indemnify and hold harmless the State and the Transportation Director from any and all liabilities resulting from the onsite detour. This letter should be on file with the division prior to the placement of the onsite detour.

For an offsite detour which is to be included in the contract, indicate the location of the traffic control devices on the traffic control sheet, show quantities in a summary box and list the total on the summary sheet.

If the LPA is to handle the offsite detour at no cost to the project, provide a project note on the project note sheet indicating this.

- b. Show all hydraulic data included in the Bridge Bureau site inspection report.

6.9.5 MISCELLANEOUS ITEMS AND SHEETS

1. ROADWAY AND BRIDGE CULVERT STANDARD DRAWINGS

- a. When computing quantities of steel and concrete for roadway and bridge culverts, it will be necessary to use the latest standard drawings. These drawings will be furnished upon request. Transportation Planning and Modal Programs Bureau personnel will insert the required culvert standard film sheets into the plan assembly prior to sending the plans to letting.
- b. To determine the centerline length of a culvert, measure the distance between the inside faces of the exterior walls. The stationing of the culvert throughout the plans must reflect this measurement.

If the structure is on a skew, the correct centerline length can be obtained by dividing the unskewed length by the cosine of the skew angle. Express the length to two decimal places for feet/three decimal places for meters.

2. TRAFFIC CONTROL SHEET

- a. Prepare the traffic control sheet showing traffic handling according to the situation and by using the most current and approved *Manual on Uniform Traffic Control Devices*.
- b. For resurfacing, restoration and rehabilitation (3R) projects, the Transportation Planning and Modal Programs Bureau will, at the request of the LPA, insert a cone and/or pilot car traffic control plan (TCP) into the plan assembly. This request should be stated in the PS&E. Most of the required traffic control project notes are included on these TCP drawings and should not be repeated on the project note sheet. If additional notes are required, list them on the project note sheet. The LPA should ensure that these additional notes do not conflict with or restate the notes listed on the inserted TCP.
- c. Applicable for 3R projects when multiple sites or combined projects are involved. A summary box and project note, as shown below, should be provided detailing the following. If the Transportation Planning and Modal Programs Bureau is inserting the TCP into the plans, a list of the required TCP signs should be included with the supporting data or checklist for use in preparing a summary of quantities box.
 1. Number of projects or sites that may be worked on at one time.
 2. If the intersection roads or streets signs are to be left in place for the striping, markings, etc., operations while work is being performed at another site.

SUMMARY OF QUANTITIES					
SITE 1			SITE 2		
SIGNS	NO. REQUIRED	TOTAL SQ. FT.	SIGNS	NO. REQUIRED	TOTAL SQ. FT.
G20-1	2	20	G20-1	2	0
G20-2A	2	16	G20-2A	2	6
W20-1 (STD)	2	32	W20-1 (STD)	2	2
W20-4	2	32	W20-4	2	2
W20-7A	2	32	W20-7A	2	2
#W20-1 (STD)	0		#W20-1 (STD)	0	
#W20-1 (MIN)	3	27	#W20-1 (MIN)	6	4
TOTAL		159	TOTAL		86
TOTAL TO SUMMARY SHEET		* 63	TOTAL TO SUMMARY SHEET		186

#intersecting Roads or Streets

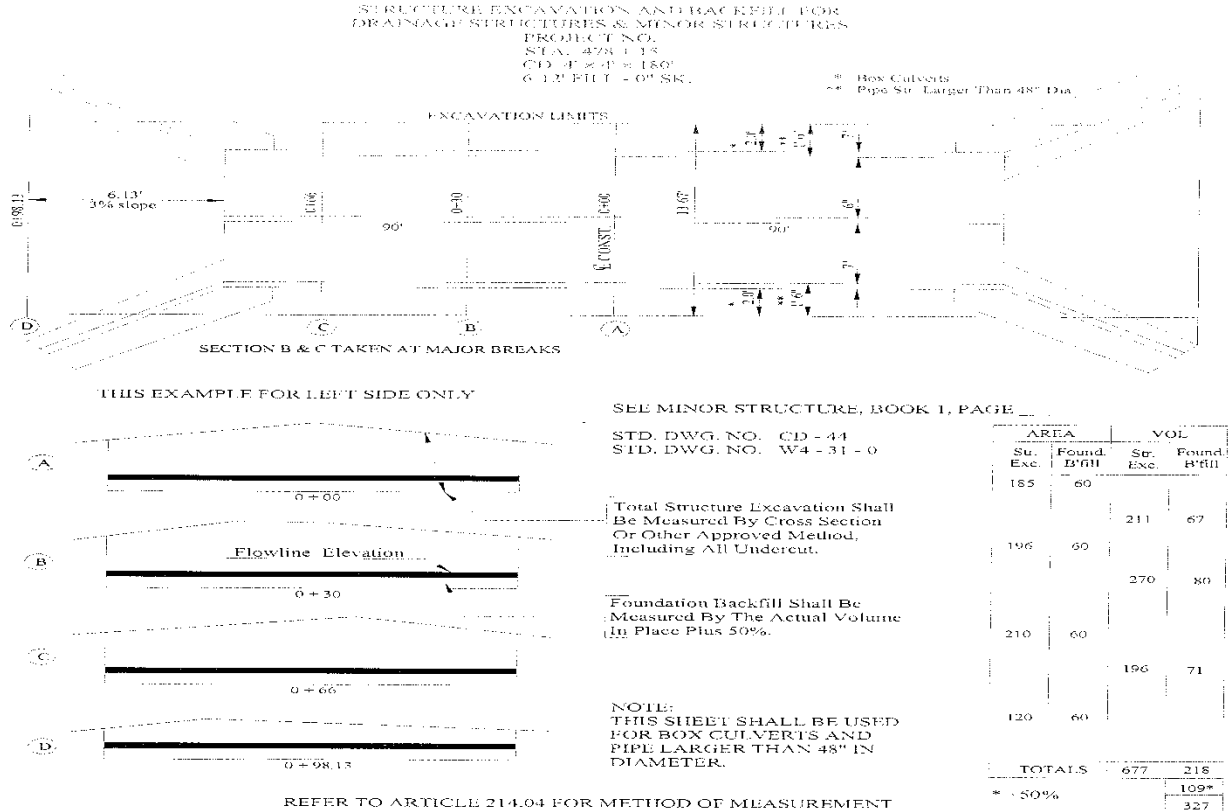
*See Project Note [No.] i.e., page [No.].

PROJECT NOTE (Example)

THE TRAFFIC CONTROL DEVICES (SIGNS, CONES, AND PILOT CAR) FOR THIS PROJECT ARE SHOWN IN THE QUANTITIES FOR SITE 2. THE UNIT BID PRICE FOR THESE ITEMS SHALL REFLECT THE COSTS FOR THE RELOCATION (EXCEPT FOR THE G20-1, G20-2 and W20-1(MIN) SIGNS WHICH SHALL REMAIN IN PLACE FOR THE STRIPING, MARKINGS, AND PAVEMENT MARKERS OPERATION) AND MAINTENANCE OF THESE DEVICES FOR SITE 1. THE CONTRACTOR SHALL ONLY BE PAID FOR THE MAXIMUM NUMBER OF TRAFFIC CONTROL DEVICES PROVIDED AT ANY ONE TIME. THE CONTRACTOR SHALL WORK ON ONLY ONE SITE AT A TIME. SEE STANDARD SPECIFICATION SUBARTICLE 740.05(a). SEE SHEET NO. ___ FOR ACTUAL QUANTITIES REQUIRED FOR EACH SITE.

3. Drainage Section Sheet: A drainage section shall be required for all drainage structures, including pipe or culvert extensions.

These sections should be drawn to scale and must be plotted along the skew angle of the structure; see page [No.], Item [No.] of the plan checklist. The sections should label the inlet and outlet elevation and the flow line elevation at centerline. The percent slope of the structure should also be indicated. Show limits of riprap along with a placement detail.



6.9.6 EROSION AND SEDIMENT CONTROL

In order to address ADEM regulations regarding storm water runoff on construction sites and to comply with all requirements of the National Pollutant Discharge Elimination System (NPDES), the following erosion control procedures must be used for all LPA federally funded projects let to contract through the Alabama Department of Transportation. Visit the [Design Bureau Stormwater Section](#) for permitting procedures.

ALDOT and ADEM interpretations are summarized below:

1. Limited blading or placing fill next to a road that has been repaved to ensure safe grade transition to the existing shoulder of the roadway for safety purposes, or routine blading to regularly maintain the grade of an existing safety shoulder, with immediate stabilization as needed, is considered normal maintenance and not construction. Blading or placing fill next to a road to widen the road, shoulder or adding a new safety lane is considered construction.
2. Adding width to the road, shoulder or adding or lengthening a turn lane is new construction and is not normal maintenance.

The following examples, although not all inclusive, provide some general guidelines.

BRIDGE REPLACEMENT PROJECTS (INCLUDES CAST-IN-PLACE, PRECAST AND BRIDGE CULVERTS)

All bridge replacement projects will require storm water registration. The LPA, or consultant under contract with the LPA, should provide a complete erosion and sediment control plan showing the proposed location and type of all erosion control items needed to complete the overall project. This erosion and sediment control plan should include the approach work, whether it is included as part of the project or to be done by LPA forces. The plan should clearly indicate if the contractor or the LPA is responsible for the erosion control measures. This can be done by using different legends or including phases for the overall erosion control plan. The controlling item of work should be used as a guide to determine who is responsible for the erosion control items. Only the items that the contractor is responsible for should be included as pay items in the plans.

1. Bridge Replacement - Approach Work Included In Contract: The contractor must be responsible for all erosion control measures. These items should be shown as part of the erosion control plan and included in the pay quantities for the project.
2. Bridge Replacement - Approach Work Done By LPA Forces: The contractor must be responsible for only the erosion control measures within the project limits at the bridge or culvert site. The LPA will be responsible for all erosion control items associated with the approach fill. A note should be placed in the plans tied to the contract time suspension note that states the LPA will assume responsibility for the sediment and erosion control measure at the time they begin this work. Example notes are shown below:
 - a. Bridge or Culvert with Guardrail
LPA FORCES WILL COMPLETE THE ROADWAY APPROACHES, INCLUDING THE SHOULDER WIDENING FOR THE REQUIRED GUARDRAIL INSTALLATION. NO GUARDRAIL ITEMS SHOULD BE INSTALLED BY THE CONTRACTOR PRIOR TO THE COMPLETION OF THIS WORK BY LPA FORCES. CONTRACT TIME CHARGES FOR THIS PROJECT SHOULD BE SUSPENDED FOR A PERIOD NOT TO EXCEED ____ CALENDAR DAYS IN ORDER TO ALLOW THE LPA FORCES TO COMPLETE THIS WORK. AT THE BEGINNING OF THE APPROACH CONSTRUCTION, THE LPA WILL ASSUME RESPONSIBILITY FOR THE MAINTENANCE AND REMOVAL OF ALL SEDIMENT AND EROSION CONTROL ITEMS.
 - b. Culvert Site With No Guardrail
THE LPA WILL ASSUME RESPONSIBILITY FOR THE MAINTENANCE AND REMOVAL OF ALL SEDIMENT AND EROSION CONTROL ITEMS AFTER THE CONTRACTOR HAS COMPLETED THE BRIDGE CULVERT CONSTRUCTION.
3. Bridge Replacement - No Approach: The erosion control plan should encompass the work limits needed to erect guardrail, if guardrail and/or end anchors are included as part of the contract as noted in the examples below:
 - a. If the LPA is constructing the shoulder widening and additional fill required prior to the guardrail installation, the contractor must only be responsible for the erosion control measures required to control the runoff at the immediate project site; i.e., bridge or culvert. The LPA should assume responsibility for the sediment and erosion control measures at the time they begin this work which should be stated in an appropriate plan note as shown in the examples above.

- b. If the contractor is constructing the shoulder widening and additional fill required prior to the guardrail installation as part of the contract items of work, the contractor should be responsible for all erosion control measures until all contract items of work are complete and the project is accepted by the LPA.

RESURFACING PROJECTS

No erosion control plan or pay items are required for a typical resurfacing project, as a general rule. This in no way absolves the LPA of complying at all times with ADEM best management practices (BMP) requirements.

Based on the previously referenced interpretations from ALDOT and ADEM, any blading along the side of an existing road that has been repaved in order to raise, but not widen the shoulder elevation to that of the roadway is considered maintenance and not construction. This bladed area should be stabilized immediately; i.e., grassing, aggregate surfacing, etc.

The plans should specifically address erosion and sediment control measures if shoulder widening and additional fill requirements are required prior to the contractor installing the guardrail and/or end anchors, especially since these sites are often located at existing bridges or culverts. According to ALDOT and ADEM, the additional width of the shoulders and fill are outside of the limits of maintenance operations, as defined above, and should be considered as construction. The controlling item of work will again determine whether the contractor or the LPA is responsible for the erosion control measures.

1. The following note will be added to the plans if LPA forces are constructing the additional fill for guardrail installation:

Note: The LPA will provide, install, and maintain all necessary erosion and sediment control items for the required guardrail installation at no cost to the project.

If the contractor is constructing the shoulder widening and additional fill requirements, the contractor must be responsible for all erosion and sediment control items associated with this work. It is our recommendation that these items be included in the pay quantities for the project, even though ALDOT *Standard Specifications for Highway Construction, Sub-section 107.21(a)* addresses this issue.

107.21 Storm Water Management, Spill Prevention and Debris Removal

(a) PROTECTION OF PROJECT SITE AND ADJACENT PROPERTY

The contractor shall perform the work while protecting the project site and adjacent property from contaminated storm water runoff. The requirements given in Section 665 shall apply to all work regardless of whether or not any of the pay items of Section 665 are included in the contract. When a pay item is not in the contract for an item of temporary erosion control, and the work is deemed necessary by the engineer, the work will be paid for as extra work. It is the contractor's responsibility to minimize the introduction of and facilitate the removal of sediment, nutrients and other pollutants in storm water runoff originating within the ALDOT right of way. The quality of waters originating off of the right of way and entering the project site shall not be diminished as they flow through and leave the site.

An erosion and sediment control summary box should be set up using the approximate guardrail stationing for silt fence limits. Determine other erosion and sediment control measures that may be needed.

WIDENING AND RESURFACING

Widening operations fall outside of the defined limits of maintenance and should be considered as construction for the purpose of determining whether a storm water registration is required. The following guidelines should be used for the purpose of determining disturbance acreage:

1. The additional paved lane width, multiplied by the length of the project, should be used to calculate the total disturbance area. If there is significant pavement edge raveling, this should also be factored into the total width of the widening. The example below is based on a 2½-mile project with one foot of pavement widening on each side and no increase in the shoulder width. The construction staging areas, including equipment parking areas, should be also considered as part of the total disturbance acreage.

Pavement Widening

$(2.5 \text{ miles} \times 5,280') \times 2' = 26,400 \text{ sq. ft.} = 0.61 \text{ acres}$

Construction Staging and Equipment Parking

$20' \times 250' = 5,000 \text{ sq. ft.} = 0.11 \text{ acres}$

Total Disturbance Area

$0.61 \text{ acres} + 0.11 \text{ acres} = 0.72 \text{ acres}$

The shoulders should not be considered as part of the disturbed area as long as there is no increase in the final shoulder width. The total disturbance area in this example is less than one acre and would not require storm water registration with ADEM.

2. Additional width must be considered if the final shoulder width is being increased from two feet to three feet, using the same project length as noted above. The total disturbance is now greater than one acre and would require storm water registration with ADEM.

∫ Pavement Widening ∫ Shoulder Widening

$(2.5 \text{ miles} \times 5,280') \times (2' + 2') = 52,800 \text{ sq. ft.} = 1.21 \text{ acres}$

3. If the contractor is constructing the shoulder widening and additional fill requirements, the contractor must be responsible for all erosion and sediment control items throughout the document associated with this work. It is our recommendation that these items be included in the pay quantities for the project, even though *ALDOT 2012 Edition Standard Specifications for Highway Construction* addresses this issue.

MULTIPLE SITE PROJECTS

The disturbance area for multiple sites within one project does not need to be considered collectively for the purpose of determining permit requirements, provided there is significant distance and/or time separating the individual sites or activities.

Note: The following should be included in all plans as a 900 series note: *A notice of registration for NPDES permit coverage has or has not been filed with ADEM for this project. These procedures will be applicable even if no stormwater registration is required for the project. The LPA, under authority of the Mayor (or other executive authority), is the owner of record for the NPDES Notice of Registration*

(NOR) and is ultimately responsible for any ADEM citations for noncompliance or unsatisfactory conditions on a project site. The LPA is the ultimate responsible party, whether or not an official Notice of Registration is required, so it is to the benefit of the LPA to take all necessary measures to protect the project site, adjacent property, and state waters from contaminated stormwater runoff.

6.9.7 Maintenance of LPA Roads

Maintenance inspections will be conducted annually on all LPA Federally-funded projects to determine what needs to be done to keep them safe for the traveling public and to protect the LPA and Federal investment in them. The LPA will agree, in writing, to satisfactorily maintain all projects constructed in full or in part with Federal State funds.

These inspections are performed by the Division Engineer accompanied by the LPA Engineer. They are performed during the months of January, February, March, or April to allow time for the LPA to schedule and complete needed maintenance work during the summer months.

Form BM-137 will be used to grade LPA roads. The roadway portion of this form is broken into the major categories of surface element, shoulder condition, drainage element, shoulder/roadside element, and traffic control element. These major categories are further broken into subcategories as follows:

1. Surface Element..... Treatment, Patching, Leveling and Edge Repairs
2. Shoulder Condition..... High and Low
3. Drainage Element Ditches, Pipe/Side Drains, Erosion and Settlement
4. Shoulder/Roadside Element..... Clearing, Mowing, and Encroachments
5. Traffic Control Element Signs and Striping/Pavement Markings

Numerical grades are assigned to each subcategory and a total grade of less than seventy percent (70%) is unsatisfactory (see note below).

While numerical grades are assigned to roadway sections, bridges are simply checked as good, fair, poor, or not present or missing for the following items:

1. Guardrail/Attachment
2. Hazard Panels/Signs
3. Associated Roadway/Deck
4. Channel Stability
5. Abutment Erosion

Major LPA structures, those greater than 20.0 feet (6.1 meters) in length, are given a more detailed structural inspection, biennially, by NBIS certified LPA bridge inspectors. Posted structures, along with structures in poor condition, are given more frequent interim inspections that vary in intervals from 30 days to 12 months. These inspections are conducted in accordance with the 1995 edition of the *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges* [Recording and Coding Guide 1995](#), and the Alabama Department of Transportation's 1996 edition of the *Bridge Inspection Manual* at [ALDOT Bridge Inspection website](#).

For more detailed information about maintenance, inspections, and grading LPA roads, see the ALDOT Maintenance Bureau website at [ALDOT Maintenance](#).

Chapter 7.0

Right-of-Way

This section is to serve as a basic reference for Local Public Agencies (LPA) and others who receive Federal-aid highway funds for projects involving the acquisition of real property and the relocation of residents, businesses, and others.

Right-of-Way (ROW) is a general term denoting land or property acquired for or devoted to a public use. If ROW is not already owned for a public project, it must be acquired by purchase, donation, or eminent domain. Fee simple title, permanent easements, and temporary easements are all means of conveying ROW.

The Fifth Amendment to the U. S. Constitution expresses the philosophy that *due process* and *just compensation* are required for acquiring private property for a *public use*. All ROW acquired must conform to the rules and regulations under Title III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (*Uniform Act*). The Uniform Act applies even when Federal dollars are not used specifically for property acquisition or relocation activities, but are used elsewhere in the project, such as in preliminary engineering, utility relocation, or construction. The Uniform Act must be followed even if there is *NO* Federal funding in the ROW phase. ALDOT has overall responsibility to the FHWA for the acquisition of ROW on all FHWA funded transportation projects in the State. Title II of the Uniform Act must be followed when the acquisition of property causes any person to be displaced from the property or to move their personal property from the acquired property. Visit the FHWA website for additional information regarding ROW issues and the Uniform Act: [UNIFORM ACT](#).

7.1 Right-of-Way Acquisition Federal-Aid

LPA right-of-way acquisition projects must be processed in accordance with the following guidelines if federal funds are used in any phase of the project (Preliminary Engineering, Right of Way, Utility, or Construction). Failure to follow these guidelines in acquiring right of way on major collector projects after December 1969, and on minor collector and local road and street projects after January 4, 1975, will make the project ineligible for federal-aid funding. Further, the State of Alabama will adhere to policies provided in the following documents:

[Federal-aid and ROW](#).

[Real Estate Acquisition Guide for Local Public Agencies \(FHWA June 2011\)](#).

LPA projects are typically initiated in the Division, and oversight of the LPA is done by Division staff with significant support from two sections within the Transportation Planning and Modal Programs Bureau and other bureaus, offices, and sections at ALDOT Central Office. For this chapter the managing office will be referred to as the ALDOT *Lead Bureau*. At the direction of the Division Engineer, LPA staff must coordinate with Division ROW staff during an acquisition process.

[County Transportation will continue to process and oversee ALDOT let projects, but these are not to be confused with the FHWA LPA program, in which projects are to be let and managed by the LPA.]

7.1.1 Environmental Coordination

Another requirement for funding is compliance with the National Environmental Policy Act of 1969 (NEPA). On a federal-aid project, an environmental document must be submitted to the ALDOT Lead Bureau. State funded projects do not require this assessment. Under rare circumstances, and only with ALDOT (Right-of-Way Bureau) prior approval, the appraisal process may begin and proceed to the point, *but not yet include*, of making contact with the property owner. Once the environmental document is approved, the ALDOT Lead Bureau will notify the LPA Engineer to proceed with right-of-way acquisition.

Note: For a complete review of NEPA processes and required environmental documentation under US Code (USC) and Codes of Federal Regulations (CFRs), please see Chapter 5.0 of this *Manual*. For this document, FHWA is lead agency and LPAs are subject to guidance under 23 CFR 771.

7.1.2 Right-of-Way Plans

A right-of-way map is required as part of project design, indicating the property that is needed to build and maintain the transportation project. The map should contain essential data for appraisal and negotiation, and it provides a valuable visual-aid for negotiators, appraisers, and attorneys involved in acquisition transactions.

If the right-of-way is to be acquired with federal funds, a right-of-way map conforming to mapping standards published on the ALDOT Right-of-Way Bureau webpage in the Engineering Section, must be submitted for authorization. At a minimum, the map must identify the following: project location; existing property lines; specific tract numbers; the owner's name; the total tract area before and after acquisition; clearly labeled or annotated existing and acquired right-of-way; labeled or annotated building or minor site improvements within or near the acquisition; and topographical features or objects of interest. If a map is not submitted for ALDOT review, a separate plat containing the above stated information, will be required attached to each Appraisal or Waiver Valuation Report.

When an LPA project with federal aid participation in the right-of-way phase has been initiated, a Right-of-Way Cost Estimate and a Form ROW-RA-2 (Project Relocation Analysis), must be completed and submitted to the Division Engineer/Division ROW Office, with a copy to Special Programs Section in Modal Programs if this is a Transportation Enhancement project. A copy of the RA-2 may be downloaded from the ALDOT ROW site at [Relocation Forms](#). If there is no federal aid in the project right-of-way phase, the Cost Estimate is not required. However, if relocation is involved, the RA-2 form must be completed and submitted. Additional information is available at [Right-of-Way Bureau Website](#).

Once the environmental analysis and development of the ROW plans have been completed, the project is ready for acquisition phase. Prior to initiation of the acquisition process, adequate title information must be obtained. It is important to recognize all interests to be acquired, including owners, lien holders, tenants, easement holders, and taxing authorities.

7.1.3 Valuation

An appraisal or waiver valuation of the real property to be acquired for the project is the initial step in the acquisition process to estimate the fair market value of the property. Just compensation is established by the acquiring agency.

7.1.3.1 Just Compensation

The U.S. Constitution and Alabama Statute require that property owners be paid *just compensation* when the federal or state government acquires private property. The Uniform Act requires that an approved appraisal be used to develop an amount the agency believes to be

just compensation. The amount offered to the property owner must be at least the amount of the approved appraisal.

7.1.3.2 Donation

Even if the owner has indicated a willingness to donate, the LPA is required to contact the owner or the owner's representative to discuss its offer to purchase the property based on an appraisal. If the owner indicates the intent to donate his or her property, the owner releases the agency from its obligation to appraise the property and signs the acknowledgment at the bottom of the letter to the property owner. If the property owner donates the property, the LPA accepts the property owner's donation and processes the title to the property in the usual manner. If the property owner decides not to donate and refuses to sign the acknowledgment, a note written on the letter by the LPA Engineer or the negotiator should state that the property owner refuses to sign the acknowledgement and the property owner understands all of his or her legal options in the acquisition of his or her property. A copy of this documentation must be retained by Division ROW.

7.1.3.3 Appraisal

If the property owner desires compensation then the value of just compensation must be determined. There is no single operation within a right-of-way acquisition program that is more important to its success than the appraisal, or appraisal review, of needed tracts of real property. The Uniform Act requires that the property be appraised before an acquiring agency begins negotiations to acquire it and that the amount of the appraisal be the basis of the offer of *just compensation*. The property owner must be given an opportunity to accompany the appraiser during the examination of his or her property. In no case is the appraisal report to be made available for review by the property owner or their representative.

Property Value Anticipated to be > \$10,000: An appraisal must be conducted by a qualified appraiser and reviewed by a qualified *review* appraiser if the property owner indicates he or she wants compensation and the property value is anticipated to be greater than \$10,000. Contact the Division or Region ROW Office for appraisal and appraisal review assistance before any further discussion with the property owner concerning compensation is conducted.

7.1.3.4 Appraisal Waiver and Waiver Valuations

The Appraisal Waiver provision allows acquiring agencies the option to waive the appraisal requirement under the following two circumstances: 1) the property valuation problem is uncomplicated and is anticipated to have a value less than \$10,000, and 2) if an owner has indicated he intends to donate his property and releases the agency from its obligation to do an appraisal. When an appraisal is determined to be unnecessary, the acquiring agency shall prepare a waiver valuation. The person performing the waiver valuation must have a sufficient understanding of the local real estate market to be qualified to make the waiver valuation. *The property owner must be given an opportunity to accompany the LPA representative conducting the waiver valuation during the examination of his or her property.*

Property Value Anticipated to be ≤ \$10,000: An appraisal is not required if the property value is anticipated to be \$10,000 or less **and** the valuation problem is uncomplicated. The offer must be furnished promptly to the property owner and include a complete breakdown of the tender in writing. The LPA should retain copies of this information for the agency files. The Form A-7 or A-7A, Waiver Valuation, should be submitted to the Division Right-of-Way Acquisition Manager for review and approval. After approval, the form will be returned to the LPA, and negotiations for the property can proceed. [Appraisal Forms](#)

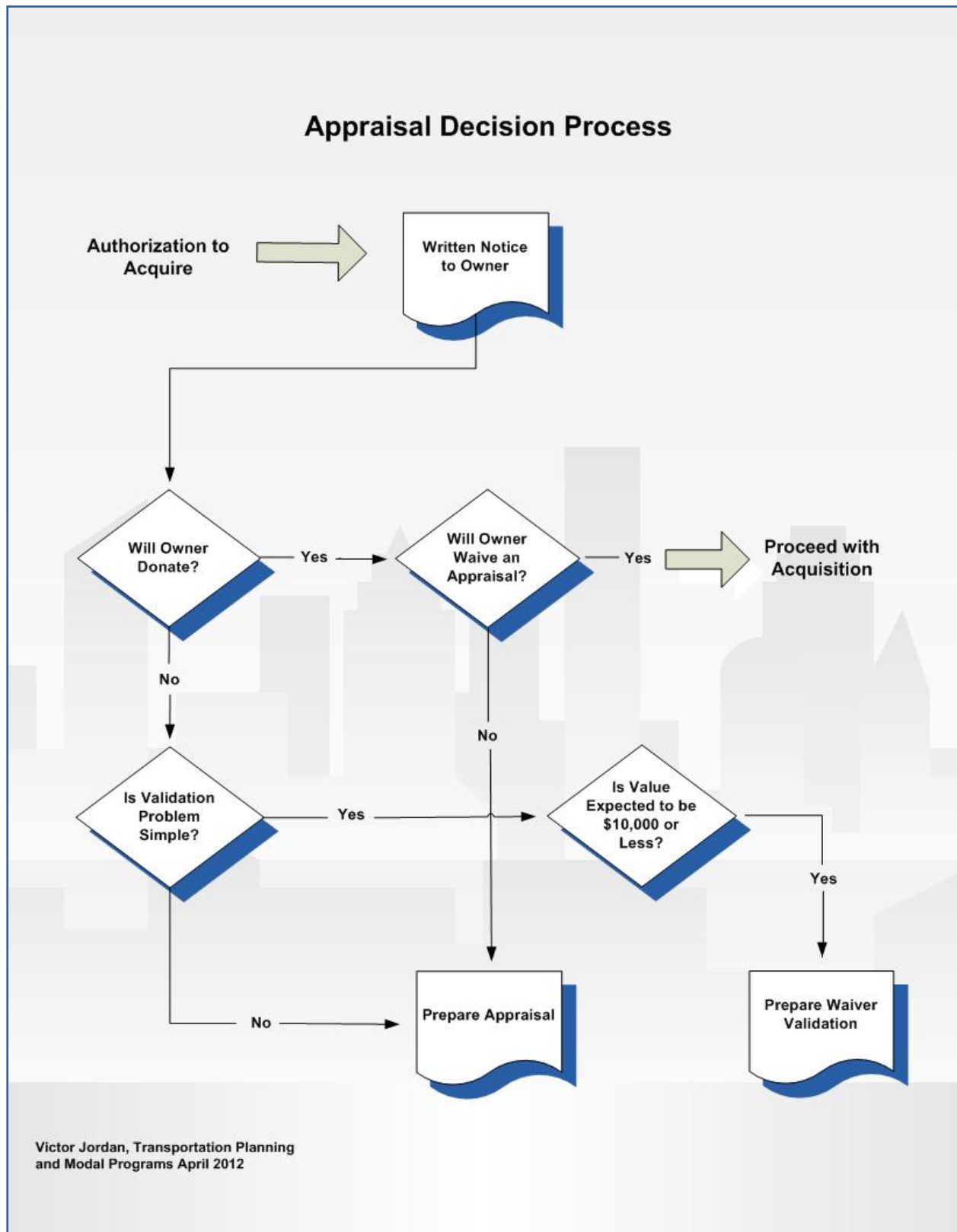


Figure 1.

The final determination to waive an appraisal may include consideration of other factors, such as the availability of recent sales or negotiation history in the local areas. These are considered, in addition to the complexity of the valuation problem and the approved low value threshold that might apply. The decision process in determining whether an appraisal is necessary, following receipt of authorization to proceed, is illustrated in **Figure 1**.

7.1.4 Acquisition

Property acquisition is one of the most sensitive aspects of agency interaction with landowners, the general public, and other agencies, because it entails direct personal contact with people affected by a transportation project. Acquisition of property must be in accordance with Public Law 91-646 and the Uniform Act (see links on p. 7-1) Additional guidance may be obtained by reviewing the Real Property Appraisal Manual, Negotiation Manual, and Relocation Assistance Manual found on the ALDOT [Right-of-Way Bureau Website](#).

7.1.4.1 Negotiation

The LPA Engineer or negotiator should begin negotiation for the property after the offer of *just compensation* has been determined. The negotiator must be someone other than the appraiser or review appraiser, unless a waiver valuation was signed. The initial offer must conform to the amount contained in the review appraiser's determination of value. The offer must be furnished promptly to the property owner in writing and included in the offer will be a written summary statement for the offer of just compensation. The owner will be given reasonable time to consider the offer and to submit information that the owner believes is relevant to determining the value of the property.

Any counteroffer considered reasonable by the LPA Engineer is to be recommended to the Division or Region Right-of-Way Acquisition Manager for approval in accordance with ALDOT policy. The LPA Engineer should retain copies of the negotiator's log for the files. Negotiations must be conducted free of any attempt to coerce the property owner into reaching an agreement. In no case is the appraisal report to be made available for review by the property owner or their representative.

7.1.4.2 Negotiators Log

The LPA must maintain an adequate record of each parcel negotiated, including contacts with property owners or their representatives, in order to document important information; i.e., name of negotiator, amount of offer, number and amount of count-offers, and upon completion of negotiations, the negotiator's signature and date.

A Negotiators Log is required to thoroughly document the course of events leading to an amicable settlement, and if necessary, condemnation. The log will also document compliance with the Uniform Act requirements; i.e., encourage acquisition by agreement and avoid litigation, show there was no coercion to accept the offered amount and ensure consistent treatment for the owner. Form ROW 10, Negotiators Report for LPA Projects, must be used to document all negotiations. See the Uniform Act link on p. 7-1 for additional information on Act requirements. [ALDOT Negotiations Manual](#)

7.1.4.3 Condemnation

Eminent Domain (Condemnation) is the governmental power reserved to acquire private property rights by due process of law, when the proven necessity for public use arises. When exercising this right, two basic requirements must be met: 1) the use must be public and 2) just compensation must be paid to the owner prior to taking possession of the property.

Note: Due to the politically sensitive nature of this topic, the Region Engineer may choose to refer an issue of Eminent Domain in association with an LPA project directly to the Assistant Chief Engineer of Policy and Planning for review.

When it becomes evident that an agreement cannot be reached and negotiations cannot proceed, it will be necessary to acquire the property through condemnation proceedings in Probate Court in the county in which the property is located. The LPA representative should explain to the property owner the condemnation process so they will understand their rights and what to expect. After condemnation has been filed, a legal settlement can be made between the LPA and the property owner.

Any Legal Settlement is to be recommended to the Region Right-of-Way Acquisition Manager for approval in accordance with ALDOT policy. When the acquisition of property is in the court process, any motions and/or orders other than those that are a part of routine procedure, must be brought to the attention of the Region Right-of-Way Acquisition Manager for review, in order to maintain consistency with statewide ALDOT legal procedure.

Legal work on LPA Right of Way projects are paid according to the State's Standard Schedule of Attorney Fees.

7.1.5 Right-of-Way Certification

Prior to advertising for construction bids for the project, the LPA must prepare a Right-of-Way Certification. A certification states that the properties needed for construction of the project have been obtained, they are clear of any structures which must be removed, and persons or businesses displaced by the project have been relocated. The Right-of-Way Certification must be presented to the ALDOT Lead Bureau through the Division Office. If the right-of-way was purchased or condemned, the total cost must be provided with the certification.

When the right-of-way has been acquired and recorded, a letter must be submitted to the ALDOT Lead Bureau through the Division Office, listing the name of the property owner, the date of the acquisition, the method in which the right of way was acquired (donated, purchased and/or condemned), and the deed book number and page number in which it is recorded.

7.2 RELOCATION ASSISTANCE

The following is a brief synopsis of the Uniform Act Relocation requirements. View the ALDOT ROW Relocation Manual for a more detailed explanation at the following site:

[Right-of-Way Procedural Manuals.](#)

Rights and entitlements of individuals, families, businesses, farms, and nonprofit organizations displaced by federal-aid projects are prescribed in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The Uniform Act requires all acquiring agencies to provide relocation assistance benefits to all eligible persons displaced from federal-aid projects. It is important to understand that successful relocation is essential not only to the welfare of those to be displaced, but to the progress of the entire highway project.

Relocation Assistance is described as a reimbursement program. The program was developed for reimbursing costs incurred by displaced persons as a result of a Federal-aid project. The term *displaced person* applies to owners and anyone else lawfully occupying the property.

Relocation Assistance can be complex. LPAs must work closely with local Division Right-of-Way personnel on complex relocation issues. The relocation program consists of four main components: Relocation Planning, Notices, Advisory Services, and Relocation Assistance Payments. Generally, all persons occupying property to be acquired are eligible for relocation assistance and payments. The purpose is to reimburse the cost of moving personal property to

replacement sites. In addition, residential displacees who meet minimum occupancy requirements may qualify for replacement housing payments to purchase replacement housing.

7.2.1 Relocation Planning

Successful relocation requires due diligence in planning the process. After the final location of a project has been approved and prior to the time of the Design Public Hearing, the LPA will complete a Relocation Plan on Form ROW-RA-2. The Plan will be an inventory of characteristics and needs of individuals and families to be displaced. This is also required for businesses needing replacement sites that will fit business operations and still be convenient to clientele.

Businesses must be given relocation assistance as required by the Uniform Act. Housing resources must meet the needs of displaced residents in terms of size, price, location, and timely **availability**. Advisory services and various notices, some with specific timing requirements, must be provided. Payments must be made to displaced persons at the time they are needed to obtain replacement housing.

7.2.2 Notices

Written notices must be furnished to each displaced person, business, farm, or non-profit organization by the negotiator to ensure that displacees are fully informed of the benefits and services available. The following subsections will include the different notices and their applicability.

7.2.3 Relocation Information

A Relocation Letter is provided to potential displaced persons at the time appraisers are assigned to the project. It will be written in language that can be easily understood and, in the event of limited English proficiency, in a foreign language. Another common approach is to hand out Relocation Assistance Brochures at the project public meetings and hearings.

7.2.4 Notice of Relocation Eligibility

This notice is provided on the date of a Notice of Intent to acquire, the initiation of negotiations, or the actual acquisition, whichever occurs first. The notice informs the occupant that he or she will be displaced and therefore eligible for relocation benefits, as applicable.

7.2.5 90 – Day Notice

A person lawfully occupying real property will **not** be required to move without a 90-day written notice from the LPA. The displacee is not required to move until the LPA pays the agreed purchase price to the owner, or in the case of condemnation, the LPA funds are deposited in Probate Court for the benefit of the owner. At that time the displacee will be given a 30-day notice to vacate. Samples of the 90 and 30-day notices are available on the ALDOT website link under Section 7.2 above.

7.2.6 Advisory Services

Relocation payments alone are often not enough to minimize the hardship of a move necessitated by a public project, or ensure a successful move to a replacement location. A key element is the advisory services that are provided commensurate with the needs of the displaced. These services provide information, counseling, advice, and often entail repeated and sometimes intense, personal interaction with displacees.

7.2.7 Relocation Assistance Payments

There are two main categories of payments, residential and non-residential. Within each category there are several types of payments that address expenses incurred as a result of a required move. Each type also has its own eligibility criteria and computation requirements. For additional information, view the details of each in the *Relocation Assistance Manual* found on the ALDOT ROW Bureau website under [Procedural Manuals](#).

7.2.8 Residential Displacements

The Relocation Assistance Program was developed to provide the displaced similar, if not identical, conditions to those existing prior to the displacement. Eligibility for residential moves is based on occupancy, not ownership. The owner of the property may or may not be the displaced person; persons qualify for assistance only if they occupy the property.

7.2.8.1 Personal Property Move

Many times personal property is located on the land being acquired. The owner of the personal property is eligible for relocation assistance and payment for actual and reasonable costs to move the property. The owners of personal property may or may not be the owners of the real estate.

Personal property moves can be as simple as moving a few chairs or as complicated as moving an out of business junkyard. The move may be made to the remainder of the property or to a new location. Typically the move may be made by reimbursing the displacee through itemized bill and receipts paid to a commercial mover or a self-move based upon an invoice with itemized labor, material, and equipment costs. Remember the 90-Day and 30-Day notices apply to these types of moves.

7.2.8.2 Replacement Housing Payments

The replacement housing payment provides additional funds to the displaced above the acquisition price of the dwelling, to purchase comparable replacement housing. Replacement housing payments may be paid to an owner as a supplemental purchase payment or to a tenant as a supplemental rental payment. Replacement housing payments for owners are based on comparable replacement dwellings for sale on the market and the payment is calculated as the difference between the cost of the comparable replacement dwelling and cost of the acquired displacement dwelling.

Supplemental rental payments are available for tenants and owner occupants that elect not to purchase replacement housing. The rental replacement housing payment is based on the difference between the cost of rent and utilities of a comparable replacement dwelling available on the market and the rent and utilities of the displacement dwelling for 42 months. Displaced tenants may use the rental replacement housing payment to supplement rental payments or as a down payment in the purchase of a replacement dwelling.

7.2.8.3 Replacement Housing Standards

It is a condition established in the previous acquisition procedures that comparable replacement housing must be made available before a displaced person is required to move from his/her home. The comparable replacement dwelling must meet the **decent, safe, and sanitary** threshold established in 49 CFR Part 24, and other standards as provided in the *ALDOT Right-of-Way Relocation Assistance Manual*, Section III, sub-section C. The Manual may be viewed by accessing the *Procedural Manuals* link under 7.2.7 of this chapter. The replacement dwelling must be the functional equivalent and be in as good or better condition than the original dwelling.

The displacing agency must offer every displaced person at least one comparable replacement dwelling choice and, if possible, three choices. This is a crucial part of the displacement process, since the comparable replacement dwelling costs will form the basis of the computation of the replacement housing payment.

Note: The replacement dwelling and its costs are considered by the Relocation Agent, used to compute the replacement housing payment, and to establish the amount of the payment the eligible displacee is entitled to receive. The displacee will choose the replacement housing he/she will occupy and the reimbursement will be made based upon the amount actually spent by the displacee, and not exceed the payment calculated by the Relocation Agent.

This Manual gives only a brief discussion and does not provide all the information pertaining to Residential Relocation. Please refer to the *ALDOT Relocation Assistance Manual* cited above or contact ALDOT Division Right-of-Way personnel for more specific information.

7.2.8.4 Increased Mortgage Payments

This payment is available for the displaced owner that must finance the replacement dwelling at a higher mortgage rate than the mortgage on the property being acquired. To be eligible for this payment the acquired dwelling must have been encumbered by a *bona fide* mortgage and a valid lien for at least 180 days prior to the initiation of negotiations. The interest rate on the new mortgage used to determine the amount of the payment cannot exceed the prevailing fixed interest rate for conventional or similar mortgages charged by mortgage lending institutions.

7.2.8.5 Incidental Expenses

Displaced persons purchasing replacement housing are eligible for reimbursement of reasonable closing costs incurred during the process, from attorney fees, title search, recording fees, and certain other closing cost normally paid by the purchaser.

7.2.8.6 Moving Expenses

In addition to other Residential payments, displaced persons are entitled to reasonable moving expenses. Moving payment reimbursements may be made by itemized bills and receipts from qualified movers or by a fixed moving cost schedule. Contact your local ALDOT Division Right-of-Way Office for the current federally approved payment schedule and criteria.

7.2.9 Non-Residential Relocation

Displaced businesses, farms, and non-profit organizations are also eligible for Relocation Assistance benefits, but the benefits are different from residential moves. The basic concepts of the benefits are provided in this manual. For further information consult with the local ALDOT Right-of-Way Office for all the appropriate benefits to a displaced business, farm, or non-profit organization.

7.2.9.1 Moving Expenses

The displaced non-residential occupant is eligible for actual and reasonable moving expenses. The cost to move, and, if appropriate disconnect and reinstall personal property, will usually be reimbursable. Costs incurred in hiring commercial and specialized equipment movers, plus certain utility connections, any professional services related to the purchase/lease of a replacement property, impact fees, and one-time assessments may be reimbursed if found to be actual, reasonable, and necessary.

The moving payment may be made based on an itemized bill and receipts from a qualified mover or the payment may be made to the displacee as a self-move. Eligibility for a self-move

payment is determined by obtaining two acceptable bids or estimates from qualified moving firms based on an inventory list, with the displaced business being paid an amount equal to the low bid or estimate without supporting receipts of expenses incurred.

If a business owner decides not to move personal property, as an alternative he or she may elect to be paid on a basis of actual direct loss of tangible personal property or the cost of substitute personal property. Such alternative payments may not exceed the actual cost to move the items.

7.2.9.2 Reestablishment Expenses

This payment is designed to reimburse the actual expenses incurred in reestablishing at the new location. The maximum reimbursement payment for the expenses incurred is \$10,000. Offering and providing these services will require specific knowledge and experience. We recommend requesting assistance from the local ALDOT Right-of-Way Office for the eligible items with this payment.

7.2.9.3 Searching Expenses

Displaced businesses, farms, and non-profit organizations are entitled to reimbursement for reasonable actual expenses incurred in searching for a replacement location, not to exceed \$2,500. This payment includes time spent looking for replacement property, transportation, meals and lodging when away from home, along with other items eligible for searching expense. We recommend requesting assistance from the local ALDOT Right of Way Office for further explanation of the eligible items.

7.2.9.4 Fixed Moving Expenses (In Lieu of Payment)

This type of payment is in lieu of all other moving expense payments for non-residential occupants. The minimum payment is \$1,000 and the maximum payment is \$20,000. The amount of the payment is based on the net income of the displacee over the last two years. Required documentation includes, but is not limited to, tax returns or a certified financial statement.

7.3 INCIDENTAL EXPENSES

Owners of real property acquired for a highway project are entitled to reimbursement for reasonable and necessary expenses incurred in transferring the property to the LPA. Such expenses may include: (1) recording fees, mortgage releases, transfer taxes, documentary stamps, evidence of title, boundary surveys, legal descriptions of real property and any similar expenses incidental to conveying the property; (2) penalty cost for prepayment of a mortgage entered into in good faith encumbering such real property if such mortgage is on record or has been filed for record under applicable State law; and (3) the pro rata portion of paid real property taxes, which are allocable to a period subsequent to the date of vesting of title in the LPA or the effective date of possession by the LPA, whichever is earlier. We recommend requesting assistance from the local ALDOT Right of Way Office for the eligible items with this payment.

7.4 Appeals

Actions involving Relocation Assistance with the LPA may be appealed. Any displaced person with a grievance may file a written appeal with the LPA if they believe the LPA failed to properly consider the application for relocation assistance. The action may include eligibility of the person and/or the amount of payment. The LPA must ensure that all displaced persons are aware of their right to appeal.

7.5 Document Samples

ALDOT requires the following documents be used during property acquisition by the Department for transportation projects. These and others are available for download on the [ALDOT LPA Website](#) and the Right-of-Way website at [ALDOT Right-of-Way Bureau](#).

- Letter to Property Owner
- Written Offer – Appraisal
- Written Offer – No Appraisal
- Waiver Valuation
- Project Relocation Analysis
- Right-of-Way Recording – Acquired
- Right-of-Way Recording – Existing
- City and Other Local Public Agency Certification for Physical Construction
- Negotiator’s Report – LPA Projects

Property Owner

Date

Property Owner's Name

Mailing Address

City, State Zip Code

Dear _____:

RE: Project # _____
 Tract # _____
 LPA _____
 County _____

The _____ of _____ is in the process of acquiring right of way (ROW) for the purpose of constructing the above-referenced project. The construction of this project will necessitate the acquisition of approximately _____ acres of your property, which is identified on our ROW map as Tract _____. You have the right to receive just compensation, as determined by this LPA, which is based on an appraisal or waiver valuation. You have the right to obtain your own appraisal to be considered by this LPA. You may choose to donate the property. Please indicate at the bottom of this letter if you choose to donate or receive just compensation for your property.

Sincerely,

 LPA Engineer

ACKNOWLEDGMENT: This is to certify that I have been advised of my right to receive just compensation for my property and I understand that I have the right to an appraisal.

_____ NO I do not wish to donate my property for the ROW. I request to be paid just compensation.

_____ YES I desire to donate my property for the ROW. I release the LPA from the need to appraise my property.

 Property Owner

 Date

WRITTEN OFFER – APPRAISAL

Date

Property Owner's Name

Mailing Address

City, State Zip Code

Dear _____:

RE: Project # _____
 Tract # _____
 LPA _____
 County _____

The _____ of _____ is in the process of acquiring right of way (ROW) for the purpose of constructing the above-referenced project. The construction of this project will necessitate the purchase of approximately _____ acres of your property, which is identified on our ROW map as Tract _____. We have had your property appraised by a qualified independent or staff real estate appraiser, who was instructed to make a careful study of all legally compensable elements of value which contribute to the present worth of your property. The appraiser was also instructed to carefully consider the effect of the project on the value of your remaining lands and improvements. A breakdown of the offer to you is attached.

If this offer is not acceptable and no reasonable compromise can be reached, it will be necessary to acquire your property by exercising the right of eminent domain as set out by Alabama law. In such proceedings, a petition of condemnation is filed in the Probate Court of _____ County. The Probate Court appoints a 3-member commission to indicate the price to be paid by the LPA. These commission members view the property, hear testimony from both sides and then arrive at their estimate of value. Should you or the LPA be dissatisfied with the price set by the commission, either party may request a trial in the Circuit Court. This action must be taken promptly as the courts specify a time limit for taking such appeals. The valuation set by the Circuit Court is binding on both parties, unless it can be established that some part of the court proceedings was irregular, in which case an appeal by either you or the LPA may result in a second trial.

The person delivering this letter to you is employed by the _____ of _____. This person can explain to you the elements of value which constitute our offer and the effect of the right-of-way acquisition on your remaining property. This person is also in a position to answer your questions relative to the procedure outlined above.

Sincerely,

 LPA Engineer

Delivered By: _____, Negotiator

Date Delivered: _____

Received By: _____, Owner

Date Received: _____

BREAKDOWN OF OFFER

Land\$ _____

Improvements\$ _____

Damages to Remaining Land and/or Improvements\$ _____

Cost of Relocating Improvements\$ _____

LPA's Contractor to Relocate

Subtotal \$ _____

Less Enhancement to Remaining Land\$ _____

TOTAL AMOUNT OF OFFER\$ _____

WRITTEN OFFER – NO APPRAISALDateProperty Owner's NameMailing AddressCity, State Zip Code

Dear _____:

RE: Project # _____
 Tract # _____
 LPA _____
 County _____

The _____ of _____ is in the process of acquiring right of way (ROW) for the purpose of constructing the above-referenced project. The construction of this project will necessitate the purchase of approximately _____ acres of your property, which is identified on our ROW map as Tract _____. We have estimated the value of your property that is needed for this project. A breakdown of the offer to you is attached.

If this offer is not acceptable and no reasonable compromise can be reached, it will be necessary to acquire your property by exercising the right of eminent domain as set out by Alabama law. In such proceedings, a petition of condemnation is filed in the Probate Court of _____ County. The Probate Court appoints a three-member commission to indicate the price to be paid by the LPA. These commission members view the property, hear testimony from both sides and then arrive at their estimate of value. Should you or the LPA be dissatisfied with the price set by the commission, either party may request a trial in the Circuit Court. This action must be taken promptly as the courts specify a time limit for taking such appeals. The valuation set by the Circuit Court is binding on both parties, unless it can be established that some part of the court proceedings was irregular, in which case an appeal by either you or the LPA may result in a second trial.

The person delivering this letter to you is employed by the _____ of _____. This person can explain to you the elements of value which constitute our offer and the effect of the right-of-way acquisition on your remaining property. This person is also in a position to answer your questions relative to the procedure outlined above.

Sincerely,

 LPA Engineer

Delivered By: _____, Negotiator

Date Delivered: _____

Received By: _____, Owner

Date Received: _____

BREAKDOWN OF OFFER

Land\$ _____

Improvements\$ _____

Damages to Remaining Land and/or Improvements\$ _____

Cost of Relocating Improvements\$ _____

LPA's Contractor to Relocate

Subtotal \$ _____

Less Enhancement to Remaining Land\$ _____

TOTAL AMOUNT OF OFFER\$ _____

WAIVER VALUATION

The following is the minimum requirements for proper completion of the LPA Waiver Valuation Form. This form may be expanded to legal size or a second page to allow room for inclusion of all needed information.

A property plat is not required with the submission of each separate tract form when a right-of-way map is submitted. It is suggested that this map conform to mapping standards published on the ALDOT Right-of-Way Bureau webpage in the Engineering Section. However, at a minimum, the map should identify the project location, specific tract numbers, the owner's name, the total before, after and acquired areas of the affected tract, clearly labeled existing and acquired right of way and labeled topography of any buildings or minor site improvements within or near the area of acquisition. A separate plat, attached to each report, will be required containing the above stated information if no map is submitted for ALDOT review.

Form A-7
09/26/13

WAIVER VALUATION

(The valuation problem is uncomplicated and the anticipated value of the proposed acquisition is estimated at \$10,000 or less, based on a review of available data.)

Owner _____ RW/CPMS No. _____
 Property Address _____ Project No. _____
 _____ Tract No. _____
 _____ County _____
 LPA No. _____

Offer Date: _____ Method _____

This is an appraisal waiver as described in the *Code of Federal Regulations (CFR), Title 49, Part 24.2 (a)(33)*. This form is intended to comply with the basic acquisition policy as described in *CFR, Title 49, Part 24.102 (c)(2)(ii)*. The value determination assigned to this tract is based on a review of:

- Comparable sales in the report on Tract _____, Project No. _____, _____ County.
- Comparable sales number _____ in the Master File of _____ the appraiser, Project No. _____, _____ County.
- Available data is attached hereto.

BASIS OF WAIVER VALUATION:

Land to be Acquired: <u>0.0000 Acres @ \$0.00 per Acre</u>	\$ _____
Temporary Easements: <u>(Show calculations)</u>	\$ _____
Minor Site Improvements	\$ _____
Cost to Cure Items	\$ _____
Total	\$ _____
TOTAL ROUNDED	\$ _____

I hereby certify that I have no interest, direct or indirect, in the real property being valued.

Waiver Valuation Preparer: _____

LPA Engineer or Applicable Title

Date of Waiver Valuation

APPROVED:

I have considered this waiver valuation and approve (\$0.00) for negotiations. See attached memo if amount is different from the above waiver valuation or \$500 minimum payment.

Division Right-of-Way Engineer

Date

cc: Right-of-Way Bureau Chief
Project File

ROW-RA-2
Revised 4/05

**ALABAMA DEPARTMENT OF TRANSPORTATION
PROJECT RELOCATION ANALYSIS**

(To be prepared prior to Design Public Hearing)

Project No. _____
Description _____

County _____
Rural or Urban (Delete One)

I. Inventory of Displacees and Occupied Improvements
(Summary of individual Relocation Inventory Forms – Forms ROW-RA-3 & 3-A, attached)

Displacees	Totals	White	Non-White	Owners	Tenants	Occupied Improvements
Individuals & Families						
Businesses						
Farms						
Non-Profit Organizations						
Signs						
Totals						

II Replacement Housing Inventory

A. Owner-Occupant Value Range	Number of Replacement Dwellings Available and Number Required									
	1 BR		2 BR		3 BR		4 BR		5 BR	
	Req.	Avail.	Req.	Avail.	Req.	Avail.	Req.	Avail.	Req.	Avail.
\$ 0 - 50,000										
50,000 – 100,000										
100,000 – 150,000										
Over 150,000										

Page 2

B. Tenants	1 BR		2 BR		3 BR		4 BR		5 BR	
	Req.	Avail.	Req.	Avail.	Req.	Avail.	Req.	Avail.	Req.	Avail.
Rental Range										
\$ 0 -200										
200 – 400										
400 – 600										
600 – 800										
800 – 1,000										
Over 1,000										

The _____ Housing Authority has available an average of _____ Apartment units consisting of _____, 1 bedroom units; _____, 2 bedroom units; _____, 3 bedroom units; _____, 4 or more bedroom units for rent to low-income families. The units are not included in the above available rental units.

III. Business Inventory Data

A. Number of businesses displaced: _____

B. Approximate number of employees: _____

C. Number of replacement business sites: _____

D. Comments on the number of replacement business sites for displaced businesses:

E. Comments concerning business needs: _____

IV. Other Considerations

A. Estimate amount of lead time required to carry out a timely, orderly and humane relocation program _____ Days. Demonstrate its adequacy:

B. LPA's present workload and ability to perform needed relocation services:

C. Names and job titles of relocation personnel assigned to project:

D. Name of agency to perform relocation workload, if other than State:

E. The methods and procedures that will be utilized to assure a continuously updated Inventory of currently available comparable housing are set forth in the Alabama Department of Transportation Relocation Manual.

Inventory and information prepared by: _____ Title: _____

Recommended for Approval:

Signed: _____

Date: _____

Title: _____

Submit in duplicate to Lead Bureau

RIGHT-OF-WAY RECORDING – ACQUIREDDateName

Transportation Planning and Modal Programs Engineer
 Alabama Department of Transportation
 P. O. Box 303050
 Montgomery, AL 36130-3050

Dear _____:

RE: Project # _____
 LPA _____
 County _____

Right of way was acquired from the property owners listed below. Also listed are the dates of acquisition, methods of acquisition, deed book numbers and page numbers of the recording.

<u>PROPERTY OWNER</u>	<u>ACQUISITION</u>	<u>METHOD ACQUIRED</u>	<u>DEED BOOK NUMBER & PAGE NUMBER</u>
George Newman	07/19/94	Donated	Book 183, Page 705
Sarah Nell Richter	07/08/94	Donated	Book 183, Page 707
Curtis N. Peters, Jr.	07/19/94	Donated	Book 183, Page 703

Please contact this office if additional information is required.

Sincerely,

 LPA Engineer

Enclosures

RIGHT-OF-WAY RECORDING – EXISTING

Date

Name

Transportation Planning and Modal Programs Engineer
Alabama Department of Transportation
P. O. Box 303050
Montgomery, AL 36130-3050

Dear _____:

RE: Project # _____
LPA _____
County _____

The basic right-of-way width of the proposed project is 80 feet with 40 feet each side of the centerline. The right of way was acquired in 1963 by Henry County as Project SACP-7609-A and recorded in Deed Book 65, pages 31 and 32 that is filed in the Henry County Courthouse. No additional right of way is needed.

Sincerely,

LPA Engineer

Enclosures

**Local Public Agency
Certification for
Physical Construction**

Date: _____

Project No. _____

Description: _____

City/Other _____

County: _____

Acquiring Agency: _____

Total No. Tracts: _____

Original: _____

Total No. Relocates: _____

Update: _____

Residential: _____

Residential: _____

Business: _____

In accordance with the provisions of 23 CFR Part 635 and 49 CFR Part 24, this is to certify that:

1. All Right-of-Way necessary for the construction of the above project has been acquired

_____ (a) and/or legal possession obtained in accordance with the current FHWA directives covering the acquisition of real property. There may be some improvements remaining on the Right-of-Way, but all occupants have vacated the lands and improvements, and the City/Agency has physical possession and the right to remove, salvage, or demolish these improvements and enter all land.

_____ (b) Right-of-Way for the above referenced project was acquired prior to the effective date of the provisions of the Uniform Relocation Assistance and Real Property Acquisition Regulations. No Additional Right-of-Way was acquired for this project.

_____ (c) Right-of-Way for the above referenced project was acquired on a previous Federal Aid project in accordance with the Uniform Relocation Assistance and Real Property Acquisition Regulations. No additional Right-of-Way was acquired for this project.

_____ (d) The City/Agency maintains the above referenced road as prescriptive Right-of-Way. No additional Right-of-Way was acquired for this project.

2. All necessary Rights-of-Way have not been fully acquired. The right to occupy and to use all Rights-of-Way required for the proper execution of the project has been acquired. Occupants of all land and improvements have vacated and the City/Agency has physical possession and right to remove, salvage, or demolish these improvements with exceptions, if any, noted in Attachment "B."

3. Circumstances relating to the unacquired parcels, if any, listed in Attachment "A" and occupied improvements, if any, listed in Attachment "B" below, warrant that the public interest would be served by proceeding with the advertisement for bids or with force account construction in advance of acquisition of such parcels.
- _____

4. All Right-of-Way has been cleared of improvements except as noted in "B" below:
- _____

5. All necessary actions relative to relocation, advisory assistance, and payments as _____(a) required by current FHWA directives covering the Highway Relocation Assistance Program have been taken.

_____ (b) No persons are being displaced on this project.

_____ (c) All persons displaced prior to the date of this certification have been relocated into decent, safe, and sanitary housing, or have been offered decent, safe, and sanitary housing. Also, persons remaining on the Right-of-Way as of this date, if any, have the right of immediate possession of adequate replacement housing (as noted below), or have been offered decent, safe, and sanitary housing which is available for immediate occupancy.

There was/were _____ property owners. (Enter number.)

- A. () Donated (Total price \$ _____)
- B. () Purchased (Total price \$ _____)
- C. () Condemned.
- D. () Administrative Settlement [Above initial offer (See 49 CFR, Part 24.102(i)]
(Total price \$ _____)
- E. () Total Compensation (Line Items 2 – 4) \$ _____

Signed: _____
Authorized City, County, Agency Representative

Signed: _____
Division Right-of-Way Manager

Form ROW 10C
09/01/09

Alabama Department of Transportation NEGOTIATOR'S REPORT – LPA PROJECT

Page 1 of

Negotiator:		Owner:				
Project #:		<input type="checkbox"/> WM	<input type="checkbox"/> WF	<input type="checkbox"/> BM	<input type="checkbox"/> BF	<input type="checkbox"/> Other
Tract #:		Address:				
County:						
Area Acquired:		Home Phone:		Work Phone:		
ACQUISITION CONTAINS			ACQUISITION BROCHURE			
<input type="checkbox"/> Residence	<input type="checkbox"/> Business	<input type="checkbox"/> Owner Obtained		<input type="checkbox"/> Negotiator Provided _____ Date		
<input type="checkbox"/> Farm	<input type="checkbox"/> Vacant Land					
<input type="checkbox"/> Nonprofit Organization	<input type="checkbox"/> Sign					
OFFER						
No Obligation: \$ _____			Other: \$ _____			
Detail the basis of any amended offer by LPA: _____ _____						
The option of retaining improvements was explained. The owner <input type="checkbox"/> does / <input type="checkbox"/> does not choose to retain improvements. Pertinent comments on owner retention: _____ _____						
<input type="checkbox"/> Owner requested representatives be contacted.						
Name:			Relationship:			
Date of Contact	Person Contacted	Home	Office	Phone	DOT	
Discussion Summary: _____ _____						
<input type="checkbox"/> Pending	<input type="checkbox"/> Rejected	<input type="checkbox"/> Counteroffer #		<input type="checkbox"/> Accepted Offer #		
I certify that the written agreement secured embodies all of the considerations agreed between the negotiator and the property owner and the agreement was reached without coercion, promises, other than those shown in the agreement, or threats of any kind by or to either party. I certify that it is understood that the tracts are to be secured for use in connection with a federal-aid highway project (<i>strike through this statement if use will be on a non federal-aid project</i>). I certify that I have no direct, indirect, present or contemplated future interest in the tracts or in any benefit from the acquisition of such property.						
_____ Negotiator			_____ LPA Engineer			
_____ Date						

Form ROW 10C
09/01/09

Alabama Department of Transportation
NEGOTIATOR'S REPORT – LPA PROJECT

Page 2 of

Negotiator:		Owner:			
Project #:		Tract #:			
Date of Contact	Person Contacted	Home	Office	Phone	DOT
Discussion Summary: _____ _____					
<input type="checkbox"/> Pending		<input type="checkbox"/> Rejected		<input type="checkbox"/> Counteroffer #	
				<input type="checkbox"/> Accepted Offer #	
Date of Contact	Person Contacted	Home	Office	Phone	DOT
Discussion Summary: _____ _____					
<input type="checkbox"/> Pending		<input type="checkbox"/> Rejected		<input type="checkbox"/> Counteroffer #	
				<input type="checkbox"/> Accepted Offer #	
Date of Contact	Person Contacted	Home	Office	Phone	DOT
Discussion Summary: _____ _____					
<input type="checkbox"/> Pending		<input type="checkbox"/> Rejected		<input type="checkbox"/> Counteroffer #	
				<input type="checkbox"/> Accepted Offer #	
Date of Contact	Person Contacted	Home	Office	Phone	DOT
Discussion Summary: _____ _____					
<input type="checkbox"/> Pending		<input type="checkbox"/> Rejected		<input type="checkbox"/> Counteroffer #	
				<input type="checkbox"/> Accepted Offer #	
Date of Contact	Person Contacted	Home	Office	Phone	DOT
Discussion Summary: _____ _____					
<input type="checkbox"/> Pending		<input type="checkbox"/> Rejected		<input type="checkbox"/> Counteroffer #	
				<input type="checkbox"/> Accepted Offer #	

Chapter 8.0

Utilities

8.1 Introduction

Note: The Utilities Section is currently a part of *Right-of-Way Bureau*. If LPA staff is referred to ALDOT Utilities Section, contact the ROW Bureau for assistance with specific questions regarding utilities, utility relocation, or adjustment. Consult the [ROW Bureau and Utilities Section Contacts webpage](#).

It is in the public interest for utility facilities to cohabit space within trails, various easements, public open space, and roadway ROW when the use and occupancy does not adversely affect safety of the traveling public, or does not otherwise impair the byway/roadway or its aesthetic quality and does not conflict with provisions of Federal, State, or local laws and regulations. ALDOT has the responsibility to regulate and oversee the utility occupancy, relocation, and adjustment on all LPA Federal-aid projects. The purpose of this chapter is to assist the LPA in locating and applying those laws, regulations, and procedures, which are most pertinent to the utility relocation, adjustment, accommodation and reimbursement process. The utility relocation process embraces a large and complex series of issues. In this chapter, those issues have been simplified and condensed so they may be easily located and understood by the LPA.

In order to retain Federal-aid eligibility for the utility adjustments and relocations on a project, ALDOT has prepared the [ALDOT Utilities Manual](#) for use on all roadways under the ALDOT jurisdiction. Within ALDOT jurisdiction, the LPA can make use of a pre-approved (by ALDOT) procedure for accommodating utilities on LPA ROW. The LPA shall adopt and follow the procedures set forth in the manual, which complies with the requirements of the Federal-Aid Policy Guide and [Utility Relocation and Accommodation](#), 23 CFR 645 Parts A and B, to be eligible to receive Federal-aid for transportation projects in their respective jurisdictions. **Federal-aid participation is not allowed for utility betterment.** Increased service capacity or service improvements that are not required due to the construction of the project are examples of betterment.

The provisions of 23 CFR 645 Subpart A apply to reimbursement claimed by the LPA or ALDOT for costs incurred under an approved and properly executed utility agreement (AGR 167). FHWA's reimbursement to ALDOT will be governed by State law (or State regulation) or the provisions of 23 CFR 645 Subpart A, whichever are more restrictive. When State law or regulation differs from this regulation, ALDOT shall determine if the project criteria are in concurrence with FHWA as to which standards will govern, and the record documented accordingly for each relocation encountered. No work will proceed until ALDOT grants clearance for project to continue.

Compliance with this policy does not relieve a LPA from complying with the laws and regulations of the State of Alabama, FHWA, other public authorities, or governmental regulations that will prescribe a higher degree of protection than provided by this policy. In instances where the latter occurs, the higher degree of protection should prevail. Utility installations on public ROW

are the responsibility of the utility owner. Compliance with the provisions of this policy or the conditions of a permit issued pursuant to this policy does not relieve a utility of its legal responsibilities under Alabama and Federal law.

8.2 Responsibilities

The following is a list of actions the LPA must perform with regard to utility accommodation. Throughout design development, the LPA must coordinate all utility relocations.

- Complete the utility survey, review preliminary plans for existing utilities, perform a field inspection, and note any utilities on the design plans
- Notify the utility companies of any impacts and provide them with conflict maps and Schedule Utility Conflict Workshop
- Review and approve an estimate and rehabilitation plans from each affected utility company including LPA-owned utilities
- Obtain the necessary right of way and execute any required utility agreements
- Develop, in writing, the responsibilities of the LPA and utility for financing and accomplishing the relocation work
- Notify ALDOT in writing if Federal funds will be required for utility costs as part of the project cost, and provides a detailed cost estimate
- Prepare a Status of Utility Report
- Give each utility written authorization to proceed in relocating or beginning any utility work
- Make periodic inspections to determine that the traveling public have exceptional protection
- Monitor the progress and verify that utility adjustments or relocations are within the legal parameters according to the conflict resolution plan and schedule

The following is a list of responsibilities ALDOT must carry out to ensure Federal eligibility

- Review the utility plans and estimate for acceptance
- Provide guidance pertaining to ALDOT and Federal procedures and requirements
- Obtain authorization for the utility work phase from FHWA and provide the LPA a written authorization to proceed in the physical relocation of the utilities
- Review and approve payment for items eligible for Federal-aid

8.3 General Policy

8.3.1 Protection of the Traveling Public during Installation of Utilities

The traveling public will have protection from the activities of the contractor or individuals installing or relocating utilities within the project ROW by means of signs, flaggers, and traffic control devices as outlined in the latest edition of the MUTCD, US DOT, FHWA, and the State of Alabama by-laws. Any utility construction or maintenance operation must have a planned implementation portion with full regard to safety and interference with roadway traffic prevention held to an absolute minimum. The LPA will ensure safety measures are coordinated for the detour of traffic and the re-establishment of the normal route.

Whenever a utility installation, adjustment or maintenance activity will affect the movement of traffic or traffic safety, the LPA or utility shall implement a traffic control plan and utilize traffic control devices as necessary to ensure the safe and expeditious movement of traffic around the work site and the safety of the utility work force in accordance with procedures established by ALDOT. The traffic control plan and the application of traffic control devices shall conform to the standards set forth in the current edition of the [Manual on Uniform Traffic Control Devices](#) (MUTCD) and the [FHWA Work Zone Mobility and Safety Rule](#), 23 CFR Part 630, subpart J.

Vehicles and equipment with properly fitted beacon lights, when not in use in connection with the actual placing of a utility within the project ROW, must follow the ALDOT guidelines of a minimum of twenty (20) feet from the traveled way in rural areas and six (6) feet behind the curb in curbed areas wherever practical to do so. All vehicles and equipment used in the utility work must be fitted with yellow rotating/flashing beacon lights.

On Federal-aid projects, new above ground utility installations, where permitted, shall be located as far from the traveled way as possible, preferably along the ROW line. No new above ground utility installations are to be allowed within the established clear zone of the roadway or trail unless a determination has been made by ALDOT or FHWA that placement underground is not technically feasible or is unreasonably costly and there are no feasible alternate locations. In exceptional situations when it is essential to locate utility facilities above ground within the established clear zone of the roadway or trail, the LPA will find appropriate countermeasures to reduce hazards. Countermeasures include placing utility facilities at specific locations to help protect or minimize exposure to out-of-control vehicles, using breakaway features, using impact attenuation devices, using delineation, or shielding.

8.3.2 One-Call Notification Act

This law sets the requirements and guidelines to assist any person or entity contemplating excavation to protect underground facilities.

Excavators must notify operators of underground facilities in an excavation area so that operators have the opportunity to identify and locate the underground facilities prior to excavation and so that the excavators may then observe proper precautions to safeguard the underground facilities from damage.

Give notification to operators of underground facilities by dialing **8-1-1** or in Alabama, One-Call 1-800-292-8525 (statewide), or (334) 242-6000 (ask for Right-of-Way Bureau, Utilities Section - LPA Contact).

8.4 Identifying and Avoiding Utility Conflicts

Early coordination and planning is important to avoid unnecessary delays and costs. Utility owners must have sufficient time to design the adjustments, budget the costs and acquire the necessary materials and supplies. They must then fit the work into operating schedules, assemble the required crews and equipment, and perform the work. Utilities situated on public ROW may not be eligible for Federal-aid. Utility companies are solely responsible for relocating and paying for those items.

As soon as the project location and design have advanced sufficiently so that the ROW clearance work and the utility relocation work is known, the LPA should initiate an evaluation of the plan, including on-site investigations, an estimate of costs, difficulties involved, and consideration of any plan revisions for reducing such costs and difficulties. All affected governmental agencies and utility owners should participate in these studies. When several utilities are involved, representatives of all owners should be present at the same workshop in order that their plans for proposed adjustments can be properly coordinated and each representative consideration are given, where feasible, to the joint use of certain facilities such as pole lines or utility corridors. Questionnaires given to all utilities will be completed and submit to the LPA to document each entities input.

Early coordination between the LPA and utility companies is required to assure that utilities will provide the necessary and accurate information to determine the potential need for relocation, project scheduling to complete proposed relocation work, and possible alternatives. Meetings will help litigate the potential conflicts and possible mitigation, relocation periods (i.e., material ordering, bid processes, critical outages, or splicing needs) and construction or ROW constraints.

Unless the LPA has a pre-approved (by ALDOT) procedure for accommodating utilities on LPA ROW, the LPA shall adopt and follow the procedures set forth in the current [ALDOT Utility Manual](#). Authorization and funding must be granted by FHWA and ALDOT prior to start of any work.

Note: ALDOT policy does not allow natural gas and electrical utility attachments on bridge projects. Requests from all other utilities must be reviewed and approved by the Utility Attachment Committee.

8.5 Coordinating with the Utility Schedule

After identifying the utility facilities affected and discussing the time schedules with the utility owners, the LPA will prepare a work schedule. There is an advantage to having utility work either completed or underway to a point of not interfering with start of construction; however, utility work can run in concurrence with construction activities up to scheduled completion, requiring only consultation and coordination. It should be noted that, in some instances, the contractor may need to complete certain work (layout, clearing and grubbing, etc.) before the utility companies can perform their relocation work. Contractor claims for time delays and cost increases due to utility work overlapped in concurrence with construction may or may not

receive Federal-aid participation. ALDOT will review claims, for Federal-aid funding participation, on an individual basis.

The work schedule must establish reasonable timeframes for utility owners to relocate their facilities to avoid delay to the advertisement and bid letting of the project. It is important that working together, the LPA and the utility owners identify, as early as possible, the facilities to be removed, relocated, or replaced so that these time schedules can be included in the contract documents prior to bidding.

The LPA should provide the utility owners a preliminary set of plans as soon as they are available. In addition, the LPA should advise utility owners of the project bid letting date and the anticipated construction schedule.

LPA will provide a pay/no pay pole listing to utilities affected by the project.

8.6 Utility Agreements

The purpose of the written agreement is to assist in documenting the responsibilities for financing and accomplishing the relocation work prior to the project letting. ***A utility agreement between the LPA and the utility is necessary whenever utility relocation is required.*** The agreement shall incorporate the requirements of [23 CFR 645 subpart A](#) by reference and designate the method for performing the utility relocation work (by contract or force account) and for developing relocation costs. The method for developing relocation costs must be acceptable to ALDOT and FHWA. The scope of work outlined in the agreement reinforces any plans, specifications when required, and itemized cost estimates of the work agreed upon and shall be sufficiently informative and complete to provide ALDOT and FHWA with a clear description of the work required.

Regardless of funding source, a written contract between the LPA and the utility entity will facilitate support to any agreements prior to commencement of work. For additional information regarding agreements and document download, go to the ALDOT Utilities Manual web link under Section 8.4 above. The following utility agreements examples are for information purposes and may be downloaded for use:

8.6.1 NON-REIMBURSABLE AGREEMENT

RELOCATION OF UTILITY FACILITIES PUBLIC RIGHT OF WAY

Project # _____
LPA _____
County _____

This agreement is entered into by and between the LPA of the _____ of _____ in _____ County, acting by and through its Mayor, hereinafter referred to as the LPA, and _____, hereinafter referred to as the UTILITY.

WITNESSETH

WHEREAS, the LPA proposes a project of certain highway improvements in the _____ of _____, _____ County, Alabama, said project being designated as Project Number _____ and consisting approximately of the following: _____

WHEREAS, the UTILITY is the owner of certain facilities located on public right of way at places where they will interfere with the construction of said project unless said facilities are relocated; and

WHEREAS, the LPA has determined that the relocation of the facilities referred to is necessitated by the construction of said project and has ordered the UTILITY to relocate same; and

WHEREAS, under the laws of Alabama, the UTILITY is required to relocate said facilities at its own expense;

NOW, THEREFORE, the parties hereto agree as follows:

1. The UTILITY will relocate its facilities presently located within the right-of-way limits of the above-referenced project in accordance with the UTILITY'S plans as approved by the LPA, so as to occasion the least possible interference with the progress of the project. The UTILITY plans are transmitted herewith and made a part hereof by reference. The UTILITY will furnish the LPA a copy of its as-built plans at the completion of the relocation.
2. The UTILITY will conform to the provisions of the latest edition of the Alabama Department of Transportation's *Utilities Manual*, as the provisions thereof are applicable hereto, for both installation and maintenance of such facilities. Such manual is of record

within the Alabama Department of Transportation at the execution of this agreement and is hereby made a part hereof by reference.

3. The UTILITY will conform to the provisions of the latest edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*, as the provisions thereof are applicable hereto, for both installation and maintenance of such facilities. Such manual is of record within the Alabama Department of Transportation at the execution of this agreement and is hereby made a part hereof by reference.
4. The *Code of Federal Regulations, Title 23, Part 645 (23 CFR 645)* is hereby made a part hereof by reference and will be conformed to by the UTILITY as the provisions thereof are applicable hereto.
5. The UTILITY will observe and comply with the provisions of all federal, state and LPA laws and regulations as the provisions thereof are applicable hereto in the performance of work hereunder, including the *Clean Water Act of 1987*, the Alabama Nonpoint Source Management Program of 1989, and the regulations of the Environmental Protection Agency and the Alabama Department of Environmental Management. The UTILITY will procure and pay for all licenses and permits that are necessary for its performance of the work.
6. Reimbursement for future relocation of the UTILITY'S facilities will be in accordance with state law in effect at the time such relocation is made.
7. The UTILITY will be obligated for the payment of damages occasioned to private property, public utilities or the general public, caused by the legal liability (in accordance with Alabama and/or federal law) of the UTILITY, its agents, servants, employees or facilities.
8. The UTILITY will have a copy of this agreement on the project site at all times while work is being performed under this agreement.
9. The LPA will furnish the state, in writing, six weeks prior to the state's project letting date, a utility certification letter with a time frame for beginning and ending the required relocation work.
10. Nothing contained in this agreement, or in its execution, shall be construed to alter or affect the title of the LPA to the public right of way nor to increase, decrease or modify in any way the rights of the UTILITY provided by law with respect to the construction, operation or maintenance of its facilities on the public right of way.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective officers, officials, or persons thereunto duly authorized on this _____ day of _____, 20_____.

WITNESS

Legal Name of Utility

Signature

Type or Print Name

Type or Print Title

Address

Address

Telephone

RECOMMENDED FOR APPROVAL

LPA Engineer

Division Engineer

Mayor

LPA of the _____ of _____

APPROVED

Transportation Planning and Modal Programs Engineer

Date

8.6.2 REIMBURSABLE AGREEMENT – Ex: 1

RELOCATION OF UTILITY FACILITIES PRIVATE OR PUBLIC RIGHT OF WAY

Project # _____ Private Right of Way _____
 LPA _____
 County _____ Public Right of Way _____

This agreement is entered into by and between the LPA of the _____ of _____ in _____ County, acting by and through its Mayor, hereinafter referred to as the LPA, and _____, hereinafter referred to as the UTILITY.

WITNESSETH

WHEREAS, the LPA proposes a project of certain highway improvements in the _____ of _____, _____ County, Alabama, said project being designated as Project Number _____ and consisting approximately of the following: _____

 _____; and

WHEREAS, the UTILITY is the owner of certain facilities located on private or public right of way, as applicable, at places where they will interfere with the construction of said project unless said facilities are relocated; and

WHEREAS, the LPA has determined that the relocation of the facilities referred to is necessitated by the construction of said project and has requested or ordered, as applicable, the UTILITY to relocate same; and

WHEREAS, the Alabama Department of Transportation will use federal funds allocated to the LPA, if available, that are provided to it by the Federal Highway Administration pursuant to the *Code of Federal Regulations, Title 23, Part 645 (23 CFR 645)* to reimburse the LPA'S expenses incurred in adjusting the UTILITY'S facilities;

NOW, THEREFORE, the parties hereto agree as follows:

1. The UTILITY will relocate its facilities presently located within the right-of-way limits of the above-referenced project in accordance with the UTILITY'S plans and specifications as approved by the COUNTY, so as to occasion the least possible interference with the progress of the project. The UTILITY'S plans, specifications, and estimate of relocation cost are transmitted herewith and made a part hereof by reference.
2. The UTILITY will conform to the provisions of the latest edition of the Alabama Department of Transportation's *Utilities Manual*, as the provisions thereof are applicable hereto, for both installation and maintenance of such facilities. Such manual is of record within the

Alabama Department of Transportation at the execution of this agreement and is hereby made a part hereof by reference.

3. The UTILITY will conform to the provisions of the latest edition of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*, as the provisions thereof are applicable hereto, for both installation and maintenance of such facilities. Such manual is of record within the Alabama Department of Transportation at the execution of this agreement and is hereby made a part hereof by reference.
4. The *Code of Federal Regulations, Title 23, Part 645 (23 CFR 645)* is hereby made a part hereof by reference and will be conformed to by the UTILITY as the provisions thereof are applicable hereto.
5. The UTILITY will observe and comply with the provisions of all federal, state and LPA laws and regulations as the provisions thereof are applicable hereto in the performance of work hereunder, including the *Clean Water Act of 1987*, the Alabama Nonpoint Source Management Program of 1989, and the regulations of the Environmental Protection Agency and the Alabama Department of Environmental Management. The UTILITY will procure and pay for all licenses and permits that are necessary for its performance of the work.
6. The UTILITY will perform the work of relocation by:
 - a. _____ UTILITY'S own forces
 - b. _____ Contract let by the UTILITY
 - c. _____ An existing written continuing contract where the work is regularly performed for the UTILITY
 - d. _____ Combination of the preceding (as shown in detail on the estimate)
7. The detailed relocation cost estimate will be itemized and attached to this agreement. With respect to facilities located on the UTILITY'S private right of way, the COUNTY will reimburse the UTILITY for the actual cost of relocation, as may be adjusted below. With respect to facilities located on public right of way, the COUNTY will reimburse the UTILITY for all or part of the actual cost of relocation as required by the laws of Alabama, as may be adjusted below.
 - a. The state's share of the engineering charges shall be limited to the in-kind work only. The total actual cost of relocation, including engineering, whether the facilities are on private or public right of way, shall be adjusted for betterment, if any, as defined and provided for in 23 CFR 645 above noted. Excluding betterment costs, the total estimated cost of relocation, including engineering, is \$ _____. The total estimated cost including betterment is \$ _____.
 - b. If an adjustment for betterment is applicable, the COUNTY will reimburse the UTILITY for _____ percent of the actual cost of relocation and the remaining

_____ percent thereof shall be for the account of the UTILITY for betterment. If there are changes during construction and/or the actual construction cost percentage becomes substantially different from the construction estimate, the COUNTY reserves the right to recalculate the percentages at any time.

8. The UTILITY will keep accurate and true records of all expenditures made by it in the process of such relocation. Records will be kept in accordance with the *Code of Federal Regulations, Title 23, Part 645 (23 CFR 645)* above noted, or in accordance with *Federal Acquisition Regulations (FAR), Parts 30 and 31*, or in accordance with accounting practices acceptable to the state.
9. The UTILITY will, during the progress of the work and for three years from the date the final payment is made, make its records available during normal working hours for examination and audit by representatives of the state and of the Federal Highway Administration to verify amounts and items covered in the reimbursement for relocation of facilities covered herein. Said records will be available for examination at

10. The UTILITY will, within six months following completion of the relocation, furnish the COUNTY such papers, records, supporting documents and invoices as may be required by the state showing the cost of said relocation. The UTILITY will furnish the COUNTY a copy of its as-built plans for the state's records.
11. Upon receipt of such documents and accounts as may be required by the preceding paragraph and upon completion and acceptance of such verification as the COUNTY may deem necessary, the COUNTY will reimburse the UTILITY for the actual cost of such relocation as verified by the COUNTY. In the event the actual verified cost, as accepted, exceeds the estimated cost, the COUNTY may require a supplemental agreement to be executed between the parties prior to reimbursement of any amount in excess of the estimated cost.
12. Paragraphs numbered 13 through 17 set forth below are applicable to this agreement only if some or all of the UTILITY facilities to be relocated hereunder are located on private right of way of the UTILITY; otherwise, such paragraphs are considered inapplicable to this agreement and null and void.
11. Where the UTILITY has a compensable property interest in its existing location (herein referred to as private right of way) by reason of holding the fee, an easement or other property interest, evidence of such compensable property interest will be submitted to the COUNTY by the UTILITY for review and approval.
12. If the UTILITY is required to move all of its facilities from a portion of its private right of way, upon completion of the relocation provided for herein, the UTILITY will convey to the COUNTY by quitclaim deed the portion of its private right of way located within the right-of-way limits of the above-referenced project.
15. In the event the UTILITY is not required to relocate any of its facilities which are located on its private right of way, the following provisions shall apply:

- a. To the extent the UTILITY has the right to so agree the COUNTY will have the right to construct, operate, and maintain a highway over and along the portion of the UTILITY'S private right of way located within the right-of-way limits of the above-referenced project.
 - b. The subordination of the UTILITY'S private right of way to the right of the COUNTY to construct, operate, and maintain said highway will be effective and operative only to such air, surface and subsurface rights as may reasonably be required and are necessary for the construction, operation, and maintenance of said highway, and to enable the COUNTY to control access to the highway where such control is established; otherwise this subordination agreement will in no way affect or impair the rights of the UTILITY, its successors and assigns, in or to its private right-of-way, including but not limited to the right to install additional facilities over, under, and across the highway; provided however, that any installation of additional facilities will be subject to the state's responsibility and right to make prior determination that any such additional facilities are located so as not to impair the highway or any planned highway improvement and so as not to interfere with the free and safe flow of traffic thereon.
 - c. It is mutually understood that the terms of this agreement do not subordinate, affect or impair the rights of the UTILITY for reimbursement of the cost of such future relocation as may be required and necessitated by highway construction at some future date, as fully as if no subordination existed; however, such relocation will be in accordance with an additional agreement to be entered into at that time between the UTILITY and the COUNTY.
16. If the UTILITY is required to relocate any of its facilities which are located on its private right of way to a new location on the same private right of way, the following provisions shall apply:
- a. To the extent the UTILITY has the right to so agree, upon completion of the relocation provided for herein, the COUNTY will have the right to construct, operate, and maintain a highway over and along the portion of the UTILITY'S private right of way located within the right-of-way limits of the above referenced project.
 - b. The subordination of the UTILITY private right of way to the right of the COUNTY to construct, operate and maintain said highway will be effective and operative only to such air, surface and subsurface rights as may reasonably be required and are necessary for the construction, operation and maintenance of said highway, or to enable the COUNTY to control access to the highway where such control is established; otherwise this subordination agreement will in no way affect and impair the rights of the UTILITY, its successors and assigns, in or to its private right of way, including but not limited to the right to install additional facilities over, under and across the highway; provided however, that any installation of additional facilities will be subject to the COUNTY'S responsibility and right to make prior determination that any such additional facilities are located so as not to impair the highway or any planned highway improvement and so as not to interfere with the free and safe flow of traffic thereon.

- c. It is mutually understood that the terms of this agreement do not subordinate, affect or impair the rights of the UTILITY for reimbursement of the cost of such future relocation as may be required and necessitated by highway construction at some future date, as fully as if no subordination existed; however, such relocation will be in accordance with an additional agreement to be entered into at that time between the UTILITY and the COUNTY.
17. If the UTILITY is required to relocate any of its facilities which are located on its private right of way to a new location on public right of way, or if any such facilities are to be retained in place within the public right of way due to this project, the following provisions will apply:
 - a. The cost of relocation will include reimbursement for acquisition of right of way by the UTILITY to place necessary guy wires and anchors on private lands adjacent to the highway right of way and the rights to cut, trim and remove, initially and from time to time as necessary, trees on private lands adjacent to the highway right of way which might then or thereafter endanger the facilities of the UTILITY.
 - b. Reimbursement for future relocation of the UTILITY'S facilities will be in accordance with state laws in effect at the time such relocation is made; provided however, the UTILITY will be reimbursed for the cost of any future relocation of the facilities, including the cost of acquisition of equivalent private right of way if such future relocation is outside the highway right of way and such relocation is required by the COUNTY, and provided that the prior relocation from private right of way to public right of way was without compensation to the UTILITY for its compensable property interest in its private right of way.
18. The UTILITY will be obligated for the payment of damages occasioned to private property, public utilities or the general public, caused by the legal liability (in accordance with Alabama and/or federal law) of the UTILITY, its agents, servants, employees or facilities.
19. The UTILITY will have a copy of this agreement on the project site at all times while work is being performed under this agreement.
20. Nothing contained in this agreement, or in its execution, shall be construed to alter or affect the title of the COUNTY to the public right of way nor to increase, decrease or modify in any way the rights of the UTILITY provided by law with respect to the construction, operation or maintenance of its facilities on the public right of way.
21. Paragraph 22 set forth below is applicable to this agreement only if federal appropriated funds are available or will be available in the project by which the relocation required by this agreement is necessitated.
22. In the event any federal funds are utilized for this work, the following certification is made:

The undersigned certifies, to the best of his or her knowledge and belief, that:

 - a. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the

awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan or cooperative agreement.

- b. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, Disclosure Form to Report Lobbying, in accordance with its instructions.
- c. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by *US Code, Title 31, Section 1352*. Any person who fails to file the required certification shall be subject to civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective officers, officials, or persons thereunto duly authorized, and this agreement is deemed to be dated and to be effective on the date hereinafter stated as the date of its approval by the Transportation Planning and Modal Programs Engineer.

The LPA requests that ___ 100% LPA funds and/or ____ % federal funds be used for utility work in this agreement.

WITNESS

Legal Name of Utility

Signature

Type or Print Name

Type or Print Title

Address

Telephone

RECOMMENDED FOR APPROVAL

LPA Engineer

Division Engineer

LPA of the _____ of _____

Mayor _____

APPROVED

Transportation Planning and Modal Programs Engineer

Date

8.6.3 REIMBURSABLE AGREEMENT – Ex: 2

RELOCATION OF UTILITY FACILITIES PRIVATE OR PUBLIC RIGHT OF WAY - WORK TO BE DONE BY STATE CONTRACTOR

Note: This agreement must include pay items for the work included in the plans. If the Specifications are not listed in the ALDOT Construction Manual, a Special Provision must be written to describe the materials used, the construction method, and the method of payment. Special provisions must be approved in advance of work by ALDOT. No exceptions.

Project # _____ Private Right of Way _____
LPA _____
County _____ Public Right of Way _____

This agreement is entered into by and between the LPA of the _____ of _____ in _____ County, acting by and through its Mayor, hereinafter referred to as the LPA, and _____, hereinafter referred to as the UTILITY.

WITNESSETH

WHEREAS, the LPA proposes a project of certain highway improvements in the _____ of _____, _____ County, Alabama, said project being designated as Project Number _____ and consisting approximately of the following: _____

_____ and

WHEREAS, the UTILITY is the owner of certain facilities located on private or public right of way, as applicable, at places where they will interfere with the construction of said project unless said facilities are relocated; and

WHEREAS, the LPA has determined that the relocation of the facilities hereinafter referred to is necessitated by the construction of said project and has requested or ordered, as applicable, the UTILITY to relocate same; and

WHEREAS, the Alabama Department of Transportation will use federal funds allocated to the LPA, if available, that are provided to it by the Federal Highway Administration pursuant to the *Code of Federal Regulations, Title 23, Part 645 (23 CFR 645)*, to reimburse the LPA'S expenses incurred in adjusting the utilities facilities;

NOW, THEREFORE, the parties hereto agree as follows:

1. The UTILITY, not being staffed or equipped to perform the relocation, requests that the relocation work be included in the Alabama Department of Transportation's highway construction contract. The relocation of the facilities will be accomplished in accordance

with and as shown by the UTILITY'S reproducible Mylar plans, specifications and estimate transmitted herewith and made a part hereof by reference. The estimated cost of the in-kind relocation including engineering is \$_____.

- a. The actual cost of relocation will not be reimbursed to the UTILITY but will be paid directly to the state's contractor by the state as a part of its contract. A detailed
- b. itemized cost estimate will be transmitted herewith and made a part hereof by reference.
- c. The total actual cost of relocation, including engineering, whether the facilities are on private or public right of way, shall be adjusted for betterment, if any, as defined and provided for in 23 CFR 645 above noted. Excluding betterment costs, the total estimated cost of relocation, including engineering, is \$_____. The total estimated cost including betterment is \$_____.

If an adjustment for betterment is applicable, the LPA shall reimburse the UTILITY based on the percentage ratio of in-kind cost and betterment cost and being _____ percent of the total actual cost of relocation, as in-kind and the remaining _____ percent thereof shall be for the account of the UTILITY for betterment. If there are changes during construction and/or the actual construction cost percentage becomes substantially different from the construction estimate, the LPA reserves the right to recalculate the percentages at any time.

2. The UTILITY will confirm to the provisions of the latest edition of the Alabama Department of Transportation's *Utilities Manual*, as the provisions thereof are applicable hereto, for both installation and maintenance of such facilities. Such manual is of record within the Alabama Department of Transportation at the execution of this of this agreement and is hereby made a part hereof by reference.
3. The UTILITY will conform to the provisions of the latest edition of the *Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD)*, as the provisions thereof are applicable hereto, for both installation and maintenance of such facilities. Such manual is of record within the Alabama Department of Transportation at the execution of this agreement and is hereby made a part hereof by reference.
4. The UTILITY will be notified by the LPA Engineer, 24 hours in advance of the commencement of the facility adjustment by the state contractor. The LPA Engineer shall have final authority in all matters affecting the work of the state's contractor. In the event the UTILITY has an Inspector on the project, such Inspector will not issue any instructions to the state's contractor. All instructions to the state's contractor with regard to the work provided for under this agreement will be issued by the LPA Engineer, after consultation with the UTILITY inspector or representative if found necessary by the LPA Engineer.
5. The *Code of Federal Regulations, Title 23, Part 645 (23 CFR 645)* is hereby made a part hereof by reference and will be conformed to by the UTILITY as the provisions thereof are applicable hereto.

6. The UTILITY will observe and comply with the provisions of all federal, state and LPA laws and regulations as the provisions thereof are applicable hereto in the performance of work hereunder, including the *Clean Water Act of 1987*, the Alabama Nonpoint Source Management Program of 1989, and the regulations of the Environmental Protection Agency and the Alabama Department of Environmental Management. The UTILITY will procure and pay for all licenses and permits that are necessary for its performance of the work.
7. Where the UTILITY has a compensable property interest in its existing location (herein referred to as private right of way) by reason of holding the fee, an easement or other property interest, evidence of such compensable property interest shall be attached hereto and made a part of this agreement.
8. If the UTILITY is required to move all of its facilities from a portion of its private right of way, upon completion of the relocation provided for herein, the UTILITY will convey to the LPA by quitclaim deed the portion of its private right of way located within the right-of-way limits of the above-referenced project.
9. In the event the UTILITY is required to relocate any of its facilities which are located on its private right of way to a new location on public right of way or if any such facilities are to be retained in place within the public right of way due to this project, the following provisions will apply:
 - a. The cost of relocation will include reimbursement for acquisition of right of way by the UTILITY to place necessary guy wires and anchors on private lands adjacent to the highway right of way and the rights to cut, trim and remove, initially and from time to time as necessary, trees on private lands adjacent to the highway right of way which might then or thereafter endanger the facilities of the UTILITY.
 - b. Reimbursement for future relocation of a UTILITY's facilities will be in accordance with state law in effect at the time such relocation is made; provided, however, the UTILITY will be reimbursed for the cost of any future relocation of the facilities, including the cost of acquisition of equivalent private right of way if such future relocation is outside the highway right of way and such relocation is required by the LPA, and provided that the prior relocation from private right of way to public right of way was without compensation to the UTILITY for its compensable property interest in its private right of way.
10. The UTILITY will be obligated for the payment of damages occasioned to private property, public utilities or the general public, caused by the legal liability (in accordance with Alabama and/or federal law) of the UTILITY, its agents, servants, employees or facilities.
11. Nothing contained in this agreement, or in its execution, shall be construed to alter or affect the title of the LPA to the public right of way nor to increase, decrease or modify in any way the rights of the UTILITY provided by law with respect to the construction, operation or maintenance of its facilities on the public right of way.
12. Paragraph 13 set forth below is applicable to this agreement only if federal appropriated funds are available or will be available in the project by which the relocation required by this agreement is necessitated.

13. In the event any federal funds are utilized for this work, the following certification is made:

The undersigned certifies, to the best of his or her knowledge and belief, that

- a. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan or cooperative agreement.
- b. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, Disclosure Form to Report Lobbying, in accordance with its instructions.
- c. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by *US Code, Title 31, Section 1352*. Any person who fails to file the required certification shall be subject to civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective officers, officials, or persons thereunto duly authorized, and this agreement is deemed to be dated and to be effective on the date hereinafter stated as the date of its approval by the Transportation Planning and Modal Programs Engineer.

WITNESS

Legal Name of Utility

Signature

Type or Print Name

Type or Print Title

Address

Address

Telephone

RECOMMENDED FOR APPROVAL

LPA Engineer

Division Engineer

LPA of the _____ of _____

Mayor

APPROVED

Transportation Planning and Modal Programs Engineer

8.6.4 SUPPLEMENTAL AGREEMENT

UTILITY RELOCATION COST

Date: _____

Project # _____
 LPA _____
 County _____

This supplemental agreement is entered into by and between the LPA of the _____ of _____ in _____ County, acting by and through its Mayor, hereinafter referred to as the LPA, and _____, hereinafter referred to as the UTILITY.

WITNESSETH

WHEREAS, the parties did enter into an agreement effective the _____ day of _____, 20____ for the relocation of a specific portion of the UTILITY'S facilities in conflict with the construction of the above-referenced project; and

WHEREAS, certain conditions encountered necessary to the construction of the project have caused an increase in the original estimated cost of relocation **in excess of 20%**, the parties desire to enter into this supplemental agreement to cover an increase in estimated cost in the amount of \$ _____ as described in detail in Supplemental Estimate No. _____ transmitted herewith and made a part hereof by reference;

NOW, THEREFORE, the parties do hereby agree that the original agreement be and the same is hereby amended by this supplemental agreement consisting of the above-mentioned items and prices, and they do agree that the estimated cost contained in the original agreement be increased in the amount of the increased estimated cost above set forth, and that this supplemental agreement be and is hereby made a part of the original agreement to be performed under the terms and conditions thereof, and that said original agreement is in full force and effect except insofar as it might be modified by this supplemental agreement.

The paragraphs set forth below are applicable to this agreement only if federal appropriated funds are available or will be available in the project by which the relocation required by this agreement is necessitated.

In the event any federal funds are utilized for this work the following certification is made:

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan or cooperative

agreement.

2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, Disclosure Form to Report Lobbying, in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.
4. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by *US Code, Title 31, Section 1352*. Any person who fails to file the required certification shall be subject to civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective officers, officials, or persons thereunto duly authorized, and this agreement is deemed to be dated and to be effective on the date hereinafter stated as the date of its approval by the Transportation Planning and Modal Programs Engineer.

WITNESS

Legal Name of Utility

Signature

Type or Print Name

Type or Print Title

Address

Address

Telephone

RECOMMENDED FOR APPROVAL

LPA Engineer

Division Engineer

LPA of the _____ of _____

Mayor

APPROVED

Transportation Planning and Modal Programs Engineer

Date

8.6.5 UTILITY CERTIFICATE – Ex: 1

NO CONFLICTING UTILITIES

Date

Name

Transportation Planning and Modal Programs Engineer
Alabama Department of Transportation
P. O. Box 303050
Montgomery, AL 36130-3050

Dear _____:

RE: Project # _____
LPA _____
County _____

The status of the utilities for the above-referenced project is as follows:

The utilities on this project are not in conflict and will be retained in their existing location.

Sincerely,

LPA Engineer

copy: Division Engineer

8.6.6 UTILITY CERTIFICATE – Ex: 2

CONFLICTING UTILITIES

Date

Name

Transportation Planning and Modal Programs Engineer
Alabama Department of Transportation
P. O. Box 303050
Montgomery, AL 36130-3050

Dear _____:

RE: Project # _____
LPA _____
County _____

The status of the utilities for the above-referenced project is as follows:

CONCO WATER AUTHORITY

A reimbursable agreement was submitted by this office for approval on September 20, 2003. The utility work will be performed by company forces. They plan to begin work within 7 days from the notice to proceed and complete the work within 10-calendar days. This work is scheduled for completion prior to the issuance of the project work order.

AT&T ALABAMA

A non-reimbursable agreement was submitted by this office for approval on September 20, 2003. The utility work will be performed by company forces. They plan to begin work within 5 days from the notice to proceed and complete the work within 5-calendar days. This work is scheduled for completion prior to the issuance of the project work order.

The following utilities are not in conflict with the project and will remain in their present locations:

Alabama Gas Corporation
Alabama Power Company (Transmission)
Charter Communications

Sincerely,

LPA Engineer

copy: Division Engineer

8.7 Utility Relocation Plans and Estimates

The LPA must review and approve utility relocation plans and estimates; verifying compensable property rights and contractor information. Prior to approval, ensure corrections to any errors or unacceptable work are satisfied. The LPA should monitor the performance of the relocation work; including revisions and possible construction conflicts.

The owner of the utility facility eligible for reimbursement should prepare the following data, and submit to the LPA as promptly as possible:

- A plan, including cross section and/or profile of the existing and proposed facilities within the affected area; and
- Compose a detailed estimate of cost to cover all scheduled events within the LPA project. This detailed estimate should be broken down into separate temporary and permanent work. Also, separate the salvage credit in the same manner. Clearly identify all additions and betterments.

The LPA must also submit these documents to the ALDOT LPA Project Coordinator. ALDOT will do a review of the plans to assure adequate ROW is available and to verify lateral obstacle clearances and sight distances. The estimate developed will assist to track project expenses.

8.8 Authorization to Proceed

Authorization by FHWA to ALDOT to proceed with utility relocation may be given after:

- The utility relocation work, or ROW, or construction phase of the project is included in and approved STIP/TIP
- The NEPA document has been completed
- ALDOT or FHWA has reviewed and approved the plans, estimates, and agreements (*AGR 167*) for the utility work and is furnished a schedule for accomplishing the work

FHWA may authorize relocation of utility facilities prior to the NEPA document being completed whenever they have authorized ROW acquisition under the hardship and protective buying provisions of [Property Acquisition 23 CFR 710.503](#). FHWA may authorize relocation of utilities located in whole or in part on the acquired ROW.

When the LPA and utility fail to bring a written agreement expressing their responsibilities, ALDOT will submit a proposal and full report of the circumstances to FHWA. Conditional authorization for the utility relocation work to proceed are issued from FHWA to ALDOT with the understanding that Federal funds will not be paid for work done by the utility until ALDOT's proposal has been approved by FHWA.

8.9 Construction

It may be cost-effective for certain utility adjustments to be performed by a utility with its own forces and equipment, provided the utility is qualified to perform the work in a satisfactory manner. This cost-effectiveness finding covers work on the utility's existing facilities routinely performed by the utility with its own forces. Justification would be required for the utility to

perform its own force account work.

When the utility is not adequately staffed and equipped to perform such work at a time convenient to and in coordination with the associated construction, such work may be done by:

- A contract awarded by the LPA or utility to the lowest qualified bidder based on appropriate solicitation
- Inclusion as part of the LPA's construction contract let by ALDOT or the LPA as agreed to by the utility
- An existing continuing contract, provided the costs are reasonable
- A contract for low-cost incidental work, such as tree trimming, awarded by ALDOT, the LPA or utility without competitive bidding, provided the costs are reasonable
- Separate contracts will be required for CE and Construction as pursuant to the Brooks Act

Costs for labor, materials, equipment, and other services furnished by the utility will directly bill the LPA. The special provisions of contracts let by the utility or the LPA shall be explicit in this respect. The costs of force account work performed for the utility by the LPA and of contract, work performed for the utility under a contract let by the LPA are to record costs separately from other force account and contract items on the transportation project.

8.10 Federal Reimbursement of Utility Costs

8.10.1 Eligibility

All invoices should be broken down to show actual costs for all appropriate and approved expenditures. The LPA must review partial and final utility force account billings for conformance to the approved plan and estimate. At that time, any necessary corrections are made to check for betterments or ineligible work, review support documentation and proofs of payment and if the bill is acceptable, issue payment to the utility. If there are Federal funds involved, the LPA reviews and approves the bills, pays the utility companies and forwards all documents to ALDOT for final approval and reimbursement.

Note: Federal funds and/or time extensions will not participate in the relocation of utility facilities made solely for the benefit of the utility, its contractor, or a roadway contractor.

Costs not eligible for Federal-aid include, but are not limited to, the costs associated with advertising, sales promotion, interest on borrowings, the issuance of stock, bad debts, uncollectible accounts receivable, contributions, donations, entertainment, fines, penalties, lobbying, and research programs.

8.10.2 Right of Occupancy

Federal Funds may have fixed appropriations for the adjustment, reconstruction, or relocation of utilities necessitated by the construction of a project. The following applies to the costs associated with the adjustment, reconstruction, or relocation of utilities on Federal-aid projects. The LPA, or ALDOT, needs to certify that the utility has the right of occupancy in its existing

location.

- Utilities owned and operated by political subdivisions of the State which are situated within said subdivision's ROW will be eligible for a reimbursement as a project expense
- Utilities owned and operated by private individuals, companies or corporations situated within the project ROW owned by a political subdivision of the State will not be eligible for reimbursement as a project expense
- Utilities owned and operated by private individuals, companies or corporations situated within the project ROW owned by a political subdivision of the State by agreement will be eligible for reimbursement as a project expense provided the agreement states the governmental subdivision is responsible for such utility relocation expenses
- Utilities owned and operated by political subdivisions of the State or private individuals, companies or corporations; situated beyond the project ROW on private property or easement; and are devoted exclusively to private use not serving the public will be treated as a ROW transaction in accordance with the applicable procedures in [Funding and Reimbursement 23 CFR 710.203](#).
- When the utility has the right of occupancy in its existing location and it is not necessary to adjust or replace the facilities, the taking of and damage to the utilities real property, including disposal or removal of its property, may be considered a ROW transaction in accordance with the applicable procedures in 23 CFR 710.203

8.10.3 Labor Statement

Each class of labor is to be paid separately, preferably at actual or average payroll rates. Reasonable composite rates, based upon actual rate, including various allowances, taxes, benefits, insurance, etc., paid by owner, are permissible if such billing is in accordance with the utilities established practice for company work. A rate representative of the actual cost of construction overhead, such as general supervisory and engineering costs, general offices salaries and expenses, applicable to the project have the capacity to be reimbursed. Average rates should be adjusted at least once annually to take into account known anticipated changes and corrections for any over or under applied costs. A Nondiscrimination Clause will be attached to the agreement as Exhibit A.

8.10.4 Professional Service - Engineer

The LPA will receive reimbursement for either all-direct engineering costs performed by the LPA or Utility engineering forces or their respective engineering consultant. Incidental engineering costs listings are additional by the actual overhead rate. The salary of engineers regularly employed by a municipality can receive reimbursement back in lieu of the time actually expended on the project at payroll rates plus necessary expenses actually incurred. Federal funds may participate in the amount paid to consultants provided such amounts aren't based on a percentage of the cost of relocation. The utility and its consultant shall agree in writing as to the services conducted and the fees and arrangements for the services and a properly executed agreement (AGR 167) shall exist for consultant engineering expenses.

The procedures in 23 CFR 172, Administration of Engineering and Design Related Service

Contracts, can serve as a guideline for reviewing proposed consultant contracts.

8.10.5 Materials

Materials and supplies, if available, are supplied from company stock except that supplies are purchased from other sources near the project site when available at a lower cost. When not available from company stock, the entity may acquire materials either under competitive bids or under existing continuing contracts under which the lowest available prices are developed. Exclusion is permissible for minor quantities of materials and supplies and proprietary products routinely used in the utility's operation and essential for the maintenance of system compatibility from these requirements. The utility is not required to change its existing standards for materials used in permanent changes to its facilities.

New material from stock must be charged at actual cost to the utility. The computation of costs shall include the deduction of all offered discounts and allowances. Used material billing statements refer to the value at which it is relative on the utility's books.

Federal funds are acceptable for the total cost of removal when either such removal is necessary by construction or the existing facilities cannot be abandoned in place for aesthetic or safety reasons. When the utility facilities can be abandoned in place but the utility or the contractor elects to remove and recover the materials, Federal funds shall not participate in removal costs that exceed the value of the materials recovered.

The actual and direct costs of handling and loading materials and supplies at company stores or material yards, and of unloading and handling recovered materials accepted by the utility at its stores or material yards are reimbursable. In lieu of actual costs, average rates that are representative of actual costs are permissible if approved by ALDOT. These average rates are adjustable at least once annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period. At the option of the utility, five (5) percent of the amounts billed for the materials and supplies issued from company stores and material yards or the value of recovered materials are reimbursable in lieu of actual or average costs for handling.

8.10.6 Physical Relocation of Utilities

Costs associated with the actual adjustment or relocation of each utility are eligible for Federal-aid. Reimbursement depends on how the highway project is funded. On Federal Aid projects, if a utility grosses less than \$200 million/year they are reimbursable. On Interstate projects, all utilities are reimbursable. When the project is funded entirely with State Funds, ***no*** utility costs are reimbursable. There are two exceptions: 1) if the utility is located on its own private ROW or easement (prior rights), or 2) if the utility qualifies as a pauper. The 'prior rights' exception is applicable to Federal Aid projects.

Any cost for labor, materials, equipment, and other services furnished by the utility is directly billed to the LPA from the Utility. The special provisions of contracts let by the utility or the LPA shall be explicit in this respect. The costs of *force account* work performed for the utility by the LPA or ALDOT, and of contract work performed for the utility under a contract let by the LPA are listed separately from the costs of other force account and contract items on the transportation

project. This includes the cost to acquire any replacement ROW and the construction work associated with the utility relocation.

The utility shall determine and make a written valuation of the replacement ROW that it acquires in order to justify amounts paid for the ROW. A finished written valuation is conducted prior to negotiation for acquisition. Acquisition of replacement ROW by the LPA on behalf of the utility shall be in accordance with the Uniform Relocation Assistance and Real Property Act of 1970 and applicable ROW procedures in 23 CFR 710.203.

When the advance installation of new utility facilities crossing or otherwise occupying the proposed ROW of a planned project is underway, or scheduled to be underway, prior to the time such ROW is purchased by or under control of the LPA, arrangements should be made for such facilities to be installed in a manner that will meet the requirements of the planned project. Federal funds are eligible to participate in the additional cost incurred by the utility that are attributable to, and in accommodation of, the project provided such costs be incurred subsequent to authorization of the work by the ALDOT. Federal funds may be approved when it is demonstrated that the action taken is necessary to protect the public interest and the adjustment of the facility is necessary by reason of the actual construction of the project.

Federal funds may participate in projects solely for the purpose of implementing safety corrective measures to reduce the roadside hazards of utility facilities to the transportation user.

8.10.7 Equipment Charges

Charges for use of a utility's equipment billing are according to the rates used in computing costs of company work. Average annual or monthly rates are suitable if standard practice of the owner is based upon the use of such averages. Billings from maintenance, repairs or parts will not be acceptable. If oil and fuel are not included in the rates used, the actual amount used should be billed at actual cost. Average rates are adjustable at least once annually to take into account-anticipated changes and corrections for any over or under applied costs.

Equipment rental is allowable only for the time that the equipment held necessarily on the job, plus time in transit from its regularly assigned base. Costs of transportation of the utility's employees to and from the site of the project are reimbursable on the needs of the utility's accepted practice.

8.10.8 Retired Material and Salvage

A reasonable salvage or scrap credit consistent with the utility's practice of determining such credits value shall be given for all salvageable or scrap materials recovered from facilities replaced, whether temporary or permanent facilities. The cost of loading salvaged material, together with the cost of transportation to the utility's storehouse, plus the cost of unloading, shall constitute the complete accounting of expenses. Removal costs shall not exceed the salvage value of the material removed.

8.10.9 Credits

Credit to the project will be required for the cost of any betterments to the facility being replaced or adjusted, and for the salvage value of the materials removed. Credit will be required for the accrued depreciation of a utility facility being replaced or relocated.

No betterment credit is required for additions or improvements that are:

- Required by the transportation project
- Replacement devices or materials that are of equivalent standards although not identical
- Replacement of devices or materials no longer regularly manufactured with next highest grade or size
- Required by law under governmental and appropriate regulatory commission code
- Required by current design practices regularly followed by the company in its own work, and there is a direct benefit to the transportation project

8.11 Status of Utilities

A utility certificate must be furnished for all projects. Once all the utilities have submitted approved estimates, plans, and schedules, the LPA will prepare a statement for the Status of Utilities to include:

- Whether the Utility is or is not in conflict with the project
- Brief description of the work to be completed to resolve the conflict
- Identify by the schedules submitted if the construction will be prior to or concurrent with project construction
- Include this statement in the bid package for the project bid process

Note: **There are projects that will have utilities *in conflict* and *not in conflict* simultaneously, and the Utility Certificate must provide for that condition. Requirements for the Certificate are listed below.**

Any Local Public Agency utility project must be processed in accordance with the following guidelines. The plan and profile sheet or project note sheet must include the names, addresses, and telephone numbers for all utilities within the project limits.

1. Certificates

- a. A Utility Certificate will contain the following information: project name, county, and description; the names of the utilities on the project; type of agreement and its status of approval; who is expected to do the work, and the anticipated beginning and end dates of the work.
- b. If there are no utility conflicts on the project, show the project name, description and county, and the following statement: "These utilities are not in conflict with this project and are to be retained in their existing location(s)."

2. Agreements

All utility agreements must be photocopied from this manual or downloaded from the ALDOT website on the Right-of-Way Bureau webpage. **Do not retype these agreements or use agreements from other sources.**

A utility agreement must be executed between the LPA and the utility company if utilities are to be relocated, whether a part of the project cost or not. Submit the original, signed agreement to the Transportation Planning and Modal Programs Bureau. The Transportation Planning and Modal Programs Bureau will approve the agreement and make distribution. All utility agreements must include any applicable exhibits. The agreement will not be processed if the exhibits are not included.

Contact the Transportation Planning and Modal Programs Bureau for the appropriate procedures to follow if the utility requires the services of a consultant for any preliminary engineering that is to be reimbursed using federal or state funds. Under no circumstances should the consultant begin work until notified by the Transportation Planning and Modal Programs Bureau. The consultant must be a registered professional engineer as authorized by the Alabama Board of Licensure for Professional Engineers and Land Surveyors.

Under no circumstances should any utility relocation work, either non-reimbursable or reimbursable, begin until notified by the Transportation Planning and Modal Programs Bureau. Reimbursable agreements must be approved by the Office Engineer. A notice to proceed with utility relocation work will not be issued until the project is authorized by FHWA.

All utilities located on the rights of way of federal-aid projects at the time of construction, or in the future, must be in accordance with the ALDOT *Utilities Manual*.

- a. Non-reimbursable Agreement: This agreement is to be used when the utility is to relocate facilities without cost to the project.
- b. Reimbursable Agreement: This agreement is to be used when the LPA is to pay the utility for relocation using utility forces, either as a part of the project cost or 100% LPA funds.
- c. Reimbursable Agreement – State Contract: This agreement is to be used when the utility relocation is performed by state contract. These agreements should be processed as soon as possible after the extent of relocation is determined. *Pay items must be included in all plans. If items are not included in the ALDOT Construction Manual, a Special Provision must be prepared and approved by ALDOT.*
- d. Supplemental Agreement: This agreement is to be used when the actual costs for reimbursable utility relocation costs exceed the original estimate by **20%** or if additional work is required that was not covered in the original reimbursable agreement. Contact the Bureau of Transportation Planning and Modal Programs before submitting a supplemental agreement. An example is on page 8-20 under section 8.6.4. A Change Order is used if a change occurs in the method of work or scope of work. It may or may not increase the cost of the work or there may be multiple Change Orders for the same utility. Once the **sum** of Change Orders exceeds 20%, a Supplemental Agreement is required to cover the overrun.

Chapter 9.0

Railroad Coordination

9.1 Introduction

As transportation systems are expanded or modernized, new railroad crossings may be needed and existing crossings updated, reconstructed, or eliminated. In other cases, a project may not be impacting the railroad system directly but involve encroachments onto railroad property. In all cases where railroad property falls within the work limits of a proposed transportation project, and for projects funded with Federal-aid where the railroad grade crossing falls within or near the terminus of the proposed transportation project, early and continuous coordination with the railroad company is required.

Note: See [Shanklin vs. Norfolk Southern No. 01-6449, May 2004](#). This Supreme Court decision ruled that projects *near at-grade railroad crossings must be addressed in terms of impacts*.

Facilities that are the responsibility of the railroad for maintenance and operations shall conform to the specifications and design standards used by the railroad in its normal practice. Facilities that are the responsibility of the LPA for maintenance and operations shall conform to the specifications and design standards/guides used by the LPA in its normal practice for Federal Aid projects.

All traffic control devices proposed shall comply with the latest edition of the MUTCD and supplemented to the fullest extent applicable by State standards.

The ALDOT Bureau of Transportation Planning and Modal Programs and the ***Rail Section*** within Modal Programs are available to assist LPAs in working with the railroad companies.

This chapter outlines the railroad coordination necessary when railroad property falls within or near the work limits of a proposed transportation project, whether the project was initiated by the railroad company or an LPA. These requirements and procedures are for all projects using Federal or State funds, in accordance with State statutes and Federal regulations contained in Reimbursement for Railroad Work [23 CFR Section 140 Subsection I](#), Location and Hydraulic Design [23 CFR Section 646](#), and Highway Safety [23 CFR 924](#).

9.2 Rail/Highway Safety Projects

Projects on local road system involving the utilization of Federal/State Rail Safety Funds will be under the jurisdiction of ALDOT. The ALDOT Division Engineer, in coordination with Rail Section, directs or oversees all inspections, agreements, and coordination of these projects. The directives of the coordination processes are not listed within this document. Although these projects may involve an LPA, the responsibility for funding, inspection, completion of agreements and coordination of the project with the railroad and LPA is the responsibility of ALDOT. An LPA may be a part of the agreement and project; however, they are not *responsible* for the project.

9.3 Railroad Involvement in Projects

Any typical involvement with a railroad may include but not be limited to such items as:

- Installation of automatic warning devices
- Relocation of existing automatic warning devices
- Circuitry upgrade of existing automatic warning devices
- Upgrade and/or widening of the existing crossing surface
- Acquisition of ROW from the railroad
- Reconstruction of the approach roadways
- Upgrades to the crossing surfaces and/or automatic warning devices to accommodate expanding roadway widths
- Installation of intelligent transportation system (ITS) devices
- Diagnostic review including review of compliance with MUTCD [Manual on Uniform Traffic Control Devices \(MUTCD\)](#)

In addition, the work could include the construction of a new grade separation, removal, and replacement of an existing grade separation or improvements to an existing grade separation such as widening.

Note: It is important that the LPA understand that railroad projects are subject to the requirements of the railroad company and are developed within their projected timeline.

9.3.1 Requesting a Project

A formal request for review of a project involving the railroad must be made in writing by the LPA and directed to the Division Engineer of the area in which the project is located.

The review request must include the appropriate project programming request and sufficient information concerning the scope of the project for the Division Engineer or Division LPA Project Coordinator to determine if an on-site Diagnostic Inspection is required or if the project is basic enough to execute with coordination between ALDOT and the LPA.

9.3.2 ALDOT Diagnostic Review and Recommendation

Upon completion of the project review, the ALDOT Rail and Public Transportation Engineer will determine if an on-site Diagnostic Review is necessary. If warranted, the Diagnostic Review team will include representatives from ALDOT, the railroad involved, and the LPA. The diagnostic review may include, but is not limited to:

- Railroad data such as train movement which will have train counts day and night
- The number of tracks
- Crossing surface information, whether it's concrete, timber, asphalt, or gravel
- The crossing length

- Roadway data, including traffic counts, pedestrian information, school bus operation, percent of trucks, road width, crossing angle, curb and gutter, surface of shoulder, sidewalk present, speed limits
- Review existing warning devices and their condition
- Review compliance with MUTCD
- Review of crash history
- Proximity to emergency services such as hospitals, police, and fire stations
- Consideration of adjacent crossing(s)
- Review for possible future developments
- Determine the visibility triangle and sight distance utilizing the standards in the Federal Highway Administration (FHWA) Railroad Highway Grade Crossing Handbook, Second Edition, August 2007, [Grade Crossings](#).



Once ALDOT completes the diagnostic review of the proposed project, or determines that a review is unnecessary, they will inform the LPA that they may proceed with programming the project as described in Section 9.3.4 below or that project modifications are required before the project may proceed.

9.3.3 Railroad-initiated Projects

Upon completion of the railroad/roadway crossing layout and design, the railroad will prepare a standard agreement and a petition to the LPA for execution or for further negotiation.

The railroad company is responsible for all work associated with an LPA/railroad agreement, from date of authorization, to proceeding with the work, through final completion of the work, subsequent closing of the agreement, and the completion of the final audit.

9.3.4 LPA-initiated Projects

ALDOT will send a report, based on the diagnostic review, to the LPA explaining the findings and the recommendations for the project location. The LPA Reviews the ALDOT recommendation. The LPA may accept the ALDOT recommendation and proceed with the project, negotiate the ALDOT recommendations to a suitable resolution and proceed with the project, or reject the recommendations and cancel the project.

Program the Project

Once the LPA accepts the ALDOT recommendations, ALDOT will program the project in CPMS as described in this manual.

Project Coordination

The LPA shall accomplish all engineering, environmental documentation, ROW acquisition, utility relocation coordination, and railroad coordination as outlined in the relevant sections of this manual and in accordance with the railroad agreement.

Procurement of Materials and Installation

Upon receipt of construction authorization, the railroad will order all materials and proceed with construction by force account. Acquiring the material could take six (6) to eight (8) months.

The LPA is required to inspect and document the work performed by the railroad to ensure that the project is being completed in close conformance with the plans, specifications, and approved changes, and that the railroad's billings can be verified and substantiated. Within thirty (30) days of project completion, the railroad will notify the LPA in writing that construction is completed. *Once project construction is completed, the LPA, railroad company representative, and ALDOT shall perform a **final inspection** of the project.*

9.4 Grade Separations

A project for construction, rehabilitation, relocation, or modification of a rail grade separation structure will be considered by ALDOT after completion of a Grade Separation Study. Keep in mind that a new grade separation project may require the closing of at least two (2) public at-grade crossings. A decision on closure will be made by the ALDOT Division Engineer, along with a review of the LPA location study and coordination with Rail Section, the affected railroad company, and LPA. Public comment shall be solicited by the LPA during the environmental review process if any at-grade public crossings are proposed for closure.



9.4.1 Initial Contact with ALDOT

Prior to beginning any preliminary studies or engineering work for a possible grade separation project, the LPA must make a written request to the Division Engineer responsible in the area. He, or designated staff, reviews the initial request to determine if the project meets the selection criteria. This determination is based on the location, exposure factor, crash costs, elimination of existing crossing(s), current vehicular delay, and availability of funding. He will determine if the proposed project is eligible for State and/or Federal Rail Safety funds.

9.4.2 Location Study

If the ALDOT Division Engineer and Rail Section determine that the proposed grade separation meets the selection criteria and is eligible for Federal or State Rail Safety funds, the next step is for the LPA to fund and complete a grade separation study. It is important that grade separation studies evaluate and analyze the following factors and considerations: train data, vehicular data,

crash history, nearby development, project structure profile, cost/benefit analysis, vehicular delay, local support and funding, rail support and funding, ROW, and environmental impacts.

When the grade separation study is complete, the LPA will send two copies to ALDOT, one to the Rail and Public Transportation Engineer and the other to the ALDOT Division Engineer. ALDOT will review the study and determine if the project continues to meet eligibility requirements. If acceptable, ALDOT will establish the project schedule; identify crossing closures, funding sources, funding splits and funding amount.

9.4.3 Program the Project

If the project proceeds past the location study, the LPA must formally program the project with ALDOT and FHWA. The LPA shall complete the programming request and follow the approval process as detailed in Chapter 2, Section 5.8.

9.4.4 Program Agreement

The project or programming agreement will be a three-party agreement between the LPA, ALDOT, and Railroad Company. All three parties must agree on the project location, tentative schedule, crossing closures, funding, and responsibilities. For additional information regarding the specifics of this type of agreement, see Section 9.6 in this chapter.

Note: Division Engineers and Rail Section will coordinate ALDOT involvement.

9.4.5 Project Coordination

It is the LPA's responsibility to accomplish all engineering, environmental studies, ROW acquisition, utility relocations, and railroad coordination. ALDOT will coordinate any approvals needed by ALDOT and FHWA and approve the design criteria.

9.5 Shared Use Path Projects

The following section describes the process considered when shared-use paths (bicycle/pedestrian trails) are funded with Federal Transportation Enhancement or Safe Routes to School funds.

When shared-use path projects include or impact railroad property, the LPA will be required to enter into an agreement with the railroad. The contractor will be required to provide railroad insurance if the project construction area is on railroad property.



Shared-use path projects involving one or more railroad crossings are encouraged to consider realignment to avoid railroad crossings. The following conditions prevail:

- The crossing **MUST** be at an existing public crossing
- New at-grade crossings are not eligible

9.5.1 Documented Initial Contact with the Railroad

It is the responsibility of the LPA to make the initial contact with the Division Engineer, who in turn will coordinate with Rail Section in Modal Programs. The LPA should not presume that all requests for railroad agreements will be granted by the railroad. For a railroad agreement to be granted, the railroad company must deem that the project and the rail line are compatible. The LPA should allow ample time for obtaining railroad agreements as the process can take up to one year or longer.

9.5.2 LPA Field Review

For projects that require the acquisition of railroad property and do not involve crossings, the LPA shall acquire the property according to the procedures outlined in Chapter 7 of this manual and work directly with the Division Engineer. For projects that include crossings, the LPA may contact the ALDOT Bureau of Transportation Planning and Modal Programs and the **Rail Section** within Modal Programs for consultation on how to conduct an onsite diagnostic field review. Go to the [Rail Section](#) website for further information. An onsite diagnostic field review may include:

- Railroad data such as train movement with day and night train counts
- The number of tracks
- Crossing surface information, including whether it's concrete, timber, asphalt, or gravel
- The crossing length
- Roadway data, including traffic counts, pedestrian counts, school bus operation, percent of trucks, road width, crossing angle, curb and gutter, surface of shoulder, sidewalk present, speed limits
- Review existing warning devices and their condition
- Review of MUTCD compliance
- Review of crash history
- Proximity to emergency services such as hospitals, police and fire stations
- Consideration of adjacent crossing(s)
- Review for possible future developments
- Determine the visibility triangle and sight distance utilizing the standards in the Federal Highway Administration (FHWA) [Railroad-Highway Grade Crossing Handbook](#), Revised Second Edition, August 2007.

The LPA shall then document and make determination whether to proceed with the project. Although, ALDOT will provide consultation services to the LPA for field reviews for trail projects involving crossings, the actual review and agreement is the responsibility of the LPA.

9.5.3 Project Coordination

It is the responsibility of the LPA to accomplish all engineering, environmental studies, ROW

acquisition, utility relocations, and railroad coordination. ALDOT will coordinate any approvals needed by ALDOT and FHWA, including approval of the design criteria. For Full FHWA Oversight projects, a copy of the executed railroad agreement is required to be provided to FHWA as part of the final design and PS&E preparation.

9.6 Railroad Agreements

Where construction of a Federal-aid project requires use of railroad properties or adjustments to railroad facilities, there shall be an agreement in writing with the railroad company. After the project is established, the Division Engineer, Division LPA Project Coordinator, and Rail Section will work out the project details with the railroad company and assemble the agreement while ALDOT will review the contents of the agreement. The preparation of this agreement could be a time-consuming process and may take months to formally execute. This agreement will contain the specifications, regulations, and provisions required in conjunction with work performed on these projects. Supporting data for each project or group of projects must, when combined with the project program agreement by reference, satisfy the provisions of [Grade Crossings](#), 23 CFR 646.216(d) (2). These provisions include:

- Method of payment (either actual cost or lump sum)
- For projects which are not for the elimination of hazards of railroad/roadway crossings, the extent to which the railroad is obligated to move or adjust its facilities at its own expense
- The railroad's share of the project cost
- An itemized estimate of the cost of the work to be performed by the railroad
- Method to be used for performing the work, either by railroad forces or by contract
- Maintenance responsibility
- Form, duration, and amounts of any needed insurance
- Appropriate reference to or identification of plans and specifications
- Statements defining protective services during performance of the work, the type of protective services and the method of reimbursement to the railroad
- Provisions regarding inspection of any recovered materials

When the railroad performs work with its own forces and where the LPA and railroad agree, subject to approval by ALDOT and FHWA, an agreement providing for a lump sum payment in lieu of later determination of actual costs may be used for any of the following:

- Installation or improvement of grade crossing warning devices and/or grade crossing surfaces, regardless of cost
- Any other eligible work where the estimated cost to the LPA of the proposed railroad work does not exceed \$100,000

- Where ALDOT and FHWA find that the circumstances are such that this method of developing costs would be in the best interest of the public

Where the lump sum method of payment is used, ALDOT will make periodic reviews and analyses of the railroad's methods and cost data used to develop lump sum estimates.

Note: Railroad agreements must be fully executed before the project can be advertised for bids.

The LPA is responsible for all work associated with the railroad agreement, from date of authorization for the railroad to proceed with the work, through notification of completion, subsequent closing of the agreement, and the completion of the final audit. ALDOT will review and assess each rail agreement prior to a request for authorization of Federal funds.

LPAs are permitted to use a master template agreement that ALDOT employs for the railroads on an area-wide or statewide basis. These agreements would already contain the specifications, regulations, and provisions required in conjunction with work performed on all projects. Supporting data for each project or group of projects must, when combined with these template agreements by reference, satisfy the provisions of Sec. 646.216(d)(2).

9.7 Funding Projects

Federal funds are not eligible to participate in costs incurred solely for the benefit of the railroad. For grade separations, Federal funds are eligible to participate in costs to provide space for more tracks than are currently in place. The railroad needs to establish to the satisfaction of ALDOT and FHWA that it has a definite demand and plans for installation of the additional tracks within a reasonable time.

State laws requiring railroads to share in the cost of work for the elimination of hazards at railroad/roadway crossings shall not apply to Federal-aid projects. Railroad companies are not required to share costs on projects where they are not benefited unless the railroad has a specific contractual obligation with the State or a political subdivision to share in the costs. The railroad share is five (5) percent of the project costs on projects for the elimination of existing grade crossings where active warning devices are in place or ordered to be installed by a State regulatory agency. The Federal share of the cost of a grade separation project shall be based on the cost to provide horizontal and/or vertical clearances used by the railroad in its normal practice subject to limitations as shown in the appendix to [Railroad - Highway Projects 23 CFR 646 B](#) or as required by the State regulatory agency. The Federal share of railroad/roadway crossing projects may be:

- Regular pro rata sharing as provided by [Federal Share Payable](#), 23 USC 120a and 120b
- One hundred percent Federal share, as provided by 23 USC 120c
- Ninety percent of the Federal share for funds made available through the program is listed on the FHWA site at [23 USC 120](#), along with additional information. Any required railroad share of the projects expenditure will include the costs for PE, ROW, and

Construction. Railroads may voluntarily contribute a greater share of project costs than is required. Other parties may voluntarily assume the railroad's share of project costs

9.8 Insurance Protection

When a project includes work on railroad property, there will be certain insurance requirements for the contractor, or LPA, to meet. Per 23 CFR 646 Subpart A, Railroad-Highway Insurance Protection, see [Railroad Protective Insurance](#), there are provisions under which Federal funds may be applied to the costs of the contractor's public liability and railroad protective insurance. Railroad protective liability insurance shall be purchased on behalf of the railroad by the contractor, or LPA. The maximum dollar amounts of coverage to be reimbursed by Federal funds are limited to \$2 million per occurrence with an aggregate of \$6 million applying separately to each annual period.

However, in cases involving a real and demonstrable danger of appreciably higher risks, higher dollar amounts of coverage, for which premiums are reimbursable from Federal funds, may be allowed depending upon circumstances and when written documentation justifying the higher coverage is provided for the individual project in accordance with standard underwriting practices. The ALDOT Division Engineer and Rail Section of Modal Programs will consult and determine whether higher coverage is appropriate and will prepare documentation for approval by the FHWA Division Administrator. This should take place as early in the process as possible and approval by the Administrator must be in writing in order for reimbursement to occur.

9.9 Railroad Memoranda of Understanding (MOU) Project Requirements

Any Local Public Agency project involving a railroad must be processed in accordance with the following guidelines.

9.9.1 Rail Projects

A railroad agreement or Memorandum of Understanding (MOU), as applicable, is required for all projects let to contract where work is being performed within the railroad right of way. The agreement, in most cases, should be prepared by the Alabama Department of Transportation (ALDOT). If the agreement is not prepared by ALDOT, the LPA must complete the MOU for the railroad crossing before the project will be authorized by the Federal Highway Administration (FHWA).

9.9.2 Bridge Replacement

A railroad agreement is required for all bridge replacement projects spanning a railroad. The LPA must submit to the Transportation Planning and Modal Programs Bureau (2) prints of the title sheet, the typical section and the plan and profile sheet. The plan and profile sheet shall contain a railroad traverse 500 feet (150 meters) each side of the centerline and the distance to the nearest milepost with the milepost number. It requires 4 to 6 months to obtain an executed railroad agreement; therefore, the required information must be submitted as early as possible. Once received, the Transportation Planning and Modal Programs Bureau will forward the bridge information to the Bridge Bureau for their use in the bridge design. The Bridge Bureau will furnish the Transportation Planning and Modal Programs Bureau all of the necessary information to prepare the railroad agreement. The railroad

agreement must be approved by ALDOT, the LPA, and the railroad company before it will be authorized by FHWA.

9.9.3 Resurfacing and Minor Widening

A MOU is required for all resurfacing and minor widening projects (3R) when the paving limits extend inside the railroad right-of-way limits. The LPA must submit to the Transportation Planning and Modal Programs Bureau the necessary information to prepare the agreement. A copy of the submittal should be sent to the division office. The letter of request must identify the name of the railroad, the DOT crossing number, if known, and/or the railroad milepost.

Once the Categorical Exclusion (CE), or *applicable environmental document*, is approved, the Transportation Planning and Modal Programs Bureau will prepare the MOU. The environmental document will include the following:

1. Two half-size prints of the title sheet showing the location of the project and the location of the railroad crossing.
2. Two half-size prints of the typical section sheet with a pavement tie-in sketch showing the paving limits in relation to either the centerline of the track or the nearest rail.
3. For new and/or reconstructed roadway projects, 2 half-size prints of the plan and profile sheets, as well as other plan sheets that may be available such as paving layout sheets or project detail sheets pertaining to the work to be done at the railroad crossing.
4. For simple resurfacing and minor widening projects, a railroad involvement certification letter must also be provided to the Transportation Planning and Modal Programs Bureau detailing the following.
 - a. The condition of the existing railroad crossing.
 - b. If the crossing is wide enough for the improved pavement.
 - c. Status of compliance with MUTCD. If not in compliance, provide information on who will furnish these items and distribution of costs.
 - d. If the railroad and highway crossing signs (crossbucks) are in place.

Any project with railroad involvement must include the following applicable project notes. These project notes must be listed as series 900 notes on the project note sheet. These notes are specific to each project depending upon the railroad owner and type of work; i.e., bridge replacement, resurfacing, new roadway, etc.

9.9.4 Railroad Request for Memorandum of Understanding (MOU)

Date

Name

Transportation Planning and Modal Programs Engineer
Alabama Department of Transportation
P. O. Box 303050
Montgomery, AL 36130-3050

Dear _____:

RE: Project # _____
LPA _____
County _____

Attached are two half-size prints of the title sheet and typical section sheet for the above-referenced project. This is a request for your assistance in preparing a Memorandum of Understanding for St. Clair County with Norfolk Southern Railway. The DOT crossing number is 725362R.

Contact this office if you need any additional information.

Sincerely,

LPA Engineer

copy: Division Office

9.9.5 Railroad Involvement Certification

Date

Name

Transportation Planning and Modal Programs Engineer
Alabama Department of Transportation
P. O. Box 303050
Montgomery, AL 36130-3050

Dear _____:

RE: Project # _____
LPA _____
County _____

Norfolk Southern Railway crosses CR-16 within the limits of the above-referenced project. The in-place pavement at the crossing is in good condition with no apparent signs of settlement. The existing crossing is wide enough to accommodate the proposed typical section. The railroad crossing signs (crossbucks) are in-place and in good condition. Stop signs, advance warning signs and no passing signs are also in-place and are in good condition. The proposed pavement buildup will tie-in to the existing pavement 10 feet on either side of the railroad (measured from the nearest rail). Traffic markings and legends are in-place; however, these will be replaced as part of this project due to the paving limits.

Sincerely,

LPA Engineer

A representative from this division has verified that the existing railroad crossing meets the conditions stated above and any required items of work are included in the proposed project.

APPROVED: _____
Division Engineer

9.10 Railroad Company Notes

9.10.1 CSX Transportation

Notes

- 1 The contractor will install the necessary erosion control items to prevent the fill slopes from contaminating the railroad ballast.
- 1, 2 All persons working on or over CSX Transportation tracks must comply with CSX Transportation safety rules.
- 1, 2 The contractor will contact CSX Transportation for information on how to obtain a copy of their safety video.
- 1, 2 The contractor will notify CSX Transportation, in writing, a minimum of 10 days before work is to start on CSX Transportation Right of Way.
- 3 CSX Transportation will notify the state, in writing, a minimum of 10 days before work is to start on this project.
- 3 CSX Transportation will furnish and install all materials for 2-30 ft. cantilever signals, 2-35 ft. gates, bells, 81 ft. of crossing surface, and motion detectors. CSX Transportation will invoice the state for the actual costs.
- 3 All necessary traffic control devices; i.e., signs, cones, flaggers, etc., which are required when work is being performed by CSX Transportation, will be furnished by the contractor and paid for under the appropriate items of work.

Note 1 *Applicable for bridge replacement projects.*

Note 2 *Applicable for resurfacing and minor widening projects (3R) or for new and/or reconstructed roadway projects.*

Note 3 *Applicable for work being performed by the CSX Transportation.*

9.10.2 Norfolk Southern Railway

Notes

- 1 The contractor will install the necessary erosion control items to prevent the fill slopes from contaminating the railroad ballast.
- 1, 2 All persons working on or over Norfolk Southern Railway tracks must comply with Norfolk Southern Railway safety rules.
- 1, 2 The contractor will notify Norfolk Southern Railway, in writing, a minimum of 10 days before work is to start on Norfolk Southern Railway Right of Way.
- 3 Norfolk Southern Railway will notify the state, in writing, a minimum of 10 days before work is to start on this project.
- 3 Norfolk Southern Railway will furnish and install all materials for 2-30 ft. cantilever signals, 2-35 ft. gates, bells, 81 ft. of crossing surface, and motion detectors. Norfolk Southern Railway will invoice the state for the actual costs.
- 3 All necessary traffic control devices; i.e., signs, cones, flaggers, etc., which are required when work is being performed by Norfolk Southern Railway, will be furnished by the contractor and paid for under the appropriate items of work.

Note 1 *Applicable for bridge replacement projects.*

Note 2 *Applicable for resurfacing and minor widening projects (3R) or for new and/or reconstructed roadway projects.*

Note 3 *Applicable for work being performed by the Norfolk Southern Railway.*

9.10.3 Burlington Northern and Santa Fe Railway

Notes

- 1 The contractor will install the necessary erosion control items to prevent the fill slopes from contaminating the railroad ballast.
- 1, 2 All persons working on or over Burlington Northern and Santa Fe Railway tracks must comply with Burlington Northern and Santa Fe Railway Safety Rules.
- 1, 2 The contractor will notify Burlington Northern and Santa Fe Railway, in writing, a minimum of 10 days before work is to start on Burlington Northern and Santa Fe Railway Right of Way.
- 3 Burlington Northern and Santa Fe Railway will notify the state, in writing, a minimum of 10 days before work is to start on this project.
- 3 Burlington Northern and Santa Fe Railway will furnish and install all materials for 2-30 ft. cantilever signals, 2-35 ft. gates, bells, 81 ft. of crossing surface and motion detectors. Burlington Northern and Santa Fe Railway will invoice the state for the actual costs.
- 3 All necessary traffic control devices; i.e., signs, cones, flaggers, etc., which are required when work is being performed by Burlington Northern and Santa Fe Railway, will be furnished by the contractor and paid for under the appropriate items of work.

Note 1 *Applicable for bridge replacement projects.*

Note 2 *Applicable for resurfacing and minor widening projects (3R) or for new and/or reconstructed roadway projects.*

Note 3 *Applicable for work being performed by Burlington Northern Santa Fe Railway.*

Chapter 10.0

Civil Rights

10.1 Introduction

This chapter provides guidance to LPAs in complying with the Civil Rights requirements: Title VI, Americans with Disabilities (ADA/504), Equal Employment Opportunity (EEO), Contractor Compliance, and Disadvantaged Business Enterprise (DBE) requirements for federal-aid transportation projects. This chapter provides more detail in each subject area. The information contained in this section is not intended to replace or substitute for existing laws, rules, regulations, agreements, circulars, or other guidance material.

For additional information on program compliance, please visit the ALDOT website at [Compliance and Business Opportunities Bureau](#).

10.2 Nondiscrimination: Title VI of the Civil Rights Act of 1964

10.2.1 Title VI Policy

It is the policy of the FHWA to ensure compliance with Title VI of the Civil Rights Act of 1964; Nondiscrimination [49 CFR Part 21](#), Title VI [23 CFR 200](#); and related statutes and regulations in connection with transportation projects receiving financial assistance from the FHWA. [Title VI of the Civil Rights Act of 1964](#) (42 USC 2000d), and related authorities protect individuals and groups from discrimination on the basis of their race, color, religion, sex, age, disability, income level and national origin in programs and activities that receive Federal financial assistance. Nondiscrimination provisions apply to all programs and activities of Federal-aid recipients, sub-recipients, consultants, contractors, and subcontractors. The LPA will create a Title VI Implementation Plan outlining the implementation of Federal requirements, including identification of an individual to serve as the LPA's civil rights specialist. The FHWA and the ALDOT will ensure compliance with Title VI in all of its programs and activities whether or not those programs and activities are FHWA funded. More Civil Rights information is located on the Internet at [FHWA - Civil Rights](#).

10.2.2 Implementation

It is important that an LPA does not discriminate during any phase of work, either directly, through contractual or other means by:

- Denying program services, financial aids, or other benefits
- Providing different program services, financial aids or other benefits, or providing them in a manner different from that provided to others
- Segregating or separately treating individuals or groups in any matter related to the receipt of any program service, financial aid or benefit
- Restricting in any way the enjoyment of any advantage or privilege enjoyed by others receiving any program service, financial aid or other benefits

- Denying person(s) the opportunity to participate as a member of a planning, advisory or similar body
- Denying person(s) the opportunity to participate in any program and/or activity that receives Federal financial assistance or affording the opportunity to do so differently from those afforded others

Assurances

LPAs must maintain a Title VI assurance document signed by their current governing body, a Chief Executive, or person in Responsible Charge (RC). The completion of the assurance is partial fulfillment of the requirements set out in the State/LPA Project Program Agreement and the LPA Project Guide. ALDOT requires that all LPA consultant/contractor work contracts include *specific* assurance language.

Note: See the [LPA Project Guide, Chapter 4.0 on the ALDOT LPA website](#), for required language in all construction and professional services contracts.

Environmental Justice

Environmental Justice (EJ) is the fair treatment and meaningful treatment of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws. EJ implementations consideration is during the preliminary environmental investigation process and throughout the completion of the project. There are three fundamental EJ principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

Public Hearings and Public Involvement Meetings

The attendance and concerns of Limited English Proficiency (LEP) persons, persons with disabilities, minority populations, and low-income populations at public involvement meetings and hearings are carefully documented to comply with Title VI of the Civil Rights Act of 1964, including statistics of participants by race and gender. Each public hearing announcement will be available in languages understood by the affected population based on the Four Factors Analysis (see below). Public hearing locations are both geographically and structurally accessible. Public announcements should indicate that to the extent possible accommodation provisions for individuals with disabilities, in general and that interpreters, signers, and alternate formatted materials are available, if requested.

- [Four Factors Analysis](#)
- [LEP Policy](#)
- [Executive Order 13166](#)

Right-of-Way

On Federal-aid projects, all ROW activities must be in accordance with Chapter 7 of this manual. The public will be provided with Title VI information and Title VI complaint procedures within each of the following ROW functions: appraisals, acquisition, relocation assistance and property management.

Construction

Federal-aid construction contracts must include provisions to require compliance with Title VI. The specific contract provision language in [FHWA 1273](#) must be physically incorporated into all Federal-aid construction contracts (See Chapters 11 and 12).

10.2.3 Monitoring

To assure that nondiscrimination and Environmental Justice issues are addressed during the early stages of a project the LPA should:

- Schedule public meetings and request FHWA and ALDOT attendance
- Keep meeting minutes and distribute them to FHWA, ALDOT, and to persons or groups as requested
- Create focus groups to apply a systematic interdisciplinary approach to assist in the early recognition of potential adverse impacts that might be discriminatory. It also stresses the need for interdisciplinary staff to be involved in the development and implementation of Title VI plans that LPAs are required to meet for their non-discrimination obligations.

To ensure continued compliance with Title VI and other Federal and State regulations by the LPAs, ALDOT will:

- Attend public meetings
- Review the project PS&E package
- ALDOT will conduct periodic reviews of compliance with Federal Title VI regulations. The compliance review will focus on how effectively the LPA has implemented its approved Title VI plan. Documentation is gathered and individuals with Title VI responsibility are interviewed as part of the process. The LPA will be notified in writing when information is available and the documents that will be required for the on-site review.

10.2.4 Complaints

FHWA has the overall responsibility for the investigation of all formal Title VI Discrimination complaints filed against ALDOT, LPAs, contractors, subcontractors, or other third parties participating in any federally fund transportation projects. The LPA shall notify ALDOT immediately of any complaints filed. Likewise, ALDOT shall immediately notify FHWA of receipt of all Title VI complaints so FHWA may determine complaint investigation responsibility.

FHWA may delegate this investigation responsibility to ALDOT, if ALDOT is not the subject of the complaint. If appropriate, ALDOT may further delegate the complaint to an LPA for investigation, if the LPA is not the subject of the complaint.

If a complaint is filed against ALDOT, FHWA will investigate. If the complaint is against an LPA, ALDOT or FHWA may investigate the allegation. Any individual or group that believes they have been subjected to discrimination or retaliation based on their race, color, national origin, and sex, age, disability/handicap, or income level may file a complaint. A written complaint submission, signed by the complainant, is given to ALDOT or FHWA within 180 days of the date of the alleged discrimination. Any complaint filed from the affected party or their representative, must include the following:

- Complainant's name, address and telephone number
- Name and address of the agency, institution or department and the individual(s) alleged to have committed the offense
- A description of how, why, and when the alleged discriminatory act took place, including as much background information as possible
- The names of any persons, if known, that the investigating agency should contact for additional information to support or clarify the allegations

Complaints Against the LPA or Other Parties

All formal Title VI Discrimination complaints received by the LPA or Division personnel are immediately reported to the Bureau Chief, Bureau of Compliance and Business Opportunities at ALDOT Central Office, Montgomery, who has the overall responsibility for the investigation of the complaint. Formal complaints are submitted on the approved Complaint Form and by contacting the Bureau of Compliance and Business Opportunities at 334-242-6340 (Voice) or 334-263-7586 (Fax).

Formal complaints must contain as much information as possible about the alleged discrimination. The complaint must include the basis of the complaint, pertinent details of the complaint, witnesses, and the remedy requested by the complainant. Investigation of complaints will be coordinated, as needed, with the appropriate ALDOT program officials in their respective Divisions and Districts. ALDOT Division and District personnel will stay informed of the progress and outcome of the investigation as appropriate.

The LPA may settle complaints received by the LPA informally. If the issue persists, or if at any time the person(s) request(s) to file a formal (written) complaint, the LPA should refer the Complainant to the ALDOT Bureau of Compliance and Business Opportunities.

If negotiations to correct violations are unsuccessful, enforcement proceedings will be initiated to bring the recipient into compliance. The complaint investigator will conduct whatever investigation is necessary to establish the facts surrounding the complaint, including witness interviews, and reviews of internal policies, procedures or regulations that may have a bearing on the complaint. Corrective action could include disciplinary action against the offender as appropriate. ALDOT will provide a copy of the complaint findings, conclusions, and proposed and final resolution to both the complainant and FHWA.

Complaints Against ALDOT

Anyone wishing to file a Title VI complaint against ALDOT must submit the complaint in writing to the Compliance and Business Opportunities office at:

Bureau of Compliance and Business Opportunities
Clarence Hampton, Bureau Chief
1409 Coliseum Boulevard
Montgomery, AL 36110
Phone: (334) 242-6340
Fax: (334) 263-7586

[Compliance and Business Opportunities](#)

Formal complaints submitted to ALDOT will be forwarded to FHWA. The complaint must include the basis of the complaint, pertinent details of the complaint, any witnesses, and the remedy requested by the Complainant. FHWA will review all formal complaints it receives and conduct the necessary investigation to resolve the complaint. ALDOT will cooperate fully with FHWA on the investigation of all complaints. If the discrimination complaint is found to be valid, FHWA will coordinate with the appropriate ALDOT officials to ensure corrective action.

10.3 Equal Employment Opportunity (EEO)

10.3.1 EEO Policy

The Federal-aid Highway Act of 1968, 23 USC 140a, [Nondiscrimination](#), and implementing equal employment regulations in the workplace [23 CFR 230](#), require that LPAs receiving federal financial assistance shall assure that employment in connection with federal construction projects is provided without regard to race, color, religion, age, disability, national origin, or sexual orientation.

The LPA is required to include notification of a Federal-aid contractor's EEO responsibilities in the advertised contract specifications. In addition, the LPA must maintain and make available apprenticeship, skill improvement or other upgrading programs, which provide equal opportunity for training and employment without regard to race, color, age, disability, religion, national origin or sex.

10.3.2 Implementation

Assurances

LPAs must maintain an EEO assurance signed by their current governing body.

Required Federal Contract Provisions

ALDOT or the LPA shall physically insert the [FHWA 1273](#) in the contract document [Contract Provisions](#). Additionally, all subcontractors are required to include a hardcopy of 1273 into their contracts. LPAs need to be aware that contractor noncompliance with the EEO specifications found in form FHWA 1273 is considered a breach of contract and that contract payment may be withheld, or the contract terminated (See Chapter 11, Section 4).

Construction

Federal-aid prime contractors and subcontractors personnel transactions and employment practices in the areas of recruitment and selection decisions (hiring, promotions, terminations, training, etc.) is conducted without regard to race, color, religion, sex, national origin, age, or disability.

The LPA RC should be aware of all contractual requirements and monitor the contractor for compliance. The LPA Construction Engineer shall adhere to the guidance found in [Appendix A of 23 CFR 230 Subpart A](#), assuring EEO in all personnel transactions.

10.3.3 Monitoring

The LPA is required to monitor the engineering consulting firm, contractor and subcontractors for the project to ensure they are meeting the required contract provisions found in [EEO Contract Compliance](#) (41 CFR 60) or [Executive Order 11246 Compliance Assistance](#).

The hours of minority and female employment and training must be substantial and uniform throughout the length of the contract, and in each trade, and the consultant or contractor shall make a good faith effort to employ minorities and women evenly on each of its projects.

ALDOT reserves the right to perform reviews and audits of the LPA, consultant, and contractor to assure EEO compliance. ALDOT will inform FHWA when such reviews and audits are underway and afford them the opportunity to participate.

It is noted that neither ALDOT nor the FHWA have the independent authority to enforce Executive Order 11246 or the provisions of 41 CFR 60. In the event that FHWA, ALDOT or any sub-recipient believes that a violation of 41 CFR or Executive Order 11246 - Equal Employment Opportunity has occurred, this information is to be forwarded to the Office of Federal Contract [Compliance Programs](#) (OFCCP).

10.3.4 Complaints

Compliance with the EEO goals is measured against the total hours performed. For reporting EEO inequity, follow the same process and procedures for Title VI complaints detailed above in Section 10.2.4.

10.4 Alabama Immigration Law Compliance

It is the responsibility of the ALDOT Division Engineer to determine if the LPA making application for a project under the Federal LPA program has fully complied with all requirements for doing business in Alabama and has provided the necessary documentation for conformity with Act No. 2011-535 and in particular, Sections 9(a) and (b), *Affecting Payments on Contracts, Grants, and Incentives Awarded January 1, 2012, and Thereafter*.

The following site list includes a version of the Law that has the enjoined sections as of January 1, 2012 highlighted. There are sections not yet in effect.

[Alabama Immigration Law](#)

[State Comptroller Action Letter](#)

[Beason-Hammon Taxpayer and Citizen Protection Act \(Immigration\) October 2013](#)

10.5 Labor Compliance

10.5.1 Applicability of the Davis-Bacon Act

The Davis-Bacon Act, [40 USC 276\(a\)](#), and prescribed by 23 USC 113 [Wage Rate Requirements](#), dictates that mechanics and laborers working on the site of Federal-aid construction projects must be paid according to the wage decision that is part of the contract Special Provisions for the project. The US defines mechanics and laborers as those employees who perform manual labor on the site of work.

Davis-Bacon applies to any FHWA funded construction contract regardless of the level of Federal participation. The Davis-Bacon Act requirements are allowable for exclusion from Federal-aid, LPA matched transportation projects only if they meet one of the following project categories:

1. Any projects fully located on or within the existing ROW of a roadway has a functional classification as a local road or rural minor collector. This determination of functional classification is from ALDOT
2. Force account work performed solely by the LPA
3. Exploratory drilling services which include subsurface utility engineering or utility location services (these contracts provide the location of utilities for engineering or planning purposes)
4. Railroad and Utility Adjustments performed by a public utility or railroad force or the relocation performed by a contractor engaged by the utility or railroad. However, Davis-Bacon applies when utility relocation work is part of a construction project to be performed by the construction contractor or subcontractor

For projects requiring Davis-Bacon wages, as soon as the LPA establishes the project bid opening date and is ready to advertise the project for bidding, the LPA must check with the ALDOT LPD Project Coordinator or the ALDOT statewide Civil Rights Coordinator to assure that the latest modification of the wage decision is in the contract Special Provisions.

The US DOL requires that a current wage decision be included in Federal-aid construction contracts, if appropriate. Wage decisions modifications are monitored frequently; wage decisions published in the Federal Register ten (10) or more days prior to the bid opening must be incorporated into the contract by addendum to the advertisement with notification to all plan holders.

Enforcement of the provisions in Section IV of Form FHWA-1273 is ALDOT responsibility. In addition to withholdings and liquidated damages assessed for violations, the following are considered for continued violations:

- Termination of the contract
- For more serious violations, legal prosecution and debarment

10.5.2 Labor Interviews

For projects that required Davis-Bacon wages, LPA personnel are to conduct at least one (1) wage rate interview on each project. Labor interviews are not required on railroad and other utility adjustments. The interviewer shall note the employee's name, the classification of the employee, the actual wage paid, and the posted wage. Interviews shall be documented in a suitable format and made available for audit review.

The LPA must submit two (2) copies of a semi-annual report to the ALDOT Division LPA Project Coordinator containing the following information:

1. Number of contractors or subcontractors against whom complaints were received
2. Number of investigations completed (if complaints were received)
3. Number of contractors or subcontractors found in violation
4. Amount of restitution due under
 - a. Davis-Bacon Act
 - b. Work Hours Act of 1962
5. Number of employees due wage restitution under Davis-Bacon Acts and/or Work Hours Act of 1962
6. Amount of liquidated damages assessed under Work Hours Act of 1962

The above report is due prior to April 4 for the period from October 1 to March 31 and not later than October 5 for the period from April 1 to September 30. This report shall include all information gathered on all projects.

10.6 Americans with Disabilities Act (ADA)/Section 504 of the Rehab Act of 1973

10.6.1 ADA Policy

Section 504 of the Rehabilitation Act of 1973 (codified as 29 USC Subsection 791 [504](#)) requires that any entity receiving Federal-aid must ensure that persons with disabilities are not being

discriminated against in any aspects of employment, or denied access to the goods or services that these Federal-aid fund recipients provide.

The intent of the ADA (Public Law 101-336, codified as 42 USC 12101 et seq.) [ADA 1990 as amended](#) is to “assure equality of opportunity, full participation, independent living, and economic self-sufficiency for persons with disabilities.” This law extends protections for persons with disabilities. [28 CFR, Part 35](#) (state or local level), requires that facilities constructed by, on behalf of, or for the use of a public entity shall be designed and constructed, so that the facility is accessible to and usable by persons with disabilities. [49 CFR Part 27](#) (federally funded programs) requires nondiscrimination on basis of disability in programs and activities receiving or benefiting from federal financial assistance.

10.6.2 Implementation

Assurances

LPAs must maintain an ADA assurance signed by their current governing body. A section in the LPA/ALDOT Project Program Agreement details LPA reaffirmation of the Nondiscrimination Assurances of the ADA.

Design

State and local governments, regardless of whether they receive Federal-aid, are required to comply with the [Federal ADA Accessibility Guidelines](#), Title 24, or local code, whichever provides the greatest access. Local-funded improvements are required to comply with the ADAAG and with Title II; whichever code offers the greatest access or protections to individuals with disabilities.

10.6.3 Monitoring

ALDOT role is to help ensure that all new and existing altered pedestrian facilities such as, but not limited to, highway rest area facilities, sidewalks, crosswalks, pedestrian overpasses, underpasses and ramps, which are accessible to persons with disabilities, are in accordance with Federal and State accessibility standards on all LPA Federal-aid projects. This monitoring will be analyzed throughout Plan-in-Hand (PIH) project review, PS&E plan review, and final walkthrough/inspection. Refer to Accessibility Guidelines under 10.5.2.

10.6.4 Complaints

For reporting ADA discrimination, visit the ALDOT LPA website, navigate to the Compliance or the ADA document section in the right-hand panel, and view the ALDOT ADA Policy and Complaint Procedures.

10.7 Disadvantaged Business Enterprises (DBE)

10.7.1 DBE Policy

It is the policy of the USDOT that DBEs, as defined in [49 CFR Part 26](#), have an equal opportunity to participate in the performance of federally funded contracts or subcontracts. To accomplish this goal, all LPAs and their contractors must take steps to ensure that DBEs are encouraged to compete for construction contracts, procurement contracts, grants, services, financial aid or other benefits, and that DBEs have full access to these opportunities. For further reference and additional information, please refer to [ALDOT DBE Program](#) or [FHWA Office of Civil Rights](#).

Each contractor/consultant will ensure all contracts and sub-contracts have the following *verbatim* provisions:

Each construction contract shall include the following assurance:

The contractor, sub-recipient, subcontractor, or sub-consultant, henceforth Contractor, shall not discriminate based upon race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

Each professional services contract shall include the following assurance:

The contractor, sub-recipient, subcontractor, or sub-consultant, henceforth Contractor, shall not discriminate based upon race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

10.7.2 Establishment of the DBE Goal

During the PS&E review, ALDOT will review each project to determine if it involves work elements that are conducive for DBE participation and establish a DBE participation goal percentage. The Contractor must meet or exceed the DBE goal or demonstrate good faith efforts to meet the goal. In the establishment of a goal, ALDOT considers the following criteria:

- Dollar amount of the contract to ensure that it is large enough to permit efficient subcontracting
- The work content of the project that can be subcontracted
- The availability of DBE firms in the project area having the potential to do the required work

10.7.3 DBE Contract Requirements

The successful bidder must execute and return within ten (10) calendar days, form OE-110, the DBE Utilization Plan, according to the guidelines in Section 111.3, p.85 of the ALDOT 2012 Edition of the Standard Specifications for Highway Construction. This form is available under the DBE section on the LPA website in the right-hand panel or for download here at

[Form OE-110.](#)

When less than one hundred percent (100%) of a contract item of work is performed or furnished by a DBE, a description of the exact portion of the work to be performed or furnished by the DBE should be included in the DBE information, including the planned location of the work. A bidder certified as a DBE should describe the work it has committed to perform with its own forces, as well as any work it has subcontracted to any DBE subcontractor, supplier, and/or trucking company.

10.7.4 Monitoring DBE Goal Achievement

ALDOT will ensure that DBEs have a level playing field and an equitable opportunity to compete for and participate in Federal-aid contracts and subcontracts. ALDOT will monitor the work performed on federally funded projects to verify that the work committed to DBEs at contract award, is received and implemented by the DBEs. ALDOT will maintain a running tally of actual DBE attainments (e.g., payments actually made to DBE firms) and will ensure that DBE participation is credit toward overall or project/contract goals only when payments are actually made to DBE firms. Even though a DBE participation goal may be set on a project in the current fiscal year, that goal may not receive credit toward the overall annual DBE participation goal until the project is in action by the DBE and the DBE has paid for the work.

The LPA is required to monitor DBE subcontractors to ensure they are performing a commercially useful function. A DBE is performing a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved with the DBE's employees. The DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the materials, installing (where applicable), and paying for the material itself. See 49 CFR 26.55 (c) [Disadvantaged Business Enterprises \(DBE\)](#).

website for additional information.

Bulletin Board Requirements

The LPA should ensure the contractor has a bulletin board placed in a location easily accessible to both the employee and the public and should include, but not be limited to, the following:

- 'Equal Opportunity is the Law' poster.
- 'Equal Opportunity is the Law' [Spanish language version](#)
- FHWA Notice (1022)
- Wage Rate Information [Davis-Bacon Poster](#)
- Wage Rate Information (En Espanola)
- Contractually required wage rates
- Family and Medical Leave Act of 1993
- Minor Labor Laws

- Federal Minimum Wage
- US Department of Labor [LABOR](#)
- Contractor's EEO Policy
- Contractor's EEO Officer's name and telephone number
- Any applicable Alabama laws and regulations

Check the bulletin board for the physical condition and number of available required documents when performing wage rate interviews and/or commercially useful function reviews.

ALDOT is primarily responsible for administrative work in implementing the DBE Program. The responsibilities of ALDOT include:

- Acting as a liaison with minority groups, community agencies and minority or female-owned companies to solicit their participation in the DBE Program
- Identifying the need for and assisting in implementing training courses for DBEs
- Providing information and technical assistance to DBEs, potential DBEs, and others
- Processing DBE certification applications and making recommendations on eligibility status
- Participating in the on-site investigations of applicants for DBE certification
- Monitoring DBE performance on projects
- Administering the DBE portion of the contract close-out process
- Assisting with the publication of newsletters and/or other informational documents
- Investigating complaints concerning DBE eligibility status and preparing investigation reports
- Maintaining files and electronic databases on civil rights programs

To assist ALDOT with the DBE monitoring, at the end of every project the LPA is responsible for obtaining final contract amounts including the total DBE contracted amount. As such, the contractor and subcontractor are required to complete two DBE Goal Achievement Forms and submit them to the ALDOT Division LPA Project Coordinator. Each form is located in the appendix or obtained from the ALDOT LPA Project Coordinator.

Chapter 11.0

Plans, Specifications, & Estimates (PS&E) and Bid Letting

11.1 Introduction

This chapter describes the process and procedures for the preparation, submission, and approval of the project Plans, Specifications and Estimates (PS&E), and supporting documents, for the advertising, letting, and awarding of the project. This is a critical step, regardless of the type or source of Federal funds in the project, and the LPA process requires this as an FHWA concurrence point prior to execution of the project agreement and LPA control. The action *Federal authorization* approves the funding and means approval from FHWA to begin the advertising and bid letting process.

Note: If the project is advertised for bids, materials purchased, or work commences before the PS&E package has been approved and a Notice-to-Proceed is provided by ALDOT, the LPA will lose Federal project funds.

As the bidding provisions in [23 CFR 635.114](#) implement the competitive bidding principles in Title 23 USC 112, [Consultant Services](#), these requirements apply to all transportation construction projects funded under Title 23. The LPAs may use state-approved procedures for *non-highway* construction projects located off the highway ROW (such as Transportation Enhancement projects off the highway ROW). State approved procedures means the LPA will need to submit their proposed procedures for a comprehensive review by ALDOT at least three (3) months prior to PS&E Package Submittal to assure the procedures meet all State and Federal requirements. The LPA procedures should be submitted to ALDOT for review and approval no later than by PIH field review time. This will only be done on a project-by-project basis.

11.2 PS&E Review and Letting Schedule

Environmental clearance must be given before the PS&E package is submitted for review. The process for PS&E approval can be a time consuming task. A minimum of twelve (12) weeks is typically required from the PS&E submittal and award of a construction contract. LPAs must be familiar with and understand the timing of these activities:

- PS&E Review, Federal Authorization and Approval – five (5) weeks (7 weeks for full FHWA oversight);
- Advertising for Bids – minimum of three (3) weeks;
- Addendums – reviewed and approved during the bid advertisement period;
- Open, Evaluate, and Tabulate Bids – one (1) week;
- ALDOT Bid Concurrence – one (1) week;
- Award and Executed the Construction Contract and Notice to Proceed – two (2) weeks.

11.3 Development of the PS&E Package

For projects let by the LPA, the LPA will prepare the bid package which contains the plans, special provisions, supplemental specifications, and the bid proposal and submit it to the ALDOT Division Engineer, designee, or LPA Project Coordinator. For projects let by the State, ALDOT, in coordination with the LPA, will prepare the bid package. When using Federal funds, LPAs must comply with 23 CFR Section 633 Subpart A which contains Federal regulations governing construction contracts.

The LPA will use ALDOT plans, specifications, special provisions, or supplemental specifications on a project. LPA use of plans, specifications, special provisions, or supplemental specifications other than ALDOT's must be by written approval of the Chief Engineer.

It is the responsibility of ALDOT to monitor and enforce Federal regulations on all LPA let projects. The following is a list of items the LPA is to submit as part of their PS&E package:

- Two sets of ½-size final plans signed and sealed by a Professional Engineer or Architect registered in Alabama;
- Two sets of specifications including: the bid proposal, required Federal [Form 1273 Contract Provisions](#), bidding instructions, and bid form. These must also be signed and sealed by a Professional Engineer or Architect registered in Alabama;
- Two sets of any required special provisions;
- Final Engineer's Estimate;
- Final Status of Utilities report;
- Completed Clear LPA ROW Certificate or Public Interest Letter (*PIL*);
- Copies of all applicable local, state, and Federal permits (404, floodplain, storm water runoff, etc.);
- Copy of the fully executed Railroad Agreement (if required);
- Copy of all fully executed Utility Agreements (if required);
- Environmental commitments to be included in the project contract documents;
- Sole source justification letter (if required); and
- Approved Environmental Document

Note: Contact ALDOT Environmental Technical Section (ETS) to determine status of known document, most recent environmental activity, and recommended actions. Re-evaluation of an existing document may be required if no project actions have taken place for three (3) consecutive years since original NEPA documentation or clearance.

11.4 Required Federal Contract Provisions

When using Federal funds, LPAs must comply with 23 CFR Section 635 which describes Federal regulations governing construction contracts. [Form FHWA-1273](#), Contract Provisions, are required by regulations promulgated by the FHWA and other Federal agencies. These provisions apply to all Federal-aid construction projects and must be made a part of, and physically incorporated into all contracts, as well as appropriate subcontracts and purchase orders. The following is a listing of these specific provisions in the FHWA Form 1273:

11.4.1 Federal Wage Rates and Provisions Relating to Prevailing Wages/Convict Labor

Applies to all Federal-aid construction contracts within the ROW of a Federal-aid roadway exceeding \$2,000 and to all related subcontracts. Davis-Bacon and Copeland Act provisions are not required for transportation construction projects located on roadways classified as local roads or rural minor collectors. The LPA or ALDOT is responsible for incorporating the applicable wage rate decision into each Federal-aid contract. The US Department of Labor requires that an amendment for a general wage rate determination be incorporated into a Federal-aid contract if notification of the change is published in the Federal Register 10 days or more prior to the opening of bids.

11.4.2 Nondiscrimination Clauses

Applies to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more. The basic statutory authority for a nondiscrimination provision is Title VI of the Civil Rights Act of 1964, which is implemented by 23 CFR 200. Title VI mandates that Federal assistance not be used to discriminate. Through expansion of this mandate and the issuance of parallel legislation, the prescribed basis for discrimination now includes race, color, religion, sex, national origin, age, and disability.

Title VI assures that the ALDOT and LPA guarantee that no person is subjected to discrimination in connection with any activity, including any contract, for which the LPA receives Federal funds. In the event of noncompliance by a contractor and/or subcontractor, payment may be withheld or the contract may be canceled in whole or in part.

This section of the Form FHWA-1273 is essentially the Standard EEO Construction Contract Specifications, as included in 23 CFR 230, Subpart A, Appendix A.

11.4.3 DBE Requirements as Mandated by Federal Law

All Federal-aid construction projects, regardless of system or oversight agency are subject to the legislative and regulatory DBE requirements. The main objective of the DBE Program is to ensure that DBE firms have an opportunity to participate in LPA federally-funded contracts. Title VI of the Civil Rights Act of 1964 is the legislation that forms the foundation for the creation of the DBE Program.

By regulatory definition, a DBE is:

"... a for profit small business concern -- 1) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and 2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it."

11.4.4 Use of Local Hiring Preferences

Applies to all Federal-aid transportation construction projects. The LPA may not include a provision that requires a contractor to give any preference in hiring on a Federal-aid project. Furthermore, when ALDOT or the LPA has a policy that requires or creates a preference for local hiring, the contracting agency may not require or encourage a contractor to comply with this policy on Federal-aid projects (even if the hiring requirement is not included in the contract itself).

11.4.5 Subletting or Assigning the Contract

Applies to all Federal-aid transportation construction projects on the NHS. Current FHWA policy requires that the prime contractor perform at least 30 percent of contract work with its own organization. This percentage shall be of the original contract price, exclusive of specialty items, but include the cost of materials and manufactured products purchased or produced by the prime contractor. The LPA may be more restrictive and specify a higher self-performance percentage. Conversely, with adequate justification, ALDOT may approve a reduction or a waiver of the 30 percent self-performance requirement on a project-by-project basis.

Specialty items are defined as work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organization qualified and expected to bid on the contract. In general, these items are to be limited to minor components of the overall contract. As noted earlier, the amount of identified specialty work is deducted from the original contract amount before determining the total amount that may be subcontracted. The definition of specialty items is included in 23 CFR 635.102.

11.4.6 Implementation of the Clean Air Act & Federal Water Pollution Control Act

Applies to all Federal-aid transportation construction contracts and related subcontracts of \$100,000 or more. There may be facilities (e.g., asphalt or concrete plants) which are proposed for use in construction operations that do not meet air or water quality standards of the Clean Air Act or Federal Water Pollution Control Act. The EPA regulations, 40 CFR 15, require that these facilities be listed and not be used on government contracts. These facilities are included on the General Services Administration (GSA) Excluded Parties List System.

11.4.7 Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion

Applies to all Federal-aid contracts, and related subcontracts, purchase orders, and other lower tier transactions of \$25,000 or more. The prime contractor and lower-tier participants are required to certify as to their current eligibility status. Certification is also required of all prospective participants in lower-tier transactions. This includes subcontractors, material suppliers, vendors, etc.

Each participant in the Federal-aid program must certify "that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency, and that they have not been convicted or had civil judgment rendered within the past three (3) years for certain types of offenses."

The General Services Administration maintains a government-wide list of excluded parties. This website entitled, *Excluded Parties List System*, is located at www.epis.gov. (This link is inactive due to site security and must be accessed independently.)

11.4.8 Certification Regarding the Use of Contract Funds for Lobbying

Applies to all Federal-aid construction contracts and subcontracts exceeding \$100,000. Prior to receiving funds in excess of \$100,000, ALDOT must submit to the FHWA a certification that it has not and will not make any prohibited payments for lobbying. This certification comes by having ALDOT and the LPA sign the Agreement, which certifies to FHWA that it will agree to comply with the lobbying restrictions in [23 CFR 635.112\(g\)](#). LPAs, contractors, subcontractors, and consultants on contracts and subcontracts that exceed \$100,000 are also required to make a lobbying certification. By signing a contract or subcontract, a prime contractor or subcontract is certifying that it will comply with lobbying restrictions.

The ALDOT certification is to be retained by the FHWA. Likewise, lower-tier certifications are to be retained by the next higher tier (e.g., prime contractors retain their subcontractors' certifications, etc.).

Any participant that has made, or agreed to make, payments for lobbying activities using non-Federal funds, is required to disclose such activities.

11.4.9 Non-collusion Affidavit

The submission of a non-collusion statement protects the integrity of the Federal-aid transportation program by serving as a deterrent to bid rigging activities. The certification also becomes evidence in prosecuting cases involving construction contract bid rigging.

A non-collusion statement is required from all bidders and is to be submitted as part of the bid proposal package. Failure to submit the required certification will result in the bid being considered as non-responsive and ineligible for award consideration.

The LPA and ALDOT must include provisions in the bidding proposals that require all bidders to include a non-collusion statement with their bid. The FHWA, in consultation with the US DOJ, has concluded that the non-collusion statement may be either an unsworn declaration made under penalty of perjury under the laws of the US, or a sworn affidavit executed and sworn before a person who is authorized to administer oaths by the laws of the State.

11.4.10 Buy America Provision

Current regulations require the use of domestic steel and iron in Federal-aid transportation construction projects. All foreign steel and iron materials and products are covered by Buy America regardless of the percentage they comprise in a manufactured product or the form they may take. The regulations allow bidders and the contracting agency some latitude through minimum use, waivers, and alternate bids.

All manufacturing processes must take place domestically. Manufacturing begins with the initial melting and mixing, and continues through the coating stage. Any process which modifies the chemical content, the physical size or shape, or the final finish is considered a manufacturing process. These processes include rolling, extruding, machining, bending, grinding, drilling, and coating. *Coating* includes epoxy coating, galvanizing, painting, or any other coating that protects or enhances the value of the material.

If domestically produced steel billets or iron ingots are shipped overseas for any manufacturing process, and then returned to the US, the resulting product does not conform with the Buy America requirements. The manufacturing process for a steel/iron product is considered complete when the product is ready for use as an item (e.g., fencing, posts, girders, pipe, manhole cover, etc.) or could be incorporated as a component of a more complex product through a further manufacturing process (e.g., the case for a traffic signal head). The final assembly process does not need to be accomplished domestically so long as the steel/iron component is only installed and no manufacturing process is performed on the steel/iron component.

With prior concurrence from Headquarters, the FHWA Division Administrator may grant a waiver of the Buy America requirements for specific projects if it can be shown that:

- following the requirements is inconsistent with the public interest, or
- insufficient quantities of satisfactory quality domestic products are available.

11.4.11 Native American Preference on Federal-aid Projects

Projects eligible for Indian employment preference are those located on roads within, or providing access to an Indian reservation or other Indian lands (as defined with the term *Indian reservation roads* in [23 CFR 101](#)), and transportation projects located *near* the boundaries of reservations. Projects *near* an Indian reservation are defined as those within a reasonable commuting distance from the reservation.

Accordingly, States are encouraged to work together with Indian tribes and their Tribal Employment Rights Offices (TEROs) to develop contract provisions which will promote employment opportunities for Indians on eligible Federal-aid transportation projects. Reasonable overall employment goals for Indians, and the requirements which can be used to

achieve such goals, should be agreed upon in advance and made part of the contract documents.

In setting the employment goals, consideration should be given to the scope of the contract and the potential employment requirements of the contractor beyond its core-crew. Once established, the goals should only be changed by ALDOT following consultation with the Indian tribal representative and the contractor and only after good faith efforts to achieve the original goals. Sanctions for failure to meet the employment goals should be determined in advance and be made a part of the contract to facilitate enforcement.

11.4.12 On-the-Job Training (OJT)

Applies to all Federal-aid transportation construction projects. The objectives of the OJT Program are to:

- Provide training and improve the skills of women and minorities so that they have the opportunity and access to the higher paying skilled trade jobs and journeyman positions; and
- Broaden the labor pool to meet the projected future labor needs in the construction industry.

The OJT program involves several major components and involves shared responsibilities between FHWA, ALDOT, the LPA, and the contractor. These components include:

1. Development of Statewide Training Goals: ALDOT has developed training goals that will be applied to LPA projects as required.

<u>Estimated Contract Amount</u>	<u>Training Hours Required</u>
Under \$1,000,000	0
\$1,000,000 to 2,000,000	500 hours
Over \$2,000,000 to 4,000,000	1,000 hours
Over \$4,000,000 to 6,000,000	2,000 hours
Over \$6,000,000 to 8,000,000	3,000 hours
Over \$8,000,000 to 10,000,000	4,000 hours
Over \$10,000,000 to 15,000,000	5,000 hours
Over \$15,000,000 to **	6,000 hours

(**No more than 6,000 hours required regardless of dollar amount)

2. Assignment of Contract Training Goals: For State let projects, ALDOT will assign training goals for each contract. For LPA let projects, the LPA will assign their training goals based upon ALDOT training goals.

The contract training goal is the actual number of training positions or slots required on the project. The OJT Program requires that a special provision be placed in the contract which specifies the number of trainees that are to be assigned to various appropriate construction skilled crafts for actual hands-on experience. If a trainee quits or is terminated, the slot is to be refilled until a trainee completes the program. If a contractor does not attain the contract training goal for the project, the contractor could be subject to monetary penalties.

3. Development and Acceptance of the OJT Program at the Project Level Prior to Commencing Construction: The contractor shall submit to the LPA, for approval, the commitment in terms of the number of trainees to be trained for each selected classification and the training programs to be utilized.

Note: Alabama is a Right to Work state and has a Right to Work Law. Use of union labor on Federal-aid projects is acceptable in Alabama, but employers are prohibited from requiring employees to be or become union members as a condition of employment. See [State of Alabama Dept of Labor](#) and [FAQ Title 25 Right to Work \(Title 25, Art. 25-7-30 et al\)](#).

ALDOT must review, analyze, accept, or reject training programs proposed by the LPA or their contractor. ALDOT should ensure that:

- Proposed training programs are reasonable and realistic based on the job skill classification; and
- The number of training hours specified in the training program is consistent with the project's duration and sufficiently long enough for the trainee to obtain journeyman level status.

The contractor recruits and selects the trainees. However, the contractor may receive assistance from outside sources to accomplish this task. In unionized States, local unions may refer trainees or apprentices to the contractor.

4. Provide Training: Once the contractor's training program has been finalized and approved by ALDOT, the trainees in each training slot begin hands-on training at the project site. Normally, the trainees are paid a percentage of the journeyman's wages (Davis-Bacon rates) [Davis-Bacon](#). The following payment plan is required in the FHWA Training Special Provisions (23 CFR 230 A - Appendix B):
 - 60 percent of the journeyman's wages for the first half of the training period;
 - 75 percent of the journeyman's wages for the third quarter of the training period; and
 - 90 percent of the journeyman's wages for the last quarter of the training period.
5. Determination on the Adequacy of Training: The contractor must periodically evaluate the training provided, and the trainee's progress.
6. Reporting Requirements: FHWA requires ALDOT and the LPA submit this information to them on Forms FHWA-1391 and 1392, [Forms](#) that are to be prepared by the LPA and contractor.
7. Responsibilities: ALDOT has the primary responsibility to monitor and determine the effectiveness of OJT training. FHWA has oversight responsibility to provide guidance and assistance, and to concur in proposed project training provisions, project goals, and proposed training programs from ALDOT. ALDOT and FHWA share the responsibility of determining:
 - The number of trainees that complete training;
 - The number of trainees upgraded to journeyman level status;

- The level of skills attained; and
 - Whether the statewide training program is meeting the needs of the construction industry regarding work force requirements and level of skills.
8. OJT Reimbursement Provisions: Payment for training is made by the FHWA to ALDOT on a reimbursement basis. The training special provisions provide for a monetary incentive to the contractor to establish a project training program either at the rate of \$0.80 per hour; or
 9. ALDOT has the option of permitting the LPA and contractor to bid on the training program provisions as a bid item. ALDOT and the LPA will be reimbursed with Federal-aid construction funds at the same pro rata share as the construction cost of the project.

11.4.13 Standardized Changed Conditions Contract Clauses

Applies to all Federal-aid construction projects. Due to the nature of transportation construction and the conditions under which work is performed, engineering cannot always accurately determine and describe the existing conditions at project sites. Consequently, the actual conditions encountered during construction may differ from those indicated in the contract documents, resulting in a change in type or amount of work and ultimately in the cost of construction. Also, situations may develop during construction that requires the contracting agency to order the contractor to slow down or to stop construction through no fault of the contractor. These slowdowns or stoppages in the work may cause a change in construction costs.

The standardized changed condition clauses in 23 USC 112(e) **must be included verbatim** in all contracts, unless State statute prohibits their inclusion. Or, an alternate clause developed by the LPA may be used, upon approval of the FHWA, when the alternate clause has been developed and implemented in accordance with State statute.

The regulation requires the use of three different clauses:

1. Differing Site Conditions Clause: This clause provides for the adjustment of the contract terms if the contractor encounters:
 - Type I Condition: subsurface or latent physical conditions that differ materially from those indicated in the contract; or
 - Type II Condition: unknown physical conditions of an unusual nature that differ materially from those ordinarily encountered and generally recognized as inherent to the work.
2. Suspensions of Work Ordered by the Engineer: This clause provides for the adjustment of the contract terms if the performance of all or a portion of the work is suspended or delayed by the Engineer, in writing, for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry). The contractor is required to submit a request for adjustment, in writing, to the Engineer within seven (7) calendar days of receipt of the notice to resume work. Recovery of profit on costs resulting from suspensions of work is not allowed.

3. **Material Changes in the Scope of the Work:** This clause provides for the adjustment of the contract terms if the Engineer orders, in writing, an alteration in the work or in the quantities that significantly change the character of work. The term "significant change" shall be construed to apply only to the following circumstances:
 - The altered character of the work differs materially from that of the original contract; or
 - A major item of work, as defined in the contract, is increased or decreased by more than 25 percent of the original contract quantity (adjustments shall apply only to that portion in excess of 125 percent of original contract quantity, or in case of a decrease, to the actual quantity performed).

This clause provides for adjustments resulting from formal change orders by the RC, in writing, to the extent that the impacted work is part of the contract. Either party may initiate an adjustment or both must be in agreement before the work is performed. As with the suspension of work provision, this clause does not preclude the recognition of constructive suspensions or delays.

The applicability of the above contract provisions is contained in numerous locations of Federal laws, regulations and guidance such as 18, 23, 33, 40, and 44 of the USC; 23, 28, 29, 41, and 49 of the CFR, and the Contract Administration Core Curriculum Participant's Manual and Reference Guide 2006, [Manual and Reference Guide](#).

11.5 Federal Authorization for the Construction Work Phase

After the PS&E review, ALDOT will request authorization of Federal funds for the construction and construction engineering work phases from FHWA. ALDOT will obligate Federal funds in the amount indicated on the most current engineer's project estimate.

Note: For projects let by the LPA, the LPA cannot proceed with bid advertisement until a written *Notice-to-Proceed* has been received from the responsible ALDOT Division Engineer or his/her designee.

11.6 Sole Source Procurement

A component of competitive bidding is allowing bidders to choose between multiple items for use in a project so that they may compete for the lowest bid. The best procedure is to write generic specifications or to list at least three specific items from different manufacturers in the project PS&E package. If the LPA decides that only one item will work for the project, the LPA must write a sole source justification letter to be approved by ALDOT or FHWA.

Applying to sole source any item for incorporation into a project should be the exception and not the norm. Just because the LPA requests to use a sole source item does not mean the request will be approved. Prior to developing and submitting the sole source justification letter, the LPA should perform a search of the market of the item they want to sole source to assure no competition of comparable items is available.

Examples of items the LPA may consider to justify as sole source include but are not limited to: light fixtures, fire hydrants, traffic signal controllers, guardrail end treatments, or truncated

domes. Sole source justification is preferred for uniformity, ease of maintenance, or historic compliance. An example sole source justification letter can be found at the end of this chapter in the appendix. The following items must be addressed in the letter:

- 1) What is the situation being covered?
- 2) What operating characteristics (criteria) are you looking for in the device?
- 3) How is this item unique from all others?
- 4) How many devices are currently available that will satisfy the criteria?
- 5) Which is the best device from an operations standpoint?
- 6) Which device offers the best cost?
- 7) Does operating characteristics override cost?
- 8) Commit to a review on the industry in case new technology is developed that would also satisfy the criteria or need.

Further guidance on this subject is available from FHWA on [Patented and Proprietary Products](#).

11.7 Pre-Bid Meeting

This optional meeting is held by the LPA after advertising the project. The purpose of the pre-bid meeting is to address prospective contractors' concerns and questions. It is recommended for more complex projects. The meeting purpose is to encourage face-to-face discussion regarding plan intent and any areas of concern prior to bid opening. This meeting often brings plan package discrepancies to light, which can then be rectified through plan addendum. These discrepancies, if not rectified, may result in change orders or claims after the contract is awarded. The LPA **must** notify ALDOT and FHWA that they will hold a pre-bid meeting allowing them the opportunity to participate.

ALDOT and FHWA do not prohibit the use of pre-bid meetings; however, if attendance at a pre-bid meeting is made a condition of bid responsiveness, the project advertisement and all bidding documents must reflect this requirement. The LPA and ALDOT must give the contracting community adequate notice to comply.

11.8 Competitive Bidding

23 CFR 635 requires that a contract method based on competitive bidding must be used for performing work financed with Federal funds. The only exceptions to the competitive bid process are project activities done by utility or railroad companies; work performed under emergency conditions (as outlined in Chapter 2.0); or when the ALDOT can show that some other contract method (Force Account Construction per 23 CFR 635 Subpart B) is more cost effective. To do this, the LPA must submit documentation through ALDOT to FHWA stating what the emergency is or why the Force Account method is cost effective. No work can begin on a project until ALDOT or FHWA issues approval in writing. ALDOT and LPAs are prohibited from establishing any procedures or requirements for qualifications or licensing that would prevent competition.

11.8.1 Emergency Project Interruption

An emergency, as defined and explained in the programming chapter (Chapter 2.0), shall be deemed to exist when repair work as provided for in the ER Program policy statement in 23 CFR 668.105 is necessary or when a major element of a transportation system has failed and the situation is such that competitive bidding is not possible or impractical because immediate action is necessary to minimize the damage, protect the facility, or restore essential travel.

The LPA shall submit documentation (as required in Chapter 2.0), to ALDOT for their review, identifying and describing the project, the kind(s) of work to be performed, the contract method to be utilized, the estimated cost of the work, the estimated Federal funds to be provided, and the reason(s) that an emergency exists. On projects designated for full FHWA oversight, ALDOT will submit the documentation to FHWA.

11.8.2 Force Account Work

*“The term **Force Account** shall mean the direct performance of highway construction work by a State transportation department, a county, a railroad, or a public utility company by use of labor, equipment, materials, and supplies furnished by them and used under their direct control.” -*

[Force Account 23 CFR 635.201](#).

Force Account work in this instance, then, becomes the direct performance of construction work by ALDOT or the LPA using own forces, labor, equipment, materials, and supplies to complete a project, subject to provisions of the above CFR. The LPA will submit documentation to ALDOT for their review, identifying and describing the project, the kind(s) of work to be performed, the contract method utilized, the estimated cost of the work, the estimated Federal funds to be provided, and the reason(s) that the force account method is considered cost effective. On projects designated for full FHWA oversight, ALDOT will submit the documentation to FHWA.

11.9 Other Contracting Procedures

The use of an alternative contracting procedure, type, or method depends on the work, timing, and location of a project. ALDOT recommends that such techniques not be used for typical projects.

The FHWA allows ALDOT to evaluate innovative contracting techniques proposed by the LPA which are competitive in nature but do not fully comply with the requirements in 23 USC 112. Federal-aid construction contracts that utilize a method of award other than the lowest responsive and responsible bid must be evaluated under FHWA Special Experimental Project No. 14 (SEP-14) - [Alternative Contracting](#). However, four practices have been used successfully by various state DOTs and LPAs and, as a result, no longer require advance approval from FHWA. These methods are: cost-plus-time ($A+B$) bidding, lane rental, design-build contracting, and warranty clauses.

Note: [Currently, ALDOT policy does not allow for design-build contracting or warranty clauses.](#)

11.9.1 Incentive/Disincentive Clauses

Incentive/Disincentive (I/D) clauses are used to encourage early or on time completion of work where there are significant inconveniences to the traveling public. Guidance regarding this technique is contained in [FHWA Technical Advisory T 5080.10, Feb 8, 1989](#). I/D is a contract

provision which compensates the contractor a certain amount of money for each day identified critical work is completed ahead of schedule and assesses a deduction for each day the contractor overruns the I/D time. Its use is primarily intended for those critical projects where traffic inconvenience and delays are to be held to a minimum. I/D contract provisions may be used for either final project completion or for the completion of intermediate project milestones. Project time may be defined either by a fixed completion date or by a count of calendar days. ALDOT recommends a maximum dollar amount be used for incentive payment (FHWA recommends a 5% maximum of total project cost). There is no recommended maximum for a disincentive payment.

The following formulas may be used by the LPA to calculate incentive or disincentive amounts:

Incentive = (Daily I/D amount) x (Number of days completed ahead of schedule), and

Disincentive = (Daily I/D amount) x (Number of days completed behind schedule)

FHWA recommends that the daily I/D amount be calculated on a project-by-project basis either for the entire project or for project milestones. The daily I/D amount may include:

- Established construction engineering inspection costs;
- State related traffic control and maintenance costs;
- Detour costs; and
- Road user costs.

The daily I/D amount should not include costs attributed to disruption of adjacent businesses. It is expected to use sound engineering judgment to adjust the calculated daily amount downward (not upward) to a final daily I/D amount that:

- Provides a favorable benefit/cost ratio to the traveling public where the cost is the daily I/D amount and the benefit is the calculated daily savings in road user and LPA costs.
- Is large enough to motivate the contractor. If a favorable benefit/cost ratio cannot be realized and/or the resulting daily amount is not large enough to motivate a contractor, the project should not be further developed as an I/D project.

11.9.2 A + B Bidding

A+B Bidding, also referred to as Cost-Plus-Time bidding, involves time with an associated cost, in the low bid determination. The bid for award consideration is based on a combination of the bid for the contract items and the associated cost of the time, according to the formula:

$$(A) + (B \times \text{Road User Cost} / \text{Day})$$

Where:

A = the dollar amount bid for the contract items and is the dollar amount for all work to be performed under the contract.

B = the total number of calendar days required to complete the project, as estimated by the bidder. The "B" amount of the low bidder is used as the contract time.

Road User Cost = A daily dollar estimate of vehicle operating costs and delay costs to highway users resulting from construction, maintenance, or rehabilitation activity.

This formula is only used to determine the lowest bid for award and is not used to determine payment to the contractor. ALDOT recommends that a maximum number of days be used.

A disincentive provision, that assesses road user costs, is incorporated into the contract to discourage the contractor from overrunning the time "bid" for the project. In addition, the FHWA recommends that an incentive provision be included to reward the contractor if the work is completed earlier than the time bid. The value of the road user cost is predetermined by the contracting agency and specified in the proposal. It is based on costs such as road user delay time, detour costs, construction engineering costs, etc.

A + B bidding is used for projects where time of completion is a significant concern.

11.9.3 Lane Rental

The goal of the lane rental concept is to encourage contractors to minimize road user impacts during construction. Under FHWA, [Alternative Contracting](#) provides for a rental fee assessment against the contractor included in the contract. The **lane rental fee** is based on estimated cost of delay or inconvenience to the road user during the rental period. The fee is assessed for the time that the contractor occupies or obstructs part of the roadway and is deducted from contractor progress payments.

The rental fee rates are stated in the bidding proposal in dollars per lane per time period, which could be daily, hourly or fractions of an hour. The low bid is determined solely on the lowest amount bid for the contract items. The lane rental concept has merit for use on projects that significantly impact the traveling public. Major urban area projects are prime candidates for this approach.

11.9.4 FHWA Special Experimental Project No. 14 (SEP-14) - Alternative Contracting

Any other non-traditional construction contract technique, proposed by the LPA or ALDOT than those listed in the sections above, which deviates from the competitive bidding provisions in 23 USC 112, requires FHWA Headquarters' SEP-14 approval. These non-traditional contracting techniques may include best value, life cycle cost bidding, qualifications-based bidding, and other methods where cost and other factors are considered in the award process.

ALDOT or the LPA may submit a Sep-14 [Alternative Contracting Workplan](#) work plan through the FHWA. The FHWA reviews the request and, if appropriate, forwards it to their headquarters for review and approval. Electronic copies of work plans and SEP-14 requests for approval are encouraged.

11.10 Alternate Bids

The LPA may propose the use of Alternate Bids under certain circumstances. The proposal must be coordinated and approved by ALDOT or FHWA in the case of full Federal oversight projects. When there is a cap of Federal funds available for a project, an LPA may choose *additional alternate bidding* to maximize the benefits of the funding available for a project. This should only be done in consultation with and by the approval of the ALDOT Division Engineer.

In general, the concept allows for contractors to bid on work outside of the basic project scope: the *additional alternate bid items*. These alternates can be *add-ons* or deletions from the basic project scope, or both. If the LPA receives bids on the basic scope which are less than the Engineer's estimate, bids on the alternate items are considered according to a predetermined order of priority, so long as the total bid price remains under the total project budget. Bids on the basic scope and the alternate items are submitted and opened at the same time. The basis for the bid to be awarded to the lowest responsive bidder though has to be specifically stated in the contract bid documents on which all contractors are bidding.

Note: Add-ons and deletions from the basic project scope are allowed, subject to approval of the ALDOT Division Engineer; Chief, Bureau of Office Engineer (State Engineer); and if appropriate, Consultant Management Engineer.

11.11 Bidding Procedures for Locally Let Projects

Before a LPA let project can be advertised and let for bids, the LPA must submit a final PS&E package, which meets all applicable Federal and State regulations and procedures and with any supporting documentation, to ALDOT for review and approval or to FHWA through ALDOT if the project is designated as a full FHWA oversight project. The LPA may begin advertising activities once they receive the authorization and a Notice-to-Proceed from the ALDOT Division Engineer. For full FHWA oversight projects, the FHWA will issue the authorization to ALDOT. For additional information, visit the following website:

[Bureau of Office Engineer Sections and Key Contacts](#)

Federal-aid projects are required to be advertised and available to the contractor for a minimum of twenty-one (21) days prior to letting. ***This advertisement must be placed in a newspaper of general circulation within the county.*** In rare circumstances, shorter periods may be approved by FHWA, when justified. Copies of the plans, details, bills of material, schedule of items, and specifications shall be open to public inspection at the office where the bids are being received, during all business hours between the day of the first publication and the day for opening the bids and such other place as may be designated in the notice. Projects over \$500,000 estimated current dollar cost must be advertised at least once in three (3) statewide newspapers 21 days prior to the scheduled bid opening.

Note: Consultants/contractors who are *not* prequalified may submit bids but will not be awarded work until qualification requirements are met and the bidder holds a license to work in Alabama. Consultants/contractors prequalified by ALDOT will be eligible to submit bids and accept awards for LPA projects using Federal funds. Prequalification status will be in force at the time of letting, opening, the time of award, and through the

life of the contract. For STP Urban and some bridge projects that ALDOT does not prequalify, the LPA must still select a contractor from the ALDOT prequalification list. There is no exception to the [ALDOT Prequalification Requirement](#) and it cannot be waived. *This requirement is particularly stringent for Transportation Enhancement or Safe Routes to School projects.*

Note: Subcontractors are not subject to the prequalification requirement.

[23 CFR 635.110\(c\) Licensing and Qualifications of Contractors](#)

The **prime** contractor must perform at least thirty (30) percent of the total original contract price excluding any identified specialty items. Work proposed to be performed under a subcontract must be approved by the LPA in writing through a formal process. Prior to approving the subcontract, the LPA must assure that the subcontract contains all pertinent provisions and requirements of the prime contract.

11.11.1 Amendments to the Bid Documents

The LPA must submit to the ALDOT Division Engineer any addendum to be issued during the advertisement period. Under no circumstances should the addendum process be used to circumvent State or Federal laws, regulations, or guidance. All bidders must bid the project on the same or comparable basis, so that no particular advantage or disadvantage accrues to any potential bidder or to the contracting agency. Since an addendum issued during an advertisement period could have a profound impact, not just on bid prices, but also on the basis for bid comparisons, all prospective bidders must be made aware of any addendum, as expeditiously as possible.

ALDOT must approve such addendum for project eligibility prior to bid opening. For full FHWA oversight projects, ALDOT will submit the addendum to the FHWA Division office for review and approval prior to awarding the contract. The LPA shall furnish any modification to the plans, specifications, or schedule of items to all parties who obtained plans and specifications for the project. The LPA must provide documentation of the receipt of the addendum to the ALDOT Division Engineer. ALDOT does not accept any proposed addendums within five (5) business days of bid opening.

11.11.2 Bid Opening

The bid opening is a public forum where the bids are opened and read aloud either item-by-item, or by the total bid amount. The LPA informs the ALDOT Division Engineer (or designee) once the bid opening date and time is established. ALDOT shall keep FHWA apprised of these activities on full oversight projects. The bid opening should identify the apparent low bidder submitting the lowest, responsive bid. A responsive bid meets all the requirements of the advertisement and proposal. If a bid is determined to be unresponsive (*bid irregularities*), it does not have to be read. However, the bidder and the reason must be announced. The LPA needs to document and retain its reasons for not reading a bid. Some reasons for not reading a bid due to irregularities include:

- Failure to sign the bid, or signature is not by authorized personnel;
- Failure to furnish or sign the required bid bond;

- Failure to include unit prices, extensions, and/or lump sums;
- Failure to submit a non-collusion affidavit;
- Failure to commit to the DBE contract goals or demonstrate good faith effort to do so;
- Failure of the contractor to be prequalified, if required, for that type of work; or
- Inclusion of conditions or qualifications not provided for in the specifications.

11.11.3 LPA Bid Analysis and Evaluation

23 CFR 635.114(a), [Award of Contract](#), requires Federal-aid contracts to be awarded only on the basis of the lowest responsive bid. This requirement applies to all Federal-aid construction projects. FHWA has stressed that estimates should be accurate and credible, based on realistic current data, and while not required, it is recommended that they are kept confidential. Further, there should be written documentation for justifying the award of a contract or rejection of the bids, when the low bid appears excessive, relative to the Engineer's Estimate, or rejection is being considered for other reasons. Factors that should be considered and documented by the LPA in reviewing the bids received for a project include:

- Comparison of the bids against the engineer's estimate;
- Number of bids submitted;
- Distribution or range of bids received;
- Identity and geographic location of the bidders;
- Potential for savings if the project is re-advertised;
- Bid prices for the project under review versus bid prices for similar projects in the same letting;
- Urgency of the project;
- Current market conditions/workload;
- Any unbalancing of bids (mathematically and/or materially);
 - Mathematically unbalanced bid: a bid that contains lump sum or unit bid items that do not reasonably reflect the actual costs (plus reasonable profit, overhead costs, and other indirect costs) to construct the item.
 - Materially unbalanced bid: a bid that generates reasonable doubt that award to that bidder would result in the lowest ultimate cost to the LPA of ALDOT.
- Which unit prices differ significantly from the estimate and from other bids (compare the 3 lowest bidders, if applicable)?
- Is there justification for the difference in unit prices; and
- Any other factors the LPA has determined to be important.

The LPA should analyze the bids for responsiveness and errors. The LPA and ALDOT should refer to the FHWA [Guidelines on Preparing Engineer's Estimate, Bid Reviews, and Evaluation, January 20, 2004](#) during their bid analysis. The analysis should result in a contract award to the

lowest responsive bid. Should the bid be over the engineer's estimate, the LPA shall determine, if the bid amount is appropriate and provide written justification to ALDOT to award or reject the project. ALDOT, and FHWA for full oversight projects, must concur in the LPA's acceptance or rejection of bids. Even if competition is determined not to be adequate, the LPA may recommend the bid be accepted based on other documented reasons.

11.11.4 ALDOT Bid Concurrence

The LPA must prepare an itemized tabulation summary of all bids received and submit it to the ALDOT Division Engineer. The tabulation must list each bid item, the bid quantity for that item, and the unit price for each item bid by all bidders. ALDOT, and FHWA for full oversight projects, must concur prior to awarding a contract. The ***LPA must submit a request for concurrence*** with the itemized bid tabulation summary for the project. All applicable DBE forms must be submitted to the ALDOT DBE Contracts Office. The ***written request must include a statement from the LPA indicating their selection or rejection of the low bidder*** and their desire to proceed or not to proceed with the award of the contract. ALDOT, and FHWA on full oversight projects, will review the selection and ***issue a written concurrence to the LPA if acceptable***.

11.11.5 Awarding and Executing the Construction Contract

The LPA must award the project construction contract in accordance with Federal and State laws and policies. The LPA should apprise its legal counsel of any legal concerns with the bids or the award. Once the LPA has received written concurrence, it must provide notification of any project award to the ALDOT Division Engineer, Division LPA Project Coordinator, the Bureau of Transportation Planning and Modal Programs, and the ALDOT Consultant Management Engineer. For full FHWA oversight projects, ALDOT will submit the notification of award to FHWA for approval within thirty (30) days of bid opening and provide a copy of the resolution from the LPA. If the project has been assigned a DBE goal, the LPA must also include documentation from the contractor that all DBE commitments will be met. Federal funds will not be encumbered or released without this information.

Once the project has been awarded, the LPA may sign and enter into a contract with the awarded contractor. The contract should include items specified in the bid proposal, including all Federal and State requirements. The LPA retains original contracts it executes with consultants/subcontractors, but must forward copies of the fully executed contract to the ALDOT Division Engineer for project files. Copies will be provided to Bureau of Office Engineer and other Bureaus and Offices as needed. The DE will also provide copies of executed contracts to FHWA on all *full FHWA oversight projects only*.

11.12 Bidding Procedures for State Let Projects

LPA projects let by ALDOT must follow the same Federal requirements, procedures, schedules, and bid analysis procedures as if it were to be a LPA let project. The LPA will prepare all documents needed for the PS&E review. ALDOT will create the contract bidding documents, approve all PS&E documents, advertise the project, evaluate the bids, and select the low bidder for the LPA. The LPA will be responsible for concurring in the award and executing the construction contract.

For projects with full FHWA oversight, ALDOT will submit the PS&E package to the FHWA Division office for review and approval prior to advertising the project. FHWA will be responsible for reviewing and concurring in the project low bid.

Chapter 12.0

Construction

12.1 Introduction

ALDOT has responsibility for the construction of all transportation projects in Alabama funded through the FHWA and is not relieved of such responsibility by authorizing the work by an LPA or other agency.* The excerpt from the Code of Federal Regulations below is specific with regard to the parameters of responsibility for project oversight. The management of these projects relating to construction supervision, project documentation, change orders, materials, disputed work, and claims shall, unless otherwise approved by ALDOT and/or FHWA, comply with the policies, requirements, and procedures set forth in: FHWA [23 CFR, Parts 635 Construction and Maintenance](#); the appropriate sections of the [ALDOT Construction Manual](#); [ALDOT 2012 Edition Standard Specifications for Highway Construction](#); [2008 Approved Special Provisions to the 2008 Standard Specifications](#); and the [ALDOT Materials Testing Manual](#). Quality Assurance (QA) Procedures for Construction covered in 23 CFR 637 Subpart B pertain to projects on the National Highway System per 23 CFR 625.3(2), Federal-aid projects not on the NHS are to be constructed in accordance with State laws, regulations, directives, and standards.

Note: *23 CFR 635.105 (a) states as follows:

...(a) The STD has responsibility for the construction of all Federal-aid projects, and is not relieved of such responsibility by authorizing performance of the work by a local public agency or other Federal agency. The STD shall be responsible for insuring that such projects receive adequate supervision and inspection to insure that projects are completed in conformance with approved plans and specifications.

12.2 Notice-to-Proceed With Construction

In general terms, once an agreement has been signed with an LPA, **ALDOT will issue a written Notice-to-Proceed with Construction**. This may take the form of a letter from Consultant Management to proceed with hire of a consultant or proceed with negotiations to manage the project. In turn, as ALDOT is not a party to LPA/Contractor contracts, the LPA would issue a Notice to Proceed to its contractors. On a State let project, ALDOT will continue to issue the Notice-to-Proceed directly to the contractor/consultant. Normally, the Notice-to-Proceed date will coincide with the tentative beginning date shown in the bid proposal. The notice may also be issued to the contractor at the pre-construction conference.

Note: The State will not issue the Notice to Proceed until ALDOT has concurred with the lowest responsible bid. In the case of full FHWA oversight projects, FHWA will concur in the lowest responsible bid.

12.3 Pre-Construction Conference

The LPA will consult with ALDOT to establish the calendar and venue for the conference to enable all parties sufficient time to obtain copies of executed contracts, plans, and other

documents. The purpose of the pre-construction conference is to discuss important details regarding the construction of the project such as constructability, specifications, plans, method of payment, and contractor's progress schedule (see Section 12.6). Other items that should be discussed include the necessary utility adjustments, railroad permits and requirements, availability of right of way, maintenance of traffic, special provisions, and responsibilities of the LPA, ALDOT, and the contractor. At the pre-construction conference all involved parties should express any and all concerns regarding the construction project. Special attention should be given to the following items:

- Interim Completion Dates
- Phasing Requirements
- Special Provisions
- Project staffing (Project Manager, RC, etc.)
- Change Order Approval Process
- Claims Resolution Processes
- QC/QA Measures
- Protection and restoration of property
- Status of Utility Relocations
- DBE goals and Davis-Bacon Wages
- Environmental Commitments
- ALDOT/FHWA points of contact
- Coordination of major local events

The LPA must make a written record of attendance and of the items discussed. The LPA will keep a copy of the written record (or the reasons for not holding the pre-construction conference) in the project file and provide copies to ALDOT and FHWA.

12.4 Construction Administration

The LPA, ALDOT, and FHWA share in the responsibility of construction administration. Each of these agencies will have differing responsibilities depending on the level of project and program oversight.

The LPA serves as the main contact for the contractor, but ALDOT, FHWA, and other agencies have an interest in the project. The LPA is responsible for overseeing the construction activities, which will include the day-to-day review and inspection of project construction activities and the record keeping necessary to acceptably document these activities. The LPA shall also have a qualified project inspector on the project site each day the contractor (or subcontractor) is working on the project. The inspector must verify that work performed and materials incorporated are as specified in the contract documents, the project is built in accordance with approved plans and specifications, and that quantities are documented sufficiently to make payments for completed work.

12.4.1 LPA Quality Control (QC)

LPA responsibilities for construction administration and inspection include, but are not limited to, the following:

- Appoint or hire a qualified full-time public employee of the LPA to be the *Responsible Charge (RC)* of the project for the duration of construction. The LPA RC must be certified with ALDOT as detailed in Chapter 15, Section 3. The ALDOT/LPA project agreement establishes the RC role and responsibilities for the project. *A consultant cannot be hired or considered as the RC.*

Note: ALDOT will not provide training or certify as to the *competency* of LPA staff. For that reason, considerable weight is placed on the LPA application and qualification process, and staff credentialing will be similarly evaluated. The LPA may be asked to provide information pertinent to LPA project management. [See also Chapter 1, LPA Project Guide, Sections 1.1 and 1.2.]

- Maintain project field diaries, files, and records. Prepare a weekly report of working days charged.
- A *primary* consultant hired by an LPA must be from the ALDOT pre-qualified listing if services are subject to federal reimbursement.
- Conduct a pre-construction conference and document the proceedings; coordinate meeting venue and time with ALDOT to allow all parties to have all necessary executed contracts, plans, and documents.
- Monitor the construction contract documents for compliance.
- Perform construction surveying and staking related to the project.
- Review work zone traffic control devices daily. Require the contractor to promptly replace and/or adjust the traffic control devices to ensure the public can pass safely with the least amount of interference. This work must be in conformance with the Manual on Uniform Traffic Control Devices [MUTCD](#). Daily review shall also include periodic nighttime traffic control inspection to ensure adequate retro reflectivity and placement of the temporary traffic control devices.
- Provide railroad companies with official notice to proceed for flagging services, track work, temporary train rerouting, and other items in accordance with the LPA/Railroad Agreement.
- Make all project decisions in a timely manner to avoid undue delay.
- Ensure that proper controls are exercised when measuring and calculating items of work.
- Respond to any complaints or questions by the public in a timely manner.
- When a change order or time extension is required, the change order review and approval process must be followed as detailed in Section 12.9 of this chapter.

- Provide for and ensure that all materials incorporated in the project are tested, sampled, and/or certified according to the LPA QC measures and to the plan specifications.
- Verify the existence and sufficiency of required material specifications.
- Inspect the project for compliance with NEPA [The applicable approved document must be kept on file by the LPA and available for review, regardless of the authoring agency. This is an audit item].
- Monitor and require compliance by the contractor with contract provisions such as prevailing wage, EEO, and DBE legal requirements.
- Estimates and payments should promptly be paid to the contractor for completed work and railroads for completed force account work and flagger services.
- Prepare a set of As-built plans to be submitted to the ALDOT.
- Make timely decisions in the event a contractor files a contract complaint, dispute or claim, with due consideration of all facts involved, and according to the approved Claims Management Process.

12.4.2 ALDOT Quality Control Responsibilities

ALDOT responsibilities for construction administration include, but are not limited to, the following:

- The Division Engineer, his/her designee, or an assigned or appointed Division LPA Coordinator, and the LPA RC will monitor the provisions set forth in the construction contract and discuss project concerns with the Division, Federal agencies, and the affected ALDOT Bureaus, Offices, or Sections. This monitoring will include, but is not limited to field visits, attending the pre-construction conference/progress meetings, and participating in the final inspection.
- Attend the pre-construction conference and reassure that the change order review and approval process is discussed, confirm the policy for preparing and approving progress estimates, and assure environmental commitments will be incorporated into the project.
- Be a resource to the LPA on technical and/or administrative issues unique to or not expected by the LPA. In this role, ALDOT will communicate with and support the LPA and not direct the contractor.
- Be a resource to the LPA for the prompt resolution of contractor complaints, disputes, and claims. Assist the LPA with the approval to resolve complaints, disputes, or claims that extend the project construction time frame and/or increase project costs. As routine procedure, advise FHWA of claims and resolution issues.
- Review the construction contract, permits, agreements, and become familiar with the project site and plans prior to the start of construction.
- Follow the Change Order review and approval process as outlined in Section 12.9 of this chapter. ALDOT or FHWA will review and respond to change orders within five (5) business days of receipt.

- Review, verify, and accept all appropriate requests by the LPA for reimbursement for Federal and/or State funds. Requests for reimbursement must be signed and recommended by the ALDOT Division Engineer prior to reimbursement. Contract quantities must have accurate records and be sufficiently detailed to withstand an audit.
- Review and monitor the LPA documentation pertaining to the construction activity, daily work logs, field reports, materials, and progress estimates.
- Division Engineer or designee will establish site visits at the pre-construction meeting, if not already set forth in the project agreement or otherwise provided for. The DE has considerable leeway in this depending on project type, scope, and timeline. The DE or designee will observe construction activity, assure that the traffic control is done in accordance to the plans and MUTCD, confirm the erosion control is properly placed and retained as per the plans and specs, monitor the environmental commitment, verify that the inspection efforts are commensurate with the construction work, and check documentation for materials sampling, testing, and certification.
- Monitor and provide guidance on Federal contract provisions in the areas of EEO, DBE, and Prevailing Wage Compliance.
- Monitor the environmental stewardship for the project.
- Be a technical resource and provide assistance, when requested, to the LPA in the areas of testing, certification, and QC.

12.4.3 FHWA QC Involvement

FHWA will function in the same fashion as ALDOT on full FHWA oversight projects with the exception that the LPA shall transmit all calls and correspondence through the ALDOT Division Engineer or Division LPA Project Coordinator. Construction inspections may include the following: Division Engineer or designee, Division LPA Project Coordinator, LPA Responsible Charge (RC) or Project Engineer/Manager/Administrator, and others as may be appropriate.

12.4.4 Inspection-In-Depth

This process is a thorough on-site review to evaluate a specific contract item, combination of items, or major phase of a project. Inspections-in-depth may be accomplished on an individual project basis or on several projects with the findings summarized as an area-wide or statewide review.

12.4.5 Project Inspection

This inspection is an on-site review to evaluate LPA activities, the quality and progress of the work, and if appropriate, to follow up on findings from previous inspections.

12.4.6 Final Inspection

This review determines the extent to which the LPA has exercised its control to assure that the project has been completed in reasonably close conformity with the plans, specifications, and authorized changes.

12.5 Construction Engineering Agreement

Costs for Construction Engineering (CE) are eligible for Federal-aid, providing Federal procedures have been followed. The LPA may select a consultant (*see Chapter 4*) to perform this function if they lack staff or the expertise needed to perform the engineering and management duties during construction. If the LPA intends to claim Federal-aid for CE costs, a LPA/Consultant Engineering Agreement for CE services must be prepared, reviewed, and approved by ALDOT (or FHWA on full Federal oversight projects) prior to the start of construction. The LPA must use the existing ALDOT standard template agreement. The LPA will be directed to the LPA website to download a copy of this agreement and Division staff or Central Office LPA staff will provide assistance in preparing the document.

Note: Consulting firms will be allowed to perform both the preliminary engineering and construction engineering services on the same project. Approval must be obtained from the Region or Division Engineer in writing.

12.5.1 Monitoring Construction Engineering Consultants

To improve the monitoring of consultants hired to perform CE and testing services, the following is required:

- The LPA shall hold a meeting with the consultant before the work begins to assure that the consultant clearly understands the expectations of the LPA in carrying out the CE services. This meeting could be held immediately, prior to, or after the pre-construction meeting.
- The LPA will require the consultant to provide minutes of the meeting. Some topics for discussion at this meeting may include, but are not limited to:
 - The LPA RC position as it relates to expected consultant inspection practices and work methods.
 - Expectations of the consultant concerning billable hours in the event of a rain day or other contractor shut down.
 - Suspending a contractor for non-compliance with the contract.
 - Pertinent safety issues.
 - Preparation and submission of timely pay estimates.
 - Timely project finalization and submittal of contract documents.
 - Familiarization of the consultant with applicable manuals.
- The LPA will schedule sufficiently frequent meetings, based on project complexity, to ensure consultant activities are properly monitored. Weekly or bi-weekly meetings are preferred and will include a review of project records and site visits. These meetings will be documented by the LPA Daily Report, interim evaluation, or other appropriate means.
- Interim evaluations will be performed by the consultant when visiting a project site. Evaluation scope and reporting format will be determined in discussion with the project RC.

12.6 Construction Schedule

Scheduling will be done in accordance with Section 108.03 (Progress Schedule of Operations) in the ALDOT Standard Specifications for Highway Construction 2012 Edition. [2012 Specifications](#) The Contractor/consultant shall complete all requirements on or before the expiration of the contract time allowance. The Contractor shall develop and submit a progress schedule to the LPA RC for approval. The schedule shall be presented and briefed to the LPA RC at the pre-construction conference. The Contractor shall furnish the schedule to the LPA RC and the ALDOT Division Engineer. This schedule and any supplemental schedule shall show:

- Completion of all work within the specified contract time.
- The proposed order of work for all bid items.
- Projected starting and completion times for major phases of the work and for the total project.
- The portions of the work to be accomplished by the Contractor and the portions to be accomplished by a Subcontractor.

The schedule shall be developed using a method that will clearly and unmistakably identify the critical path of interrelated tasks or items of work required to complete the project. (The critical path is defined as the sequential path of activities through a network diagram from beginning to end of the project which provides for the completion of the project in the least amount of time.) The Contractor shall provide sufficient material, equipment, and labor to meet the completion times in this schedule. Progress estimates will not be made until the Contractor's original schedule is approved.

Note: A Critical Path Schedule or Map (CPM) may be used as an alternative to the bar graph called for in the specifications, if it is part of the original proposal. The CPM or bar graph will be required for contract periods exceeding ninety (90) *working* days or one hundred eighty (180) *calendar* days as provided in the specifications (Section 108.03). The choice of CPM or bar graph should be brought to the attention of the DE or designee, or Division LPA Project Coordinator, prior to pre-construction conference.

The LPA may accept a progress schedule indicating an early completion, but cannot guarantee their resources will be available to meet the accelerated schedule. No additional compensation will be allowed if the Contractor is not able to meet his/her accelerated schedule due to the unavailability of the LPA resources.

If the Contractor's progress falls behind his/her schedule, the LPA may put the Contractor on notice and direct the Contractor to take whatever action is necessary to expedite completion of the work. Additionally, the LPA RC may request that the Contractor submit, within seven (7) days, a revised progress schedule that demonstrates how and when the Contractor intends to complete the work. The LPA may suspend progress payments until the revised schedule is submitted if the Contractor fails to submit a revised progress schedule within seven (7) days.

If the Contractor fails to make satisfactory arrangements to adjust his/her performance and schedule within seven (7) days, his/her qualification for submitting bids at future lettings may be

suspended until the Contractor's performance and schedule demonstrate that the contract will be completed by a time satisfactory to the LPA. The LPA will also issue a written decision as to whether to allow the Contractor to proceed or to stop work and terminate the contract.

When the Contractor desires to change the approved schedule, he/she must submit the proposed revised schedule to the LPA for approval at least seven (7) days before any significant deviation from the currently approved schedule.

The LPA is responsible for reviewing the contractor's working days, contract time requirements, and allowing time extensions according to their own requirements. These requirements must be consistent with other similar projects not using Federal-aid. Also triggering an adjustment in the project CPM or bar graph schedule, contract time extensions proposed after acceptance of the contract must have written approval of the LPA. These time extensions or alterations to the construction schedule will be handled by change order and/or supplemental agreement. The LPA requirements or procedures must be reviewed and approved by ALDOT on either a project basis or through the adoption of standards by the LPA that have been reviewed and approved by ALDOT. For projects receiving full FHWA oversight, the FHWA Division office will review the contract time requirements based on ALDOT's approval of LPA standards or on a project basis.

Monitoring the construction schedule can determine the responsible party for project delays. The LPA shall maintain a written record of project progress. This record must indicate factors which may affect the schedule of work.

12.7 Construction Field Reports and Project Files

Project documentation is a key element in the administration of a Federal-aid project. The LPA must keep daily reports to record work in progress. The daily reports will record the hours worked by all persons and equipment usage.

In certain cases, the LPA should record project activities in greater detail, similar to *force account detail. Accurately document this information in the following cases:

- Where work is being paid for based on the cost of labor, equipment, and material.
- When there is an anticipated change in the character of work.
- When there is a potentially significant overrun or under run of materials or time.
- When there is disputed work or a potential claim.

The narrative portion of the report should include a description of the contractor's operation and the location where the work was performed. It should include statements made by the contractor or agency personnel that are pertinent to the work. The report must contain the name of the contractor and/or subcontractor(s) performing the work. The LPA must establish a separate record file for each Federal-aid project. The project file must contain all data pertinent to the work and to the requirements of the specifications. In general, project files should support:

- Adequacy of field control.
- Conformance to contract specifications.
- Contract payments to the contractor.

The file must be complete, available at a single location, and organized and maintained in a manner that permits inspection by ALDOT and FHWA personnel during any project inspections, process reviews, or random checks. In general, when an LPA lets a project, either through ALDOT or the LPA's letting process, the LPA may use the ALDOT project monitoring system, *SiteManager*, or their own record keeping system.

Note: *Force Account work may be viewed as a last resort option for some projects and ALDOT may seek FHWA guidance before recommending an action to the LPA.

12.8 Preservation/Architectural Standards

Preservation/Architectural projects receiving Federal-aid must be designed in compliance with the local governing building code authority; the National Fire Protection Association (NFPA) 101 Life Safety Code 1994; the US Secretary of the Interior Standards for Rehabilitation (36 CFR 67); and the ADAAG/PROWAG (Proposed ROW Accessibility Guidelines).

[Federal ADA Accessibility Guidelines \(ADAAG\)](#)

[FHWA - ADA and Rehabilitation Act Section 504](#)

Note: All pre-NEPA and NEPA scoping, review, and draft document activities are the exclusive province of the ALDOT Environmental Technical Section (ETS) of Design Bureau. The LPA must coordinate any and all project related environmental studies, consultations, field reviews, technical investigations, and inquiries, with that office. ETS must approve any and all contractors/consultants used in work associated with a federally-funded project. ETS has sole responsibility for performing initial coordination (IC) with resource agencies.

The LPA may hire a consultant for construction contract administration for projects that include preservation or architectural work to assure that the project is in compliance with the PS&E documents. The specific list of architectural responsibilities for construction contract administration is included in the agreement between the LPA and the architect (consultant), and in the general conditions of the contract for construction. Refer to Section 12.5 on Construction Engineering Agreements.

The LPA should consult with the SHPO or the THPO during the construction phase of a project to assure the project is implemented in compliance with the [Historic Preservation Certifications](#) 36 CFR 67.

Should the LPA hire a professional architect, the consultant/contractor responsibilities during construction contract administration, under LPA oversight, may include, but are not limited to:

- Observe the construction work for conformance to plans, specifications, and estimate.
- Process the contractor's shop drawings, product data, and samples.
 - Only shop drawings that alter or modify the approved plans and specifications should be considered as project changes and will need approval by ALDOT or FHWA prior to incorporation of the item or items into the project. This is typically done through a change order.

- Review the results of construction tests and inspections.
 - Any failed materials tests shall be adequately documented.
 - The failed materials shall be retested or an engineering determination documented why the failed material was accepted. Documentation shall include discussion on whether the material was reworked or not prior to retesting.
 - Retests shall be referenced to the failed test(s).
- Evaluate contractor requests for architectural changes during construction, including consultation and approval, from the SHPO.
 - Submit the appropriate change order document to ALDOT or FHWA for review and determination for participation.
- Address and resolve claims brought by the owner and contractor.
 - Submit the appropriate documents to ALDOT or FHWA for review and determination for participation.
- Administer the completion and closeout process for the owner.
 - Project completion notification must be given to ALDOT or FHWA so they may schedule a Final Project Inspection.

When hiring a consultant for Architectural/Preservation oversight (similar to construction engineering), the LPA must comply with required ALDOT consultant selection procedures (see Chapter 4, Sections 6 or 7). A standard consultant agreement must be prepared by the LPA RC and must be executed with their consultant prior to start of construction. Similar to CE related services, construction contract administration expenses from an architect are only eligible for Federal-aid if the agreement has been executed prior to expenses being incurred.

12.9 Change Orders

Peculiarities such as unforeseen site conditions, utility conflicts, and geological changes can arise during project construction, and the LPA may need to make changes to the plans, specifications, and the contract to account for these conditions. Change Orders are used to make the design a better fit for the actual field conditions. In addition, a change order may result in a better product at no substantial increase in cost or time.

A change order is classified and distinguished by the significance and the nature of the change in parameters. The classification of the change is either **major** or **minor**.

Typically, coordination and consultation with FHWA takes place early in project development. If not, design errors, utility conflicts, or plan errors can result in withholding of federal funds if issues are not immediately addressed. For full FHWA oversight projects, major changes require advanced consultation with and *written approval* by FHWA prior to any of the work being done. Minor changes require that FHWA be notified prior to work being done, and the notification can be verbal or by email. Approval of minor changes is still required, but it can be done after the Change Order has been written. Change Orders should include both time and cost provisions when submitted to FHWA for approval.

Work orders require the same approval procedures.

All change orders need to clearly indicate which items are nonparticipating for Federal-aid funding. This determination must be clearly noted and documented in the comment section of the change order unless the change order is prepared using software that automatically identifies and publishes whether the items are participating or nonparticipating.

Additionally, all change orders need to identify whether the document has been created to add or include any item which has the *potential* for being attributed to a design error or omission. The maker should keep in mind that such identification on the document is not a final determination that a design error or omission has occurred. Marking the change order in this way is only intended to flag it to show that the maker feels that the potential exists.

Field staking errors should be included in the general characterization of *design errors or omissions*.

12.9.1 Major Changes

Major changes to the contract plans or specifications include:

Changes in geometric design that affect the operating or safety characteristics of the facility.

- Changes in structural design.
- Changes to typical section.
- Settlement of a consultant/contractor claim which exceeds \$50,000.
- Changes to staging or the traffic control plan other than those necessary to implement the intent of the original plans and specifications. For example: replacing a bridge half at a time when the original concept was to close the road and detour all traffic.
- Cost reduction proposals (value engineering). See *Value Engineering* in the Appendices of this Manual.
- Single changes extending contract completion time (including suspensions of work, when applicable) by more than thirty (30) calendar days or fifteen (15) working days, depending on the time method in affect on the contract. The change order should provide the time needed to accomplish the work, and any time extension granted in the change order (or subsequent time extension document) must be based on the amount of time spent on the extra work when the extra work was deemed to be the controlling operation.
- Combined changes resulting in an absolute value increase of \$100,000 total cost when all items affected by the changes are considered, unless covered by another of these criteria.
- Individual existing line item changes (overruns) exceeding \$50,000 or a change which requires the addition of a new or modified pay item required to complete the work in accordance with the contract, the value of which exceeds \$50,000.
- Orders for Force Account Work (work to be done by ALDOT or the LPA); **see Force Account Note under Section 12.7**,

- Changes to the contract plans or specifications shown in the project documents approved by FHWA (unless the change has been previously approved and covered in an existing specification **OR** fits under the Minor Changes definitions shown below).
- Changes that affect public involvement, environmental mitigation, or environmental Commitments.
- Waiver of Buy America provisions.
- Changes to the scope of work or extension of the contract limits shown in the project documents approved by FHWA.
- ROW access control revisions for projects on the National Highway System (NHS).

Note: Reference is made to Paragraph 2 of Subsection 104.02 of the ALDOT *Standard Specifications*. In that subsection, the ALDOT has defined that any item which constitutes 10% of the value of a group of work shall be considered a *major item of work*. It also defines that when a *major item of work* overruns or under runs by more than 25%, a *significant change* to the character of the work has occurred and certain rules apply. It should be noted, however, that the definition of a *major item of work* in the 2012 *Standard Specifications* is not necessarily related to the definitions of *Major Changes* and *Minor Changes* presented here. Practically speaking, the actual CPM (or bar graph) schedule will determine the major item of work.

12.9.2 Minor Changes

Minor changes to the contract plans or specifications include:

- The addition of a new or modified pay item required to complete the work in accordance with the contract, the value of which does not exceed \$50,000.
- Combined changes resulting in an absolute value increase of less than \$50,000 total cost when all items affected by the changes are considered, unless covered by another of these criteria.
- An adjustment to the approved *Standard Specifications* or to a project special provision.
- Changes caused by outside agencies such as utilities and/or railroads.
- Single changes extending contract completion time (including suspensions of work, when applicable) by no more than thirty (30) calendar days or fifteen (15) working days, depending on the time method in affect on the contract. The change order should provide the time needed to accomplish the work, and any time extension granted in the change order (or subsequent time extension document) must be based on the amount of time spent on the extra work when the extra work was deemed to be the controlling operation.
- Design plan changes that do not reflect a significant change in structural design or typical section (plan errors may or may not be participating changes).

- An administrative contract change or contingency-type change order that adjusts contract quantities to the current contract amounts or final As-Built quantities or adds contingency items to contract, regardless of cost, as permitted by the *Standard Specifications* or Contract Special Provisions.
- ROW access control revisions for projects not on the National Highway System (NHS).

The change order must provide sufficient detail to show that the work is necessary, consistent with specifications, within the scope and intent of the LPA agreement, and approved by the LPA RC. All change orders must be reviewed and approved by the ALDOT State Representative (and by FHWA on full oversight projects).

Minor changes may be incorporated into the project prior to approval but are subject to a non-reimbursement determination. The LPA should discuss any change order request with the ALDOT Division Engineer (and FHWA on full oversight projects) prior to initiating the change to avoid this possibility.

Note: The LPA must assure that the consultant/contractor does not perform change order work prior to approval by ALDOT (and FHWA on full oversight projects). *Work done prior to this approval will be ineligible for Federal or State reimbursement.*

For both LPA and ALDOT let projects, the LPA must coordinate a Change Order Review and Approval Process with the ALDOT Division Engineer prior to the beginning of the construction (typically at the pre-construction meeting). It is recommended the LPA follow the procedures outlined in the next sub-sections. The LPA is required to use ALDOT approved forms.

12.10 Construction Materials Quality Control/Quality Assurance

The quality of materials and workmanship on a project must conform to the contract plans, specifications, and approved changes so that the public funds expended will have purchased a safe, economical, and fully functional transportation facility. It is the responsibility of the LPA to ensure measures are taken to assure this quality.

1. Projects on NHS

ALDOT Quality Control and Assurance measures will be incorporated. Visit the ALDOT Design Bureau - Quality Control Section website for additional information.

[ALDOT Quality Control](#)

2. Projects off the NHS

In general, QC/QA is a process employed to ensure a certain level of quality in a product or service. The basic goal of QC/QA is to ensure that the products, services, or processes provided meet specific requirements and are dependable, satisfactory, and fiscally sound. Therefore, the LPA must provide all steps necessary, through verification sampling and testing, to validate that a high quality product is being produced during construction and incorporated into the project.

12.10.1 Materials Sampling and Testing Requirements

LPAs wanting to use their own sampling, testing, and acceptance procedures of materials that are incorporated into a project must have those procedures approved by ALDOT or FHWA.

The LPA sampling and testing procedures shall consist of:

- Frequency guide schedules for verification sampling and testing which will give general guidance to personnel responsible for the program and allow adaptation to specific project conditions and needs;
- Identification of the specific location in the construction or production operation at which verification sampling and testing is to be accomplished; and
- Identification of the specific attributes to be inspected which reflect the quality of the finished product.

LPAs that do not do their own sampling and testing procedures or whose procedures have not been approved by ALDOT or FHWA, will be required to use and/or maintain materials and testing procedures utilized by the [ALDOT Bureau of Materials and Tests](#).

Prior to the pre-construction meeting, a worksheet identifying the materials sampling and testing frequency which meets or exceeds the frequencies included in the [ALDOT Testing Manual](#), is developed. LPA will be responsible in providing this required worksheet for projects not let through ALDOT. The [ALDOT Bureau of Materials and Tests](#) is responsible for developing this worksheet for all the projects let through ALDOT.

Materials shall be sampled and tested by qualified individuals (testers) using calibrated testing equipment. Only qualified laboratories will be allowed to participate in the testing program.

12.10.2 Testing Qualifications

1. Tester

Each tester must be qualified through ALDOT and/or ACI. The ALDOT Quality Assurance Managers will be responsible for certifying individuals throughout the state. The testers will be certified through successful completion of training provided by ALDOT or ACI. Each tester will be certified for a period of five (5) years for each specific test. ALDOT will maintain a list of all certified testers. The ALDOT State Representative will be responsible for checking the tester's certification at the construction site. The ALDOT Quality Assurance Managers will also visit the project site at least once during the construction to ensure the materials are being sampled and tested by certified individuals.

2. Equipment

The materials testing equipment shall be calibrated based on the manufacturer's recommendation. The calibration certification shall be available for inspection at all times. The ALDOT State Representative will be responsible for checking the equipment calibration documentations.

3. Laboratory

Only qualified labs are eligible to perform materials testing.

Labs performing material testing shall be qualified by one of the following methods:

- AASHTO Materials Reference Laboratory (AMRL)
- ALDOT Qualified Labs including:
 - ALDOT Branch labs.
 - Contractor's lab conducting acceptance testing (if the specification requires the contractor to perform the acceptance testing, the verification tests will be done by ALDOT preferred labs).
 - Other ALDOT-qualified independent labs.
 - Consultant qualified labs.

ALDOT takes an active role in each project as it is being constructed. An ALDOT State Representative will be assigned to every LPA Federal-aid project. The ALDOT State Representative, though not physically on the project every day, is responsible for providing QA reviews to ensure that sufficient project oversight is being performed; adequate record-keeping is being achieved; the work is performed satisfactorily; and that project expenses are being paid accurately, with supporting documentation, and according to the requirements established in the plans; standard specifications; and contract. The ALDOT State Representative will act as a liaison between the LPA and ALDOT when correspondence, contract documentation, or other exchange of information is needed between the parties.

12.11 Project Documentation for the Construction Work Phase

The LPA is responsible for accepting quantities of work and for preparing documentation to support payment for work performed by the contractor. The documentation shall provide validation that the quantity for payment has been determined in accordance with contract requirements with necessary measurements, calculations, weight tickets, etc., and that the work was done in close conformity to the approved plans and specifications.

Any LPA project documentation shall be available to ALDOT and FHWA for review. The LPA must retain project files and documents for three years from the date of project Close-Out.

12.11.1 Project Documentation

The LPA shall keep daily reports to record work in progress. The daily reports shall record the hours worked by construction personnel and equipment:

- Where work is being paid for based on the cost of labor, equipment, and material.
- When there is an anticipated change in character of work.
- When there is a potentially significant overrun or under run.
- When there is disputed work or a potential claim.

The detail should be sufficient to permit review of the contractor's costs of the work in a manner similar to force account. Equipment should be identified sufficiently to enable determination of the applicable rental rates and operator's minimum wage. In some cases, it may be desirable to

record dates of arrival or departure of equipment, as well as idle time for breakdown or other reasons.

The narrative portion of the report should include a description of the contractor's operation and the location where the work was performed. It should also include statements made by the contractor or project personnel that are pertinent to the work. The report must also contain the name of the contractor or subcontractor performing the work.

When the report is used to determine compliance with the labor provisions of the contract, include the following additional information:

- The names or identification numbers of consultant/contractor personnel.
- The respective classifications of the work being performed.
- The number of hours worked on the date covered by the report.

Reporting for labor compliance shall be done on a random spot-check basis only. The number of reports for labor compliance purposes should vary with the size and duration of the contract and the degree of compliance revealed by checking previous reports. One report per week for each operation being performed on the project should be used as an initial guide. The frequency may be reduced after a high degree of compliance has been verified.

The LPA daily reports discussed are required in addition to the extra work reports submitted by the contractor. Although the contractor is required to file an objection to the working day count within fourteen (14) days, claims often fail to surface until the latter stages of a job when the remaining working days are few. For this reason, it is especially important that a complete and accurate daily field diary be maintained. For purposes of making the initial assessment of working days and any subsequent review, the following information (if applicable), should be recorded or documented daily in the LPA field diary:

- The current controlling operation.
- The weather.
- The work performed.
- Unusual or adverse weather or soil conditions encountered.
- Other unusual occurrences impacting work on the project.
- The times that major work operations halted and resumed and the reasons why.
- Changes in the workforce affecting work on the controlling operation.
- Major deviations from the contractor's approved progress schedule.
- Conversations pertaining to any of the above.

The need for this information is not always apparent until the work is completed or until a request has been made for reconsideration of the charging of working days.

12.11.2 Project Files

Note: The following guidelines establish protocols for LPA project files that are subject to formal and informal review and inspection. If project files are found not to be in compliance with the guidelines after initial inspection, the Division Engineer may require corrective action.

The LPA must establish a separate record file for each Federal-aid transportation project. The project file shall contain all data pertinent to the work and to the requirements of the specifications. In general, project files should support:

- Project NEPA documentation.
- Overall project management and adequacy of field control.
- Conformity to contract specifications.
- Contract payments to the contractor.

The file must be complete, available at a single location, and organized and maintained in a manner that permits inspection by ALDOT and FHWA personnel during project inspections, process reviews, or random checks.

Whenever the LPA is unable to produce requested data or information, it will be assumed by reviewing personnel the required actions were either never performed or not properly recorded. Organized project files can eliminate these negative assumptions.

The ALDOT Division Engineer *or designee* shall periodically inspect, during construction, LPA project files for compliance with Federal and State requirements. Organization and content of the project file is one indicator of the effective and efficient management of the project by the LPA RC. It also minimizes resources necessary for conducting process reviews.

LPA Federal-aid project files must be organized and include the following information:

- Project Personnel.
- Approved NEPA environmental document and supporting documents.
 - Environmental Commitment.
- Correspondence.
 - Contractor.
 - General.
- Weekly record of working days (if contract time is specified).
- Materials Data.
 - Certificate of Proficiency (NHS only).
 - Independent Assurance Sampling and Testing.
 - Report of Witness Tests.
 - Project Acceptance Test Results and Initial Tests.

- Project Independent Assurance Tests.
- Report of Comparison between Independent Assurance Tests (*IAT*) and Acceptance Tests.
- Summary of Independent Assurance Testing.
- Notice of Materials to be Used.
- Notice of Materials to be Furnished.
- Notice of Materials to be Inspected.
- Report of Inspection of Material.
- Field Laboratory Assistant Reports.
- Certificates of Compliance.
- Material Testing Summary Log.
- LPA Daily Reports;
 - Consulting engineer (if used for CE).
 - Structural engineer (if used on project).
- Contract Item Pay Quantity Documents.
- Contract Change Orders.
- Extra Work Reports.
- Progress Pay Estimates and Status of Funds.
- Labor Compliance and EEO records.
- Contractor Payrolls.
- Final Report.
- Materials Certificate.
- DBE Records.

Other sections of this chapter explain the contents of the above listed file categories. Larger and more complex projects usually require a more detailed record-keeping system. During project construction activities, the LPA and ALDOT shall monitor the contractor for Title VI, EEO, Labor, ADA, and DBE compliance as applicable and covered in detail in Chapter 10.

12.11.3 Construction Records for Accounting Procedures

On State let projects, the procedures outlined in [ALDOT Construction Manual](#) shall be followed. On LPA let projects, a similar accounting system will be used. The essential elements of the accounting system are:

- It must contain a file of source documents supporting payments made to contractors. Source documents will be any written record(s) prepared by the administering agency (LPA or ALDOT) which clearly record.

- Specified portion of work to which it applies.
- The necessary measurements and/or calculations by which the quantity is determined.
- The name of the individual who made the determination.
- The calculations on the source documents are to be checked in accordance with good engineering practice, having the name of the checker included. Checking should be performed as soon as practicable, but in any event prior to payment of a final estimate. Quantities from source documents must be entered in the appropriate project records.
- It should contain a separate item sheet for each contract item and any other appropriate accounting category such as adjustments of compensation; extra work payments; payments for materials not yet incorporated into the work; and deductions.
- It should contain a contingency balance and anticipated changes sheet, on which the current estimated probable final cost of the work is recorded.
- It must provide for retention of the records in accordance with the LPA/ALDOT Project Program Agreement. This agreement requires that records be retained by the LPA for a period of three years (3) from the date of final payment under the project program supplement.

Progress Estimates must be prepared and submitted to the Division Engineer or Division LPA Project Coordinator with each invoice requesting reimbursement. Copies will be provided to the ALDOT Finance and Audits Bureau, Bureau of Office Engineer, and other Bureaus, Offices, or Sections as appropriate. The LPA may use its own format. The Progress Estimate will be used as part of the backup for the invoice.

12.11.4 Availability

Use of a uniform project recordkeeping system, together with diligent maintenance of the system, greatly facilitates process reviews and minimizes negative findings. Good records of all construction activities clearly demonstrate to FHWA and ALDOT that project supervision and control were attained on the project.

12.12 Claims

A claim can be defined as a demand for additional compensation that is formally submitted to the LPA RC outside of the normal process for change approvals. In simple terms, a continued demand for payment is termed a claim if it has been previously denied under LPA or ALDOT normal procedures for change approval.

12.12.1 Contractor Claims against the LPA

The LPA may be subjected to claims by the contractor who performs the work. The terms of the project between the LPA and the contractor exist in the contract, the specifications, and the plans. There are certain terms that are not stated in the contract documents. These are known as implied terms. For instance, there is an implied warranty that the plans and specifications are

free from defects and, unless stated otherwise, that there will be safe and continuous access to all areas within the project's boundaries. Claims arise from both stated and implied terms.

Federal funds may participate in a case-by-case basis to the extent that any contract adjustments made are supported and have a basis in terms of the contract and applicable State and Federal law. The LPA must inform ALDOT and FHWA of the details of the claim at an early stage so that coordination of efforts can be satisfactorily accomplished.

12.12.2 Entitlement and Damages

Every claim has two distinct elements, entitlement, and damages. The contractor must prove entitlement. Examples of entitlement include work not shown on plans, conflict between plans and specifications, third party delays, and unforeseen conditions. Damages are the costs incurred over and above normal costs, caused by the claim event. Each claim must have both of these elements. If a contractor encounters a situation where there would be an entitlement but no monetary impact, there is no claim. Likewise, there is no claim when a contractor claims additional costs but cannot establish an entitlement.

12.12.3 Damage Mitigation

The contractor must make reasonable efforts to mitigate damages. Mitigation might include re-sequencing, reducing, remobilizing, or changing manpower. The contractor is entitled to recover the costs of mitigation. Certain types of disputes by their nature may result in a claim. Claims may be due to plan discrepancies or omissions, allowable costs in calculating change orders, unforeseen site conditions, quantity variations, interferences, and delays. Delays require careful analysis to determine who is responsible. The contractor must demonstrate that the delay was critical, that the delay in question affected the overall project schedule, and was a controlling operation with respect to project completion.

12.12.4 Delays

Excusable delays are those that are unforeseeable and beyond the control of the contractor. Excusable delays may be either compensable or non-compensable. Delays caused by the LPA such as lack of site access, late approval of shop drawings, and redesign, may be compensable but would be considered as ineligible for Federal-aid reimbursement. Delays caused by third parties outside the contractor's control such as area-wide labor disputes, floods, transportation industry delays, fire, and vandalism may be non-compensable. Non-excusable delays are always non-compensable. These delays include subcontractor delay, late mobilization, production longer than scheduled, and equipment breakdowns that are caused by the contractor or those under his control.

12.12.5 Filing a Claim

The LPA's contractor/contractors are solely responsible for proof of entitlement and proof that additional costs were incurred, in which case a claim would be filed with the LPA.

The contractor shall give the LPA written notice, before the work begins, of each instance where he/she intends to file a claim. This notice requirement allows the LPA the opportunity to mitigate the claim situation and to begin to keep careful and specific records of the contractor's activities, manpower, equipment, and materials that are related to the claim.

When requesting Federal-aid through ALDOT for a claim, the LPA must provide the legal and contractual basis for the claim, together with the cost data and other facts supporting the award or settlement. Federal-aid in such instances shall be supported by an LPA audit of the actual costs incurred by the contractor unless waived by ALDOT or FHWA as unwarranted. Where difficult, complex, or novel legal issues appear in the claim, such that evaluation of legal controversies is critical to consideration of the award or settlement, the LPA must include a legal opinion from its counsel stating the basis for determining the extent of the liability under local law, with an appropriate level of detail considering the magnitude and complexity of the issues involved.

In cases where the LPA receives an adverse decision in an amount more than it can support, or settles a claim in an amount more than it can support, ALDOT or FHWA can agree to participation up to the appropriate Federal matching share when it involves a Federal-aid participating portion of the contract, provided that:

- ALDOT or FHWA was consulted and concurred in the proposed course of action.
- All appropriate courses of action had been considered.
- The LPA pursued the case diligently and in a professional manner.

Federal funds will not participate:

- If ALDOT or FHWA determines that LPA employees, officers, or agents acted with gross negligence or participated in intentional acts, omissions, fraud, or other acts not consistent with usual State practices in project design, plan preparation, contract administration, or other activities which gave rise to the claim.
- In punitive damages, anticipated profit, or any award or payment of attorney's fees paid to an opposing party in litigation.
- In tort, inverse condemnation, or other claims erroneously styled as claims *under a contract*.

12.12.6 Payment of Interest

Payment of interest associated with a claim will be eligible for Federal-aid provided that the payment to the contractor for interest is allowable by State statute or specification and the costs are not a result of delays caused by the LPA, ALDOT, or the contractor. The interest rates must not exceed the rate provided for by the State statute or specification.

12.12.7 Attorney Fees

Contractor/consultant attorney fees are not eligible for Federal-aid. The basis for this determination is that there is no statutory authority for the payment of attorney fees. However, the LPA or ALDOT administrative costs, including attorney fees related to the defense of claims, are reimbursable. Such costs are reimbursable at the same participation rate as the related construction project.

FHWA does not participate in anticipated profit because this is in the realm of contractor risk. Where the LPA affirmatively recovers compensatory damages through contract claims, cross-claims, or counter claims from contractors, subcontractors, or their agents on projects on which

there was Federal-aid participation, the Federal share will be the Federal pro rata share applied to the amount recovered of the project or projects involved. Such recovery will be credited to the project or projects from which the claim or claims arose.

If needed, ALDOT will provide informational support to the LPA and help the LPA understand the claims process.

12.13 Termination of Contract

All contracts exceeding \$10,000 must contain suitable provisions for termination by the LPA, including the manner in which the termination will be carried out and the basis for settlement. In addition, such contracts must describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor.

Prior to termination of a Federal-aid contract, the LPA must consult with and receive the concurrence from ALDOT or FHWA. The extent of Federal-aid participation in contract termination costs, including final settlement, will depend upon the merits of the individual case. However, under no circumstances will Federal funds participate in anticipated profit on work not performed.

Normal Federal-aid plans, specifications, and estimates, advertising, and award procedures are to be followed when ALDOT or the LPA awards the contract for completion of a terminated Federal-aid contract except as follows:

- If the surety awards a contract for completion of a defaulted Federal-aid contract or completes it by some other acceptable means, ALDOT or FHWA will consider the terms of the original contract to be in effect and that the work will be completed in accordance with the approved plans and specifications. No further ALDOT or FHWA approval or concurrence action will, therefore, be needed in connection with any defaulted Federal-aid contract awarded by a surety. Under this procedure, the construction amount eligible for Federal-aid on the project should not exceed the amount representing what the cost would have been if the construction had been completed as contemplated by the plans and specifications under the original contract.

When ALDOT or the LPA awards a contract for completion of a Federal-aid contract previously terminated for default, the construction amount eligible for Federal-aid on the project may not exceed whichever amount is the lesser.

- The amount of the payments made under the original contract plus payments made under the new contract.
- The amount of what the cost would have been if the construction had been completed according to the plans and specifications under the original contract.

12.14 Liquidated Damages

Liquidated Damage rates are established in ALDOT Specifications for Highway Construction Edition 2012, **Section 108.11**, Schedule of Liquidated Damages, **p. 69**. Tab the following link and visit p. 69 to view the schedule of contract amounts and associated daily rates. [Liquidated Damages](#)

Chapter 13.0

Reimbursements

13.1 Introduction

This chapter describes the procedures the LPA must follow to obtain Federal and/or State reimbursement for expenses on their projects. It is important to understand that funding for LPA Federal-aid projects are not disbursed as a grant. Instead, the LPA will pay the consultant or contractor directly and then submit a request for reimbursement of eligible expenses to the ALDOT Division Engineer. Information copies may be provided to Finance and Audit Bureau and Bureau of Office Engineer at the discretion of the Division Engineer.

Title 23 USC 134 and 23 CFR 450, require ALDOT to administer all funds apportioned and allocated to the State of Alabama. In addition, [49 CFR Part 18 - Common Rule](#) is the regulation for uniform administrative requirements that ALDOT and the LPA must follow in order to administer the Federal funds. For projects administered by the LPA, ALDOT is responsible for monitoring activities and providing information to assure compliance with applicable Federal requirements. [49 CFR Part 18.40 Monitoring and Reporting](#)

Projects are designed and constructed and reimbursements are made under the terms of an LPA/ALDOT Project Program Agreement. No work on any part of the project can proceed until Federal funding has been approved (obligated/authorized) by FHWA and the LPA has received approval notification by ALDOT. Approved funds will be distributed by ALDOT to the LPA.

13.2 Number and Timing of Submittals

The LPA will typically submit invoices no more than once every month, numbering them sequentially for each work phase. Generally, the LPA should expect reimbursement within one month of acceptance and approval of a properly prepared invoice submittal by the LPA. If the invoice requires correction or adjustment, the expected reimbursement date would start from the time the corrected or adjusted invoice is approved. If payment is not received within this time, the agency should contact the ALDOT Finance and Audit Bureau. ALDOT may request from the LPA a statement of costs to date at any time by submitting a request. Requests may be submitted in writing or by e-mail.

Note: Invoices typically will be accompanied by a transmittal form or letterhead, stating invoice number, project name/description, project funding identification numbers (ALDOT, Federal), amount(s), period covered, and signature of the executive authority or RC, whoever is authorized to sign by agreement.

13.3 Billing Procedures

Federal funding must be approved prior to incurring costs and claiming reimbursement by the LPA. The ALDOT will process invoices by requesting payment from the FHWA for the cost of completed work which meets eligibility requirements. All costs submitted for reimbursement must be supported by original source documents (49 CFR 18.20 (a)(6)) [Financial Administration](#).

All reimbursement requests must contain proper documentation supporting the payment of eligible expenses (49 CFR 18.20(a)(6)) See link in first paragraph above. Besides the required documentation, there is a process in which reimbursements will be made. The following steps describe the billing procedures:

1. The LPA reviews the progress report and payment invoice from the engineer or contractor for accuracy and acceptance. The LPA will verify all work completed (e.g., quantities and hours worked) is accurate, in agreement with the LPA/ALDOT Project Program Agreement, and segregated by funding source. The progress report should provide enough detail to inform the ALDOT Division Engineer or Division LPA Project Coordinator of progress made in completing the work, of anticipated barriers and of potential solutions to barriers and problems. The LPA's progress report should also describe the specific items of completed work for which an invoice for reimbursement is being submitted. While the completed work may exceed the amount invoiced, the LPA should never invoice for more work than was completed as indicated in the invoice for that time period. If nonparticipating costs are involved, the LPA must include them on the invoice and deduct them from the total.

2. The LPA is required to pay the engineer and contractor payment invoices (less retainage, if applicable) within fourteen (14) days or by the terms specified in the contract (whichever is the longer term) with the engineer or contractor.

Final payments and retainage (or retention) are to be made thirty (30) days after the receipt of a proper invoice or LPA acceptance of the completed work or services, whichever is later.

3. The LPA submits a reimbursement request for expenses directly to the ALDOT Division Engineer for review and approval. The DE approves payment and forwards to the ALDOT Finance and Audit Bureau with copies to the Bureau of Office Engineer. The reimbursement request may vary, but the following information **must** be included:

- A formal letter requesting reimbursement of eligible expenses including a certification statement. The LPA RC will certify that the work shown on the invoice has been performed; completed in accordance with terms of agreement or approved plans and specifications; has verified the cost(s) shown are true and correct; and in no way represents any degree of duplication of payments that have or will be received. This letter must be signed by the LPA RC.
- Date of invoice. Invoices must have a current date;
- Invoice number. This is a serially-assigned number that begins with #1. This progress billing number allows the LPA to determine that it has received all the invoices for the project;
- Federal-aid project and control numbers, e.g., STPNU-5012(1), ALDOT 100025681;
- Phase of work headings such as PE, ROW, Utility, Construction, or other;
- Time period when claimed project costs were incurred and paid;

- Detailed cost breakdown of expenses with supporting documentation (as detailed in Section 13.4);
- The LPA share of the payment or any non-participating costs;
- Cumulative costs to date; and
- Proof of payment.

4. All invoices received from the LPA must be approved by the ALDOT Division Engineer (if a construction payment) prior to payment. Invoices are then forwarded to the Bureau of Finance and Audit for review of all back-up documentation and approval for payment. If invoice support is incomplete, Finance and Audit will hold until all relevant documentation is received. When ALDOT receives a proper invoice, the LPA can expect progress payments (less retainage) to be issued according to terms specified in the contract between ALDOT and the LPA. Generally, payment would be made within forty-five (45) days. Final Payments and retainage are to be made thirty (30) days after the receipt of a proper invoice or LPA acceptance of the completed work or services, whichever is later.

When an invoice is determined improper or if it includes unallowable costs (see Section 13.5 for a listing of unallowable costs), ALDOT will return the invoice to the LPA as soon as possible, but no later than seven (7) days after receipt of the improper invoice. ALDOT is required to identify all defects that prevent payment. If an invoice requires adjustment, the ALDOT Division Engineer will return the invoice to the LPA and have them submit a revised invoice for the correct amount.

If approved, the ALDOT Division LPA Coordinator will submit the original invoice to the ALDOT Bureau of Finance and Audit for payment processing while maintaining one copy for their files. All back-up documentation will be stored electronically for each invoice. If an invoice is determined improper and is returned to the LPA, time for prompt payment is not started until an acceptable invoice is received.

5. ALDOT will pay all allowable costs and reimburse the LPA through check, warrant, or if capable, electronic transfer.

13.3.1 Inactive Obligations

FHWA defines an inactive obligation as a project for which no expenditures have been charged against Federal funds for the past twelve (12) months. ALDOT will review inactive obligations and revise the Federal funds obligated (available for expenditure) for a project to reflect the current cost estimate.

Once the LPA receives approval to proceed on a project, work will begin, funds will be expended, and invoices will be generated. If the project proceeds as expected or is delayed for a legitimate reason (e.g., contractor claim or litigation) it is considered a valid obligation and no action is required. However, if the project does not proceed, does not incur costs, and does not submit invoices, it is considered an Inactive Obligation and action is required.

ALDOT review will determine if unexpended project funds should be de-obligated (taken back) or should remain obligated. ALDOT will notify the LPA if the funding is to be de-obligated and give the LPA fourteen (14) days to provide substantive documentation (e.g. invoices, work tickets, payroll) that the project is active and should remain open. If ALDOT determines the support is insufficient to keep the project open, ALDOT will advise FHWA and the LPA and initiate either electronic or paper action to close the project. When the project is ready to proceed and if Federal funds are available at that time, the LPA may request ALDOT re-open the project.

13.3.2 Non-completed/Advanced Projects

If a project is not advanced, the LPA sponsoring the project will be required to repay the amount of federal or state funds reimbursed to date. Section 102(b) of title 23, United States Code, as amended by SAFETEA-LU, requires repayment of all Federal-aid reimbursements for PE costs on any project that has not advanced to ROW acquisition or construction within ten (10) years after Federal-aid is first made available. [23 USC 102\(b\)](#) ALDOT and FHWA may *extend* the repayment requirement period due to special circumstances. A written request from the LPA, with sufficient justification, must be sent to the ALDOT Division Engineer for consideration. [Order 5020.1](#), issued in April 2011, is the Directive providing for the repayment requirement.

Shifting political priorities, insufficient transportation budgets, and staffing should not be considered as stand-alone justifications for time extensions. The LPA is responsible for any project cost overruns not authorized by ALDOT.

13.3.3 Invoice Review Checklist

The LPA and ALDOT may use the following questionnaire as assistance in processing invoices:

- Has the LPA submitted all required documents so the project can be processed with FHWA for federal fund reimbursement?
- Is the ALDOT/LPA Project Agreement and any supplements or consultant agreements currently executed by both ALDOT and the LPA? Have the agreements expired (cannot authorize payment on expired agreements)?
- Are the reimbursable phases of work authorized by FHWA?
- Were all the federally eligible costs incurred after the Federal Authorization date?
- Are authorization dates referenced on the invoice?
- Is the invoice in the proper format?
- Is this invoice number in the right sequence (see previous billing, e.g. if the most recent invoice received was No. 6, is the current invoice No. 7)?
- Was the original invoice, progress report and the required support documentation submitted? Do the invoice, progress report and support documentation reconcile?
- Is this the first construction invoice? If so, a copy of the award package must be included (exception: force account done by ALDOT work force). For construction

- progress invoices, the LPAs progress payment to the contractor must be submitted along with the invoice.
- Is the LPA current with submittal of DBE quarterly reports (notify LPA if report is delinquent and warn that reimbursement may be withheld)?
 - Is the date of the invoice current (resubmitted invoices must be dated correctly)?
 - Does the invoice have the LPA's letterhead, address, and signed certification statement from the LPA RC?
 - Is the invoiced amount less or equal to the total authorized funds and for this project?
 - Has the LPA exhausted Federal funds for the phase?
 - Does the invoice show the correct project number and correct pro rata share?
 - Is the correct Federal Appropriation code (i.e., Q240) shown for each phase of work and does it agree with the ALDOT/LPA project program agreement?
 - Was the indirect cost reimbursement rate applied only to direct costs included in the direct cost base?
 - Does the invoice show current and cumulative costs to date? Are all calculations correct?
 - Does the invoice have a contact person's name and phone number?

13.4 Identification of Eligible Work Phase Expenses

Allowable project costs must adhere to 23 USC and the applicable United States Office of Management and Budget Cost Principles [49 CFR 18.22 Allowable Costs](#) and 2 CFR 225 (formerly OMB Circular A-87, see link below), agency program regulations, and the terms of LPA/ALDOT Project Program Agreements. For more information, see Cost Principles for State, Local, and Indian Tribal Governments at [2 CFR 225 and OMB A-87](#).

If an LPA is not adequately staffed to provide the necessary preliminary and/or construction engineering oversight, they must obtain prior approval (documentation showing approval prior to incurring a specific cost) from ALDOT before engaging a qualified consultant to provide the professional services. ALDOT and the LPA are responsible for ensuring that the Federal requirements are adhered to by the consultant.

Additional information: [23 CFR 172 Administration of Engineering and Design Related Service Contracts](#)

13.4.1 Preliminary Engineering

Preliminary Engineering, or *PE*, is the initiation, planning, surveying, design, and related work preparatory to the advancement of a project to physical construction. For LPA projects, the PE costs will be separated into two different categories.

1. Preliminary Design (includes environmental studies; consult with ETS for specifics)

2. Final Design

The invoices must present actual direct labor, actual overhead, and actual direct non-labor costs, as well as a prorated amount of the fixed fee. The prorated fixed fee amount shall be based upon the actual direct labor and overhead costs billed for that period relative to the consultant's estimated total direct labor and indirect non-labor costs. Each invoice must indicate the hours worked and each individual's actual labor cost.

The date of notice to proceed for the construction contract is the cutoff for charging to preliminary engineering. During the construction phase of a project, when a major change takes place that requires additional preliminary engineering work, the preliminary engineering phase may be reopened on a case-by-case basis after approval from FHWA.

13.4.2 Right-of-Way

Eligible ROW expenses include: the preparation of ROW plans and legal descriptions, appraisal for parcel acquisition, review of appraisals, preparation for and trial of condemnation cases, management of properties acquired, furnishing of relocation advisory assistance, attorney fees, judgments in condemnation cases, any condemnation appeals with supported justification, and supported justification for not appealing a condemnation decision.

ROW expenses will not be reimbursed for any tract until all required documentation as outlined in Chapter 7 is submitted to, and approved by the ALDOT ROW Division. All miscellaneous expenses incurred by the LPA while acquiring ROW, which are submitted to ALDOT for reimbursement, must be accompanied by pertinent documentation to substantiate reimbursement.

13.4.3 Utilities

When requested by the LPA, Federal funds may participate at the pro rata share applicable, and in an amount actually paid by the LPA for the costs of utility relocations. Federal participation is subject to the provisions of [23 CFR 645 Utilities Relocations, Adjustments, and Reimbursement](#).

Typically, if the utility has a compensable property interest in its present location, it would be entitled to reimbursement. If the utility were located on public ROW by permit or franchise agreement, the relocation would generally be non-reimbursable.

13.4.4 Railroad

Project expenses are allowable on grade separations, crossing upgrades, projects involving the elimination of hazards of railroad ROW, and on other projects where a railroad company is not obligated to move or to change its facilities at its own expense. Railroad costs must be incurred per [23 CFR 646](#).

13.4.5 Construction Costs

Eligible construction costs include the actual costs to construct the facility and its appurtenant facilities. It also includes removal, adjustment, or demolition of buildings or major construction; utilities or railroad work that is a part of the physical construction of the project; and administrative settlement cost of contract claims. Progress payments must be based on measurements of work performed and materials accepted so the contractor can be fairly compensated and public funds will not be expended on work that has not been completed.

For all LPA projects, the LPA RC must maintain, in the project office files, the records necessary to show how the progress estimate quantities were determined. Each progress estimate must stand on its own when subjected to an audit. The LPA documents and establishes pay quantities. The LPA RC verifies measurement and quantity determinations for all pay items. Below are some guidelines used to identify the minimum requirements to support payments for Federal-aid claims.

13.4.5.1 Weight/Quantity Tickets

A weight ticket is the general document to support the receipt of quantities of material or services at the project site. The LPA and ALDOT will ensure that weight tickets contain at a minimum:

- State project and control numbers;
- Date of delivery;
- Bid item number;
- Initials of the person accepting the goods or services;
- Unit of measure;
- Tractor, trailer, truck, or van unit number of hauling vehicle; and
- Record of gross, tare, and net weights.

Note: It should be understood that the above requirement applies to materials delivered in different types of vehicles with a variety of supporting documentation. The above would apply to actual cube use of trailers, per piece of items and material, or per flatbed or truckload.

13.4.5.2 Volume

When items are measured and paid on the basis of volume, the LPA will have a receiver assigned at the point of delivery to issue or receive load tickets and to make periodic computations.

13.4.5.3 Cross Section

Excavation items are generally measured by field cross sections. The project manager should ensure that the project is properly staked and measured. At a minimum, the supporting documents should show the date the section was measured and who performed the measurement.

13.4.5.4 Measurements Detailed in Contract Plans

For these pay items, measurements or sketches are needed to determine the pay quantities (need to show the limits of the actual work).

13.4.5.5 Items Measured by the Hour/Day

Items that are measured and paid for by these methods should be approved by the project representative or inspector and signed by the contractor.

13.4.5.6 Lump Sum

Project records should identify the item, the date the material was received, or the date the work was accomplished. If partial lump sum payments are made, a record should be generated to identify how the lump sum payment was calculated.

13.4.5.7 Linear Feet

Records for material measured by length should show the length measured, and the initials of the persons making the measurement and date measured.

13.4.5.8 Area Measurements

Records for materials or work measured by the area should show the length and width measured, date measured and the initials of the person making the measurements.

13.4.5.9 Per Unit

Records for material or work measured per each unit should provide a listing showing the location of each item constructed or placed and the initials witnessing the placement and date of placement.

13.4.5.10 Time and Material

Typical items include consultant and force account items. Charges should be supported by time charges (time and attendance records or summary documents) and receipts for miscellaneous charges. All costs must be broken down into eligible direct and/or indirect cost components. Claims should be reasonable, allowable, and approved by the LPA RC.

13.4.6 Construction Engineering (CE)

CE is the supervision and inspection of construction activities, construction staking/surveying, testing of materials incorporated into construction, checking shop drawings, and calculating measurements needed for the preparation of pay estimates.

Invoices from engineering firms must present actual direct labor, actual overhead, and actual direct non-labor costs, as well as a prorated amount of the fixed fee. The prorated fixed fee amount shall be based upon the actual direct labor and overhead costs billed for that period relative to the LPA or LPA consultant estimated total direct labor and indirect non-labor costs. Each invoice must indicate the hours worked and each individual's actual labor cost.

13.4.7 LPA Salaries and Wages

Subject to appropriate authorization requirements, Federal-aid may participate in the cost of LPA employee salaries, wages, and related payroll expenses incurred for periods of time public employees are actively directly engaged in project-related activities. All employee wage reimbursement requests must include the project description, project number, pertinent work phase, dates of service and the individual's name, position, and exact actual wage rate.

13.5 Unallowable Project Costs

In order for an expense to be eligible for reimbursement on any particular work phase, all requirements as indicated in this manual must be met and all Federal and State regulations must have been followed. FHWA can only pay for allowable charges. For example, if the consultant replaces a piece of equipment during the job for a surveying task order, the consultant cannot charge the equipment replacement to the project because it is standard for the survey company to have the equipment, which it likely will use on other jobs. The ALDOT DE or LPA Project Coordinator may adjust the reimbursement request downward if it includes unallowable costs or if it includes incomplete or unacceptable services. The ALDOT LPA Project Coordinator will immediately notify the LPA of any downward adjustments to the invoices.

The following list of unallowable costs (a cost for which the LPA cannot be reimbursed) is not comprehensive but is intended to assist the LPA in determining whether items are eligible for Federal participation:

13.5.1 Bad Debts:

Any losses arising from uncollectible accounts and other claims and related costs.

13.5.2 Contingencies:

Contributions to a contingency reserve or any similar provisions for unforeseen events.

13.5.3 Contributions and Donations: Political or otherwise.

13.5.4 Entertainment:

Costs of amusements, social activities, and incidental costs relating thereto, such as meals, beverages, lodgings, rentals, transportation, and gratuities.

13.5.5 Fines and Penalties:

Costs resulting from violations of or failure to comply with Federal, State, and local laws and regulations.

13.5.6 Interest and Other Financial Costs:

Interest on borrowings (however represented), bond discounts, cost of financing and refinancing operations, and legal and professional fees paid in connection therewith, except when authorized by Federal legislation.

13.5.7 Material Not Incorporated into the Project:

If there is a residual inventory of unused or salvaged materials *exceeding* \$5,000 in total aggregate fair market value upon termination or completion of the project, and if the materials are not needed for any other Federal-aid project, ALDOT will credit the Federal share back to FHWA (salvage guardrail). For inventory of similar unused or salvaged materials *under* \$5,000, and at the discretion of the Division Engineer, ALDOT will dispose of through public auction or sale to state agencies, municipalities, or counties, with Federal portions credited to FHWA. Further guidance is provided in Section 109.06 Omitted Items and Canceled Work of the *Standard Specifications for Highway Construction 2012 Edition*. [Standard Specifications](#).

NOTE: Excess riprap, aggregate base, or similar taken to a maintenance yard are not eligible for FHWA funding.

13.5.8 Under-recovery of Costs under the Grant Agreements:

Any excess of cost over the Federal contribution under one grant agreement is unallowable under other grant agreements.

13.5.9 Unauthorized Engineering Services:

Any non-approved consultant work that is performed outside of the scope of services as outlined in LPA/Consultant Engineering Agreement.

13.5.10 Change Orders:

Any construction change order that has not been approved by the Chief Engineer or FHWA in the case of full FHWA project oversight.

13.5.11 Other:

Any LPA or consultant expenses when working non-specific project matters or an ineligible work phase.

13.6 Direct and Indirect Costs

13.6.1 Direct Costs

Direct costs are expenditures incurred solely for a *specific* Federal-aid project. These include contract payments, ROW acquisition, direct material, salaries, wages, fringe benefits, and related costs. These costs become eligible when an individual participates in project-related activities.

Typical direct costs chargeable to federal-aid projects are:

- Compensation of employees for the time devoted and identified specifically to the performance of the project phase for which the federal-aid was approved. This is usually permissible up to and including the first level of supervision dedicated to the project;
- Costs of materials consumed, or expended specifically for the purpose in which the participating federal/state funds were authorized;

- Equipment and other approved capital expenditures;
- Expense items for services contracted or furnished specifically for the project to carry out the purpose in which the participating Federal funds were authorized; and
- Supervisory activities above the first level of supervision are recoverable as indirect costs.

13.6.2 Indirect Costs

Indirect costs may be included when seeking reimbursement for federal-aid projects. A request for indirect cost reimbursement requiring FHWA approval must route through ALDOT. Therefore, such a request must first be made to the Division Engineer, approved, and thence to FHWA – Alabama for agency approval. The FHWA decision is returned to the Division Engineer for handling with the LPA. In all instances, the Division Engineer will be the State's arbiter in the event dispute resolution is needed.

Rate computation is usually based on rates provided by an affected or engaged state or federal agency other than FHWA. Computation of indirect cost rates are based on:

- 2 CFR 225 (formerly OMB Circular A-87), Cost Principles for State, Local, and Indian Tribal Government; and
- Cost Principles and Procedures for Establishing Cost Allocation Plans and Indirect Cost Rates for Agreements with the Federal Government (ASMB C-10), issued by the United States Department of Health and Human Services.

Additional information on grants, direct/indirect costs, and reimbursement may be found on the Office of Management and Budget website at: [Grants Management](#). Guidance on cost allocation and Indirect Cost Rates are available in [2 CFR 225](#) (formerly OMB Circular A-87) and [ASMB C-10 Benefiting Program Grant Information](#). Assistance or guidance will be provided by the ALDOT Bureau of Finance and Audit (ALDOT) and the External Audit Section of that bureau, if requested.

Note: Invoices claiming indirect cost prior to receipt of a written approval letter from ALDOT will either be reduced or returned to the LPA unpaid. If Federal-aid participates in indirect cost reimbursement, all invoices must include a line item for indirect cost, showing the calculations, and costs must be approved by FHWA.

Indirect costs rates are calculated on an annual basis, so there may be several rates on a project. If the fluctuation causes a depletion of project funding, the LPA will be responsible for making up the difference.

13.7 Project Retention/Retainage

Note: Use of retention or retainage is currently under ALDOT policy review and is subject to change. The DE will determine current policy applicability to an LPA project and advise all parties prior to negotiations and execution of project agreements.

Project retainage is a pre-specified percentage of project costs that is withheld by ALDOT from reimbursement to the LPA, and is withheld on almost every Federal-aid project. The standard amount withheld is five (5) percent of the Federal share of project costs, up to a maximum of \$25,000. In this case, the State will pay ninety-five (95) percent of the Federal share (typically eighty (80) percent) up until ninety-five (95) percent of the project costs, or ninety-five (95) percent of the maximum Federal share has been reimbursed. The funds are withheld to ensure LPA compliance with Federal and State requirements and provisions, and to cover ALDOT incurred costs. ALDOT will pay the retainage to the LPA at the time of final settlement.

13.8 Final Reimbursement

Prior to the final reimbursement, an audit will be required of the project records and project expenses (See Chapter 14.6). The final reimbursement will include the retainage amount (if applicable) withheld less any adjustments required by the audit and ALDOT incurred expenses. The LPA must provide a final invoice and a final report of expenditures, showing actual project costs (including claims) within 180 days of project completion.

Final Invoice Review:

The LPA and ALDOT should use the following questions to assist in reviewing the final invoice:

- Have all project tasks been completed, inspected, and approved prior to the date of the final bill being submitted?
- Does the final invoice amount agree with the final detail estimate/final report of expenditures?
- Does the invoice request all the funds specified in the Federal authorization?
- Has final inspection been performed?
- Are all the proper documents included (final project reports, proper signatures from authorized parties, material certifications, etc.)?

ALDOT and the LPA will ensure that all required work for the project has been completed and required documents are maintained to close out the project. Payment from ALDOT shall be limited to federal funds available as prescribed in the LPA/ALDOT Project Program Agreement for each project. ALDOT shall submit all claims received from the LPA for Federal-aid participation to FHWA in the normal manner and compile accurate cost accounting records.

13.9 Documentation

Source documentation (timesheets, lodging receipts, etc.), accounting records, project records (construction diary, etc.) must be retained for three (3) years following the date on which the LPA receives reimbursement of their final invoice from ALDOT as per the LPA/ALDOT Project Agreement.

As per [49 CFR 18.42\(e\) Retention and Access Requirements for Records](#), FHWA, ALDOT, or any authorized representatives, have the right of access to review/audit any LPA project documents (invoices, field reports, etc.) at any stage of the project.

Chapter 14.0

Project Closeout

14.1 Introduction

This chapter summarizes the steps needed to ensure a project is properly closed. After the completion of the physical work, the LPA and ALDOT work together to finalize the project. This process ultimately leads to the final payment and release of the contractor from further responsibility for the project. In addition, the LPA must gain acceptance of the project from all participating agencies, determination of an agreement on the final value of the contract, and the completion of all remaining contract requirements. The final project action by the LPA and Division staff will be the completion of the *Performance Measures – Closeout Survey* required in the project agreement, and a copy of which may be found under Section 16.4 of the Appendices.

Closing out projects includes the management of funds to ensure that unused funds are *de-obligated*. When a Federal-aid project is closed, unexpended funds should be transferred to a new or existing Federal-aid project involving the same class of funds. [De-obligation Memorandum May 2011](#)

FHWA final acceptance is performed after all required paperwork has been submitted by the LPA to ALDOT and ALDOT requests the project be closed.

14.2 Final Field Review and Inspection

When work on a project has been completed, the LPA will conduct a final project field review/inspection. The ALDOT Division Engineer, *or designee, or Division LPA Project Coordinator*, must attend the final project field review along with the LPA Administrator/Manager/Responsible Charge, project engineer, and contractor(s). ALDOT is responsible for the final acceptance on all Federal-aid projects. FHWA must be invited to the final inspection for any full FHWA oversight project. The field review party will determine the need for any corrective or additional work and, with ALDOT agreement, prepare a punch list detailing this work. The LPA will provide the punch list to the contractor(s) in writing, along with a specified time frame or date for completion of the prescribed work.

It is the responsibility of the LPA to do any necessary follow-up to assure that the contractor completes the punch list work in a timely manner. Upon completion of all physical work, including punch list work, the LPA shall forward to the ALDOT Division Engineer *or designee* a written acceptance and final project certification form.

14.3 Final Contractor Payment

When the final project invoice is received from the contractor, the LPA RC should verify:

- Documentation showing all project work has been completed, inspected, and approved;
- Costs billed are allowable, acceptable, and reasonable;
- Mathematical accuracy of all progress and final invoices;

- Changes increasing or decreasing the original project financial plan (budget) are properly documented and approved; and
- Actual project costs reconcile to the amended project budget.

When the verification has been completed and the LPA has determined the invoices to be acceptable, the final payment, including local retention withheld from progress payments, will be made to the contractor.

To eliminate or minimize interest payments and provide adequate time for processing through ALDOT, it is essential that the final records be completed and reviewed in the Division Office as soon as possible after the actual completion date. This will require that the final measurements and computations be completed to the greatest extent possible during the time that construction is in progress and will require the taking of final cross sections for grading work (only when plan quantities are disputed) as early as possible.

After the LPA has made the final payment to the consultant/contractor, a claim for reimbursement (*invoice*) should be prepared and submitted to ALDOT. Any LPA share of the progress or final cost should be identified and deducted on the invoice to arrive at the total requested reimbursement. When ALDOT receives a proper invoice, the LPA can expect payment to be made according to terms specified in the contract between ALDOT and the LPA. Generally, ALDOT will pay the LPA within a prescribed period as set forth in the agreement. Again, that payment timing is from the receipt of a proper invoice, which is date-stamped on arrival. If an invoice requires correction, the clock would stop and would re-start on the day the corrected invoice is received.

A *proper invoice* requires the following documentation be included, verified, and approved by the LPA or ALDOT:

- An itemized breakdown of all amounts by work element specified in the contract;
- For each Subcontractor:
 - A listing of amounts included for work performed.
 - A listing of the total amount.
 - A listing of amounts previously paid.
- Any additional supporting data/documentation required by ALDOT or FHWA;
- Certification by the Contractor (to LPA) or LPA (to ALDOT);
 - Amounts requested are project related and in accordance with the contract.
 - Payments to the Contractor (by LPA) and subcontractors (by Contractor) have been made in a timely manner.
 - The invoice does not include any amounts withheld or retained by the LPA (from Contractor) or the Contractor (from Subcontractors).

State law provides that, ".....if the contractor has furnished the LPA all required records and reports, the LPA shall pay the contractor interest on the amount retained and on final payment due the contractor beginning the sixty-first (61) day after the work under the contract has been completed, as evidenced by the completion date established in the LPA letter of tentative acceptance, and running until the date when payment is tendered to the contractor."

The contractor is allowed fourteen (14) calendar days from the date of notice as evidenced by the date of the letter of notification to:

- Reply to the written notification by the project construction engineer of optioned pit material quantities and costs involved in a project (such reply shall be directed to the ALDOT Division Engineer or designee).
- Provide signed records or documents, such as Change Orders, and Supplemental Engineering Agreements, requested in writing by ALDOT.
- Provide all required records and reports, such as payrolls, material certifications, etc., requested in writing by ALDOT.

In the event the time interval stated above is exceeded, deductions to the interest time period will be made for the actual number of days to complete the action which will occur beyond the original sixty (60) calendar days; and

The acceptance letter must include the correct completion date which shall be in agreement with the completion date as shown in the Project Construction Engineer's/Architect's weekly working day and progress reports. This date will be the last day on which any work is performed on the project, and may be several days after the last working day charged. This condition will occur when minor finishing or cleanup work is required prior to tentative acceptance.

14.4 Notification of Project Completion

Along with the written acceptance of the project, the LPA must submit a letter to the Division Engineer advising completion of the project. If applicable, a time extension/liquidated damages document must be provided by the LPA summarizing contract time extensions granted through the change order process and/or providing details of any liquidated damages charged to the contractor. The completed forms will be used by ALDOT to initiate close-out of the project in both the State and FHWA systems and prompt ALDOT in preparing any final settlements between the LPA and ALDOT. A copy of these forms can be obtained from the ALDOT Division LPA Project Coordinator.

No later than the time the Notification of Completion letter is submitted, the LPA must submit two (2) copies of the final invoice to ALDOT. **The final invoice must be marked *Final Invoice*** and be accompanied by a detailed itemization of total project costs. The final invoice should be submitted in the same manner as progress payment invoices.

Note: Any project invoices submitted after the Final Invoice is approved, will NOT be eligible for Federal or State reimbursement.

ALDOT will assure that all necessary actions have been completed and project documentation has been submitted to FHWA prior to requesting that FHWA close the project. Environmental

commitments such as plant establishment, wetlands restoration, etc. may remain, in which a new separate contract may be used to track/monitor the commitments until acceptance by the respective resource agency.

14.4.1 Verifying DBE Goal Achievement

ALDOT assures that contractors and subcontractors on Federal-aid projects comply with the provisions of 49 CFR 26 and the DBE program. ALDOT will advise the LPAs and their contractors, through contract specifications, that discrimination on the basis of race, color, national origin, or sex, in the award and performance of Federal-aid contracts, is prohibited. Failure by the LPA and contractor to carry out these nondiscrimination requirements will constitute a breach of contract and may result in termination of the contract or such remedy as ALDOT and FHWA deem appropriate. Refer to Chapter 10, Section 6 in this manual for further information on DBE requirements.

In order to verify achievement of the DBE commitments on applicable projects, DBE achievement forms must be completed and submitted to ALDOT. Go to the LPA website for further information and download, or go to the ALDOT DBE Personnel and Compliance Program Documentation website at [DBE Program](#). Contractors/consultants will download the requisite forms and submit to the prime contractor, and the LPA to ALDOT, indicating the DBE firms used, the actual work performed, the total amount of money paid to the DBE firms, and the date on which it was paid.

14.5 As-Built Plans

The LPA must make available to the ALDOT Division Engineer, designee, or Division LPA Project Coordinator, a set of As-Built plans (electronic submittals are preferred). *This would include off-system bridges and all other improvements, facilities, and structures funded through Federal sources and/or subject to state or LPA maintenance and inspection scheduling (subject to project agreement).* The Division Engineer will determine if As-Built plans are required and include that requirement in the Project Agreement.

The As-built plans must be an exact representation of the completed work. The As-built plans should include the location of underground obstructions, removals, and all utility locations. Any revised plan sheets must be included and the sheets they replace should be discarded. All special plan sheets must be included. The sheets need to be corrected to show the final quantities, including additional items of work.

Black pen must be used in the preparing these plans. Lines, dimensions, and notations shown in the original plans, which have been eliminated or corrected, shall be crossed out (~~crossed out~~) and boxed with solid lines. Dashed lines shall be used to indicate any As-built lines, dimensions, or tie points that do not conform to the original plans. In striking out figures and notations, care should be used to avoid obliterating the original figures. In the event appreciable errors are noted in the locations of side roads, section lines, property fences, buildings, roadway structures, or other important landmarks, the corrected locations shall be shown.

The front sheet must be labeled AS-BUILT PLANS and include the following:

- Work performed by: (Name(s) of Prime Contractor(s) and/or Subcontractor(s))

- Prepared by: (Name) (Title) (Date)
- Approved by: (Project Manager) (Title) (Date)

Refer to the ALDOT Construction Manual for details of As-Built plan content.

14.6 Project Audit

Prior to the ALDOT final reimbursement to the LPA, every project will be submitted to the ALDOT External Audit Section for an audit review of the costs submitted for reimbursement. The objectives of the cost audit review are to provide reasonable assurances that the submitted amounts are accurate; are supported by adequate accounting records; resulted from accomplished and duly authorized work; and, are allowable in accordance with laws, regulations, policies and procedures applicable to the project. If consultant/sub-consultant costs are submitted for reimbursement, they will also be subject to audit review to determine if costs and fixed fee for profit are in accordance with the agreement, and that overhead costs are in compliance with the requirements of the cost principles contained in [48 CFR Part 31 Federal Acquisition Regulation](#).

The nature and extent of an ALDOT cost audit review testing and examination procedure will be determined on a case-by-case basis after an evaluation of the risk of material misstatement in project costs and potential for noncompliance with the terms of the agreement, applicable laws, regulations, policies, and procedures. Opinions expressed in the LPA A-133 audits will also be taken into consideration, when applicable.

If circumstances warrant, cost audit requirements can be waived, but this does not relieve the LPA of its responsibility to submit appropriate project documentation. It is the responsibility of the LPA to supply ALDOT with the following: consultant/sub-consultant agreements, source documentation (timesheets, lodging receipts, etc.), accounting records, and project records (construction diary, truck tickets, etc.). Consultant/sub-consultants should provide similar source documentation for their direct labor cost, direct non-labor costs, and overhead costs.

Based on the results of the cost audit review process, final reimbursement to the LPA will be adjusted to exclude ineligible costs and include any additional costs that ALDOT determines are Federal-aid eligible.

14.7 Final Cost Settlement with LPA

The final settlement between ALDOT and the LPA will be made after final inspection, acceptance, *an audit*, and after final costs have been determined by ALDOT. Projects will be considered final when accepted by ALDOT and when the final project payment is made. After final payment is made to, or by the LPA, ALDOT will proceed with closing out the project with FHWA.

14.8 Records and File Retention

The following is a list of records and documents the LPA must retain for their project correspondence file. These records and documents *must be kept for a period of three (3) years* after the final payment is made or as required in the LPA/ALDOT Project Agreement.

One exception is the construction contract, which must be retained for ten (10) years. Records and documents to be kept on retention include:

- Initial project programming requests or application forms;
- All project agreements (program, engineering, utility, railroad);
- Notice of program agreement execution – Notice-to-Proceed (NTP) with project from ALDOT;
- Copy of the RFP, public advertisement, evaluation forms, selection letters;
- Preliminary Engineering (PE) agreement, scope, and fee review letter from ALDOT;
- Notice of PE agreement execution – NTP with PE from ALDOT;
- Design data sheets (if applicable);
- NBIS/Bridge data sheets (if applicable);
- Plan-in-Hand report;
- Project milestone construction estimates;
- Design exception documents & approval (if applicable);
- Design coordination meeting minutes and any documented project decisions;
- NEPA determination forms;
- Copy of the approved environmental document;
- Copies of all applicable environmental permits;
- Notice of environmental approval/clearance and NTP with ROW activities from ALDOT;
- Preliminary ROW package to include plans and estimate;
- Approved preliminary ROW package review and NTP with appraisals from ALDOT;
- All property appraisals and review appraisals;
- Approved appraisal review and NTP with negotiations and acquisitions from ALDOT;
- All property ROW acquisition documents;
- Utility coordination documents (if applicable);
- Railroad coordination documents (if applicable);
- LPA and ALDOT ROW certificates;
- Status of utilities;
- Sole source letter (if applicable);
- Final engineer's construction estimate;
- Full set of ½-size construction plans and As-built plans;
- Contract bidding document/specifications;

- Approved PS&E package review – NTP with bid advertisement/letting from ALDOT;
- Bid tabulations, bid analysis notes, and LPA letter of recommendation to award;
- ALDOT bid concurrence – NTP with construction;
- Construction Engineering (CE) agreement, scope, and fee review letter from ALDOT;
- Notice of CE agreement execution – NTP with construction engineering from ALDOT;
- Pre-Construction Meeting Minutes (if applicable);
- Copy of the construction contract (hold for 10 years);
- All work phase progress estimates/billings/reimbursement requests with verification and supporting documents;
- Copies of all approved change orders with ALDOT acceptance (if applicable);
- Payroll records and affidavit of wages paid;
- Notification of project completion and material certification documents
- Final inspection documents and recommendation of project close-out; and
- Any correspondence related to project decision making.

14.9 Project Maintenance

Title 23 USC 101(a)(14) defines maintenance as, "...the preservation of the entire highway or roadway, including surface, shoulders, roadsides, structures, and such traffic-control devices as are necessary for safe and efficient utilization of the highway or roadway." Title 23 USC further requires ALDOT to maintain each project constructed with Federal-aid until such time that it no longer constitutes a part of the Federal-aid system. ALDOT may delegate maintenance activities to the LPA in the LPA/ALDOT Project Agreement. FHWA approval is not required on a project level for maintenance.

Activities that may be considered maintenance include: sealing pavement joints, spot-repair of bridge coating systems, replacement of damaged roadway or trail signs, pavement patching, seismic retrofit, and scour protection. While these type activities were at one time universally considered ineligible for Federal-aid, changes in highway legislation since 1991 have made them eligible for Federal-aid under certain conditions as preventive maintenance activities.

FHWA will review the LPA maintenance activities through process reviews and program reviews as deemed necessary, to include off-system projects. Any specific instances of inadequate maintenance or concerns regarding the ALDOT overall maintenance/preventive maintenance program will be brought to the attention of ALDOT and the LPA by FHWA.

Chapter 15.0

Quality Control

15.1 Introduction

Program oversight of the LPA program is required by numerous sections of Title 23 and the supporting regulations. ALDOT has established a program to fulfill these requirements. ALDOT will periodically review project progress with an LPA and consult with FHWA at a minimum of three concurrence points during the project development process. This chapter outlines the LPA program quality requirements as well as the administrative and technical mechanisms that ALDOT will use to manage both engineering and construction quality. [FHWA Quality Assurance](#)

15.2 Quality Management Approach

Quality management is the daily stewardship of the Federal-Aid program including project and program oversight and program assistance. In order to develop an effective quality management system, ALDOT must consider the experience of LPA personnel, the experience of consulting firms assisting LPAs, the quality of the plans that will be used to implement the project, and construction quality issues. Quality management is an important component of the administration of the Local Federal-aid program.

ALDOT accomplishes the stewardship of the LPA program by actively providing engineering expertise, technical assistance, technology deployment, program assistance, project delivery, and oversight to assure accountability for the use of public resources. ALDOT and FHWA oversight responsibilities are not only to assure the program is carried out in accordance with all applicable laws, regulations, and policies, but also to continually evaluate the program and improve processes. All ALDOT Quality Control and Quality Assurance efforts are intended to conform to guidelines established in [23 CFR 637](#).

Quality is the degree to which a product or service satisfies defined expectations representing a balance of identified requirements. Quality Control (QC) is an independent checking of the work and use of control points to ensure a high level of confidence that each project will meet expectations. Quality Assurance (QA) is a function that identifies, documents, and reviews for improvement of the processes that deliver products. Both the LPA and ALDOT are jointly responsible for quality management. Refer to Section 15.5 of this chapter for a detailed summary of QC/QA responsibilities. [Quality Control - Design Bureau](#)

The QC/QA program has the following three major components:

1. Project documentation, studies, and plans, which are prepared and submitted by the LPA to ALDOT.
2. A QC process to ensure that projects are developed in accordance with this manual and all other applicable Federal and State guidance.
3. A QA process to be performed by an independent third party. QA is achieved through randomly selected reviews of the work from the two components above to make sure the process of developing project deliverables and QC is performed consistently.

The findings from the QA report are then communicated to the entity submitting project documents and the entity conducting QC, and to improve the process for future projects. In most cases, the QA activities will be conducted after a project is complete, however, this activity can also be conducted while a project is being designed or constructed.

15.2.1 Implementing the QC/QA Process

In general terms, the two processes may be considered separately or as a coordinated application to address broad systemic quality issues as well as project level quality control. For purposes of clarity, ALDOT will rely on the following definitions:

Quality Assurance (QA) – All those planned and systemic actions necessary to provide confidence that a product or facility will perform satisfactorily in service. QA addresses the overall problem of obtaining the quality of a service, product, or facility in the most efficient, economical, and satisfactory manner possible.

Quality Control (QC) – Also called process control. Those QA actions and considerations necessary to assess and adjust production and construction processes so as to control the level of quality being produced in the end product.

For ALDOT purposes, the process is referred to simply as **Quality Control** or **QC**. Quality Control and Quality Assurance will be implemented for two major processes:

1. **Administrative** (supervision and oversight), such as complying with the LPA Project Guide, the LPA Manual for Federal-Aid Projects in Alabama (and all other applicable Federal and State guidance) for managing and administering all components.
2. **Technical** (i.e., technical issues related to design and construction).

Several entities are involved in the development of project documents, QC, and QA. Those entities include:

- FHWA – Alabama Division, LPA Contact.
- LPA - Project Administrator/Manager/Engineer
- ALDOT – *various* – Bureau of Transportation Planning and Modal Programs (Metropolitan Planning Section and Special Programs Section), and Central Office Bureaus, Sections, and Offices in support of the LPA Program.
- ALDOT Divisions (9) – Division Engineer, Division LPA Project Coordinator.
- ALDOT – Bureau of Office Engineer
- ALDOT – Bureau of Finance and Audit, Office of External Audit.

The goal of this section is to identify the roles and responsibilities of each of these entities for each of the processes as identified above as *administrative* or *technical*.

15.2.2 Roles and Responsibilities for Administrative Activities

Administrative activities include the development and implementation of processes, procedures, and policies to carry out the Federal-Aid program.

ALDOT will accomplish stewardship by actively providing engineering expertise, technical assistance, technology deployment, and program assistance to assure accountability for the use of public resources. ALDOT ensures that the program is delivered in conformity with the *LPA Project Guide* and the *LPA Manual for Federal-Aid Projects in Alabama* and all applicable Federal and State rules and regulations. ALDOT will conduct process reviews to assure that the other entities involved have provided proper QC/QA for tasks associated with a Federal-Aid project.

FHWA – The Alabama Division LPA Contact will be consulted during scope development at project inception, at the PS&E (Plans, Specifications, and Estimates) concurrence point prior to execution of participation agreement(s), and at closeout prior to issuance of the ALDOT Division Engineer Acceptance letter.

LPA (Local Public Agency)

The role of the LPA is (and depending on project scope) to properly execute and document all phases of the project under LPA administration or management. The LPA will ensure proper QC controls are in place to administer all project phases in compliance with the *LPA Project Guide*, the *LPA Manual for Federal-Aid Projects in Alabama*, as well as all applicable Federal and State rules, regulations, and guidelines. It is the responsibility of the LPA to coordinate all inspections, field reviews, audits, and consultations with appropriate ALDOT staff.

ALDOT Local Public Agency Administration

A detailed description of Department oversight is provided in Chapter and Section 1.4 of the Introduction. These responsibilities and tasks are carried forward through project development and closeout, and tasking includes Assurance responsibilities under the Quality Control/Quality Assurance program.

The role of Montgomery Central Office staff is to provide support and guidance to the Divisions and LPAs. The Metropolitan Planning Section and the Special Programs Section of the Transportation Planning and Modal Programs Bureau provide specific services early in project development and fall into a support role to the Division Engineers and their staffs as projects begin construction and move toward completion.

The Metropolitan Planning Section remains the primary contact point for the overall LPA process, but **project level** development, control, and delivery is the responsibility of the Division Engineer and Division staff. Metropolitan Planning and Special Programs sections, as defined in Chapter 1.4, “.....provide State and Federal guidance, processes funding, and give instruction on project administration and documentation to cities, towns, counties, regional government agencies, state universities and state-approved, private, non-profit entities, and special authorities, for the purpose of improving local transportation infrastructure or providing transportation services through the LPA program.”

Toward the latter part of a project, the sections, with assistance and support from other ALDOT Divisions, Sections, Offices, and Bureaus, ensure that the work completed by the LPA is in compliance with the *LPA Project Guide* and the *LPA Manual for Federal Aid Projects in Alabama* and all applicable Federal and State rules and regulations. This includes performing QC activities on LPA project submittals and documents for all project phases and activities up to

and including Closeout. The bureaus and sections continue to develop programmatic action plans to implement LPA program improvements.

ALDOT Division Personnel

Go to the *LPA Project Guide* and find the division location map, contact information, and division office addresses.

The role of the ALDOT Division Engineer and Division LPA Project Coordinator are to provide QC for documentation of activities during development and **construction** phases of the project.

ALDOT Bureau of Finance and Audit

[Finance and Audit](#)

The role of ALDOT Bureau of Finance and Audit and the External Audit staff is to perform the Quality Assurance role in the QC process by overseeing and ensuring compliance in the reimbursement process.

15.2.3 Roles and Responsibilities for Technical Implementation Activities

Technical implementation activities are those that require specific technical competencies and expertise. Environmental technical studies, project design, and construction monitoring and inspection are typical areas that require such competencies and expertise to design, build, and operate a transportation facility.

ALDOT

ALDOT will accomplish stewardship by actively providing engineering expertise, technical assistance, technology deployment, and program assistance to assure accountability for the use of public resources. The ALDOT role ensures that technical aspects of projects are delivered in conformity with the *LPA Project Guide* and the *LPA Manual for Federal Aid Projects in Alabama* and all applicable Federal and State rules and regulations. ALDOT may conduct process reviews to assure that the other entities involved have provided proper QC/QA for tasks associated with a Federal-Aid project and to provide guidance for process improvement.

FHWA

FHWA will be consulted at certain **concurrence** points during the project process: at project inception, during environmental review for Class of Action, at PS&E Review prior to agreement execution, and at project closeout. At each of these points, FHWA may request additional information, initiate a review of process, or withhold concurrence or approval pending dispute resolution. ALDOT is responsible for determining cause of dispute and resolving those issues.

LPA

The LPA may be responsible (by agreement) for bid letting, inspecting construction activities, and sampling and testing construction materials, in coordination with ALDOT Bureau of Materials and Tests. The LPA is also responsible for providing QC reviews for all the above activities. In the event that the LPA is not adequately staffed to provide technical delivery of the project, they may choose to utilize an ALDOT approved consulting firm or contractor as an

extension of their staff. ***Using a consultant does not relieve the LPA of overall responsibility of quality control*** to ensure conformity with the *LPA Project Guide* and the *LPA Manual for Federal-Aid Projects in Alabama* and all applicable Federal and State rules and regulations. For example:

- When the LPA or their consultant prepares bridge or roadway plans, a second engineer within the LPA or its consulting firm will QC the design for compliance with design criteria and standards.
- The LPA ensures the consultant has a QC plan in place to review the inspection records during the construction phase.

Note: The ALDOT Environmental Technical Section within Design Bureau has sole responsibility for scoping, reviewing, assessing potential environmental impacts, providing technical studies and support, and interacting with the LPA and State and Federal agencies (FHWA, FTA, EPA) on issues concerning environmental documentation, class of action, and mitigation measures. No environmental work can proceed without the *documented* approval and close coordination of ETS.

[Environmental Technical Section](#)

ALDOT LPA Administrative QC

The role of ALDOT staff is to QC certain technical aspects of the project design and construction. Once the Division Engineer has assumed oversight of the project and the LPA administration of same, Central Office staff, consisting of the Bureau of Transportation Planning and Modal Programs and other ALDOT Divisions, assume a support role and provide QC/QA of technical content on all project phases and activities as needed or requested, including, but not limited to: programming, pre-NEPA and NEPA, ROW, preliminary and final design review, PS&E review and letting, award concurrence, construction, and closeout. For example:

- Design Bureau will review design plans to ensure minimum design standards are met, that ADA or Bicycle/Pedestrian improvements are incorporated into the project and accurate estimates are provided;
- ROW plans will be sent to the ALDOT ROW Bureau for review. Plans are checked to ensure they meet the requirements of the ALDOT ROW Manual and LPA requirements.

ALDOT Division Personnel

The role of the ALDOT Division, for the technical process, is to ensure that the appropriate bureaus and offices perform certain QC activities, as well as QA activities during the construction phase. The responsible ALDOT bureau, section, or office will conduct the QA review during the construction phase on all LPA projects. Activities to be performed by ALDOT support staff includes:

- Observe critical construction activities, such as bridge deck pours, to make sure the inspectors are enforcing the requirements of the project plans and specifications;

- Check to make sure the materials sampling and testing is being conducted by certified individuals; and
- Ensure the materials are being tested by qualified labs per Section 12.10 of this document.

ALDOT Finance and Audits

The role of the Finance and Audits Bureau is to perform the QC/QA activities for this process. External Audit Section is to perform QC for the reimbursement process.

15.3 Qualifications

To obtain qualification to administer a Federal-Aid project, the LPA will need to demonstrate that it has adequate project delivery systems and sufficient accounting controls to properly manage Federal funds. Retaining this qualification requires that an LPA conform to this manual and all Federal requirements.

The ALDOT will determine whether an LPA possesses adequate:

- Personnel expertise to include education, documented training or proficiency, and has reasonable past project or process experience;
- Policies, procedures, and processes that comply with applicable State and Federal laws and regulations; and
- Record-keeping and accounting systems.

The LPA must also designate one or more trained, full-time public employees, either from within the LPA organization or through an interlocal agreement with another public agency, to be in Responsible Charge (RC) of its project(s). This typically will be a designated LPA Project Manager, Administrator, or Engineer. The named public official(s) will actively participate with ALDOT in project decision-making as the project progresses.

The LPA does not abdicate its responsibilities or approval authority when it elects to use consultant services. It is the role of ALDOT to assure that the LPA is equipped and organized to manage the consultant's project level activities.

The LPA must have established and documented practices for each of the following project administration components and must identify the individual(s) responsible for the management of these processes. In the absence of these requirements, and if the services of a consultant are secured to perform the activities, the same conditions apply:

- Consultant/Contractor Services Evaluation and Selection;
- Consultant/Contractor Services Management;
- Change Order Process;
- Dispute Resolution/Claims Management Process;
- Finance, Accounting and Record Keeping;

- Title VI of the Civil Rights Act of 1964 (Title VI);
- Disadvantaged Business Enterprise (DBE);
- Davis-Bacon and/or State Prevailing Wages;
- Uniform Relocation and Real Estate Acquisition Act of 1970 (Uniform Act);
- The National Environmental Policy Act of 1969 (NEPA);
- Americans with Disabilities Act;

An LPA may only administer those parts of project delivery that have been authorized by ALDOT and outlined in project agreements. ALDOT will determine if the LPA is capable of coordinating day-to-day project activities and making sound management decisions.

15.3.1 Responsible Charge (RC)

A person or persons in RC are vital to ensuring the eligibility of an LPA program to administer Federal funds. These individuals, most likely called LPA Project Managers or Administrators, are expected to be competent and experienced managers of transportation infrastructure projects.

Successful candidates will typically be a Professional Engineer or Transportation Planner, Licensed Land Surveyor, County Highway or City Street Superintendent, or possess a degree in engineering, construction management, or transportation planning. A person without the above credentials, but with significant experience administering Federal-aid projects, may successfully complete the requirements with the approval of the Division Engineer and Bureau of Office Engineer (State Engineer).

Note: ALDOT will not provide training or certify as to the *competency* of LPA staff. For that reason, considerable weight is placed on the LPA application and qualification process, and staff credentialing will be similarly evaluated. The LPA may be asked to provide information pertinent to LPA project management. [See also Chapter 1, LPA Project Guide, Sections 1.1 and 1.2.]

15.3.2 Process to Become a Certified LPA

Subsections 15.3 and 15.3.1 describe the basic requirements for certification. The process for certification involves contact or an interview with a Division Office (with either the Division Engineer or Division LPA Project Coordinator), making application, providing appropriate financial and organizational information, and a review of the LPA by selected staff at ALDOT Central Office in Montgomery to determine if the LPA has complied with the applicable requirements of Section 15.3. Following successful completion of this application and review, the LPA will be certified in a **probationary** status. Every LPA in the state of Alabama will be required to go through the probationary period during the initial and then a second project development. During the probationary period, the ALDOT will verify that the LPA has sufficient proficiency administering Federal-aid projects. ALDOT anticipates that successful completion of the minimum of two representative projects, utilizing this manual and other guidelines, will be needed to make this determination.

Probationary Status

The probationary period is an opportunity for ALDOT to evaluate and measure process implementation by the LPA. The length of the period may be adjusted by ALDOT on a case-by-case basis. ALDOT will issue Notice-to-Proceed for new phases of a project only to those LPAs that have achieved probationary status. ALDOT will determine when the LPA has successfully concluded the probationary status. The LPA is fully qualified when it has successfully completed the probationary process.

15.4 Program Oversight

ALDOT will conduct periodic project reviews to provide assurances that ALDOT staff and the LPAs comply with the *LPA Project Guide* and the *LPA Manual for Federal-Aid Projects in Alabama* and all other applicable Federal and state guidance, and will also conduct periodic reviews to assess and evaluate the overall effectiveness of program management, project delivery, and internal controls.

The results of all reviews and any accompanying recommendations for improvement will be provided in writing to FHWA and as appropriate to LPAs. Final decisions on actions to be taken with respect to report recommendations will be made by appropriate ALDOT and FHWA administrative officials.

15.4.1 Quality Assurance Reviews

A quality assurance review is a planned, systematic assessment to provide confidence that quality controls are properly established and that projects conform to those requirements.

This will include all active projects and will encompass projects from all LPA programs that receive Federal funds. Appropriate techniques will be applied to ensure that the results of the reviews at all stages of work are subject to some level of scrutiny.

Reviews will involve the examination, inspection, and validation of documents and records associated with an active LPA project. They will focus primarily on the information maintained at the LPA office, but will also extend to files and documentation kept by ALDOT LPA Central Office Staff in the various bureaus, sections, and, when appropriate, by ALDOT Division personnel. In most cases, ALDOT External Audit team representative(s) will perform review of an LPA's records on-site at the LPA office. Typical areas to be reviewed include, but are not limited to:

- LPA and ALDOT program/project management activities;
- Training for, knowledge of, and experience in Federal-aid program and construction;
- Communication processes;
- Record-keeping and filing of project documentation;
- Completion of Project Development Checklist and other pertinent checklists;
- Timely submittal of required documents, requests, plans, and estimates;

- Adherence to authorization dates and completion deadlines;
- PE and CE consultant selection, agreements, and billings;
- ROW process was in accordance with the Uniform Act;
- Advertising and award of construction contract;
- Construction administration, change order approvals, pay estimates;
- LPA financial accountability and adequacy of supporting cost records; and
- Final inspections and acceptance.

Results of the LPA quality assurance reviews and recommendations for changes or corrective action will be provided in writing to the LPAs and appropriate ALDOT and FHWA administrative officials. LPA officials will be notified of findings or recommendations before the written report is finalized. At that time, LPA should provide any clarifications or raise any objections that need to be noted.

Note: In the presence of repeated audit or inspection failure by an LPA, and at the discretion of senior staff, ALDOT Division and Central Office staff will draft a comprehensive written report compiling the agency's history and corrective actions, and will recommend further corrective action or suspension from the program, remanding the report to appropriate ALDOT and FHWA administrative officials for action.

15.4.2 LPA Compliance Reviews

Compliance reviews will be conducted when a deficiency is identified in QA reviews or identified by quality control activities to determine:

- If the LPA implementation of the Federal-aid project conforms to applicable laws, regulations, and policies,
- If the LPA is carrying out its roles and responsibilities as established by the *LPA Project Guide*, the *LPA Manual for Federal-Aid Projects in Alabama*, and the LPA Project Agreement with ALDOT, and
- The level of corrective action and, if appropriate, possible sanctions.

15.4.3 ALDOT Functional Area Process Reviews

Functional area process reviews are an in-depth review of processes and program areas based on a tighter perspective than individual project reviews. Functional areas that experience repeated compliance difficulties, or areas where efficiencies and streamlining would be beneficial, are considered with these reviews. Process reviews evaluate the effectiveness of the processes, procedures, and products in individual functional areas, as well as the internal operations of ALDOT. The process review is an ALDOT initiated review and, depending on the nature and reasons for the review, may involve the assistance of FHWA. ALDOT technical experts from various Divisions and Bureaus may be called upon to assist.

15.4.4 Annual Single Audits

LPAs are subject to the single audit requirements of the U.S. Office of Management and Budget OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations. A single audit is required if the LPA expends more than \$500,000 in Federal funds from all sources (i.e.; FHWA, FTA, FAA, HUD, HHS, and others.) during the fiscal year. If an LPA obtains an A-133 audit, the LPA must submit a copy of the report to the ALDOT Finance and Audit Bureau – External Audit Section, Montgomery, AL.) If the LPA Single Audit Report contains findings that relate to Federal funds that passed through ALDOT, the ALDOT will review those findings and issue a management decision regarding the LPA response to those findings, and ensure that the LPA takes appropriate and timely corrective action.

The OMB Circular provides for sanctions for non-compliance with Federal Single Audit requirements, which could include withholding Federal funds until the requirement is satisfactorily completed. Important information regarding the [OMB Circular A-133](#) is available at the OMB website.

15.4.5 Other Federal Audit Activities

For purposes of closing out Federal aid projects, ALDOT will rely primarily on the final cost audit review process. Consideration will also be given to the opinions expressed in the LPA A-133 Single Audit Reports, when applicable. ALDOT may need to schedule limited scope audit reviews, if ALDOT or the Federal-aid funding agencies identify the need for such a review. ALDOT, the US General Accounting Office, and the US DOT, or its operating agencies (FHWA, FTA, others), each have the right to review, examine, or audit the LPA's books and records pertaining to Federal-aid projects.

Note: *The LPA shall retain project records for a period **not less than three years** from project close-out by ALDOT. Selected files may be permanently maintained electronically.*

15.5 Project Oversight

As stated in Section 15.2, Quality Control (QC) is a process employed to ensure a certain level of quality in a product or service. The basic goal of QC is to ensure that the products, services, or processes provided meet specific requirements and are dependable, satisfactory, and fiscally sound. Quality Assurance (QA) is a planned and systematic set of activities necessary to provide confidence that requirements are properly established and products or services conform to the specified requirements.

The LPA must provide quality control for deliverables prior to submittal.

15.5.1 QC/QA Activity Table

The table below provides the ALDOT QC/QA plan identifying activities and agency responsibilities during project delivery. Colored lines or cells are key points of authorization. A listing of acronyms follows the table.

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
1	Review of LPA qualifications	ALDOT DE, LPA PC, and Finance and Audit	ALDOT Audit Team	Checklist	2
2	LPA Title VI Plan review	ALDOT LPA PC, Personnel and Compliance	ALDOT Audit Team	Onsite review form	10
3	LPA Project Programming Request Design Review	ALDOT LPA PC, DE, Special Programs, and LPA Engineer	ALDOT Audit Team	Checklist	6
4	LPA Project Programming Request eligibility review	ALDOT DE, LPA PC	ALDOT DE and LPA PC	LPA request letter and resolution	2
5	LPA project programming request reviewed for RR involvement	ALDOT DE, Rail Section, LPA PC, and LPA Manager/Engineer	ALDOT Audit Team	LPA written response to ALDOT recommendations – DE, LPA PC to determine if the project is viable	9
6	Verify LPA program funding availability	ALDOT DE, LPA PC, Special Programs	ALDOT Audit Team	N/A	2
7	Project schedule and letting date review	ALDOT DE, LPA PC, Office Engineer	ALDOT Audit Team	Checklist	6
8	Project program agreement ALDOT review	ALDOT LPA PC, DE, and Trans Plan Modal Programs	ALDOT Audit Team	Checklist	2
9	Project program agreement design review	ALDOT DE and LPA PC	ALDOT Audit Team	Checklist	6
10	Verify PE phase is included on the TIP/STIP	ALDOT LPA PC, Trans Plan and Modal Programs	Metro Planning and FHWA	STIP is on website - Screen Shot	2
11	Project setup meeting review	DE, LPA, ALDOT LPA PC	ALDOT Audit Team	Checklist, design criteria document and "red flags" report	5 & 6
12	Review PE scope of work and cost estimate.	ALDOT DE, ETS, LPA PC, RD DIV, TRF DIV, M&R, and ROWD	ALDOT Audit Team	Checklist. Approved scope and cost estimate. Written comments and correspondence.	4, 6, & 7
13	Verify PE contract basis of payment	ALDOT DE, LPA PC	ALDOT Audit Team	N/A	4

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
14	Verify category of QBS-Small or Large Purchase?	ALDOT DE, LPA PC, Consult Mgmt, Finance/Audit	ALDOT Audit Team	N/A	4
15	Concur in PE selection panel, selection criteria and RFP	ALDOT DE, LPA PC	ALDOT Audit Team	Checklist and written concurrence	4
16	Request obligation of funds for PE/NEPA	ALDOT DE, LPA PC, ETS	ALDOT and FHWA	Checklist	2
17	Verify authorization of Federal funds for PE/NEPA	ALDOT DE, LPA PC	ALDOT Audit Team	Screen shot of FMIS, ALDOT issues NTP letter to LPA authorizing advertising of the RFP	4
18	Verify that the PE RFP advertisement was done correctly	ALDOT DE, LPA PC	ALDOT Audit Team	Proof of publication	4
19	Concur with the PE short listed firms	ALDOT DE, Consult Mgmt, LPA PC	ALDOT Audit Team	Checklist and written concurrence	4
20	Concur with the final PE selection	ALDOT DE, Consult Mgmt, Office Engineer, LPA PC	ALDOT Audit Team	Checklist and written concurrence	4
21	Verify selected PE consultant Title VI compliance	ALDOT DE, LPA, and LPD PC, Personnel/Compliance	ALDOT Title VI Coordinator	Checklist	10
22	Concur with the consultant PE pre-audit overhead rate	ALDOT DE, Finance/Audit, Consult Mgmt, LPA PC	ALDOT Audit Team	Approved existing audit	13
23	Concur with the PE final scope and fee	ALDOT DE, Consult Mgmt, Office Engineer, LPA PC	ALDOT Audit Team	Checklist and written concurrence. An administrative adjustment may be needed to keep the authorization in line with the cost estimate.	4
24	Review PE agreement	ALDOT DE, LPA PC Trans Plan/Modal Programs	ALDOT Audit Team	Checklist, agreement signed as to form and ALDOT letter to LPA to issue NTP letter to consultant with PE.	4, 6, & 10
25	Ensure Environmental Justice - Design	ALDOT DE, LPA PC and Personnel/Compliance	ALDOT Audit Team	N/A	10

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
26	Verify proximate utilities	ALDOT DE, Utilities Section, Design, LPA PC	ALDOT Audit Team	Checklist	8
27	Invite RR to Plan-in-Hand	ALDOT DE, Rail Section Modal Programs, LPA PC	ALDOT Audit Team	Invitation to RR	9
28	Verify RR concurrence of TS&L	ALDOT DE, Rail Section, LPA PC	ALDOT Audit Team	LPA transmittal indicates cc: railroad written concurrence of TS&L	9
29	Review Traffic Study (if applicable)	ALDOT DE, LPA PC /TRF Monitoring	ALDOT Audit Team	Concurrence memo from Traffic Division	6
30	Review Plan-in-Hand (30%) plans	ALDOT DE, LPA PC, Consult Mgmt, Construction	ALDOT Audit Team	Checklist and marked up PIH plans	6
31	Verify Proximate historic properties	ALDOT DE, ETS, and LPA PC	ALDOT Audit Team	Checklist	5
32	Plan-in-Hand field review	ALDOT DE, LPA PC, ETS, and LPA Manager/Engineer	ALDOT Audit Team	PIH report and checklist; PPP checklist; Design Exceptions (if any are anticipated this phase) with justification initial report	6
33	Verify utilities at Plan-in-Hand	ALDOT DE, Utilities, LPA PC	ALDOT Audit Team	PIH Report and checklist	8
34	Threatened and Endangered Species Review	ALDOT DE, ETS, FWS, LPA PC	USFWS, FHWA	Matrix (under development as of Nov 2011)	5
35	Review Plan-in-Hand report	ALDOT DE, LPA PC, ETS, and LPA Manager/Engineer	ALDOT Audit Team	PIH report checklist and Signed PIH Report	6
36	Review NEPA Requirements	ALDOT DE, LPA PC, ETS, and FHWA	FHWA (Class of Action)	NEPA Requirements and Checklist	5
37	Review public involvement applicability	ALDOT DE, LPA PC, Design, and ETS	ALDOT Audit Team	Checklist	6
38	Review Public Participation Plan (PPP)	ALDOT DE, ETS, LPA PC, Personnel/Compliance	FHWA	PPP and checklist	5

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
39	Review Public Involvement Title VI compliance	ALDOT DE, LPA PC, ETS, and Personnel/Compliance	ALDOT Audit Team	Checklist and provide written comments	10
40	Review and approve Purpose & Need Statement (CE, EA or EIS) prior to public meeting	ALDOT DE, LPA PC, ETS, and Trans Plan/Modal Prog	FHWA	Checklist	5
41	Verify functional design (60%) submittal	ALDOT DE, LPA PC, Design, and LPA Manager/Engineer	ALDOT Audit Team	PIH report and checklist; PPP checklist; Design Exceptions (if any are anticipated at this phase) w/justification initial report	6
42	Review public meeting transcript	ALDOT DE, ETS, and LPA PC	FHWA	Checklist	5
43	Review avoidance/minimize/mitigation plan	ALDOT DE, ETS, and LPA PC	FHWA, USACE	Checklist	5
44	Threatened and Endangered Species Review	ALDOT DE, ETS, and LPA PC	FHWA, FWS	Matrix (under development as of Nov 2011)	5
45	Review draft Cat Ex Document	ALDOT DE, ETS, LPA PC, Special Programs (TE)	FHWA, FTA, EPA Region 4	Checklist and ALDOT written comments	5
46	Review draft EA Document	ALDOT DE, ETS, LPA PC	FHWA, FTA, EPA Region 4	Checklist and ALDOT written comments	5
47	Review draft EIS Document	ALDOT DE, ETS, LPA PC	FHWA, FTA, EPA Region 4	Checklist and ALDOT written comments	5
48	Final review and signoff of the NEPA Document	ALDOT DE, ETS, LPA PC	FHWA, FTA, EPA Region 4	Circulation List	5
49	Verify PE invoices for Payment	ALDOT DE, LPA PC, Special Programs (TE)	Finance and Audit	Checklist	4
50	Review PE scope of work and cost estimate for Supplemental Agreement	ALDOT DE, LPA PC, and LPA Manager/Engineer	Finance and Audit	Checklist, approved scope and cost estimate and written comments.	4, 6, & 7

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
51	Concur with the PE final Scope and fee for the Supplemental Agreement	ALDOT DE, LPA PC, and LPA Manager/Engineer	Finance and Audit	Checklist and written concurrence. An administrative adjustment may be needed to keep the authorization in line with the cost estimate.	4
52	Review Supplemental PE Agreement	ALDOT DE, LPA PC, and LPA Manager/Engineer	ALDOT Audit Team	Checklist, agreement signed as to form and ALDOT letter to LPA issuing a NTP for additional PE services.	4
53	Verify project phase included on TIP/STIP	ALDOT LPA PC, Trans Plan and Modal Programs	Office Eng, Trans Planning, FHWA	STIP is on website - Screen Shot	2
54	Request obligation of funds for Final Design	ALDOT DE, LPA PC	Trans Planning and FHWA	Checklist	2
55	Verify authorization of Federal funds for Final Design	ALDOT DE, LPA PC, Office Engineer	Trans Planning and FHWA	Screen shot of FMIS, ALDOT issues NTP letter to the LPA for Final Design services	4
56	Review design for ADA	ALDOT DE, ETS, LPA PC and Personnel/Compliance	FHWA/FTA	Checklist	10
57	404 Permit Application Review	ALDOT DE, ETS, LPA PC ES and USACE	USACE, FHWA	Checklist	5
58	Review 70% bridge plans	ALDOT DE, Bridge, ETS, LPA PC	ALDOT Audit Team	Checklist	6
59	Review 90% (LOC) plans	ALDOT DE, Design, Location Section, LPA PC	ALDOT Audit Team	Checklist	6
60	Verify ROW phase is included on the TIP/STIP	ALDOT DE, ROW Section LPA PC,	FHWA	STIP is on website - Screen Shot	2
61	Request obligation of funds for ROW	ALDOT DE, ROW Section, LPA PC	FHWA	Checklist	2
62	Verify authorization of funds for ROW	ALDOT DE, ROW Section, LPA PC	FHWA	Screen shot of FMIS; and a ALDOT NTP letter issued to the LPA for ROW	7

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
63	Review ROW plans	ALDOT DE, ROW Section, LPA PC	ALDOT Audit Team	Checklist - written communication to LPA if corrections must be made.	7
64	Verify Submittal of plans - Utilities	ALDOT DE, Utilities Section, LPA PC	ALDOT Audit Team	Date of each submittal to utility and date of final review entered into database.	8
65	Verify Submittal of plans - RR	ALDOT DE, Rail Section, LPA PC	ALDOT Audit Team	LPA transmittal letter to RR	9
66	Review utility's rehab plan (60% plan level)	ALDOT DE, Rail Section, LPA PC	ALDOT Audit Team	Checklist	8
67	Concur in eligibility of utilities (betterment vs. non-betterment)	ALDOT DE, Utilities, LPA PC	ALDOT Audit Team	Checklist	8
68	Review draft Utilities Agreement	ALDOT DE, Utilities, LPA PC	ALDOT Audit Team	Checklist and provide written comments	8
69	Concur with the final Utilities Agreement	ALDOT DE, Utilities, LPA PC	ALDOT Audit Team	Checklist	8
70	Verify RR concurrence of appraisal plans	ALDOT DE, Rail Section, LPA PC	ALDOT Audit Team	RR written concurrence	9
71	Review ROW cost estimate	ALDOT DE, ROW Bureau, Finance and Audit, LPA PC	FHWA	Checklist and written (or e-mail) ROW approval of the document and ALDOT issues a NTP letter of authorization to proceed with appraisals.	7
72	Review ROW Compensation Estimates (Waivers), Appraisals and Appraisal Reviews	ALDOT DE, ROW Bureau, Finance and Audit, LPA PC	FHWA	Checklist; ROW approval of the document and ALDOT issues a NTP letter of authorization to proceed with acquisition (except relocation assistance parcels).	7

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
73	Review Relocation Assistance Benefit Studies	ALDOT DE, ROW Bureau, LPA PC	FHWA	Checklist; stamped and signed document, and ALDOT issues a NTP letter for acquisition and relocation	7
74	Review Relocation Assistance Claims	ALDOT DE, ROW Bureau, LPA PC	FHWA	Checklist, stamped and signed document	7
75	Review ROW acquisition files	ALDOT DE, ROW Bureau, LPA PC	FHWA	Checklist and ROW certificate	7
76	Review administrative settlements	ALDOT DE, ROW Bureau, LPA PC	FHWA		7
77	Verify RR concurrence with the final plans	ALDOT DE, Rail Section, LPA PC, LPA Manager/Eng	ALDOT Audit Team	RR written concurrence	9
78	Review draft RR agreement	ALDOT DE, Rail Section, LPA PC	ALDOT Audit Team	Checklist; ALDOT issues an NTP letter for ROW activities	9
79	Concur with RR agreement	ALDOT DE, Rail Section, LPA PC, LPA Manager/Eng	ALDOT Audit Team	Checklist	9
80	Review environmental commitments file	ALDOT DE, ETS, LPA PC	FHWA	Checklist	5
81	Review final plans	ALDOT DE, ETS, LPA PC	ALDOT Audit Team	Checklist	6
82	Verify receipt of Utilities Agreement	ALDOT DE, LPA PC, Utilities LPA Manager/Engineer	ALDOT Audit Team	Checklist	8
83	Review documents required for PS&E submittal	ALDOT DE, LPA PC, LPA Manager/Engineer	FHWA/ALDOT Concurrence	Checklist	6
84	Review Bid package for Title VI requirements	ALDOT DE, LPA PC, Personnel/Compliance	ALDOT Audit Team	Checklist	10
85	Review DBE goal percentage	ALDOT DE, LPA PC, Personnel/Compliance	FHWA	Checklist	10
86	Verify receipt of Status of Utility Report	ALDOT DE, LPA PC, Utilities, LPA Manager/Engineer	ALDOT Audit Team	Checklist	8

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
87	Review RR special provisions	ALDOT DE, LPA PC, Rail Section,	ALDOT Audit Team	Checklist	9
88	Verify utility phase is included on the TIP/STIP	ALDOT DE, LPA PC, Special Programs	FHWA	STIP is on website - Screen Shot	2
89	Request obligation of funds for utilities	ALDOT DE, LPA PC, Utilities	FHWA	Checklist	2
90	Verify authorization of funds for Utilities work done before construction	ALDOT DE, LPA PC, Utilities, LPA Manager/Engineer	ALDOT Audit Team	Checklist and ALDOT NTP letter to the LPA for utility work	8
91	Verify PE invoices for Payment	ALDOT DE, LPA PC, Finance and Audit	ALDOT Audit Team	Checklist	4
92	Review CE scope of work and cost estimate	ALDOT DE, LPA PC, LPA Manager/Engineer	ALDOT Audit Team	Checklist. Approved scope and cost estimate. Written comments and correspondence.	4
93	Verify CE contract basis of payment	ALDOT DE, LPA PC, LPA Manager/Engineer	ALDOT Audit Team	N/A	4
94	Verify category of QBS-Small or Large Purchase	ALDOT DE, LPA PC, Finance and Audit	ALDOT Audit Team	N/A	4
95	Concur in CE selection panel, selection criteria and approve RFP	ALDOT DE, LPA PC	ALDOT Audit Team	Checklist and written concurrence	4
96	Verify CE phase is included on the TIP/STIP	ALDOT DE, LPA PC	FHWA	STIP is on website - Screen Shot	2
97	Request obligation of funds for CE	ALDOT DE, LPA PC	FHWA	Checklist	2
98	Verify authorization of funds for CE	ALDOT DE, LPA PC	ALDOT Audit Team	Screen shot of FMIS; ALDOT issues a NTP letter to the LPA authorizing utility and railroad work (work during construction) and to advertise the CE RFP	2

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
99	Verify that the advertisement for CE services was done correctly	ALDOT DE, LPA PC, Office Engineer	ALDOT Audit Team	Proof of publication	4
100	Concur with the CE short listed firms	ALDOT DE, LPA PC, Office Engineer, LPA Manager/Engr	ALDOT Audit Team	Checklist and written concurrence	4
101	Concur with the final CE selection	ALDOT DE, LPA PC, Office Engineer, LPA Manager/Engr	ALDOT Audit Team	Checklist and written concurrence	4
102	Verify selected CE firm Title VI compliance	ALDOT DE, LPA PC, Personnel/Compliance	ALDOT Title VI Coordinator	Checklist	10
103	Concur with the firm CE pre-audit overhead rate	ALDOT DE, Finance and Audit, LPA PC	ALDOT Audit Team	Approved existing audit	13
104	Concur with the CE final scope and fee	ALDOT DE, LPA PC, LPA Manager/Engineer	ALDOT Audit Team	Checklist based on construction monitoring plan.	4
105	Review CE agreement	ALDOT DE, LPA PC, External Audit	ALDOT Audit Team	Checklist, agreement signed as to form and ALDOT letter to LPA issuing a NTP for CE services.	10
106	Verify construction phase is included on the TIP/STIP	ALDOT DE, LPA PC, Construction	FHWA	STIP is on website - Screen Shot	2
107	Review PS&E package	ALDOT DE, LPA PC, FHWA Concurrence, LPA Manager/Engineer	ALDOT / FHWA	Checklist; deficiencies to LPA in writing; get letter from LPA confirming that they have corrected the deficiencies; ALDOT issues a NTP letter authorizing the LPA to advertise.	11
108	Request obligation of funds for Construction	ALDOT DE, LPA PC	FHWA	Checklist	2
109	Verify authorization of funds for Construction	ALDOT PS&E and LPD PC	ALDOT Audit Team	Screen shot of FMIS; ALDOT issues a NTP letter to the LPA authorizing utility, and railroad work (work during construction) and to advertise	11

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
				the project for bids.	
110	Review Construction Cost Estimate	ALDOT DE, Construction, Consult Mgmt, LPA PC	ALDOT Audit Team	Checklist	11
111	Verify advertisement	ALDOT DE, Office Engineer LPA PC	ALDOT Audit Team	Proof of advertisement	11
112	Review and approve bid addendums	ALDOT DE, Office Engineer, LPA PC	FHWA	Checklist, and written approval or rejection.	11
113	Verify concurrence of non-responsive bids	ALDOT DE, Office Engineer, LPA PC	ALDOT Audit Team	LPA justification (written reason), and ALDOT written concurrence.	11
114	Review and concur in contract award	ALDOT DE, Office Engineer, LPA PC	ALDOT Audit Team	Checklist and bid concurrence or rejection letter.	11
115	Approval of subcontractors – State let	ALDOT DE, Office Engineer, Consult Mgmt, LPA PC	ALDOT Audit Team	LPA Site Manager	12
116	Approval of DBE subcontractors - State let	ALDOT DE, LPA PC, Personnel/Compliance	ALDOT Audit Team	LPA Site Manager	12
117	Approval of subcontractors – Local let	ALDOT DE, Office Engineer, Consult Mgmt, LPA PC	ALDOT Audit Team	LPA Site Manager	12
118	Approval of DBE subcontractors – Local let	ALDOT DE, LPA PC, Personnel/Compliance	ALDOT Audit Team	LPA Site Manager	12
119	Review pre-construction meeting agenda and minutes	ALDOT DE, LPA PC	ALDOT Audit Team	Approved Agenda	12
120	Verify materials testing requirements	ALDOT DE, Materials and Test, LPA Manager/Engr	ALDOT Audit Team	Spreadsheet	12
121	Review Utilities reimbursements	ALDOT DE, Utilities, LPA PC	ALDOT Audit Team	Checklist, invoice copy, supporting docs.	8

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
122	Verify installation of RR devices	ALDOT DE, Rail Section, LPA PC	ALDOT Audit Team	Checklist	9
123	Approve final Utility payment	ALDOT DE, Utilities Section, LPA PC	ALDOT Audit Team	Checklist	8
124	Verify intent to achieve DBE goals	ALDOT DE, Const Bureau, Personnel/Compliance	ALDOT Audit Team	Checklist	10
125	Verify CE invoices for Payment	ALDOT DE, LPA PC, Finance and Audit	ALDOT Audit Team	Checklist	4
126	Review Scope of Work and estimate for Supplemental CE Agreement	ALDOT DE, LPA PC, Office Engineer, Consultant Mgmt	ALDOT Audit Team	Checklist, and written comments	4, 6, & 7
127	Concur with the CE final scope and fee for the supplemental agreement.	ALDOT DE, LPA PC, Office Engineer, Consultant Mgmt	ALDOT Audit Team	Checklist and written concurrence.	4
128	Review Supplemental CE Agreement	ALDOT DE, Office Engineer, LPA PC	ALDOT Audit Team	Checklist, agreement signed as to form and ALDOT letter to checklist, and written comments to LPA issuing a NTP for additional CE services.	
129	Verify Contractor/consultant and CE Title VI compliance	ALDOT DE, Office Engineer, Personnel/Compliance, LPA PC	ALDOT Audit Team	Checklist	10
130	Verify labor/wage rate and EEO compliance	ALDOT DE, Office Engineer, Personnel/Compliance, LPA PC	Finance/Audit	Checklist	10
131	Verify DBE activities	ALDOT DE, Office Engineer, Personnel/Compliance, LPA PC	ALDOT Audit Team	Checklist	10
132	Review change orders	ALDOT DE, LPA PC, and LPA Manager/Engineer	ALDOT Audit Team	Change Order form	12

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
133	Review reimbursements	ALDOT DE, LPA PC, and LPA PC	Finance/Audit	Approved invoice	12
134	Review materials sampling/testing activities	ALDOT DE, LPA PC, Materials and Tests Bureau	ALDOT Audit Team	Daily Checklist	12
135	Review environmental compliance during construction	ALDOT DE, ETS, LPA PC	FHWA	Environmental Compliance Inspection Form	5, 12
136	Review construction project files	ALDOT DE, LPA PC, Finance/Audit	Finance/Audit	Checklist	12
137	Verify pay quantities	ALDOT DE, LPA PC, Finance/Audit	ALDOT Audit Team	Site Manager entry or written supporting documentation.	12
138	Review construction site activities	ALDOT DE, LPA PC, and LPA Manager/Engineer	ALDOT Audit Team	Inspection Reports	12
139	Review construction progress payments	ALDOT DE, LPA PC, Office Engineer, LPA Manager/Engr	ALDOT Audit Team	Signed progress payment	12
140	Review project construction reports	ALDOT DE, LPA PC	ALDOT Audit Team	Checklist	12
141	Review project - final walkthrough	ALDOT DE, LPA PC, and LPA Mgr/Engr, Contractors	ALDOT Audit Team	Checklist	14
142	Verify finals records	ALDOT DE, LPA PC, Office Engr, and LPA Mgr/Engr	Finance/Audit	Final checklist	12
143	Verify achievement of DBE goals	ALDOT DE, LPA PC, Personnel/Compliance	FHWA	Checklist	14
144	Verify overhead rates	ALDOT DE, LPA PC, Finance/Audit	ALDOT Audit Team	Exit Audit	13
145	Verify financial audit	ALDOT DE, LPA PC, Finance/Audit	ALDOT Audit Team	Final Audit	14
146	Verify final CE invoice for Payment	ALDOT DE, LPA PC, Office Engineer, Finance/Audit	ALDOT Audit Team	Checklist	4

Seq. No.	QC/QA Activity	QC	QA	Document	Chapter
147	Verify closure of consultant contracts	ALDOT DE, LPA PC, Finance/Audit, Office Engr	ALDOT Audit Team	Checklist	4
148	Verify permits may be closed out	ALDOT DE, LPA PC, Office Engineer	FHWA, other agencies	Date of each submittal to permit agency and date of final review entered into database.	5
149	Verify appropriate maintenance of the completed project.	ALDOT DE, LPA PC, Maint Bureau, and LPA Mgr/Engr	ALDOT Audit Team	Audit Report	14

Note: In all instances where an *ALDOT DE* is the entry, this is understood to mean the ALDOT Division Engineer, his/her designee, an appointed Division LPA Project Coordinator, or other authorized staff.

15.5.2 QC/QA Activity Table Acronyms and Reference List

ADA – Americans with Disabilities Act

ALDOT Audit Team – May comprise multiple offices, sections, bureaus for specific projects under direction of Bureau of Finance and Audit

Appraisal Section – ALDOT Right-of-Way Bureau Appraisal Section

Bridge – ALDOT Bridge Division

CE – Cat Ex – Categorical Exclusion [environmental document, Class of Action]

CE – Construction Engineering [Services]

Chief Appraiser – ALDOT Right-of-Way Bureau

Chief Negotiator – ALDOT Right-of-Way Bureau

Consultant Management – Section within ALDOT Design Bureau

DE – ALDOT Division Engineer – his/her designee, or Division LPA Project Coordinator

Division LPA Project Coordinator – person designated by the DE for specific tasks

EA – Environmental Assessment [environmental document, Class of Action]

EEO – Equal Employment Opportunity

EIS – Environmental Impact Statement [environmental document, Class of Action]

ETS – ALDOT Environmental Technical Section of Design Bureau

Finance and Audit – ALDOT Bureau of Finance and Audit

FHWA – Federal Highway Administration – Alabama Division

FMIS – Financial Management Information System [FHWA]

LOC – Limits of Construction

LPA – Local Public Agency

LPA PC – ALDOT LPA Primary Contact [various: may refer to various individuals, offices, sections under certain conditions for specific projects]. The official Department PC is Metropolitan Planning Section within Bureau of Transportation Planning and Modal Programs.

LPA RC – The LPA’s representative or *Responsible Charge*. This may also refer to the Project Manager, Engineer, or Administrator.

LPA Project Coordinator – Division LPA Project Coordinator assigned by the DE

M&T – ALDOT Bureau of Materials and Tests

MPO – Metropolitan Planning Organization

NTP – Notice to Proceed

Office Engineer – ALDOT Bureau of Office Engineer [State Engineer]

PE – Preliminary Engineering Services

Personnel/Compliance – ALDOT Bureau of Personnel and Compliance

PS&E – Plans, Specifications, and Estimates

QBS – Quality Based Selection

Rail – ALDOT Rail Section of Bureau of Transportation Planning and Modal Programs

RC – Responsible Charge [LPA Responsible Charge]

Relocation – ALDOT ROW Bureau Section

ROW – Right-of-Way or ALDOT Right-of-Way Bureau

STIP – Statewide Transportation Improvement Program

TIP – Transportation Improvement Program

Title VI – Title 6 of the Civil Rights Act of 1964

Traffic – May refer to ALDOT Traffic Design within Design Bureau, or Traffic Monitoring within Transportation Planning and Modal Programs, or Traffic Modeling within Metropolitan Planning Section of the Planning Bureau.

TS&L – Type, Size, and Location

USACE – United States Army Corps of Engineers

USFWS- United States Fish and Wildlife Service

Utilities – Section within ALDOT ROW Bureau

15.6 Deficiencies

15.6.1 Procedural Deficiencies

A procedural deficiency is a finding that LPA practices and procedures fail to conform to the *LPA Project Guide* or the *LPA Manual for Federal-aid Projects in Alabama* or other applicable Federal and State guidance documents.

Examples of some of the most common LPA procedural deficiencies are:

- Failure to coordinate with the ALDOT Environmental Technical Section (ETS) on environmental issues or continued submission of pre-NEPA or NEPA documentation that contains poor quality work, errors, and omissions;
- Continued submission of plans, specifications, or estimates that contain errors and omissions;
- Continued submission of ROW plans, appraisals or acquisition documents that contain errors and omissions;
- Continued lack of proper communication with ALDOT Division Engineer, Division LPA Project Coordinator, or ALDOT oversight staff;
- Lack of proper or sufficient project documentation and maintaining an unorganized project correspondence file;
- Failure to provide a requesting bureau, office, section, or agency with requested material or documentation in a timely and professional manner.

15.6.2 Major Deficiencies

A major deficiency is a finding by ALDOT and/or FHWA of an error of commission or omission that violates Federal or State laws or regulations and, if uncorrected, would prevent Federal or State financial participation in all or a portion of the project.

Examples of some of the most common major deficiencies are:

- Failure to initiate a reevaluation of an environmental document prior to obligation of construction, when changes in project scope have created additional impacts;
- Failure to initiate a reevaluation of an environmental document during construction, prior to initiating plan changes that create additional impacts;
- Failure to fulfill mitigation commitments or adhere to restrictions identified in pre-NEPA documentation or the approved NEPA document;
- Failure to obtain an approved public-interest-finding allowing the LPA to specify the use of publicly owned equipment, mandatory borrow/disposal sites, patented/proprietary materials, or agency-furnished materials;
- Failure to obtain materials certificates and/or forms for the required materials testing;
- Failure to maintain the completed project (roadway and appurtenances constructed with Federal funds and/or mitigation sites), or portions of the project;

- Failure of the LPA to provide adequate supervision of the project; or
- Failure of the LPA to ensure that the contractor posts all specified posters, notices and wage determinations at the job site.

15.6.3 Unrecoverable Project Deficiency

An unrecoverable project deficiency is a deficiency that violates one or more of the policies and objectives of Title 23 USC, or the interpretive CFR s and the project have proceeded to the point that the deficiency cannot be corrected.

Examples of some of the most common unrecoverable project deficiencies are:

- Project phases performed prior to inclusion in an approved TIP/STIP;
- Any activities (such as preliminary engineering, ROW or construction) performed prior to authorization;
- Violation(s) of environmental permit requirements or conditions, or failure to secure required permits or NEPA approvals;
- Failure to comply with consultant selection procedures;
- Design work (over and above what is required for NEPA compliance) prior to NEPA approval;
- Awarding a project when Form FH WA-1273 was not included in the bid documents;
- Acquiring ROW prior to NEPA approval (except for hardship and protection with FHWA prior approval);
- Performing ROW activities in violation of the Uniform Relocation Assistance and Real Properties Policy Act, as amended, even if there are no Federal funds in ROW;
- Providing false statement(s) on ROW Certification;
- Failure to open the bids publicly, failure to read the bids aloud, or failure to discuss reason(s) for not reading bid(s) aloud, and awarded the contract;
- Award of the construction contract to other than the lowest, responsive bidder for bids based on competition;
- Negotiations with bidder(s) prior to competitive award;
- Award of the contract to a suspended or debarred contractor;
- Failure to construct a project in substantial compliance with the plans and specifications;
- Failure to provide a full-time public employee to be RC of the project;
- LPA bidding in competition or entering into subcontracts with private contractors;

- Awarding a contract that includes provisions requiring a contractor to give preference in hiring (with the exception of Native Americans living on or near a reservation on eligible projects); or without notice of same;
- Permanently incorporating steel or iron or coatings thereon from a foreign source in amounts exceeding the minimal use provisions (without the proper Buy America waiver);
- Performing routine maintenance as a contract item or under a contract change order;
- Payments to a contractor for items of work that were designated for a DBE but performed by others; or
- Failure of the LPA to enforce contract requirements relating to Federal statutes including the provisions of Form 1273.

15.7 Sanctions

LPAs with identified deficiencies in their Federal-aid program are subject to sanctions. During the investigation of deficiencies, ALDOT will initiate a meeting with the LPA. The intent of the meeting is to discuss information relevant to, and obtain a clear understanding of, the deficiencies. Depending on the severity and circumstances of the deficiency, ALDOT and FHWA may impose one or more of the following sanctions:

- Suspend future programming of Federal-aid projects by a particular LPA until corrective action is implemented;
- Require sanctioned additional or remedial training;
- Freeze progress payments for a Federal-aid project until the project deficiency is corrected;
- Withdraw a portion of Federal and/or State funds for a project;
- Withdraw all Federal and/or State funds from a project; and
- Revoke LPA qualification to administer Federal-aid transportation projects;

ALDOT is responsible for notifying the LPA of imposed sanctions. Whether or not sanctions are imposed against an LPA, the LPA shall be expected to develop an action plan and implement it to correct the deficiencies. LPAs will be given adequate time to develop and implement their action plan. Failure to correct the deficiencies in a timely manner shall be grounds for imposing additional sanctions, up to and including revocation of the LPAs qualification to administer Federal-aid transportation projects.

APPENDICES 16.0

16.1 Terms and Definitions

2 CFR - Title 2 CFR - Office of Management and Budget (OMB), Subtitle A - Office of Management and Budget Guidance for Grants and Agreements, Part 225. Formerly known as OMB Circular A-87 and addresses allowable costs incurred by State, local and Native American tribal governments.

23 CFR - Title 23 Code of Federal Regulations (CFR) is a codification of the general and permanent rules and regulations (*revised annually*) required in implementing and carrying out the provisions of Federal law relating to the National Highway Traffic Safety Administration and Federal Highway Administration, Department of Transportation.

49 CFR - Title 49 - Transportation, Code of Federal Regulations, Parts 1-99, contains current regulations issued under Subtitle A - Office of the Secretary of Transportation. The LPA Program will deal mostly with Parts 18, 19, 24, 26-29, 32, 37 and 38 of 49 CFR.

Acquisition - The process of obtaining the Right-of-Way necessary to construct or support a project.

Administrative Settlement - Agreement to pay an amount in excess of the approved offer of just compensation for Right-of-Way that is closed prior to invoking of the LPA's condemnation authority. This must be justified in writing by a designated LPA official.

Alabama Standard Plans - Construction detail plans available from ALDOT that meet AASHTO design requirements.

Alabama Standard Specifications for Highway Construction - The latest edition provides directions, provisions, and requirements for the performance of the work for the quantity, quality, and proportioning of materials.

Allocation - The annual reservation of Federal funds to the LPAs.

Americans with Disabilities Act (ADA) - Under the ADA of 1990. When a LPA constructs any new facility or alters any part of an existing facility, work shall be performed so that the facility is readily accessible to and usable by individuals with disabilities.

Appraisal - A written statement independently and impartially prepared by a qualified appraiser setting forth an opinion of defined value of an adequately described property as of a specific date, supported by the presentation and analysis of relevant market information.

AASHTOWare - Software used to generate project cost estimates.

Authorization - Approval by FHWA to incur future costs on a project.

Betterment - Any upgrading of the facility being improved or relocated that is not attributable to maintenance or reconstruction of the existing facility at its current level of service.

Brooks Act - Requires agencies to promote open competition by advertising, ranking, selecting, and negotiating contracts based on demonstrated competence and qualifications for the type of engineering and design services being procured, and at a fair and reasonable price. Engineering and design related services are defined in 23 USC §112 (b)(2)(A) and 23 CFR

§172.3 to include program management, construction management, feasibility studies, preliminary engineering, design engineering, surveying, mapping, or other related services. These other services may include professional engineering related services, or incidental services that may be performed by a professional engineer, or individuals working under their direction, who may logically or justifiably perform these services.

Categorical Exclusion (CE) – Type of *environmental document* (and Class of Action) that represents minimal impacts to the human and natural environment. Used In the absence of specific impacts and acquisitions under one acre; impacts do not individually or cumulatively have a significant effect on the environment; do not induce significant impacts to planned growth or land use for an area; do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic or other resources; do not involve significant air, noise or water quality impacts; or do not have significant impacts on travel patterns. Actions categorically excluded are exempt from further National Environmental Policy Act (*NEPA*) requirements to prepare either an Environmental Assessment (*EA*) or an Environmental Impact Statement (*EIS*). A Categorical Exclusion must still satisfy all Federal environmental laws and executive orders. [See **Programmatic Categorical Exclusion** or Nationwide Programmatic Categorical Exclusion]

Change Order - A supplement to the contract that provides authority to pay for revisions (*increases or decreases*) in quantities or authorize changes to design features, time allowance, or specifications.

Class of Action – Determination by FHWA establishing the type of environmental document the agency wants to see and level of study to determine degree of impacts by a project. The Class of Action may be a Categorical Exclusion, Environmental Assessment/FONSI, or Environmental Impact Study.

Commitment Compliance - Environmental documents and permits that record commitments made by the project designers and sponsors. These commitments must be fulfilled during and after construction. They are required to be included in PS&E for advertisement to obtain FHWA construction authorization.

Competitive Bidding - Construction projects are required to be advertised and awarded to the lowest responsible and responsive bidder through open competitive bidding.

Completion Letter - Letter from the LPA RC notifying the construction contractor that the project is complete and subject to inspection, audit, and acceptance by the State. This letter is required on competitive bid contracts and LPA force account projects.

Comprehensive Plan - The general, inclusive long range statement of the future development of an LPA. The plan is typically a map accompanied by description and supplemented by policy statements that direct future capital improvements in an area.

Conflict of Interest – As per 23 CFR, no official or employee of a state or any other governmental institution who is authorized in their official capacity to negotiate, make, accept, approve, or to take part in negotiating, making, accepting or approving any contract or subcontract in connection with a project shall have, directly or indirectly, any financial or other personal interest in any such contract or subcontract.

Construction Engineer or Engineering (CE) - Construction engineering services. Could include, but is not limited to: construction inspection, project surveying and staking, and materials sampling and testing.

Consultant - An individual, public or private organization, or institution of higher learning having expertise in professional disciplines applicable to transportation programs and hired by the State or LPA to perform such work.

Consultant Agreement - A standard ALDOT template agreement used between the LPA and their selected consultant for professional engineering services.

Context Sensitive Solutions (CSS) – An approach to project problem solving that features increased levels of public involvement. Used in association with complex, politically sensitive, controversial, or just large multi-faceted projects, CSS at levels 4 and 5 features the use of 'Project or Community Teams' made up of stakeholders and local citizens. A level 5 project team may actually make project decisions and have effective control of a project. Items commonly addressed are community identity issues, needed neighborhood improvements, selected alternatives, and visually appealing structures and landscaping.

Cultural Resources - A class of resources of historic age (*greater than 50 years old*) that include standing buildings, structures (*such as bridges*), districts (*that include structures and buildings*), and archaeological sites. Locations of religious and cultural importance to Indian Tribes also may be cultural resources.

Damages - The loss in the value of the remainder in a partial acquisition of a property. When the LPA acquires a part of an owner's property, the acquisition, planned use, or construction may cause a loss in value of the remaining property. Damages may also extend to adjoining properties in which the property owner has an interest. Normally, the value of the damage is based on a before and after appraisal or on the cost to cure. A property owner is entitled to payment of damages and receives this payment as a part of the payment of just compensation.

Deficient Structure - A bridge which is either structurally deficient or functionally obsolete.

de minimis - Reference to a minimal environmental impact to a Section 4(f) land or property. See 23 CFR 774, [Section 4\(f\) Overview](#). This typically would be seen in association with an Environmental Assessment (EA with Section 4(f) Evaluation) Class of Action. If FHWA rules an acquisition or potential impact to a protected land is 'de minimis,' no further action is required with regard to the 4(f).

Design Exception – May see this referred to in some documents as **Relaxation of Standards**, but the preferred terminology is '**Design Exception**' and this will be used in all references to LPA projects. This is any departure from applicable design standards. **Design Exceptions** are generally discouraged and exceptions must be approved in writing by the ALDOT Chief Engineer. There are no exceptions to this policy.

Disadvantaged Business Enterprise (DBE) - A Federal program that ensures equal opportunity in transportation contracting markets, addresses the effects of discrimination in transportation contracting, and promotes increased participation in federally funded contracts by small, socially and economically disadvantaged businesses, including minority and women owned enterprises. All Federal-aid projects are subject to the legislative and regulatory DBE

requirements which provide that a percentage goal of contractual labor and materials be supplied by DBE business enterprises.

Division County Transportation Engineer (DCTE) – Often designated by the Division Engineer as the primary contact and administrative control from the ALDOT side of LPA (federal or state let) projects from startup to closeout.

Division Engineer (DE) - Engineer in charge of one of the nine ALDOT Divisions in the State. [There are Department alignment changes underway to convert the existing nine Divisions into five Regions. As of this update, the eighth and ninth Divisions have been consolidated into the Southwest Region. Further changes will be made to the Manual during annual reviews.]

Donation - The voluntary conveyance of real property without compensation which may be utilized for an improvement project. Donations of future Right-of-Way can only be accepted if the offer to donate is done voluntarily by the property owner who is advised of the right to receive an appraisal but signs a written waiver of the rights to be compensated. Right-of-Way that is donated must also receive an environmental clearance even if no other Right-of-Way or rights in real property are required for the project.

Draft Environmental Impact Statement (DEIS) – See Environmental Impact Statement (EIS). A draft Class of Action document identifying potential impacts by a project, possible alternatives, and detailed analysis of the potential environmental impacts considered, and proposed mitigation. The DEIS is circulated to other agencies and the public for review and comment.

Easement - The right acquired by public authority to use or control property for a designated utility or transportation purpose. A right created by grant, reservation, agreement, prescription, or necessary implication, which one has in the land of another. It is either for the benefit of the land (*appurtenant*), such as the right to cross A to get to B, or “in gross,” such as a public utility easement. Easements remain in existence until; (a) they are terminated by either the grantee or under the conditions set forth by law (*permanent easement*), or, (b) a specified amount of time has elapsed (*temporary easement*).

Eminent Domain (Condemnation) - The governmental power reserved to acquire private property rights by due process of law when the proven necessity for public use arises. When exercising this right, two basic requirements must be met: 1) the use must be public, and 2) just compensation must be paid to the owner prior to taking possession of the property. [*Due to the politically sensitive nature of this topic, the Division Engineer may choose to refer an issue of Eminent Domain in association with an LPA project directly to the Assistant Chief Engineer of Policy and Planning for review.*]

Encroachment – A situation which occurs when improvements are discovered to be on another’s property illegally or without permission.

Environmental Assessment (EA) – A second tier environmental document and Class of Action and the base document for which impact studies and analyses are prepared. Required when the significance of the potential environmental impacts by a project are not clearly established or known. The EA provides sufficient analysis and documentation to determine if a Finding of No Significant Impact (FONSI) can be approved by FHWA or if preparation of a Draft EIS (DEIS) is warranted. Typically takes 24 to 36 months to complete, including the FONSI.

Environmental Impact Statement (EIS) – Third tier and highest level environmental document and Class of Action. Most often associated with projects of considerable size, complexity, or controversy. Required in the presence of obvious or known potential impacts to the human or natural environment. Detailed written statement of potential adverse project effects on the environment. This term refers to either a Draft or Final Environmental Impact Statement or both, depending on its context. Generally large documents with supporting narrative, study data, and public involvement records. Typically takes 36 to 60 months to complete.

Environmental Determination - Document used to determine the Class of Action. A checklist form is used for all actions not categorically excluded or not clearly requiring an EIS.

Environmental Document - Any document that identifies the social, economic, and environmental effects of a proposed project as defined by NEPA.

Environmental Justice - Efforts to avoid disproportionately high and adverse impacts on minority and low income populations with the respect to human health and the environment.

Environmental Mitigation - The act of lessening the damages to the surrounding area and its inhabitants which are attributable to a proposed project. Examples include: acquiring alternate sites to replace wildlife habitat or wetlands, or building sound walls for noise attenuation.

Environmental Site Assessment (ESA) – [Phases 1 and 2] - An environmental study conducted to assess the potential for contamination of a property or parcel with hazardous substances. The process by which a person or entity seeks to determine if a particular parcel of real property including improvements has been impacted by hazardous substances and/or petroleum products.

Environmental Technical Section (ETS) – Section within ALDOT's Design Bureau responsible for pre-NEPA and NEPA environmental documentation and mitigation actions in Alabama.

Fair Market Value (FMV) - The highest price estimated in terms of money which a property will bring if exposed for sale in the open market allowing a reasonable time to find a purchaser who buys with knowledge of all the uses to which it is adapted and for which it is capable of being used. The highest price which a buyer, willing but not compelled to buy, would pay; the lowest a seller, willing but not compelled to sell, would accept.

Fee Simple - An absolute ownership without limitations or restrictions, but subject to the inherent powers of government such as eminent domain, escheat, police power, and taxation.

FHWA - The Federal Highway Administration and/or the Alabama Division of FHWA.

Field Review - A site visit conducted to gather or verify data, define scopes of work, perform analyses, and make decisions for specific projects.

Final Design - The development of detailed working drawings, specifications, and estimates for transportation projects. Final design follows the receipt of necessary design and/or environmental approval, and it includes Right-of-Way acquisition and utility relocation.

Final Estimate - Estimate of the total project cost of a project prepared after completion of the construction contract and used as the basis for final payment to the contractor.

Fiscal Management Information System (FMIS) – FHWA financial information system for use by FHWA and state DOTs to track funding of transportation projects on a project-by-project basis.

FONSI – A Finding of No Significant Impact (FONSI) is required if an Environmental Assessment determines there are no impacts on environmental quality by the project in question. Typically, such a document (EA) would be approved by FHWA and the maker advised that a FONSI will be required. The FONSI summarizes the findings, the sponsor's alternatives, and any comments received from the public, state or federal agencies, and interested parties. FHWA must approve this document also, before distribution. Distribution/circulation is not required, but document clearinghouses must be advised of availability and notices posted in local newspapers.

Force Account Work – State (ALDOT) equipment, material, or manpower used on a project. This is usually construction work that arises unexpectedly, is not covered in the contract documents, and not amendable by a change order. Force-account reimbursement is used when it is difficult to provide an adequate measurement or estimate of the cost of certain items of work. The work can be performed by a contractor, a subcontractor, or *state forces*, and the cost is determined by keeping track of the labor, equipment, material, and associated costs used to complete the unexpected work. ALDOT must approve all such work prior to performing the work. The work must be in the public interest, shown to be cost effective, or done in an emergency situation.

Fore slope – (Front Slope) - The two most common slopes used in road construction are the **fore slope** and **back slope**. The fore slope extends from the outside of the shoulder to the bottom of the ditch. The back slope extends from the top of the cut at the existing grade to the bottom of the ditch. The amount of slope in a fore slope or back slope is the ratio of horizontal distance to vertical distance.

Functional Classification - Roadway classifications referenced in this manual are the classifications shown on the official Federal Functional Classification maps maintained by the ALDOT Metropolitan Planning Section (*e.g., principal arterial, minor arterial, collector*). For roadway planning purposes, in the State of Alabama, certain formal planning documents, associated network mapping, and network computer modeling must include all roads, highways, streets, and thoroughfares shown on the Federal Functional Classification Maps.

Functionally Obsolete - A bridge is generally considered functionally obsolete if it is unable to properly accommodate traffic due to poor roadway alignment, insufficient width, low structural evaluation, or inadequate clearances above the waterway. [FHWA 2010 Bridge Ratings](#)

Hazardous Materials/Waste - A material is hazardous if it poses a threat to human health or the environment. The term is applicable to storage, deposit, contamination, etc., involving a hazardous material which has escaped, or has been abandoned. It can be defined in general terms as flammable, reactive (*subject to spontaneous explosion of fire*) substances, corrosive, and toxic. Regulations require all toxic substances be removed in accordance with local laws prior to a public project proceeding to construction. Involvement with hazardous waste sites can lead to significant clean up costs and project delays. In environmental documentation of impacts, an Environmental Site Assessment (ESA), Phases 1 and/or 2, may be required.

Hearing Summary - Summary of comments received from a public hearing.

Highway Easement - See definition for Easement.

Historic Significance - The quality of a property or place, fifty (50) or more years of age, by its association with one or more of the following: (a) important events in the past; (b) associations with important persons; (c) importance in design or construction; or (d) for the potential to provide important information about the past. The presence of this quality along with sufficient integrity are the criteria considered in making a determination whether a property is or is not eligible for the National Register of Historic Places.

Initial Coordination (IC) – Once scoping, field reviews, and consultation with FHWA have occurred and preliminary Class of Action has been determined, first contacts with resource agencies are made by the Environmental Technical Section of ALDOT, requesting cooperation, participation, and/or comments on the proposed project.

Just Compensation - The payment made to a property owner in order to acquire property. The payment includes the value of the real estate acquired and any damages caused to the remainder of the property by the acquisition and/or construction and must be at least equal to the amount of the appraisal.

Lead Agency - A Federal, State, or LPA taking primary responsibility for preparing an environmental document.

Legal Settlement - Any settlement effectuated by final judgment.

Level of Service (LOS) – In measuring the ability of highway infrastructure to withstand projected traffic volumes and increased congestion, engineers and planners use an observed condition in traffic flow called Level of Service (LOS). Values assigned to a given observation range from A (free flow operations) through F (breakdown in vehicular flow).

- A - Free flow
- B - Reasonably free flow
- C - Stable flow
- D - Approaching unstable flow
- E - Unstable flow
- F - Forced or breakdown flow

Liquidated Damages - Amount(s) of money to be assessed against a contractor for late completion. The amount(s) must be related to, but not necessarily equivalent to, the actual damages suffered by the owner because of the late completion.

Local Public Agency (LPA) – A municipality, city, county, township entity, or special authority sponsoring a federally funded transportation project and determined to be qualified to assume the administrative responsibilities for such projects by ALDOT.

Local Match - Portion of a project's cost paid for with LPA funds.

Location/Design Hearing - Public hearing to examine the location and conceptual design of a proposed transportation facility. Also called *corridor hearing* or *route hearing*.

Low Water Crossing - Waterway crossing, other than a bridge, where construction

improvements have been made to produce a firm surface for vehicles to travel.

LPA Project Coordinator - ALDOT Division person assigned to coordinate and work directly with the LPA and ALDOT Bureaus, Sections, and Offices.

Maintenance - Work directed toward the preservation of an existing roadway and related appurtenances as necessary for safe and efficient operation.

MAP-21 – Signed into law as *Moving Ahead for Progress in the 21st Century (MAP-21)* in July of 2012, this is also known as Public Law 112-141. This is the successor legislation to SAFETEA-LU.

Materials Certification - A statement provided by the contractor, fabricator, or manufacturer that certain materials comply with the requirements of the contract.

Metropolitan Planning Area - The area taken in by the Metropolitan Planning Organization for planning purposes. The MPA will include the urbanized area(s) and the anticipated 20-yr growth area, often referred to as 'study area,' though use of the term is now discouraged. MPOs with a population in excess of 200,000 will refer to its maximum coverage area as a Transportation Management Area or TMA.

Metropolitan Planning Organization (MPO) - An organization designated by the governor for communities with a population greater than 50,000 that is responsible for developing, implementing, monitoring, and updating a variety of transportation plans that are designed to enhance the region's competitive position, promote regional growth, improve personal mobility, and preserve the environment. It serves as the forum for cooperative transportation decision making by principal elected officials of general purpose government.

Milestone Date - One of many specific activity completion dates. These dates are used to indicate the status of the critical development path and the progress of a project.

National Environmental Policy Act of 1969 (NEPA) - A law that requires all Federal agencies to consider environmental issues in their planning and decision making processes. Compliance entails implementing a systematic and interdisciplinary approach in order to account for environmental impacts of any Federal-aid action before transportation improvement actions are taken. An environmental document (Class of Action) must be approved by FHWA before a DOT can begin implementation of an infrastructure project.

National Highway System (NHS) - Those roads and highways defined by the National Highway System Designation Act of 1995 as signed into law on November 28, 1995, plus any subsequent modifications.

National Register of Historic Places (NRHP) - The national list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology, engineering, or culture. It is maintained by the Secretary of the Interior under authority of Section 101(a)(1)(A) of the National Historic Preservation Act, as amended.

Negotiation - The process of communication whereby an agreement is arrived at for the voluntary transfer of ownership at terms mutually acceptable to all parties of interest. This is the primary method for acquiring property for a project. It involves explaining items such as details of construction and just compensation, listening to the property owner, and determining the best

way to reach an agreement for the sale of property.

New Construction – Often known as New Location or alignment, depending on the project, it is building a new roadway, trail, or structure on substantially new ground or the upgrading of an existing roadway or structure by adding one or more lanes. If 50% or more of the project length involves vertical or horizontal alignment changes, the project is considered new construction. The following types of projects are NOT classified as new construction, and the 3R standards apply:

- Modernization of an existing roadway or bridge by resurfacing, widening lanes, adding shoulders or adding turn lanes at intersections.
- Temporary replacement of a roadway or bridge immediately after the occurrence of a natural disaster or catastrophic failure to restore the facility.

Nonparticipation Items - Items of project work that are not eligible for Federal-aid.

Notice of Intent (NOI) - A notice printed in the Federal Register advising that an Environmental Impact Statement (EIS) will be prepared and considered for a proposal.

Obligation Limitation - Also called OBLIGATION AUTHORITY and CONTRACT CONTROL, it limits the amount of Federal funds that may be obligated during a certain time period.

Obligation of Funds - The formal commitment by FHWA to participate in a share of the project costs.

Off-System Routes - Routes that have a functional classification of rural local, local road or street, or rural minor collector.

On-System Routes - Routes that have a functional classification of urban collector, rural major collector, rural or urban arterial, or expressway.

Partial Acquisition - The taking of only a part of a property for public use under the power of eminent domain and for which just compensation must be paid, offsetting the damages and/or special benefits to the remaining property.

Performance Measures – Also *Sustainable Projects Performance Measures*. Often understood to mean ‘...capacity to endure,’ the notion of sustainability in terms of project development has generated a need to measure that sustainable quality in some fashion. A *Performance Measures – Closeout Survey* is under development as part of the Chapter 14 end of project actions, in which the Division and LPA will provide anecdotal and statistical information to aid future measurement efforts, support tools, and processes to that end. A copy of the survey is available for download in the chapter listings on the website.

Permanent Easement - See definition for Easement.

Plans, Specifications, and Estimates Package (PS&E) - A packet of information needed to obtain Federal authorization prior to the advertisement of a project for construction bids. Its content shall include a copy of the project agreement, the LPA Project Engineer’s official cost estimate, a copy of the plans, the environmental consultation form, the Right-of-Way certification, and a copy of the project specifications. The estimates, plans, and specifications must be signed and sealed by a Professional Engineer/Architect. [LPA projects require an

FHWA concurrence point prior to execution of agreement.]

Posting - Establishment of a maximum weight limit for vehicles using a bridge or suspended roadway structure. Includes bridges, culverts, drainage pipe exceeding a certain size, temporary structures, and ramps.

Preliminary Engineering (PE) - Preliminary engineering involves all engineering, design, and environmental studies work performed by the LPA or their consultant prior to bid letting. This involves activities directed by Environmental Technical Section (ETS) of Design Bureau on environmental issues (including permits) and the preparation of construction plans, specifications, and cost estimates (PSE) to be used for bidding and building a project. The PE phase of a project ends with the opening of construction bids.

Prequalified Consultant - The selected consultant is prequalified by ALDOT for a particular work category through the submission of credentials, and has been chosen by the LPA or ALDOT using a Quality-Based Selection Process. A list of prequalified consultants and prequalification categories is maintained on ALDOT's website.

Prequalified Contractor - The selected contractor is prequalified by ALDOT for a specific work type through the submission of credentials. A list of prequalified contractors and prequalification work types is maintained on ALDOT's website.

Prequalifying Prospective Bidders - In advance of considering, opening or accepting bids, or in advance of issuing bid proposals, the process used by a contracting agency to establish limitations on the amounts and types of work contractors are permitted to bid on and to have underway at one time.

Prime Contractor - The selected ALDOT prequalified contractor that is responsible for at least 51% of the awarded contract dollars.

Program Agreement for Safe Routes to School (SRTS) or Transportation Enhancement (TE) Projects - This is an agreement between the LPA and ALDOT detailing responsibilities for completion of a SRTS or TE project. This agreement will be drafted by the ALDOT LPA Special Programs Administrator (TE) in Central Office Modal Programs in consultation with the LPA Division Coordinator. The agreement must be executed by the LPA and ALDOT. **Note:** *Safe Routes to School projects are covered in MAP-21 under the new Transportation Alternatives Program (TAP). The Transportation Enhancement (TE) program has been discontinued under MAP-21, but projects will continue to be let until program funds are fully expended.*

Programmatic Categorical Exclusion (PCE) – Also known as Nationwide Programmatic Categorical Exclusion. Approach to environmental documentation in which advance concurrence with FHWA on CEs meeting criteria provided in 23 CFR 771.117(d) allows minimal processing on projects with no environmental impacts. Most Transportation Enhancement (TE) projects in Alabama are processed under a Programmatic CE. [FHWA Programmatic CEs](#). In an effort to improve project delivery, if an LPA project is determined by the Division Engineer to come under the definition of a PCE during the LPA and project certification process, the DE will so state in the **Certification Letter** and the project will be processed under those guidelines.

Progress Billing - Request from LPA or contractor for State/Federal reimbursement for work

completed on a Federal-aid transportation project during a defined time period.

Progress Estimate - Estimate of the contractor's total amount of work completed by the date listed by work item.

Pro Rata Share - The legal Federal share for a project established at the time of project approval. Pro rata share is typically expressed as a percentage of the total participating costs of the project.

Progress Payment - Payment by a LPA to a consultant or construction contractor for work completed on a Federal-aid transportation project during a defined time period.

Project Agreement (PA) - A legal document of understanding between the LPA and ALDOT. They are necessary for administration of each project.

Proprietary - A product or process available only through a single supplier or manufacturer.

Proprietary Specifications - Refers to and requires specific products by trade name and model.

Public Interest Finding - Justification of a project based upon a finding of cost effectiveness or an emergency situation that must be provided to FHWA by ALDOT on behalf of a LPA.

Public Involvement Plan - Required, integral part of an environmental study that outlines procedures for presenting information to the public, obtaining public comment, and considering public opinion. Notice of public hearings must be published. **Note:** *This is not to be confused with MPO Public Participation Plans (PPPs).*

Public Meeting - An announced meeting conducted by transportation officials designed to facilitate public participation in the decision-making process and to assist the public in gaining an informed view of a proposed project during the transportation development process.

Quality Control/Quality Assurance - Quality is the degree to which a product or service satisfies defined expectations representing a balance of identified requirements. **Quality Control (QC)** is an independent checking of the work and use of control points to ensure a high level of confidence that each project will meet expectations. **Quality Assurance (QA)** is a function that identifies, documents, and reviews for improvement of the processes that deliver products. See Chapter 15.0 Quality Control.

Qualifying Low Bidders - After bid opening, the process by a contracting agency used to consider the qualifications of the apparent low bidder to perform the work.

Qualifications-Based Selection Process (QBS) - A negotiated procurement process for consultant selection based upon qualifications and competence in relation to the work to be performed. Cost of services cannot be a factor in evaluating potential consultants.

Real Estate - In realty terms, physical land and the appurtenances, including structures affixed thereto.

Reconstruction - Removal and rebuilding of all paving layers, including base or sub-base layers. See Rehabilitation.

Record of Decision (ROD) - A Record of Decision is issued by the Federal Highway

Administration (FHWA) and signals formal federal approval and acceptance of a n Environmental Impact Statement (EIS) or Environmental Assessment (EA) document for a proposed transportation project. The ROD authorizes the implementing state agency (ALDOT) to proceed with design, land acquisition, and construction based on the availability of funds.

Rehabilitation - See also RECONDITIONING, RE CONSTRUCTION, RESTORATION and RESURFACING. This type of work may include removal of the pavement layers (i.e., milling) down to but not including the base or sub-base, recycling or reworking existing materials to improve their structural integrity, adding under-drains, and improving or widening shoulders. Rehabilitation may include acquisition of additional right-of-way. Also, work required to eliminate the items that cause a bridge, structure, or roadway facility to be identified as deficient.

Reimbursement - Payment of funds to an LPA.

Relaxation of Standards (*design exception*) – This is any departure from applicable design standards. **Design Exceptions** are generally discouraged and exceptions must be approved in writing by the ALDOT Chief Engineer. There are no exceptions to this policy.

Relocation Assistance - The process by which an LPA meets the legal requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) that provides for relocation services, moving payments, and replacement housing payments for all eligible individuals, families, businesses, farms, and nonprofit organizations, which are displaced by a project. For additional information on the Uniform Act, go to the following HUD site: [Uniform Act](#). [Updated FHWA link not available.]

Responsible Charge (RC) – A full-time public employee of the LPA who is in responsible charge of a Federal-Aid transportation project and has decision-making authority to assure project compliance with the *LPA Project Guide* and the *LPA Manual for Federal-Aid Projects in Alabama* and all applicable Federal and State rules and regulations.

Restoration - Work performed on pavement or bridge decks to render them suitable for resurfacing. This may include supplementing the existing roadway by increasing surfacing and paving courses to provide structural capability and by roadway widening up to a total of ten (10) feet. Restoration will generally be performed within the existing Right-of-Way.

Resurfacing - Addition of a layer or layers of paving material to extend the serviceable life of a facility, provide additional structural integrity, and improve user safety and comfort. The process may include removal of old or existing layers through milling.

Right of Entry - A document used to obtain permission to enter and perform some activity prior to the effective date of a Right-of-Way contract or an Order for Possession. It may be used to certify control of Right-of-Way in rare instances such as emergency situations. Solicitation of Rights of Entry prior to the appraisal process should be restricted to circumstances which are exceptional or emergency in nature. Ordinarily, the Right of Entry will not displace people or impact improvements of a significant nature. In all instances when a Right of Entry is secured, the document must explain the provisions for use, disposal, amount, and the time period.

Right-of-Way (ROW) - Land acquired for or devoted to transportation purposes. ROW is granted by deed or easement for construction and maintenance of the designated use, which may include trails, roadways, or other public uses.

Right of Way Certificate - Document prepared and executed by the LPA that indicates the status of the transfer of title, relocation of displaced persons, demolition of improvements, and removal of hazardous materials or remediation of contamination on the Right-of-Way required for construction of the project. It also certifies that Right-of-Way activities were conducted in accordance with all Federal, State, and local laws, rules, and regulations.

Right of Way Cost Estimate - This document should include an estimated value of takings, any damage costs, incidental costs (such as appraisal fees, negotiator fees, title fees, et c.), relocation expenses, possible condemnation costs, and demolition fees on a tract-by-tract basis.

Roadway Width - Portion of a street or road between curbs or including shoulders intended for vehicular use.

Safe Routes to School Selection Committee - A 5-member select committee reviews the applications submitted to A LDOT for S RTS funds. This committee makes formal recommendations to the ALDOT Director for project funding based on established program criteria.

SAFETEA-LU - Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, also known as Public Law 109-59, signed into law August 10, 2005. SAFETEA-LU was succeeded by MAP-21, which became law in July 2012.

Scoping – Early process of identifying issues and alternatives for a transportation improvement project. It can also refer to PE scoping to determine the environmental class of action (environmental document) necessary to satisfy NEPA requirements.

Scope of Services (SOS) – When provided as part of a project proposal, describes specific work categories, milestones, deliverables, and will accompany a draft agreement and cost estimates for services.

Section 106 - Section of the National Historic Preservation Act of 1966 (*in 36 CFR 800*) which governs the identification, evaluation, and consideration of historical and archaeological resources affected by State and Federal transportation projects.

Section 404 - Section of the 1972 Federal Clean Water Act, as amended in 1977, which addresses discharge of dredged or fill materials into wetlands, or waters of the United States, and the permitting processes for same.

Section 401 Water Quality Certification - Provisions required by the Federal Clean Water Act for projects involving the discharge of materials into surface waters, including wetlands.

Section 4(f) of the U.S. Department of Transportation Act, as amended (49 USC 303) - Provides protection for public parks and recreation areas, wildlife and waterfowl refuges, and significant historic sites on publicly owned land. See also '*de minimis*.'

Section 6(f) - A provision in the Federal Land and Water Conservation Fund Act that protects public recreational properties, developed or enhanced, using Federal funding supplied to states or municipalities under the act, by requiring replacement of lands converted to non-recreational uses. Proposed transportation projects which affect such lands require a study and an analysis of alternatives to serve as the basis for a Section 6(f) finding by the U.S. Department of the Interior.

Soft Match Credit - Credit earned by LPAs that replace their deficient bridges by using local funding. The credit can be used in lieu of the required local match for future Federal-aid bridge projects. Soft match is authorized by 23 USC 120 (j). It provides that a state may get credit for certain qualified state expenditures that may be used as the state matching share for a federal aid project. These state expenditures are known as soft match. The theory is that these expenditures relieved the federal program from having to incur federal expenditures for a federal aid project. Accordingly, the state may use such state expenditures as the state matching share for HPC program project expenditures. The benefit is that the state does not have to put up cash for a project when soft match is used.

Sole Source - Qualifications-based selection, with or without competitive negotiation techniques. Selection of a contractor for negotiations based on its reputation or prior relationship with the agency, without first going through a competitive selection process. Use of this method is generally limited to situations where the consultant/contractor offers a unique and innovative concept, demonstrates a unique capability to provide particular services, or offers a concept or services not otherwise available to the LPA.

Special Provisions - Portion of the construction contract specifications addressing conditions that are unique to a specific project.

Standard Specifications – ALDOT specifications (2012) to be used on LPA projects, or generally, sets of typical construction contract specifications.

State, Department, or ALDOT – Alabama Department of Transportation

State Representative - This is the individual from the Alabama Department of Transportation Division office assigned to the project, typically an engineer and designee of the Division Engineer, who will perform quality assurance activities on the project during construction. This individual may or may not be the Division LPA Project Coordinator.

Statewide Transportation Improvement Program (STIP) - ALDOT Statewide Transportation Improvement Program, which sets forth all projects that have been approved for funding under the various programs administered by the Department. As a general statement, the STIP is made up of, but not limited to, all projects for which ALDOT is responsible, and all MPO TIP projects.

Structurally Deficient - A bridge is generally considered to be structurally deficient if it is in relatively poor condition, or has insufficient load carrying capacity for modern design loadings. The insufficient load capacity may be the result of the loads used in the original design or degradation of structural properties due to deterioration.

Sufficiency Rating - A numerical rating of a bridge based on its structural adequacy, safety, serviceability, functional obsolescence, and whether essential for public use.

Supplemental Agreement - An agreement that revises or amends previous agreements between the LPA, the LPA consultant, or ALDOT.

Surface Width - Portion of a street or road between curbs or shoulders that is used by moving vehicles, including turning lanes, but excluding parking lanes and/or shoulders.

Temporary Easement – See definition for Easement.

Three R (3R) - Work undertaken to extend the life of an existing roadway, trail, or structure and

enhance transportation safety. (*Restoration, Rehabilitation, and Resurfacing*).

Tied Bids - Practice of letting a single construction contract for two or more projects. Usually done to take advantage of economies of scale, such as more favorable unit prices for larger quantities of material.

Title 23 U.S.C. - Title 23 of the United States Code contains most of the laws governing the Federal-aid highway Program, in current amended MAP-21 Sections 1201 and 1202, July 2012. The applicable interpretive regulations are found in 23 CFR 450.

Transportation Alternatives Program (TAP) – Introduced in MAP-21 (Section 1122), the TAP is a consolidation of some existing programs and additional program funding for the following:

- On-road and off-road pedestrian and bicycle facilities
- Infrastructure projects for improving non-driver access to public transportation and enhanced mobility
- Community improvement activities
- Environmental mitigation
- Recreational Trail Program
- Safe Routes to School (SRTS)
- Planning, designing, or constructing boulevards and other roadways in the right-of-way of former interstate routes or other divided highways

Transportation Enhancement Select Committee - A volunteer committee that reviews the applications submitted to ALDOT for TE funds. This committee makes formal recommendations to the ALDOT Director for project funding based on established program criteria.

Transportation Enhancement (TE) Projects or Safe Routes to School (SRTS) Program Agreements - This is an agreement between the LPA and ALDOT detailing responsibilities for completion of an SRTS or TE project. This agreement will be drafted by the ALDOT LPA Special Programs Administrator (TE) in Central Office Modal Programs in consultation with the LPA Division Coordinator. The agreement must be executed by the LPA and ALDOT. **Note:** *Safe Routes to School projects are covered in MAP-21 under the new Transportation Alternatives Program (TAP). The Transportation Enhancement (TE) program has been discontinued under MAP-21, but projects will continue to be let until program funds are fully expended.*

Transportation Improvement Program (TIP) - A Transportation Improvement Program issued by a Metropolitan Planning Organization (MPO) is the short-range component of the existing Metropolitan, Regional, or Long Range Plan, and comprises a listing of prioritized and funded (financially constrained) projects to be constructed within the four-year short-range cycle. This listing includes projects funded using State and/or Federal programs, including the LPA projects.

Transportation Management Area (TMA) – Metropolitan Planning Organizations having communities with a population greater than 200,000 has a planning area referred to as a Transportation Management Area (TMA) rather than a Metropolitan Planning Area, and functions differently in some respects. Both descriptions will include the urbanized areas and a 20-year growth area (or study area).

Uneconomic Remnant - A remainder of land that has little or no value or utility to the owner because of a partial acquisition of a larger portion of land and typically treated by ROW as unusable or not viable. Such portions or remnants are subject to compensation agreement.

Uniform Act - Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

Urban or Urbanized Area – In terms of population, a built up or more densely populated area of a Metropolitan Planning Area (50,000 population) or Transportation Management Area (200,000 population), as opposed to a Rural Area, an area of less density. In cartography, land area within the boundaries of the Federally-designated urban areas (population over 5,000), as shown on official ALDOT urban area maps.

Utility, Slope, or Drainage Easement - Easements for specific purposes, covering areas which will either remain permanently under the acquiring LPA control, or be relinquished to the utility owner by formal agreement.

Walkway - Continuous way designated for pedestrians and separated from through traffic lanes by a curb, space, pavement marking, or barrier.

Wetlands - Those areas that are inundated or saturated by shallow surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, natural ponds, wet meadows, river overflow, and similar areas.

16.2 Commonly Used Acronyms and Abbreviations

3C	Comprehensive, Continuing, Cooperative [TEA-21 Planning Process]
3R	Resurfacing, Restoration, Rehabilitation
4R	Includes 3R plus Reconstruction
AA	Affirmative Action
AASHTO	American Association of State Highway and Transportation Officials
AHC	Alabama Historical Commission
ADAAG	Americans with Disabilities Act Accessibility Guidelines
ADA	American's with Disabilities Act
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
AIA	American Institute of Architects
ADEM	Alabama Department of Environmental Management
ADNR	Alabama Department of Natural Resources
ALDOT	Alabama Department of Transportation
ANSI	American National Standards Institute
APE	Area of Potential Effect
APZ	Military Airfield
ARPA	Archaeological Resources Protection Act of 1979 (permit)
ARTBA	American Road and Transportation Builders Association

ASTM	American Society for Testing and Materials
BIN	Bridge Identification Number
BMP	Best Management Practices
BRZ	Bridge Replacement – Off System
CAA	Clean Air Act
CE	Categorical Exclusion [NEPA Environmental Class of Action] or Construction Engineer or Cost Estimate, and depending on use
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 Regulation
CIA	Community Impact Assessment
COE	United States Army Corps of Engineers
COI	Conflict of Interest
CPMS	Comprehensive Project Management System (ALDOT Main Database)
CPM	Critical Path Map
CSS	Context Sensitive Solutions [often seen as CSD/CSS: Context Sensitive Design/Context Sensitive Solutions]
CWA	Clean Water Act
CZ	Civilian or civil airport or airfield
DCTE	Division County Transportation Engineer
DBE	Disadvantaged Business Enterprise
DE	Division Engineer
DEIS	Draft Environmental Impact Statement
DHV	Design Hourly Volume (Traffic)
DNR	Department of Natural Resources
DOC	US Department of Commerce
DOJ	US Department of Justice
DOL	US Department of Labor
DSD	Decision Sight Distance
EA	Environmental Assessment
EE	Engineer's Estimate
EEO	Equal Employment Opportunity
EI	Engineering and Inspection
EIS	Environmental Impact Statement
EJ	Environmental Justice
e _{max}	Maximum Super Elevation Rate
EO	Executive Order
EPA	Environmental Protection Agency
ER	Emergency Relief Program
ESA	Endangered Species Act
ESRI	Environmental Scientific Research Institute
ETS	Environmental Technical Section (ALDOT Design Bureau)
FAR	Federal Acquisition Regulation

FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMIS	Fiscal Management Information System
FMV	Fair Market Value
FONSI	Finding of No Significant Impact
FPPA	Farmlands Protection Policy Act
FTA	Federal Transit Administration
FWCA	Fish and Wildlife Coordination Act
FWS	Fish and Wildlife Service
GIS	Geographical Information System
GSA	General Services Administration
HAZMAT	Hazardous Materials
HBA	Highway Beautification Act
HCM	Highway Capacity Manual
HRRRP	High-Risk Rural Roads Program
HSIP	Highway Safety Improvement Program
HUD	United States Department of Housing and Urban Development
ICE	Independent Cost Estimate
IC	Initial Coordination
I/D	Incentive/Disincentive
ISD	Intersection Sight Distance
IP	Individual Permit
ITE	Institute of Transportation Engineers
K	K-factor (Traffic)
LCLC	Lincoln City Lancaster County MPO
LEP	Limited English Proficiency
LOS	Level of Service
LPA	Local Public Agency
LPAG	Local Public Agency Group
LUST	Leaking Underground Storage Tank
LWCFA	Land and Water Conservation Fund Act
MAPA	Metropolitan Area Planning Agency
MAP-21	Moving Ahead for Progress in the 21 st Century [Public Law 112-141, July 2012]
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organizations
MUTCD	Manual on Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NAP	Noise Abatement Policy
NBIS	National Bridge Inspection Standards
NCHRP	National Cooperative Highway Research Report

NEPA	National Environmental Policy Act [of 1969]
NFPA	National Fire Protection Association
NFS	National Forest Service
NHI	National Highway Institute
NHS	National Highway System
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NOR	Notice of Registration
NPS	National Park Service
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRD	Natural Resource District
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
NSBP	National Scenic Byways Program
NTP	Notice-to-Proceed
NWP	Nationwide Permit
OFCCP	Office of Federal Contract Compliance Programs
OJT	On-the-Job Training
OMB	Federal Office of Management and Budget
PA	Project Agreement
PC	Point of Curve
PMS	Pavement Management System
PE	Preliminary Engineering or Professional Engineer
PES	Proposal and Estimate System
PH	Peak Hour (Traffic)
PHF	Peak Hour Factor (Traffic)
PI	Point of Tangent Intersection
PIH	Plan-in-Hand
PIL	Public Interest Letter
PROWAG	Public Right of Way Accessibility Guidelines
PSD	Passing Sight Distance
PS&E	Plans, Specifications, and Estimates
PT	Point of Tangent
QA	Quality Assurance
QBS	Qualifications-Based Selection
QC	Quality Control
RC	Responsible Charge
RCRA	Resource Conservation and Recovery Act
RCRAIS	Resource Conservation and Recovery Information System
RFP	Request for Proposal
ROD	Record of Decision
ROW	Right-of-Way

RR	Railroad
RRX/RRZ	Rail Highway Crossing
SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users [Public Law 109-59, August 2005]
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Office
SOS	Scope of Services
SRN	Safe Routes Nebraska
SRTS	Safe Routes to School Program
STD	State Transportation Department [used in Codes of Federal Regulations]
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
SHSP	Strategic Highway Safety Program
SSD	Stopping Sight Distance
SWPPP	Storm Water Pollution Prevention Plan
TADT	24 hr. % Commercial Vehicles [also used; Twin Axle Dual Tire, Throughput]
TAP	Transportation Alternatives Program
TCB	Temporary Concrete Barrier
TCP	Traffic Control Plan
T & E	Threatened and Endangered Species
TEA-21	Transportation Equity Act of the 21 st Century
TE	Transportation Enhancement
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TRB	Transportation Research Board
TWLTL	Two-way Left Turn Lane [also Continuous Two-way Left Turn Lane]
USC	United States Code
US	United States
US DOI	US Department of Interior
US DOT	US Department of Transportation
USACE	US Army Corps of Engineers
USCG	US Coast Guard
USDA	US Department of Agriculture
USDOL	US Department of Labor
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USFS	US Forest Service
VE	Value Engineering
VEs	Value Engineering Study
VMT	Vehicle Miles Traveled
VPH	Vehicles Per Hour
WQS	Water Quality Certificate

16.3 Value Engineering

The following definition of Value Engineering comes from a Department of Defense website, but it serves admirably here in terms of application. VE is defined as "...an analysis of the functions of a program, project, system, product, item of equipment, building, facility, service, or supply of an executive agency, performed by a qualified agency or contractor personnel, directed at improving performance, reliability, quality, safety, and life cycle costs." ---Institute for Defense Analyses, October 2011.

FHWA provides policy guidance in the application of Value Engineering analyses in its Notice of Proposed Rulemaking, August 2013, which is intended to reflect changes within MAP-21. [FHWA Value Engineering](#) VE Analysis is required for Federal-aid projects on the National Highway System (NHS) with a projected cost of \$50 million or more and bridges of \$40 million or more. Projects that may be eligible for the **LPA** process in Alabama, by contrast, *will be limited to a maximum \$2 million total current cost*, whereupon full project review and the approval of the Chief Engineer will be required for further consideration. For that reason, no additional paper requirement or procedure will be necessary with submittals for **LPA** projects, subject to changes in ALDOT LPA guidelines.

16.4 Performance Measures – Closeout Survey

Foreword: Once it is understood that *sustainability is the capacity to endure*, the task then becomes for planners and engineers to figure out how to measure that capacity within a given structural criteria. A raw data or statistical collection procedure is worthy, but is also manpower intensive and involves all bureaus and Department subdivisions engaged at the project level and above. An alternative, the Closeout Survey, while not collecting the same quality data as the first method, is a less intrusive but effective approach and can be adapted to statistical gathering methods.

Procedural or Program Practices

- 1) Was the project a *complete* project or *single phase*? If phase only, describe:

- 2) Was a consultant hired to manage the project, or was the project limited to LPA staff?
Describe: _____
- 3) Identify a Best Practice that was effective in completing the current project.

- 4) Recommend a qualitative activity or performance measure technique used in the project as a Best Practice candidate for ALDOT LPA projects.

- 5) Identify a performance measure that could be adopted as a standard for use with **all** ALDOT projects.

- 6) Was there a project or program *barrier* (agency or stakeholder policy, design standard, specification) that should be changed, modified, or removed? Identify and if possible, provide or recommend a solution. Examples: cumbersome approval processes or documentation, onerous procedural provisions, vague or non-specific specification requirements, contradictory policy or procedural standards.

- 7) Did project consultant, contractor, LPA, or ALDOT management or oversight, conflict or interfere with project delivery? If so, how?

- 8) Was it necessary to amend or adjust project cost estimates prior to Notice to Proceed, amend the ALDOT/LPA agreement, extend the project Timeline, or seek ALDOT/FHWA approval of a cost overrun? Yes () No () If yes, explain:

Cost Projections or Estimates

- 1) Was the project brought in under budget? Yes () No () If over budget, what single factor or reason can be cited? _____

- 2) If over budget, what was the amount of overrun? _____

- 3) Was a Timeline, bar graph, or Critical Path Map used in scheduling the project? Yes () No () If not, would use of a Timeline have assisted in controlling cost overruns? _____

- 4) Was a projected Timeline effective in controlling the pace of the project? Yes () No () Explain: _____

- 5) Can a Best Practice be identified as preventing or helping to prevent a particular type of cost overrun? Yes () No () If Yes, describe: _____

- 6) What Performance Measure would be beneficial in preventing or reducing cost overruns? Describe: _____

- 7) Was alternative funding used or considered for this project? Ex: TIGER Grant, private source. If so, describe type or source: _____

Social, Economic, Environmental Issues

- 1) Did the project involve sensitive social, environmental, or economic issues other than project cost? Yes () No () If Yes, describe: _____

- 2) If the project was a Transportation Enhancement or a TAP done under a Programmatic Categorical Exclusion (PCE), was the project completed within the scope of the document? Yes () No () Was additional environmental documentation required? Yes () No () If additional actions were necessary, describe: _____

- 3) Was the project subject to mitigation measures under EPA Transportation Air Quality Conformity Final Rule 23 CFR Parts 51 and 93? Yes () No ()

- 4) Did the project include any of the following: a) bicycle/pedestrian improvements, b) safety improvements, c) Americans with Disabilities Act or Rehabilitation Act Section 504 improvements or upgrades? Yes () No () Explain: _____

- 5) Was a Disadvantaged Business Enterprise (DBE) employed as a consultant or contractor for this project? Yes () No () If so, in what capacity? _____

Multimodal Considerations

- 1) Did the project involve a mass people movement mode? Yes () No () Which mode? _____

- 2) Was a 'Complete Streets' conceptual approach a factor in project choice or design? Yes () No () If not, why not? _____
- 3) Did the project involve a retrofit of an existing transportation facility? Yes () No () If so, describe: _____

- 4) Has the project been considered previously in a Corridor Feasibility Study? If so, explain _____

Safety

- 1) Was the recently completed project undertaken because of a specific safety issue, potential safety concern, statistical accident or incident data, or all of these? Yes () No () Describe: _____

- 2) Does the project description, either primary or secondary, include the word "safety?" Yes () No () If not, why not? _____
- 3) Was the project subjected to a 'safety' criteria selection process before being chosen as an LPA project? If yes, describe that process: _____

- 4) If the LPA is a member government of an MPO, was the project included in the current TIP for information purposes only, or otherwise? Yes () No () If not, why not? _____

- 5) Is the project part of another larger project, a series of projects, or a standalone, single safety project? Yes () No () Explain: _____

Sustainability Criteria

- 1) Identify the type of project under review:
 _____ Small reconstruction or bridge replacement that does not expand capacity
 _____ Preservation (3R) of existing facilities or safety enhancement
 _____ Restoration (2R) of pavement structure, ride quality, and spot safety
 _____ Construction of capacity-building new location roadway facility *
 _____ Major reconstruction adding lanes to existing roadway or bridge *
 _____ Interchange*
 _____ Other - Describe: _____

* This category is not available as an LPA project without approval of the Chief Engineer.

- 2) Did the project undergo any kind of sustainability assessment in terms of components, alternative solutions, and potential performance measures? Yes () No ()
- 3) Was overall project cost savings a criterion within the survey and was it a factor in choice? Yes () No ()
- 4) Was a Cost/Benefit Analysis performed on this project? Yes () No ()
- 5) In terms of cost, of the Components and Factors listed, check in the following table to indicate which items were assessed for sustainability on this project.

Component	Factor
Sustainable Planning	<input type="checkbox"/> Route Selection
	<input type="checkbox"/> Structure
	<input type="checkbox"/> Intelligent Transit
Construction Method	<input type="checkbox"/> Waste Reduction
	<input type="checkbox"/> Material
	<input type="checkbox"/> Green Environment
	<input type="checkbox"/> Construction Method
Sustainable Facility	<input type="checkbox"/> Pavement Configuration
	<input type="checkbox"/> Facility

- 6) Was *Context Sensitive Solutions/Context Sensitive Design (CSS/CSD)* a consideration on this project? Yes () No () If so, describe _____
- 7) Were property acquisitions and/or owner relocations avoided as a result of Sustainable Planning initiated for this project? Yes () No () NA ()
- 8) In terms of Benefit, of the Components and Factors listed, check the items to indicate which were assessed for sustainability on this project.

Component	Factor
Sustainable Planning	___Route Selection
	___Structure
	___Intelligent Transit
Construction Method	___Material
	___Construction Method
	___Waste Reduction
	___Pavement Configuration