



Long Range Transportation Plan

2020 → 2045

Final Plan

August 2020



Table of Contents

CHAPTER 1: INTRODUCTION	1
 1.1. Introduction.....	2
1.1.1. Highlights since the 2040 LRTP	3
1.1.2. ODOT's Responsibilities and Partner Agencies	5
1.1.3. Federal Requirements	7
1.1.4. 2045 Long Range Transportation Plan Process.....	7
1.1.5. Coordination with Short Term Transportation Programs and Plans	8
CHAPTER 2: STRATEGIC DIRECTION.....	10
 2.1. Strategic Direction	11
2.1.1. Family of Plans	11
2.1.2. Vision	13
2.1.3. Goals	13
2.1.4. Objectives.....	14
 2.2. Performance Measures	16
CHAPTER 3: SYSTEM PERFORMANCE REPORT	17
 3.1. Introduction.....	18
3.2. PM 1 Safety.....	18
3.3. PM 2 Pavement and Bridge Condition.....	19
3.4. PM 3 System Reliability	21
3.5. Transit Asset Management.....	22
CHAPTER 4: PUBLIC STAKEHOLDER ENGAGEMENT.....	26
 4.1. Introduction.....	27
4.2. Public Involvement Plan	27
4.3. Communication Methods and Tools	28
4.3.1. Stakeholder Database	28
4.3.2. Planning Partners.....	28
4.3.3. Media Releases and Email Blasts.....	29
4.3.4. Advisory Committee Meetings	29
4.3.5. Tribal COORDINATION.....	34
4.3.6. Input Opportunity #1 – Summer 2019	35
4.3.7. Input Opportunities #2 & #3 – Summer 2020.....	36
4.3.8. Project Website	38



CHAPTER 5: EXISTING AND EMERGING TRENDS	39
 5.1. Introduction.....	40
 5.2. Demographics.....	42
5.2.1. Population Trends.....	42
 5.3. Socioeconomic Factors	46
5.3.1. Commuting Patterns	46
5.3.2. Vehicle Availability.....	47
5.3.3. Freight	48
5.3.4. E-Commerce	48
 5.4. Emerging Trends.....	49
5.4.1. Electric Vehicles (EV).....	49
5.4.2. Compressed Natural Gas (CNG) Vehicles.....	51
5.4.3. Alternative Fuel Corridors	53
5.4.4. Connected and Automated Vehicles (CAV)	55
5.4.5. Mobility as a Service	56
CHAPTER 6: SAFETY, SECURITY, RISK, AND RESILIENCY.....	58
 6.1. Introduction.....	59
 6.2. Safety.....	59
6.2.1. Fatalities	59
6.2.2. Serious Injuries.....	61
6.2.3. Pedestrian and Bicycle Safety	63
 6.3. Security.....	64
6.3.1. Cybersecurity	64
6.3.2. Severe Weather Events	65
6.3.3. Seismic Activity	66
 6.4. Environmental Mitigation.....	67
6.4.1. Protection of Natural, Cultural, and Historic Resources	67
6.4.2. Stormwater Management	68
CHAPTER 7: EXISTING TRANSPORTATION SYSTEMS AND CONDITIONS	69
 7.1. Introduction.....	70
 7.2. Bridges	70
 7.3. Highways	71
7.3.1. Rural Two-Lane Highways	73
7.3.2. Major State Highways	75
7.3.3. Interstate Highways.....	75
 7.4. Freight Transportation.....	76
7.4.1. Freight on Highways	76
7.4.2. Ports of Entry	78

7.4.3. Freight Rail	80
7.4.4. Ports and Waterways	81
7.5. Public Transportation	81
7.5.1. Passenger Rail	81
7.5.2. Transit.....	81
7.6. Active Transportation	82
 CHAPTER 8: MODAL NEEDS.....	 84
 8.1. Introduction.....	 85
8.2. State Highway System Needs	86
8.2.1. Highway Pavement Needs	86
8.2.2. Highway Expansion Needs	87
8.2.3. Bridge Preservation and Expansion Needs	89
8.2.4. Interchange Needs	90
8.2.5. Maintenance Needs	90
8.2.6. Rest Areas.....	91
8.2.7. Weigh Stations.....	92
8.2.8. Intelligent Transportation Systems (ITS)	92
8.2.9. Ports of Entry (POE)	92
8.2.10. Safety.....	92
8.3. Assets Owned and Managed by Partners.....	94
8.3.1. Freight Rail	94
8.3.2. Passenger Rail	95
8.3.3. Active Transportation.....	97
8.3.4. Public Transportation	98
8.3.5. Ports and Waterways	99
 CHAPTER 9: PROJECTED COSTS AND FORECASTED REVENUES	 101
 9.1. Introduction.....	 102
9.2. Funding Jurisdiction and Responsibilities	102
9.2.1. ODOT Responsibilities	102
9.2.2. Partners to ODOT	102
9.3. Cost And Revenue Projections by Function	103
9.3.1. ODOT-Owned Assets and Functions	103
9.3.2. Partner-Owned Assets and Functions	104
9.4. Revenue Forecast	107
9.4.1. Methodology	107
9.4.2. Deductions	108
9.4.3. Forecast Findings	108
9.5. Funding Gap and Implications	110
9.6. Potential Examples to Address the Funding Gap.....	110

9.6.1. Electric Vehicle Fees	110
9.6.2. Indexing Motor Fuel Tax Rates to Inflation	111
9.6.3. VMT Fees / Road User Charges (RUC)	112
CHAPTER 10: POLICIES AND STRATEGIES	113
10.1. Introduction.....	114
10.2. Highways and Bridges.....	115
10.3. Freight Rail.....	119
10.4. Passenger Rail.....	121
10.5. Public Transportation	122
10.6. Multimodal Transportation	124
10.7. Active Transportation	128
10.8. Ports and Waterways	130
GLOSSARY.....	131

Table of Figures

Figure 1-1. The Long Range Transportation Planning Process	8
Figure 2-1. Transportation Plan "Families" Reviewed in the Long Range Planning Process	12
Figure 4-1. Advisory Committee Meeting.....	31
Figure 4-2. Advisory Committee Breakout Groups.....	33
Figure 4-3. Transportation Priorities.....	35
Figure 4-4. Plan Website - Homepage	38
Figure 5-1. ODOT Districts.....	41
Figure 5-2. Overall Population Growth, 2000-2018.....	42
Figure 5-3. Projected Population Change by County, 2018-2045.....	43
Figure 5-4. Population by Age Group.....	44
Figure 5-5. Oklahoma Projected Population Percentage Aged 65+ by County, 2045	44
Figure 5-6. Rural and Urban Populations in Oklahoma, 2010	45
Figure 5-7. Oklahoma Commute by Mode, 2017.....	46
Figure 5-8. Travel Times to Work by Oklahoma DOT District, 2017	47
Figure 5-9. Percentage of Oklahoma Households by Vehicles Available.....	47
Figure 5-10. Projected Oklahoma Freight Tonnage by Mode.....	48

Figure 5-11. Public EV Charging Stations in Oklahoma	51
Figure 5-12. CNG Corridors in Oklahoma	52
Figure 5-13. CNG Fueling Stations in Oklahoma	53
Figure 5-14. Alternative Fuel Corridors in Oklahoma	54
Figure 5-15. SAE Levels of Driving Automation.....	56
Figure 5-16. MaaS Framework.....	57
Figure 6-1. Fatalities on Oklahoma Public Roads.....	60
Figure 6-2. Fatalities per HMVMT on Oklahoma Public Roads	60
Figure 6-3. 5-Year Average for Fatalities by SHSP Emphasis Area	61
Figure 6-4. Serious Injuries on Oklahoma Public Roads.....	62
Figure 6-5. Serious Injuries per HMVMT on Oklahoma Public Roads.....	62
Figure 6-6. 5-Year Average for Serious Injuries by SHSP Emphasis Area	63
Figure 6-7. Total Non-Motorized Fatalities and Non-Motorized Serious Injuries	64
Figure 6-8. Billion-Dollar Disaster Events in Oklahoma from Flooding and Severe Storms, 1980 to April 9, 2019 (Inflation Adjusted)	65
Figure 6-9. Tornadoes in Oklahoma, 1980 to 2018	66
Figure 6-10. Oklahoma Area Seismicity and Chance of Damaging Shaking.....	67
Figure 7-1. Structurally Deficient Bridges on State Highway System	70
Figure 7-2. Major Highways in Oklahoma.....	71
Figure 7-3. Percent of Daily Vehicle Miles Traveled (DVMT) per Highway Type	72
Figure 7-4. Statewide State Highway System Pavement Condition	73
Figure 7-5. State Highway System Roads with Two- Lanes, Deficient Shoulders	74
Figure 7-6. Federal Interstate Pavement Condition	75
Figure 7-7. Oklahoma Freight Mode Share by Tonnage and Value	76
Figure 7-8. High Volume Truck Corridors.....	77
Figure 7-9. Oklahoma Ports of Entry Locations	79
Figure 7-10. Rail Network of Oklahoma Railroads	80
Figure 8-1. Pavement Treatments (Centerline Miles of State Highway System).....	87
Figure 8-2. New Lane-Miles Associated with Highway Expansion.....	88
Figure 8-3: Spending Shares Associated with Met Maintenance Need.....	91
Figure 8-4. Existing Mileage of Bike Routes, Bike Lanes, and Shared-Use Paths or Trails.....	97
Figure 8-5. Annual Transit Ridership in Oklahoma	98
Figure 9-1. Projected Annual Revenue to ODOT	109
Figure 9-2. Projected Annual Revenue from \$100 EV surcharge (2019 Dollars)	111
Figure 9-3. Impact over Time of Indexing Motor Fuel Tax Rates (Current Dollars)	112
Figure 9-4. RUC receipts to ODOT with 1.0% Annual VMT Growth (Constant Dollars).....	112

Table of Tables

Table 2-1. 2045 LRTP Objectives by Goal Area	14
Table 3-1. Oklahoma Safety Performance Targets 2020	19
Table 3-2. Oklahoma Pavement Performance Targets 2020 and 2022	21
Table 3-3. Oklahoma Bridge Performance Targets 2020 and 2022	21
Table 3-4. Oklahoma System Reliability Performance Targets 2020 and 2022	22
Table 3-5. Transit Performance Targets (FY19)	24
Table 3-6. Tribal Transit Performance Targets (FY19)	25
Table 4-1. 2045 LRTP Advisory Committee Member Entities	30
Table 5-1. Oklahoma Counties by ODOT Districts	40
Table 5-2. Electric Vehicle Sales 2018	50
Table 8-1. Status of ODOT Rest Areas	91
Table 9-1. Projected 2020-2045 Costs, Revenues, and Funding Gap for ODOT Responsibilities (Millions)	104
Table 9-2. Projected 2020-2045 Costs, Revenues, and Funding Gap for Partner Responsibilities (Millions)	105
Table 10-1. Highway and Bridge Policies and Strategies	116
Table 10-2. Freight Rail Policies and Strategies	119
Table 10-3. Passenger Rail Policies and Strategies	121
Table 10-4. Public Transportation Policies and Strategies	123
Table 10-5. Multimodal Policies and Strategies	125
Table 10-6. Active Transportation Policies and Strategies	128
Table 10-7. Ports and Waterways Policies and Strategies	130