

**Table of Contents**

<b><u>Section</u></b>	<b><u>Page</u></b>
<b>S.0 EXECUTIVE SUMMARY .....</b>	<b>S-1</b>
S.1 INTRODUCTION.....	S-1
S.2 PROCESS .....	S-1
S.3 DATA COLLECTION EFFORTS.....	S-3
S.4 ALTERNATIVE EVALUATION – NON-ROUTE BASED STRATEGIES .....	S-4
S.5 ALTERNATIVE EVALUATION – ALTERNATE ROUTES.....	S-6
S.6 FUNDING.....	S-8
S.7 STUDY RECOMMENDATIONS/NEXT STEPS.....	S-9
<b>1.0 INTRODUCTION.....</b>	<b>1-1</b>
1.1 STUDY INTENT AND DESCRIPTION.....	1-1
1.1.1 Ballot Initiative 200 .....	1-1
1.1.2 Study Goals and Objectives .....	1-4
1.1.3 Problem/Mission Statement .....	1-5
1.2 STUDY HISTORY .....	1-5
1.2.1 Chronological Bibliography of Truck and Corridor Related Planning Studies ...	1-5
1.2.2 Study Relevance .....	1-9
<b>2.0 PROCESS.....</b>	<b>2-1</b>
2.1 STUDY PROCESS .....	2-1
2.2 PUBLIC AND AGENCY INVOLVEMENT .....	2-4
2.2.1 Project Management Team.....	2-5
2.2.2 Policy Advisory Committee.....	2-5
2.2.3 Stakeholders Committee .....	2-6
2.2.4 Trucking Industry Workshops.....	2-7
2.2.5 Public Open Houses.....	2-8
2.2.6 Other Public and Agency Outreach .....	2-8
2.2.7 Study Website (www.sh14trucking study.com).....	2-9
2.2.8 Media Outreach .....	2-9
<b>3.0 EXISTING CONDITIONS .....</b>	<b>3-1</b>
3.1 I-25 (SH 14/MULBERRY STREET NORTH TO THE WYOMING BORDER) ...	3-1
3.2 SH 14 (MULBERRY STREET) .....	3-2
3.3 RIVERSIDE AVENUE/JEFFERSON STREET .....	3-2
3.4 NORTH COLLEGE AVENUE .....	3-5
3.5 US 287 (NORTH OF SH 1).....	3-6
<b>4.0 TRUCK ORIGIN AND DESTINATION STUDY.....</b>	<b>4-1</b>
4.1 SUMMARY OF PAST STUDIES .....	4-1
4.1.1 Western Highway Institute Assessment (1999) .....	4-1
4.1.2 24-Hour Highway Truck Survey – Maurice L. Albertson, PH.D, P.E. (1999)....	4-2
4.2 STUDY METHODOLOGY .....	4-3

4.2.1.	License Plate and Vehicle Description Survey .....	4-3
4.2.2.	Vehicle Classification Data Collection.....	4-3
4.3	VALIDATION EFFORTS.....	4-5
4.4	TRUCK ORIGIN AND DESTINATION STUDY RESULTS .....	4-8
<b>5.0</b>	<b>TRUCKING INDUSTRY OVERVIEW.....</b>	<b>5-1</b>
5.1	TRUCKING INDUSTRY FACTS.....	5-1
5.2	COLORADO TRUCKING INDUSTRY FACTS .....	5-2
5.3	TRUCKING INDUSTRY OPERATIONS.....	5-3
5.4	TRUCKING INDUSTRY REGULATORY OVERVIEW .....	5-5
5.4.1	Colorado Department of Transportation.....	5-5
5.4.2	Department of Revenue .....	5-5
5.4.3	Department of Regulatory Agencies.....	5-7
5.4.4	Department of Public Safety .....	5-8
5.5	PREPASS.....	5-8
5.6	STUDY RELEVENCE.....	5-9
<b>6.0</b>	<b>ALTERNATIVE EVALUATION – NON-ROUTE BASED STRATEGIES.....</b>	<b>6-1</b>
6.1	NON-ROUTE BASED STRATEGY EVALUATION CRITERIA .....	6-1
6.2	INITIAL LIST OF NON-ROUTE BASED STRATEGIES .....	6-2
6.2.1	Financial Strategies.....	6-2
6.2.2	Marketing and Informational Strategies .....	6-3
6.2.3	Regulatory Enforcement Strategies .....	6-4
6.2.4	Physical Strategies .....	6-5
6.3	UNREALISTIC SCREENING ANALYSIS FOR NON-ROUTE BASED STRATEGIES.....	6-5
6.3.1	Regulatory Strategies Eliminated through Unrealistic Screening .....	6-6
6.3.2	Physical Strategies Eliminated through Unrealistic Screening .....	6-7
6.4	COMPARATIVE SCREENING ANALYSIS FOR NON-ROUTE BASED STRATEGIES.....	6-8
6.4.1	Cost Evaluation .....	6-8
6.4.2	Strategy Utilization.....	6-10
6.4.3	Non-Route Based Strategy Comparative Screening Results .....	6-12
6.5	NON-ROUTE BASED STRATEGY RECOMMENDATION INFORMATION ..	6-14
6.6	LOCAL/MUNICIPAL CONTROL OF COMMERCIAL TRUCK TRAFFIC ON LOCAL ROADWAYS .....	6-14
6.6.1	Introduction and Problem Statement .....	6-14
6.6.2	Existing Conditions .....	6-15
6.6.3	Legal Parameters .....	6-15
6.6.4	Local Issues .....	6-15
6.6.5	Recommendations.....	6-17
<b>7.0</b>	<b>ALTERNATIVE EVALUATION – ALTERNATE ROUTES.....</b>	<b>7-1</b>
7.1	ALTERNATE ROUTE EVALUATION CRITERIA.....	7-1
7.2	INITIAL LIST OF ALTERNATE ROUTES .....	7-2
7.3	UNREALISTIC SCREENING ANALYSIS FOR ALTERNATE ROUTES .....	7-8

7.3.1	Alternate Route Design Criteria .....	7-8
7.3.2	Length of Route.....	7-11
7.3.3	Unrealistic Screening Results for Alternate Routes .....	7-11
7.4	ALTERNATE ROUTE REFINEMENT .....	7-12
7.5	COMPARATIVE SCREENING ANALYSIS FOR ALTERNATE ROUTES.....	7-19
7.5.1	Alternate Route Cost.....	7-19
7.5.2	Traffic Operations.....	7-21
7.5.3	Route Utilization.....	7-22
7.5.4	Environmental Resources.....	7-24
7.5.5	Right-of Way/ Relocations.....	7-35
7.5.6	Directly Affected Properties.....	7-37
7.5.7	Community Planning/Land Use .....	7-38
7.5.8	Length of Route.....	7-40
7.6	ALTERNATE ROUTE MATRIX EVALUATION .....	7-41
7.6.1	Alternate Route Cost.....	7-41
7.6.2	Traffic Operations.....	7-42
7.6.3	Route Utilization.....	7-42
7.6.4	Farming Resources .....	7-43
7.6.5	Threatened and Endangered (T&E) Species and Wildlife.....	7-43
7.6.6	Wetlands and Riparian Areas .....	7-44
7.6.7	Noise .....	7-44
7.6.8	Air Quality.....	7-45
7.6.9	Water Resources .....	7-45
7.6.10	Historical Resources .....	7-46
7.6.11	Right-of-Way and Relocations .....	7-46
7.6.12	Directly Affected Properties.....	7-47
7.6.13	Community Planning and Land Use.....	7-48
7.6.14	Alternate Route Length.....	7-49
7.6.15	Comparative Screening Analysis and Matrix Evaluation Results.....	7-50
7.7	ALTERNATE ROUTE RECOMMENDATION INFORMATION.....	7-52
<b>8.0</b>	<b>FUNDING.....</b>	<b>8-1</b>
8.1	FUNDING PROCESS .....	8-1
8.2	POTENTIAL FEDERAL FUNDING SOURCES .....	8-5
8.2.1	Issues Related to Federal Funding Sources.....	8-7
8.3	POTENTIAL STATE FUNDING SOURCES .....	8-7
8.3.1	Issues Related to State Funding Sources.....	8-8
8.4	POTENTIAL LARIMER COUNTY FUNDING SOURCES .....	8-8
8.4.1	Issues Related to County Funding Sources .....	8-9
8.5	POTENTIAL LOCAL FUNDING SOURCES .....	8-9
8.5.1	Issues Related to Local Funding Sources .....	8-10
8.6	POTENTIAL PRIVATE FUNDING SOURCES .....	8-10
8.6.1	Issues Related to Private Funding Sources .....	8-10
8.7	FUNDING RECOMMENDATION INFORMATION.....	8-11
8.8	ADDITIONAL FUNDING ISSUES.....	8-11

**9.0 STUDY RECOMMENDATIONS/NEXT STEPS.....9-1**

9.1 NON-ROUTE BASED STRATEGY RECOMMENDATIONS.....9-1

9.2 ALTERNATE ROUTES .....9-3

9.2.1 Alternate Route Considerations.....9-3

9.2.2 Alternate Route Recommendations .....9-4

9.3 FUNDING RECOMMENDATIONS.....9-7

9.4 OTHER ISSUES .....9-7

9.5 NEXT STEPS.....9-10

**10.0 REFERENCES.....1-10**

## List of Figures

<b><u>Figure</u></b>	<b><u>Page</u></b>
S.1 Study Area Map .....	S-2
S.2 Non-Route Based Strategy List.....	S-5
S.3 Non-Route Based Strategy Screening Results.....	S-6
S.4 Initial List of Alternate Routes .....	S-7
S.5 Alternate Route Screening Results.....	S-8
1.1 Study Area Map .....	1-2
2.1 Study Process .....	2-2
2.2 Alternative Evaluation Process .....	2-3
3.1 Existing Corridor Segments.....	3-3
4.1 Origin and Destination Study Data Collection Locations .....	4-4
4.2 Factored Traffic Count Data.....	4-6
5.1 Commercial Vehicle Operating Expenses Breakdown .....	5-4
5.2 Commercial Vehicle Operation Costs per Mile .....	5-4
6.1 Initial Non-Route Based Strategy List .....	6-3
6.2 Non-Route Based Strategy Unrealistic Screening Results.....	6-6
6.3 Non-Route Based Strategy Comparative Screening Results.....	6-12
6.4 Existing Truck Restrictions Signage .....	6-15
7.1 Major Roadway Network .....	7-3
7.2 Initial Alternate Routes Map.....	7-4
7.3 Initial Alternate Routes List.....	7-5
7.4 Alternate Route Unrealistic Screening Results.....	7-11
7.5 Remaining Alternate Routes Following Unrealistic Screening Analysis.....	7-13
7.6 Alternate Routes Evaluated in Comparative Screening Analysis.....	7-14
7.7 County Road 76 Alternate Route.....	7-15
7.8 County Road 72, 70/72, and 70 Alternate Routes.....	7-16
7.9 County Road 66 Alternate Route.....	7-17
7.10 County Road 58 Alternate Routes.....	7-18
7.11 Dryland Soils .....	7-26
7.12 Federal and State Protected Species and CNHP Conservation Sites .....	7-28
7.13 Riparian and Wetland Areas .....	7-30
7.14 Water Resources.....	7-34
7.15 Historical Resources.....	7-36
7.16 Larimer County Land Use .....	7-39
7.17 Comparative Screening Results of Alternate Routes .....	7-48
7.18 Alternate Routes Remaining After Comparative Screening.....	7-52

7.19 Alternate Routes Remaining After Comparative Screening Analysis .....7-53

8.1 Project Funding Process .....8-2

8.2 Planning Region Boundaries .....8-3

9.1 Prioritized Media Options.....9-2

9.2 Recommended Alternate Route Corridors.....9-5

## List of Tables

<b><u>Table</u></b>	<b><u>Page</u></b>
2.1 Project Management Team .....	2-5
2.2 Policy Advisory Committee.....	2-6
2.3 Stakeholders Committee .....	2-7
2.4 Trucking Industry Workshop Attendees .....	2-7
3.1 I-25 Existing Conditions .....	3-1
3.2 SH 14 Existing Conditions .....	3-2
3.3 Riverside Avenue/Jefferson Street Existing Conditions .....	3-5
3.4 North College Avenue Existing Conditions .....	3-5
3.5 US 287 Existing Conditions .....	3-6
4.1 Factored Traffic Count Data.....	4-7
4.2 Valid License Plates Collected .....	4-7
4.3 Through Trucks as a Percentage of Total Trucks .....	4-9
5.1 Agency Commercial Vehicle Operations Responsibilities .....	5-6
5.2 Colorado and Wyoming PrePass Sites .....	5-9
6.1 Non-Route Based Strategy Unrealistic Screening Evaluation Criteria .....	6-1
6.2 Non-Route Based Strategy Comparative Screening Evaluation Criteria .....	6-2
6.3 Cost Comparative Evaluation .....	6-8
6.4 Strategy Utilization Comparative Evaluation .....	6-11
7.1 Alternate Route Unrealistic Screening Evaluation Criteria.....	7-1
7.2 Alternate Route Comparative Screening Evaluation Criteria .....	7-2
7.3 Alternate Route Design Criteria.....	7-8
7.4 Capital Cost Assumptions.....	7-19
7.5 Alternate Route Cost Comparison .....	7-20
7.6 Traffic Operations Comparison .....	7-21
7.7 Existing and Future Projected Traffic Volume Comparison .....	7-22
7.8 Route Utilization 2020 Projected Daily Traffic Volumes .....	7-23
7.9 Route Utilization Comparison .....	7-23
7.10 Farming Resources Comparison .....	7-25
7.11 Threatened and Endangered Species and Wildlife Comparison.....	7-27
7.12 Wetlands and Riparian Areas Comparison.....	7-29
7.13 Noise Comparison.....	7-31
7.14 Air Quality Comparison .....	7-32
7.15 Water Resources Comparison.....	7-33
7.16 Historic Resources Comparison.....	7-35
7.17 Right-of-Way and Relocations Comparison.....	7-37
7.18 Directly Affected Property Comparative Evaluation .....	7-37
7.19 Community Planning and Land Use Comparison.....	7-38

7.20	Alternate Route Length Comparison.....	7-40
7.21	Alternate Route Cost Matrix Evaluation .....	7-41
7.22	Traffic Operations Matrix Evaluation .....	7-42
7.23	Route Utilization Matrix Evaluation .....	7-42
7.24	Farming Resources Matrix Evaluation.....	7-43
7.25	Threatened/Endangered Species and Wildlife Matrix Evaluation.....	7-43
7.26	Wetlands and Riparian Areas Matrix Evaluation .....	7-44
7.27	Noise Matrix Evaluation.....	7-44
7.28	Air Quality Matrix Evaluation.....	7-45
7.29	Water Resources Matrix Evaluation .....	7-45
7.30	Historic Resources Matrix Evaluation .....	7-46
7.31	Right-of-Way and Relocations Matrix Evaluation .....	7-46
7.32	Directly Affected Property Matrix Evaluation .....	7-47
7.33	Community Planning and Land Use Matrix Evaluation .....	7-48
7.34	Total Route and Alternate Route Lengths Matrix Evaluation .....	7-49
7.35	Matrix Comparative Evaluation.....	7-50
7.36	Alternate Route Pros and Cons .....	7-55
8.1	Funding Shortfall in Planning Regions .....	8-12

**List of Acronyms**

ADT	Average daily traffic
ATA	American Trucking Association
AVI	Automatic vehicle identification
BCC	Building Community Choices
CAC	Citizens Advisory Committee
Catex	Categorical Exclusion
CDL	Commercial drivers license
CDOT	Colorado Department of Transportation
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and Environment
CMCA	Colorado Motor Carriers Association
CMAQ	Congestion Mitigation and Air Quality
CNHP	Colorado National Heritage Program
CO	Carbon monoxide
CR	County Road
CSP	Colorado State Patrol
CVO	Commercial vehicle operation
dB	Decibels
dBA	Decibels on the “A” weighted scale
DOR	Department of Revenue
DPO	District and Headquarters Permit Office
DRCOG	Denver Regional Council of Governments
DTD	Division of Transportation Development
EA	Environmental Assessment
EIS	Environmental Impact Statement
EX	Expressway
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GMA	Growth management area
HAR	Highway advisory radio
HBRRP	Highway Bridge Replacement and Rehabilitation Program
HOV	High occupancy vehicle
HUTF	Highway User Tax/Trust Funds
IFTA	International Fuel Tax Agreement
IM	Interstate Maintenance
IRP	International Regulatory Plan
ITS	Intelligent transportation system
lbs	pounds
LE	Land evaluation
LESA	Land evaluation and Site Assessment
LID	Local Improvement District
LOS	Level of service
LUSIA	Land use and site inventory assessment

MP	Mile post
mph	Miles per hour
MPO	Metropolitan Planning Organization
MVD	Motor Vehicle Division
NEATS	Northeast Area Transportation Study
NEPA	National Environmental Policy Act
NFRTAQPC	North Front Range Transportation and Air Quality Planning Council
NHS	National Highway System
NRHP	National Registry of Historic Places
NWI	National Wetlands Inventory
OS/OW	Oversize/overweight
PAC	Policy Advisory Committee
PM-10	particulate matter less than 10 microns in diameter
PMT	Project Management Team
POE	Port of Entry
PPI	Public/Private Partnership Initiatives
PUC	Public Utilities Commission
RA	Regional Highway
ROD	Record of Decision
ROW	Right-of-way
RTA	Rural transportation authorities
SA	Site Assessment
SB	Senate Bill
SH	State Highway
SHPO	State Historic Preservation Office
SIB	State Infrastructure Bank
SID	Special Improvement District
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
T&E	Threatened and Endangered
TABOR	Taxpayers Bill of Rights
TACD	Tax Audit and Compliance Division
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century
TIP	Transportation Improvement Plan
TRP	Transportation planning region
TSD	Taxpayer Services Division
VMS	Variable message sign
VMT	Vehicle miles traveled
WHI	Western Highway Institute
WIM	Weigh-in-motion
WYDOT	Wyoming Department of Transportation
UFRRPC	Upper Front Range Regional Planning Commission
UGA	Urban growth area
US	United States
USFWS	United States Fish and Wildlife Service

