

# Northern Cheyenne Reservation Technical Assistance

## Final Report

Prepared for:

Community Transportation Association of America (CTAA)  
1341 G Street NW, 10th Floor  
Washington, DC 20005  
(202) 299-6593

Prepared by:

LSC Transportation Consultants, Inc.  
516 North Tejon Street  
Colorado Springs, CO 80903  
(719) 633-2868

LSC #056250

June 1, 2006

# TABLE OF CONTENTS

Chapter	Title	Page
I	INTRODUCTION .....	I-1
	Purpose of the Study .....	I-1
	Report Contents .....	I-1
	Study Approach .....	I-3
	Project Team .....	I-3
II	COMMUNITY CONDITIONS .....	II-1
	Community Description .....	II-1
	Study Area Location .....	II-1
	Transportation System Overview .....	II-1
	Highways .....	II-1
	Major Activity Centers .....	II-3
	Major Employers .....	II-3
	Study Area Demographics .....	II-5
	1990-2000 Population .....	II-5
	Population Density and Distribution .....	II-5
	Population Projections .....	II-8
	General Population Statistics .....	II-10
	Transit-Dependent Population Characteristics .....	II-11
	Elderly Population .....	II-15
	Mobility-Limited Population .....	II-15
	Low-Income Population .....	II-15
	Zero-Vehicle Households .....	II-19
	Youth .....	II-19
	Economy .....	II-22
	Travel Patterns .....	II-23
Work Transportation Mode .....	II-23	
III	EXISTING TRANSPORTATION PROVIDERS .....	III-1
	Introduction .....	III-1
	Northern Cheyenne’s Head Start .....	III-1
	Boys and Girls Club .....	III-2
	Human Services/Title IV-E Foster Care/ICWA .....	III-2
	Northern Cheyenne Elderly Program .....	III-2
	Northern Cheyenne Tribal Health .....	III-3
	Northern Cheyenne Recovery Center .....	III-4
	Tribal Employment Rights Office .....	III-4
	Low-Income Home Energy Assistance Program .....	III-5
	Summary .....	III-5
IV	FINANCIAL AND INSTITUTIONAL ALTERNATIVES .....	IV-1
	Introduction .....	IV-1
	Funding Sources .....	IV-1
	Capital Funding .....	IV-1
	Operations and Maintenance Funding .....	IV-2

Overall Service Considerations	IV-3
Potential Local and Regional Funding Sources	IV-4
General Fund Appropriations	IV-4
Sales Tax	IV-4
Property Tax for Special Transportation	IV-5
Urban Transportation District	IV-5
Service Districts	IV-6
Local Option Gas Tax	IV-6
Private Support	IV-6
TransADE Program	IV-6
Advertising	IV-7
Voluntary Assessments	IV-7
Conclusions	IV-7
Federal Transit Funding Sources	IV-7
FTA Section 5309 - Capital Improvement Grants	IV-8
FTA Section 5310 - Capital for Elderly and Disabled Transportation	IV-8
FTA Section 5311 - Public Transportation for Rural Areas and Indian Tribes	IV-8
FTA Section 5312 - Research, Development, Demonstration, and Training Projects	IV-9
FTA Section 5319 - Bicycle Facilities	IV-9
Transit Benefit Program	IV-9
Job Access and Reverse Commute Program	IV-10
Transportation and Community System Preservation Program	IV-10
Bureau of Indian Affairs (BIA) Transportation Funding	IV-10
Indian Reservation Roads (IRR) Program Funds	IV-10
Indian Reservation Roads (IRR) Transportation Planning Funds	IV-11
FTA "New Freedom" Section 5317	IV-11
Native American Housing Block Grant/Native American Housing Assistance and Self-Determination Act (NAHASDA) of 1966	IV-12
Temporary Assistance for Needy Families (TANF)	IV-12
Head Start Program	IV-12
Other Federal Funds	IV-12
Funding Summary	IV-13
Organizational Structure	IV-14
Existing Tribal Organization Structure	IV-14
Purchasing Process	IV-16
Organizational Structure for Transit	IV-17
Criteria for Institutional Structures	IV-17
Alternatives for the Northern Cheyenne Tribe	IV-18
Department of Tribal Government	IV-18
Urban Transportation Districts	IV-19
Intergovernmental Transit Agency	IV-19
Summary	IV-19
V TRANSIT NEEDS ASSESSMENT	V-1
Introduction	V-1
Rural Transit Demand Methodology	V-1

	Non-Program Demand . . . . .	V-2
	2005 Existing Demand Estimates . . . . .	V-3
	2010 Demand Estimates . . . . .	V-5
	2015 Demand Estimates . . . . .	V-5
	Program Demand . . . . .	V-8
	Summary of TCRP Methodology . . . . .	V-8
	Greatest Transit Need Analysis . . . . .	V-9
	Methodology . . . . .	V-9
	Results . . . . .	V-13
	Montana Transit Needs Study . . . . .	V-15
	Summary . . . . .	V-16
VI	PEER COMMUNITY ANALYSIS . . . . .	VI-1
	Introduction . . . . .	VI-1
	Peer Statistics . . . . .	VI-1
	Summary . . . . .	VI-4
VII	GOALS AND OBJECTIVES . . . . .	VII-1
	Transit Vision . . . . .	VII-1
	Mission Statement . . . . .	VII-2
	Goals and Objectives . . . . .	VII-2
	Goals . . . . .	VII-2
	Goal #1: Develop a Transit Service that Aids in the Community’s Economic Development . . . . .	VII-3
	Goal #2: Create Financial Sustainability of the Transit Service . . . . .	VII-3
	Goal #3: Coordinate and Integrate Public Transportation With the Existing Human Services Transportation Providers . . . . .	VII-4
	Goal #4: Create Cost-Effective and Cost-Efficient Service . . . . .	VII-4
VIII	TRANSIT SERVICE TYPES . . . . .	VIII-1
	Introduction . . . . .	VIII-1
	Types of Transit Service . . . . .	VIII-1
	Fixed-Route Service . . . . .	VIII-1
	Service Routes . . . . .	VIII-3
	Demand-Response Service . . . . .	VIII-3
	Flexible Routes . . . . .	VIII-4
	Route Deviation . . . . .	VIII-4
	Checkpoint Service . . . . .	VIII-5
	Regional Commuter Service . . . . .	VIII-5
IX	VEHICLE TYPES . . . . .	IX-1
	Introduction . . . . .	IX-1
	Vehicle Characteristics . . . . .	IX-1
	Vehicle Overview . . . . .	IX-1
	Standard Van . . . . .	IX-2
	Modified Van . . . . .	IX-3
	Body-on-Chassis . . . . .	IX-4
	Small Buses . . . . .	IX-5
	Impact of Using Smaller Vehicles . . . . .	IX-6
	Vehicle Selection . . . . .	IX-9

	Service Type . . . . .	IX-9
	Service Demand . . . . .	IX-9
	Passenger Needs . . . . .	IX-9
	Costs . . . . .	IX-10
	Maintenance and Storage Requirements . . . . .	IX-10
	Operating Environment . . . . .	IX-11
	Other Factors . . . . .	IX-11
	Uniformity of Fleet . . . . .	IX-12
	Driver Considerations . . . . .	IX-12
	Community Acceptance . . . . .	IX-12
	Summary . . . . .	IX-13
X	SERVICE ALTERNATIVES AND EVALUATIONS . . . . .	X-1
	Introduction . . . . .	X-1
	Transit Service Alternatives . . . . .	X-1
	Maintain Status Quo . . . . .	X-1
	Advantages . . . . .	X-2
	Disadvantages . . . . .	X-2
	Alternative I: Loop Service . . . . .	X-2
	Services . . . . .	X-2
	Advantages . . . . .	X-5
	Disadvantages . . . . .	X-5
	Capital . . . . .	X-5
	Alternative II: Main Line Service . . . . .	X-6
	Advantages . . . . .	X-7
	Disadvantages . . . . .	X-7
	Capital . . . . .	X-9
	Alternative III: Spoke Service . . . . .	X-9
	Advantages . . . . .	X-10
	Disadvantages . . . . .	X-12
	Capital . . . . .	X-12
	Alternative IV: Demand-Response Service with Hospital Run . . . . .	X-12
	Advantages . . . . .	X-13
	Disadvantages . . . . .	X-13
	Capital . . . . .	X-14
	Alternative V: Demand-Response Service . . . . .	X-14
	Advantages . . . . .	X-15
	Disadvantages . . . . .	X-15
	Capital . . . . .	X-15
	Alternative VI: Rideshare Broker Program . . . . .	X-16
	Advantages . . . . .	X-17
	Disadvantages . . . . .	X-17
	Capital . . . . .	X-17
	Summary . . . . .	X-18
XI	PREFERRED TRANSIT SERVICE ALTERNATIVE . . . . .	XI-1
	Introduction . . . . .	XI-1
	Preferred Transit Service Alternative . . . . .	XI-1
	Phase I (Years 2007 to 2009) . . . . .	XI-2
	Checkpoint Service . . . . .	XI-2

	Demand-Response Service . . . . .	XI-5
	Limited Regional Service . . . . .	XI-5
	Hospital Service . . . . .	XI-5
	Casino Service . . . . .	XI-5
	Summary . . . . .	XI-6
	Draft Schedules . . . . .	XI-6
	Phase II (Years 2010 to 2012) . . . . .	XI-8
	Checkpoint Service . . . . .	XI-8
	Demand-Response Service . . . . .	XI-10
	Limited Regional Service . . . . .	XI-10
	Hospital Service . . . . .	XI-10
	Casino Service . . . . .	XI-10
	Summary . . . . .	XI-11
	Draft Schedules . . . . .	XI-11
	Phase III (Years 2012 to 2015) . . . . .	XI-13
	Checkpoint Service . . . . .	XI-13
	Demand-Response Service . . . . .	XI-15
	Limited Regional Service . . . . .	XI-15
	Hospital Service . . . . .	XI-15
	Casino Service . . . . .	XI-15
	Summary . . . . .	XI-16
	Draft Schedules . . . . .	XI-16
	Benefits and Limitations . . . . .	XI-18
	Benefits . . . . .	XI-18
	Limitations . . . . .	XI-18
	Capital Costs and Needs . . . . .	XI-19
	Carpool and Vanpool Broker . . . . .	XI-19
	Vehicle Operations . . . . .	XI-20
XII	TRANSIT IMPLEMENTATION PLAN (2006 - 2012) . . . . .	XII-1
	Introduction . . . . .	XII-1
	Organizational Plan . . . . .	XII-1
	Implementation Plan . . . . .	XII-1
	Benefits . . . . .	XII-2
	Timing . . . . .	XII-2
	Responsibility . . . . .	XII-2
	Implementation Steps . . . . .	XII-3
	Carpool and Vanpool Broker . . . . .	XII-3
	Benefits . . . . .	XII-3
	Timing . . . . .	XII-3
	Responsibility . . . . .	XII-4
	Implementation Steps . . . . .	XII-4
	Capital Plan . . . . .	XII-4
	Bus Stops and Shelters . . . . .	XII-4
	Vehicle Purchase . . . . .	XII-5
	New Transit Facilities . . . . .	XII-6
	Administrative and Maintenance . . . . .	XII-7
	Funding Plan . . . . .	XII-7
	Federal Funding . . . . .	XII-7
	NCT Funding . . . . .	XII-7

Phase A . . . . .	XII-8
Benefits . . . . .	XII-9
Timing . . . . .	XII-9
Responsibilities . . . . .	XII-9
Implementation Steps . . . . .	XII-9
Management Plans . . . . .	XII-10
Transit Coordination . . . . .	XII-10
Implementation Steps . . . . .	XII-10
Marketing Programs . . . . .	XII-11
Promotional Activities . . . . .	XII-12
Service Evaluations . . . . .	XII-13
Marketing Strategy . . . . .	XII-13
Support and Improve Service Quality . . . . .	XII-15
Enhance the Public Education Programs . . . . .	XII-15
Service Monitoring . . . . .	XII-16
System Performance Measurement . . . . .	XII-16
Driver Monitoring Program . . . . .	XII-17
Provider Comment Cards and Boxes . . . . .	XII-17
Implementation Timeline . . . . .	XII-19

APPENDIX A: Purchasing Manual

APPENDIX B: TCRP Trip Rates

APPENDIX C: Transit Stop Designs

APPENDIX D: Glossary

## LIST OF TABULATIONS

Table	Title	Page
II-1	Major Employers . . . . .	II-3
II-2	Northern Cheyenne Population Projections . . . . .	II-8
II-3	2000 General Population . . . . .	II-10
II-4	2000 Estimated General Population Characteristics . . . . .	II-13
II-5	2003 Employment by Sector - Northern Cheyenne Reservation . . . . .	II-23
II-6	Mode of Transportation . . . . .	II-24
II-7	County of Residence . . . . .	II-24
III-1	Provider Services of Northern Cheyenne Reservation . . . . .	III-7
IV-1	Institutional Alternatives Comparison Matrix . . . . .	IV-20
V-1	Existing Transit Demand Estimates for Northern Cheyenne Reservation – 2005 . . . . .	V-4
V-2	2010 Transit Demand Estimate for Northern Cheyenne Reservation . . . . .	V-6
V-3	2015 Transit Demand Estimate for Northern Cheyenne Reservation . . . . .	V-7
V-4	Total Population for Study Area . . . . .	V-8
V-5	2000 Transit Demand Summary (TCRP Methodology) . . . . .	V-9
V-6	2000 Greatest Transit Need Scores by Census Block Group . . . . .	V-11
V-7	TAZs with Greatest Transit Need . . . . .	V-13
V-8	2000 Transit Demand Summary (Montana Transit Needs Study) . . . . .	V-15
VI-1	Peer Community Analysis . . . . .	VI-5
IX-1	Vehicle Type Comparison . . . . .	IX-8
IX-2	Vehicle Information for Northern Cheyenne Transit . . . . .	IX-14-15
X-1	Service Alternatives - Cost Estimates . . . . .	X-19
X-2	Draft Service Alternatives Capital - Cost Estimates . . . . .	X-21
XI-1	Phase I (2007-2009) . . . . .	XI-3
XI-2	Draft Schedules - Phase I . . . . .	XI-7
XI-3	Phase II (2010-2012) . . . . .	XI-9
XI-4	Draft Schedules - Phase II . . . . .	XI-12
XI-5	Phase III (2012-2015) . . . . .	XI-14
XI-6	Draft Schedules - Phase III . . . . .	XI-17
XI-7	Bus Operations Phase I . . . . .	XI-21
XII-1	Vehicle Replacement (6-Year Plan) . . . . .	XII-5
XII-2	Vehicle Replacement (25-Year Plan) . . . . .	XII-6
XII-3	Draft Log Sheet . . . . .	XII-18
XII-4	Transit Plan, 2007-2012 . . . . .	XII-20

## LIST OF ILLUSTRATIONS

Figure	Title	Page
II-1	Basemap . . . . .	II-2
II-2	Major Activity Centers . . . . .	II-4
II-3	Transit Analysis Zones . . . . .	II-6
II-4	2000 Population Density . . . . .	II-7
II-5	2000-2025 Population Trends . . . . .	II-8
II-6	2025 Population Density . . . . .	II-9
II-7	Density of Persons 60 Years and Older . . . . .	II-16
II-8	Density of Mobility-Limited Persons . . . . .	II-17
II-9	Density of Low-Income Persons . . . . .	II-18
II-10	Density of Zero-Vehicle Households . . . . .	II-20
II-11	Density of Youth . . . . .	II-21
IV-1	Northern Cheyenne Tribe Tribal Administration Organization Chart . . . .	IV-15
V-1	Greatest Transit Need Index . . . . .	V-14
VI-1	Annual Passenger-Trips . . . . .	VI-2
VI-2	Passengers per Hour . . . . .	VI-3
VI-3	Cost per Passenger . . . . .	VI-3
IX-1	Vehicle Types . . . . .	IX-2
X-1	Alternative I - Loop Service . . . . .	X-4
X-2	Alternative II - Main Line Service . . . . .	X-8
X-3	Alternative III - Spoke Service . . . . .	X-11
XI-1	Preferred System . . . . .	XI-4
XII-1	Short-Term Plan Timeline . . . . .	XII-21