### OCTOBER 2013 CROW TRIBAL LEGISLATURE

## **JOINT ACTION RESOLUTION NO. JAR 13-18**

## INTRODUCED BY DARRIN OLD COYOTE, CHAIRMAN CROW TRIBAL EXECUTIVE BRANCH

JOINT ACTION RESOLUTION OF THE CROW TRIBAL LEGISLATURE AND THE CROW TRIBAL EXECUTIVE BRANCH ENTITLED:

## "RESOLUTION TO UPDATE THE CROW INDIAN RESERVATION TTP LONG RANGE TRANSPORTATION PLAN"

WHEREAS, the Crow Tribal Executive and Legislative Branches recognize the importance of a well maintained and continuously improved public road system on the Crow Reservation to the health, safety, prosperity and economic development opportunities for the Crow Tribe and its members and for every community on the Reservation; and

**WHEREAS**, 25 CFR Part 170 states that the purpose of Tribal long-range transportation planning is to clearly demonstrate a Tribe's transportation needs and to fulfill Tribal goals by developing strategies to meet these needs; and

WHEREAS, 25 CFR Part 170 describes the significance of periodically reviewing and updating the Tribe's TTP Long Range Transportation Plan to provide an accurate representation of the Crow Tribe's transportation facilities and construction needs; and

**WHEREAS**, the Crow Tribe Department of Transportation has prepared an updated Long Range Transportation Plan for the Crow Reservation, which is attached hereto as Exhibit A and incorporated by reference;

## NOW, THEREFORE, BE IT RESOLVED BY THE CROW TRIBAL LEGISLATURE AND THE CROW TRIBAL EXECUTIVE BRANCH:

That the Crow Tribe hereby adopts and approves the updated TTP Long Range Transportation Plan attached hereto as Exhibit A, which by this reference is incorporated herein.

### **CERTIFICATION**

I hereby certify that this Joint Action Resolution entitled "RESOLUTION TO

UPDATE THE CROW INDIAN RESERVATION TTP LONG RANGE

**TRANSPORTATION PLAN**" was duly enacted by the Crow Tribal Legislature with a vote of  $\underline{13}$  in favor  $\underline{0}$  opposed, and  $\underline{0}$  abstaining and that a quorum was present on this  $\underline{15}^{th}$  day of **October**, 2013.

Carlson Goes Ahead Speaker of the House Crow Tribal Legislature

ATTEST:

R. Knute Old Crow, Sr.

Secretary

Crow Tribal Legislature



### **EXECUTIVE ACTION**

I hereby

\_\_\_\_\_\_veto

This Joint Action Resolution entitled "RESOLUTION TO UPDATE THE CROW

INDIAN RESERVATION TTP LONG RANGE TRANSPORTATION PLAN"

\_\_\_, 2013.

Darrin Old Coyote, Chairman Crow Tribal Executive Branch

## Joint Action Resolution Titled: "RESOLUTION TO UPDATE THE CROW INDIAN RESERVATION TTP LONG RANGE TRANSPORTATION PLAN"

# Bill or Resolution: <u>JAR13-18</u> Introduced by: <u>Chairman Darrin Old Coyote</u> Date of Vote: <u>10/15/2013</u> Number

Representative:	Yes	No	Abstai	ned	
H. Two Leggins	X				
V. Pretty Paint	X				
C. J. Stewart					
K. Shane	X				
L. Other Medicine	X				
A.Coyote-Runs, Sr.	X				
L. Not Afraid.	X		<u> </u>		
M. Covers Up, Sr.	X				
P. Alden, Jr.		-			
M. Not Afraid	X				
V. Crooked Arm	X		_		
L. DeCrane	X				
B. Hugs			_		
G. Real Bird, Jr.	X		_		
M. Backbone		-	_		
G. Stewart					
R. K. Old Crow, Sr. Secretary of the House	X	- 3 -			
C. Goes Ahead Speaker of the House	X				
Totals:	13	0	0		
Result of Vote:	Passed	Not Passed	Tabled	Veto-Override	
Senator Carlson Goes Ahead Date Senator R. Knute Old Crow, Sr. Date					
Senator Carlson Goes Ahead Date Senator R. Knute Old Crow, Sr. Date Speaker of the House Secretary of the House					

## **EXHIBIT A**

## LONG RANGE TRANSPORTATION PLAN

## LONG RANGE TRANSPORTATION PLAN

## **Crow Reservation Final Report**

June, 2012

CROW RESERVATION Long Range Transportation Plan

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#### INTRODUCTION

The Bureau of Indian Affairs (BIA), in accordance with the 1983 Memorandum of Agreement between the BIA and Federal Highway Administration, requires transportation plans to identify and meet transportation needs of Indian tribes nationwide. The MOA and subsequent updates state that the BIA shall carry out a transportation planning process for Indian Reservation Roads (TTP) to support its road construction and improvement program. The Moving Ahead for Progress in the 21<sup>st</sup> century Act (P.L. 112-141),continued the authorization of Highway Account of the Highway Trust Fund,to be made available each fiscal year under the TTP Program for obligation to transportation planning. This study was initiated by the Crow Nation through the Transportation Planning Program and P.L. 93-638.

## Tribal Transportation Program (TTP)

Public roads, including roads on the Federal Aid System, that are located within, or provide access to, an Indian reservation, Indian trust land, or restricted Indian land which is not subject to fee title alienation without the approval of the Federal Government. This includes Indian and Alaska Native villages, or Oklahoma communities in which Indians and Alaska Natives reside, whom the Secretary of the Interior has determined are eligible for services generally available to Indians under Federal laws specifically applicable to Indians.

### Road Systems within the TTP

Crow Tribal Transportation Department Road System means those existing and proposed TTPs for which the BIA has or plans to obtain legal right-of-way. The BIA has the primary responsibility to improve and maintain the roads on this system. Any changes to this system must be supported by a tribal resolution.

Bureau of Indian Affairs (BIA) Reservation Development Road System means existing public highways and proposed routes for which the Bureau of Indian Affairs has, or plans to obtain, a legal right-of-way and which serve the development needs of Indian reservations and Alaska Native villages.

**Highway Trust Fund Road System** means existing BIA routes or sections of routes which were constructed or improved using Highway Trust Funds.

**Tribal Road System** means public roads whose rights-of-way are under the jurisdiction of a tribe. **County or Township Road System** means public roads whose rights-of-way are under the jurisdiction of a county, township, or road district.

State Highway System means public highways whose rights-of-way are under the jurisdiction of a state.

Other Federal Agency Public Roads means public roads whose rights-of-way are under the jurisdiction of various Federal agencies, such as the Bureau of Land Management, Forest Service, Corps of Engineers, National Park Service, Bureau of Reclamation, Department of Defense, and others.

### **PURPOSE AND SCOPE**

This Long Range Transportation Plan was prepared to meet the Crow Nation's goal of identifying and inventorying roads eligible for the TTP system so as to secure funding for needed transportation improvements. This study presents a plan to improve existing transportation facilities and develop new transportation opportunities within the Crow Reservation.

The Crow Nation is under the jurisdiction of the BIA's Rocky Mountain Regional Office (RMRO), which must review the contents and methodologies of this study to fulfill the requirements set forth in MAP-21.

This study considers the potential transportation impacts of existing and planned tribal development projects to establish a prioritized list of transportation needs. The study includes the following tasks:

- Inventory TTP roads;
- Identify obvious roadside hazards that may exist on the TTP system:
- Identify and evaluate present and future transportation needs;
- Provide a long range transportation plan that prioritizes short- and long term transportation improvement projects.

### ORGANIZATION OF THE STUDY

This study was developed through work sessions and communications with tribal representatives and staff of Big Horn County, Yellowstone County, and the Montana Department of Transportation (MDT). Tribal data were obtained from tribal officials, representatives of state and federal agencies, on-site reconnaissance, and documents—principally the following:

- http://lib.lbhc.cc.mt.us/about/;
- http://factfinder.census.gov.

The study consists of Phases I, II, and III.

### Phase I - Data Collection

During this phase, Crow Department of Transportation (DOT) Planning contacts the following entities to identify key personnel, arrange future meetings, and gather all pertinent information:

- Crow Nation;
- BIA Rocky Mountain Regional Office, Division of Transportation;
- Montana Department of Transportation.

Also in this phase, part one of the three-part transportation plan is prepared. This report provides a summary of the existing tribal transportation network, land use and development on the Crow Reservation, and tribal demographics.

## Phase II - TTP Inventory Update

In Phase II Crow DOT compares the tribe's existing TTP Inventory with the newly collected road inventory data to establish recommendations for updating the Crow Reservation's road inventory. Part two of the transportation plan includes a copy of the existing TTP inventory, the new roadway inventory, and an Inventory Comparison Listing table which compares the existing and the updated inventory data.

## Phase III – Analysis of Transportation Needs

In this phase, Crow DOT analyzes roadway capacities, levels of service, travel speeds, safety standards, and adequacy design standards. These analyses determine deficiencies of the existing transportation system and identify future transportation needs. Travel demand studies are also conducted for the study area. This includes identifying and evaluating present and future travel demands of existing and proposed principal arterials, collectors, and local roads. Crow DOT also surveys community attitudes regarding future transportation needs and planning through an ongoing dialogue with tribal officials and staff, and BIA personnel. Phase III lists and evaluates social and economic factors associated with the proposed improvements to existing routes (or sections of routes) and new road construction. It also describes individually identified and prioritized road improvement projects, justifications, costs to

construct, and general time frames for implementation. Some of the factors considered in this evaluation include:

- The number of enterprises and/or small businesses located on a route;
- The number of existing homes served by a route;
- The classification of each route.

This final phase also includes preparing a Tribal Transportation Improvement Project list, which recommends a prioritized list of road improvement projects proposed for funding. Following the BIA guidelines established for this process, CROW DOT assists the tribe in developing the tribal TIP and submits it to the BIA. The finalized tribal TIP is added to the Long Range Transportation Plan, which is submitted to the tribe as the final project deliverable.

### THE CROW NATION

The Crow tribe call themselves "Apsaalooke", which means "children of the large beaked bird." The ancestral Crow are originally an agricultural tribe from the western area of the upper Great Lakes. They began their expansion westwards in approximately 1300 A.D. It is proposed that as eastern tribes acquired firearms from Europeans, neighboring tribes to the west who still used bows and arrows were pushed out. The ancestral Crow moved extensively across the upper Midwest of the United States and possibly into southern Canada before splitting into two separate groups in the early 1600's. One group remained near the Heart River in North Dakota and became the agricultural Hidatsa Tribe, while the other group resumed their wandering. Over approximately 100 years the nomadic group moved as far west as north central Utah, south into Oklahoma, Arkansas and perhaps Missouri, and eventually north into Wyoming and southern Montana. It was during the latter years of their expansion that the nomadic Crow acquired horses and came to depend on the buffalo.

In the mid-1800s increasing numbers of miners and settlers, many in search of gold, began passing through or laying claim to Crow land. In the 1851 Treaty of Fort Laramie, the Crow agreed to live within a 33-million acre area in exchange for a yearly payment and government protection from attacks by non-Indian settlers. Neither payments nor protection were forthcoming and the Crow were decimated by disease, inter-tribal warfare, and the disappearing buffalo. Settlers continued to expand further into Crow territory and the reservation was reduced five times between the Second Ft. Laramie Treaty of 1868 and the Allotment Act of 1920. Today approximately half of the 2.2 million-acre Crow Reservation is owned by tribal members and the tribal government.

### PART ONE

### **EXISTING CONDITIONS**

## 1.1 Demographics and Development

Transportation systems have long been a vital and necessary part of society. Therefore, the evaluation of an existing transportation network or projection of future transportation needs requires an understanding of existing land use, future land use, economic activity, and development trends.

## 1.1.1 Population and Housing

#### Characteristics

Of the 13,068 enrolled members of the Crow Nation, approximately 9,078 reside on the Crow Reservation. Tribal members are divided into three subgroups: Mountain Crow, River Crow, and Kicked in the Bellies. An additional 5,000 non-Indians reside within the exterior boundary of the Crow Reservation. The reservation's population growth rate is estimated to be approximately three percent per year. The gender ratio is almost equal, with 50.3 percent females and 49.7 percent males. The median age is 27; 9.9 percent of the population is under five years old, and 6.5 percent are 65 or older. Census 2000 identified 22.8 percent of the population of the Crow Reservation as having no high school diploma, 30.5 percent as having graduated from high school, and 13.8 percent as having a bachelors degree or higher. Census 2000 counted 2,280 housing units on the Crow Reservation with an average household size of 3.6. However, these figures include the non-Indian communities located within the exterior boundary of the reservation and the Tribe estimates that average tribal member household size to be six people. The Tribe also estimates that approximately 60 percent of existing housing is substandard, and that there is an additional unmet housing need of 500 units.

### 1.1.2 Economic Conditions and

## **Employment**

Approximately 24 percent of reservation residents are employed by government agencies, which, includes the tribal government, Bureau of Indian Affairs, federal government, county government and the State of Montana. Up to six percent of employment is in the agricultural sector, two percent in retail, four percent in manufacturing, four percent in mineral extraction, two percent in the service industry, and 6 percent in services such as education, health care and law enforcement. A significant number of reservation residents are engaged in small-scale farming and ranching operations. It is estimated that approximately 66 percent of Crow Reservation residents are unemployed. In 2000, the median household income of reservation residents was \$27,044; the median family income was \$31,958, and the per capita income was \$15,066. Persons living below the poverty level in Big Horn County is at 23.5%.

## 1.1.3 Physical Characteristics

The Crow Reservation is located in south central Montana. The reservation is bordered by Wyoming to the south, the Northern Cheyenne Reservation to the east, and the northwest boundary of the reservation is about ten miles east of Billings.

Reservation topography is characterized by sharp-edged mountains, flat alluvial floodplains, and rolling upland plains. Much of the western portion of the reservation is difficult to negotiate, as the hills that climb from the plains are dissected by a labyrinth of coulees and canyons. Reservation elevations vary between 7,000 feet in the mountains to between 3,000 and 4,500 feet on the plains. Portions of three mountain ranges are located on the Crow Reservation: the Wolf Mountains to the east, and the Big Horn and Pryor Mountains to the south. There are also three major drainage systems on the reservation: the Big Horn River, Little Big Horn River, and Pryor Creek.

The Crow Reservation enjoys a relatively moderate climate for its latitude. The warm Chinook winds that blow from the western mountain melt most snow accumulations. The mean annual temperature is 45.5 degrees Fahrenheit with a summer high of 110 degrees Fahrenheit and a winter low of -40 degrees Fahrenheit. Most of the reservation receives between 12 to 18 inches annual precipitation, depending on the elevation.

## 1.1.4 Land Ownership

Of the 2.125 million acres which comprise the Crow Reservation, 1.425 million acres are held in trust for the Crow Nation. The Crow Nation owns 18 percent of the reservation, while 50 percent of the acreage is owned by individual allottees. Approximately 700,000 acres within the exterior boundary of the reservation are in fee status, which makes up part of the 32 percent of the reservation which is owned by non-Indians. Combined with the individually allotted land within the reservation, the Crow land base is characterized by significant "checker-boarding" of Indian and non-Indian land. In an effort to reclaim the allotments and any other non-tribally owned property within the exterior boundary of the Crow Reservation, the tribe has established a fund from which to purchase available property.

### 1.1.5 Existing Land Use

### Residential

The Crow Reservation is divided into six districts: Lodge Grass (The Valley of the Chiefs), Wyola (Mighty Few), Reno, Bighorn, Pryor and Black Lodge. Reno which is Crow Agency is the largest reservation community, with approximately 3,245 residents. The majority of BIA and IHS housing is located in Crow Agency, although government housing is also available for IHS employees in Lodge Grass. Approximately 2,125 people reside in Lodge Grass. Pryor is located 69 miles northwest of Crow Agency, and approximately 1,108 people reside in the community. Wyola, the smallest of the reservation communities, is located 13 miles from Lodge Grass and 341 people reside here.

The National Park Service and Bureau of Land Management provide housing for their employees in Fort Smith. Housing is provided by the Crow Housing Authority in the district communities as well as on rural scattered sites across the reservation.

### **Public Service and Institutional Facilities**

The Crow tribal government and the BIA maintain headquarters in Crow Agency. Other government facilities in the community include the Crow Tribal Court, the Crow/Northern Cheyenne Hospital, the Little Big Horn Community College, and the college library and fitness center. There are two satellite health clinics on the Crow Reservation: the Lodge Grass Health Center and the Pryor Health Station. A number of federal agencies maintain offices on the Crow Reservation. They include the National Park Service and Bureau of Land Management Fort Smith, and Indian Health Offices and USDA Crow Agency Conservation Services in Crow Agency. Eight elementary schools and three high schools serve the Crow Reservation. The high school and elementary schools in Hardin are located off-reservation, although a number of tribal members attend the schools. On-reservation schools include: elementary through high school in Lodge Grass and Pryor; the Pretty Eagle Catholic elementary school in St. Xavier; the St. Charles Catholic school in Pryor (elementary through 8th Grade); Crow Agency Grade School (first through sixth); the Ft. Smith Grade School (first through fifth); and the Wyola Grade School (Kindergarten through eighth).

There are six community centers on the Crow Reservation, one in each district: Wyola (Mighty Few), Reno, Bighorn, Pryor and Black Lodge and Lodge Grass (The Valley of the Chiefs). **Commercial** 

There is limited commercial activity on the Crow Reservation. Most of the commercial activity is owned and operated by individual tribal members and non Indians which mostly comprised of such activities as selling food, retail curio shops, and building construction. The Crow Tribe owns the Apsaalooke Nights Casino, which is located on SH 212 approximately two miles south of Crow Agency. In this area the non Indians own a fast food complex, gas station and thrift store which is located adjacent to the casino. A complex hosting a museum, gas station and fast food restaurants is located a little to the south in Garryowen.

### Historical/Cultural

The annual Crow Fair, one of the largest powwows held in the United States, takes place at Crow Agency in the third week of August. Crow Native Days takes place annually in Crow Agency around June 20<sup>th</sup> on the anniversary of the Battle of the Little Big Horn. The Little Big Horn National Battlefield and Chief Plenty Coups Memorial State Park are both located on the reservation, and a small museum is located in Garryowen. There are a large number of churches on the Crow Reservation which represent a number of denominations. Churches are located in Wyola, Lodge Grass, Crow Agency, Black Lodge, St. Xavier, Ft. Smith, and Pryor.

#### Recreation

Yellowtail Dam, located in Big Horn Canyon, is a popular fishing, water sports and camping destination. The dam encompasses 120,000 acres and draws up to 230,000 annual users. The Big Horn River is designated as a blue ribbon river and generates revenue of 20 million. Most recreation facilities are located in Hardin and are associated with the schools. A gymnasium is located approximately half mile south of Crow Agency. Adjacent to the tribal complex is a rodeo ground and horse race track. A small veteran's memorial park is located at the intersection of the Frontage Road and I-90.

### Agricultural

Agriculture is the most important commercial activity on the reservation and is comprised of both irrigated and dry-land farming. Crop acreage amounts to 213,750 acres (15 percent of the reservation) on which alfalfa, grass hay, wheat, barley, oats, corn and sugar beets are grown. This is wholly comprised of individually-owned farming operations, as is the ranching activities of cattle and horses. Grazing land includes 969,000 acres or 68 percent of the reservation. There are 138 native farmers who operate 838,738 acres with an average farm size of 6,078 acres. There are 9,842 head of cattle owned by Crow Indians.

The Crow Tribe owns and operates a commercial bison herd of approximately 1,500 head, which is the largest in Indian Country. The buffalo pasture is approximately 14,300 acres over an area of approximately 22,000 acres located in the Big Horn Mountains. Up to 12,650 areas of tribal land is forested with Juniper, Limber Pine and Ponderosa Pine. The tribe does not have any commercial timber operations and forests are primarily used for grazing and gathering firewood.

### Industrial

The Westmoreland Coal Mine, located in the eastern portion of the reservation, provides royalty income for the tribal government and is a source of employment for tribal members. A power plant is located one mile north of Hardin and employs a few tribal members, although the tribe does not receive royalties from this operation. There is also a proposed coal mine project being developed in the southeast corner of the reservation called the Big Metal project. Including, Upper Young's Creek Coal mine project. These future developments will provide increased royalty income and more sources of employment for tribal members.

### 1.1.6 Land Use Control

Land use on the Crow Reservation is controlled by the Crow Tribal Government. The tribe has a land use plan but there is no zoning ordinance through which to enforce the land use plan.

### 1.1.7 Law Enforcement

Tribal members are under the jurisdiction of the Crow Agency BIA Law Enforcement Services, Crow tribal police. The Crow Tribal Court is located in Crow Agency.

### 1.2. Transportation System

This section describes the road system utilized by Crow Reservation residents. While emphasis is on the road system, public transit and other service routes, such as school bus and mail delivery, are also addressed.

### 1.2.1 Existing Roadway System

Public roads within the Crow Reservation are constructed and maintained by the BIA Crow

Agency, Big Horn County, Yellowstone County, and the Montana Department of Transportation (MDT). There are 2,227.6 miles of road on the existing Crow Reservation TTP inventory. The detail

Table 1.1 – Selected Characteristics of Existing Roads of this road mileage is presented in Table 1.2.

### 1.2.2 Functional Classification of

### Roadways

Roads are classified or grouped into integrated systems by the functions they perform with regard to moving traffic and providing property access. Each road is ranked by its relative importance and the function it is intended to serve. Within the TTP system there are two types of road classification systems: State Highway Classifications and BIA Road Classifications. Both the state and the BIA use functional classification as the basis for classifying their roads. However, the criteria used to determine specific classifications differ between the two systems.

### 1.2.3 Functional Classification

### **Definitions**

Functional classification identifies the role each street or highway plays in channeling traffic through a rural or urban environment in a logical and efficient manner. There are three general functional classification categories: Arterials, Collectors, and Local Roads. An arterial's function is to move through-traffic at high speeds over long distances with limited access. Local roads or streets move traffic at relatively low speeds and provide access to adjacent property. Urban and rural areas have fundamentally different characteristics with regard to density and types of land use, density of street and highway networks, nature of travel patterns, and the way in which these elements are related. Consequently, urban and rural functional systems are classified separately. Urban systems are comprised of urban principal arterials, urban collectors, and urban local roads. Rural systems are comprised of rural principal arterials, rural minor arterials, rural collectors, and rural local roads. General definitions of the three general functional classifications, along with desirable characteristics, are given below.

#### **Arterials**

Arterials carry relatively large volumes of traffic through states and to major destinations such as work sites or commercial centers. Arterials fall into two categories: principal and minor. Principal (major) arterials include federal and interstate highways, state highways that serve urban areas with a population greater than 50,000, and state highways that serve a majority of areas with populations of 25,000 or more. Minor arterials provide interstate and intercounty service to cities and towns with populations of less than 25,000, and attractions that draw travel over long distances. Principal arterials usually have four traffic lanes (two lanes in each direction), provide left-turn lanes at most intersections, and are separated by a median or continuous left-turn lane. Minor arterials may only have two traffic lanes and generally provide left-turn lanes at major intersections. A minimum right-of-way width of 100 to 150 feet is desirable for an arterial, although wider rights-of-way are needed for arterials with more than four lanes.

### Collectors

Collectors generally serve intra-county and regional travel that has shorter travel distances than that supported by arterials. Collectors also provide a balance between mobility and land access by generally permitting access to all abutting properties. There are two categories of collectors: major and minor. Major collectors provide service to any county seat or a community not served by an arterial road, and serve other traffic generators of intra-county importance: regional parks, consolidated schools, agricultural areas, shipping points, etc. Minor collectors are spaced at intervals consistent with population density. They collect traffic from local roads and provide access to all developed areas within a reasonable distance of a higher classified road. A minimum right-of-way width of 80 to 100 feet is desirable for a collector.

### Local Roads

Local roads comprise the balance of the road network and carry low volume, low speed traffic. The primary function of a local road is to provide access to individual parcels of property. Local roads usually serve residential areas and may also serve scattered business and industrial sites that generate modest traffic. A minimum righ-tof- way of 60 to 80 feet is desirable for a local road.

## 1.2.3.1 State Highway Classifications

Functional classification of roads has been used by state highway departments for many years for a variety of important highway functions: assigning jurisdictional responsibility, determining cost allocations. allocating funds to local units of government, and establishing appropriate design standards. Prior to enactment of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), it became apparent that the 20-year old federally mandated functional classifications needed modification. Although routinely updated by states, functional classifications were no longer consistent among the states and it was agreed that they should be reclassified before a national highway system was established. As a result. Congress included Section 1006(c) in ISTEA, which required states to reclassify their roads and streets, under oversight of the Federal Highway Administration, by September 30, 1996.

### 1.2.3.2 BIA Road Classifications

The BIA road system has 11 classes of routes: seven vehicular, and four non vehicular. Functional classification is used by the BIA to group roads into a specific vehicular class based on the existing or anticipated function of the road. The road classes are then combined with the traffic characteristics of the road to select criteria and standards for the adequate design of the facility. Definitions of the eleven BIA road system classes are given below, together with the list of roads the BIA-DOT inventory includes in each class.

1.2.4 Inherited roads from Big Horn County

7004 Pass Creek/8 mi 7006 Back Bone Rd Wyola/15 mi 8001 Lodge Grass Upper Rd/ 8.2 mi Willow Creek 8002 Upper Rotten Grass/5mi 116 Grey Blanket Rd/8 mi

## 89 Sioux Pass Rd/16mi] 7005 Owl Creek Rd/5mi 8 Edgar Rd/6mi

### Class 1

These are major arterial roads that provide an integrated network to serve traffic between large population centers. They generally do not have stub connections, have more than two lanes of traffic, and carry an average traffic volume of 10,000 vehicles per day or more. This is a new classification in

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the TTP System and there are no existing Class 1 roads on the Crow TTP System.

### Class 2

Class 2 roads are rural minor arterials which provide an integrated network and generally do not have stub connections. They serve traffic between large population centers and may also link smaller towns and communities to major destination areas that attract travel over long distances. They are generally designed for relatively high overall speeds with minimum interference to through-traffic, and carry less than 10,000 vehicles per day. Class 2 routes provide for at least inter-county or interstate travel and are spaced at intervals consistent with population density. There are 141.7 miles of Class 2 roads identified on the Crow TTP System.

### Class 3

Class 3 routes are streets and roads that are located within communities and serve residential or other urban settings. These roads correspond to the Local Roads category in the state highway classification. There are 27.1 miles of Class 3 roads on the Crow TTP System.

### Class 4

Class 4 routes are rural major collectors which collect traffic from rural local roads. There are 391.9 miles of Class 4 roads identified on the Crow TTP System.

### Class 5

These are local rural roads that may include section line and stub-out roads that collect traffic for arterial- roads and make connections within the grid of the Indian Reservation Roads system. Such routes may serve areas around villages or provide access to farming areas, schools, tourist attractions or various small enterprises. This class also includes roads and vehicular trails for administering forests, grazing areas, mining and oil operations, recreation, or other purposes. There are no Class 5 roads on the Crow TTP System.

### Class 6

These are city minor arterial streets that are located within communities and provide access to major arterials. This is a new classification in the TTP System and there are no existing Class 6 roads on the Crow TTP System.

### Class 7

These are city collector streets that are located within communities and provide access to city local streets. This is a new classification in the TTP System and there are no existing Class 7 roads on the Crow TTP System.

### Class 8

Class 8 routes are non-road type projects such as paths, trails, walkways and other routes for public use by foot traffic, bicycles, trail bikes, snowmobiles, all-terrain vehicles, or other non-vehicular traffic. This is a new classification in the TTP System and there are no existing Class 8 roads on the Crow TTP System.

### Class 9

Class 9 routes encompass other transportation facilities such as parking facilities adjacent to TTP routes and scenic byways such as rest areas, other scenic pullouts, ferry boat terminals, and transit terminals. This is a new classification in the TTP System and there are no existing Class 9 roads on the Crow TTP System.

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Long Range Transportation Plan: Part One

#### Class 10

Class 10 routes are defined as airstrips that are within the boundaries of the TTP system and are open to the public. These airstrips are included for inventory and maintenance purposes only. This is a new classification in the TTP System and there are no existing Class 10 roads on the Crow TTP System.

Class 11

This classification indicates an overlapping of a previously inventoried section, or sections of a route, and is used to indicate that it is not to be used for accumulating needs data. This class is used for reporting and identification purposes only. This is a new classification in the TTP System and there are no existing Class 11 roads on the Crow TTP System.

## 1.2.4 Bridges and Drainage Structures

There are 23 bridges on the existing Crow TTP system. Data for these bridges is presented in Table 1.3.

### 1.2.5 Postal Delivery Routes

There are home mail delivery routes within the Crow Reservation. Residents collect their mail at the post offices in Crow Agency, Garryowen, Wyola, Lodge Grass, St. Xavier, Fort Smith and Pryor.

### 1.2.6 School Bus Routes

There are a number of education-related transit routes on the Crow Reservation. The Headstart program provides transportation for its students, and each of the eight elementary schools and three high school provides school bus services for the students

## Table 1.2 - Bridges on the Existing TTP System

```
1 20 C277 30
4 20 C237 93
4 40 C236 26
4 60 C230 20
4 80 C232 20
4 100 C233 460
4 120 C234 92
4 140 C235 58
6 100 C226 118
8 20 C225 75
14 20 C202 20
16 20 C203 60
73 20 C220 79
73 40 C218 63
73 60 C217 68
73 80 C221 47
91 40 C208 524
91 60 C207 68
114 20 C224 47
191 20 C211 41
205 20 C223 23
205 40 C222 61
226 20 C219 21
```

Long Range Transportation Plan: Part One

### 1.2.7 Transit Routes

The Crow Nation Transit Service serves the Crow tribe in transporting passengers on and off reservation such as Wyola, Lodge Grass, Hardin and Billings. Passengers include tribal workers, students, government employees and IHS patients. The transit system has seven buses that run approximately 700 miles a day with an average of forty passengers one way. There are three full time drivers and one sub. A route is attached on table.

Major highways through the Crow Reservation include I-90 which extends north-south through the entire reservation; Highway 85 and the Burlington Northern-Santa Fe railroad which run parallel to the interstate, and Highway 212 which connects Crow Agency and the Northern Cheyenne Reservation. The closest commercial air service is available in Billings, as is commercial bus service.

CROW RESERVATION 2-1 Long Range Transportation Plan: Part Two

1.2.8 Regional Transportation

## PART TWO TTP INVENTORY UPDATE

Recommended revisions to the existing Crow Reservation TTP Inventory are subject to the approval of the Crow Nation and the BIA-RMRO.

## 2.1 Roadway Inventory

As part of the 2005 Crow Reservation TTP Inventory update, CROW DOT staff inventoried all roads on the existing Crow Reservation TTP Inventory, as well as existing roads which the tribe wishes to add to the inventory. The data describes the physical characteristics and condition of each road, and records:

- Identification (including length, class, location, etc.);
- Roadway section;
- Inventory status (including date of update).
   The minimum criterion used for inventory purposes to classify a road as "improved" is that it be graded and have drainage improvements (i.e., side ditches and culverts at cross-drainages).

An inventory data form was developed to expedite fieldwork. Field inventory data was then transferred to the BIA inventory forms.

In order to make changes to the TTP Inventory, CROW DOT's inventory data is first reviewed by the tribes and BIA agency, regional, and DOT offices. Following the review and comment process, the Tribal

Council, through formal resolution, accepts the data and refers it to the BIA agency office, regional office and DOT. The data (one sheet per section of each route) provides information regarding the physical characteristics and condition of each road, and includes a color photo of each section inventoried. The inventory data forms are located in Appendix A, Indian Reservation Roads Inventory Data.

## 2.1.1 Revisions to the Crow TTP Inventory

One of the objectives of the inventory update is to identify reservation roads and bridges that should be added to, or deleted from, the BIA system or renumbered to more logically reflect their relationship with intersecting roads.

# 2.1.2 Mileage Corrections to the Crow TTP Inventory

The mileage on 37 TTP routes on the existing Crow TTP Inventory was corrected. 18 routes were shortened and 19 routes were lengthened. See the Inventory Comparison Listing table in Appendix A for these specific roads.

## 2.1.3 Existing Road Sections to be Added to the Crow TTP Inventory

There are 150 existing roads, which total 647.4 miles, which are eligible for addition to the Crow TTP System. See the Inventory Comparison Listing table in Appendix A for these specific roads.

## 2.1.4 Roads to be deleted from public access

E 216 Garvin Basin/11mi

E 215 Big Bull Elk/20.4

E 235 Saw Log/ 24.3

E 225 Hunters Cabin/12.3mi

E 207 Red Grade Rd/9mi

### Class 1

CROW DOT inventoried no Class 1 roads on the Crow Reservation during the 2005 Inventory Update.

### Class 2

CROW DOT inventoried 219.5 miles of Class 2 roads on the Crow Reservation during the 2005 Inventory Update.

CROW RESERVATION 2-2 Long Range Transportation Plan: Part Two

## Table 2.1 – Summary of the 2005 Updated Crow TTP System Class 3

CROW DOT inventoried 6.9 miles of Class 3 roads on the Crow Reservation during the 2005 Inventory Update.

#### Class 4

CROW DOT inventoried 845.1 miles of Class 4 roads on the Crow Reservation during the, also misclassified 4 corrected to 5. 2005 Inventory Update.

### Class 5

CROW DOT inventoried 90.5 miles of Class 5 roads on the Crow Reservation during the 2005 Inventory Update.

### Classes 6-8

CROW DOT inventoried no Class 6 through Class 8 roads on the Crow Reservation during the 2005 Inventory Update.

#### Class 9

CROW DOT inventoried 3.5 miles of Class 9 roads on the Crow Reservation during the 2005 Inventory Update.

### Classes 10-11

CROW DOT inventoried no Class 10 through Class 11 roads on the Crow Reservation during the 2005 Inventory Update.

## 2.1.4 Roads to be Deleted from the Crow TTP Inventory

There are 21 routes which total 132.8 miles, that are recommended for deletion from the Crow TTP Inventory. None of these roads could be located; however, it can be assumed that the roads were inventoried and assigned new route numbers during the 2005 TTP Update. The mileage will be recommended for addition under these new route numbers.

# 2.1.5 Bridges to be Added to the Crow TTP Inventory

CROW DOT inventoried 39 new drainage structures that are eligible for addition to the TTP system as BIA bridges. To qualify as such, the total length of the drainage structure must span a minimum of 20 feet along the roadway centerline. Additionally, in the case of culverts, the distance between each culvert must be less than half of its diameter. See Table 2.2 for a listing of existing drainage structures that are recommended for addition to the Crow TTP Inventory.

During the Inventory Update three bridges on the existing inventory were renumbered:

- bridge C221 was renumbered to A023;
- bridge C208 was renumbered to A002:
- bridge C207 was renumbered to A003.

## 2.1.6 Bridges to be Deleted from the **Crow TTP Inventory**

There are six bridges to be deleted from the Crow TTP Inventory. CROW DOT inventory technicians could not find these bridges during the TTP Inventory Update. The bridge numbers are: C202, C218, C224, C226, C230, and C234.

BIA 164.7 27.3 178.2 101.7 0 471.9 County 93.3 36.9 275.8 263.8 0.5 670.3 Tribe 0.8 0 0 0 0.3 1.1 Federal 22.2 0 0 0 0 22.2 Total 281 64.2 454 365.5 0.8 1,165.5 CROW RESERVATION 2-3

Long Range Transportation Plan: Part Two

Table 2.2 – Existing Bridges Recommended for Addition to the Crow TTP Inventory

\* - The bridge number was designated at the time of inventory.

4 120 C238 none 28 Asphalt Bridge 52 40 A050 L02223000+02001 55 Wood Bridge 73 40 A024 000000000000C217 69 Asphalt Bridge 74 30 A026 500313006+02721 60 Asphalt Bridge 74 50 A027 500313002+06761 40 Asphalt Bridge 76 30 A028 500384000+05101 533 Concrete Bridge 78 20 H007 500313008+03271 32 Earth Bridge 85 30 A007 none 40 Concrete Bridge 87 20 A021 500451034+00441 69 Asphalt Bridge 87 40 A020 500451033+03421 69 Asphalt Bridge 87 60 A019 500451024+09811 122 Concrete Bridge 87 80 A018 500451015+07741 64 Concrete Bridge 87 100 A017 500451008+06371 137 Concrete Bridge 91 20 A001 none 33 Asphalt Culverts 212 20 A022 P00037000+00001 200 Concrete Bridge 313 30 H001 L02090022+07001 65 Asphalt Bridge 313 50 H002 500313032+06911 101 Concrete Bridge 313 80 H003 500313023+08091 58 Concrete Bridge 313 100 H004 500313008+03271 574 313 Bridge 313 120 H005 500313008+00411 28 Asphalt Culverts 313 140 H006 500313007+08411 70 Concrete Bridge 384 20 A025 500384001+06281 184 Concrete Bridge 418 20 A014 L02202012+02001 103 Concrete Bridge 418 50 A015 L02202009+07001 94 Concrete Bridge 418 70 A016 L02202000+05001 104 Concrete Bridge 463 20 A013 L02090002+02001 103 Asphalt Bridge 3002 40 C900 none 39 Concrete Bridge 3101 30 C901 00000000000C234 80 Concrete Bridge 3102 30 C902 none 41 Wood Bridge 3104 20 C905 none 44 Wood Bridge 3105 40 C904 none 36 Wood Bridge 7004 20 A008 none 24 Gravel Bridge

7004 40 A009 L02273000+01001 60 Concrete Bridge 7006 20 A012 L02266000+04001 88 Concrete Bridge 7007 20 A010 L02318010+03001 93 Gravel Culverts 7007 40 A011 L02318001+08001 28 Gravel Culverts 7546 20 C200 none 34 Wood Bridge 9000 20 A004 L02224003+09001 44 Asphalt Bridge 9004 20 A006 1320003P0000000 22 Gravel Culverts

CROW RESERVATION 2-4

Long Range Transportation Plan: Part Two

## 2.2 Existing Traffic Volumes

CROW DOT performed traffic volume studies to determine the average annual daily traffic (AADT) on the Crow Reservation TTP system. These counts indicate whether or not the existing roads adequately service current traffic volumes.

Mechanical 24-hour counts were conducted at 75 locations using Jamar traffic counters. The traffic counters recorded hourly variations in traffic as well as the 24-hour totals. Typically, recorded traffic volumes are adjusted using an adjustment factor to mitigate the impact of seasonal or other generally predictable fluctuations in traffic. The mechanical vehicle classification counts also identified the number of heavy vehicles (i.e. trucks and buses) that were included in the total traffic count.

Hourly volume data derived from the 75 counters is presented in full in Appendix B, Traffic Count Data. The 24-Hour Traffic Count table, found at the beginning of Appendix B, summarizes this data and presents the current AADT volumes that were calculated using MDT adjustment factors. All count locations are illustrated on Exhibit 1 – Traffic Count Locations and Average Daily Traffic, also found in Appendix B. AADT data was used in conjunction with the inventory data to update the road inventory files, determine capacity deficiencies, and identify potential roadway improvement projects.

CROW RESERVATION 3-1

Long Range Transportation Plan: Part Three

### PART THREE

### THE TRANSPORTATION PLAN

## 3.1 Future Development Plans

Future development plans identified by the tribe are incorporated into this report in the following sections. These plans, and the impacts that they will have on the existing

roadway network, form the basis of recommended roadway system improvements.

These are described in Section 3.2.2 and depicted on the TTP System and Proposed Transportation Projects map.

## 3.1.1 Tribal Goals and Objectives

The Crow Nation's vision for future development can be broadly categorized into the following goals:

- Achieve economic independence from federal, state and other public programs;
- Develop businesses and revenue sources that create economic diversity:
- Create full-time, year-round jobs for tribal members;
- Build an economy that supports tribal values and sustains tribal culture.

### 3.1.2 Future Development Plans

The type and degree of development projected by the target year 2032 on tribal land is based upon the information provided by tribal administrative staff. This data is used to project traffic volumes that would likely be generated by the various land uses and, subsequently, to identify road and other transportation-related improvements that may be needed to handle that traffic. Proposed development plans are as follows:

### Residential

In order to address the existing unmet housing need, the Crow Tribal Housing Authority is planning to construct up to 1,000 single family homes within ten years. At present the infrastructure in Crow Agency and Lodge Grass are being used to capacity and it will be necessary to expand the infrastructure network prior to burdening it further. However, a 68-unit single family housing Sub division is currently being built to the west of Crow Agency, and will be completed in the fall of 2006.

Approximately 100 apartment homes are planned in Crow Agency, although the plans are presently stalled until rights-ofway issues are addressed.

### Institutional

The Crow Nation wishes to consolidate the scattered reservation schooling system by constructing one centralized school in Crow Agency. Although the kindergarten

through twelfth grade facility was initially established as a ten-year plan, it is a high tribal priority and is expected to become a reality within five years.

The Seven Hills Healing Center is located along Soap Creek Road between Lodge Grass and Ft. Smith. Although the road was poorly constructed and is in poor condition, it is heavily used. Additionally, the road is difficult to traverse during inclement weather. Short term plans include gravelling the road until it can be reconstructed and paved, and the bridge replaced. Little Big Horn Community College plans to expand its facilities by constructing a gymnasium which has been completed and student dormitories adjacent to Custer Creek Road.

The Crow Nation is planning to develop a new tribal complex on Gas Cap Hill.

### Recreation

In the spring of 2014 ground breaking will occur for the construction of a youth and

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Long Range Transportation Plan: Part Three

recreation center. Facilities will include a softball field, skate park, and football field. The recreation center will be located on Gas Cap Hill Road approximately half of a mile east of Crow Agency on the east side of the Little Big Horn River

## Commercial

An interstate rest area is planned for the west side of I-90 at the intersection of the Interstate and State Highway 212. Construction is scheduled to begin in 2014, and facilities will also include a camp ground and a casino.

A casino, 200-room motel and 18-hole golf course are planned along State Highway 212, opposite the entrance to the Little Big Horn Battle Field. Ground breaking is planned for the spring of 2013.

### Industrial

The Nation's industrial development plans all focus on extracting and processing fossil fuels.

The tribe is in the process of developing a a new coal mine project called the Big Metal coal mine project, in the southeast corner of reservation.

### 3.1.3 Projected Travel Demand

In its most basic form, travel demand is a measure of the number of vehicles which travel to and from a given area. Travel demand provides a basis for assessing the current roadway system and for identifying how that system should be improved to accommodate existing and future traffic. Projection of travel demand has three components: trip generation, trip distribution, and trip assignment. The factors used to generate the number of trips are derived from existing land use and plans for proposed land use. The probable degree of development within the next 20 years is a factor of population projections and the economic resources available for implementing development plans. Projected population for the Crow Nation over the next 20 years is provided in Table 3.1. The most reliable way to estimate the traffic generated by a proposed development is to use the trip generation rates observed at an existing development of similar land use and building type. For this purpose, the source document used was Trip Generation. Sixth Edition, Institute of Transportation Engineers, Washington, D.C., 1997.

## 3.1.4 Projected Traffic Volumes

Projected traffic volumes are a distribution of the total projected trips generated by future development. Also factored is a minimum amount of background growth for existing traffic of two percent per year.

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Table 3.1 – Population and Housing Projections for the Crow Nation 2006-2025 CROW DOT calculated trip generation rates for the future development discussed in Section 1.2. The trip generation analysis is presented in Table 3.2.

Most of the development planned for the Crow Reservation in the near future will occur in or near Crow Agency and thus affect the local road network. The ten homes which have be constructed in 2006 will generate approximately 96 trips per day, the 100 apartment-type homes will generate 663 trips per day, and the new school will generate 220 trips per day. The new gymnasium is estimated to generate 229 trips per day, and the college dormitories will generate

up to 663 trips per day. The development along Gas Cap Hill Road will generate a total of 1,521 trips per day, with 1,356 trips from the recreation center and 165 trips from the new tribal complex. In total, an additional 3,392 trips will be made within the Crow Agency street network and the main thoroughfares will require upgrades to accommodate this additional traffic. It is recommended that a series of traffic impact analyses be performed on Crow Agency roads as more of the new facilities are opened in Crow Agency. These analyses will identify specific areas which will require road upgrades and also determine if additional traffic control and safety measures, such as traffic lights, are necessary. The 200-room hotel will generate the most daily traffic, with an estimated 1,784 trips per day. In addition, the hotel will be located adjacent to a casino, which will generate approximately 810 trips per day, and an 18-hole golf course, which will generate 643 trips per day. This development will thus generate a total of 3,237 daily trips which will significantly impact the surrounding road network. In particular, it is expected that the majority of this traffic will travel to the complex via I-90 and SH 212. At present

### 2025 9,819 52 1,430

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SH 212 is a two-lane road which already carries significant traffic to the Little Big Horn Battle Field. It is recommended that during construction of the hotel, casino and golf course, SH 212 is widened to a fourlane road between I-90 and Little Big Horn Battle Field Road.

At present there are no specific plans regarding the location for the 1,000 homes. Although this number of homes will generate approximately 9,570 daily trips, it is unknown if these trips will come from one large subdivision or will be scattered across the reservation within the different communities. Until more specific locations for the homes are identified, it cannot be determined how this traffic will affect the local road network.

The development which is planned for the vicinity of Garryowen includes a travel rest area which is estimated to generate 32 trips per day, a methane plant which will generate approximately 338 trips per day, and oil wells which will generate minimal traffic. The 370 trips generated by the rest area and methane plant will not have enough impact on the road network to require road upgrades. Traffic from I-90 can access the sites using exit 514, the existing frontage road, Shoulder Creek Road, and possibly Shoulder Blade Creek Road. However, since these roads were not included in the 2005 Inventory Update conducted by CROW DOT, the condition of these roads are unknown. Hence it is recommended that as development commences within this area, an engineer is retained to determine if the existing road conditions will adequately accommodate the anticipated load of traffic. In particular, it may be necessary to upgrade the road base to accommodate heavy vehicles such as trucks and busses.

The traffic generated by oil wells within the vicinity of Tanner creek will be insufficient to warrant upgrading the road network within the area. It is anticipated that any access roads will be developed in conjunction with the wells, and no further upgrades

are recommended.

The coal-bed methane plant which will be constructed in the south east corner of the reservation will generate only 338 trips per day. Plans for the facility include constructing an access road from Decker. The site is too remote to have an impact on the existing roadway network and it is unlikely that any additional roads will be necessary. Similarly, the coal mine which is planned for the north east corner of the Crow Reservation is too remote to have a major impact on the area road network. It is anticipated that plans for developing the mine include constructing an access road from SH 384, and that this road will be designed to accommodate the anticipated 675 average daily trips generated by the coal mine. However, there is the potential that highspeed traffic traveling along SH 384 could pose safety risks for individuals turning in and out of the mine. It is recommended that a traffic impact analysis is performed at this intersection to determine of it is necessary to construct turning/deceleration lanes The power plant, which will be located approximately one mile north of Hardin, will be accessible from I-90 and SH 47. It is anticipated that SH 47 will adequately accommodate the 270 average daily trips generated by the power plant, and that no road upgrades will be necessary.

CROW RESERVATION 3-5

AM Peak

Long Range Transportation Plan: Part Three

Table 3.2 – Projected Average Daily Traffic Volumes

\* Trips generated if the 1,000 homes are constructed in phases over the next 10 years

Hr PM Peak Hr AM Peak
Hr PM Peak Hr
ITE
Code
Land Use Intensity Units Daily In Out In Out Daily In Out In Out
Residential
210 SFH 1,000\* Dwellings 9.57 0.19 0.56 0.64 0.36 9,570\* 190 560 640 360
210 SFH 10 Dwellings 9.57 0.19 0.56 0.64 0.36 96 2 6 6 4
220 Apartment 100 Dwellings 6.63 0.16 0.40 0.41 0.26 663 16 40 41 26
Subtotal 759 (10,329\*) Trips per Day
Institutional
521 K-12 School 40 1,000 sq.
feet 5.50 2.23 1.31 - - 220 89 52 - 495 Gymnasium 10 1,000 sq.

feet 22.88 1.42 1.26 0.84 1.42 229 14 13 8 14

220 Dormitory 100 Dwellings 6.63 0.16 0.40 0.41 0.26 663 16 40 41 26

710 General Office

Building 15 1,000 sq. feet 11.01 1.37 0.18 0.25 1.24 165 21 3 4 19 Multipurpose Recreational Facility 15 Acres 90.38 1.44 1.44 5.77 5.77 1,356 22 22 87 87 Subtotal 2,633 Trips per Day Commercial 417 Regional Park (Rest Area) 5 Acres 6.44 - - 0.14 0.27 32 - - 1 1 473 Casino 30 1,000 sq. feet 27.00 - - 7.52 5.90 810 - - 226 177 310 Hotel 200 Occupied Rooms 8.92 0.35 0.29 0.42 0.32 1,784 70 58 84 64 430 Golf Course 18 Holes 35.74 1.41 1.60 1.53 2.03 643 25 29 28 28 Subtotal 3,237 Trips per Day Industrial 120 Heavy Industrial (Methane Plant) 50 Acres 6.75 3.21 3.21 2.11 2.11 338 160 160 106 106 Heavy Industrial (Coal Mine) 100 Acres 6.75 3.21 3.21 2.11 2.11 675 321 321 211 211 120 Heavy Industrial (Power Plant) 40 Acres 6.75 3.21 3.21 2.11 2.11 270 128 128 84 84 Subtotal 1,283 Trips per Day Total Trips 7,912 (17,482\*) Trips per Day CROW RESERVATION 3-6 Long Range Transportation Plan: Part Three 3.1.5 Analysis of Demand and Capacity To develop recommendations for a road improvement program, future traffic volumes must be analyzed against the capacity of the existing road network. CROW DOT performed 66 mechanical classification counts that provided accurate and verifiable data detailing traffic flow on Crow TTP routes. Exhibit 1, Traffic Count Location Map, identifies the location of the traffic counts and also presents the projected traffic volumes. All of the traffic counts in Crow Agency recorded high average daily rates of traffic. In particular, the counter on BIA 1014 tallied 5,385 cars per day and the second highest count was recorded on BIA 1011, with 3,979 cars per day. Although there is a high volume

of traffic throughout Crow Agency, the traffic flows well. The only recommended upgrade within the short term (five years) is to widen BIA 1006 to a three-lane road. This will provide a center turning lane to eliminate conflicts between vehicles waiting to turn left and on-going traffic. In the long term it will be necessary to upgrade and widen BIA 1011 and BIA 1014. The 20-year projected volume of traffic for BIA 1011 is 5,910 cars per day, and BIA 1014 will experience an increase to 7,996 cars per day. However, it is recommended that engineering studies are performed on these roads prior to any upgrades to determine the specific measures that are necessary to improve traffic flow.

## 3.2 Recommended Transportation Improvements

The Long Range Transportation Plan for the Crow Nation outlines existing conditions, identifies transportation needs, and presents an integrated set of recommended roadway improvements for the tribes. The plan also includes policies and related actions necessary to implement the plan, and identifies the government agencies and private entities that have programmed funds to carry out the improvements.

## 3.2.1 Proposed Road Sections to be Added to the Crow TTP Inventory

Based on the tribe's future development plans, there are sections of non-existing, proposed roads to be added to the Crow TTP Inventory. The non-existing, proposed roads are:

PR#1 - RT# 1110

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesity alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#2 - RT#1111

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesity alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along

with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#3 - RT#1112

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesity alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#4 - RT#1113

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesity alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

#### PR#5 - RT#1114

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesity alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

#### PR#6 - RT#1115

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesity alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#7 - RT#1116

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#8 - RT#1117

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#9 - RT#1118

<u>Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access</u>

tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

#### PR#10 - RT#1119

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

#### PR#11 - RT#1126

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

#### PR#12 - RT#1127

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#13 - RT#1128

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#14 - RT#1129

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### PR#15 - RT#1130

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#### PR#16 - RT#1131

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#### PR#17 - RT#1132

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### PR#18 - RT#1133

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### PR#19 - RT#1134

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### PR#20 - RT#1135

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### PR#21 - RT#1136

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

### PR#22 - RT#1137

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow

enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

PR#23 - RT#1138

Crow land base is characterized by significant "checker boarding" of Indiand and non-Indian land. There are no existing roads to there tribal lands causing a decrease in prosperity value and revenue. Due to the lack of access tribal members lose in excess of thirty million dollars. These lands allow for the use of major resources such as grazing lands, future economic development and homesites alone with more cultural practices to allow enrichment to the crow way of life. Roads used for fire control. Cultural practices such as fasting sights along with medicinal plants uasage for tribal members. Road also used for hunting during season along with seasonal recreation.

## 3.2.2 Proposed Projects

There were several proposed road and other transportation-related improvement projects identified during the course of this study. The locations of these projects are depicted on the TTP System and Proposed Transportation Projects map. The projects on this list may be revised, deleted or expanded as projects are completed or tribal needs change.

Once the project list is completed, the projects on that list must be ranked according to tribal priority. The prioritized list must then be approved by tribal resolution prior to its submittal to the BIA as the final Transportation Improvement Program. The transportation projects are:

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PP # 1 – Reconstruction and Safety Improvement to Highway 1 between SH 313 and Crow Agency; Sections 10-30, 10.4 miles Reconstruct 10.4 miles of Highway 1 to upgrade the roadway surface and improve safety.

PP # 2 – Pryor Head Start Driveway and Parking Lot

service the Head Start facility in Pryor.
PP # 3 – Apsaalooka Heights Housing
and Water Tower Housing residential
street repair and construction,
Little Big Horn College

Construct a driveway and parking lot to

parking lot
Repair and cons

Repair and construct residential streets in the Apsaalooka Heights and Water Tower residential areas. Complete paving the Little Big Horn College parking lot.

PP # 4 – Pave Owl Creek-Sioux Pass
Creek Road (BIA 89), 2.5 miles
Complete paving Owl Creek- Sioux Pass

Creek Road.

PP # 5 – Reno Creek Road (BIA 85); Sections 10-40, 11.8 miles

Reconstruct 11.8 miles of Reno Creek Road.

PP # 6 – Chief Plenty Coups Park; Section 40, 4.8 miles

Re design and reconstruct 4.8 miles of park roads to remove an excessively sharp and dangerous curve in the road.

PP # 7 – Gray Blanket to Reno Creek Road (BIA 86); Sections 10-30, 16.5 miles

Pave the road between the community of Gray Blanket and Reno Creek to open this area up to residential development.

PP # 8 – BIA 1006, Section 20, 0.4 miles Widen and resurface BIA 1006 to provide a center turning lane and improve overall traffic flow along this street.

PP # 9- BIA

Reconstruct

### 3.2.3 Project Cost Estimates

Table 3.3 presents the estimated costs of completing each project on the tribal project list. All cost estimates are preliminary and for planning and programming purposes only. Estimates do not include the cost of engineering or any necessary acquisitions of rights-of-way, and they do not include the cost for construction. Cost estimates are achieved by using the BIA-RMRO Branch of Roads methodology for developing preliminary cost estimates for road construction projects in Montana.

### 3.2.4 TTP Construction Funding

The BIA receives Highway Trust Funds (HTF) from the Federal Highway Administration (FHWA) – Federal Lands Highway Office (FLHO), and distributes funds to the BIA regional offices based on an allocation formula. Reauthorization of HTF for Indian Reservation Roads (TTP) construction began on December 18, 1991, when the President signed the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. ISTEA authorized \$1,114,000,000 to the BIA for road construction from Fiscal Years 1992

through 1997.

Long before that however, the Surface Transportation Act of 1982 authorized the BIA's use of HTF for Indian Reservation Roads, but specified that funds were to be allocated to the BIA based on the relative needs of reservations. In response to this requirement, the BIA developed a "Relative Need" formula to determine regional office road construction allocations. This "Relative

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Table 3.3 - Project Cost Estimate Data Need" formula was approved in 1993 and phased-in during Fiscal Years 1993 to 1996. On June 9, 1998, Congress approved the Transportation Equity Act for the 21st Century (TEA-21), which authorized \$225 million for the TTP Program in FY 1998 and \$275 million for the TTP Program for FY 1999 through FY 2003. TEA-21 eliminated the one percent set-aside of State bridge funds for the TTP Highway Bridge Replacement and Rehabilitation Program (HBRRP). Instead, it required that \$13 million of each year's TTP Program funding be allocated for bridge rehabilitation and replacement. TEA-21 also required that a new formula be developed, through the negotiated rulemaking process, for the distribution of TTP funds to Indian tribes beginning in FY 2000. A Negotiated Rulemaking Committee was established in February 1999 to review and modify regulations for the TTP Program and develop a new funding formula. In November 2002 two formulas were published in the Federal Register for general comment. Following the comment period, the formula committee refined the funding formula and recommended to the Assistant Secretary of Indian Affairs a formula for final rule. The final rule was published in the Federal Register as 25 CFR Part 170 for comment, after which it was sent to OMB for acceptance. The final rule, with its applicable funding formula, regulations, and timelines, became effective on November 13, 2004.

### 3.2.5 Government Agency

## Responsibilities

Since various government entities are responsible for different roads, the improvements previously described may fall within the jurisdiction of different agencies. Recommended improvements under the jurisdiction of the county or state are included in a state transportation planning process by which they are placed by priority in a five-year Transportation Improvement Program. This section identifies the government entities that could potentially fund the projects described in Section 2.2. Throughout the planning process, potential funding sources need to be identified to

1. Highway 1 Upgrades Reconstruction and safety improvements 10.4 \$3,120,000 BIA/Tribe

2. Pryor Head Start Construct driveway and parking

lot

N/A To be

determined

School/Tribe

3. Apsaalooka Heights &

Water Tower Housing

streets, Little Big Horn

College parking lot

Repair and construct residential

streets; complete parking lot paving

unknown To be

determined BIA/Tribe

4. Owl Creek-Sioux Pass

Creek Road Paving 2.5 \$750,000 BIA

5. Reno Creek Road Reconstruct 11.8 \$3,540,000 BIA

6. Chief Plenty Coups Park

roads

Re design and reconstruct, 30 ft.

roadway 4.8 \$1,650,000 Tribe/BIA

7. Grav Blanket to Reno

Creek Road Pave, 30 ft. roadway 16.5 \$4,200,000 BIA

8. BIA 1006 Widen, resurface, 36 ft. roadway 0.4 \$240,000 BIA

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financially support the tribe's future projects. Potential funding agencies are identified in Table 3.3, Project Cost Estimate Data, under the Responsible Agency column.

## 3.3. Transportation Studies and

### **Planning Recommendations**

At present there is a four-way stop at the intersection of BIA 1006 and BIA 1014 in Crow Agency. Both of these roads carry high volumes of traffic and it is recommended that a turning movement analysis be performed at this intersection to determine of it is necessary to install a traffic light.

## 3.4. Plan Implementation and Updating

To support the development goals of the Crow Nation, this transportation plan identifies transportation needs based on road conditions and tribal priorities in 2012. To remain a useful tool for programming and budgeting transportation projects, the plan should be updated as conditions change. It is recommended that it be reviewed annually to keep up with changes that may warrant changing the project listing or the priority level of a project. Any changes to the project listing should be coordinated with the BIA so as not to hamper the overall implementation of the Crow Nation's road improvement program. The latter should be reviewed and updated every five years, or when there are major changes to the tribe's future land use plans.

every five years, or when there are major changes to the tribe's future land use plans. Many tribes have appointed a Transportation or Roads Team to help implement and monitor their transportation plans. Such committees are ideal for periodically reviewing and updating tribal transportation needs, maintenance procedures, developing an annual work program that includes both maintenance and new construction projects, keeping state and county highway departments abreast of the reservation's transportation needs, and reviewing proposals for road projects on tribal land.

Tribes should also be involved in regional transportation planning activities and participate in meetings and public hearings whose outcomes could impact tribal planning efforts. A crucial part of this is to develop cooperative relationships with state, county, and other regional governments.