

Executive Summary



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INTRODUCTION

The Community Transportation Association of America (CTAA), on behalf of the Crow Nation (CN), contracted with LSC Transportation Consultants, Inc. to provide Technical Assistance in preparing a public transportation plan. The project focuses on the CN's transit needs for the general public, elderly, disabled, and tribal members and how to effectively provide transit services to meet those needs. There is currently limited general public transportation service provided by several tribal programs, but no comprehensive transit system. The CN transportation department has recognized the need for improving public transportation on the CN Reservation.

There are existing resources in the area used by human service agencies to provide transportation services for their clients. The existing resources represent a significant investment and may provide some of the resources necessary to implement a public transit service. Coordination and consolidation of services typically allows local entities to provide additional and enhanced services to the community using the existing resources. A key issue in the Technical Assistance project was to identify the existing available resources and any additional resources which may be needed to provide public transit service.

STUDY AREA

The CN Reservation is located mainly in Big Horn County (with a small portion in Yellowstone County) in southeast Montana on the border of Wyoming, approximately 10 miles southeast of Billings. The CN Reservation covers a total land area of approximately 2.2 million acres. Communities on the Crow Reservation include Aberdeen, Benteen, Crow Agency, Dunmore, Fort Smith, Forty Mile Colony, Garryowen, Lodge Grass, Pryor, Saint Xavier, Soda Springs, Spear, and Wyola. The CN Reservation, including Fort Smith, has an approximate population of 7,336 people (2005 estimate), of which 74 percent of the residents are Native Americans. The overall population density is approximately two people per square mile.

Prominent features of the CN Reservation include the Big Horn National Recreation Area and the Yellowtail Dam located in the center of the CN Reservation in the Fort Smith area, and the Chief Plenty Coups State Park in the Town of Pryor. Located north of the CN Reservation, Hardin and Billings have an appeal to CN Reservation residents for various services including grocery shopping and medical facilities.

TRANSIT NEEDS ASSESSMENT

Chapter V provides the CN transportation needs assessment. The transportation needs are significant, especially based on the unemployment data, below-poverty data, sparse rural geographic area, and limited job opportunities in the study area.

In order to estimate the CN's transportation needs, it is important to have a methodology that considers the local demographics, economics, and service characteristics. Chapter V describes the transit demand model for the study area. The transit demand estimates were based on the available 2000 US Census data, as presented in Chapter III. The baseline 2005 transit demand estimates and 2025 projected transit demand estimates were then generated.

The analysis procedure considers transit demand in two major categories—*“program demand”* which is generated by transit ridership to and from specific social service programs; and *“non-program demand”* generated by other mobility needs of the elderly, disabled, and general public (including youth). Examples of non-program trips may include shopping, employment, and medical trips.

As presented in Chapter V, the model indicates that if a high level of public transit were available on the CN Reservation, approximately 17,700 annual trips (non-program trips) will be provided. Therefore, the model shows the need for additional public transit services on the CN Reservation.

When combining the program and non-program estimates, based upon the TCRP methodology, the total existing transit demand for the CN Reservation is approximately 137,480 annual trips.

Assuming approximately 17,700 annual trips were provided, only 13 percent of the CN's transit need is being met. Therefore, there is a large need for improved transit services in order to meet the community's needs.

PREFERRED TRANSIT SERVICE PLAN

Chapter XIII reviews the details of the preferred transit service plan including the levels of service, route schedules, operational costs, capital needs, and capital costs. The preferred transit service plan will be developed in three phases, each of which contains three transit service elements at increasing levels of service.

Phase I will include three regional routes, each operating four to eight hours per day for a total of 17 revenue-hours per day. Phase I will also include five demand-response zones, each operating 10 revenue-hours per day or 50 revenue-hours per week. The estimated annual cost of Phase I is \$242,700 without inflation (or a \$35.00 hourly cost).

Phase II has the same types of transit services (regional routes and demand-response zones) as Phase I. However, the level of service increases in Phase II. The regional route from Crow Agency to Aberdeen will be expanded to serve Sheridan, Wyoming twice per day. The level of service for demand-response zone one (which serves the area around Crow Agency and the northeastern section of the CN Reservation) will increase from operating one day per week to every weekday. The estimated total annual cost of the Phase II transit service is \$331,625.

Phase III has the same types of transit services (regional routes and demand-response zones) as Phases I and II. However, the level of service increases in Phase III. The level of service for the regional route from Crow Agency to Aberdeen will increase to operating four times per day. The level of service for demand-response zone two (which serves the area around Lodge Grass and the southeastern section of the CN Reservation) will increase from operating one day per week to every weekday. The estimated total annual cost of the Phase III transit service is \$429,450.

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Tables ES-1 through ES-3 detail the level of service for all phases of the preferred transit service plan over the next five to six years. Figure ES-1 presents the preferred transit service plan detailed in the above text and tables.

Table ES-1
Level of Service - Phase I (2009-2010)

| Options | | # of Veh. | Total Daily | | Total Annual | | Operating Days | Annual Ridership | Pass. per Hour | Operating Cost Annual | Cost per Passenger |
|------------------------|--------------------------|-----------|---------------|---------------|----------------|---------------|----------------|------------------|----------------|-----------------------|--------------------|
| | | | Vehicle-Miles | Vehicle-Hours | Vehicle-Miles | Vehicle-Hours | | | | | |
| Crow-Aberdeen Route | Three times a day (M-F) | 1 | 360 | 8 | 91,800 | 2,040 | 255 | 9,225 | 4.52 | \$71,400 | \$7.74 |
| Pryor-Billings Route | Twice a day (M-F) | 1 | 190 | 4 | 48,450 | 1,020 | 255 | 3,689 | 3.62 | \$35,700 | \$9.68 |
| Billings-Crow-Busby | Twice a day (M-F) | 1 | 226 | 5 | 57,630 | 1,275 | 255 | 9,476 | 7.43 | \$44,625 | \$4.71 |
| Demand-Response Zone 1 | 7:00 am - 5:00 pm (Mon) | 1 | 90 | 10 | 4,680 | 520 | 52 | 2,128 | 4.21 | \$18,200 | \$8.32 |
| Demand-Response Zone 2 | 7:00 am - 5:00 pm (Tues) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,788 | 3.44 | \$18,200 | \$10.18 |
| Demand-Response Zone 3 | 7:00 am - 5:00 pm (Wed) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,730 | 3.33 | \$18,200 | \$10.52 |
| Demand-Response Zone 4 | 7:00 am - 5:00 pm (Thur) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,428 | 2.75 | \$18,200 | \$12.75 |
| Demand-Response Zone 5 | 7:00 am - 5:00 pm (Fri) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,472 | 2.83 | \$18,200 | \$12.36 |
| Total/Average | | | | | 221,280 | 6,935 | 1,025 | 30,936 | 4.46 | \$242,725 | \$7.85 |

Note: Costs based on LSC analysis, 2007.

Table ES-2
Level of Service - Phase II (2011-2012)

| Options | | # of Veh. | Total Daily | | Total Annual | | Operating Days | Annual Ridership | Pass. per Hour | Operating Cost Annual | Cost per Passenger |
|------------------------|--------------------------|-----------|---------------|---------------|----------------|---------------|----------------|------------------|----------------|-----------------------|--------------------|
| | | | Vehicle-Miles | Vehicle-Hours | Vehicle-Miles | Vehicle-Hours | | | | | |
| Crow-Aberdeen Route | Three times a day (M-F) | 1 | 360 | 10 | 91,800 | 2,550 | 255 | 15,355 | 6.02 | \$89,250 | \$5.81 |
| Pryor-Billings Route | Twice a day (M-F) | 1 | 190 | 4 | 48,450 | 1,020 | 255 | 3,689 | 3.62 | \$35,700 | \$9.68 |
| Billings-Crow-Busby | Twice a day (M-F) | 1 | 226 | 5 | 57,630 | 1,275 | 255 | 9,476 | 7.43 | \$44,625 | \$4.71 |
| Demand-Response Zone 1 | 7:00 am - 5:00 pm (M-F) | 1 | 90 | 10 | 22,950 | 2,550 | 255 | 6,529 | 2.56 | \$89,250 | \$13.67 |
| Demand-Response Zone 2 | 7:00 am - 5:00 pm (Tues) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,788 | 3.44 | \$18,200 | \$10.18 |
| Demand-Response Zone 3 | 7:00 am - 5:00 pm (Wed) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,730 | 3.33 | \$18,200 | \$10.52 |
| Demand-Response Zone 4 | 7:00 am - 5:00 pm (Thur) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,428 | 2.75 | \$18,200 | \$12.75 |
| Demand-Response Zone 5 | 7:00 am - 5:00 pm (Fri) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,472 | 2.83 | \$18,200 | \$12.36 |
| Total/Average | | | | | 239,550 | 9,475 | | 41,467 | 4.38 | \$331,625 | \$8.00 |

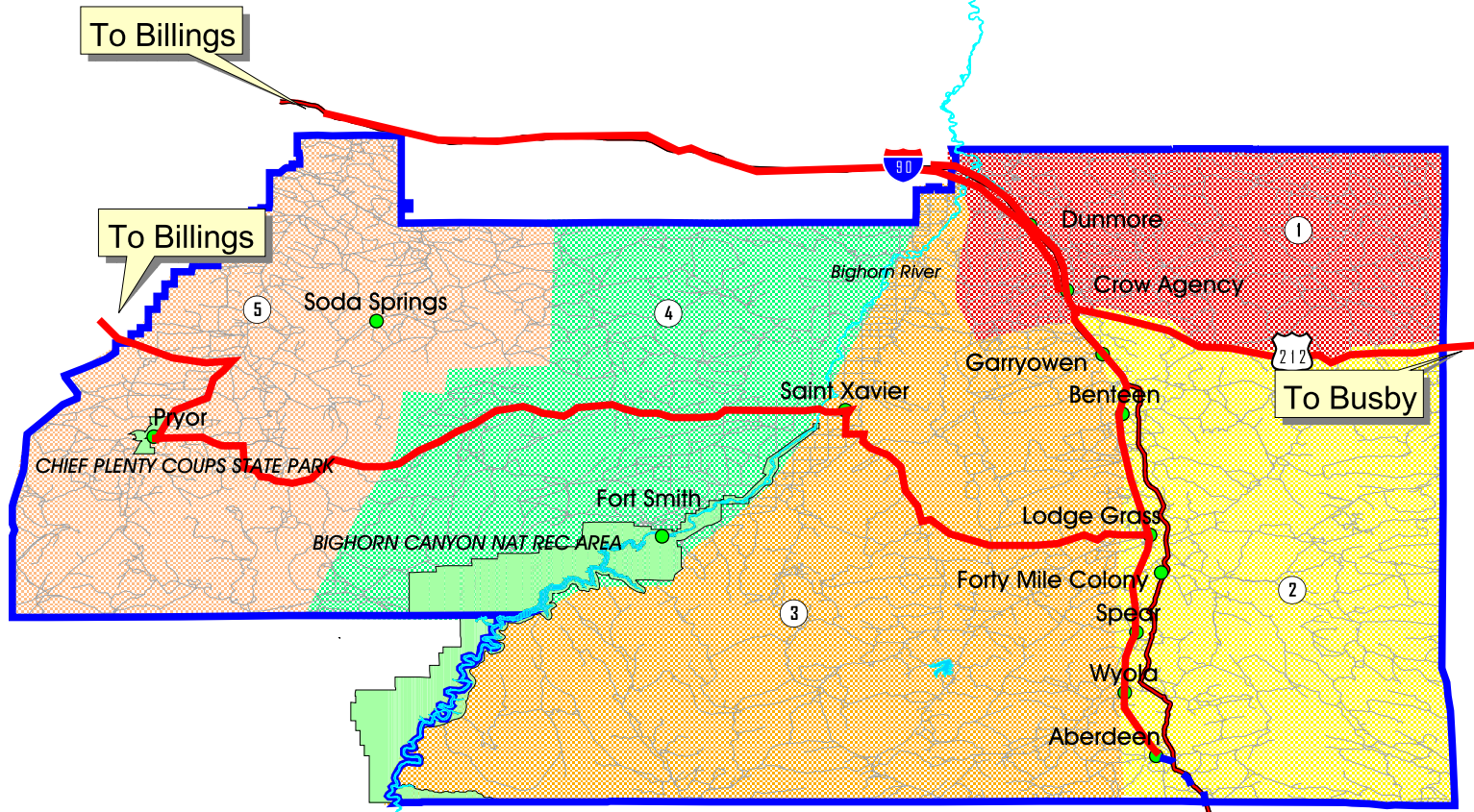
Note: Costs based on LSC analysis, 2007.

**Table ES-3
Level of Service - Phase III (2013-2014)**

| Options | | # of Veh. | Total Daily | | Total Annual | | Operating Days | Annual Ridership | Pass. per Hour | Operating Cost Annual | Cost per Passenger |
|------------------------|--------------------------|-----------|---------------|---------------|----------------|---------------|----------------|------------------|----------------|-----------------------|--------------------|
| | | | Vehicle-Miles | Vehicle-Hours | Vehicle-Miles | Vehicle-Hours | | | | | |
| Crow-Aberdeen Route | Four times a day (M-F) | 1 | 660 | 13 | 168,300 | 3,315 | 255 | 23,398 | 7.06 | \$116,025 | \$4.96 |
| Pryor Billings Route | Twice a day (M-F) | 1 | 190 | 4 | 48,450 | 1,020 | 255 | 3,689 | 3.62 | \$35,700 | \$9.68 |
| Billings-Crow-Busby | Twice a day (M-F) | 1 | 226 | 5 | 57,630 | 1,275 | 255 | 9,476 | 7.43 | \$44,625 | \$4.71 |
| Demand-Response Zone 1 | 7:00 am - 5:00 pm (M-F) | 1 | 90 | 10 | 22,950 | 2,550 | 255 | 6,529 | 2.56 | \$89,250 | \$13.67 |
| Demand-Response Zone 2 | 7:00 am - 5:00 pm (M-F) | 1 | 90 | 10 | 22,950 | 2,550 | 255 | 6,500 | 2.55 | \$89,250 | \$13.73 |
| Demand-Response Zone 3 | 7:00 am - 5:00 pm (Wed) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,730 | 3.33 | \$18,200 | \$10.52 |
| Demand-Response Zone 4 | 7:00 am - 5:00 pm (Thur) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,428 | 2.75 | \$18,200 | \$12.75 |
| Demand-Response Zone 5 | 7:00 am - 5:00 pm (Fri) | 1 | 90 | 10 | 4,680 | 520 | 52 | 1,472 | 2.83 | \$18,200 | \$12.36 |
| Total/Average | | | | | 334,320 | 12,270 | | 54,221 | 4.42 | \$429,450 | \$7.92 |

Note: Costs based on LSC analysis, 2007.

Figure ES-1 Preferred Service Plan



| | |
|-----------------------|-------------------------|
| | Regional Routes |
| | Expanded Region Route |
| | Places |
| | Waters |
| | Crow Indian Reservation |
| | Parks |
| | Rural Interstate Roads |
| | Roads |
| Demand Response Zones | |
| | 1 |
| | 2 |
| | 3 |
| | 4 |
| | 5 |



FINANCIAL PLAN

From the information presented in Tables ES-1 through ES-3, LSC has developed a financial plan for implementation of the preferred transit service plan. LSC recommends that CN apply for funding, such as TANF and TransADE, in order to support public transportation services on the CN Reservation. Any funding that CN receives should be used as the local match for Phases I through III. Federal funding, including Federal Transit Administration (FTA) funding, is expected to remain relatively stable over the next few years. CN should also continue to work toward establishing new revenue sources. Additional funds may be generated by pursuing grants from agencies and foundations other than the Montana Department of Transportation (MDT) or FTA.

Federal funding is available for 54 percent of the operating costs for general public transportation services. The remaining operating deficit will need to be funded by CN. At this time, LSC recommends that CN apply for FTA Tribal funding, which is available at 100 percent funding with no local match. The tribal programs and agencies in the region can each contribute to the annual funding of the transit service. This can be done by developing intergovernmental agreements (IGAs) between the Tribal Transit Program (TTP), tribal programs, and other local agencies. The TTP can also develop an agreement with the college for a portion of the student fees which can be used to fund transit services. The breakdown of the CN and federal funding is detailed in Table ES-4. LSC estimates 25 percent of the operational funding from FTA 5311 funding, 50 percent from FTA Tribal funding, and the remaining 25 percent from IGAs.

Table ES-4
Transit Plan, 2009-2014 (assumed 5% inflation)

| | Phase I | | Phase II | | Phase III | | Total |
|---|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | |
| EXPENSES | | | | | | | |
| OPERATING | | | | | | | |
| Regional Service | \$167,277 | \$175,641 | \$206,119 | \$216,425 | \$263,128 | \$251,167 | \$1,279,758 |
| Demand-Response Service | \$100,328 | \$105,344 | \$196,973 | \$206,821 | \$312,376 | \$327,995 | \$1,249,837 |
| | | | | | | | \$0 |
| Marketing Program | \$5,000 | \$5,250 | \$5,513 | \$5,788 | \$6,078 | \$6,381 | \$34,010 |
| Subtotal | \$272,604 | \$286,235 | \$408,605 | \$429,035 | \$581,582 | \$585,544 | \$2,563,604 |
| CAPITAL | | | | | | | |
| Transit Buses (Minivans) | \$38,588 | \$0 | \$42,543 | \$0 | \$89,340 | \$0 | \$170,470 |
| Transit Buses (Body-on-Chassis) | \$286,650 | \$0 | \$0 | \$0 | \$65,000 | \$91,462 | \$443,112 |
| Transit Stop Improvements (11 stops over 6 years) | \$24,000 | \$25,200 | \$26,460 | \$27,783 | \$29,172 | \$30,631 | \$163,246 |
| Transit Maintenance Building and Office | \$75,000 | \$150,000 | \$75,000 | \$0 | \$0 | \$0 | \$300,000 |
| Office / Administration / Maintenance Eq./Radios | \$5,000 | \$5,250 | \$5,513 | \$5,788 | \$6,078 | \$6,381 | \$34,010 |
| Subtotal | \$429,238 | \$180,450 | \$149,515 | \$33,571 | \$189,589 | \$128,474 | \$1,110,837 |
| TOTAL EXPENSES | \$701,842 | \$466,685 | \$558,120 | \$462,606 | \$771,171 | \$714,018 | \$3,674,441 |
| REVENUES | | | | | | | |
| Operation | | | | | | | |
| FTA 5311 Operational / State Grant Funding | \$32,826 | \$68,934 | \$99,395 | \$104,365 | \$142,357 | \$143,195 | \$591,071 |
| FTA Tribal | \$136,302 | \$143,117 | \$204,302 | \$214,517 | \$290,791 | \$292,772 | \$1,281,802 |
| Subtotal | \$169,128 | \$212,051 | \$303,697 | \$318,882 | \$433,147 | \$435,967 | \$1,872,873 |
| Capital | | | | | | | |
| FTA 5311 Capital | \$186,718 | \$78,496 | \$65,039 | \$14,603 | \$82,471 | \$55,886 | \$483,214 |
| FTA Tribal | \$186,718 | \$78,496 | \$65,039 | \$14,603 | \$82,471 | \$55,886 | \$483,214 |
| Subtotal | \$373,437 | \$156,992 | \$130,078 | \$29,207 | \$164,943 | \$111,772 | \$966,428 |
| Local Revenues | | | | | | | |
| Operational (Local Match) | \$75,716 | \$45,085 | \$63,598 | \$66,828 | \$89,884 | \$90,660 | \$431,772 |
| Capital (Local Match) | \$55,801 | \$23,459 | \$19,437 | \$4,364 | \$24,647 | \$16,702 | \$144,409 |
| Advertising | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$6,000 |
| Donations | \$26,760 | \$28,098 | \$40,309 | \$42,325 | \$57,550 | \$57,916 | \$252,959 |
| Subtotal | \$159,277 | \$97,642 | \$124,344 | \$114,517 | \$173,081 | \$166,278 | \$835,140 |
| TOTAL REVENUES | \$701,842 | \$466,685 | \$558,120 | \$462,606 | \$771,171 | \$714,018 | \$3,674,441 |

Source: LSC, 2007.

IMPLEMENTATION PLAN

In the implementation plan, LSC recommends the planning and implementation of the preferred transit service plan. Chapter XIV lists the activities that need to be completed in order to implement the preferred transit service plan, which will be developed in three phases. Figure ES-2 presents a timeline of the financial plan and the planning phase for each recommended project/program in order to aid in the development of the preferred transit service plan. The planning phase is conducted the year before implementation. LSC recommends that TTP and the CN tribal government evaluate each project/program after implementation.

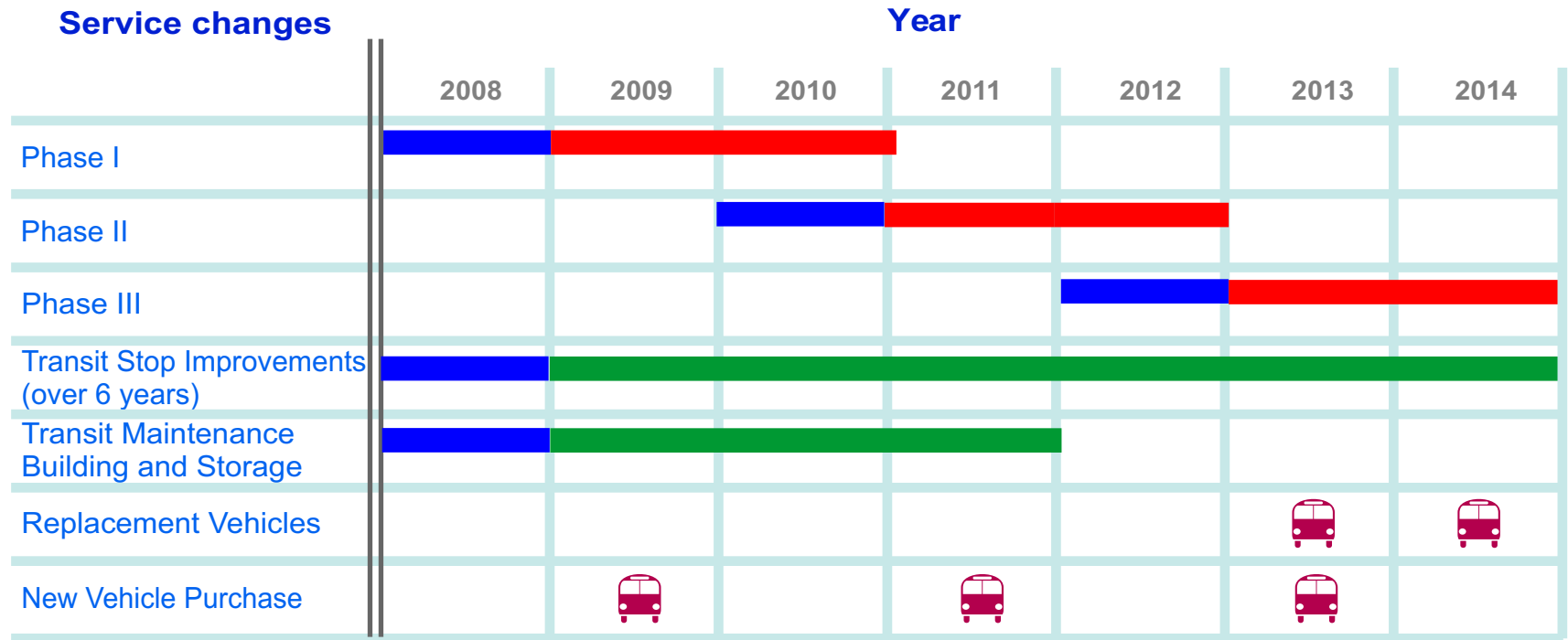
In the timeline, LSC recommends the planning and implementation of Phase I by 2009. Phase II should be planned in 2010 and implemented by 2011. Phase III should be planned in 2012 and implemented in 2013. Each phase should be evaluated prior to implementation of the next phase.

On the capital side, LSC recommends the development and installation of 11 bus stops over the next six years (with one to two bus stops per year). The first bus stops should be located in Crow Agency, Pryor, Aberdeen, and Lodge Grass.

Depending on FTA and MDT funding, the transit maintenance and administration facility should be planned and designed in 2008. Construction should begin in 2009, with completion by the end of 2011. Until then, the vehicles can operate out of the CN tribal maintenance facilities.

The timeline is designed to implement the preferred transit service plan over the next five to six years. This time frame allows the CN tribal programs and local agencies which are planning to dedicate funding to the transit system the time to shift funding toward those efforts. The time frame also allows for the refinement of the transit service in Phase I, and the development of the bus stops and transit facilities that will be needed by Phases II and III.

Figure ES-2 Short-Term Plan Timeline



- LEGEND**
- Planning Phase / Inter-Governmental Agreements
 - Implementation/Construction Year
 - Full Year of Operations
 - Purchase Vehicles