

# Chapter 6 - Capital Improvement Program

## INTRODUCTION

This chapter outlines the capital infrastructure projects needed to implement the service recommendations described in Chapter 5. The Capital Improvement Program (CIP) provides the basis for CSPDC's requests to DRPT for federal and state funding for capital replacement, rehabilitation, and expansion projects. The recommended projects are those for which CSPDC reasonably anticipates local funding to be available. The recommendations for different types of capital projects, including vehicles, passenger amenities, facilities, and technology, are described below.

## VEHICLE REPLACEMENT AND EXPANSION PLAN

This section presents the details of the vehicle replacement and expansion plan, including vehicle useful life standards and estimated costs. A vehicle replacement and expansion plan is necessary to maintain a high quality fleet and to dispose of vehicles that have reached their useful life. The capital program for vehicles was developed by applying FTA/DRPT vehicle replacement standards to the current vehicle fleet, which was presented in Chapter 1. The vehicles included in this section are currently operated by VRT. As such, it is not certain if they will continue to be in use in the region for the TDP planning period. This chapter has been prepared to reflect their continued use in the region, in acknowledgment of the need for fleet replacement for the program.



*BRCC Shuttle Vehicle*

## Useful Life Standards

The useful life standards used by DRPT are developed based on the manufacturer's designated vehicle life-cycle and the results of independent FTA testing. The standards indicate the expected lifespans for different vehicle types. If vehicles are allowed to exceed their useful life they become much more susceptible to break-downs, which may increase operating costs and decrease the reliability of scheduled service. DRPT's vehicle useful life policy for a number of different vehicle types is shown in Table 6-1.

**Table 6-1: DRPT's Vehicle Useful Life Policy**

Vehicle Type	Useful Life
Service Vehicle	Minimum of 4 Years or 100,000 Miles
Vans	Minimum of 4 Years or 100,000 Miles
Body on Chassis Vehicles	Minimum of 4 Years or 100,000 Miles
Light Duty Bus (25'-35')	Minimum of 5 Years or 150,000 Miles
Medium Duty Bus (25'-35')	Minimum of 7 Years or 200,000 Miles
Heavy Duty Bus (~30')	Minimum of 10 Years or 350,000 Miles
Heavy Duty Bus (35' – 40')	Minimum of 12 Years or 500,000 Miles

Source: DRPT's Section 5311 State Management Plan (January 2015)

## Vehicle Plan – Baseline Estimate

There are a variety of vehicles currently in the regional fleet, including trolley buses, light duty buses, medium-duty buses, and two support vehicles. DRPT's useful life policy was applied to the existing fleet by vehicle type in order to develop an estimate of the region's capital needs for the next six years. Table 6-2 provides the existing regional fleet inventory with the estimated fiscal year that each vehicle is eligible for replacement. The operating condition of the vehicles, as well as the availability of funding, will dictate the actual replacement year.

This vehicle plan assumes that the trolley with the highest mileage (Libby) will be retired in FY2017 and the Rebecca will be replaced with a body-on-chassis vehicle to operate on the Silver Route in Staunton. The remaining trolley will be used for the Green Line. This plan also trims the spare ratio, and eliminates the Augusta On-Demand vehicle. If the CSPDC is the owner of the vehicles, the support vehicles are assumed to be provided by the contractor. The fleet plan includes nine revenue service vehicles and three spares.

**Table 6-2: Regional Fleet Inventory and Replacement Schedule**

Vehicle #	Route	Year	Make	Model	Service	Mileage July 2015	Seating Capacity	Eligible Rep. Year
Rebecca (1)	Silver Line Trolley	2007	Freightliner	Trolley	Urban	156,548	29	2017
Libby	Spare Trolley	2008	Freightliner	Trolley	Urban	188,960	29	retire
266	250 B Connector	2012	Chevrolet	C4500	Urban	122,582	20	2017
267	Staunton Demand	2012	Chevrolet	C4500	Urban	119,588	20	2017
276	250 A Connector	2012	Chevrolet	C4500	Urban	106,140	20	2017
278	Red Line Trolley	2012	Chevrolet	C4500	Urban	67,402	20	2018
294	Waynesboro Circulator	2013	Champion	E-450	Urban	99,189	20	2018
307	Urban Spare	2013	Champion	E-450	Urban	98,355	20	retire
311	Urban Spare	2014	Chevrolet	C4500	Urban	23,746	20	2021
262 (2)	Green Line Trolley	2012	Ford	Trolley	Urban	62,004	28	2019
211	Spare BRCC	2010	Eldorado	EZ Rider II	Rural	262,447	29	2017
212	Spare BRCC	2010	Eldorado	EZ Rider II	Rural	365,145	29	retire
295	Rural Spare	2013	Champion	E-450	Rural	100,653	20	retire
306	Rural Spare	2013	Champion	E-450	Rural	84,820	20	2018
310	Augusta Co On Demand	2014	Chevrolet	C4500	Rural	39,024	20	retire
314	BRCC	2014	Eldorado	EZ Rider II	Rural	64,230	32	2018
315	BRCC	2014	Eldorado	EZ Rider II	Rural	60,657	32	2018
281	Support	2012	Ford	F-150		42,030	2	contractor
283	Support	2012	Nissan	Murano		47,859	5	contractor

## Vehicle Plan

The annual schedule for vehicle replacement is shown in Table 6-3, based on the vehicle inventory and typical annual fleet mileage. There are significant vehicle replacement needs in FY17 and FY18, some of which may need to slip to FY19 for financial considerations, particularly for vehicles funded through the urban program, if the condition of the vehicles allow.

**Table 6- 3: Vehicle Replacement Schedule**

Type of Vehicle	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
<b>Replacement</b>							
Body-on-Chassis 20 Passenger	0	2	3	0	0	1	0
28-29 Passenger Medium Duty	0	3	2	0	0	0	0
Trolley	0	0	0	1	0	0	0
<b>Total Vehicles</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>

### Estimated Vehicle Costs

The estimated vehicle replacement costs are presented in Table 6-4. These costs are based on vehicle costs experienced throughout the Commonwealth as referenced in the FY 2016 Six Year Improvement Program (SYIP). For fiscal years 2017 to 2022 a two percent inflationary factor was applied. These cost estimates will be used to develop the capital budget, which is included with the Financial Plan in Chapter 7. The plan does not currently include any expansion vehicles, but these could be considered through the CSPDC’s annual update process, should funds be available for additional transit services.

Potential funding sources for the replacement and expansion vehicles include FTA S. 5307 and S.5311 funds, DRPT’s Mass Transit Trust Fund and Mass Transit Capital Fund, and local funds. The Commonwealth has recently implemented a tiered capital allocation policy, which is presented in Figure 6-1. According to DRTP staff, there may be a reduction in the amount of state money available for capital, beginning in FY2018. This has been termed the “fiscal cliff” and is addressed in Chapter 7.

**Table 6-4: Estimated Costs of New Vehicles**

Fiscal Year	Estimated Per Vehicle Cost			
	Body-On-Chassis 20-Passenger	28-29 - Passenger Medium Duty	Trolley	Service Vehicles
2016	\$80,000	\$150,000	\$200,000	\$30,000
2017	\$81,600	\$153,000	\$204,000	\$30,600
2018	\$83,232	\$156,060	\$208,080	\$31,212
2019	\$84,897	\$159,181	\$212,242	\$31,836
2020	\$86,595	\$162,365	\$216,486	\$32,473
2021	\$88,326	\$165,612	\$220,816	\$33,122
2022	\$90,093	\$168,924	\$225,232	\$33,785

**Figure 6-1: DRPT Tiered Capital Allocation**

	Actual FY 2015 State Match	Prior Method State Match	Δ
<b>Replacement Vehicles (Tier 1)</b>			
80 Percent Federal Funding	16%	16%	(-)
No Federal Funding	68%	35%	(+33)
<b>Expansion Vehicles (Tier 1)</b>			
80 Percent Federal Funding	16%	7%	(+9)
No Federal Funding	68%	35%	(+33)
<b>Infrastructure/Facilities (Tier 2)</b>			
80 Percent Federal Funding	16%	7%	(+9)
No Federal Funding	34%	35%	(-1)
<b>Other (Tier 3)</b>			
80 Percent Federal Funding	16%	7%	(+9)
No Federal Funding	17%	35%	(-18)

**Note:** Impact of 80 percent federal funding is illustrated because it is the maximum federal match rate for which most projects are eligible, and is therefore the most common match rate for projects receiving federal funds; some projects receive a lower federal match.

## FACILITIES

The CSPDC anticipates contracting for services through the six-year planning period. No additional facilities are anticipated to be needed in the region, given the relatively new operations and maintenance facility currently in use by VRT.

## PASSENGER AMENITIES

An important capital project recommended in the TDP is the installation of ADA accessible bus shelters and benches at the highest use bus stops, which are identified in Chapter 4. An ADA assessment of the region's bus stops was also conducted in conjunction with this TDP, and should be used as a reference during the implementation of shelters and benches. Additional shelters and benches were also requested by passengers. The TDP has included two shelters per year as part of the financial plan (Chapter 7).

The replacement of the region's bus stop signs to reflect the implementation of the Brite Bus brand is also included in the capital plan.

## EQUIPMENT

It is anticipated that any equipment needed to support transit services in the region during the six-year planning period will be handled by the CSPDC's transit service contractor. If publicly-funded equipment is needed, the CSPDC can address this need through its annual TDP update.

## TECHNOLOGY

The procurement of new technology has not been recommended in the TDP and is not currently programmed in the SYIP.