Cheyenne Transit Program

Five-Year Transit Development Plan

FINAL REPORT

October 15th, 2013

"The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation."

TransitPlus, Inc.
5650 Greenwood Plaza Boulevard | Suite 142 | Greenwood Village, CO 80111 | (720) 222-4717

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1: PROJECT OVERVIEW

INTRODUCTION

The Cheyenne Transit Program (CTP) and the Cheyenne Metropolitan Planning Organization (MPO) contracted with TransitPlus to develop a Five-Year Transit Development Plan. The purpose of the plan is to provide recommendations for system improvements that could be implemented immediately in response to specific issues, as well as more comprehensive recommendations that could be implemented at a later date.

REPORT ORGANIZATION

The report is broken down into five separate chapters that are arranged to reflect the flow of the project and lead to logical conclusions for service and operational improvements. The chapters are arranged as follows:

- Chapter 1 – Project Overview highlights the steps that were taken to complete the Five-Year Transit Development plan
- Chapter 2 – Community Profile details the demographics, activities, and issues that will impact recommendations for service changes
- Chapter 3 – Existing Transit System provides detailed analysis of the efficiency and effectiveness of the current CTP fixed route and complementary paratransit services
- Chapter 4 – Proposed Service Plan recommends short-range and long-range alternatives for improvement or service expansion
- Chapter 5 – Safety and Performance Standards explains relevant transit performance measures and provides recommendations for CTP

ISSUES AFFECTING TRANSIT SERVICE

Through the study process, the project team has identified a number of issues including:

- High transit-dependent population and high number of zero vehicle households in the study area
- The transit-dependent populations are dispersed throughout the service area
- Essential services and large area employers are also geographically dispersed
- Areas that have high potential for transit use that are not covered by CTP are primarily north of the airport and northeast of Dell Range Boulevard

STUDY PROCESS

The project team undertook a number of steps to gain the data and information that would ultimately drive the recommendations. Included in this phase of our study process was:

- A review of background documents and prior studies
- A public and stakeholder involvement process
- An ADA assessment of the pedestrian network providing access to the system
- A review of demographic, employment, transportation issues, and other variables that impact the need and location of future CTP services
- A comprehensive performance and organizational review of CTP fixed route and demand response services

Public and Stakeholder Involvement

The project team initiated a public involvement process that is detailed in Appendix A. The process included the Technical Advisory Committee (TAC), MPO and CTP staff, CTP riders, and the non-riding general public. Included were the following activities:

- Project kickoff meeting with the Transit Advisory Committee and the TransitPlus team
- Four (4) meetings with the Transit Advisory Committee
- Six (6) meetings and observations with CTP staff and bus drivers
- An on-board survey of bus riders
- An online survey of the non-riding general public
- Two (2) public open houses

Demographics and Activity Centers

We analyzed the demographics of populations that are likely to utilize transit including people who are at or below the Federal poverty guidelines, between the age of 10 and 24 or are over the age of 65, or have zero vehicles in their household.

The team also identified key transit activity generators such as large area employers, medical facilities, human services agencies, and large box stores and shopping centers.

Existing Transit Services

The team reviewed the operational and financial performance of the fixed route and complementary paratransit systems to determine how well they are meeting the needs of the community. We reviewed specific performance measures that included:

- Passengers per vehicle revenue hour

- Passengers per vehicle revenue mile
- Cost per vehicle revenue hour
- Cost per vehicle revenue mile
- Fixed route boardings by stop and time of day
- Complementary paratransit common destinations
- Travel patterns of county residents

Summary

These tasks provided the background information that was necessary to form service alternatives that were not only logical, but represent the wishes of CTP riders. Subsequent to the completion of these tasks and study components, the project team developed service recommendations that address public desires, financial constraints, and CTP staff concerns.

PROPOSED SERVICE PLAN

The culmination of activities and analysis that describe the conditions affecting transit usage and the current CTP system is the Proposed Service Plan. The proposed service plan outlines strategies for immediate consideration, the short-range and the long-term.

SYSTEM SAFETY AND PERFORMANE MEASURES

This section reviews safety and security protocols to establish measures that are consistent with the direction of the FTA under MAP-21. Also, system performance measures that are required by FTA and are relevant to the system are recommended for implementation.

2: COMMUNITY PROFILE

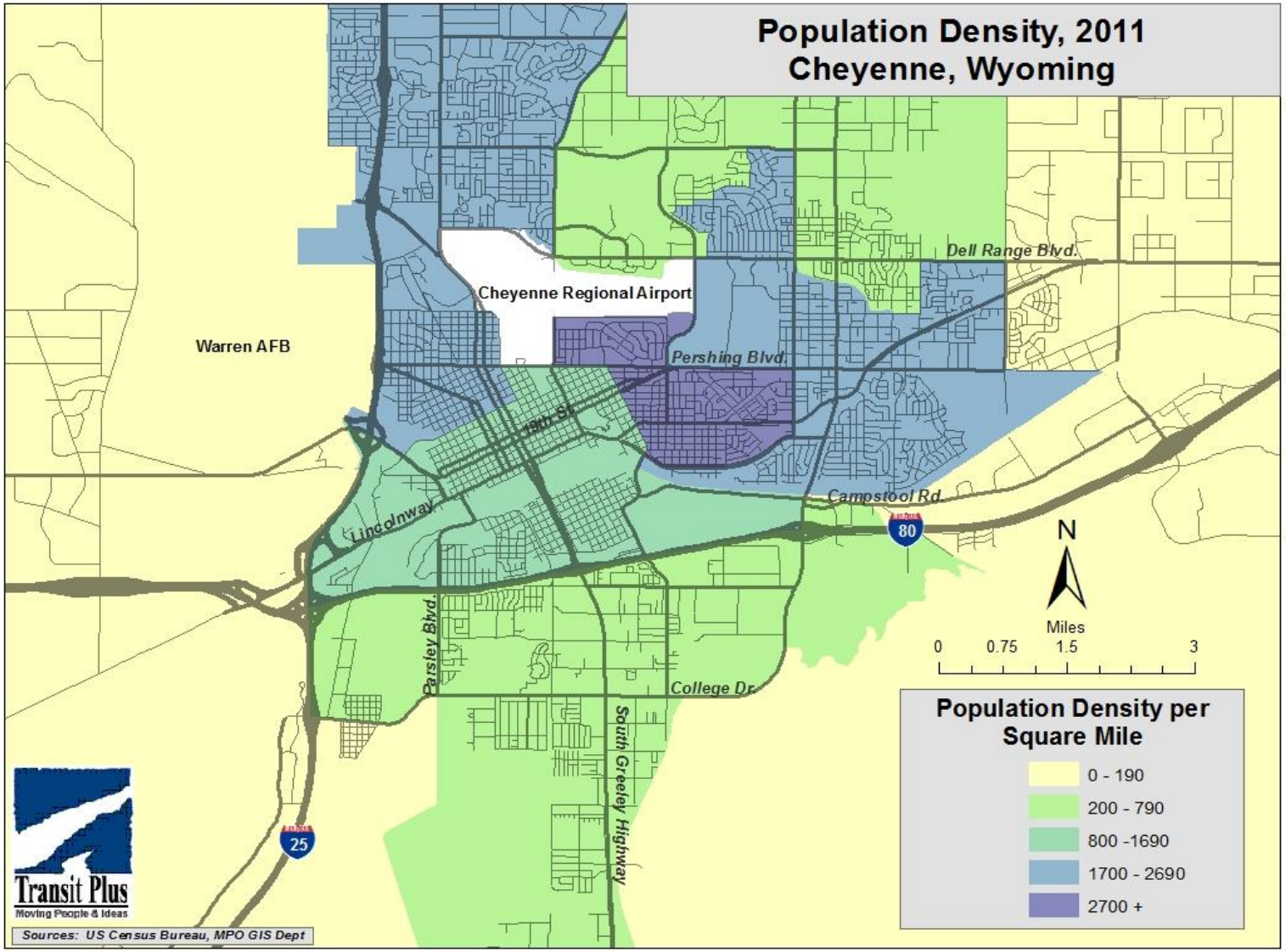
The project team reviewed population demographics, employment data, and area activity centers to form a community profile. The community profile extends the background knowledge acquired through document review and the ongoing public participation process and complements the CTP system analysis detailed in Chapter 3.

POPULATION AND DEMOGRAPHICS

The population and demographics of the City of Cheyenne, the Cheyenne Metropolitan Statistical Area, and Laramie County were studied to look at the potential impact of certain trends on the need for, location of, and use of transit services. **Figure 2.1** shows the population density of the study area in terms of persons per square mile as well as providing an overview of the entire study area.

Population density can help us in determining the need and placement of transit services, as the areas with the highest density generally have the highest level of transit need and usage. When considering population density as a whole, CTP service provides adequate geographical coverage for the majority of the study area, with the exception of the area north of the Airport and Del Range Boulevard.

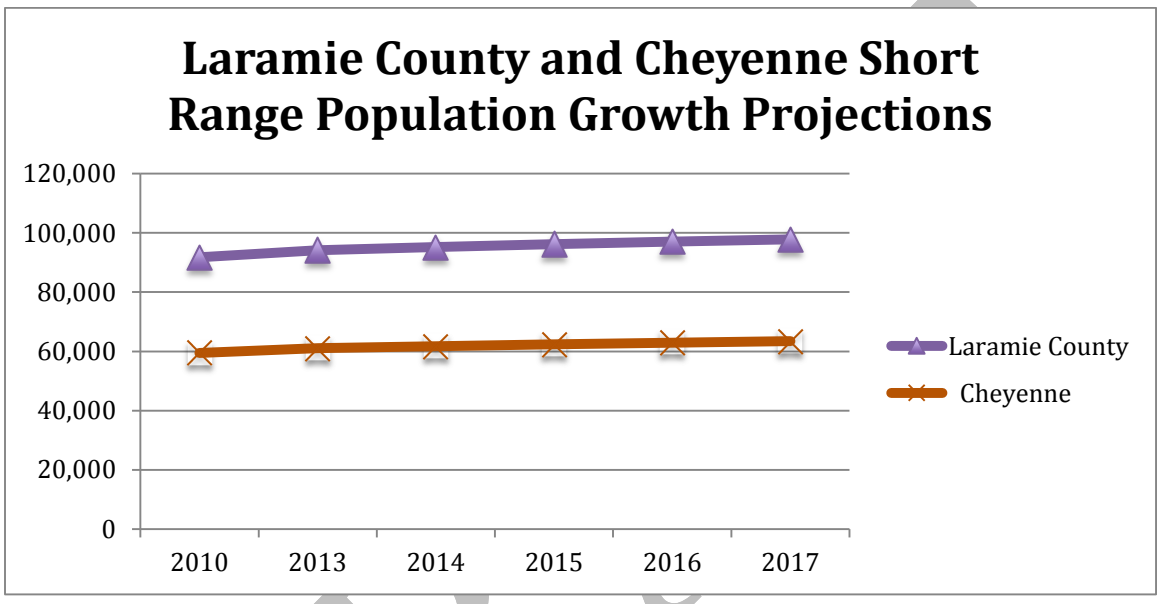
Figure 2.1 – Population Density of Study Area



POPULATION TRENDS

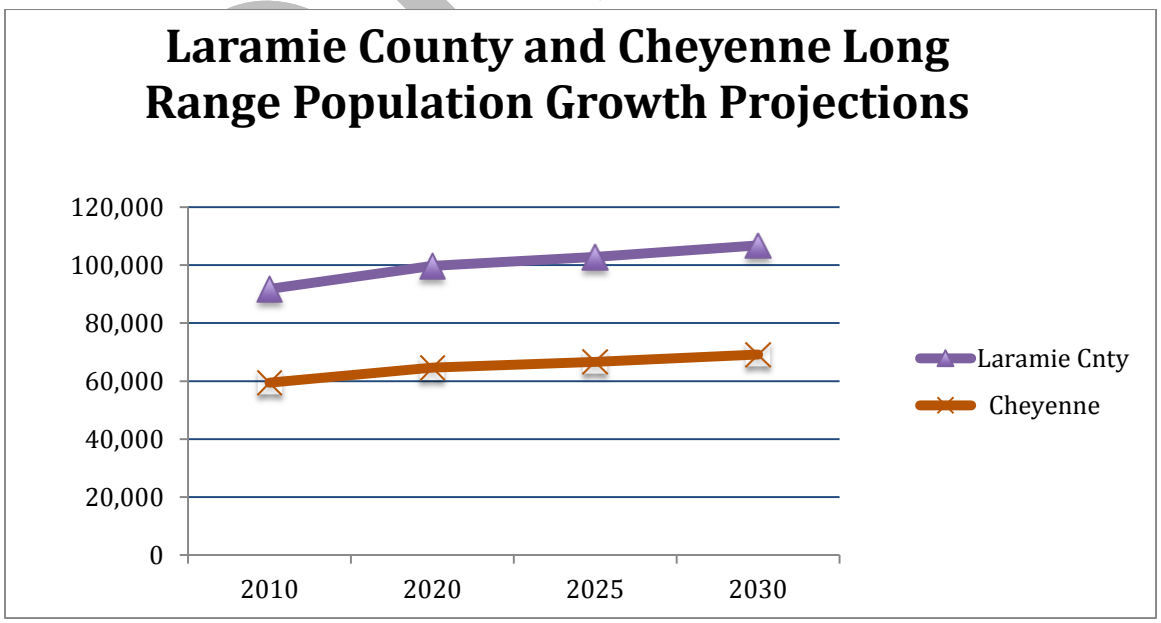
The populations of the City of Cheyenne and Laramie County are expected to grow from 59,510 and 90,390 to more than 63,000 and nearly 98,000 by 2017. Over the long range the populations are expected to grow to nearly 69,000 and 107,000 respectively by 2030. **Figure 2.2** illustrates short-range projected population trends for Laramie County and the City of Cheyenne. Figure 3.3 shows projected long-range population projections.

Figure 2.2 – Laramie County Long-Range Population Trends



Source: Wyoming Department of Administration & Information, Economic Analysis Division

Figure 2.3 – Laramie County Study Period Population Trends



Source: Wyoming Department of Administration & Information, Economic Analysis Division

City and County populations are expected to grow by more than 6% over the five-year study period and maintain stable growth culminating in a 14% increase by 2030. The population growth projections are modest and tend to support smaller transit system growth in the near term.

DEMOGRAPHICS

There are a number of demographic categories that are utilized in developing transit demand estimates because they represent typical transit-dependent markets that can be identified and quantified. Included among these categories are persons above the age of 65 and between the age of 10 and 24, people with mobility limitations due to disability, and low-income persons who may have difficulty maintaining a car.

Age

Age demographics that could impact transit usage include the age groups of 10 to 24 and 65 plus, as these groups would normally have a higher propensity to utilize public transportation. **Table 2.1** illustrates the age distribution in Laramie County and the City of Cheyenne.

Table 2.1 – Age Distribution in Laramie County and the City of Cheyenne

POPULATION BY AGE	CITY	%	COUNTY	%
Total Population	59,510	100%	90,394	100%
9 Years and Under	9,087	15%	12,602	14%
10 to 24 Years	11,340	19%	18,750	21%
25 to 64 Years	31,039	52%	48,085	53%
65 Years and over	8,044	14%	11,137	12%

Source: 2010 US Census

Given that roughly one third of the total population falls into these categories, there is a significant age-based market for transit service. Figure 3.4 shows the location of youthful residents elderly residents per square mile by US Census Tract. **Figures 2.4 and 2.5** show the density of youthful and elderly residents per square mile by US Census Tract.

Figure 2.4 – Population Density of Youthful Residents

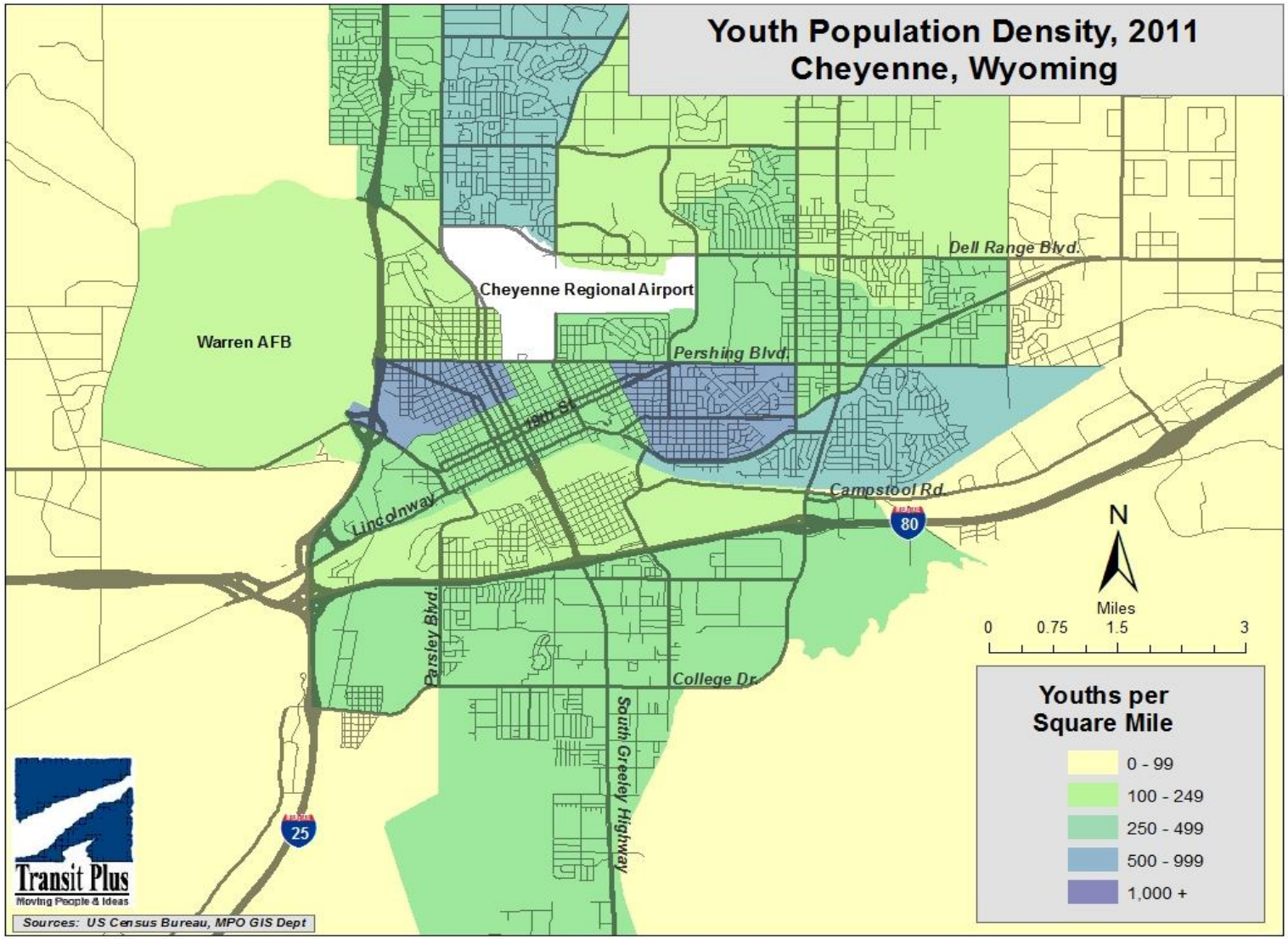
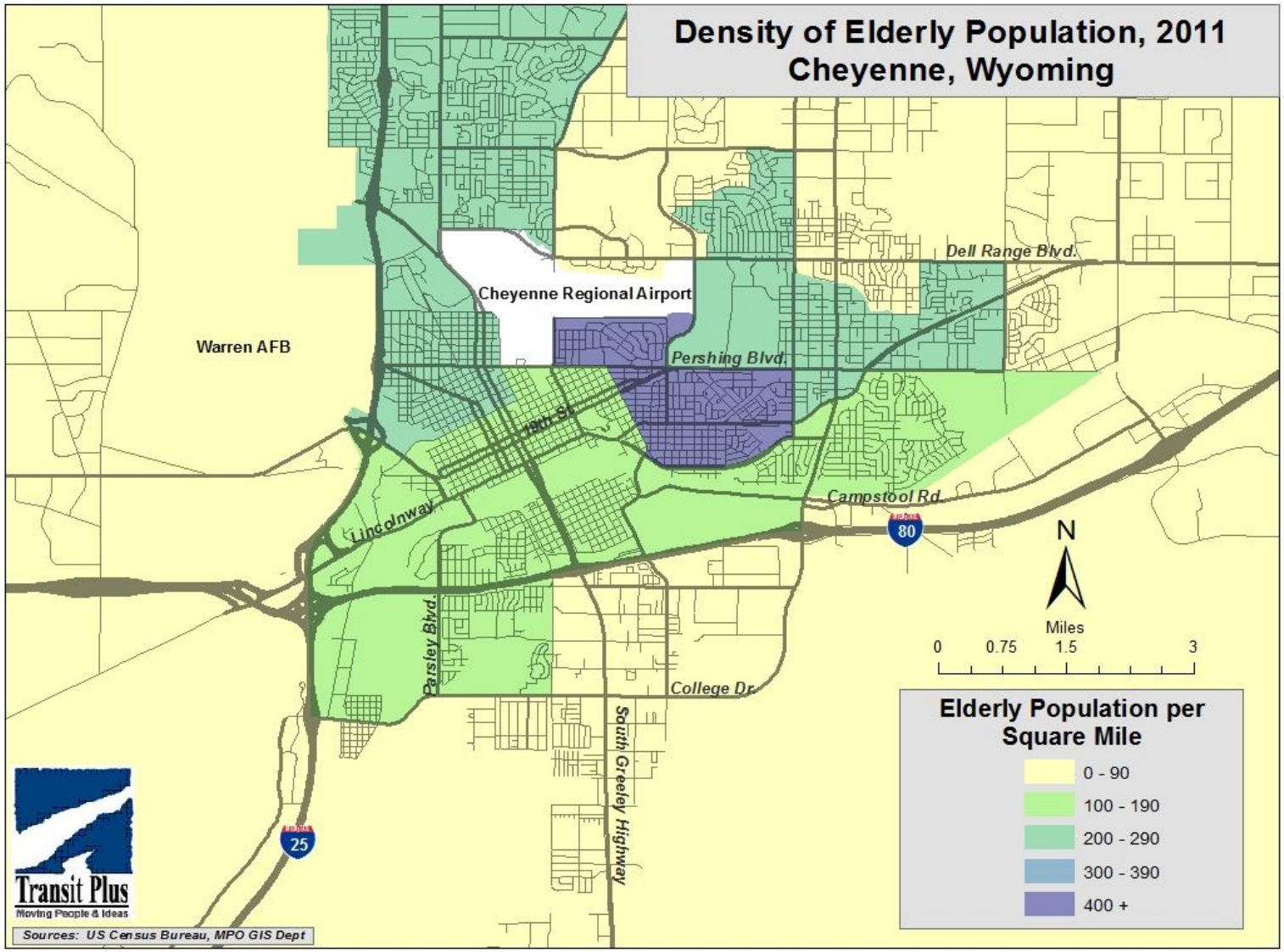


Figure 2.5 – Population Density of Elderly Residents



Youth and elderly populations are distributed throughout the study area with high concentrations of each residing south of the airport and south of Pershing Boulevard just west of the town. There is a fair amount of overlap between the two populations and CTP geographical service coverage is good for most people, though there is limited service for people living north and northwest of Del Range Boulevard.

Disability

Disability information was still not available through the US Census at the time of publication; however, we acquired information from the US Census *FactFinder* ACS 1 Year Estimates. **Table 2.2** shows disability totals for the area. The distribution of the disabled population as of the 2000 US Census is shown in **Figure 2.6**.

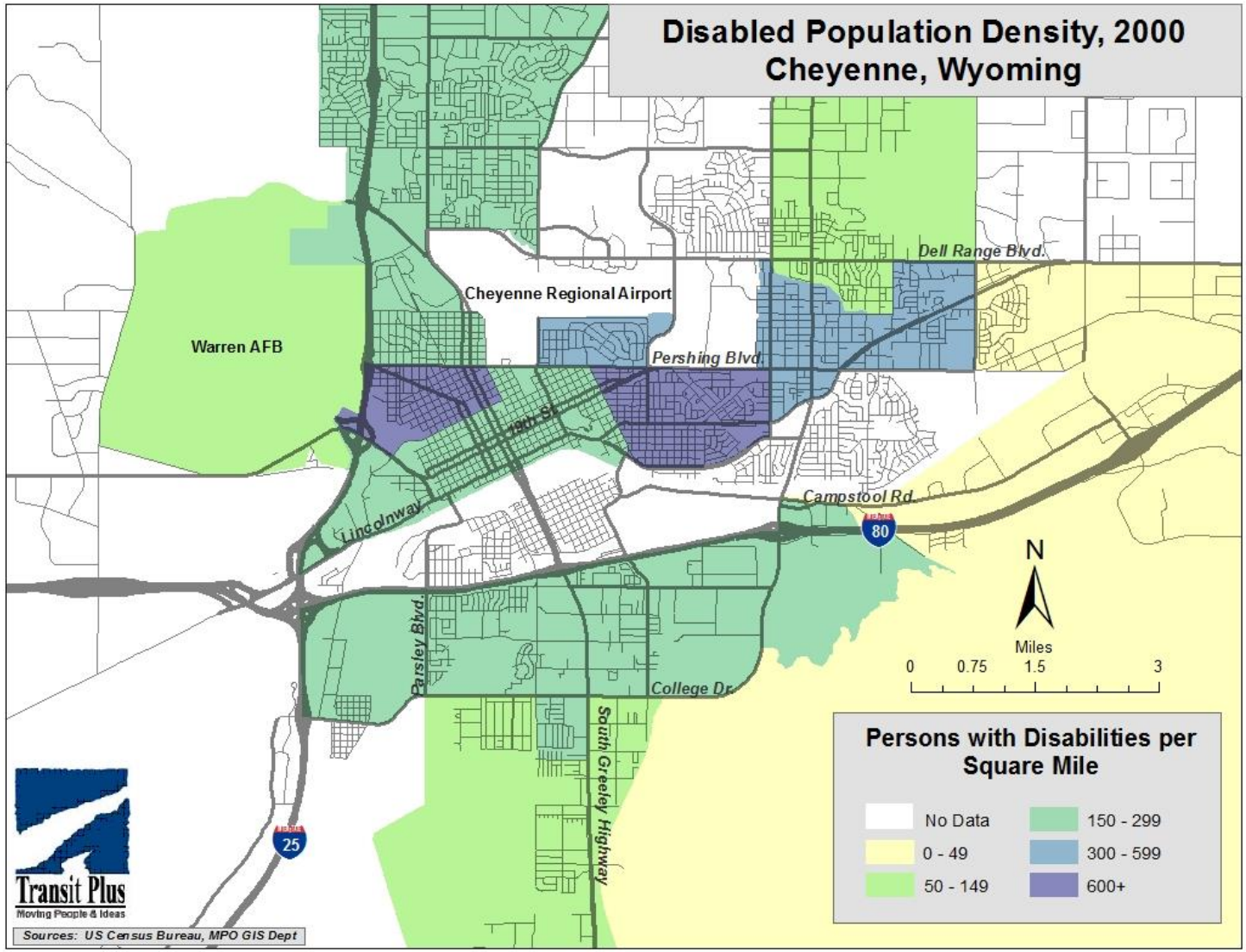
Table 2.2 – Cheyenne Urbanized Metropolitan Area Disabled Residents

DISABILITY STATUS - URBANIZED AREA		
Total Civilian Population	64,270	100%
With a disability	9,413	15%
Under 18 years	17,136	27%
With a disability	999	6%
18 to 64 years	38,696	60%
With a disability	5,392	14%
65 years and over	8,438	13%
With a disability	3,022	36%

Source: US Census Fact Finder (ACS 1 YEAR ESTIMATES)

The areas that show a high concentration of disabled residents are similar to the youth and elderly population distributions shown in **Figures 2.4** and **2.5**. CTP services generally provide good geographical coverage of the high-density areas, with the exception of areas north of the airport and northeast of Dell Range Boulevard.

Figure 2.6 – 2000 Census Disabled Population Distribution

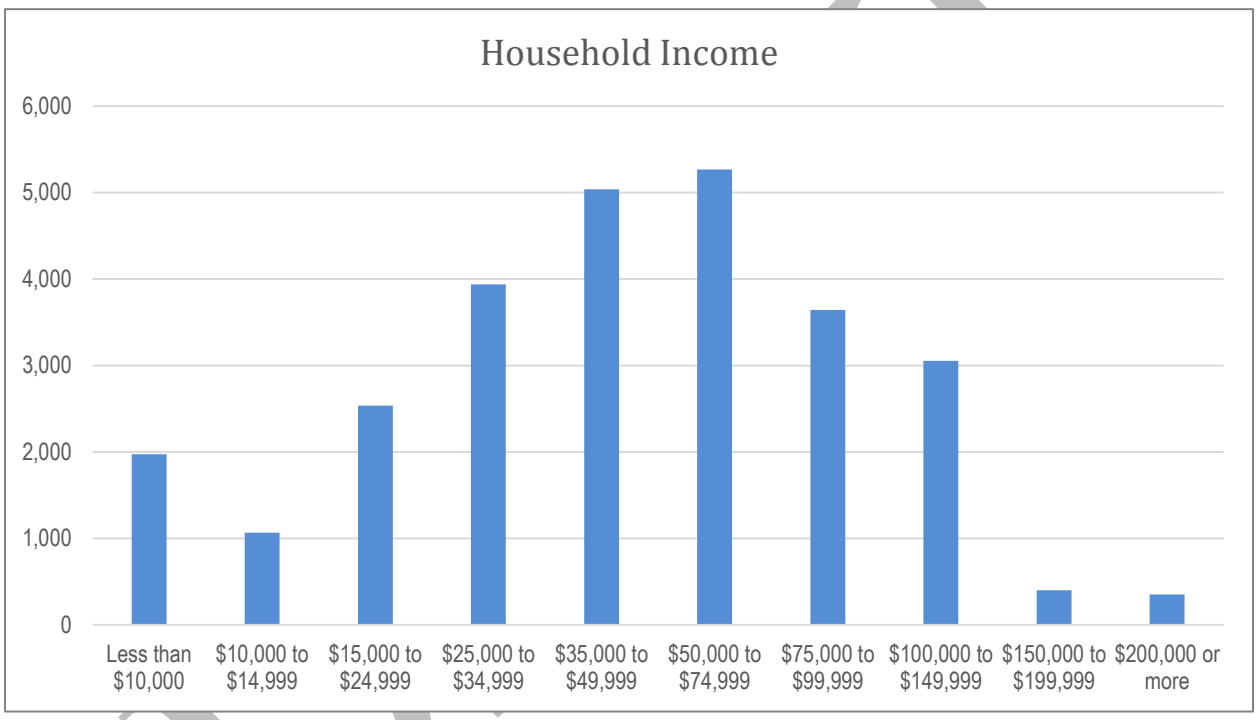


Income

Household income is another effective mechanism for predicting transit ridership, as people with higher incomes are far less likely to use public transportation, particularly in rural and small urban environments. The U.S Federal Poverty Guidelines define $23,500 annual income or below as poverty level for a household of four persons. **Figure 2.7** summarizes household income for the City of Cheyenne and **Figure 2.8** shows the location of families living at or below poverty level.

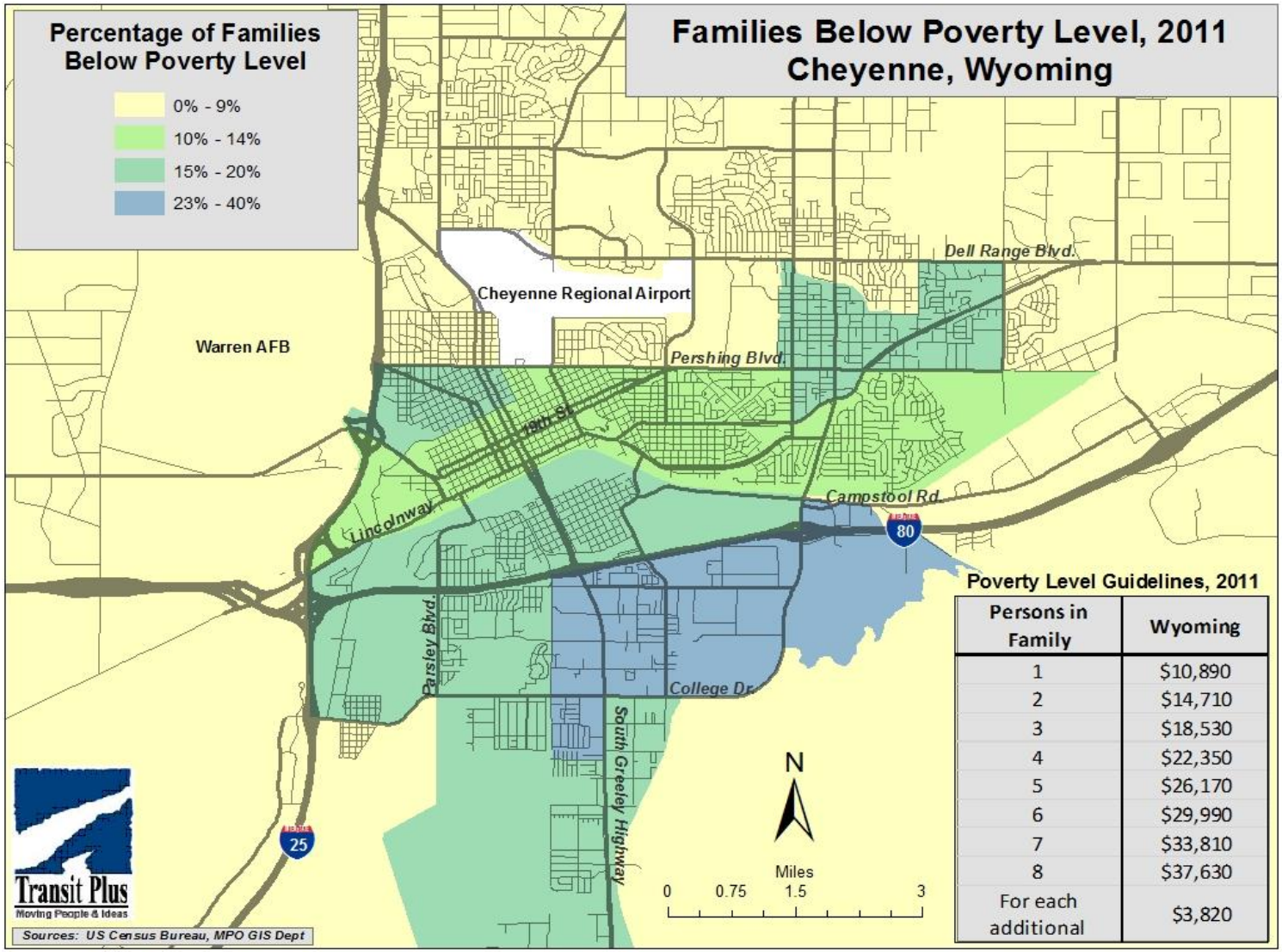
There are approximately 28,000 households in the City of Cheyenne, of which nearly 5,500 representing more than 20% of the population are below poverty level.

Figure 2.7 – Household Income



Source: 2010 US Census Fact Finder

Figure 2.8 – Location of Families Below Poverty Level



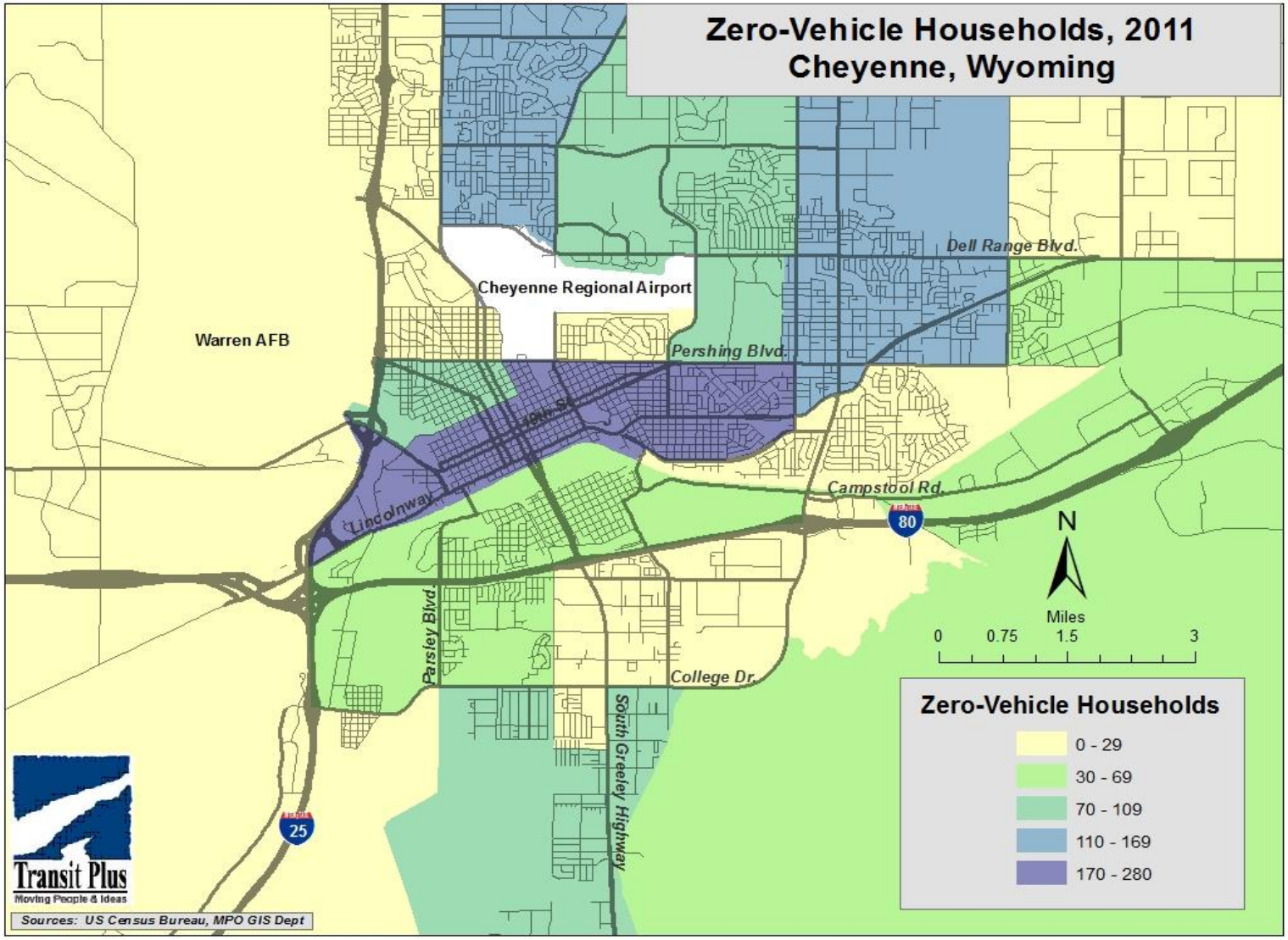
The majority of low-income residents reside south of Dell Range Boulevard, with the highest concentration to the south of Interstate 80. CTP service does an adequate job of covering areas with high levels of low-income residents, though there has been discussion among drivers and passengers that more service is needed on the south (Red) route.

Zero-Vehicle Households

Another determinant factor of public transportation usage that is linked to low income, disability and age is the number of households that do not have a car. **Figure 2.9** shows zero-vehicle households in the Cheyenne Urbanized Area.

The map shows a high number of zero-vehicle households along the Lincolnway corridor from Interstate 25 to College Boulevard to the east and bordering Pershing Boulevard to the north. These areas have good geographical coverage by CTP; however, the areas to the north of Dell Range Boulevard have little service coverage despite a high number of households that do not have a vehicle.

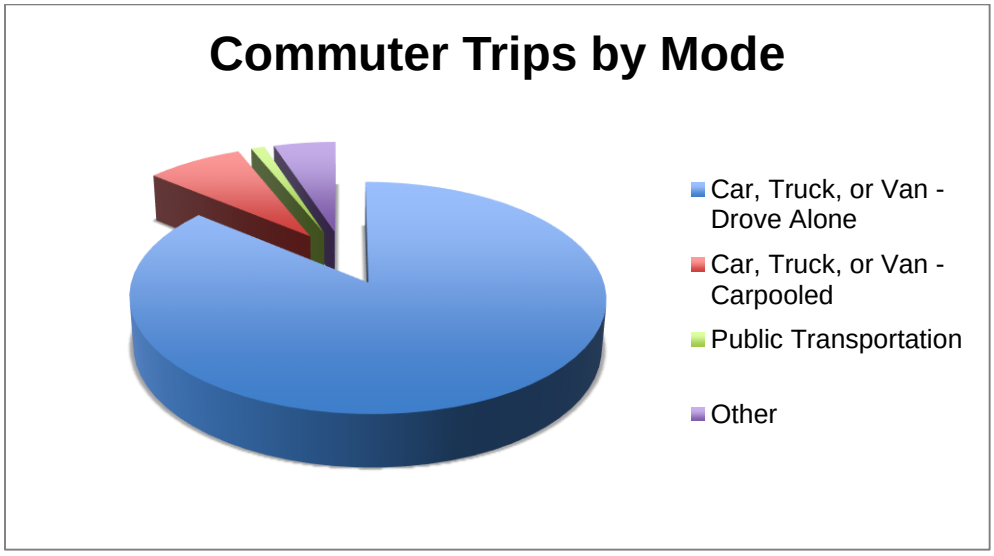
Figure 2.9 – Zero-Vehicle Households



Commuter Patterns

Despite the relatively high number of zero car households, commuter patterns and trends indicate the vast majority of commuters drive to work alone (86.1%), while a very small percentage (1.1%) uses public transportation to get to work. This trend indicates that the majority of Cheyenne area residents will not be inclined to use public transit unless they are transit dependent. **Figure 2.10** illustrates Cheyenne area commuter patterns by mode.

Figure 2.10 – Commuter Trips by Mode



Source: 2010 US Census

EMPLOYMENT AND ACTIVITY CENTERS

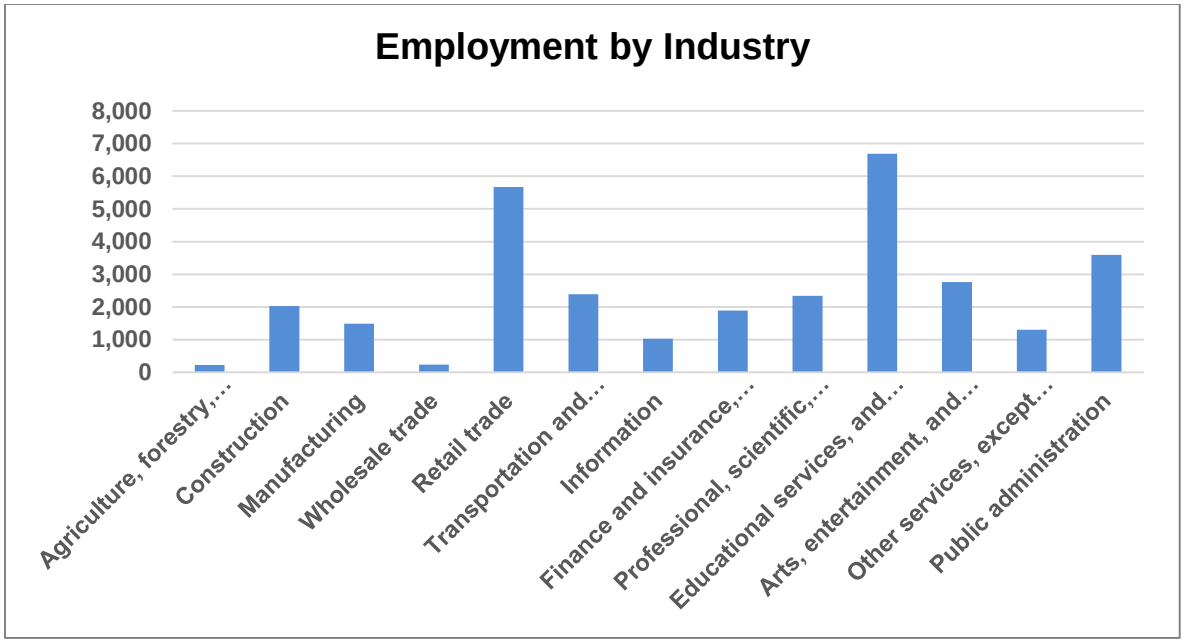
Employment and activity centers, which include medical, shopping, and social service centers, can individually affect the location of public transportation demand.

EMPLOYMENT

Of the total population of the City of Cheyenne that is over the age of 16, nearly 34,000 are employed. Additionally, another 3,600 are currently in the Armed Services. In 2010, the area had a relatively low unemployment rate of 6.8%, compared to more than 8% nationally. By 2013, unemployment has dropped to nearly 4% and the economic outlook is favorable. **Figure 2.11** highlights area employment by industry.

Jobs in Cheyenne centered on three major categories; educational services, healthcare and social services; retail trade; and public administration, which account for more than half of all jobs.

Figure 2.11 – Employment by Industry



Source: 2010 US Census

EMPLOYMENT TRENDS

Studying employment trends allows us to look at where jobs may become available in the future and the location of those jobs once created. This information is important in developing transportation alternatives, as transportation to jobs is one area in which public transit can be estimated based on mode shares.

Employment by Industry Sector

The project team compared the Census-based industry categories in 2000 and 2010 to establish which sectors were increasing job numbers and which were on the decline**.** **Table 2.3** shows job growth by sector for the ten-year period.

Table 2.3 – Job Growth by Employment Sector

Employment Sector	2000	2010	% Inc
Educational services; and health care and social assistance	4,874	6,689	27.1%
Public administration	3,462	3,590	3.6%
Retail trade	3,335	5,666	41.1%
Arts, entertainment, and recreation; Accommodation and food services	1,990	2,759	27.9%
Finance and insurance; Real estate and rental and leasing	1,927	1,889	-2.0%
Construction	1,848	2,031	9.0%
Transportation and warehousing; Utilities	1,697	2,388	28.9%
Professional, scientific, and management; Administrative services	1,691	2,346	27.9%
Manufacturing	1,110	1,493	25.7%
Other services, except public administration	1,091	1,304	16.3%
Information	795	1,028	22.7%
Wholesale trade	445	243	-83.1%
Agriculture, forestry, fishing and hunting; Mining	246	227	-8.4%
Totals	24,511	31,653	22.6%

Source: US Census 2000, 2010

Overall, the total job growth of 22.6% over the 10-year period was beyond national averages, but in line with expectations in Wyoming, which is somewhat insulated from national employment trends.

Employment Trends of Large Area Employers

The MPO provided a list of the thirty-four (34) largest area employers and the growth attributed to each organization between 2007 and 2012 to establish trends and project growth rates. **Table 2.4** summarizes the five-year growth trends of each of the largest employers and projects job growth through 2017.

The US Census counted nearly 34,000 available jobs in 2010, more than 22,000 of which are shown in **Table 2.4**. Using a simple calculation the project team was able to develop job number estimates for each of the major employment categories, resulting in a 3.2% projected job growth estimate for the five-year study period ending in 2017. The Cheyenne Regional Medical Center (CRMC) and the Veteran's Affairs (VA) Medical Center are projected to show large increases in jobs. These areas currently have CTP service.

Table 2.4 – Cheyenne Large Employers

NAME	PRODUCT/SERVICE	2007	2008	2009	2010	2011	2012	% Grth	2017 Proj
F.E. Warren AFB	Military	4,156	4,410	4,325	3,694	3,820	4,325	3.9%	4494
State of Wyoming	Government Services	3,756	3,840	3,553	3,372	3,379	3,397	-10.6%	3038
Laramie County School District #1	Education K-12	2,075	1,999	1,955	2,102	2,157	2,157	3.8%	2239
Federal Government	Government Services	1,736	1,747	1,739	1,874	1,804	1,785	2.7%	1834
Cheyenne Regional Medical Center	Health Care	1,480	1,324	1,415	1,700	1,618	1,667	11.2%	1854
Wyoming National Guard	Military	693	709	756	744	744	744	6.9%	795
Sierra Trading Post	Outlet Catalog/Retail	661	691	572	622	595	587	-12.6%	513
City of Cheyenne	Government Services	590	596	606	601	550	550	-7.3%	510
Veterans' Affairs Medical Center	Health Care	486	472	496	586	586	603	19.4%	720
Union Pacific Railroad	Transportation, Rail	832	832	602	572	594	594	-40.1%	356
Laramie County Community College	Education	450	465	490	506	531	570	21.1%	690
Lowe's Companies Inc.	Distribution Center	997	705	518	407	450	450	-121.6%	-97
Laramie County Government	Government Services	350	351	360	363	375	366	4.4%	382
EchoStar Communications	Satellite Uplink Center	258	280	301	343	324	360	28.3%	462
HollyFrontier Oil	Oil Refinery	275	314	340	313	292	292	5.8%	309
Great Lakes Aviation	Airlines	209	210	236	259	259a	259	19.3%	309
United States Postal Service	Government Services	278	281	245	240	210	212	-31.1%	146
Allstate Call Center	Insurance		212	247	224	250	218	2.8%	224
Magic City Enterprises	Rehabilitation Facility	210	285	199	221	228	249	15.7%	288
Laramie County School District #2	Education K-12	207	207	214	213	214	226	8.4%	245
Blue Cross/Blue Shield	Health Plans	204	223	204	199	177	205	0.5%	206
Life Care Cheyenne	Long-Term Care	180	180	185	190	196	196	8.2%	212
Crete Carrier Corp.	Transportation	3	148	163	171	173	195	98.5%	387
Dyno Nobel/Coastal Chem	Fertilizer & Nitrate Mfg.	110	121	125	136	151	157	29.9%	204
Mountain Towers	Long-term Care	120	120	124	126	110	115	-4.3%	110
Bresnan Communications	Communications	81	103	103	125	129	129	37.2%	177
APW Wyott Corporation	Mfg. Food Service Equipment	150	160	150	125	120	130	-15.4%	110
Warren Federal Credit Union	Credit Union	102	100	103	125	132	135	24.4%	168
Little America	Hotel & Resort	149	150	180	111	133	136	-9.6%	123
Mountain Regional Services, Inc.	Disability Services	130	110	130	110	124	110	-18.2%	90
Taco Johns, Inc.	Fast Food Services	115	122	117	108	113	115	0.0%	115
Wyoming Tribune Eagle	News and Printing Services	115	121	114	106	111	110	-4.5%	105
VAE Nortrak	Mfg. Rail Switching	105	115	108	104	125	160	34.4%	215
JELD WEN	Window Manufacturing	206	175	155	104	120	130	-58.5%	54
TOTALS		**22,272**	**23,092**	**22,290**	**22,137**	**22,162**	**23,004**	3.2%	**23,736**

LOCATION OF SERVICES

Just as the location and number of employers and jobs impacts a population's propensity to utilize public transportation, the location and number of agencies supplying essential services also correlates directly with public transportation usage by transit-dependent populations. **Figure 2.12** summarizes the location of major transit activity generators in the study area.

The majority of transit activity centers are located within the city limits of Cheyenne and currently have CTP service. Important destinations that are located in Laramie County include Laramie County Community College, the Walmart Distribution Center, and Safeway. Only the Walmart distribution center does not have transit service, thus reliable transportation is a condition of employment. In sum, the CTP system provides good geographical coverage to the major activity centers identified through this study.

Aging Services

Services for the aging in Laramie County and the State of Wyoming are coordinated through the Department of Health – Aging Services Division. There are no Area Agencies on Aging in the State of Wyoming. The Aging Services Division provides funding to the Cheyenne Transit Program for persons over the age of 60 through Title II B Administration funds. Also, the Peak Wellness Center maintains a Foster Grandparent Program and a Meals on Wheels Program. The Pine Bluffs Senior Center provides limited transportation to and from Cheyenne for its program beneficiaries. The American Association of Retired Persons (AARP), the Senior Activity Center/Caregiver Support Program, and Wyoming Senior Citizens, Inc provide additional services.

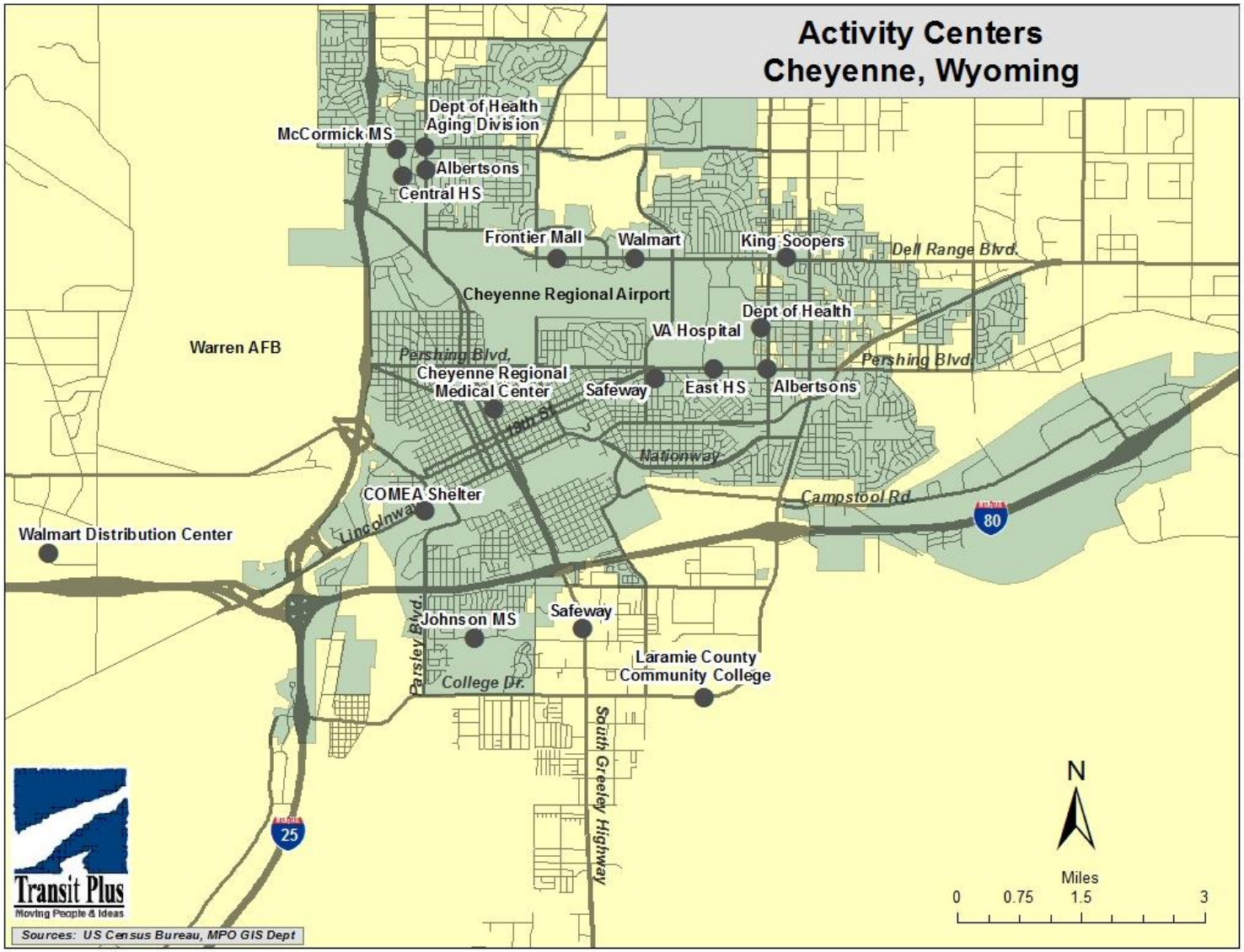
Education

Residents of Cheyenne have several post-secondary educational opportunities through Laramie County Community College (LCCC), which maintains a central campus and Outreach Centers at Warren AFB and in Pine Bluffs. There are four public High Schools (Central, East, South, and Triumph) and three Middle Schools (Carey, Johnson, and McCormick) dispersed throughout the community. Additionally, the Laramie County School District Campus also houses the Educational Opportunity Center.

Emergency Services

Cheyenne supports a number of emergency services for the less fortunate including the American Red Cross, Interfaith Hospitality Network of Cheyenne, Salvation Army, and the United Way.

Figure 2.12 – Location of Major Activity Centers



Workforce Development and Job Services

There are a number of employment and job services agencies in Laramie County including the Department of Workforce Services, Experience Works, Goodwill Industries International, Job Corps, Labor Ready, and Workforce Development Programs (Disabled Veteran's Outreach) for Veterans.

Veterans Services

The Cheyenne VA Medical Center on East Pershing Boulevard is the center for Veteran's services in Eastern Wyoming. The VA Center provides some volunteer transportation for its members from as far away as 100 miles.

ISSUES AFFECTING TRANSIT SERVICES

Through our analysis of the demographics and characteristics that drive the need for public transportation, the project team has identified a number of issues that will influence the study and alternatives moving forward.

- There is a high transit-dependent population in the City of Cheyenne. Nearly one third of the entire population could be classified as transit-dependent based on age, another 15% based on disability, and 20% based on low-income or poverty status. Additionally, there are a relatively high number of zero-vehicle households in the study area
- The transit-dependent populations are dispersed throughout the service area; however, there is significant overlap of these populations in the town center and along Lincolnway, south of Interstate 80 between Parsley Boulevard and College Drive, and between Pershing and Dell Range Boulevards bordering the Airport to the west and east to College Drive
- Essential services and large area employers are also geographically dispersed, though a high number of social services agencies are located near and within the town center
- CTP services reach most major demographics and most major activity centers geographically. CTP provides the best coverage in and around downtown, where transfers take place and a number of services are located. Areas that have high potential for transit use that are not covered by CTP are primarily north of the airport and northeast of Dell Range Boulevard

3: EXISTING TRANSIT SYSTEM

BACKGROUND

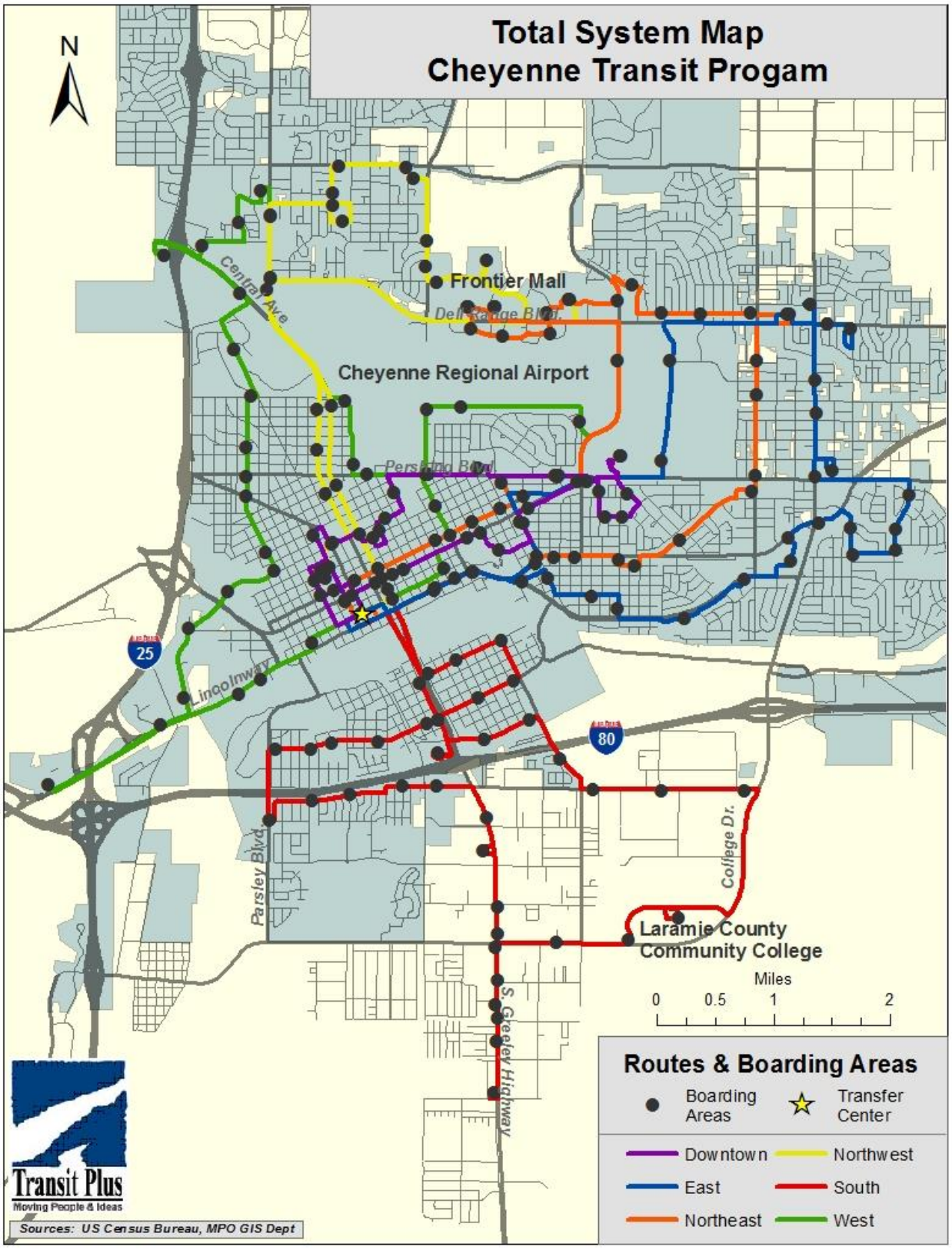
The Cheyenne Transit Program (CTP) was created in 1993 when the City of Cheyenne assumed responsibility for client transportation services of the Cheyenne Housing Authority and Magic City Enterprise, and opened the service to the general public. Within a year CTP replaced the purely demand-response service model with a deviated fixed-route system to accommodate increasing demand for local service. The new system initially consisted of four routes, but the network expanded rapidly to 11 routes over a two-year period. By 1996, however, the system was pared back to seven routes with Saturday service reduced and Sunday service eliminated to meet budgetary requirements.

In February 1998, CTP converted the deviated route system to a purely fixed route system and implemented new complementary paratransit service to continue to meet ADA requirements. Five new routes were designed as one-way loops anchored to a downtown "pulse-transfer" point, and two secondary transfer points were located on the north side of Cheyenne in the Dell Range Boulevard corridor where a significant number of major transit trip generators are located. A fare-free Downtown Shuttle also was included initially, but was discontinued in April 2001 due to low ridership. In recent years, the routes have undergone relatively minor changes, and the Downtown Route was added. The transit service area and FY 2013 CTP fixed route network are shown in **Figure 3.1**. The service area includes the City of Cheyenne and adjacent areas of unincorporated Laramie County located generally south of I-80, as well as Warren Air Force Base.

FIXED ROUTE SYSTEM

The CTP fixed route network is designed as six loops radiating from a central transfer point located on 17th Street at Carey Avenue in Downtown Cheyenne. The routes range in length from 8.5 miles to 16 miles and each takes approximately 50-55 minutes to complete a round trip. One bus is deployed on each route to operate hourly schedules within a uniform service span providing system-wide coverage between 6:00 am and 7:00 pm on weekdays, and between 10:00 am and 5:00 pm on Saturdays. All buses depart at the top of the hour and return at 50 to 55 minutes past the hour to minimize wait times for transferring customers. Daily operating schedules consist of 13 weekday trips per route and seven per route on Saturday.

Figure 3.1 – CTP Fixed Route Network



CTP fixed route system operating statistics and key performance measures for the last five fiscal years are provided in Table 4-1. Overall CTP has experienced stable ridership in context of a moderate decrease in hours and miles operated in order to maintain total operating expenses under $800,000. FY 2012 passenger boardings were 0.9% just lower than in FY 2008 despite a 14.5% decrease in vehicle revenue hours operated, resulting in a 15.3% improvement in service productivity during the period.

Table 3.2 provides summary FY 2012 operating statistics and key performance indicators for the fixed route system. CTP buses operated over 22,100 revenue vehicle hours on all routes and attracted over 250,000 passenger boardings. Daily ridership averaged nearly 900 boardings on weekdays and 450 boardings on Saturday.

Table 3.1 – Fixed Route System Operating Results

Fiscal Year	Peak Vehicles	Revenue Vehicle Hours	Revenue Vehicle Miles	Passenger Boardings	Total Operating Expense	Passengers per RVH	Passengers per RVM	Cost per RVH	Cost per RVM	Average Speed
2008	11	25,861	382,479	252,584	$805,359	9.8	0.7	$31.14	$2.11	14.8
2009	11	24,769	366,568	255,348	$791,735	10.3	0.7	$31.96	$2.16	14.8
2010	10	22,963	339,995	253,686	$776,299	11.0	0.7	$33.81	$2.28	14.8
2011	10	21,385	319,255	242,016	$748,719	11.3	0.8	$35.01	$2.35	14.9
2012	10	22,112	326,412	250,392	$783,568	11.3	0.8	$35.44	$2.40	14.8
5-year Average	10	23,418	346,942	250,805	$781,136	10.7	0.7	$33.36	$2.25	14.8

Source: National Transit Database (NTD) Service Characteristics Summary Report, 2012.

Table 3.2 – Fixed Route Operating Statistics and Key Performance Indicators (FY 2012)

	Vehicles in Service			Schedule Revenue Hours				Scheduled Round Trips				Revenue Miles[1]	
Route	Peak	Base	Saturday	Peak	Base	Saturday	Annual	Peak	Base	Saturday	Annual	per Trip	Annual
East	1.00	1.00	1.00	6.00	7.00	7.00	3,686	6	7	7	3,686	13.8	50,867
Northeast	1.00	1.00	1.00	6.00	7.00	7.00	3,686	6	7	7	3,686	12.0	44,232
Northwest	1.00	1.00	1.00	6.00	7.00	7.00	3,686	6	7	7	3,686	12.1	44,601
West	1.00	1.00	1.00	6.00	7.00	7.00	3,686	6	7	7	3,686	16.0	58,976
South	1.00	1.00	1.00	6.00	7.00	7.00	3,686	6	7	7	3,686	15.1	55,659
Downtown	1.00	1.00	1.00	6.00	7.00	7.00	3,686	6	7	7	3,686	8.5	31,331
Total	**6.00**	**6.00**	**6.00**	**36.00**	**42.00**	**42.00**	**22,116**	**36**	**42**	**42**	**22,116**		**285,665**

	Annual Passenger Boardings[2]			Average Daily		Boardings per RVH			Boardings per RVM			Boardings	Average
Route	Total	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Overall	Weekday	Saturday	Overall	per Bus-Day	Speed
East	36,656	33,354	3,302	130.8	63.5	10.1	9.1	9.9	0.7	0.7	0.7	119	15.7
Northeast	50,242	44,600	5,642	174.9	108.5	13.5	15.5	13.6	1.1	1.3	1.1	164	13.6
Northwest	44,924	40,010	4,914	156.9	94.5	12.1	13.5	12.2	1.0	1.1	1.0	146	13.8
West	34,736	31,850	2,886	124.9	55.5	9.6	7.9	9.4	0.6	0.5	0.6	113	18.2
South	51,023	48,033	2,990	188.4	57.5	14.5	8.2	13.8	1.0	0.5	0.9	166	17.2
Downtown	35,260	31,620	3,640	124.0	70.0	9.5	10.0	9.6	1.1	1.2	1.1	115	9.7
Total	**252,841**	**229,467**	**23,374**	**899.9**	**449.5**	**11.5**	**10.7**	**11.4**	**0.9**	**0.8**	**0.9**	**137**	**14.7**

Note 1 - Calculated FY 2012 Revenue Vehicle Miles is 12.5% less than actual miles reported to NTD.

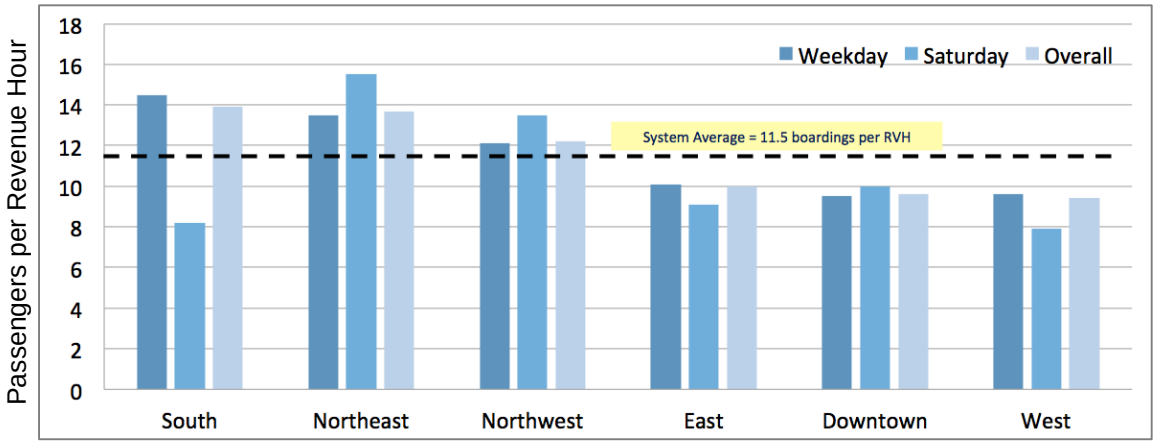
Note 2 - Calculated FY 2012 Ridership exceeds actual ridership (250,392) by less than one percent.

System Productivity

Among the most common measures of local transit service productivity are passenger boardings[1] per revenue vehicle hour (RVH) and passenger boardings per vehicle trip. These two measures yield similar results when applied to CTP because of the uniform service span and hourly headway common to all routes. Shown in **Figure 3.2**, overall fixed route system productivity was 11.4 boardings per RVH in FY 2012 with the individual routes ranging from 13.8 passengers per RVH (South) down to 9.4 boardings per RVH (West).

The data indicates that the South, Northeast and Northwest routes generally operate more productively than the system average, although it is noteworthy that South Route Saturday service productivity is the lowest among all routes in the system. This points to the significance that direct access to the Dell Range Boulevard corridor, where many transit trip generators are located, has on ridership. Both the Northeast and Northwest routes serve destinations along Dell Range directly, while South route customers must transfer in downtown Cheyenne for access to the busy commercial corridor.

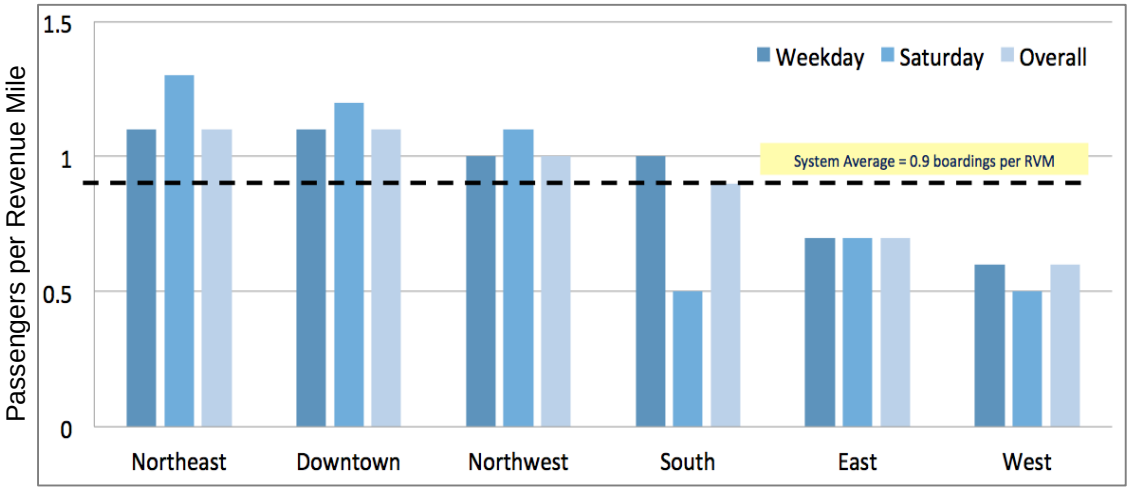
Figure 3.2 – Passenger Boardings per Revenue Vehicle Hour



Additional measures of service productivity include boardings per revenue vehicle mile (RVM) and boardings per daily peak bus deployed in revenue service. Since CTP route lengths and bus travel speeds on the various routes vary, the application of boardings per RVM provides further perspective concerning service productivity. Shown in **Figure 3.3**, overall fixed route system productivity was 0.9 boarding per RVM with the individual routes ranging from 1.1 boardings per RVH (Northeast and Downtown) down to 0.6 boarding per RVH (West).

[1] "Passenger boarding's" are distinguished from "passengers" to account for transfers that cause some customers to board two buses to complete a one-way trip.

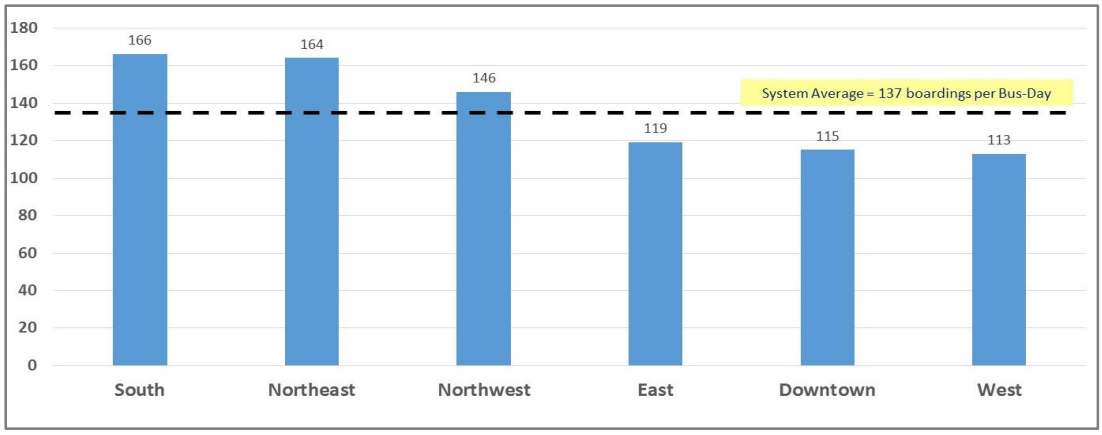
Figure 3.3 – Passenger Boardings per Revenue Vehicle Mile



This highlights the relatively compact coverage area of the Downtown Route and relative directness (via Warren-Central) of the Northwest Route, compared to the more meandering alignments of the West, East and South routes.

Additionally, the use of the average boardings per bus deployed in daily revenue service is suggested as an aggregate measure of system and individual route productivity. While this measure yields similar results to those produced by using boardings per RVH, it is useful as a simple comparison of the combined capital and operating resources required to deliver service on each route. The results are shown in **Figure 3.4**.

Figure 3.4 – Passenger Boardings per Bus Deployed in Daily Service



Route Assessment

This section contains a summary description and assessment of the six CTP fixed routes relative to key measures of ridership and service productivity, as well as transit industry "best practices" in service design, scheduling and operations planning as applicable to

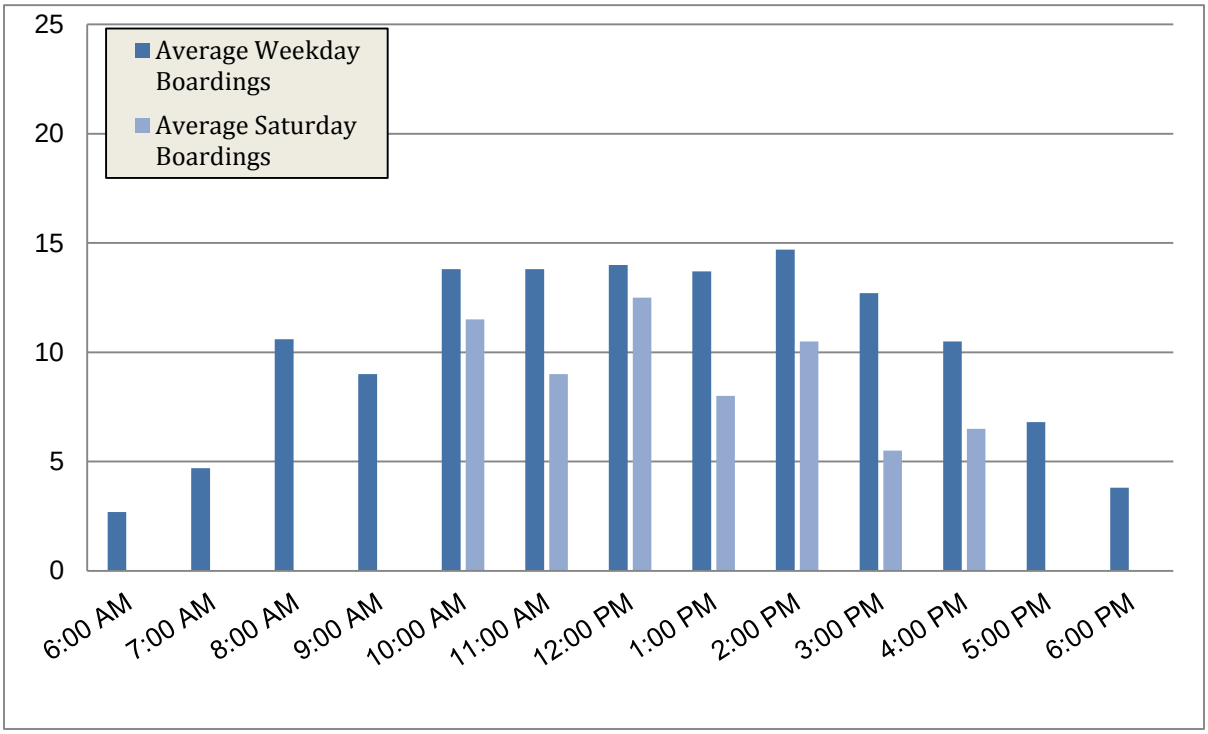
local conditions. Annualized FY 2012 data used for this analysis were calculated based on two weeks of sample data supplied by CTP staff.[2]

East Route

The East Route (shown in blue in **Figure 3.1**) follows a 13.8-mile one-way loop alignment covering much of the east side of City; starting from 17th at Carey and running counter-clockwise via primarily Lincolnway and Nationway east to Taft Avenue and College Drive; then north to Dell Range Boulevard; and returning toward Downtown via Windmill Drive, Pershing Drive, 19th Street, Logan Avenue and Lincolnway.

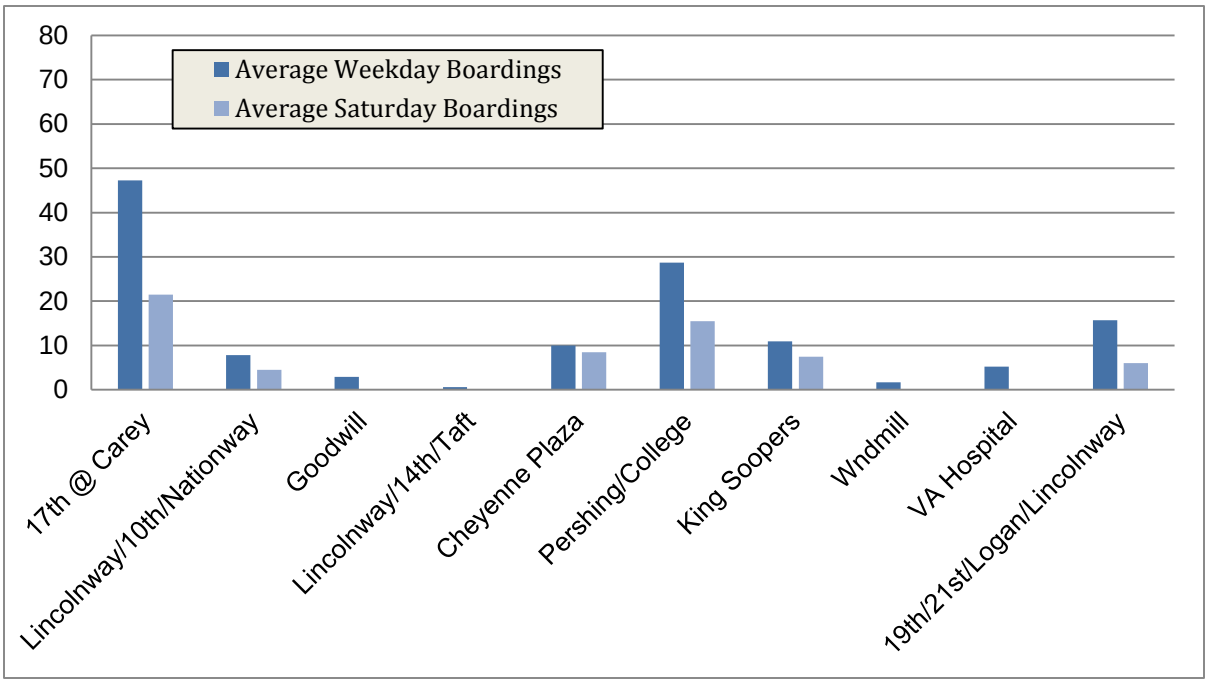
The East Route attracted 33,400 total passengers in FY 2012. Average daily ridership was 131 boardings per weekday and 64 boardings per Saturday. Weekday ridership is weighted toward the midday with trips departing downtown between 10:00 am and 3:00 pm averaging 14 boardings. Overall daily ridership averaged 10.1 passengers per trip on weekdays and 9.1 per trip on Saturday. Ridership by time of day distributions appear in **Figure 3.5**.

Figure 3.5 – East Route: Average Daily Boarding's by Time of Day



[2] CTP driver ridership tallies for 10 weekdays (August 6-10 & November 5-9, 2012) and two Saturdays (August 11 & November 10, 2012) were compiled and factored up to reflect a typical annual operating schedule consisting of 255 weekdays and 52 Saturdays.

Figure 3.6 – East Route: Average Daily Boardings by Stop



Average daily ridership by direction and bus stop is highlighted in **Figure 3.6**. Nearly 37% of total FY 2012 East Route passengers boarded at the downtown transfer point, where daily boardings averaged 47 per weekday and 22 per Saturday. The busiest route segments included:

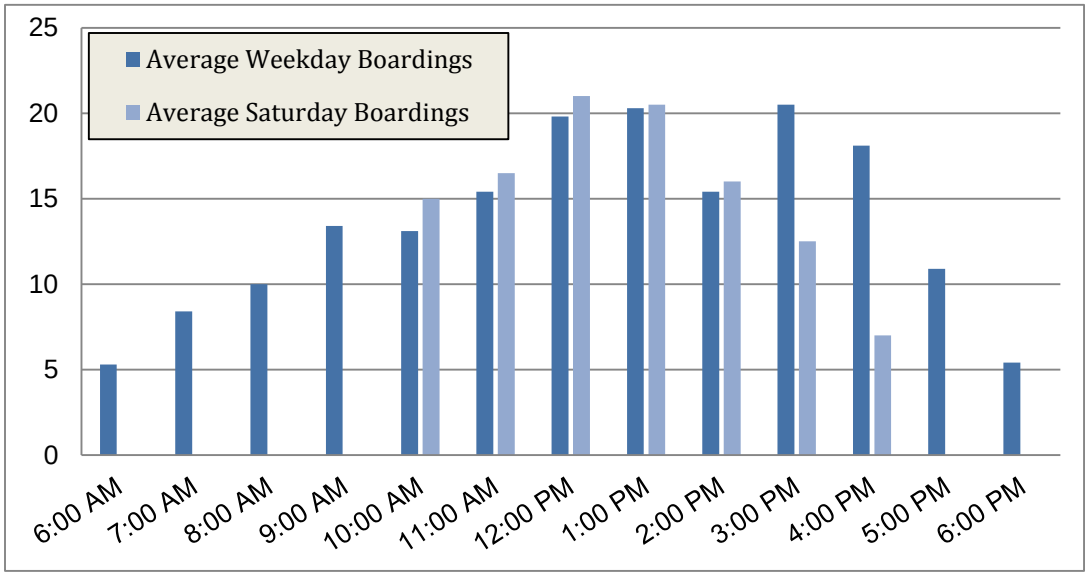
- Six bus stops on East Pershing Boulevard (west of Taft Avenue) and North College Drive to Dell Range Boulevard generated an average 29 weekday boardings and 16 boardings on Saturdays.
- Seven bus stops inbound from the VA Medical Center to downtown along 19th Street, 21st Street, Logan Avenue and Lincolnway generated an average 16 weekday boardings and six Saturday boardings. Additionally, there were five boardings per weekday at the VA Hospital, but none on Saturday.
- The King Soopers grocery located on Dell Range Boulevard west of College Drive generated an average of 11 boardings per weekday and eight boardings per Saturday.
- The Cheyenne Plaza (Dollar Tree, Big Lots) located on East Lincolnway generated an average of 10 boardings per weekday and nine boardings per Saturday.

The East Route ranked fourth among the six CTP routes in overall service productivity during FY 2012 with an average of 10 boardings per RVH, which was 13% below the system average. The route generated an average of 119 boardings per day over 307 operating days.

Northeast Route

The Northeast Route (shown in orange in **Figure 3.1**) follows a 12.0-mile one-way loop alignment covering neighborhoods east and north of downtown Cheyenne, and partly overlapping the East Route. Starting from 17th at Carey, the Northeast Route runs counter-clockwise via primarily Lincolnway, Omaha Road and Ridge Road north to Dell Range Boulevard; then west across Dell Range serving major shopping plazas including Albertsons, King Soopers, Walmart, K-Mart, Target and Frontier Mall. The route returns to downtown via Stillwater Avenue, Meadowland Drive, Bluegrass Circle, Dell Range Boulevard, Converse Avenue, Pershing Boulevard, Logan Avenue, 20th Street and Pioneer Avenue.

Figure 3.7 – Northeast: Average Daily Boardings by Time of Day



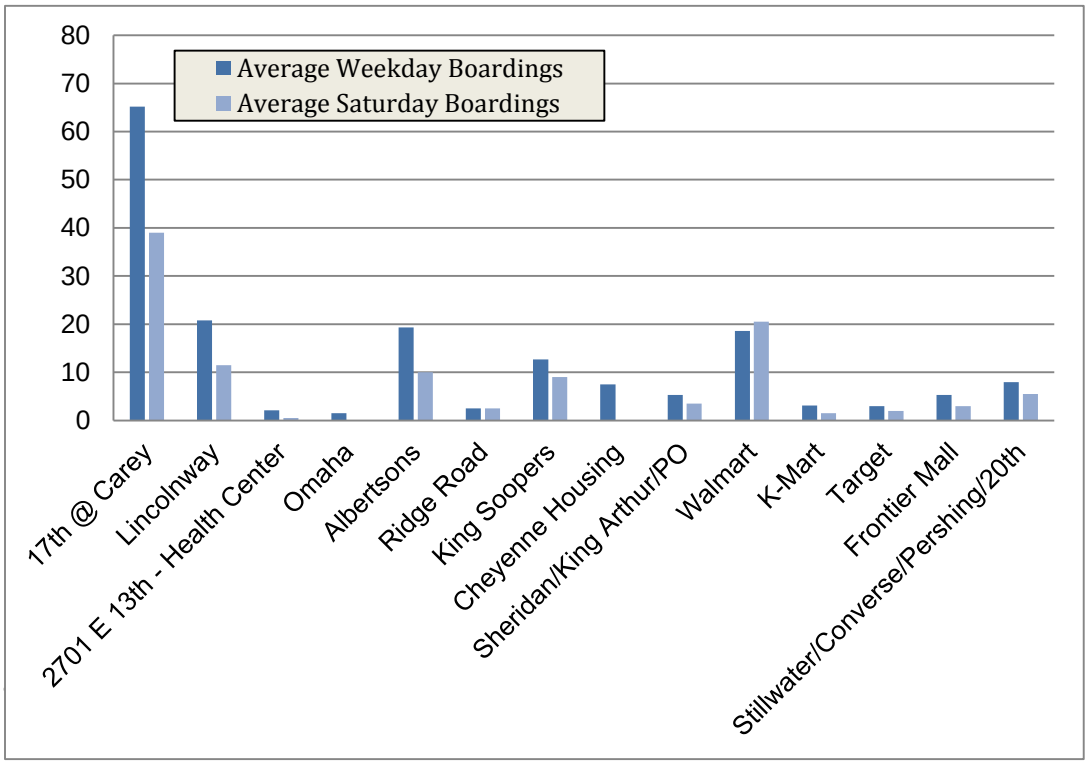
The Northeast Route attracted 50,250 total passengers in FY 2012. Average daily ridership was 175 boardings per weekday and 109 boardings per Saturday. Weekday ridership is weighted toward the early afternoon with trips departing downtown at noon, 1:00 pm and 3:00 pm each averaging over 20 boardings. Saturday ridership followed a similar pattern, reflecting the multiple shopping plazas situated along the route. Overall daily ridership averaged 13.5 passengers per trip on weekdays and 21.8 per trip on Saturday. Ridership by time of day distributions appear in **Figure 3.7**.

Average daily ridership by direction and bus stop is highlighted in **Figure 3.8**. Over 37% of total FY 2012 Northeast Route passengers boarded at the downtown transfer point, where daily boardings averaged 65 per weekday and 49 per Saturday. The busiest route segments included:

- Six bus stops along East Lincolnway between Maxwell Avenue and Hot Springs Avenue generated 21 average weekday boardings and 12 average Saturday boardings
- The Walmart store located on Dell Range Boulevard west of Grandview Avenue generated 19 boardings per weekday and 21 boardings per Saturday
- The Albertsons store located on Pershing Boulevard, west of Ridge Road, generated and average 19 boardings per weekday and 10 boardings per Saturday
- The King Soopers grocery located on Dell Range Boulevard west of College Drive generated an average 13 boardings per weekday and nine boardings per Saturday
- The Cheyenne Housing Authority complex located north of Dell Range Boulevard near Ridge Road generated an average of eight boardings per weekday and less than one boarding per Saturday
- Twelve bus stops on Stillwater Avenue, Meadowland Drive, Bluegrass Circle, Dell Range Boulevard, Converse Avenue, Pershing Boulevard, Logan Avenue, 20th Street and Pioneer Avenue generated an average of eight boardings per weekday and six boardings per Saturday

The Northeast Route ranked second among the six CTP routes in overall service productivity during FY 2012 with an average of 13.7 boardings per RVH, which was 19% above the system average. The route averaged 164 boardings per day during the 307-day operating year

Figure 3.8 – Northeast: Average Daily Boardings by Stop

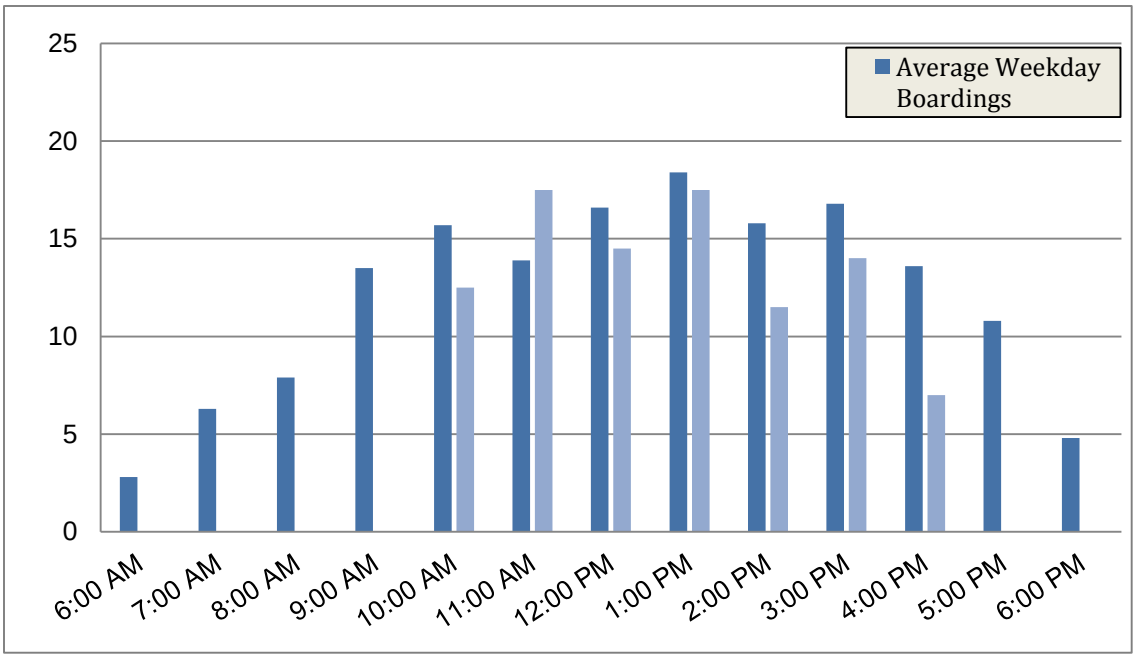


Northwest Route

The Northwest Route (shown in yellow in **Figure 3.1**) follows a 12.1-mile mixed alignment covering neighborhoods primarily north of downtown Cheyenne, and partly overlapping the West Route. Starting from 17th at Carey, the Northwest Route runs north on Warren Avenue and Yellowstone Road to Dell Range Boulevard. This segment is a bi-linear alignment with southbound service along Central Avenue one block west of Warren.[3] From Yellowstone, the alignment becomes a one-way loop serving the Frontier Mall commercial district and adjacent residential subdivisions west of the mall. The clockwise loop includes predominantly collector streets between Yellowstone Road and Powderhouse Road, as well as Prairie Avenue and Dell Range Boulevard passing Walmart, K-Mart, Target and the main entrance to Frontier Mall.

The Northwest Route attracted 44,925 total passengers in FY 2012. Average daily ridership was 157 boardings per weekday and 95 boardings per Saturday. Weekday ridership is weighted toward the mid-morning through late afternoon with eight consecutive trips departing downtown between 9:00 am and 5:00 pm each averaging over 14 boardings. The 1:00 pm departure averages over 18 passengers. Saturday ridership displays a similar pattern, reflecting the direct

Figure 3.9 – Northwest: Average Daily Boardings by Time of Day



connections in both directions between the shopping plazas at the north end of the route and the densely populated neighborhoods on both sides of the Warren/Central traffic

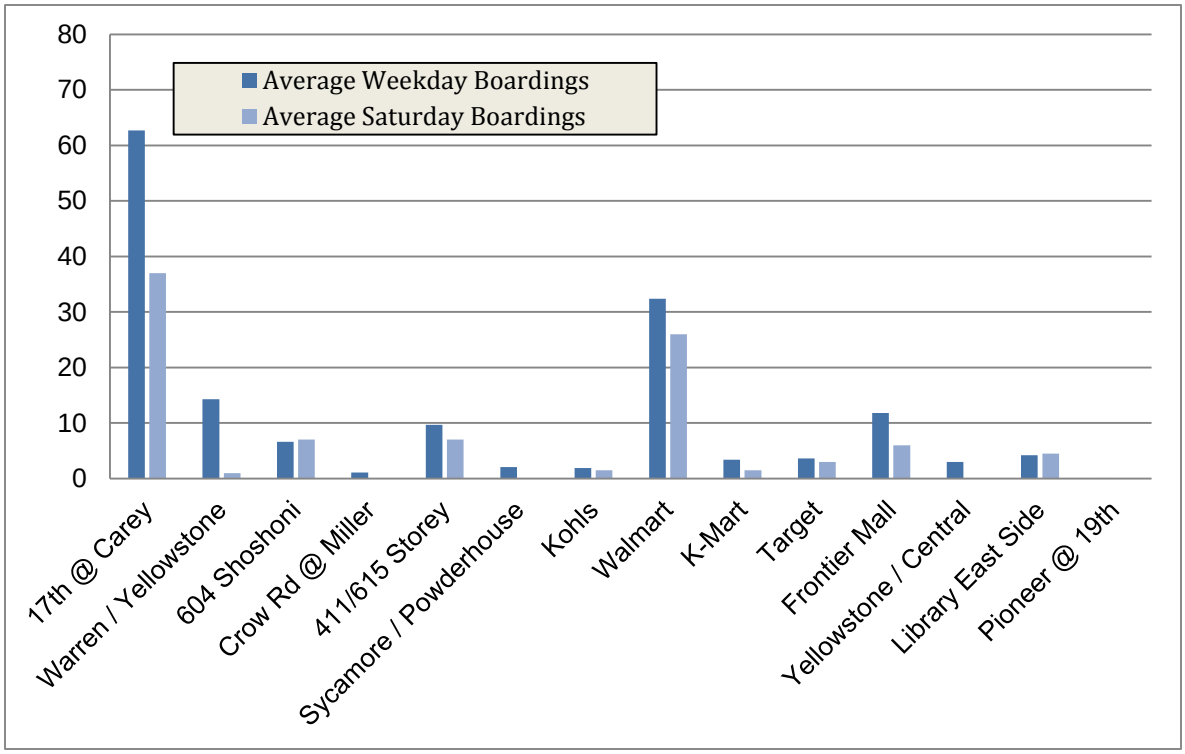
[3] Warren Avenue NB and Central Avenue SB function as a one-way traffic couplet.

couplet. Overall daily ridership averaged 12.1 passengers per trip on weekdays and 13.5 per trip on Saturday. Ridership by time of day distributions appear in **Figure 3.9**.

Average daily ridership by direction and bus stop is highlighted in **Figure 3.10**. Nearly 40% of total FY 2012 Northwest Route passengers boarded at the downtown transfer point, where daily boardings averaged 63 per weekday and 37 per Saturday. The busiest route segments included:

- The Walmart store located on Dell Range Boulevard west of Grandview Avenue generated an average 32 boardings per weekday and 26 boardings per Saturday
- Seven bus stops on Warren Avenue and Yellowstone Road south of Dell Range Boulevard generated an average of 14 boardings per weekday and one boarding per Saturday
- The Frontier Mall generated an average of 12 boardings per weekday and six boardings per Saturday
- The apartment complex located at 411-615 Storey Road opposite Kerry Avenue generated an average of 10 boardings per weekday and seven boardings per Saturday

Figure 3.10 – Northwest: Average Daily Boardings by Stop



- Shoshoni Manor at 604 Shoshoni Street and the adjacent Village Hills Shopping Center generated an average of seven boardings per weekday and seven boardings per Saturday

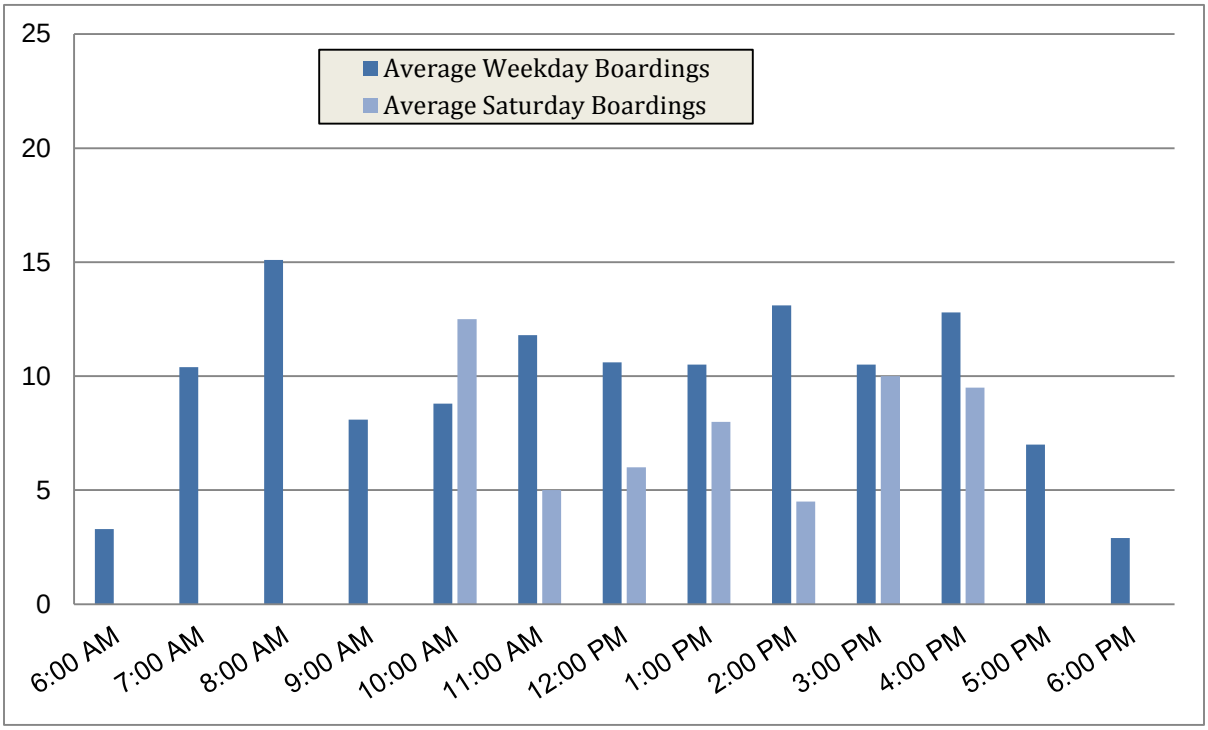
The Northwest Route ranked third among the six CTP routes in overall service productivity during FY 2012 with an average of 12.2 boardings per RVH, which was six percent above the system average. The route averaged 146 boardings per day during the 307-day operating year.

West Route

The West Route (shown in green in **Figure 3.11**) follows a 16.0-mile meandering alignment covering areas principally west and north of downtown Cheyenne, and partly overlapping the Northwest Route. Starting from 17th at Carey, the West Route runs east on 17th and north on Morrie Avenue across Pershing Boulevard to Airport Parkway and approaching the Business Center on East Pershing Boulevard from the northeast. Continuing west on Pershing, the route turns north on Evans Avenue passing the Cheyenne Regional Airport terminal, and overlays the Northwest Route on Central Avenue and Yellowstone Road north to Carlson Road and the Albertsons store. The West Route returns to downtown via Education Drive, Manewal Drive, the WYDOT complex, Central Avenue to Kennedy Road, Carey Avenue and Snyder through primarily residential are to 24th Street, where it turns west to West Lincolnway and the Little America complex west of I-25. The alignment turns back toward downtown via West Lincolnway, Snyder Avenue and 17th Street to the transfer point.

The West Route attracted 34,750 total passengers in FY 2012. Average daily ridership was 125 boardings per weekday and 56 boardings per Saturday. Weekday ridership is slightly weighted toward the morning and afternoon peak trips with three trips departing downtown at 8:00 am, 2:00 pm and 4:00 pm each averaging over 12 boardings. This distribution differs from other CTP routes that tend to reflect a bell-curve distribution with the highest ridership occurring on midday trips. Overall daily ridership averaged 9.6 passengers per trip on weekdays and 8.0 passengers per trip on Saturday. Saturday ridership was generally lower with only the first trip of the day (departing downtown at 10:00 am attracting more than 10 passengers on average. Ridership by time of day distributions appear in **Figure 3.11**.

Figure 3.11 – West: Average Daily Boardings by Time of Day



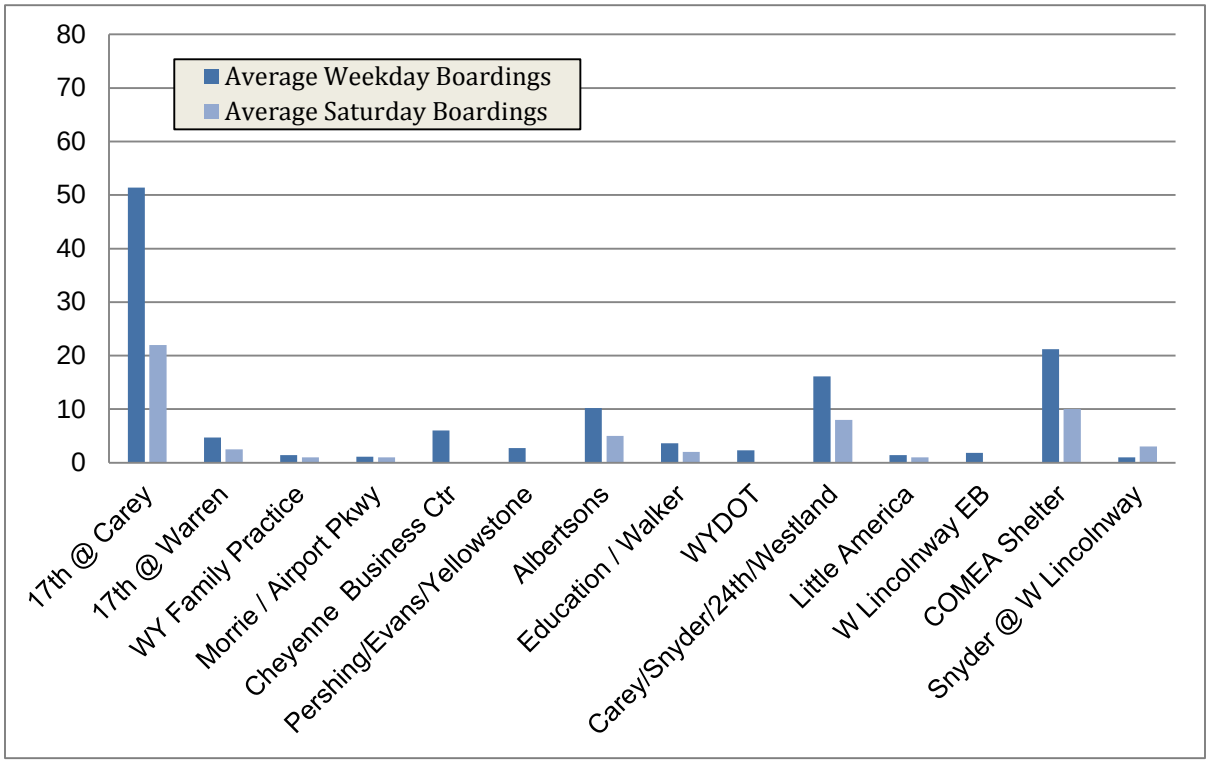
Average daily ridership by direction and bus stop is highlighted in **Figure 3.12**. Forty-one percent of the of total FY 2012 West Route passengers boarded at the downtown transfer point, where daily boardings averaged 51 per weekday and 22 per Saturday. The busiest route segments included:

- The Comea Shelter at 1504 Stinson Avenue near West Lincolnway generated an average of 21 boardings per weekday and 10 boardings per Saturday
- Twelve bus stops along the southbound segment including Carey Avenue, Snyder Avenue, 24th Street, Westland Avenue and West Lincolnway generated an average of 16 boardings per weekday and eight boardings per Saturday
- The Albertsons store located on Yellowstone Road at Carlson Road generated an average of 10 boardings per weekday and five boardings per Saturday
- The Cheyenne Business Center at 1510 East Pershing Boulevard generated an average of six boardings per weekday but no Saturday boardings
- The downtown bus stop at 17th Street and Warren Avenue generated an average of five boardings per weekday and three boardings per Saturday

The West Route ranked last among the six CTP routes in overall service productivity during FY 2012 with an average of 9.4 boardings per RVH, which is 18.3% below the

system average. The route averaged 119 boardings per day during the 307-day operating year.

Figure 3.12 – West: Average Daily Boardings by Stop



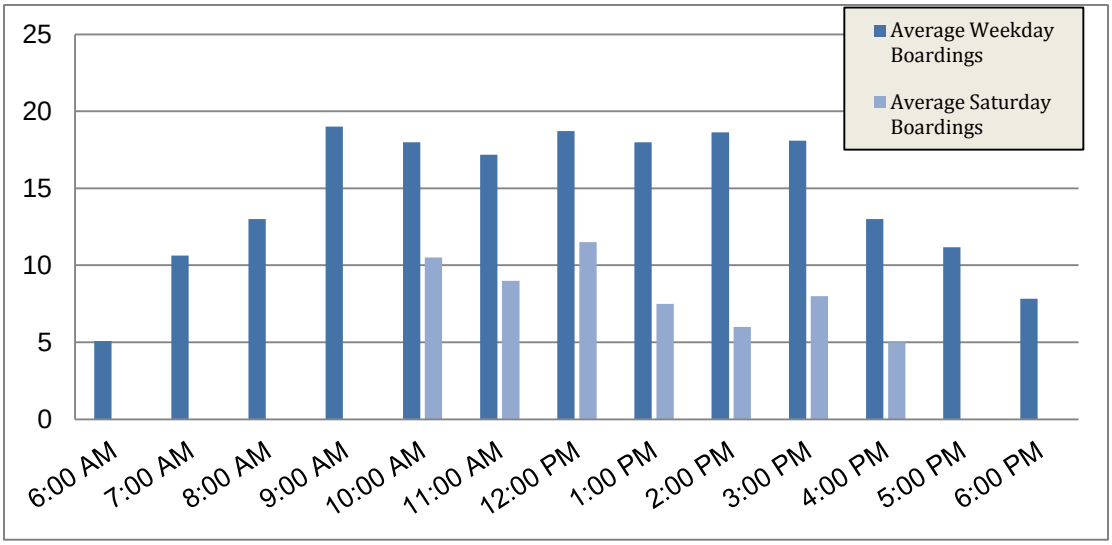
South Route

The South Route (shown in red in **Figure 3.1**) follows a 15.1 -mile one-way loop alignment covering areas principally south of the rail line including City neighborhoods and unincorporated areas within Laramie County. Starting from 17th at Carey, the bus turns south on US 85 Greeley Highway over the viaduct to 9th Street, where it turns and continues south on Central Avenue to the City/County Health Department office at 100 Central.

It then turns east across 1st Street and south on Morrie Avenue over I-80 to east on Fox Farm Drive; then south on College Drive and approaching Laramie County Community College from the northeast. Departing the campus heading west on East College Drive, it turns south on South Greeley Highway and extends to its southernmost point at Wallick Road; then turns around in the Veterans of Foreign Wars (VFW) post parking lot and proceeds north on South Greeley Highway to the Safeway store at the northwest corner of Allison Road. Continuing north, the South Route turns west on Fox Farm Drive to West Leisher Road and West Jefferson Road to South Parsley Road; then turns north and east on West 4th and West 5th Streets crossing South Greeley Highway to Morrie Avenue. The South Route returns to downtown heading west on 9th Street and north on South Greeley Highway.

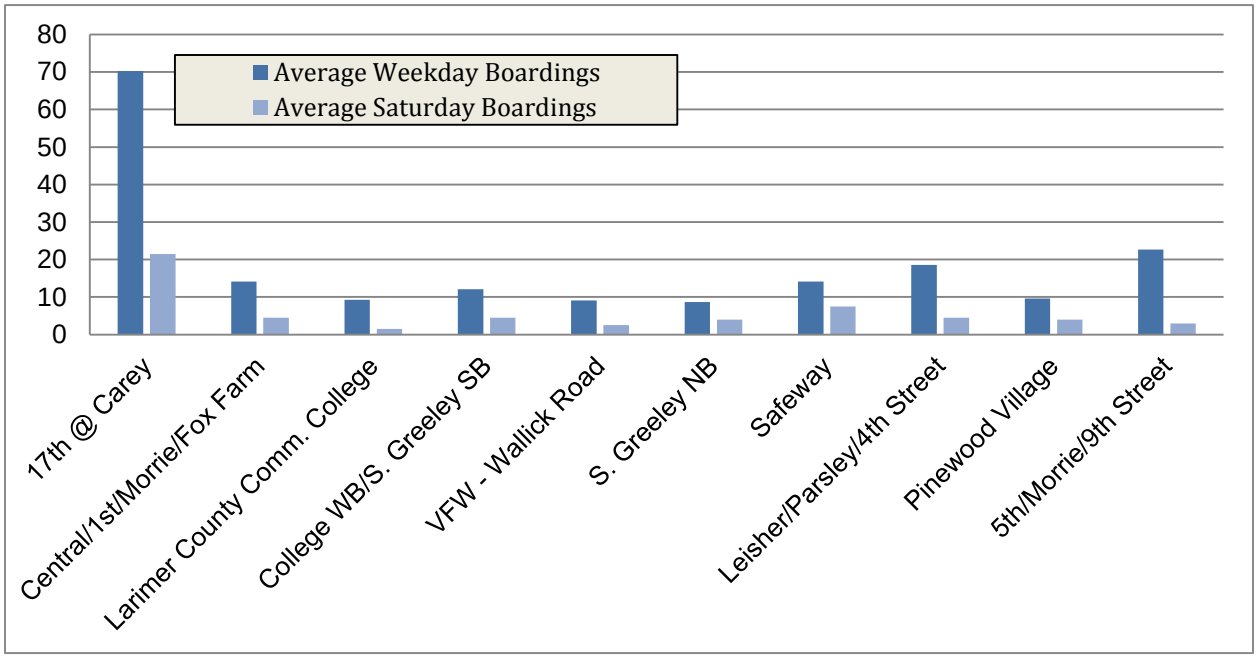
The South Route attracted slightly over 51,000 total passengers in FY 2012. Average daily ridership was 188 boardings per weekday and 58 boardings per Saturday. Weekday ridership was weighted toward the mid-morning through late afternoon with seven consecutive trips departing downtown between 9:00 am and 3:00 pm each averaging over 17 boardings. Overall daily ridership averaged 14.5 passengers per trip on weekdays and 8.2 passengers per trip on Saturday. Ridership by time of day distributions appear in **Figure 3.13**.

Figure 3.13 – South: Average Daily Boardings by Time of Day



Average daily ridership by direction and bus stop is seen in **Figure 3.14**. Over 37% of total FY 2012 South Route boardings occurred at the downtown transfer point, where

Figure 3.14 – South: Average Daily Boardings by Stop



boardings averaged 70 per weekday and 22 per Saturday. The busiest route segments included:

- Seven bus stops along 5th and 9th Streets between O'Neill Avenue and Morrie Avenue generated an average of 23 boardings per weekday and three boardings per Saturday
- Seven bus stops along West Leisher Road, South Parsley Boulevard and West 4th Street generated an average of 19 boardings per weekday and five boardings per Saturday
- The Safeway store located at the northwest corner of South Greeley Highway and Allison Road generated an average of 14 boardings per weekday and eight boardings per Saturday
- Nine bus stops along Central Street, East 1st Street, Morrie Avenue and Fox Farm Drive generated an average of 14 boardings per weekday and eight boardings per Saturday
- The Pinewood Village residential complex located at West 5th Street opposite McArthur Avenue generated an average of 10 boardings per weekday and four boardings per Saturday
- Laramie County Community College (LCCC) generated an average nine boardings per weekday and two boardings per Saturday. Five bus stops along East College Drive west of LCC and South Greeley Highway south to Wallick Road generated an average of 12 weekday boardings and five Saturday boardings
- The VFW post generated an average of nine weekday boardings and three Saturday boardings
- Four bus stops along South Greeley Highway northbound from Allison Road generated an average of nine weekday boardings and four Saturday boardings

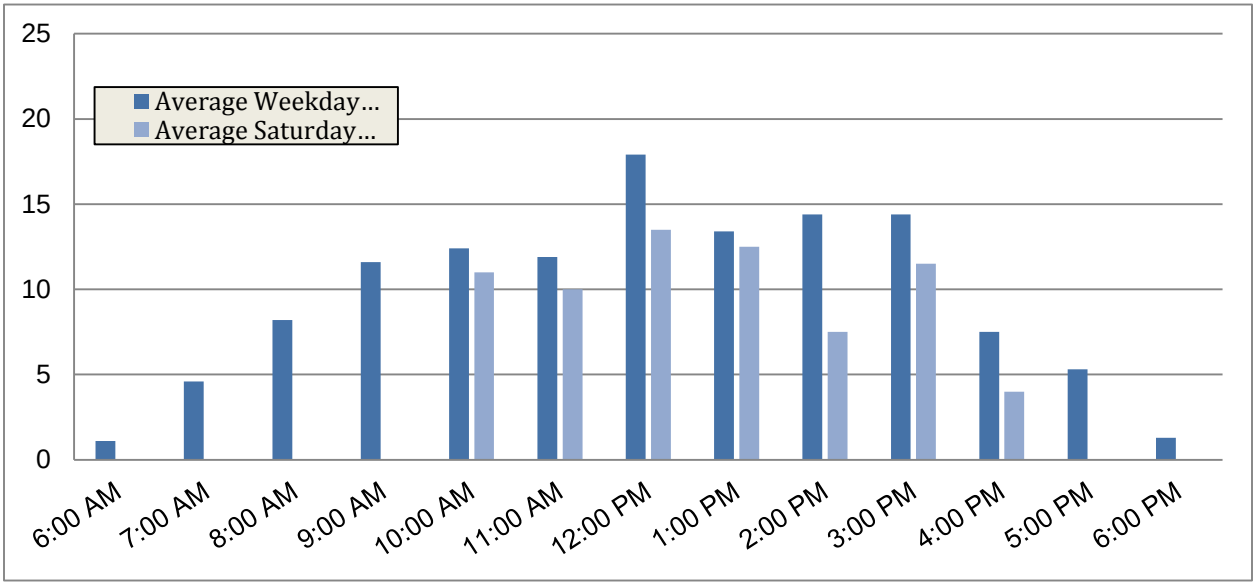
The South Route ranked first among the six CTP routes in overall service productivity during FY 2012 with an average of 13.9 boardings per RVH, which is nearly 21% above the system average. The route averaged 166 boardings per day during the 307-day operating year.

Downtown Route

The Downtown Route (shown in purple in **Figure 3.1**) follows an 8.5-mile one-way loop alignment providing circulation in the downtown area and the near east side. It partly overlaps four other routes; all except the South Route. Starting from 17th at Carey, the Downtown Route turns north on Carey, west on 20th Street and north on O'Neill Avenue passing the City/County Government Center. It continues around the block via 22nd

Street to the Burke (senior high-rise) Building located at 2113 Thomes Avenue; then north on Thomes, east on 23rd Street and south on Pioneer Avenue passing the Public Library. The route turns east on 19th Street toward Holliday Park, turning on Alexander Avenue and 16th Street to Logan Avenue, where it turns north and then east on 19th Street to East Pershing Boulevard and into the VA Hospital entrance loop. Exiting the VA, the bus crosses Pershing onto Henderson Drive passing the Cheyenne Regional Medical Center (CRMC) East campus and turning on 18th Street, Fremont Street and Chestnut Street approaching the Cole Shopping Center from the south entrance and stopping at the Safeway store. The loop then proceeds west on Pershing, services an off-street stop in the Cheyenne Business Center near Concord Avenue, and turns south on Seymour Avenue passing the Peak Wellness Center near East 25th Street. It then continues to the CRMC West campus on House Avenue at 23rd Street, and returns to the downtown transfer point after passing both the Senior Center and Public Library. The Downtown Route attracted approximately 35,300 total passengers in FY 2012 with average daily ridership of 124 boardings per weekday and 70 boardings per Saturday. Weekday ridership was weighted toward the early afternoon with the noon departure from downtown averaging above 17 passengers, and the 2:00 pm and 3:00 pm departures each averaging above 14 passengers. Overall the Downtown Route averaged 9.5 passengers per trip on weekdays and 8.2 passengers per trip on Saturday. It is noted that the first and last trips in the weekday schedule each carried a single passenger on average. Ridership by time of day distributions appear in **Figure 3.15.**

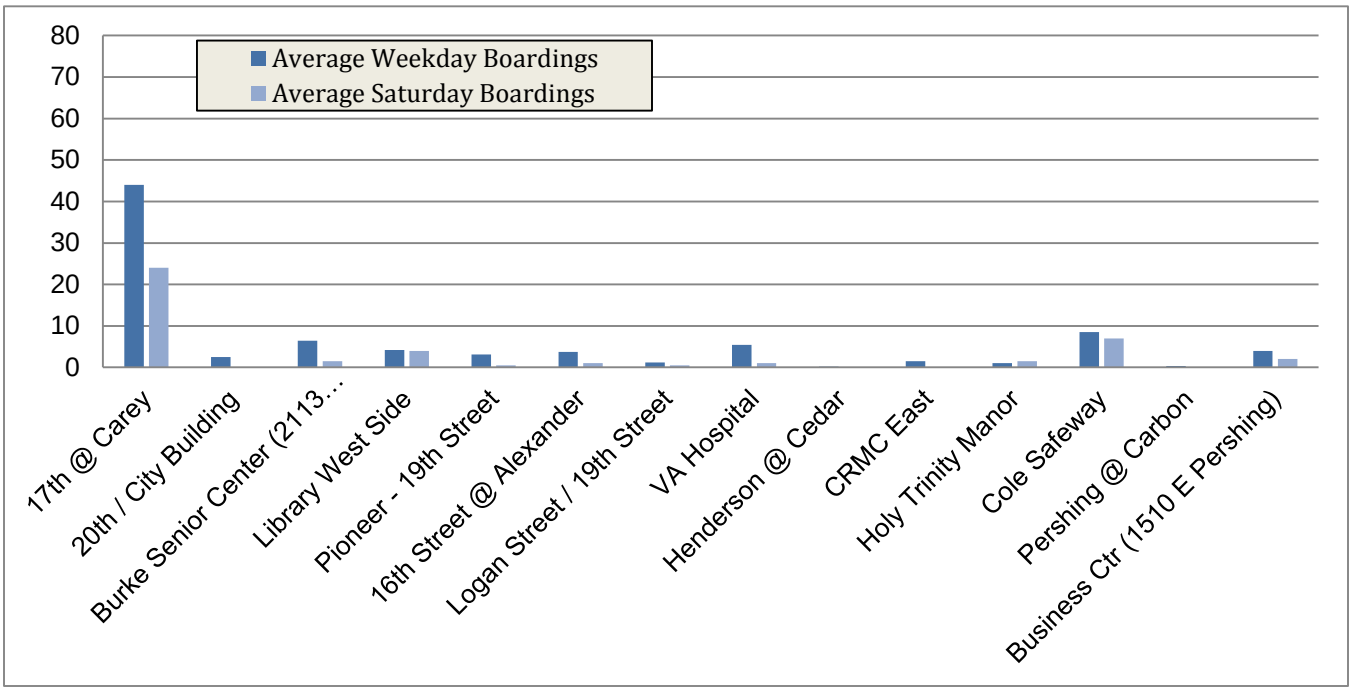
Figure 3.15 – Downtown: Average Daily Boardings by Time of Day



Average daily ridership by direction and bus stop is highlighted in **Figure 3.16**. Thirty-five percent of total FY 2012 passengers were generated at the downtown transfer point, where boardings averaged 44 per weekday and 24 per Saturday. The busiest route segments include:

- The Burke Senior Center located at 2113 Thomes Avenue, which is serviced twice per trip to and from the downtown transfer point, generated an average 18 weekday boardings and 10 Saturday boardings

Figure 3.16 – Downtown: Average Daily Boardings by Stop



- The Public Library located at 2200 Pioneer Avenue, which also is serviced twice per trip to and from the downtown transfer point, generated an average of 14 weekday boardings and 17 Saturday boardings
- The Safeway store located in the Cole Shopping Plaza on East Pershing Boulevard east of Converse Avenue generated an average of nine boardings per weekday and seven boardings per Saturday
- The Peak Wellness Center located on Seymour Avenue north of East 25th Street generated an average of six boardings per weekday and one boarding per Saturday.
- The CRMC West campus located on House Avenue and 23rd Street generated an average of five boardings per weekday and three boardings per Saturday
- The VA Hospital located on East Pershing Boulevard generated an average of five boardings per weekday and one boarding per Saturday

The Downtown Route ranked fifth among the six CTP routes in overall service productivity during FY 2012 with an average of 9.6 boardings per RVH, which is 16.5% below the system average. The route averaged 115 boardings per day during the 307-day operating year.

COMPLEMENTARY PARATRANSIT SERVICE

CTP provides curb-to-curb complementary paratransit service for persons with disabilities and/or over the age of 60 within ¾ miles of the fixed route service. The service is available during the same times that the fixed route system is operating: weekdays from 6:00 am until 7:00 pm; and Saturdays from 10:00 am until 5:00 pm. Customers must be eligible to use the service and are required to call CTP 24 hours or more in advance to schedule a trip.

CTP complementary paratransit operating statistics and key performance measures for the last five fiscal years are provided in **Table 3.3**. Overall CTP has slightly increased paratransit ridership in context of a modest decrease in hours and miles operated in order to maintain total annual operating expenses under $700,000. FY 2012 passenger boardings were one percent higher than in FY 2008 despite a 2.9% decrease in vehicle revenue hours operated, resulting in a nearly four percent improvement in service productivity during the period.

CTP provided over 9,700 revenue vehicle hours of complementary paratransit services and attracted nearly 25,500 passenger boardings during FY 2012. Daily ridership averaged around 95 boardings on weekdays and 30 boardings on Saturday. A distribution most frequently requested destinations is shown in **Figure 3.17**. The map shows the most popular destinations of curb-to-curb passengers from a two-week sample period. Points on the map represent trips occurring more than once. The CTP route system underlies the points from our study showing that all but three of the major origins and destinations of the curb-to-curb service are located along the current CTP route structure.

Reservations and Dispatch

CTP complementary paratransit takes reservations for service from 8:00 AM to 5:00 PM Monday through Friday and takes requests via messaging at other times, which are processed on the following business day. Approximately 90 reservations are entered manually into an Excel based proprietary software system that produces driver run manifests and performs various record keeping functions. Trip reservations are scheduled manually by the reservationist/dispatcher.

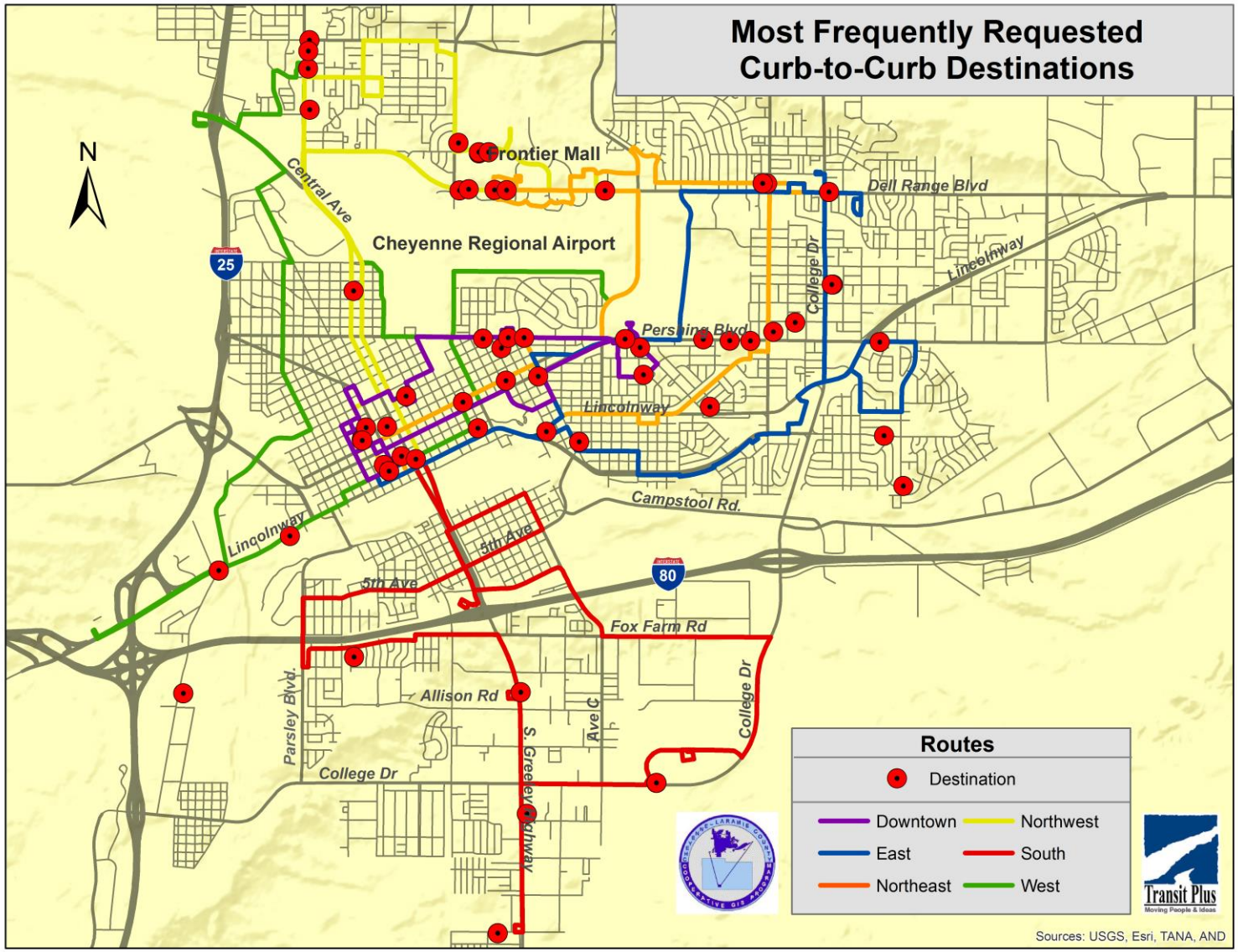
The system is dispatched via two-way radio and is not supported by information system technology. There are generally two reservationist/dispatchers on duty to support both complementary paratransit and fixed route operations.

Table 3.3 – CTP Complementary Paratransit Operation Results

Fiscal Year	Peak Vehicles	Revenue Vehicle Hours	Revenue Vehicle Miles	Passenger Boardings	Total Operating Expense	Passengers per RVH	Passengers per RVM	Cost per RVH	Cost per RVM	Average Speed
2008	6	10,026	148,883	25,218	$684,129	2.5	0.2	$68.24	$4.60	14.8
2009	6	9,313	139,258	25,065	$702,745	2.7	0.2	$75.46	$5.05	15.0
2010	6	9,812	143,612	24,213	$688,366	2.5	0.2	$70.16	$4.79	14.6
2011	6	9,449	137,078	23,905	$637,798	2.5	0.2	$67.50	$4.65	14.5
2012	6	9,733	139,067	25,496	$694,862	2.6	0.2	$71.39	$5.00	14.3
5-year Average	6	9,667	141,580	24,779	$681,580	2.6	0.2	$70.51	$4.81	14.6

Source: National Transit Database (NTD) Service Characteristics Summary Report, 2012.

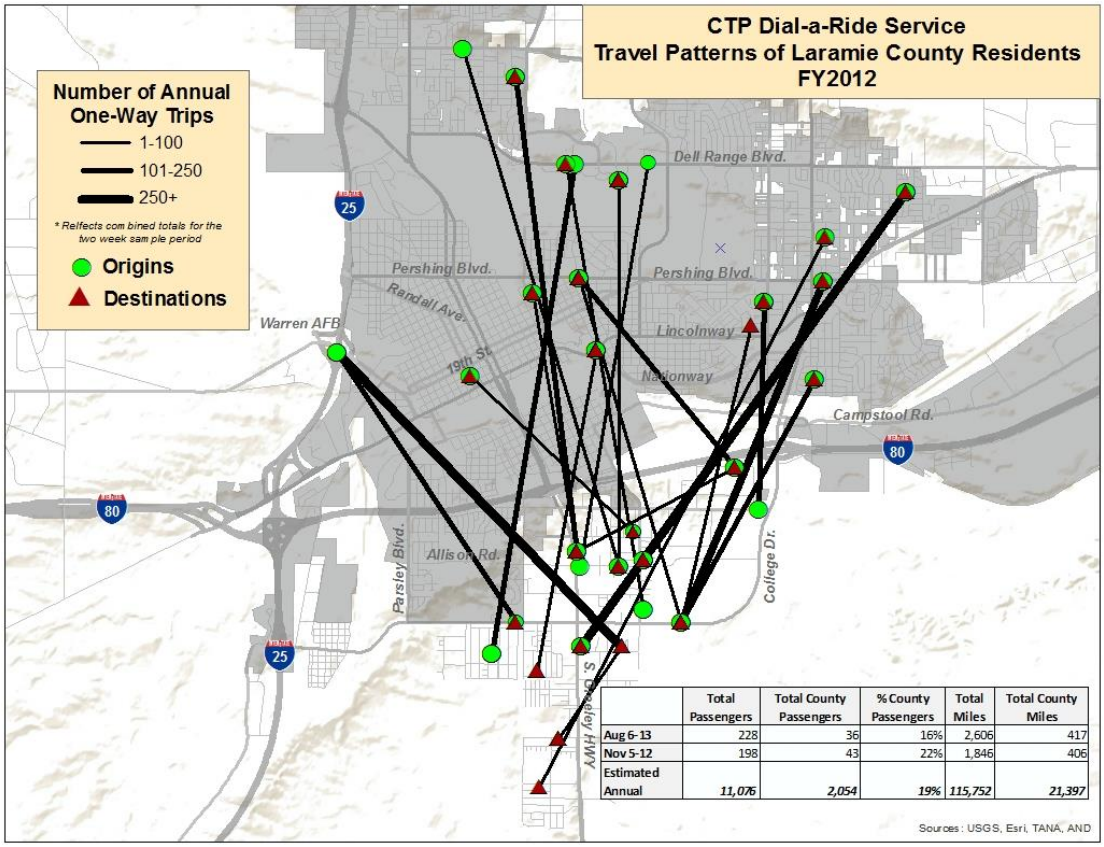
Figure 3.17 – Travel Patterns of Current Complementary Paratransit Riders



County Curb-to-Curb Service

In analyzing the complementary paratransit system, it was established that a number of trips were outside of city limits with origins and destinations in the county. **Figure 3.18** illustrates the travel patterns of county residents using the complementary paratransit service. Nearly 20% if all curb-to-curb trips are county trips, with travel patterns that show relatively long travel distances.

Figure 3.18 – Curb-to-Curb Travel Patterns of County Residents



OPERATING EXPENSES AND REVENUES

Summary annual operating expenses, revenues and financial performance figures are provided in **Table 3.4**. The annual cost of CTP operations has remained nearly constant at just under $1.5 million since FY 2008. Given the rising annual cost of providing transit service, the City has needed to pare back transit and paratransit service levels to keep the net operating cost from rising. Total fixed route revenue vehicle hours (RVH) were reduced by 14.5% between FY 2008 and FY 2012, and complementary paratransit RVH were reduced by 2.9%.

Table 3.4 – CTP Operating Expenses and Revenues

Fiscal Year	Total Operating Expenses			Fare Revenues		Net Operating Expenses	
	Fixed Route	Paratransit	Total	Fixed Route	Paratransit	Fixed Route	Paratransit
2008	$805,359	$684,129	$1,489,488	$92,519	$35,980	$712,840	$648,149
2009	$791,735	$702,745	$1,494,480	$89,913	$40,395	$701,822	$662,350
2010	$776,299	$688,366	$1,464,665	$82,796	$40,780	$693,503	$647,586
2011	$478,719	$637,798	$1,116,517	$97,215	$50,081	$381,504	$587,717
2012	$783,568	$694,862	$1,478,430	$115,591	$62,239	$667,977	$632,623
Total	**$3,635,680**	**$3,407,900**	**$7,043,580**	**$478,034**	**$229,475**	**$3,157,646**	**$3,178,425**

As a percentage of total cost, the paratransit system accounts for nearly 50% of the total, though revenue from fares is roughly half that of the fixed route system. However, paratransit mileage between FY 2008 and FY 2012 was reduced by 7%, though annual passenger trips actually increased by 1% during the period. The fact that revenue hours and miles have decreased while passenger trips have increased, indicates that CTP complementary paratransit has improved its efficiency over this period.

FARE BOX RECOVERY AND NET COSTS

Farebox recovery, which is the percentage of operating expenses that are offset with fares, provides useful information that can help guide pricing and policy decisions for the future. Rural fixed route system recover between 10 and 20 percent of their operating costs through fares, while complementary paratransit fare box recovery varies widely due to special circumstances often associated with this type of service.

The CTP fare structure remained largely unchanged since before 2007, with cash fares at $1.00 for adults, $0.75 for students under 18 years old, and a suggested $1.00 donation for persons 60 years of age and older. Monthly pass and pre-paid punch card prices actually decreased nominally. The paratransit fare, which ADA legislation caps at twice the regular fixed route fare, has remained unchanged at $2.00 base fare.

Table 3.5 highlights fixed route farebox recovery and net costs associated with the service. Farebox recovery rose from 11% in FY 2008 to 15% in FY 2012, while the costs per revenue vehicle hour (RVH), revenue vehicle miles (RVM), and net cost per passenger remained relatively constant, with the net cost per passenger actually decreasing over the period.

Table 3.5 – CTP Fixed Route Farebox Recovery and Net Costs

Fiscal Year	Farebox Recovery	Net Cost per RVH	Net Cost per RVM	Net Cost per Passenger
2008	11%	$27.56	$1.86	$2.82
2009	11%	$28.33	$1.91	$2.75
2010	11%	$30.20	$2.04	$2.73
2011	12%	$31.87	$2.13	$2.82
2012	15%	$30.21	$2.05	$2.67
Average	**12%**	**$29.64**	**$2.00**	**$2.76**

Table 3.6 highlights complementary paratransit farebox recovery and net costs associated with the system over the period. Farebox recovery rose from 5% in FY 2008 to 9% in FY 2012, while the costs per revenue vehicle hour (RVH), revenue vehicle miles (RVM), and net cost per passenger remained relatively constant, with the net cost per passenger actually decreasing over the period. A combination of increased operating efficiency and the installation of on-board cameras have helped to keep unit costs low.

Table 3.6 – CTP Complementary Paratransit Farebox Recovery and Net Costs

Fiscal Year	Farebox Recovery	Net Cost per RVH	Net Cost per RVM	Net Cost per Passenger
2008	5%	$64.65	$4.35	$25.70
2009	6%	$71.12	$4.76	$26.43
2010	6%	$66.00	$4.51	$26.75
2011	8%	$62.20	$4.29	$24.59
2012	9%	$65.00	$4.55	$24.81
Average	**7%**	**$65.79**	**$4.49**	**$25.65**

CAPITAL RESOURCES

CTP capital assets include rolling stock, facilities and equipment, and passenger amenities including passenger shelters and bus stop signs as described in the following pages.

ROLLING STOCK

The CTP active fleet includes 22 revenue vehicles and one non-revenue vehicle listed in **Table 3.7**. Eleven (11) of the revenue vehicles are used to provide fixed route service; eight (8) are used in complementary paratransit service; and three (3) are used interchangeably between services.

The fixed route fleet includes seven El Dorado National Aerolite buses built on Chevrolet chassis; one El Dorado National Aerotech cut-away model; and three vehicles manufactured by International, Sturdibus and GMC, respectively. The fixed route fleet has an average age of 6.9 years, which is nearly the minimum useful life cycle of the vehicles in this group as defined by FTA for replacement grant purposes. The Aerolite models have a minimum useful life of seven years or 200,000 miles; however, none of the vehicles had accumulated more than 126,000 miles through the end of FY 2012. This suggests that they can continue to operate reliably beyond their minimum life cycle, although the cost of maintenance and upkeep can be expected to increase as the vehicles age.

The paratransit fleet is comprised of five El Dorado National Aerotech buses built on Ford chassis, and three Goshen buses also built on Ford chassis. One of these is a hybrid battery-gasoline driven bus. There is also one Goshen bus built on a Chevrolet chassis. Three additional El Dorado National Aerolite buses built on Chevrolet chassis are used both for paratransit and fixed route service when necessary. The paratransit fleet has an average age of 3.4 years.

Table 3.7 – Fleet Characteristics

Vehicle ID #	Year	Model	Make	Passenger Capacity (Seats / WC)	Fuel Type	Length (Feet)	Engine Size (Liters)	FY 2012 End Mileage	Fleet #	License #	VIN #	Capital Cost	FTA Funds	City Funds	WYDOT Funds	Grant #
Fixed Route Vehicles																
20	2008	AreoElite	Chevy	18/2 or 22/0	Gas	28	8.1	92162	9161	1928	1GBE5V1GX8F404288	$75,130	$22,539	$5,635	$46,956	WY-90-X041
21	2008	AreoElite	Chevy	18/2 or 22/0	Gas	28	8.1	80560	9162	1930	1GBE5BV1G58F404280	$75,130	$22,539	$5,635	$46,956	WY-90-X041
22	2008	AreoElite	Chevy	18/2 or 22/0	Gas	28	8.1	83030	9163	1929	1GBE5V1G18F404213	$75,130	$22,539	$5,635	$46,956	WY-90-X041
23	2008	AreoElite	Chevy	18/2 or 22/0	Gas	28	8.1	82158	9164	1927	1GBE5V1G68F404269	$75,130	$60,104	$15,026		WY-90-X038
1	2007	AreoElite	Chevy	18/2 or 22/0	Gas	28	8.1	116760	9159	1036	1GBE5V1G57F424057	$77,970	$41,605	$10,401	$25,964	WY-90-X038
2	2007	AreoElite	Chevy	18/2 or 22/0	Gas	28	8.1	117634	9160	1062	1GBE5V1G07F426086	$77,970	$41,605	$10,401	$25,964	WY-90-X038
3	2007	AreoElite	Chevy	18/2 or 22/0	Gas	28	8.1	125874	9158	801	1GBE5V1G17F424038	$77,970	$41,605	$10,401	$25,964	WY-90-X038
19	2007	International	International	14/2 or 18/0	Diesel	29		41544	9146	1179	1HVBTAFM67W392905	$155,250	$49,400	$27,798	$78,052	WY-90-X033
50	2006	AeroTech	Chevy	10/2 or 12/0	Gas	23		51230	9153	1132	1GBJG31UX61160705	$42,700				Stride
49	2002	G-Van	GMC	14/0	Gas	19		93752	9137	756	1GDHG31R121195919	$34,567	$27,653	$6,913		WY-90-X029
56	2000	SturdiBus	Chevy		Gas	19	5.7	98830	9124	755	1GBHG31R1Y1195047	$38,992	$31,194	$7,798		WY-90-X025
Paratransit Vehicles																
4	2011	AeroTech	Ford	8/2 or 12/0	Gas	23	5.4	5865	9171	1039	1FDFE4FL5BDA16884	$60,579	$48,463	$12,116		WY-90-X045
5	2011	AeroTech	Ford	8/2 or 12/0	Gas	23	5.4	6393	9168	938	1FDFE4FL3BDA16883	$60,579	$48,463	$12,116		Wy-90-X041
7	2011	AeroTech	Ford	8/2 or 12/0	Gas	23	5.4	4830	9169	1034	1FDFE4FL0BDA24536	$60,579	$48,463	$12,116		WY-90-X045
9	2011	AeroTech	Ford	8/2 or 12/0	Gas	23	5.4	6370	9170	1037	1FDFE4FL2BDA24537	$60,579	$48,463	$12,116		WY-90-X045
8	2009	Goshen	Ford	8/2	Gas	23	5.4	33260	9165	965	1DFFE45LX9DA90779	$58,822	$58,822			ARRA
10	2009	Goshen	Ford	8/2	Gas	23	5.4	32230	9166	1096	1FDFE45L69DA90780	$58,822				ARRA
11	2009	Goshen	Ford	8/2 or 12/0	Hybrid	23	5.4	26080	9167	940	1FDFE45L89DA90781	$108,225	$108,225			ARRA
15*	2006	AreoElite	Chevy	8/2 or 22/0	Gas	28	8.1	140734	9156	1135	1GBE5V1G46F414815	$66,036	$52,829	$13,207		WY-90-X031
16*	2006	AreoElite	Chevy	8/2 or 22/0	Gas	28	8.1	156898	9154	1137	1GBE5V1G86F415366	$66,036	$52,829	$13,207		WY-90-X031
17*	2006	AreoElite	Chevy	8/2 or 22/0	Gas	28	8.1	160079	9155	1136	!GBE5V1G76F414905	$66,036	$52,829	$13,207		WY-90-X033
18	2001	Goshen	Chevy	12/2 or 14/0	Gas	24		112794	9157	1055	1GBJG31G711172152	$15,000	$0	$15,000		N/A
Non-revenue Vehicles																
28	2011	F250 3/4 Ton	Ford	NA	Gas			203	9172	1089	1FT7W2B68BEC77365	$38,074	$30,459	$7,615		Wy-90-X041

*Note: * - denotes bus used for both paratransit and fixed route service.*

OPERATIONS AND ADMINISTRATION FACILITY

CTP dispatch, operations supervision and administrative functions are housed in ground level offices in the municipal parking structure between 16th and 17th Streets east of Pioneer Avenue, which is around the corner from the bus transfer point located along the south curb of West 17th Street between Pioneer and Carey Avenues. This facility contains the dispatch center and adjacent driver break room, a private office for the Transit Director, and a small reception area with a public entrance opening to the northeast corner of the intersection of West 16th Street and Pioneer Avenue. CTP personnel have direct access through the parking garage to the transfer point, which enables drivers to stop into the office between trips briefly when necessary. The building is relatively new and offices are in good condition. Present space is adequate to meet current operational requirements; however, there is limited expansion capacity.

MAINTENANCE FACILITY

CTP vehicle maintenance and selected operations activities are housed at the City's corporation yard located on Old Happy Jack Road east of Westland Road. The facility contains a driver training room, maintenance shop and garage.

BUS STOPS AND SHELTERS

CTP maintains over 170 posted bus stops along the six fixed routes. There are 63 passenger shelters located generally at bus stops with higher boarding volumes.

ADA BUS STOP EVALUATION

Pedestrian facilities such as sidewalks, mixed use trails, crosswalks and ADA curb cuts are important components in connecting passengers with CTP bus stops. The project team assessed the ADA and passenger accessibility to the twenty-five (25) most used stops in the CTP system as well as three (3) stops that were identified by the Cheyenne Mayor's Council on Disability Issues that were not included in our original list.

The rating system used by the project team produced the "grade" results that are shown in **Table 3.8**. Appendix B provides detailed methodology, rating system development, and individual stop information that was used in evaluating the accessibility of the stops.

Looking at ADA accessibility to stops, our rating system produced eleven (11) stops that have a rating of "B", which indicates that the stop has good connectivity to nearby destinations and is accessible for wheelchairs. Another nine (9) stops were rated "C", which indicates good general accessibility, but that one or more factors (curb cuts, lighting, absence of obstructions, etc.) are missing. Six (6) stops were given a "D" rating, indicating that there is bad connectivity, missing factors, and/or lack of wheelchair accessibility. Finally, one stop was given an "F" rating as there was not connectivity between the stop and other locations in the area and many factors are missing. Stops with a rating of D and F were viewed as priority stops in terms of planned improvements.

Table 3.8 – Accessibility Ratings of Selected Stops

Stop	Location	Rating
Dunn & Alexander (Holliday Park)	Near-side (SW Corner)	B
Burke High Rise	Mid-Block	B
Library East	Mid-Block	C
2701 E 13th	Mid-Block	C
411/615 Storey	Mid-Block	B
604 Shoshoni	Mid-Block	D
WYDOT	Mid-Block	B
Walmart		B
Wyoming Family Practice		B
Target	Mid-Block	C
Frontier Mall	Mid-Block	C
Albertsons Yellowstone	Mid-Block	C
Albertsons Pershing	Mid-Block	D
Cole Safeway	Mid-Block	D
Comea Shelter	Near-side (SW Corner)	B
CRMC West	Inside-Corner	B
Goodwill	Mid-Block	B
King Soopers	Mid-Block	B
Kohl's	Mid-Block	B
LCCC		F
Peak Wellness		D
Pinewood	Mid-Block	C
VA Hospital		D
College & Pershing	Far Side	C
Airport		C
Pershing & Morrie		C
Ridge & Rawlins		C
Converse & Babe Ruth		D

Stops and boarding areas with ratings of D and F should receive first priority when considering improvements, however, the daily average usage of the stop should also factor into the decision process. The rating system is designed as a guide and resource for decision-makers in considering retrofitting sidewalks and curbs.

RIDER AND NON-RIDER SURVEY SUMMARY

Another method utilized by TransitPlus to acquire CTP system, preference, and performance information was the development and execution of two specific surveys. The first, a rider survey, was designed to reach all times on all fixed routes and garnered

nearly 500 responses. The purpose of this survey was to determine rider satisfaction with the system and establish any changes or missing service pieces deemed valuable to the CTP riders. The second, a non-rider electronic survey, was posted, distributed to varying mailing lists, and advertised via local media resources and garnered nearly 250 responses. This survey was designed to gauge system awareness and what changes may influence non-riders to use CTP.

RIDER SURVEY SUMMARY

The CTP riders are balanced by age group with 11% over 65 years old. Most are regular riders, 87% riding at least once per week and two-thirds making a round trip (68%).

- Personal business, employment and shopping are most common trip purposes
- The majority of CTP customers ride five or six days per week, mostly for commuting to work and school
- Most riders (92%) walk to bus stops
- Nearly one-third of all trips require at least one transfer
- CTP passengers generally had a favorable opinion of the system
- CTP transfers are conveniently timed, but there are too many of them

NON-RIDER SURVEY SUMMARY

Nearly two-thirds of respondents to the non-rider survey are over the age of 45, largely because e-mail blasts were targeted to work groups and advertising channels used (PSAs and print media) more frequently reach these markets.

- The majority (55%) of respondents had either a favorable opinion of CTP service, with another 24% having no opinion
- There is general consensus that the fares are low/reasonable, information is readily available, and that CTP is safe and dependable
- There is a fair level of awareness of the curb-to-curb service
- Nearly one third of respondents know someone who uses the bus, though family members were less likely to use the bus
- Direct route connectivity to desirable destinations and proximity to bus stops are the largest barriers to attracting new riders
- More frequent weekday service, extended weekday evening service, and direct service to major employers had the highest potential to generate ridership

TRANSIT DEMAND

Demographics, existing activity centers, commuter travel projections, and other projections give us a base level of information that supports the placement of existing transit services.

Applying demographical projections to the need for transit services, gives us a rough estimate of transit demand moving forward. **Table 3.9** estimates Cheyenne transit demand using general population growth.

Table 3.9 – Transit Demand Estimates

Location/Service	Current Ridership	2017 Projected Ridership*	2030 Projected Ridership**
South	51,000	54,060	58,140
Northeast	50,250	53,265	57,285
Northwest	44,925	47,621	51,215
East	33,400	35,404	38,076
Downtown	35,300	37,418	40,242
West	34,750	36,835	39,615
Complementary Paratransit	25,500	27,030	29,070
Totals	**275,125**	**291,633**	**313,643**

**Note: Population is projected to grow by 6% by year 2017*

***Note: Population is projected to grow by 14% by year 2030*

Source: Wyoming Department of Administration & Information, Economic Analysis Division

Based on a simple projection of population growth through 2030 and holding the public transportation mode share constant, we can expect an increase in ridership demand of nearly 16,000 (6% increase) in 2017 and nearly 40,000 (12% increase) by 2030. Population growth rate is relative small yet consistent, supporting the need for increased services in the future.

4: PROPOSED SERVICE PLAN

This chapter offers short-range recommendations for modification of CTP fixed route and complementary paratransit services during the next five years. These are consistent with study findings pertaining to customer needs and preferences, CTP management and staff concerns, system productivity and effectiveness relative to industry standards and best practices, and client guidance on the prevailing fiscal and institutional constraints in Cheyenne that influence the TDP process. The short-range service plan supports the City's objective to maintain the CTP annual operating budget at or below $800,000 for the foreseeable future.

Additionally, a longer-term direction for transit system development is offered as a blueprint for CTP that reflects land use patterns projected through FY 2035. The long range plan should include significant restructuring of the CTP route network to respond to a geographically larger Cheyenne metropolitan area with even more dispersed trip origins and destinations than are seen today. Service span and frequency improvements also may be warranted as service area population and transit ridership increase over time. This chapter provides recommended design guidelines for restructuring and two conceptual alternatives for system redesign.

SHORT RANGE RECOMMENDATIONS

The focus of short-range recommendations is on extending service coverage incrementally to the extent affordable by reallocating underutilized or redundant service hours and miles to new service. Additionally, a number of minor adjustments are proposed to address operational concerns identified primarily by CTP management. However, no significant changes in network design or service levels are contemplated through FY 2018. As the following proposals are mostly budget-neutral, these changes could be implemented in FY 2014 subject to City approval.

TECHNOLOGY ENHANCEMENTS

Though CTP's current systems are effective for reserving and dispatching rides, it is recommended to explore technology options that may include automated scheduling, AVL/GPS, automated fare box and passenger counting, and expanded reporting capabilities.

SOUTH ROUTE MODIFICATIONS

The realignment of the South Route is proposed as shown in **Figure 4.1**. A turn list for the revised route as proposed is provided as **Table 4.1**. The South Route would continue to operate as a one-way loop through city and county neighborhoods with no changes to service span and frequency. The proposed change will affect the area west of South Greeley Highway and south of I-80 and is intended to:

- Provide access to Johnson Junior High School and South High School via one-way operation on Walterscheid Blvd, West Allison Road and South Cribbon Avenue. This realignment is suggested for all trips, but also could be demonstrated initially with selected trips operating at school bell times and after-school hours only.

- Initiate coverage in the Walterscheid Boulevard corridor between West Fox Farm Road and West Allison Road to serve residential and commercial development.

Figure 4.1 – South Route Short Range Option

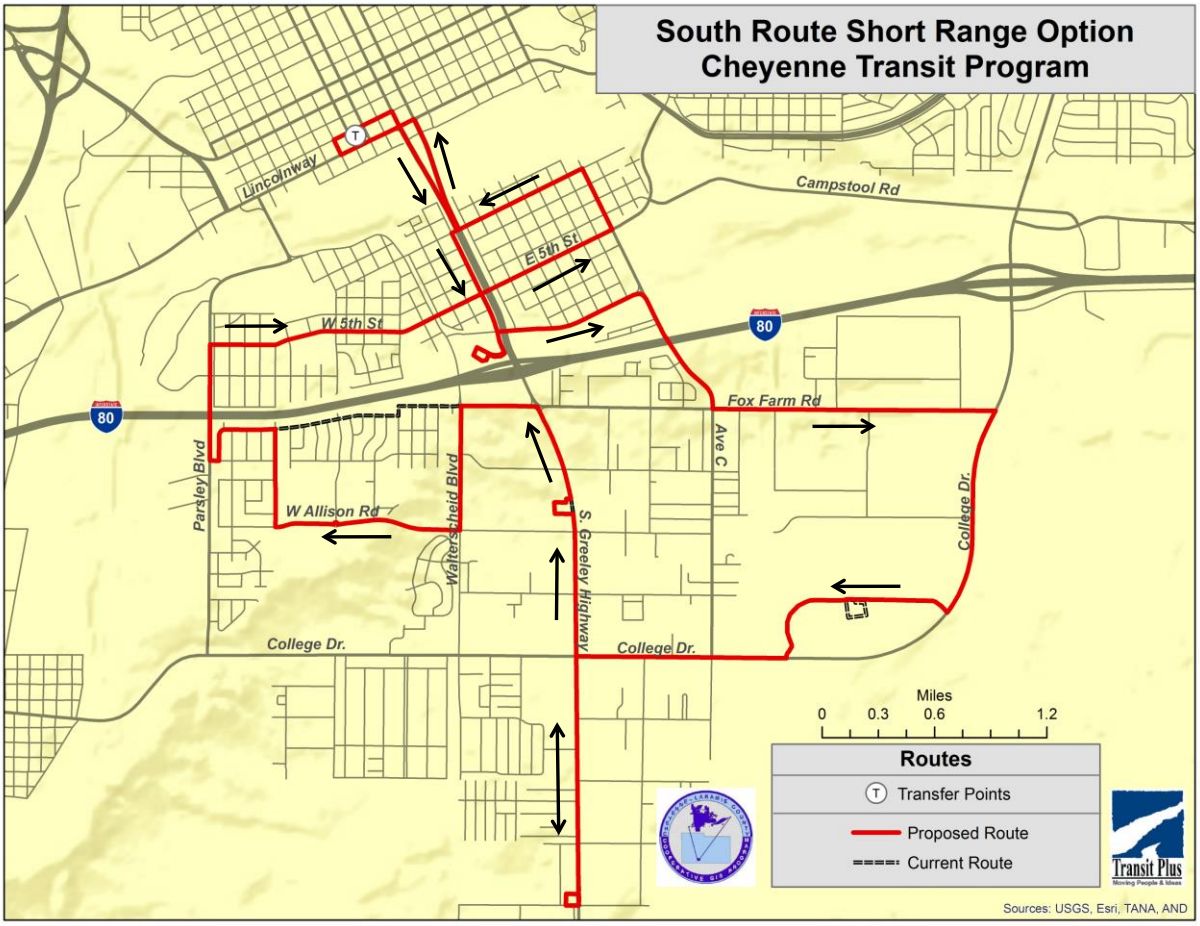


Table 4.1: Proposed South Route Turn List

Departing Downtown transfer point on 117th and Carey Avenue via:		
	R	Central Avenue to N Greeley Highway
	R	W 9th Street
L		Central Avenue
L		W 5th Street to E 5th Street
	R	Morrie Avenue
L		E Fox Farm Road
	R	S College Drive
L		LCCC entrance roadway to north entrance
	R	E College Drive
L		S Greeley Highway
	R	VFW entrance; loop & return
L		S Greeley Highway
L		Safeway storefront roadway and continuing through T&C Plaza to W Jefferson Road exit
L		W Fox Farm Road
L		Walterscheid Blvd
	R	W Allison Road
	R	S Cribbon Avenue
L		W Jefferson Road
	R	S Parsley Boulevard
	R	W 4th Street to W 5th Street
	R	Deming Drive
	R	Central Avenue
	R	Health Department entrance roadway; loop around building to front entrance and return
L		Central Avenue
	R	W 9th Street
L		N Greeley Highway
L		W Lincolnway
	R	Thomes Avenue
	R	17th Street to transfer point

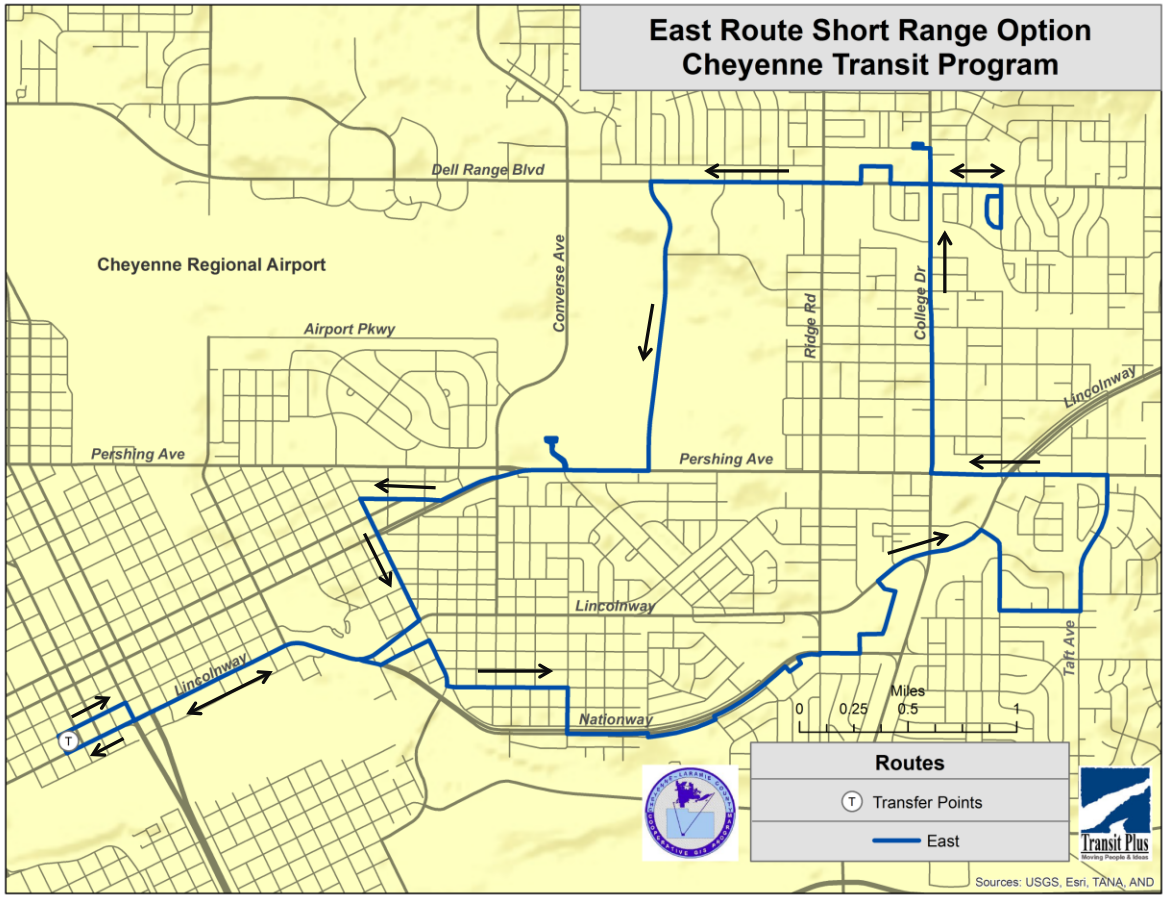
EAST ROUTE MODIFICATION

CTP management strongly favors adding a bus stop on the East Route serving the Whispering Chase Independent Living Center. The facility is located on the north side of East Lincolnway west of the Pershing Boulevard intersection, and it is accessible to vehicular traffic traveling west on Lincolnway. The suggested alignment is shown in **Figure 4.2**.

From Taft northbound, the proposed alignment would turn left (west) on Pershing Boulevard; left (south) on Lincolnway and stop in the auxiliary lane in front of the building entrance loop roadway. Continuing west on Pershing, the proposed alignment would turn right (north) on College Drive and rejoin the existing route at Pershing Boulevard.

The stop would be added to the current schedule at 21 minutes past the hour, following the existing stop at Taft and Meadow at 20 minutes past the hour, and preceding the existing stop at College and Pershing at 23 minutes past the hour. The existing stop on Lincolnway opposite McCann Avenue would be eliminated to provide offsetting time savings.

Figure 4.2 – East Route Short Range Option

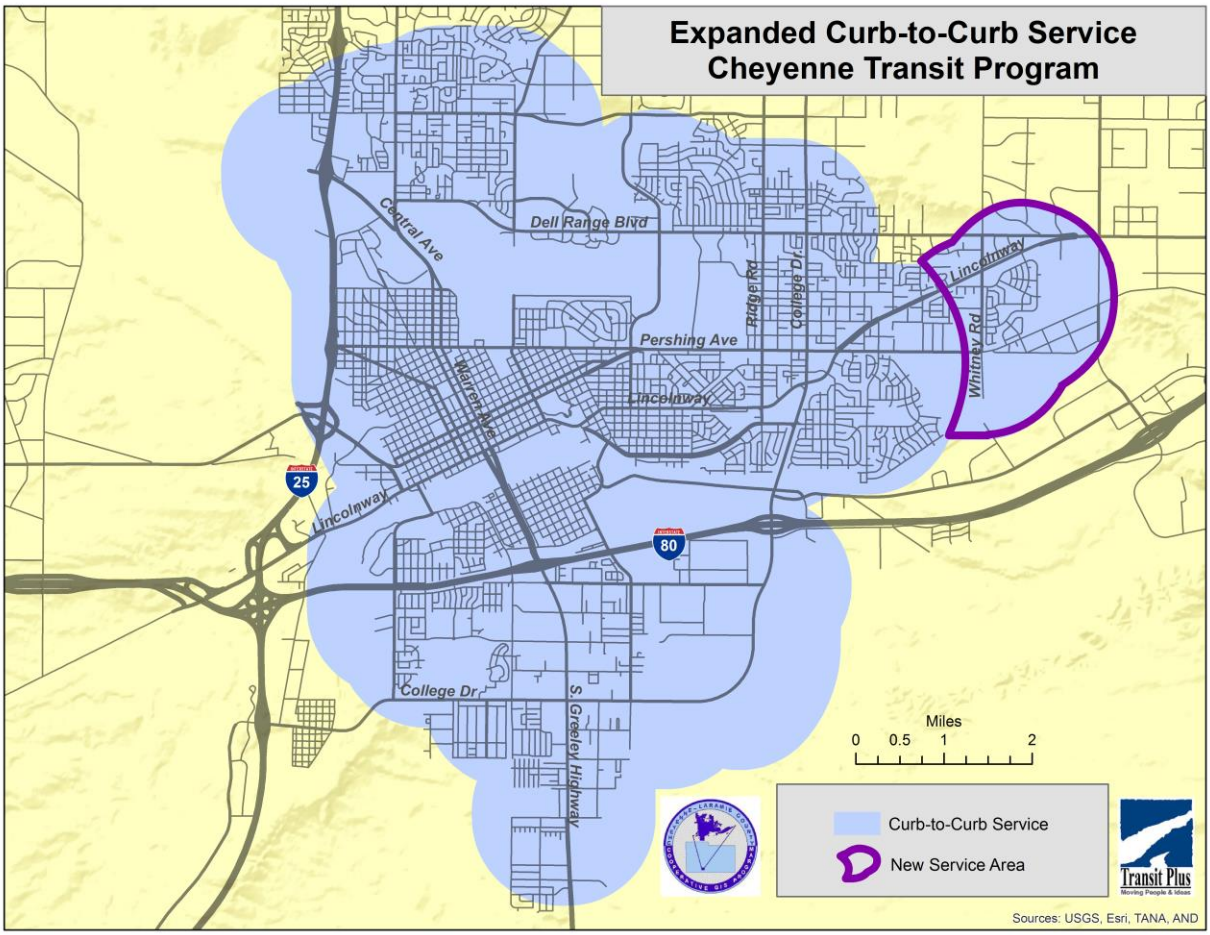


EXPAND CURB-TO-CURB SERVICE COVERAGE

Another short-range recommendation is to expand the curb-to-curb service coverage to the current eastern municipal boundary that includes Saddle Ridge. Saddle Ridge has been a consistent community transportation target throughout the study. **Figure 4.3** shows the additional service coverage.

Expanding curb-to-curb service would provide service incrementally to people wishing to travel outside of the current service area. The cost of this option, based on hourly cost figures developed in Chapter 3, would be approximately $65 per vehicle revenue hour. An advantage of this option is that cost is added as needed rather than on a fixed schedule, affording operational and financial flexibility. A potential disadvantage to this alternative is that some people may abuse the new service and/or demand may exceed what is financially viable for CTP.

Figure 4.3 – Expanded Curb-to-Curb Service



LONG RANGE DIRECTION

Beyond the short range horizon, study findings point to the need for transit system improvements over time to keep pace with the growing population, expanding geographic footprint and emerging land use patterns projected for the Cheyenne metropolitan area through FY 2035. The vision for the future transit system may be viewed in terms of delivering an enhanced customer travel experience facilitated by more direct routing, increased service coverage, span and frequency, shorter transit travel times, and fully accessible and modern vehicles, facilities and equipment. Ideally the future transit system will be sufficiently convenient to widen the ridership base and meet adopted performance metrics for productivity and efficiency.

This section highlights key design issues that should be considered as part of a transitional redesign of the CTP route network. It is noted that service restructuring typically imposes change on CTP customers, employees and facilities that must be constructively accommodated to achieve a successful service redesign. Local community needs and concerns also must be addressed. While restructuring does not necessarily dictate higher capital and operating costs, generally the process of change

can be managed more effectively in the public environment when additional resources are available.

SYSTEM DESIGN CONCERNS

In many ways the existing downtown-focused pulse transfer route network was well suited to Cheyenne when CTP was created in 1993. The metropolitan area was geographically smaller, contained nearly 25% fewer residents, and a significantly higher proportion of total regional jobs and commercial activity in the region that it does today. Since that time much of the retail shopping migrated north to the Dell Range Boulevard corridor, the municipal boundary was expanded to encompass Saddle Ridge, and several new public schools were constructed to support residential development throughout the City and extending farther into Laramie County. Student enrollment at Laramie County Community College increased by 30% during the last 20 years.

ADJUSTING TO CHANGING TRANSPORTATION PATTERNS

Consistent with customer preferences and industry best practices for bus service design, the CTP fixed route network should move away from the existing pulse transfer design to a more grid-like structure that reflects future projected travel patterns.

LONGER ROUTES, FEWER TRANSFERS

The CTP route network should focus on providing more one-seat rides to common downtown and crosstown destinations, and on reducing point-to-point transit travel times relative to comparable travel by personal automobile. As the footprint of the Cheyenne metropolitan area grows, travel times across the expanded metro area will increase for many travelers. Longer CTP routes linking destinations directly would increase availability of one-seat rides and shorter journey travel times that transit customers widely prefer.

ONE-WAY VS. TWO-WAY RUNNING

In the mature, walkable neighborhoods of central Cheyenne, route alignments should be consolidated with two-way service on arterial and collector streets that have pedestrian amenities. One-way loop alignments may be retained in lower density suburban and rural subdivisions where transit demand is unable to sustain productive fixed route service. Flexibly scheduled route service options should be considered in areas where CTP fixed route service is unlikely to achieve minimum ridership and productivity targets.

FRONTIER MALL RETAIL DISTRICT

The Dell Range Boulevard retail district centers on the Frontier Mall but extends well beyond walking distance to both sides of Dell Range, and east to Converse Road. The retail district contains many destinations sought by transit users that cannot be reached without one or two transfers between buses to complete a single one-way journey.

Currently two routes – Northeast and Northwest – approach the area from opposing directions and both serve the Frontier Mall, Target and Walmart stores. Customers destined for other stores must transfer between the two routes at one of these three points for continuing service to Kohls and Lowes located north of the mall via the Northwest Route, or to the Post Office on Masonway and stores located on the south side of Dell Range Boulevard accessible from Driftwood, Stillwater, Meadowland and Bluegrass Circle via the Northeast Route. The present design requires that both buses closely follow one another for eight minutes along the common alignment with stops at Walmart at 26 minutes past the hour; Rue Terre and Dell Range at 29 minutes past the hour; Target at 31 minutes past the hour; and the Frontier Mall entrance at 34 minutes past the hour.

Passengers on the other four CTP routes that do not serve the Frontier Mall directly mostly travel into Downtown Cheyenne and transfer to either the Northeast or Northwest Route, depending on which store they are trying to get to in the retail district. Infrequent riders and others unfamiliar with the nuances of the existing route network may require a second transfer to complete a one-way shopping trip. As a practical matter, only a tiny fraction of transit trips taken in U.S. small and mid-size cities involve three buses (two transfers) to complete a single one-way trip.

Alternatively it is suggested that CTP routes accessing the Frontier Mall area including collar area big box stores should follow a common alignment that serves key stores to improve CTP system convenience for shoppers and retail employees. A preferred conceptual alignment with bus stop locations is shown in **Figure 4.4**. This service design would eliminate the need for most transfers occurring at Frontier Mall, and would facilitate rescheduling of buses to more evenly spaced consecutive trips for the benefit of CTP customers who want to travel between multiple locations within the Dell Range retail district as part of a single day's shopping trip.

EXPANDED COVERAGE IN SOUTH CHEYENNE

Many CTP customers and operating employees feel that the coverage area of the existing South Route is too large with long distances and extensive one-way routing resulting in excessive transit travel times that take up to four to five times longer than comparable travel by personal auto. Recognizing the validity of these comments, the long-range restructuring alternatives include a two-route option for South Cheyenne as shown in **Figure 4.5**. One route would cover the area east of South Greeley Highway and the second route would cover a primarily two-way alignment west of South Greeley Highway.

Improving the level of service in South Cheyenne is complicated by funding requirements that would need to be worked out between the City of Cheyenne and Laramie County. Currently Laramie County pays a fixed sum to its share of South Route operating expenses, and the prospects for increasing this contribution in the foreseeable future are uncertain.

Figure 4.4 – Dell Range Corridor

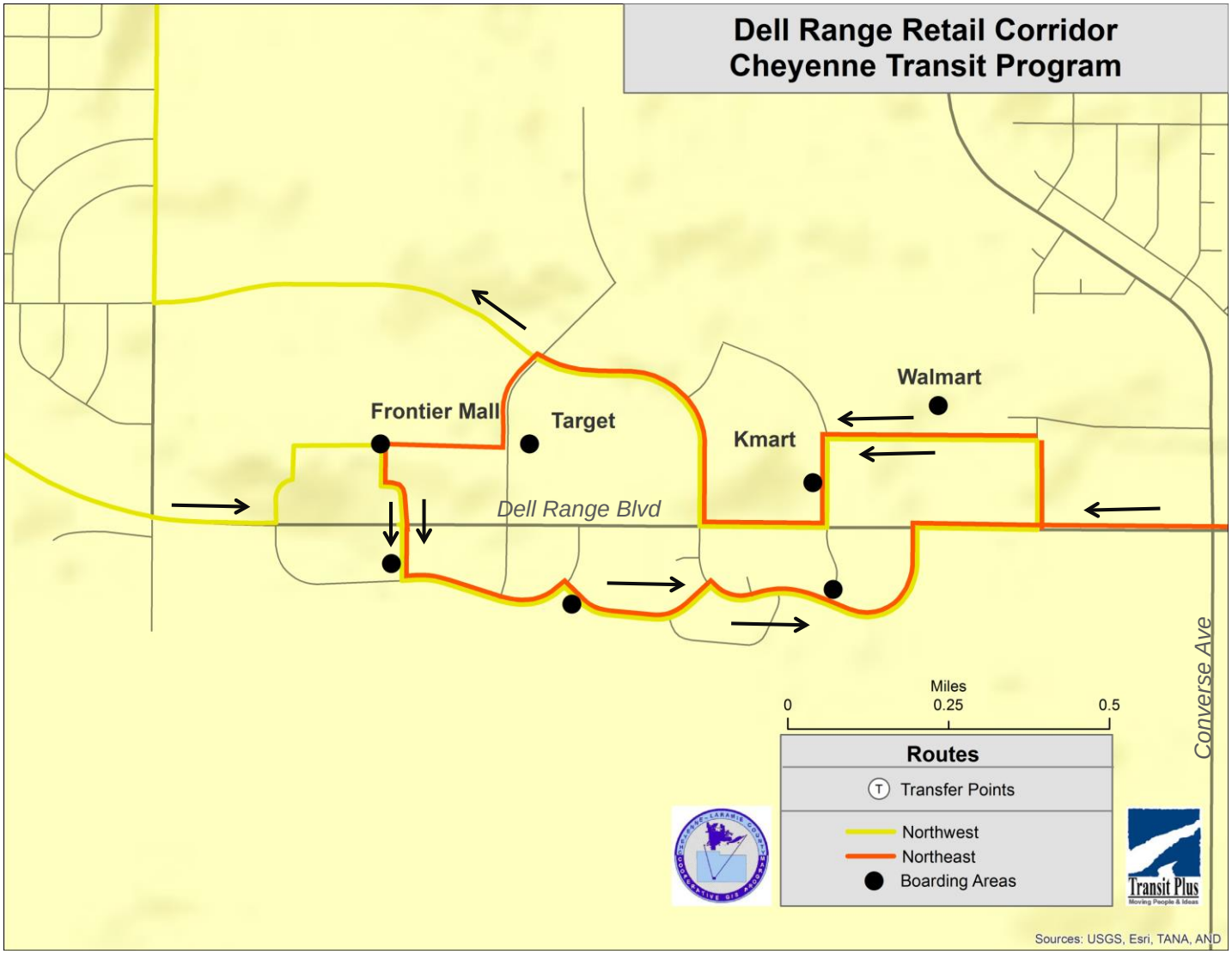
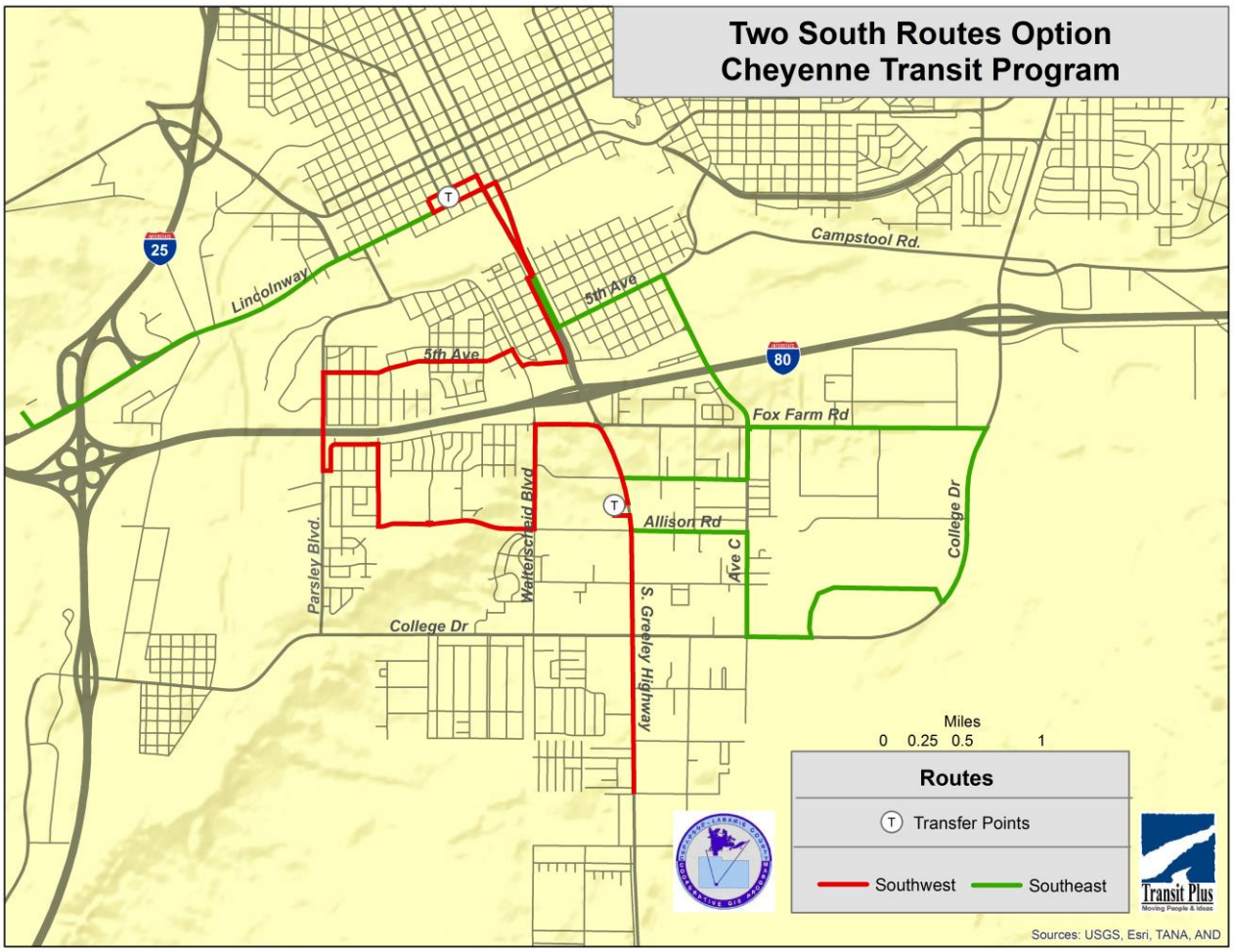


Figure 4.5 – Two South Routes Option



SERVING A NEW SOUTH SIDE WALMART STORE

The City is considering development plans for a new south side Walmart store to be located on currently vacant land east of College Drive near Campstool Way. Early in the transit planning process it was recognized that it would be difficult to extend the existing East Route to the site without either additional operating resources or an offsetting reduction of service coverage on another route segment to maintain schedule integrity.

Given a lack of certainty concerning Walmart's timeline for constructing and opening a new South Cheyenne store, it was agreed that any proposal for new service would be deferred from the short-range recommendations into the medium to long range future.

CONCEPTUAL ALTERNATIVES

The project team has developed two conceptual alternatives that are illustrative of a preferred future transit system in Cheyenne.

ALTERNATIVE A: THREE-ROUTE NETWORK

Comprehensive restructuring of the CTP route network could entail reducing the number of routes from the current six to three longer routes as shown in **Figure 4.6**. Each route would operate within a 120-minute schedule cycle rather than the present 60-minute cycle, and supply one-way trips with a maximum length of approximately 52 minutes. Two buses would be deployed on each route to provide hourly service within a uniform service span that could be adjusted as demand warrants. Currently CTP fixed routes operate between 6:00 am and 7:00 pm on weekdays, and between 10:00 am and 5:00 pm on Saturdays. The downtown transfer point would be retained as an essential stop; however a reduced emphasis on the pulse transfer would reflect the ability for all CTP riders to secure a one-seat ride to the Frontier Mall retail district as well as downtown from anywhere in the fixed route service area.

Route 1 - East / Dell Range

The East Route would be extended to cover the growing eastern area of Cheyenne including the Saddle Ridge community and the Dell Range Boulevard corridor east of College Drive. Shown in **Figure 4.7**, the preferred alignment would include two-way service in the East Lincolnway corridor; for example, near downtown the eastbound and westbound alignments would be brought together with two-way service on 17th Street, East Lincolnway and Omaha Road to Ridge Road at the Albertson's store. East of Ridge Road, the route would cover the existing route segment on Cleveland Avenue, East 14th Street and Taft Avenue in both directions, and extend east on Pershing Boulevard to Saddle Ridge. From Saddle Ridge Trail, the preferred alignment would turn west on US 30, north on Van Buren Road and west on Dell Range Boulevard toward the Frontier Mall retail district.

Route 2 - West / Northeast

A combination of the most productive segments of the existing Northeast and West routes would form a second preferred alignment running predominantly east-west between Frontier Mall and Little America Hotel via Downtown Cheyenne. The concept shown in **Figure 4.8** would substantially replace the functions of the existing Downtown Route with bi-directional service on a common alignment connecting the Burke Senior High-Rise, Public Library, both Cheyenne Regional Medical Center (CRMC) campuses, the VA Medical Center, the Safeway store at Cole's Shopping Center, and the Albertson's store at East Pershing Boulevard and Ridge Road. The route also would continue to the Dell Range Boulevard retail district with two-way service on College Drive, Dell Range and Sheridan Street.

Route 3 – Northwest / South

Similarly, a combination of the existing Northwest and South Routes with modification would form a third preferred alignment running primarily north-south and providing a direct bus connection between South Cheyenne and the Frontier Mall retail district. The concept shown in **Figure 4.9** would improve travel times for many city residents in near-west side neighborhoods who currently access the West Route on Snyder Avenue because the Little America Hotel would be covered by Route 2 on West Lincolnway.

Figure 4.6 – Three-Route Network

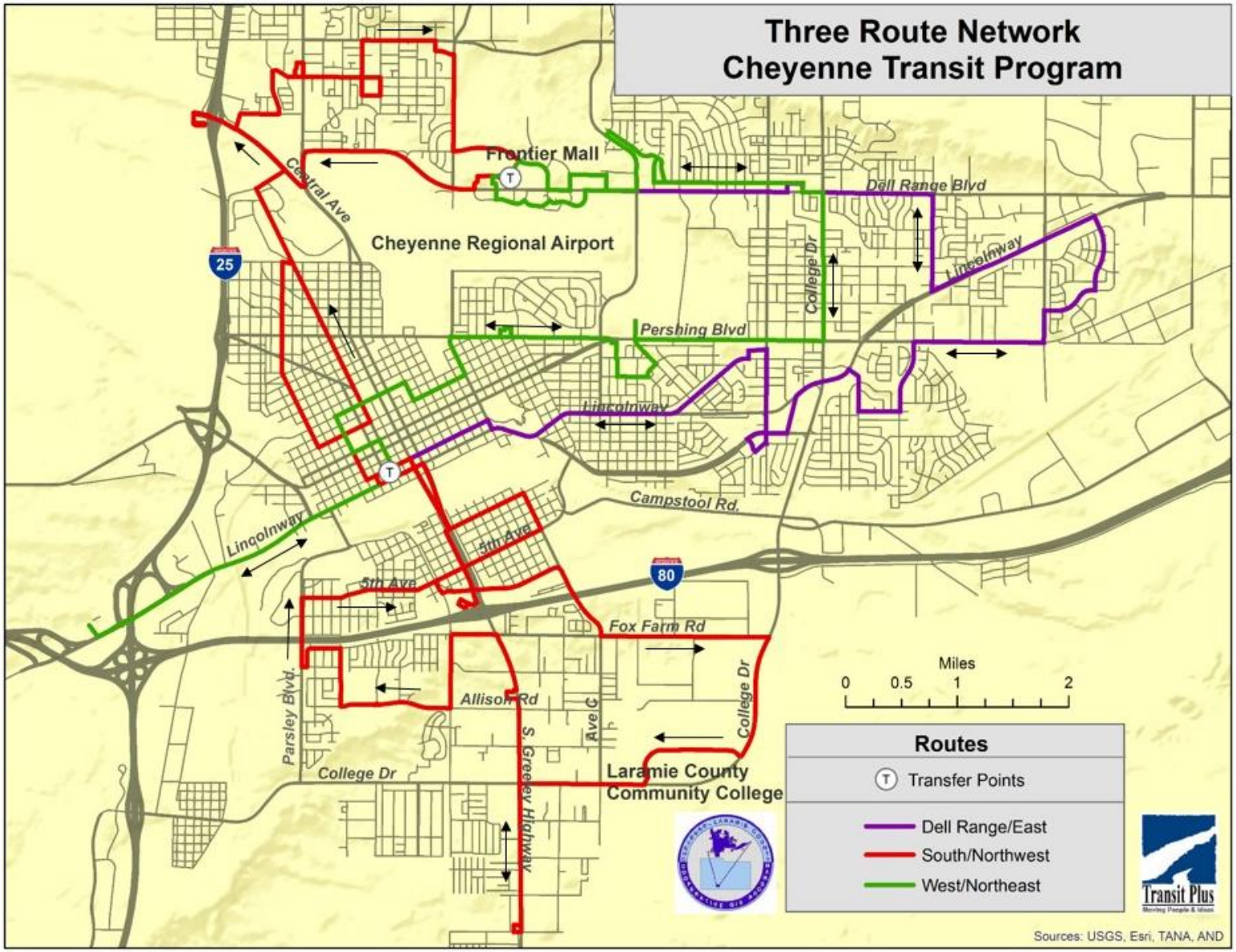


Figure 4.7 – Route 1 (Dell Range / East) Conceptual Alignment

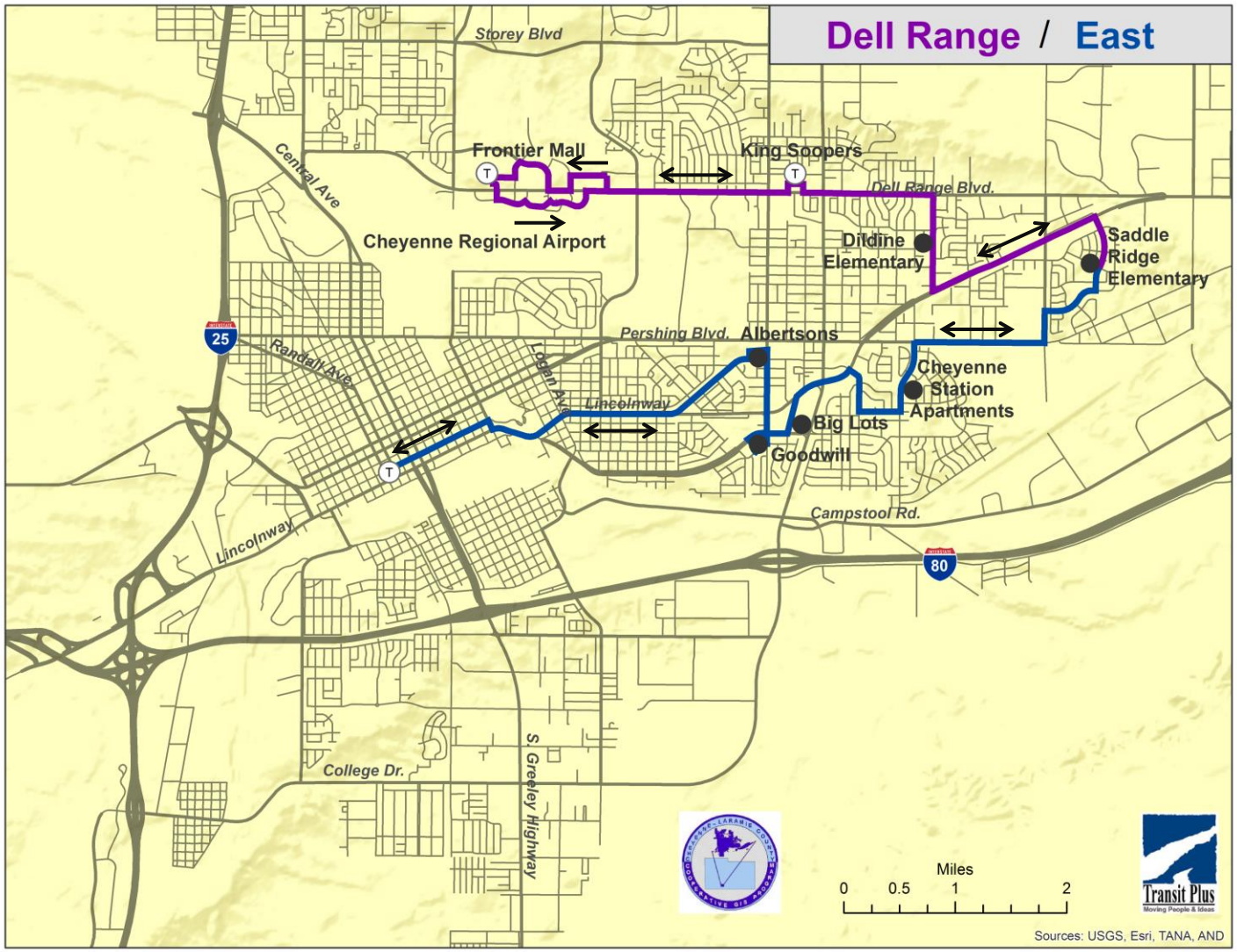
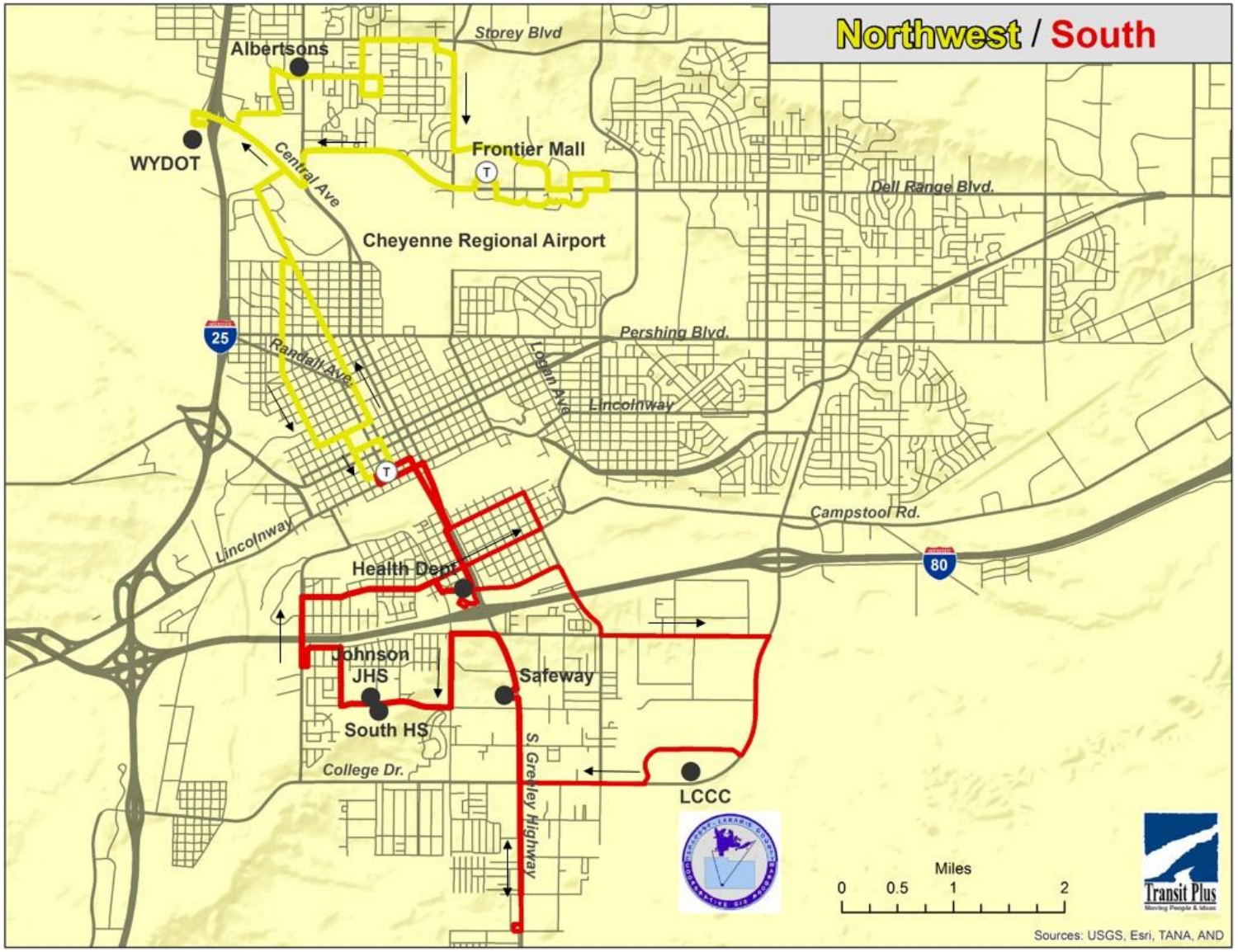


Figure 4.8 – Route 2 (West / Northeast) Conceptual Alignment

Figure 4.9 – Route 3 (Northwest / South) Conceptual Alignment



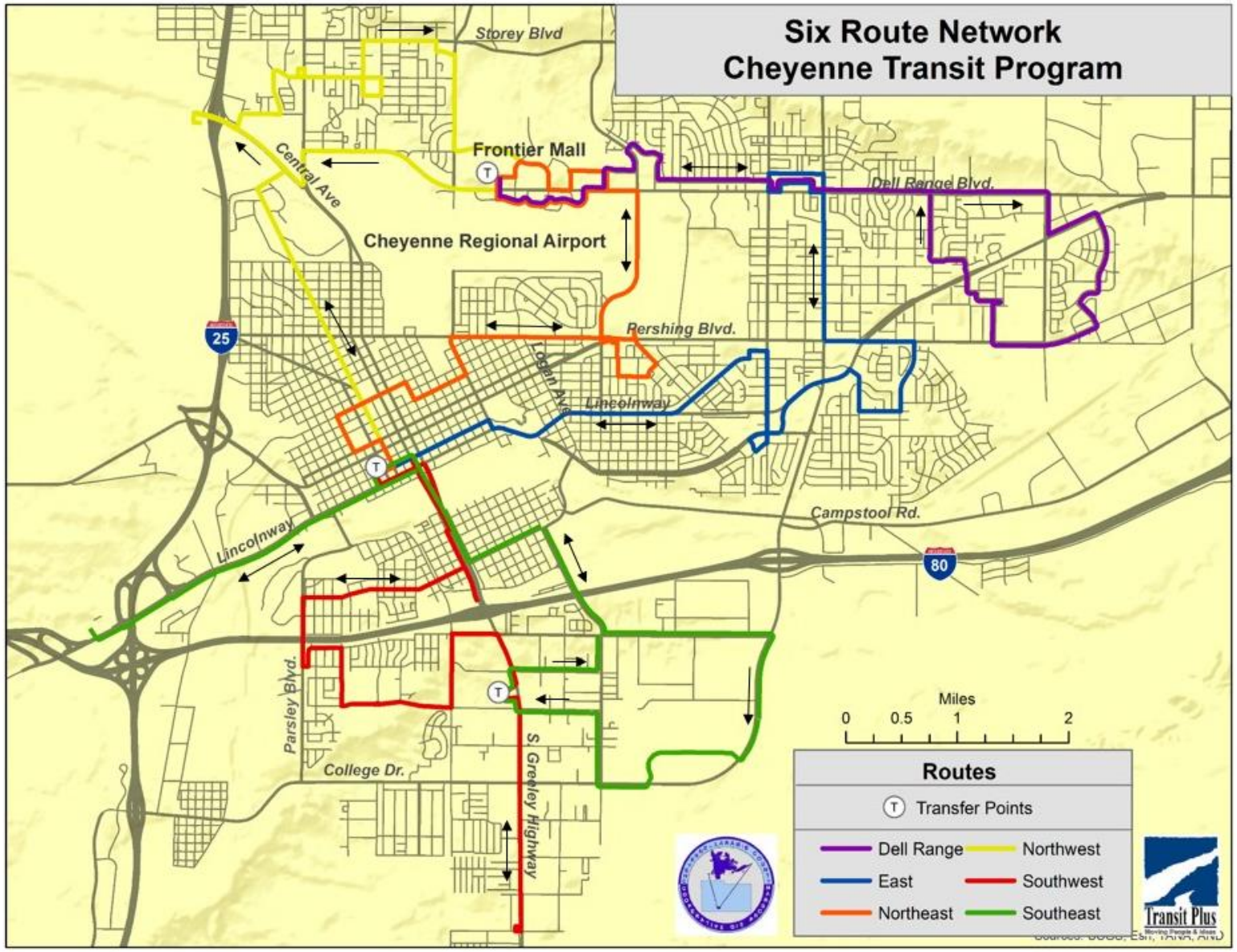
ALTERNATIVE B: MODIFIED SIX-ROUTE NETWORK

Another approach to restructuring would entail maintaining the number of routes at six, but eliminating the existing Downtown Route while making less dramatic changes to the five remaining routes. The resources of the Downtown Route would be redistributed to a new route running east from the Frontier Mall retail district to the presently unserved areas in eastern Cheyenne, including neighborhoods east of College Drive between Dell Range Boulevard and US 30, and Saddle Ridge. This route would be unique in that it would not directly serve Downtown Cheyenne. Key destinations that would be serviced include Dildine Elementary School, Prairie View Apartments on Eastland Court, and Saddle Ridge Elementary School.

Modifications to the five other routes also would be made to selectively increase direct routing and two-way operation on arterial and collector streets in central Cheyenne's mature neighborhoods. At a minimum, these adjustments would include providing alternative connectivity between origins and destinations currently covered by the Downtown Route. One-way loop routing would be maintained in outlying suburban and rural neighborhoods where population density is lower and pedestrian facilities are incomplete.

Each of the six routes would continue to operate within a 60-minute schedule cycle and require up to 52 minutes to complete a round trip, leaving approximately eight minutes per cycle for recovery time as at present. No significant change to service span and frequency are required to support the restructuring. Existing pulse transfer scheduling would continue to occur on 17th Street at Carey Avenue in downtown Cheyenne; however, the new Dell Range / Saddle Ridge crosstown route would connect to other routes at Frontier Mall rather than in Downtown. A system-wide concept for a modified six-route network appears in **Figure 4.10**.

Figure 4.10 – Conceptual 6-Route Network



COST OF ALTERNATIVES

The project team looked at the cost of each alternative based on the net hourly costs of both fixed route and complementary paratransit shown in **Tables 3.4 and 3.5**. The net hourly 2012 rates of $65.79 for paratransit and $29.64 for fixed route services were used in our calculations and other costs were estimated. **Table 4.1** summarizes cost estimates for the recommended alternatives.

Table 4.1 – Timing and Cost of Recommended Alternatives

Alternative	Timeframe	Cost/Unit/Hour	Estimated Number of Units/Hours	Estimated Annual Cost
Technology Enhancements	2014			$75,000
South Route Modifications	2014	N/A	N/A	N/A
East Route Modification	2015	N/A	N/A	N/A
Expand Curb-to-Curb (Saddle Ridge)*	2016	$65.79	1039	$68,356
Expand Coverage in South Cheyenne**	2017	$30.21	3057	$92,352
Serving a new South Side WalMart	2017	N/A	N/A	N/A
Three Route System	2018	N/A	N/A	N/A

**Note: hours are estimated at 4 hours per day, 5 days per week.*

***Note: hours are estimated at 11 hours per day, 5 days per week ans 8 hours on Saturdays.*

The project team has recommended that technology upgrades be considered for CTP to better position the system for the future. Based on the desired functions expressed by CTP management, we estimate the base system to cost between $50,000 and $75,000 depending on manufacturer and features.

Immediate improvements that can be made to the South and East routes would simply re-direct existing resources, so there is no additional cost associated with these changes.

Expanding complementary paratransit service to include the Saddle Ridge area will cost nearly $70,000 annually. The high unit cost of adding paratransit service is a disadvantage to this option; however, as the service is demand response, resources can be added gradually to accommodate growing demand.

We are unable to estimate the cost of adding service to include the anticipated new Walmart, since there are too many issues currently unresolved.

The conceptual alternative of a three-route system accomplishes the objectives that have been identified through the study, while adding no cost, as this alternative is based on more efficiently distributing existing resources rather than adding service.

5: SAFETY AND PERFORMANCE STANDARDS

This chapter offers safety and performance standards that are relevant in measuring current performance while introducing measures that allow decision-makers to view the performance of individual routes and services. Common elements of safety and performance measurement include:

- *Service delivery*: How well is an agency delivering the service it promises on a day-to-day basis, and how well is it meeting customers' expectations? Factors include the reliability of service, the quality of customer contacts with agency staff, passengers' physical comfort while using transit, and the achievement of promised service goals

- *Travel time*: How long does it take to make a trip by transit, particularly in comparison to other modes? Results can be reported by themselves, aggregated by the number of people (e.g., person-minutes of delay), or converted to a monetary value

- *Safety and security*: What are passengers' perceptions, as well as the realities, of the risks of being injured (safety) or becoming the victim of a crime (security) while using transit?

- *Maintenance*: Certain aspects of an agency's maintenance program affect passengers' perceptions of service quality. A vehicle breaking down while in service impacts passengers' travel time for that trip and their overall sense of system reliability. Having insufficient spare buses available may mean that some trips are not made; dirty buses may suggest to passengers a lack of attention to less-visible aspects of transit service, while window etchings may suggest a lack of security

The project team endeavored to develop a process that can be used by CTP to prepare a performance-measurement system that is sensitive to customer oriented and community issues. This process provides a context, or framework, to select and apply appropriate performance indicators and measures that are integral to transit system decision-making. This way, CTP performance can be defined, measured, and interpreted based on CTP's specific goals and objectives.

SAFETY STANDARDS

The importance of safety in transit operations cannot be understated and the FTA has made a point of focusing on safety through compliance programs and standards. Accidents per 100,000 miles is the industry standard for gauging safe operation, with approximately 2 accidents per 100,000 miles as the national average.

CALCULATING ACCIDENT RATIOS

CTP currently has an excellent safety record that far exceeds most national standards for safety. Nationally, accident rates are measured by accidents per 100,000 miles and are determined as follows:

$$\frac{\textbf{Total Annual Accidents X 100,000}}{\textbf{Total Annual or Period Miles}}$$

For instance, if CTP operates 500,000 annual miles and has 3 accidents in a given year, the accident rate per 100,000 miles is calculated as follows:

$$\frac{3 \text{ X } 100{,}000}{500{,}000} = .6 \text{ accidents/100,000 miles}$$

SAFETY PROGRAM SUGGESTIONS

As highlighted, CTP has an excellent safety record that is worthy of consistent mention throughout the community. The organization has a strong safety culture that is supported by the results. Additionally, CTP management annually recognizes drivers with safe operating records at an awards banquet that helps to support that culture. In order to maintain the safety standard that defines CTP and develop a platform for safety performance moving forward, it suggested to:

- Adopt the accident per 100,000-mile ratio and integrate it into monthly or periodic reports that are distributed to elected officials
- Adopt the 100,000-mile ratio for non-accident incidents. Incidents include things such as altercations with passengers
- Begin tracking the frequency of Worker's Compensation claims per 100,000 hours worked

SECURITY

Passenger security is generally not an issue in Cheyenne; however, CTP has implemented a number of security initiatives that are effective in keeping the passengers secure. CTP has installed cameras on all vehicles and at the transfer center and has worked with the Cheyenne Police Department to gain additional patrolling at the transfer center.

SYSTEM PERFORMANCE STANDARDS

Performance standards for operations originate from a number of sources including regulatory and grant compliance, the National Transit Database (NTD), the Americans with Disabilities Act (ADA), external reporting, budgeting, and overall system evaluation.

It is critically important that CTP focus first on standards that are required and then on standards that are important to CTP and the community. At a minimum, the following performance indicators should be tracked and reported:

- Passengers per revenue hour (NTD) – measures the number of passengers carried per revenue hour. Revenue hours do not include vehicle inspection, fueling, or deadhead hours and count only the time that a vehicle is in service and carrying passengers
- Passengers per vehicle mile (NTD) – counts the number of passengers carried per vehicle revenue mile. Revenue miles do not include vehicle inspection, fueling, or deadhead hours and count only the miles that a vehicle is in service and carrying passengers
- Farebox recovery ratio (NTD) – measures the percentage of operating expense that is recovered through the farebox. Typically, rural and small urban systems will recover between 8 and 15 percent of costs through fares
- Cost per passenger (NTD) – measures the cost to transport each passenger and is acquired by dividing the total annual operating budget by the total number of annual passengers
- Missed Trips (ADA) – The ADA does not allow missed trips for any agency providing complementary paratransit
- Miles between road calls (FTA) – is an effective measure of preventive maintenance and maintenance programs. The greater the distance between road calls, the more effective the maintenance programs
- Preventive Maintenance Plan adherence (FTA) – the FTA suggests that all preventive maintenance be completed within 10% of the mileage for scheduled preventive maintenance

The information to effectively monitor and report these performance standards is generally available through data currently being generated. However, it is equally important to establish reporting protocols that are based on receiving regular information to aid in management decision-making and for reporting to elected bodies. **Table 5.1** summarizes the recommended performance measures and introduces benchmarks that are based on national averages.

Table 5.1 – Recommended Performance Standards

Standard	Suggested Standard	Current System Performance	Adopting the Standard
Farebox Recovery	15%/8%	14%/7%	Begin tracking/reporting
Productivity - Fixed Route	12.0 Passengers per hour	11.4 Passengers per hour	Maintain tracking/reporting
Productivity - Curb to Curb	3.0 Passengers per hour	2.6	Maintain tracking/reporting
Service Efficiency	Operating cost does not exceed CPI for the region	Unknown	Begin tracking/reporting
On-time Performance	95% of all vehicle trips are completed on time.	Unknown	Begin tracking/reporting
Missed Trips	0 - There shall be no missed trips on the curb-to-curb service	Zero	Maintain tracking/reporting
Accidents per 100,000 miles	<1.0 per 100,000 miles	< 1.0 per 100,000 miles	Maintain tracking/reporting
Incidents per 100,000 miles	<1.0 per 100,000 miles	Unknown	Begin tracking/reporting
Worker's Comp Claims per 100,000 hours worked	<2.5 per 100,000 hours	Unknown	Begin tracking/reporting
Miles between Road Calls	10,000 or greater	Unknown	Begin tracking/reporting
Preventive Maintenance	PM completed within 10% of scheduled mileage	Unknown	Begin tracking/reporting

Looking to the future, it is equally important to adopt route productivity standards (farebox recovery and productivity) that allow for prioritization when facing service cuts or contemplating route restructure or realignment. For example, routes that are not meeting the passenger per hour standard of 10.0 (a reasonable low-end target for rural and small urban routes) may be considered for elimination or realignment.

In summary, it is important to adopt standards that meet regulatory expectations as well as provide CTP staff and local decision-makers with the tools necessary to effectively gain a snapshot of how CTP is performing. Also, the effective use of performance standards allows managers to pinpoint specific areas for improvement. It is recommended to adopt, at a minimum, the above referenced performance standards while adding others that are deemed important to CTP and its stakeholders as the system progresses.