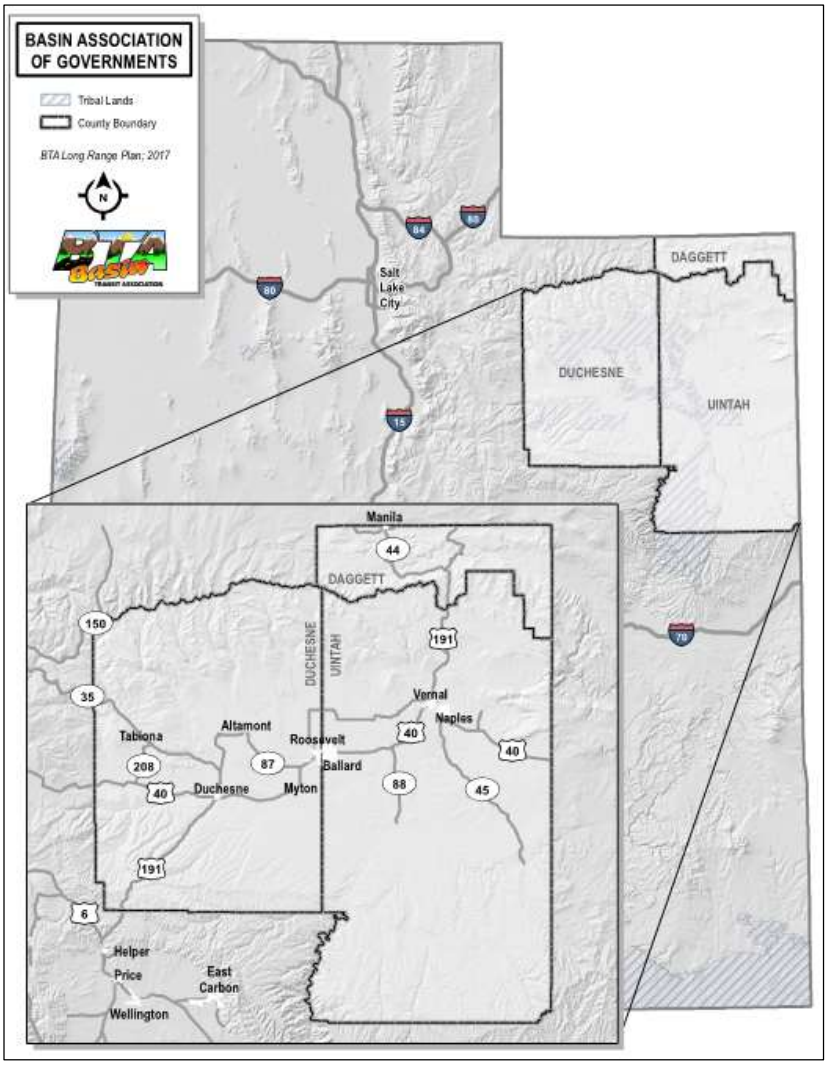
CHAPTER 1: INTRODUCTION

The downturn in energy prices has impacted the current economic health of the Uintah Basin region. Efforts are ongoing to broaden its economic base, attract investment, and diversify its workforce. The region will continue to grow and the needs of its population will continue to expand. The Uintah Basin Association of Government's (UBAOG), Basin Transit Administration's (BTA) will help the Uintah Basin region achieve the following:

- Provide transportation options for the citizens of Daggett, Duchesne, and Uintah Counties
- Improve the quality of life for individuals requiring mobility assistance
- Increase the use of transit, reducing congestion along US 40 and improving air quality
- Support economic development through improved mobility and market access, travel time savings and regional investment

This report outlines the region and BTA's current conditions, assesses future demand, and identifies long-term goals, policies and service improvements. In doing so, the BTA supports regional goals while providing and enhancing its services.

CHAPTER 2: THE UINTAH BASIN



2.1 History

The Uintah Basin is located approximately 2 hours east of Salt Lake City in the northeastern corner of the State, south of the Uinta Mountains between the Book Cliffs and the Wasatch Mountains (see Figure 1). Known for its abundance of natural resources, the Basin has been inhabited by humans for approximately 12,000 years. As a result, the region has a rich cultural history. Archeologic evidence suggests that portions of the Uinta Basin were once inhabited by archaic and Freemont cultures followed by the Ute peoples present today. Spanish explorers, Fathers Dominguez and Escalante, are known to the first non-native explorers to traverse the area in 1776 and fur-trappers and traders soon followed (Fuller 2018). While a Mormon expedition to the area was dispatched to the region in the early 1860's with little result, the first permanent establishment came as Presidential proclamation in 1862, when President Lincoln created the Uintah Ouray Indian Reservation (Fuller 2018).

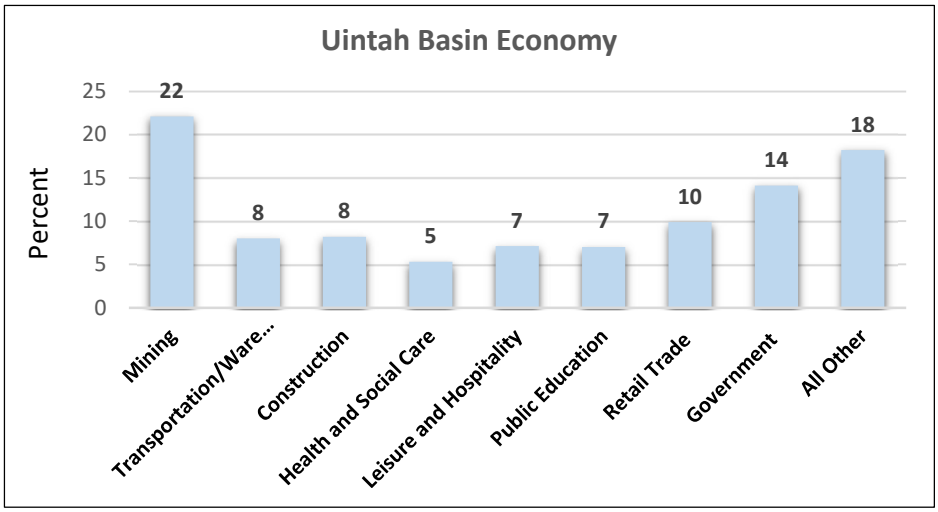
Figure 1: Utah's Uintah Basin Region

Despite the lack of initial interest in permanent settlements, by the 1880s, the area known as Ashley Valley had a large enough population for the territorial legislature to establish Uintah County. The discovery of the Basin's rich natural resources has historically been the impetus of major influxes in population throughout the region. Initial discoveries of Gilsonite in 1888 and oil in the 1940's caused significant increases in population (Fuller 2018). The population increased during the construction of the Flaming Gorge Dam in the late 1950s and the discovery and exploration of oil and natural gas resources in 1970s.

2.2 Economy

Natural resource exploration and extraction continues to be the largest sector of the Uintah Basin Economy (see Figure 2). However, today's economy is striving to become more diversified. In addition, Utah State University operates branch campuses in Vernal and Roosevelt, expanding educational opportunities in a previously underserved region of Utah (Wikipedia 2018).

Figure 2: Uintah Basin Economy



Source: Utah Workforce Services, 2013

Major activity centers are important in terms of land use, trip generation rates, and their ability to be served by public transit. Within the Uintah Basin, these centers are primarily concentrated in the cities of Vernal, Roosevelt, and Duchesne. Duchesne County School District Uintah Basin Medical Center in Duchesne County and the Uintah School District in Uintah County are the largest employers within the region, with approximately 500 to 999 employees (UDWS 2018). The majority of employers listed below are located in the cities of Vernal, Roosevelt, and Duchesne (see Table 1).

Table 1: Largest Regional Employers

Company	Industry	Average Employment
Daggett County		
Flaming Gorge Resort	Accommodations	50-99
Daggett School District	Public Education	50-99
Daggett County	Local Government	50-99
US. Government	Federal Government	50-99
Red Canyon Lodge	Accommodations	20-49
Duchesne County		
Duchesne School District	Public Education	500-999
Uintah Basin Medical Center	Medical	500-999
Newfield Exploration	Extraction	250-499
Duchesne County	Local Government	100-249
Uintah Basin Telecommunications	Telecommunications	100-249
Uintah County		
Uintah School District	Public Education	500-999
Ute Indian Tribe	Local Government	500-999
Wal-Mart	Commercial	250-499
Uintah County	Local Government	250-499
US. Government	Federal Government	250-499

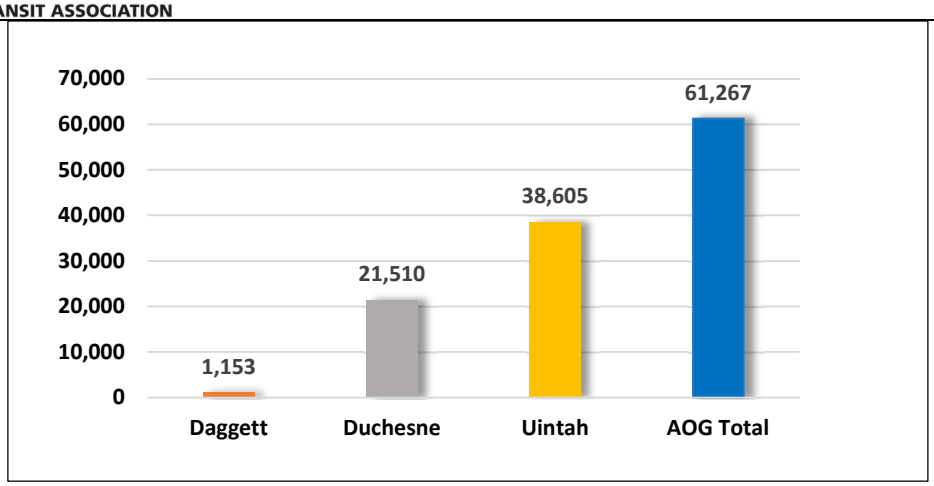
Source: Utah Workforce Services

2.3 Demographics

Regional Population and Projections

Population estimates indicate that Uintah, Duchesne, and Daggett County had total population of 61,267 in 2017 (Kem Gardner 2017). Approximately 63% (38,605) reside in Uintah County, 35% (21,510) reside in Duchesne County, and 2% (1,153) reside in Daggett County (see Figure 3).

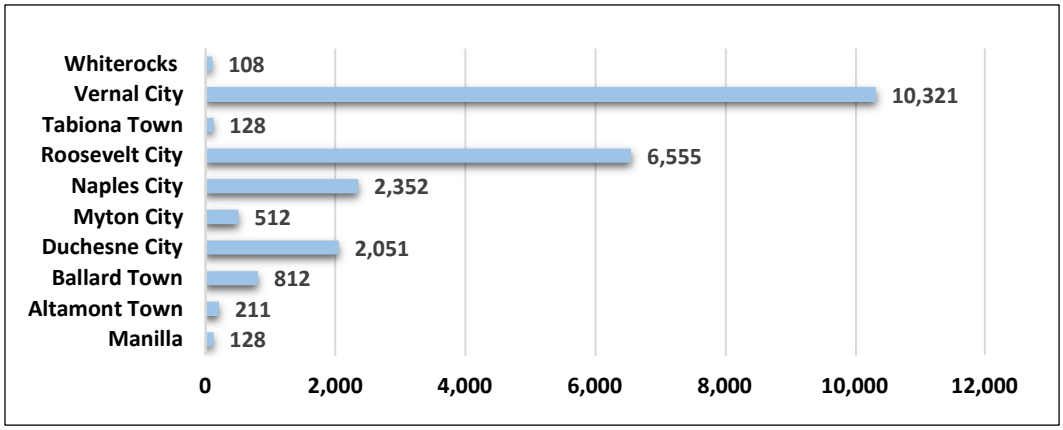
Figure 3: 2017 County Population Estimates



Source: Kem C. Gardner Policy Institute

The largest city in the region is Vernal, with an estimated population of 10,321 (Kem Gardner 2017). Other communities within the UBAOG region include Duchesne and Roosevelt as well as a several smaller communities, including: Altamont, Tabiona, Naples, Myton Ballard, Whiterocks and Manilla. In addition, there are several unincorporated communities throughout the region (see Figure 4).

Figure 4: Regional Community Populations

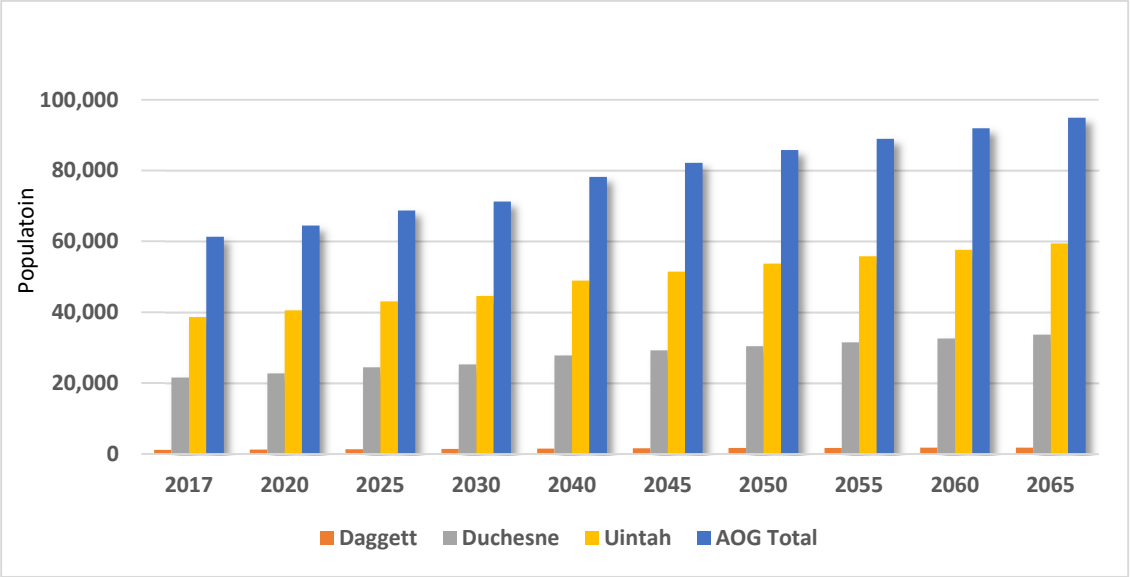


Source: Kem C. Gardner Policy Institute

Population Projections

While work is being done to diversify the economy, much of the growth in the region will largely depend on the energy industry, which is unpredictable and goes through periods of boom and bust resulting from commodity pricing. However, the regional population is projected to increase from approximately 61,260 in 2017 to approximately 95,000 by 2065, assuming a 1% regional increase per year (see Figure 5).

Figure 5: Regional Population Projections (2017-2065)



Source: Kem C. Gardner Policy Institute

Auto-dependency

People make transportation choices based on a variety of factors that include cost, travel time, reliability, and dignity. While some in the region may choose an alternative mode, including transit, biking, and walking, the vast majority of people in the region (approximately 84%) still choose to drive alone to work over other more sustainable modes of transportation. Less than 1% utilize transit or currently do not own a vehicle (US Census Bureau 2018). However, it should be noted that a sizeable number of individuals do chose to carpool (see Table 2).

Table 2: Regional Commuting and Car Ownership

County	Drove alone	Carpool	Transit	No Vehicle
Daggett	86.5%	3.7%	1.4%	0
Duchesne	84.0%	8.4%	0.5%	1.30%
Uintah	80.6%	11.2%	0.8%	1.50%
Average	83.7%	7.8%	0.9%	0.9%

Source: US Census Bureau, 2011-2015 ACS Data

Low-Income, Seniors, and Persons with Disabilities

The three categories of individuals that have a higher dependence on public transportation are low-income, seniors, and persons with disabilities. Access to job related activities, medical and educational services, recreational opportunities, and daily needs can impact the quality of life for these individuals. Compared to statewide averages, the region is higher in both senior populations (13.4%) and persons with disabilities (11%) (US Census Bureau 2018). While the percent below poverty is lower than the statewide average, the regional average is approaching 10% (see Table 3).

Table 3: Targeted Populations

	Pop Below Poverty	Pop 65yrs +	Pop With a Disability
State of Utah	12.3	9.7%	9.3
Duchesne	10.4%	10.8%	9.4%
Uintah	9.3%	9.1%	10.2%
Daggett	7.2%	20.2%	13.4%
Regional Average	9.0%	13.4%	11.0%

CHAPTER 3: BASIN TRANSIT ADMINISTRATION

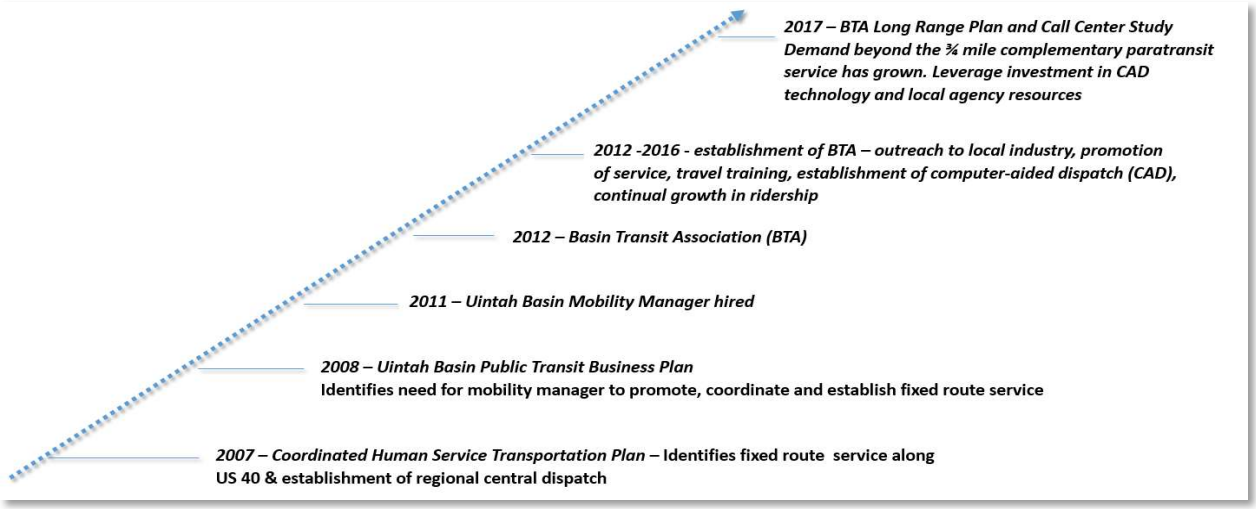
The Basin Transit Administration (BTA) is operated by the Uintah Basin Association of Governments (UBAOG). One of seven Association of Governments within the State of Utah, the UBAOG strives to improve economic competitiveness and quality of life in Duchesne, Daggett, and Uintah Counties. A key component of both is a quality transportation network including access to public transportation. The mobility needs within the UBAOG region continue to evolve. Since 2007, UBAOG has led efforts to improve regional mobility (see Figure 6).

> The Uintah Basin Association of Governments (UBAOG) was established in 1973 to provide services to the citizens of Daggett County, Duchesne County, and Uintah County. UBAOG's goal is to serve as a multi-purpose organization that utilizes combined resources to provide a more effective means for the planning and development of the physical, economic, and human resources of this region.

In early 2012, UBAOG launched the BTA, serving an approximate 60-mile corridor from the cities of Duchesne to Vernal. Successful from the start, the number of BTA trips, including paratransit has increased approximately 38% since 2012, from 23,833 to 33,117 since June 2017 (see Table 4).

Regional and local elected officials have supported the mission of the BTA by way of on-going financial support. In addition, local businesses and educational offices have provided financial support through funding for bus stop benches and the purchasing of advertising space. Public survey results show that the BTA is looked upon favorably and those who have ridden the BTA would recommend BTA services to family and friends, as chapter 4 will show. As a result, demand has continued to grow and is also utilized by many civic and local groups to meet the transportation needs for community and regional events.

Figure 6: UBAOG Mobility Timeline



The BTA has been able to establish itself with knowledgeable staff, quality drivers, and a high level of customer service. In addition, the BTA has gained strong support from the Utah Department of Transportation Public Transit Team (UDOT PTT) and is looked at as a model for small rural public transportation throughout the state of Utah.

3.1 Existing BTA Funding

The BTA operates under the guidance of the Uintah Basin Economic Development District. The current funding model is a mixture of federal grant monies and a local government match from Duchesne County and the Uintah County Transportation Service District. Vernal City, the Uintah Basin Medical Center and the Uintah Basin Applied Technology Center have also contributed funds. Federal Transit Administration (FTA) funds are applied for through the Utah Department of Transportation's Public Transit Team. FTA funds include:

- Statewide Planning and Research Program (FTA 5304)
  Part of the Consolidated Planning Grant transferred from FTA to Federal Highway Administration, funding supports transit related planning activities statewide. A 20% local match is required.

- Enhanced Mobility of Seniors and Disabilities (FTA 5310)
  This program is intended to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and Americans with Disabilities Act (ADA) complementary paratransit services. A 20% local match is required.

- Formula Grants for Other than Urbanized Areas (FTA 5311)
  Funding supports public transportation in areas with populations less than 50,000. These grant funds are intended to provide capital and operating assistance within rural areas. A 50% local match is required.

In addition to Federal grant programs, Duchesne County passed Proposition 1 in November of 2015. Proposition 1 is a local-option quarter-cent sales tax (except on food). 40% of the proceeds go to cities and towns, 40% goes to transit, and 20% goes to the county. Unfortunately, Uintah County was unable to pass the measure in 2015 and 2017.

3.2 Existing Service

The majority of the region's population centers are located along or within close proximity to US 40, allowing three routes to serve the majority of the region's population. The BTA service operates Monday through Friday, from 5am to 7pm and has three routes: Blue, Red, and Green (see Figure 7 and Table 4). Larger route maps are also found in Appendix A.

Figure 7: BTA Service Area

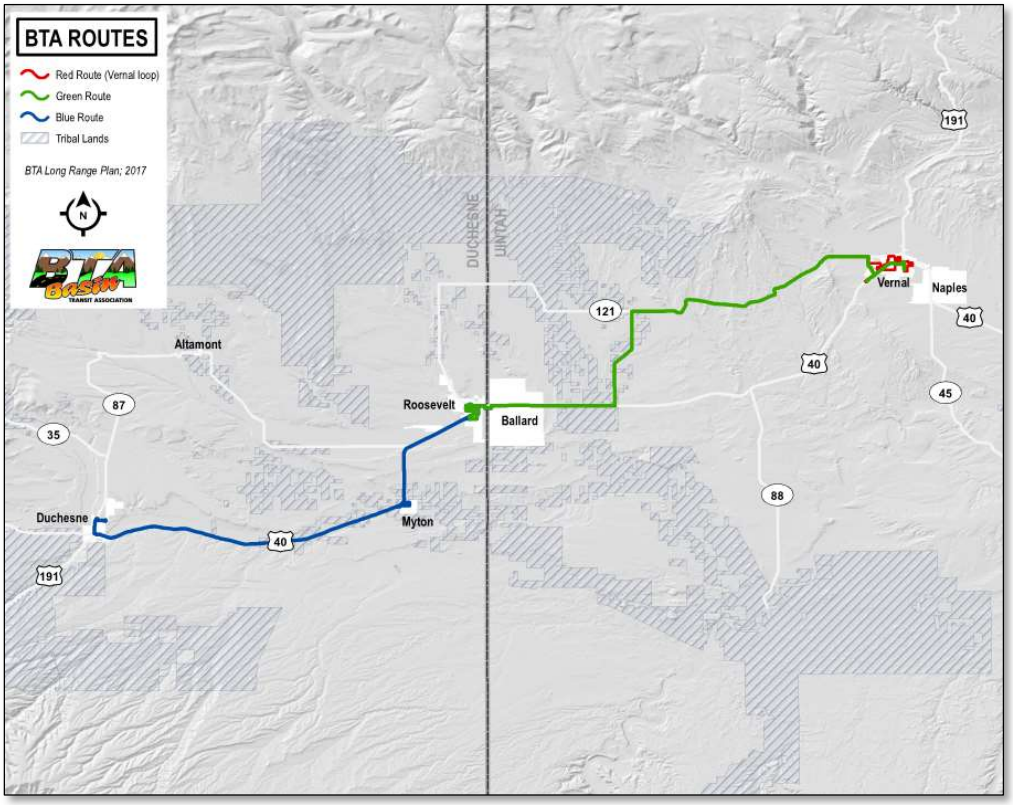
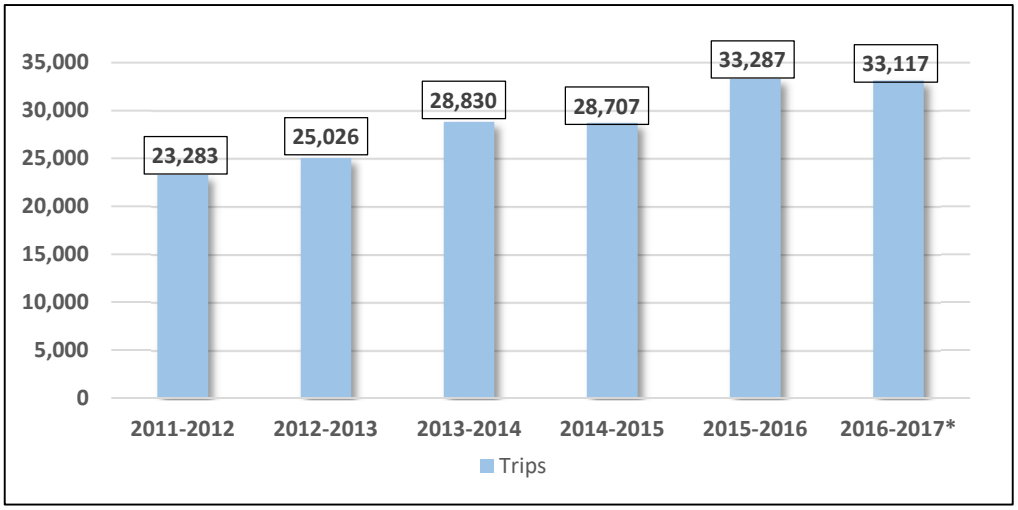


Table 4: BTA Annual Trips



In addition to the three routes detailed below, the BTA is required to provide ADA complementary paratransit services for those who are unable to use accessible fixed route services. Complementary service is provided up-to ¾ mile from the fixed route service. ADA complementary paratransit requirements do not apply to commuter bus, commuter rail, or intercity rail.

Many of the individuals using the paratransit service are able to access health care appointments, shopping activities, recreational opportunities and other quality of life needs. Individuals must meet specific requirements in the BTA Paratransit Riders Guide and obtain an approved application prior to using the service. Trips may be scheduled one to seven days in advance.

Blue Route – Roosevelt to Duchesne

The Blue Route is an approximately 30 mile corridor that services the communities of Ballard, Roosevelt, Myton, and Duchesne. Nineteen stops are located along the Blue Route. Ridership on the Blue Route has fluctuated from a low of 4,775 in 2012 to a high of 8,099 in 2016. The average number of annual trips is approximately 6,087 (see Figure 8 and Table 5).

Figure 8: Blue Route

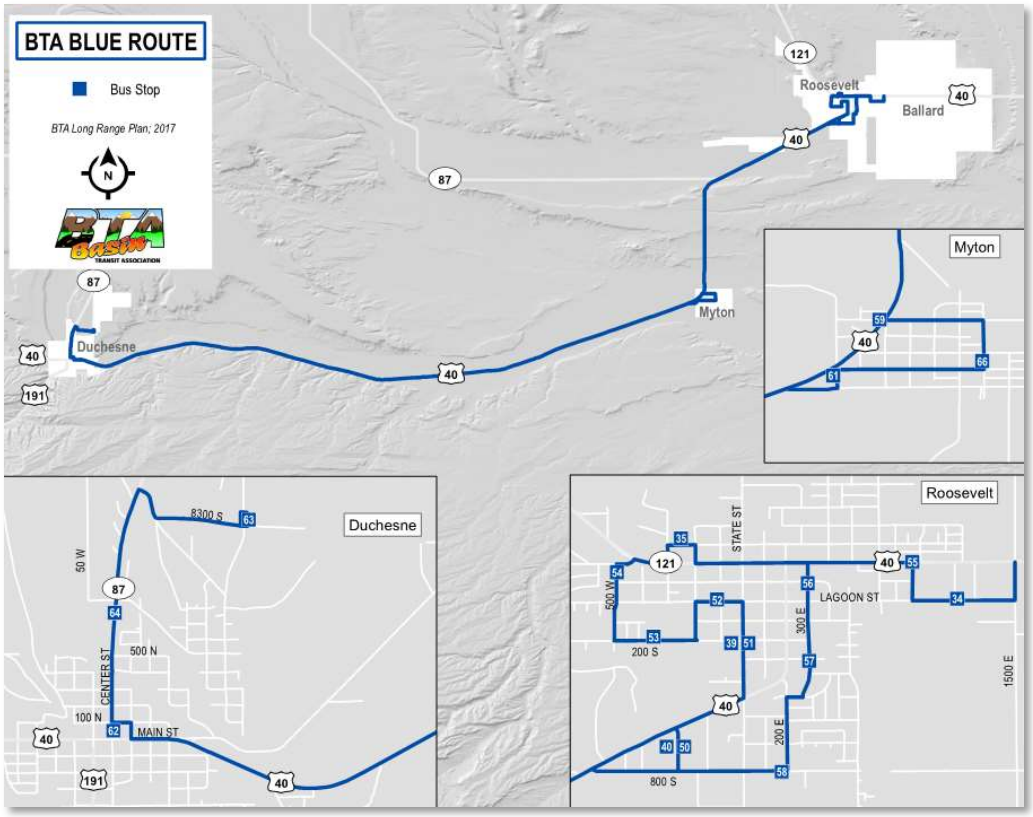
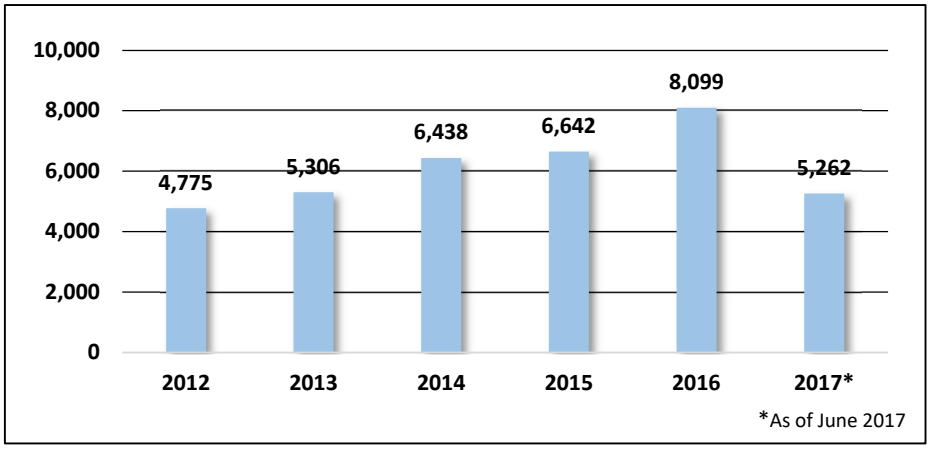


Table 5: Blue Route Annual Trips



Green Route – Vernal to Roosevelt

The Green Route is approximately 30 miles long that services the communities of Roosevelt, Ballard, and Vernal. Twenty-two stops are located along the Green Route. Similar to the Blue Route, the number of trips on the Green Route have fluctuated from a low of 8,215 in 2013 to a high of 9,527 in 2012. The average number of annual trips is approximately 8,744 (see Figure 9 and Table 6).

Figure 9: Green Route

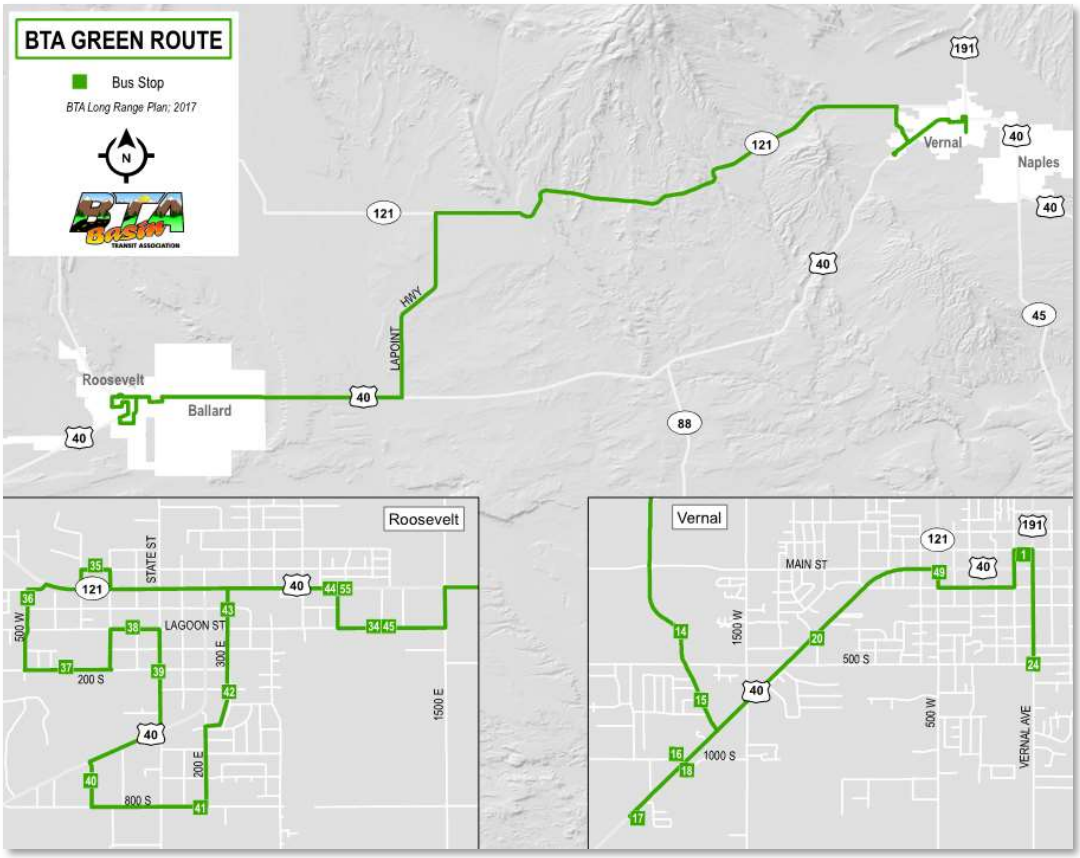
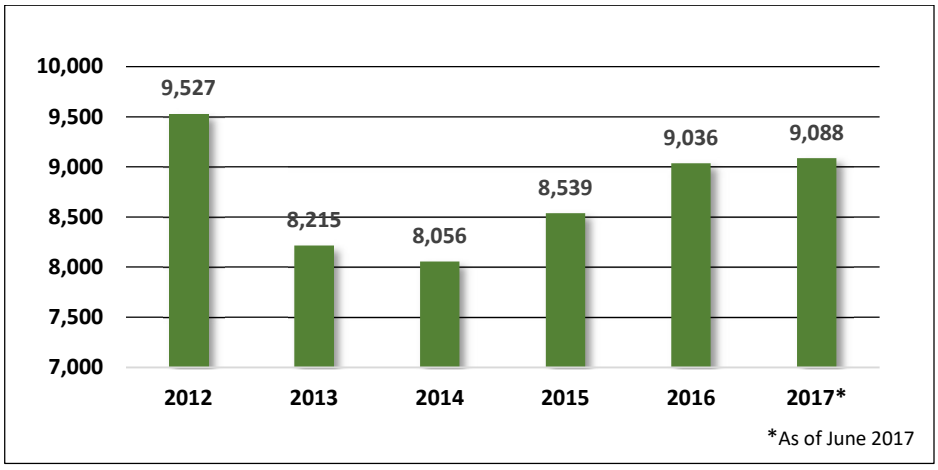


Table 6: Green Route Annual Trips



Red Route – Vernal Loop

The Red Route circulates through the city of Vernal with twenty-nine stops throughout the city. With Vernal being the largest population center within the region, the Red Route is also the most utilized among the three routes. The number of trips on the Red Route have increased 109%, from a low of 8,981 trips in 2012 to 18,767 in June 2017 (see Figure 10 and Table 7).

Figure 10: Red Route

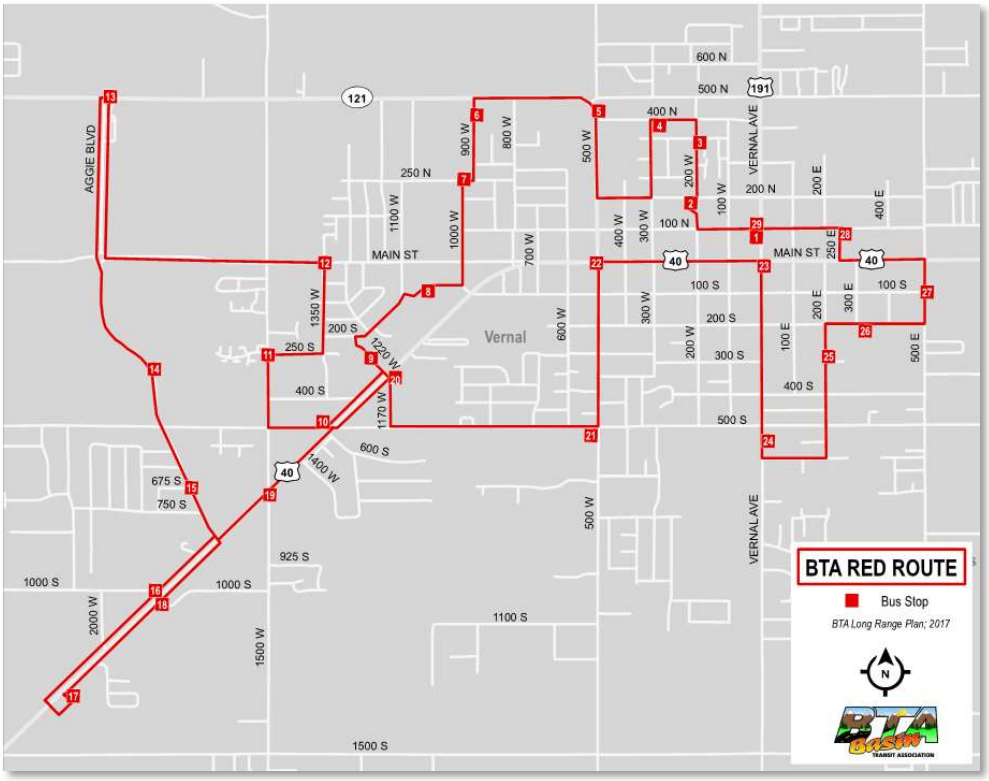
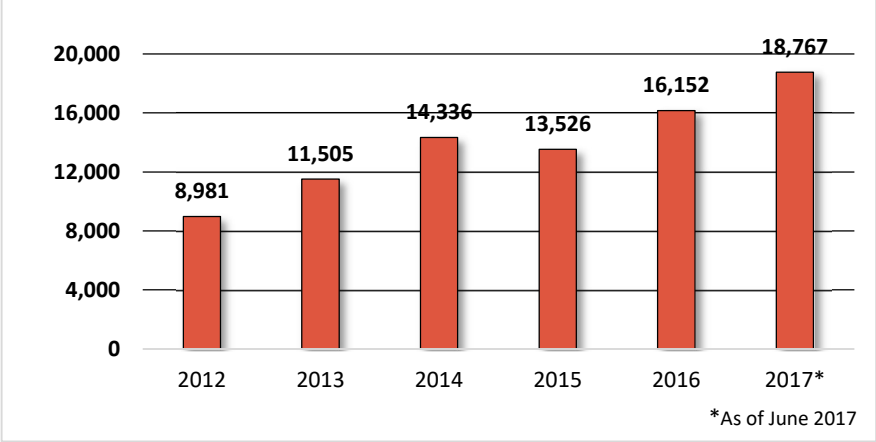


Table 7: Red Route Annual Ridership



CHAPTER 4: PUBLIC INVOLVEMENT PROCESS

Public involvement is a critical component to any planning process and throughout BTA planning process. Input from stakeholders and the public were solicited in a variety of ways to ensure meaningful input. On-board and community surveys, along with pubic and stakeholder meetings, resulted in the information that provides the backbone of this plan. In addition, the BTA actively reached out to minority populations and persons of other national origins to ensure they were provided the opportunity to participate in this process.

4.1Stakeholder Meeting

Early in the planning process, staff members from the Uintah Basin Association of Governments held a stakeholder meeting with key planning staff from the counties and cities in the region. This meeting was held in the fall of 2015. The purpose of the long range public transit plan was discussed with the scope of work of the project.

4.2Public Forums

Public forums were held in Uintah and Duchesne Counties in September 2017 (see Appendix B for meeting minutes). The BTA staff advertised the forum in a variety of local news outlets, including the Uintah Basin Standard and the Vernal Express. The public forums in Duchesne County, advertisement for the public forums were announced in the Uintah Basin Standard. In addition, flyers were distributed to local businesses in Duchesne, Roosevelt, and Vernal.

4.3Survey's

In Fall 2017, BTA staff distributed surveys throughout the Uintah Basin from stores, churches, parks, and community events. In addition, on-board surveys were handed out to willing passengers. Survey results are highlighted and summarized in Table 8, and shown in more detail in Figures 11-16.

Table 8: Survey Results

Investment Question	Majority Response
Alternative Fuel Vehicles	Yes
Expansion Priority	Weekend Service
Expansion Route	Naples
Additional Shelters	Yes
Creation of a Mobile App	Yes

Figure 11: Future Routes

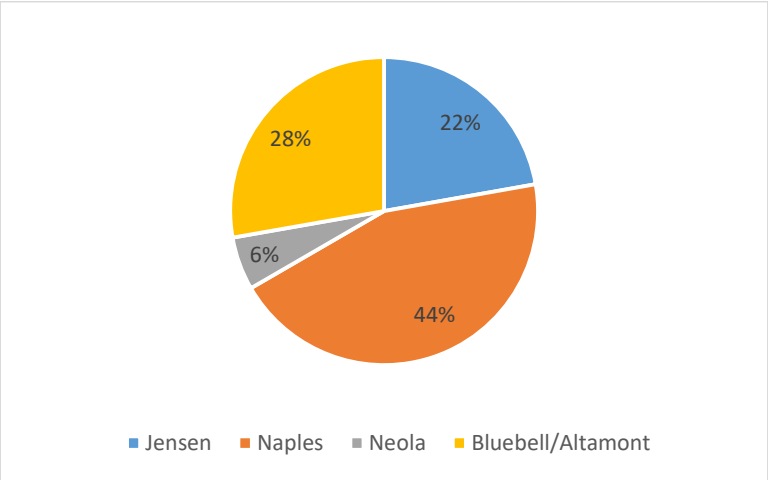


Figure 12: Alternative Fuels

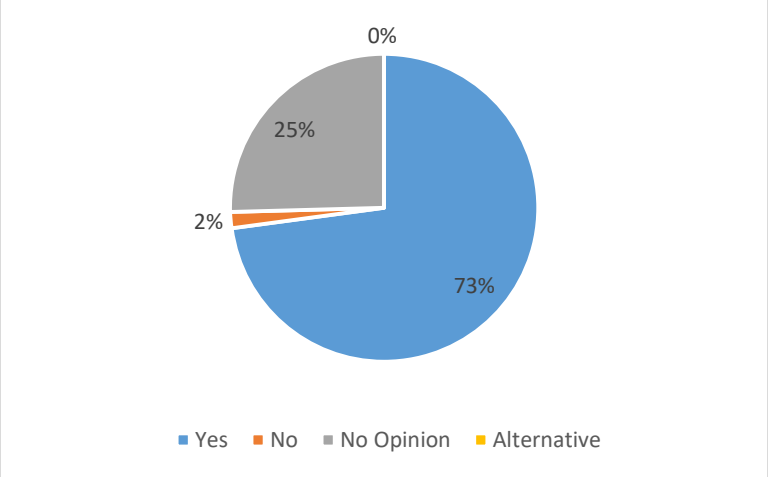


Figure 13: Access Needs

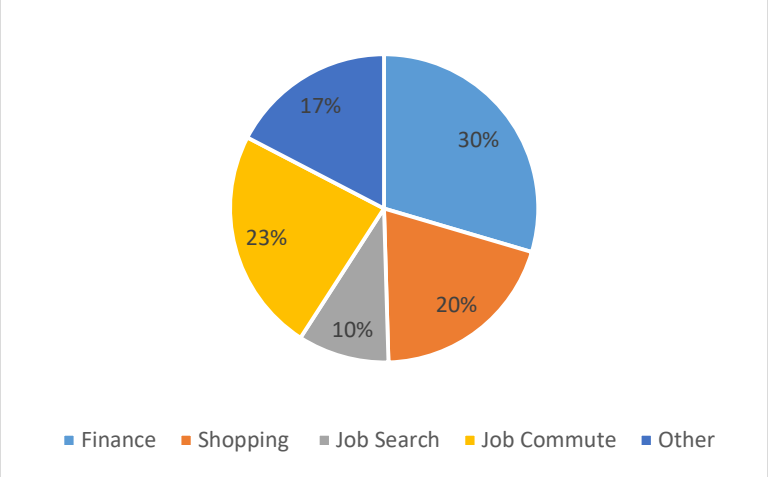


Figure 14: Expansion Priorities

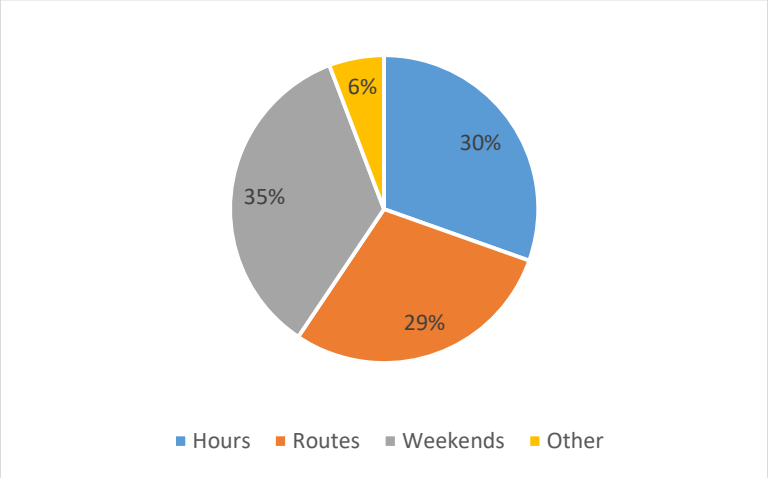


Figure 15: Additional Shelters

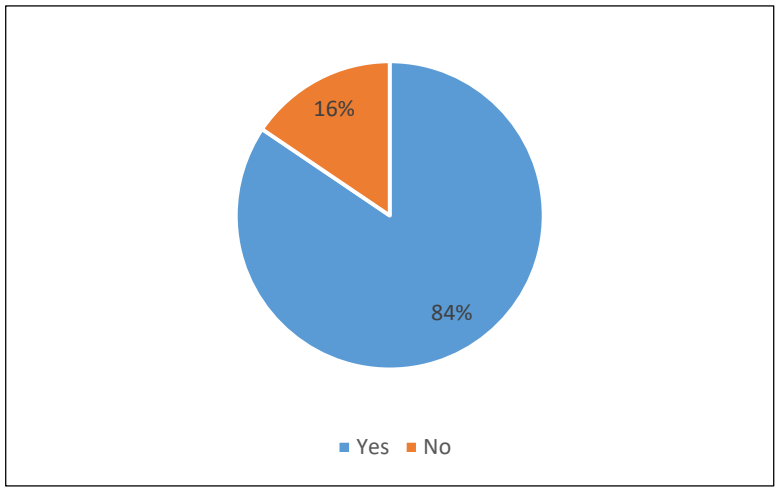
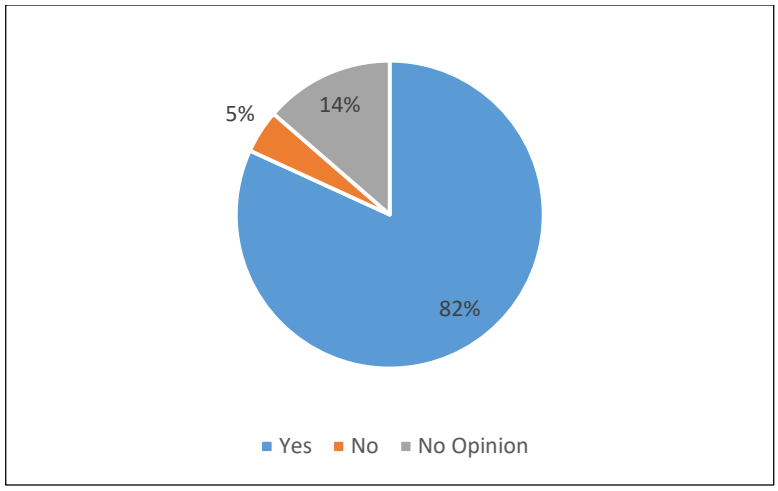


Figure 16: Creation of a Mobile Application



4.4Title VI

Due to the federal requirements associated with Title VI of the Civil Rights Act of 1964, the Basin Transit Association reached out for public input and to look at areas that met the "targeted populated" locations. Accoriding to population estimates for future growth, locations listed are possible locations for expansion of fixed route service.

The Basin Transit Association's Title VI Public Participation plan states the following, "The Basin Transit Association will work with UDOT staff to identify targeted minorities within the service area. UDOT PTT staff will supply demographic information to the lowest census level possible within the region to identify

specifically what minority populations exist within the BTA service area. The BTA will identify the appropriate locations to disseminate information to the identified populations (e.g. church, neighborhood gathering space) to seek comment, interest in new service or service revisions and/or extensions. BTA will document and maintain on file all activities related to Title VI outreach." For the purposes of this study, the following survey was distributed.

Table 9: Survey Results

Where do you live?									
Ballard	***Duchesne***	***Ft Duchesne***	***Myton***	***Naples***	***Roosevelt***	***Tridell***	***Measer***	***Vernal***	***Lapoint***
1	*8*	*6*	*4*		*5*	*1*	*1*	*36*	*2*
What is your preferred language?									
English	***Spanish***	***Other***	***NA***						
60	*3*	*2*	*5*						
What is your age?									
13-20	***21-24***	***25-40***	***41-55***	***56-65***	***66-99***				
11	*8*	*21*	*13*	*5*	*5*				
Do you have any disabilities?									
No	***Yes***	***NA***							
60	*8*	*1*							
What is your preferred mode of transportation?									
Pub Tran	***Taxi***	***Senior Service***	***POV***	***Other***					
21	*4*	*2*	*41*	*2*					
What prevents you from travelling throughout the region?									
Finances	***No POV***	***No License***	***No Public Trans***	***NA***					
9	*10*	*14*	*2*	*27*					
How often do you utilize public transit?									
Daily	***Sev Wkly***	***Weekly***	***Sev Monthly***	***Never***					
11	*8*	*8*	*18*	*22*					
What is your main purpose for transportation?									
Work	***Education***	***Medical***	***Leisure***	***Shopping***	***Other***				
25	*10*	*8*	*14*	*28*	*9*				
What is your ethnicity									
Caucasian	***Black***	***Hispanic***	***Multi***	***NA***					
32	*0*	*4*	*3*	*21*					

CHAPTER 5: BTA SERVICE ISSUES

5.1 Insufficient Coverage

The BTA service area includes the Uintah Basin's largest population centers; however, much of the region's population does not live adjacent to a bus stop. In addition, more transit dependent populations, including low-income, seniors, and persons with disabilities may not have easy access to stops or may not live within the existing service area. As demand continues to grow, service in surrounding communities needs to be considered. These communities include: Altamont, Ballard, Duchesne, Dutch John, Manila, Myton, Naples, Jensen, Randlett, Lapoint, Neola, and Tabiona.

In addition to the lack of geographic coverage, the current service hours limit the viability of using transit for many. Industries, including energy and healthcare, have regular schedules that fall outside of the traditional 40 hour week work schedule. Giving the BTA an expansion of service to include later hours and/or weekends would immediately provide an alternative mode for many, especially those working in two of the largest industries within the region.

5.2 Insufficient Staffing

The BTA has made strides in the amount of employees needed to run day to day operations. The amount of available staff, however, is not enough to ensure quality bus and paratransit service. As a result, the service declines. In addition, competition with higher-paying industries is an ongoing issue.

5.3 Unreliable Buses and No Bus Facility

BTA currently operates a fleet of 22-29' cutaway buses and minivans for complementary paratransit services. While the BTA ensures that all vehicles are safe and reliable, the amount of service miles and subsequent wear and tear quickly multiply on each vehicle. As a result, many of the vehicles are in need of replacement or constant repair. In addition, several of the older buses do not have the proper capacity to meet current demand, which impacts ridership.

The BTA does not have a proper facility to house its fleet, utilizing outdoor parking in Duchesne and Uintah Counties. Currently, buses are parked at the UBAOG offices and the City of Vernal Police Department. The constant exposure and weather fluctuations allow for increased wear and tear. In addition, snow removal may also delay service during the winter months.

5.4 Lack of BTA Awareness

While the BTA has seen growth in demand and ridership, many citizens in the region are not aware of the service or do not understand how to use the BTA services. While budget may be limited, opportunities to outreach to civic and non-governmental organizations do not require substantial investment. The strategies outlined in Chapter 6 would also create more visibility for BTA.

5.5 Dependence on Federal Funds and the Uncertain Economy

The Uintah Basin economy relies heavily on the oil and gas industries. Both counties in the BTA service area rely in one form or another on the regional and ongoing boom/bust cycle of the energy industry. When energy prices go up, the region is bustling with population growth and influx of local tax dollars. Unfortunately, the region is susceptible to the impacts of a decrease in energy prices, which would increase unemployment and reduce available tax revenue.

CHAPTER 6: FUTURE GROWTH AND EXPANSION

6.1 Strategies

Strategies should be prioritized to sustain and improve the BTA for the immediate, intermediate, and long term future of the program. Funding and advertising strategies will be discussed in addition to exploring future capital projects for the long term future of the BTA.

Diversify Funding

As described in Chapter 2, the BTA is heavily reliant on FTA programs in order to maintain operations. In order to expand service and/or address the issues identified above, the BTA should continue to search for opportunities to diversify its funding mix. In addition to the FTA funds currently awarded annually to the BTA, the FTA regularly provides opportunity for additional funds through competitive grant programs. Beyond specific transit funds, additional grant funds, including the Community Development Block Grant program (CDBG), Congestion Mitigation and Air Quality Improvement (CMAQ), and others can be utilized to subsidize BTA needs. A variety of Federal Highway Administration programs can be utilized to improve access and encourage ridership through active transportation infrastructure improvements.

Conversion to Clean Fuel

The Uintah Basin is far removed from the urbanized Wasatch Front. Known for its air quality issues, the Wasatch Front region has increased oil and gas development that has led to concentrations of wintertime ozone levels exceeding the National Ambient Air Quality Standards. While encouraging more ridership can result in less emissions, converting the BTA fleet from unleaded vehicles to cleaner technologies can further assist in mitigating the air quality issue. The following is list of clean fuel options that may be used in order to help combat air quality issues.

- *Compressed Natural Gas (CNG) Vehicles*
  CNG vehicles are much like gas powered vehicles in that both are fueled the same way and tends to be less expensive. CNG vehicles burn their internal combustion to power the engine and wheels. CNG vehicles generally creates fewer smog related tailpipe emissions than gasoline and can reduce tailpipe greenhouse gas emissions by approximately 20 to 30 percent (NGV America 2018). Currently, there are no CNG stations located in the Basin, requiring the BTA to install their own expensive infrastructure or work with the region to establish a public-private partnership (NGV America 2018).

- *Propane*

Propane fueling systems are becoming popular due to lower fuel (30-40% cheaper than an equivalent gallon of gasoline) and maintenance costs compared to convention vehicles. In addition, engine life may also be extended due to the high octane rating combined with its low carbon and low oil contamination. Infrastructure needed is similar to gasoline or diesel refueling equipment. The fuel is traditionally stored in an above ground tank and dispensed in a similar manner to gasoline.

Options for fueling include going to an offsite facility, leasing a tank (including maintenance and refueling) or buying a tank (Rousch 2018).

- *Electric Vehicles*

  There are two main electric bus categories: autonomous and non-autonomous. Autonomous buses keep the energy stored within the vehicle (battery), while non-autonomous buses maintain a continuous supply of electric energy from outside of the vehicle by overhead centenary or wiring.

  The choice in vehicle manufacture and further investments in associated charging technology would be required. The advantages gained from electric buses would include lower (hybrid) or zero emissions, reduced noise levels, and reduced operating costs.

Upgrade Bus Fleet to Large Scale Buses

The BTA's current fleet is comprised of cutaway/shuttle vehicles and not ideal for large service areas and high mileage routes. Wear and tear occurs quickly, requiring expensive and ongoing maintenance in order to keep the service running. Continued growth and demand for service will require the BTA to consider investments in over the road coaches for long haul routes (i.e. Roosevelt to Duchesne) and transit buses for city routes (i.e. the Vernal loop). Upgrade costs are expensive and may not be feasible for many years.

Park and Ride Areas

Commuting to work employment and related activities is one of the BTA's largest employment segments. Designated Park and ride lots would encourage ridership, provide safe locations for vehicles and act as advertisement for the BTA.

6.2 Route Expansion

The BTA's linear service area along US 40 provides service to the largest population centers in Duchesne and Uintah County. However, routes are limited in Duchesne, Roosevelt, and several communities located outside the service area would benefit from access to transit services. Expanded service would improve regional connectivity, increase accessibility for many who struggle with mobility, and advance economic development opportunities within the region. See Appendix C for expansion route maps.

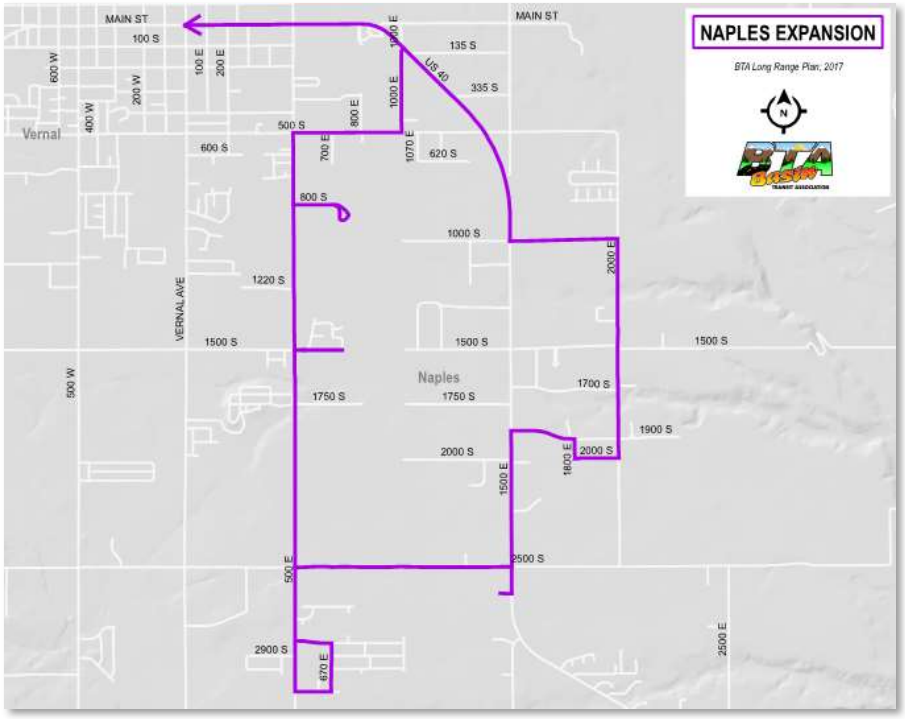
Uintah County Expansion

Transit service in Uintah County is limited primarily to Vernal City. As the population continues to grow, many rural areas will have a demand for public transportation services. Uintah County continues to be an area for tourism. The Dinosaur National Monument, which draws individuals to the area, may benefit from the use of public transit throughout the county. In addition, areas such as Naples, Jensen, and Ouray may benefit from BTA fixed route service.

Naples Expansion

The City of Naples is located immediately east of Vernal on US 40 and is the region's third largest community. Its proximity to Vernal and its relatively large number of households and jobs makes Naples a natural expansion area (see Figure 17).

Figure 17: Naples Expansion



Duchesne County Expansion

During the most recent economic boom in 2013, Duchesne County was one of the fastest growing counties in the United States. The economic prosperity brought many new citizens in the area who used transit. However, as with Uintah County, the economy goes with the world price of oil and natural gas. As a result, Duchesne County suffered the sharp decline of oil prices in 2015. With this in mind, many established areas in the county currently do not have access to the BTA fixed route system. Some of the areas include, Roosevelt, Neola, Altamont, Fruitland, and Tabiona. Expansion to these areas may be feasible within the next 10-30 years. With a mix of funding, including the above-mentioned Prop 1 revenue, expansion throughout the county is a priority.

Roosevelt

Roosevelt is the second largest community in the region with a population of over 6,000. It is centrally located within the BTA service area and is home to the UBAOG. The proposed route expands the existing Blue Route to provide improved connectivity around the City of Roosevelt (see Figure 18-21).

Figure 18: Roosevelt Loop

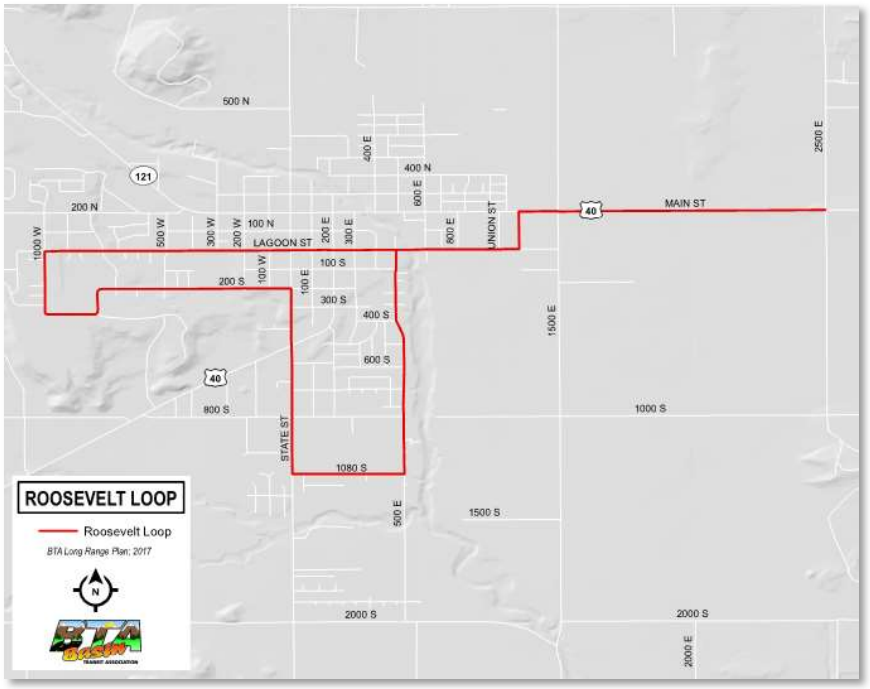


Figure 19: Fruitland Route

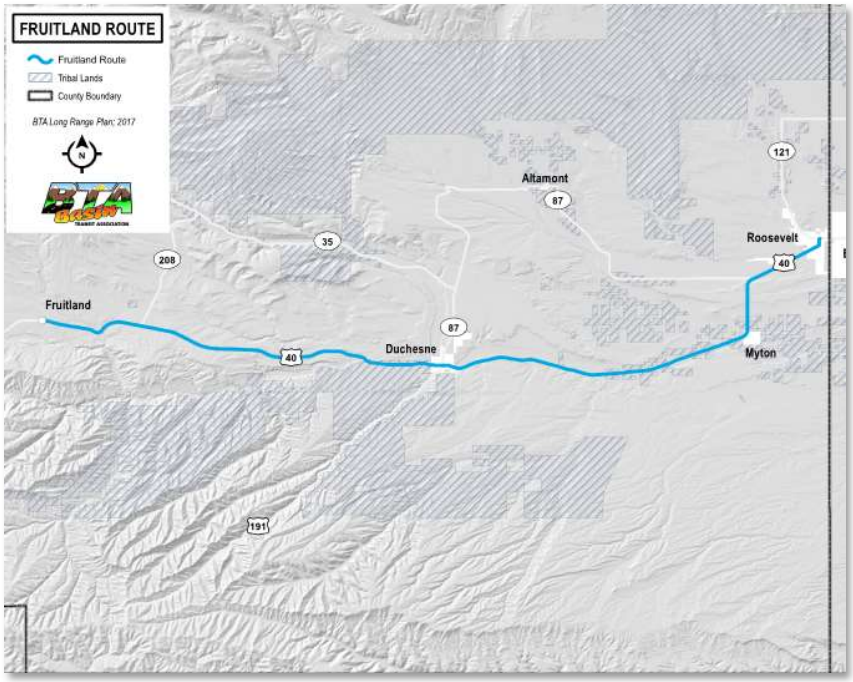


Figure 20: Altamont Route

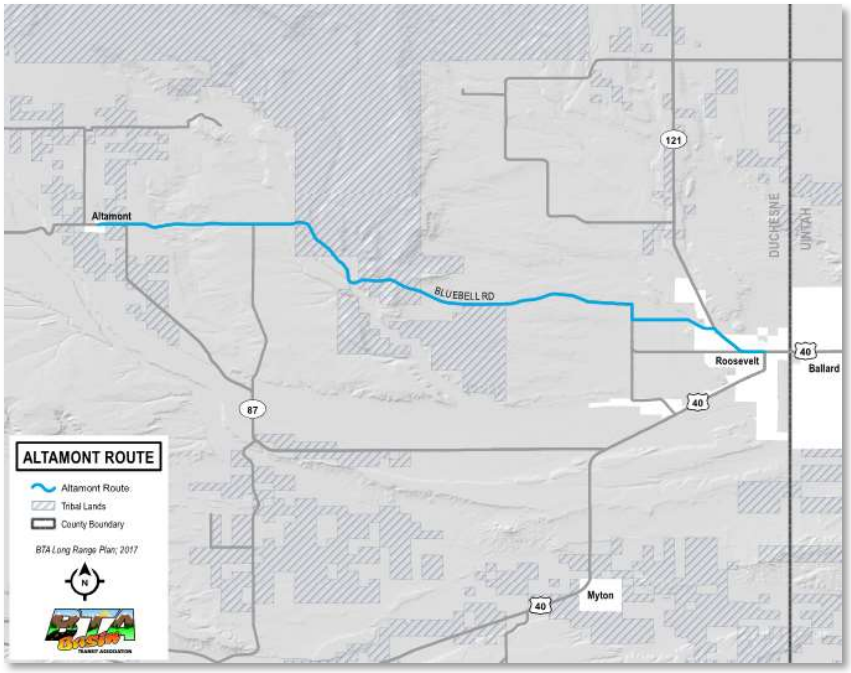
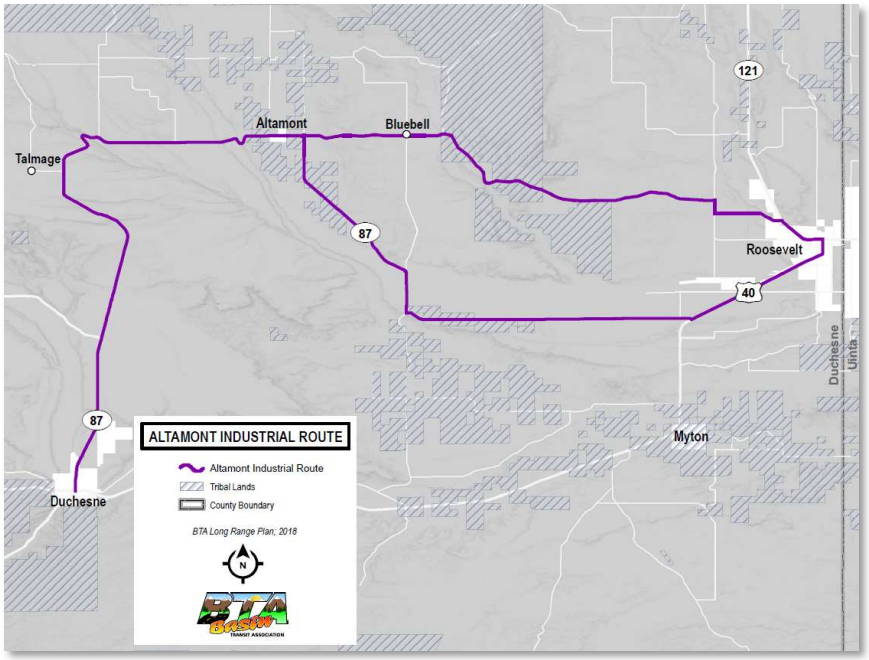


Figure 21: Neola Route

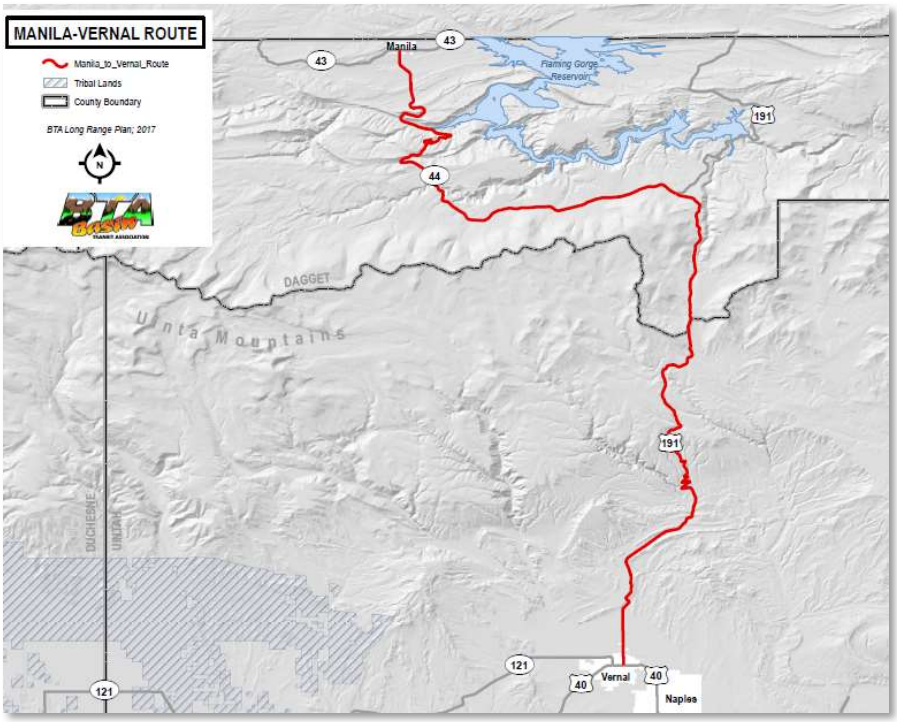
Figure 22: Altamont Industrial Route



Daggett County Expansion

Daggett County's economy is dominated by management of federal lands and the operation of the Flaming Gorge Dam. Growth in tourism has expanded recreation and allied service based businesses. These activities now form a major component of the county's economy. Daggett's employment continues to be seasonal, with the high point being the summer tourism months. Currently, the county is not served by the BTA. As the smallest populated county in Utah, Daggett County residents do not have quick access to health care, higher education, and other amenities that larger communities provide. A route from Manila to Vernal would provide a needed service. As population and demand continue to grow, a route may be feasible (see Figure 22).

Figure 23: Manila-Vernal Route



CHAPTER 7: OPERATING AND CAPITAL NEEDS

As the Basin Transit Association continues to grow and new routes are implemented, the need to create a consistent operating and capital improvements plan, with annual updates, is necessary. The plan should identify all capital needs, required financing, and a timetable for implementation. Operating costs include driver salary, fuel, and maintenance. Capital costs include the acquisition of new vehicles and equipment for new routes, replacement vehicles, a bus facility, bus shelters, and communications and security equipment.

7.1 Operating

The total operating costs for the existing BTA service is approximately $610,000 per year, including complementary paratransit services. On a per route basis, the cost on the Blue Route is approximately $185,000 and 30% of the total budget, while the Green and Red routes are approximately $213,500 and 35% each. Overall, the BTA's fully allocated cost per mile is approximately $1.80 per route (fixed route). The BTA only recently started tracking complementary paratransit services, so full fiscal numbers are not yet available. In comparison to the cost of a fixed route trip, paratransit trips are often up to ten times more expensive per trip provided (CUTR 2008).

7.2Rolling Stock Replacement Schedule

In order to provide safe, reliable, and comfortable service on the current routes, the BTA, at a minimum, needs to procure replacement vehicles every 2 years. Funding for rolling stock can be obtained through a variety of programs, however, FTA 5311 funding is the primary program for rural transit capital and operating needs. See Table 9 below for the schedule of rolling stock replacement.

Table 10: Replacement Schedule on Existing Routes*

Bus Size	Replacement Year	Capacity	Number of Buses Replaced	Required Match	Required Match	Required Match
				Unleaded	Diesel	Propane ($16,000 after market)
29'	2018	20	2	$30,692	$34,164	$61,384
29'	2020	20	2	$31,306	$34,847	$62,612
29'	2022	20	2	$31,932	$35,544	$63,864
29'	2024	20	2	$32,571	$36,255	$65,141
29'	2026	20	2	$33,222	$36,980	$66,444
29'	2028	20	2	$33,886	$37,720	$67,773
29'	2030	20	2	$34,564	$38,474	$69,128
29'	2032	20	2	$35,255	$39,244	$70,511
29'	2034	20	2	$35,961	$40,029	$71,921
29'	2036	20	2	$36,680	$40,829	$73,360
29'	2038	20	2	$37,413	$41,646	$74,827
29'	2040	20	2	$38,162	$42,479	$76,323

*Based on current UDOT procurement rate Assumes 1% annual inflation on chassis cost

7.3 Expansion Routes

The timing of the six future routes is unknown. However, as routes come on line additional capital will be needed. In order to provide service, a minimum of two vehicles is necessary for each route. While an alternative vehicle for each route may not be necessary, BTA should have a minimum of two replacement vehicles to ensure that service is maintained during maintenance periods. Service to less populated areas will have less demand, necessitating the need for smaller (22') vehicles. See Table 11 below for capital expansion costs. Tables 10 and 11 outline the estimated operating and capital expansion costs. The approximate 2018 operating cost is based on comparison of the cost and length of BTA's existing routes. The BTA may also want to consider ADA accessible vans for less populated routes. While the capital cost is approximately the same, the operating cost would be much less due to the improved fuel efficiency a van provides.

Table 11: Approximate Operating Cost per Expansion Route

Year	Route	Approximate 2018 Cost	3% Annual Inflation
2020	Naples Loop	185,000	196,000
2022	Roosevelt Loop	185,000	207,760
2024	Fruitland Route	185,000	220,226
2026	Altamont Route	185,000	233,439
2028	Neola Route	125,000	162,500
2030	Manilla Route	370,000	503,200
Total			1,425,285

Table 12: Expansion – Capital Costs*

Bus Size	Replacement Year	Capacity	Number of Buses Replaced	Required Match
22'	2020	12 to 15	3	$40,200
22'	2022	12 to 15	2	$27,336
22'	2024	12 to 15	3	$42,371
22'	2026	12 to 15	2	$29,276
22'	2028	12 to 15	2	$29,862
22'	2030	12 to 15	2	$30,459
*Based on current UDOT procurement rate -$67,000 Assumes 1% annual inflation on chassis cost				

7.4 Paratransit Vehicle Replacement Schedule

The BTA currently operates a fleet of 3 ADA accessible Dodge minivans to handle its complementary paratransit needs. However, ADA trips have increased the last half of 2016 by 43% compared to all of the previous year. If demand continues to grow, replacement vehicles will be needed faster than in the past. In addition, as expansion routes are implemented, additional complementary paratransit services will be required. Table 12 follows an estimated replacement schedule for the fixed route service.

Table 13: Complementary Paratransit – Capital Costs*

Van Size	Replacement Year	Capacity	Vans Replaced	Required Match
17’	2020	5	1	$13,200
17’	2022	5	1	$13,464
17’	2024	5	1	$13,733
17’	2026	5	1	$14,008
17’	2028	5	1	$14,288
17’	2030	5	1	$14,574
17’	2032	5	1	$14,865
17’	2034	5	1	$15,163
17’	2036	5	1	$15,466
17’	2038	5	1	$15,775
17’	2040	5	1	$16,091
*Based on 2017 UDOT Procurement (Ford Transit) – $60,000 Assumes 1% annual inflation rate on cost				

7.5 Transit Facility - Vernal

When the BTA first started service in Uintah County, a location to house the buses was not available. As the service grows, the need for bus storage is critical. The current options include renting or purchasing an existing structure, or purchasing a new building. Each option carries both positive and negative aspects. The use of Federal funds adds additional FTA provisions and National Environmental Policy Act (NEPA) requirements. As previously mentioned, the region is subject to economic boom and bust cycles due to fluctuations in the mineral extraction industry. If possible, investment during a down cycle could save the agency critical procurement funds. In addition, a partnership with another public agency/entity (i.e. Police Dept.) could leverage multiple funding streams. In this example, FTA funds would pay for the percentage of the building utilized for transit purposes.

7.5.1 – Transit Facility – UPDATE September 9, 2024

As previously projected in February 2017 for the 2018 BTA Long Range Plan, the BTA has conducted surveys of the program needs and determined that a facility is a constriction point that has obstructed future growth. As previously stated, the BTA in its current state operates three fixed route bus transportation routes. These routes account for seven of ten full-time positions, with five of those seven located in Vernal City. Below is an explanation of the benefits of a transportation facility in the region.

Route Expansion

Since the Long Range Plan was written, the BTA has begun slowing moving forward with route expansion evaluations to determine the greatest area of need and the best opportunities to improve the current system. The BTA has determined that an updated Roosevelt City loop and Naples City loop are the most important to the system for organic growth.

Roosevelt City loop (Orange Route pending) – This route plan has been updated to include Ballard City and the wider city limits of Roosevelt City in a ten-lap system. This will create two new full-time driving positions as well as a need for two new buses to accommodate the new demand. The route will allow the Blue and Green Routes to be updated into individual express routes, reducing lay-over time on both routes, and able to create two additional laps to the Green Route. The Roosevelt City loop is the keystone to expanding services to and from the Roosevelt City area. This is accomplished by reducing the amount of Roosevelt stops on Green and Blue routes in lieu of expanded services via the Orange route. The expansion will further strain parking capabilities as the BTA main office location houses vehicles for Vernal in lieu of parking space. Additional vehicle needs in Roosevelt City will further strain this capability to house vehicles for Vernal City.

Naples City loop – This route has had demand dating back to the implementation of the statewide transit tax (2016). It was created to mimic the time structure of the Vernal City loop (Red Route) to create a twelve-lap system. To accomplish this, two new full-time driving positions as well as two new buses will be needed to accommodate the new route. As the BTA does not have any kind of facility in the Vernal City greater area, fitting two to four new vehicles (paratransit and backup needs) within our current parking conditions is simply not feasible. A transit facility would expand public transportation access to including another city in the Uintah Basin Region including to ADA eligible clients.

Established Route Growth

Green and Blue Routes – As stated above, the Roosevelt City loop expansion would create additional commuter opportunities between Vernal City and Roosevelt City as the Green Route currently has six laps, and the route update would increase this to eight laps. This would create one additional full-time position and a need for an additional fixed route bus, thus further straining the bus storage capacity.

Bus Storage

With the previously established route expansions and updates, the BTA would need additional bus storage at a minimum of five buses to accommodate this growth. The current parking allotment is at maximum capacity for current operations, let alone any program improvements. In addition, all current bus parking is outside uncovered and unprotected against weather elements. A transit facility and appropriate land could accommodate covered parking stalls to ensure buses are strained less in extreme heat and cold storage during summer and winter respectively.

Storage is also needed for non-bus related items including bus benches, shelters, signage & hardware, and seasonal bus stop maintenance (landscape care). Equipment necessary to care for these sites for the public is limited by storage capabilities.

Maintenance Program

The BTA currently utilizes formula funds with local match to pay for all aspects of the BTA program including vehicle maintenance. The BTA prioritizes using these formula funds with local vendors to support the local community we serve whenever possible. The BTA utilizes a periodic RFP system to ensure vendor pricing and maintenance quality are upheld. A transit facility would not detract from this plan in any way, but it would provide an opportunity to hire one to two additional staff to greatly improve the maintenance program from where it is now. The first position would be a maintenance manager who would be responsible for verifying maintenance work with vendors, coordinating maintenance in schedule with the FTA / UDOT / UBAOG preventive maintenance plan, and ensuring the necessary care for these vehicles can be done in a more efficient manner. The second position would be a grounds keeper / maintenance support staff who would directly report to the maintenance manager, and their primary duties would include cleaning and grounds care at each bus stop throughout the seasons (weeds in the summer versus snow removal in the winter).

Mobility Management Central Dispatch

As the BTA is part of the greater UBAOG, the UBAOG houses the region's Mobility Manager in coordination with BTA operations. This includes the establishment of a central dispatch at the UBAOG, but it is limited in its reach in the region. The planned Naples City expansion would expand said reach, and it would also enhance UDOT's Mobility Management goal to ensure public transportation access for everyone by showing the Uintah Basin coverage from Naples City to Duchesne City.

Program Administration and Operations Efficiency

The program is limited in its outward growth by simple access. A lack of infrastructure and amenities has limited program refinement needed at this stage of the program. GPS, cameras, digital trip sheet upgrades, and overall federal compliance means have been limited in how to access and deliver such materials. Currently the BTA utilizes a small shed to house small quantities of cleaning materials an essential paperwork. A facility to house greater quantities of stock as well as driver and vehicle asset security is a necessity for the BTA team.

Community Development (Job Opportunities)

The transit facility would greatly progress BTA growth to have a three-to-five year goal of expanding full-time positions from ten (plus the operations manager and transit director) to:

+2 full-time drivers (Roosevelt City expansion)
+2 full-time drivers (Naples City expansion)
+1 full-time driver (Green Route growth)
+2 full-time maintenance staff
+1 full-time floating substitute driver (all routes; may overlap with grounds keeper maintenance staff)

7.6 Bus Stop Shelters or Stop Amenities

While not necessary to provide service, bus stop shelters accomplish many things:

- Keeps people out of the elements
- Gives safe/accessible place for passengers
- Presence alone advertises a transit service for those not previously aware
- Encourages ridership
- Can be utilized to increase revenue through advertising
- Can be used for community art
- Architecture can represent local history or a variety of local elements
- Real time transit data can continually update passengers of vehicle status

Working with the communities and partners, the BTA will identify locations for bus shelters/benches and other amenities. Amenities are not required at all bus stop locations but should be considered at the highest utilized locations within each community. All stops should be located near intersections to encourage pedestrians to cross at intersections rather than mid-block. Assuming the right of way is provided or already purchased, implementation of bus shelters can be relatively inexpensive. While costs can vary based on an array of elements, the range for each shelters (including concrete pad/construction) should be within $5,000-$10,000 range. In addition, BTA should assume $1,000 per shelter for ongoing maintenance as well. Amenities such as benches could be much less, but could accomplish many of the same bullets listed above.

7.7 Surveillance

While the BTA serves a rural area, safety should not be ignored and measures to deter illegal activities should be implemented. The current BTA fleet lacks on-board cameras to continually record all passenger activity, including the driver. Cameras are also easily mounted to record driver and pedestrian activity in case of accidents, complaints, and the need for event reconstruction. In addition, cameras can also come equipped with built-in GPS to identify vehicle locations and routes travelled.

While the cost of surveillance technology can be cost-prohibitive, many of today's vendors offer systems within the $750 - $1,000 range per vehicle (tailored for paratransit and shuttle buses). The amount of required data storage influences the cost. Many systems can be easily installed and the recorded data can accessed via office computers. If the BTA moves into large bus procurement, the need for more sophisticated camera equipment would be recommended.

7.8 Communications / Dispatch Equipment

As the BTA service continues to expand and potentially broaden its services, more sophisticated dispatch equipment should be considered. Computer-aided dispatch (CAD) and automatic vehicle location (AVL) allows dispatch to create and manage vehicle and driver assignments while continuously monitoring the fleet in real-time. Real time data can also be utilized to update the public on arrival and departure times while trip planning or waiting at a bus stop. Providing real-time data can be an easy way to encourage ridership, build confidence in BTA and market the system.

Systems range in complexities and many solutions would be overkill for a smaller system like BTA. As a result, cost and quality can vary dramatically. Assessing the current and future need, including the desire to provide increased demand response beyond the ¾ mile requirement is a critical next step. In addition, the Utah Transit Authority, in a partnership with Tooele County and Ride Match, are creating an open source dispatch platform that could be a cost-effective solution when complete.

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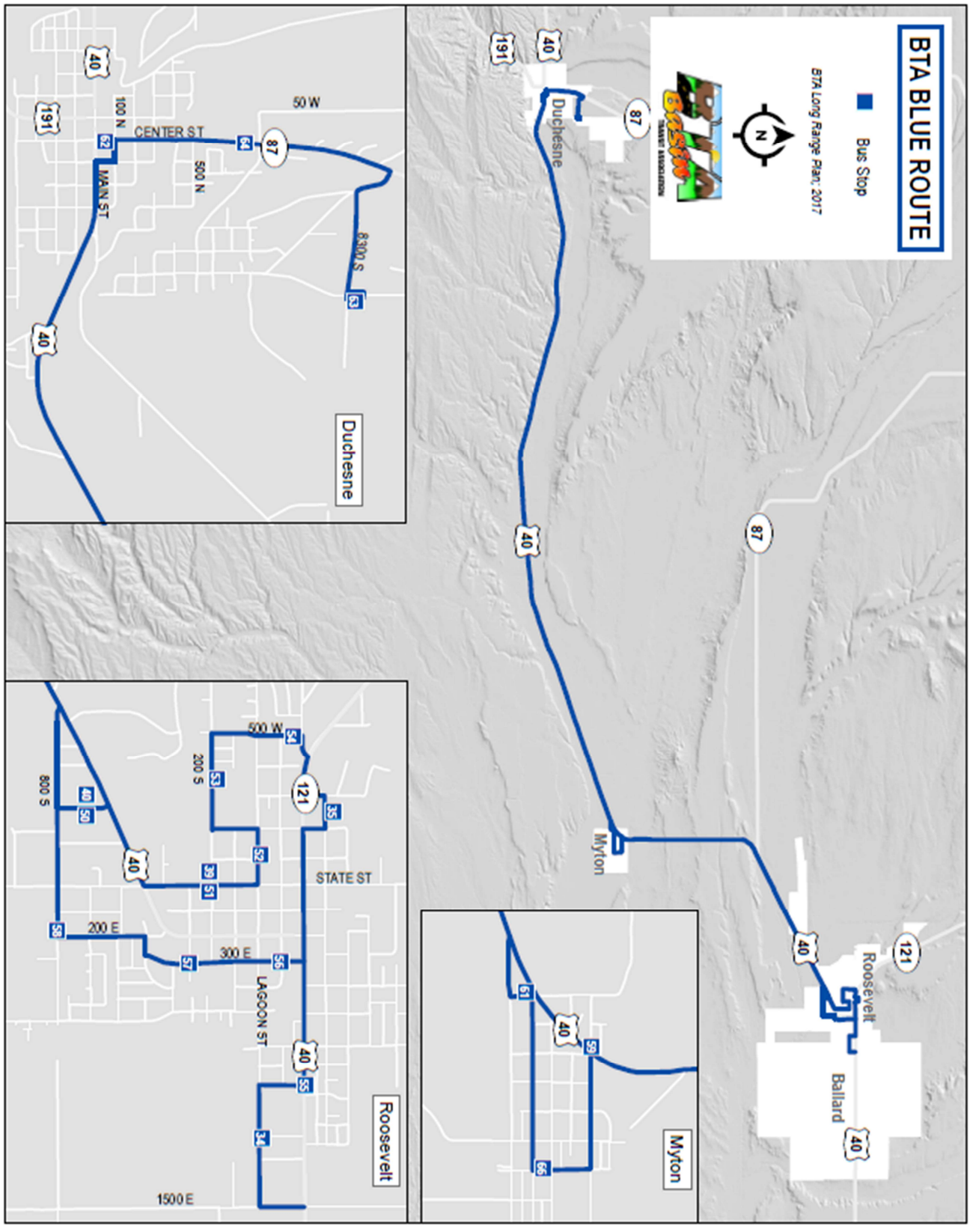
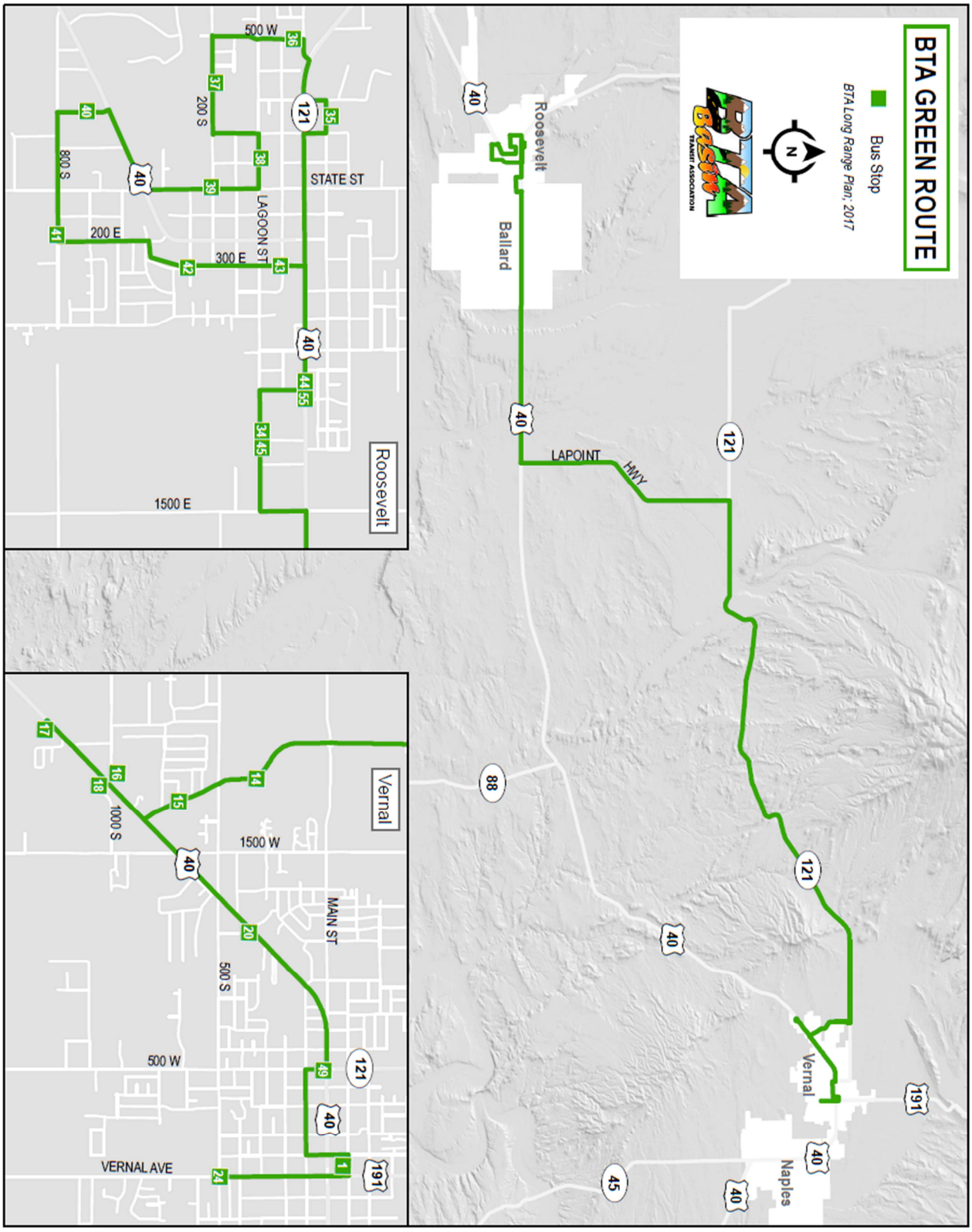
APPENDIX A: BTA EXISTING ROUTES


BTA BLUE ROUTE
Bus Stop
BTA Long Range Plan; 2017
N
Duchesne
Myton
Roosevelt
Ballard
CENTER ST
MAIN ST
100 N
500 N
50 W
800 S
500 W
200 S
800 S
STATE ST
200 E
300 E
LAGOON ST
1500 E
191
40
87
121


BTA GREEN ROUTE
Bus Stop
BTA Long Range Plan; 2017
Roosevelt
Ballard
LAPOINT
HWY
Vernal
Naples
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200 S
800 S
200 E
300 E
LAGOON ST
STATE ST
1500 E
Roosevelt
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MAIN ST
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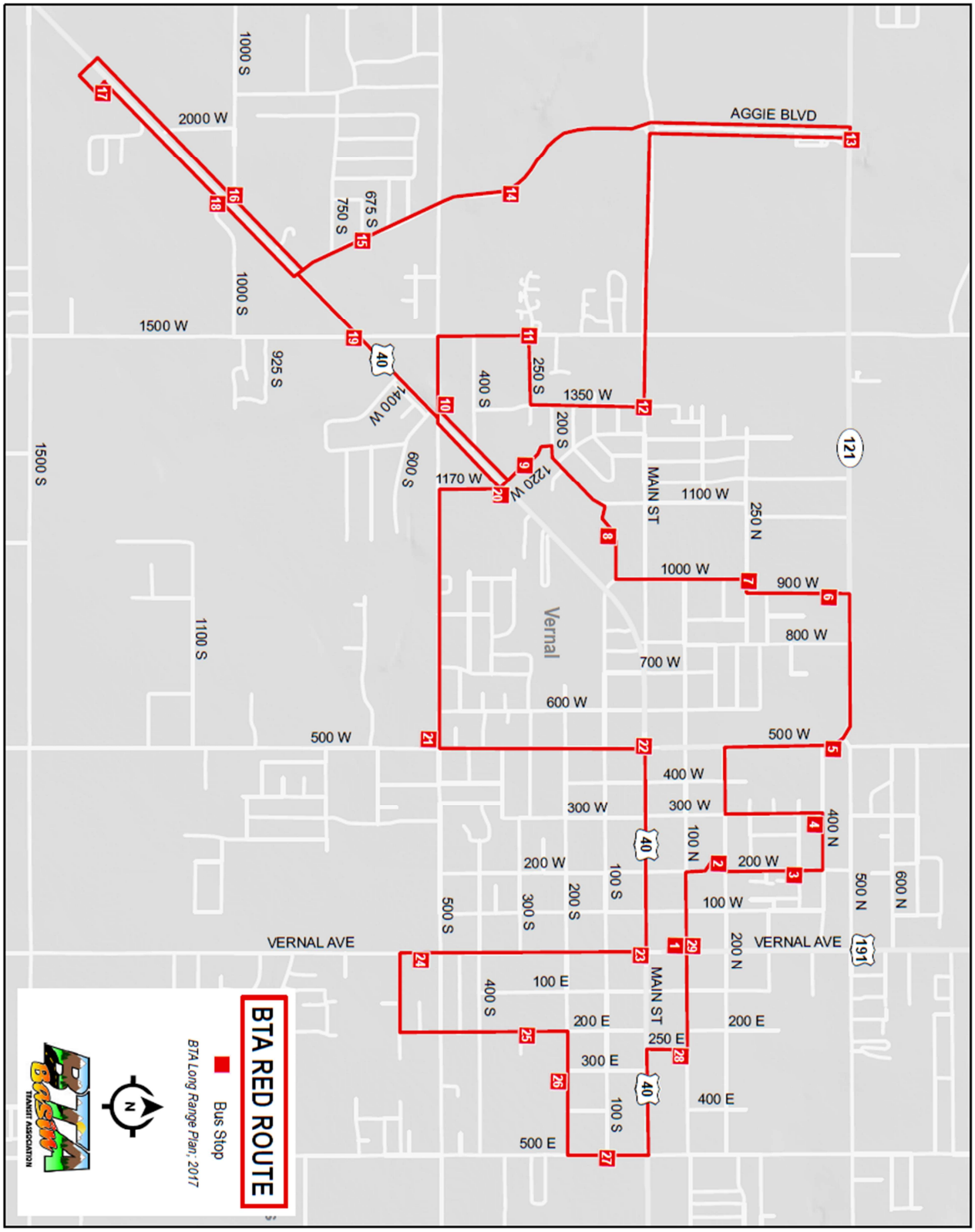
500 W
VERNAL AVE
Vernal


BTA RED ROUTE
Bus Stop
BTA Long Range Plan, 2017
AGGIE BLVD
VERNAL AVE
MAIN ST
Vernal
2000 W
1500 W
1000 S
925 S
1500 S
1100 S
600 S
400 S
250 S
675 S
750 S
1400 W
1350 W
1220 W
1170 W
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600 N
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APPENDIX B: MEETING NOTES & SURVEY RESULTS