

CHAPTER IV

Existing Services

INTRODUCTION

Chapter IV presents an overview of operations and financial information for Red Apple Transit. Information on the current system ridership is also presented. This information was used to develop service presented later in the document. Information is organized as follows:

- a. System Overview
- b. Financial Overview
- c. Ridership Review

Prior to reviewing the various performances of Red Apple Transit, it is important to point out some key terminology, including:

Cost per Passenger-Trip (One-Way) - Total system costs (all operating expenses plus administrative costs plus capital costs on a depreciation schedule) divided by the number of passenger-trips. Costs and trips must be recorded over the same period of time.

Cost per Vehicle-Hour - Total system costs divided by the sum of the number of hours that each vehicle is operated in service. The typical usage is vehicle revenue-hours.

Cost per Vehicle-Mile - Total system costs divided by the total distance traveled by all vehicles in the system when they are in service. The typical usage is vehicle revenue-miles.

Effectiveness - For a transportation system, the effect is that people are moved from one place to another (i.e., trips). Measures of the effectiveness of a transportation system are, for example, the number of trips taken on it or the number of individual persons that it serves. Or a transportation system can be evaluated in terms of its effectiveness toward a social goal; for example, the

number of persons who can take advantage of a particular social service because of the transportation system.

Efficiency - The efficiency of a transportation system will be some measure of the relationship of system inputs to system outputs. Transit planning has generally expressed this efficiency measure in terms of the ability to minimize an input (i.e., costs) to produce a unit of output. The most-often-used measures are cost per passenger or cost per vehicle-mile.

Fixed Costs - Typically those costs that are less (or not at all) sensitive to changes in service. They include such items as general supervision, overhead and administration, rents, and debt service. Fixed costs are differentiated from variable costs because they represent those costs that must be met whether the service operates or not. If the project runs into operating problems (e.g., loss of passengers), fixed costs will continue.

Level of Service - In the transportation literature, level of service is generally defined as a measure of the convenience, comfort, safety, and utility of a system or system component (vehicle, facility, etc.) from the passenger's point of view. A variety of measures can be used to determine a particular component's level of service. In transit, level of service measures incorporate such factors as availability and frequency. Level of service is typically designated in six ranges from A (best) to F (worst) for a particular service measure based on the passenger's perception of a particular aspect of the transit service.

One-Way Passenger-Trips - This refers to the total number of boarding passengers. This measure can be used on individual routes or for the system of routes as a whole.

Passenger-Miles - The sum of the trip distances traveled by all passengers.

Passengers per Vehicle-Hour - The number of passenger-trips divided by the sum of the number of hours that each vehicle is operated.

Passengers per Vehicle-Mile - The number of passenger-trips divided by the number of vehicle-miles provided by all vehicles.

Revenue-Hours and Miles - Those vehicle-hours and miles during which the transit vehicle is actively providing service to passengers. For fixed-route service, this includes all the time spent on routes when passengers may board the vehicle. For demand-response service, this includes all time spent in actively providing passenger service. It includes the time and miles between dropping off one passenger and picking up another even though there may be no passengers onboard at the time.

Variable Costs - Those costs that are sensitive to changes in the actual level of service. They are usually affected by the vehicle-miles, vehicle-hours, or some other measure of level of service. Variable costs typically include such items as fuel, oil, tires and tubes, drivers' wages, and other items of expense that are sensitive to the level of operation. Vehicles and equipment items purchased have life expectancies which require that a depreciation factor be included when figuring costs. Most typically, depreciation is figured on a straight-line basis with a 10 percent residual salvage value at the end of that time. The length of time depends on the type of vehicle.

Vehicle-Hour - Either the time the engine is running or the time a driver is assigned to a vehicle; the operating time for a vehicle. Revenue-hours are the hours when the vehicle is operating and available for passenger service.

Vehicle-Miles - The total number of miles driven on all vehicles used to provide passenger service. Revenue-miles are the miles operated by vehicles available for passenger service.

RED APPLE OPERATIONAL REVIEW

Vehicle Inventory

The current inventory of vehicles that Red Apple Transit owns, for both fixed-route and paratransit service, is listed in Table IV-1. This table provides details about the vehicles including the model year and capacity. As shown in the table, Red Apple Transit currently owns 12 vehicles. The fleet is a combination of body-on-chassis vehicles and trolley buses. The seating capacity of the body-on-chassis vehicles is 12 passengers, and the capacity for the trolleys is 29 passengers. These capacities are reduced when passengers in wheelchairs are served.

Table IV-1 Vehicle Inventory							
Bus #	Year	Make	Model	Type	Seating w/o Wheelchair	Wheelchair Positions	Miles
9794	2006	Ford	E-350	Startrans Small Bus	12	2	151,501
9797	2006	Ford	E-350	Startrans Small Bus	12	2	155,279
9798	2006	Ford	E-350	Startrans Small Bus	12	2	161,139
9810	2006	Ford	E-350	Startrans Small Bus	12	2	153,838
9825	2006	Ford	E-350	Startrans Small Bus	12	2	151,708
9880	2006	Ford	E-350	Startrans Small Bus	12	2	142,144
9883	2006	Ford	E-350	Startrans Small Bus	12	2	138,755
10138	2009	Freightliner	Main Street	Hometown Trolley	29	2	New
10139	2009	Freightliner	Main Street	Hometown Trolley	29	2	New
10141	2009	Freightliner	Main Street	Hometown Trolley	29	2	New
10142	2009	Freightliner	Main Street	Hometown Trolley	29	2	New
10143	2009	Freightliner	Main Street	Hometown Trolley	29	2	New

Source: Red Apple Transit, 2010.

Farmington Routes

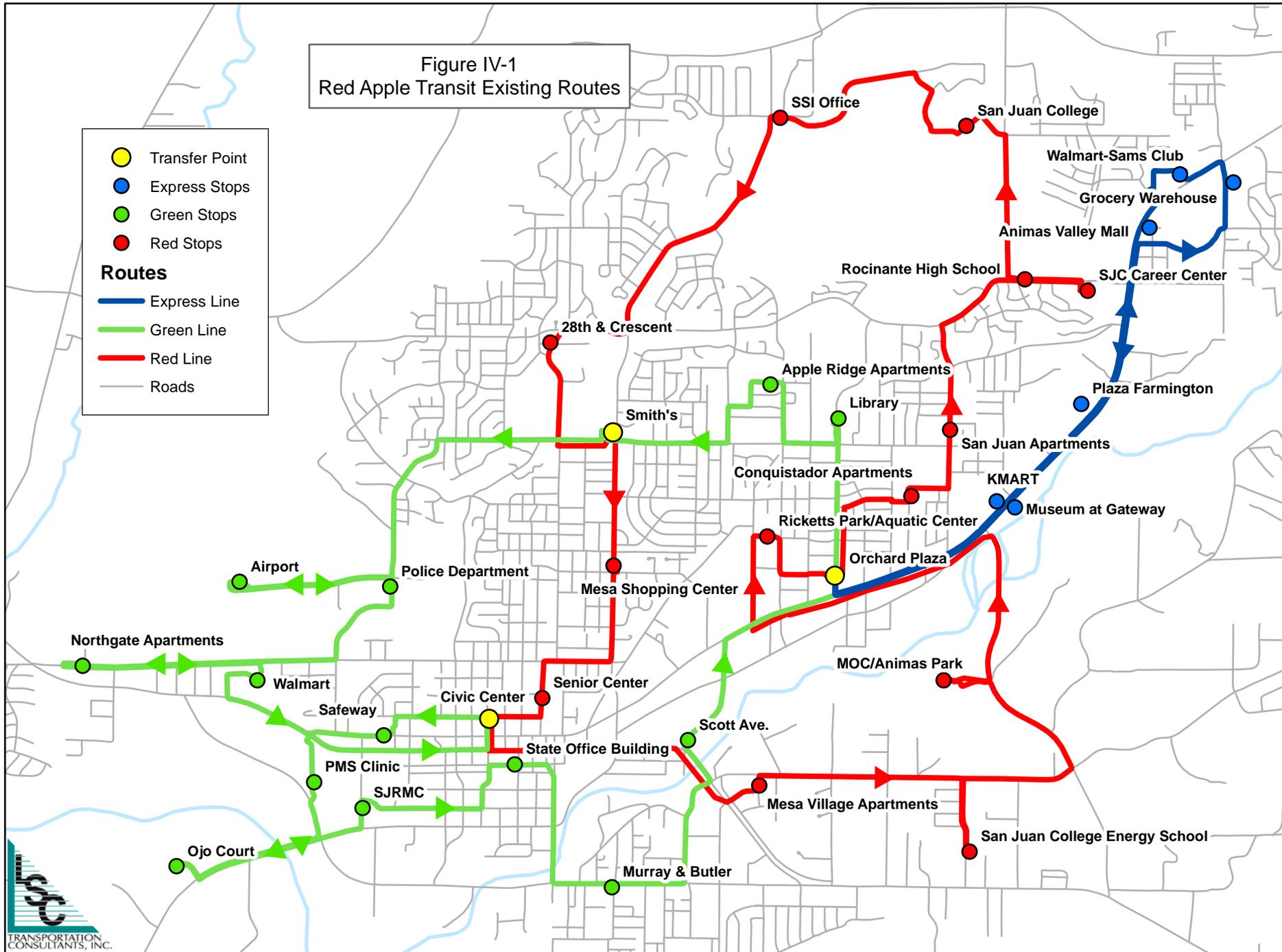
Red Apple Transit service currently operates between 7:00 a.m. and 6:00 p.m. Monday through Saturday. The service provides three routes that operate within the city limits of Farmington only. These are the Red, Green, and Express Routes. Figure IV-1 shows a map of these three routes within the city. The Green and Red Routes operate in small loops and provide service in many of the residential neighborhoods. The Express Route serves as more of a shopping circulator, taking passengers to local malls and retail centers. These routes operate on 30-minute headways during the hours of operation. This requires two vehicles to operate on each of the Red and Green Routes due to the length of the routes (five total).

Figure IV-1
Red Apple Transit Existing Routes

-  Transfer Point
-  Express Stops
-  Green Stops
-  Red Stops

Routes

-  Express Line
-  Green Line
-  Red Line
-  Roads



Regional Routes

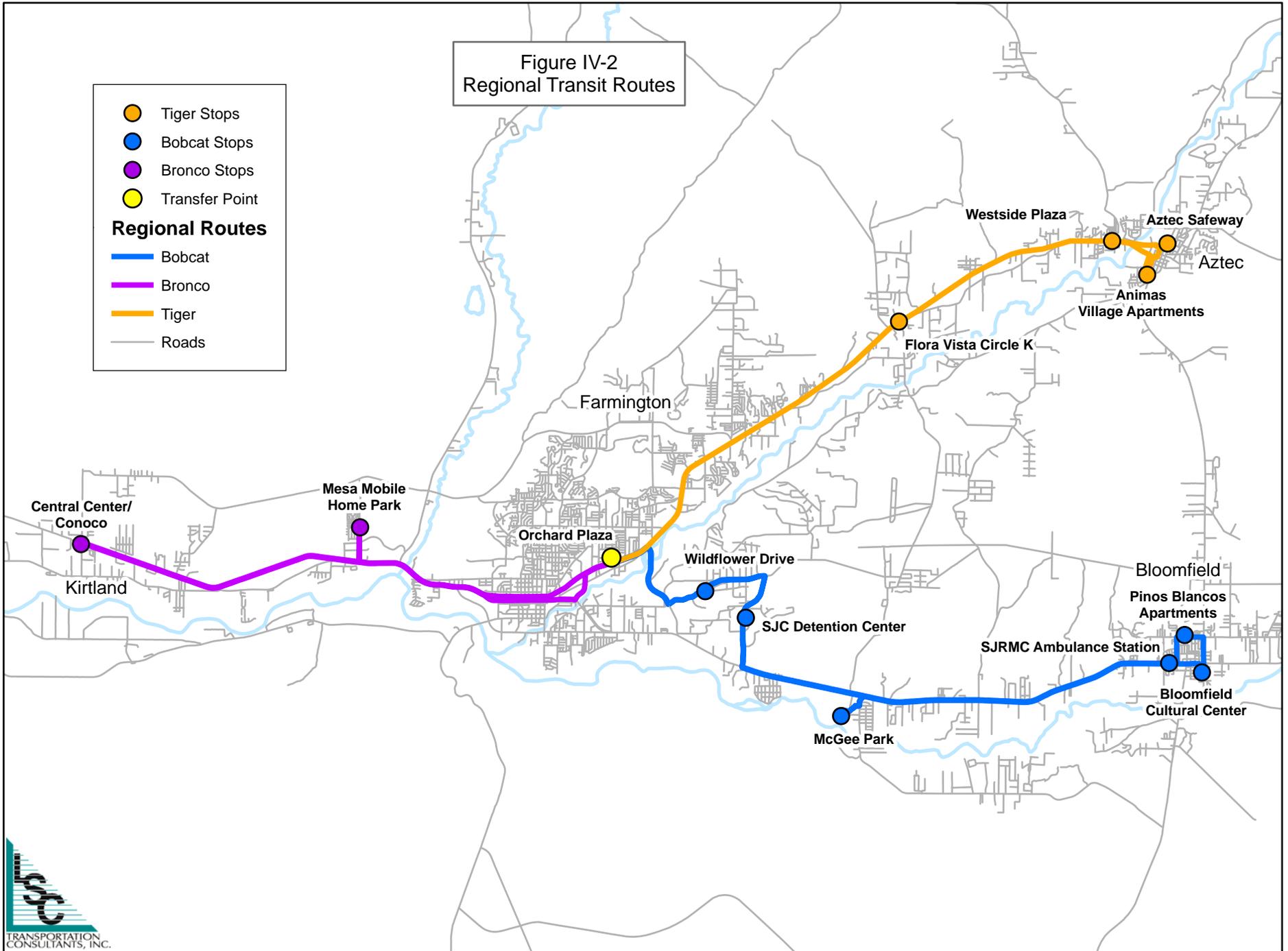
In addition to the City of Farmington routes, Red Apple Transit also operates three routes that provide service between municipalities. These routes go between Farmington, Kirtland, Aztec, and Bloomfield. The routes have been named Tiger (Aztec), Bobcat (Bloomfield), and Bronco (Kirtland) and are shown in Figure IV-2. The regional routes currently have a limited number of stops along the route and operate three round-trips daily (at 7:30 a.m., 12:30 p.m., and 5:30 p.m.). Riders are able to transfer between the Farmington and regional routes at Orchard Plaza.

Figure IV-2
Regional Transit Routes

-  Tiger Stops
-  Bobcat Stops
-  Bronco Stops
-  Transfer Point

Regional Routes

-  Bobcat
-  Bronco
-  Tiger
-  Roads



Fares

Table IV-2 shows the fare structure for Red Apple Transit. The system uses a system which allows riders to easily know the appropriate fare. Trips on the Farmington routes cost \$1.00 for a one-way trip. The fare for a one-way trip on a regional route is \$2.00. Students, seniors (over 65), the disabled, and individuals with Medicaid/Medicare cards pay half-price (either \$0.50 or \$1.00). Children aged 11 and under are able to ride for free if they are with a paying adult.

Table IV-2 Fare Structure	
Category	Fare
Within the City of Farmington	\$1.00
Routes outside of Farmington	\$2.00
Seniors, Students, Disabled, Medicare Customers	Half-Price
Children 11 and younger	Free
<i>Source: Red Apple Transit, 2010.</i>	

Revenues

The revenue required to operate the transit system in Farmington comes from a variety of sources including local government, federal grants, and county assistance. Table IV-3 provides the existing revenue sources through FY2009. Nationally, very little revenue is typically taken in through farebox recovery, especially for smaller transit systems. These data show that farebox revenues account for 10.3 percent of total operating revenues.

Table IV-3 FY2009 Revenues	
Revenue Type	Amount
FTA Revenue (Operations)	\$294,759
FTA Revenue (Capital)	\$34,349
City of Farmington	\$344,449
City of Aztec	\$16,937
City of Bloomfield	\$10,384
San Juan County	\$28,476
Fares	\$83,422
Total	\$812,776
<i>Source: Red Apple Transit, for July 2008-June 2009.</i>	

RIDERSHIP

Figure IV-3 shows the ridership by month for 2009 for the Farmington routes. The Green Route has the most passengers by far, with the Express Route generally drawing the least ridership of the three. Trends in ridership stay fairly consistent throughout the three routes, with higher ridership in the late summer and early fall. The Express Route seems to have less variation in ridership than the other city routes.

Looking at data from previous years, ridership has increased at a fairly steady rate for Red Apple Transit. With an established set of routes and a growing region, it is likely that an upward trend in ridership will continue for the foreseeable future.

Figure IV-4 shows a similar graph, but for the regional routes. These routes get much less daily ridership than the city routes, so they were included in their own graphic to show the scale. The route that has the highest ridership is the Bobcat Route, which goes between Farmington and Bloomfield. The Tiger Route (Aztec) generally has the lowest ridership among the regional routes. While the regional routes also show a spike in ridership in the late summer, there is greater variation by month, which is accentuated by the fact that the ridership is smaller than the city routes; thus, a smaller difference in ridership appears to be a greater trend. Table IV-4 shows the information for local and regional routes for each month.

Figure IV-3 Farmington 2009 Route Ridership by Month

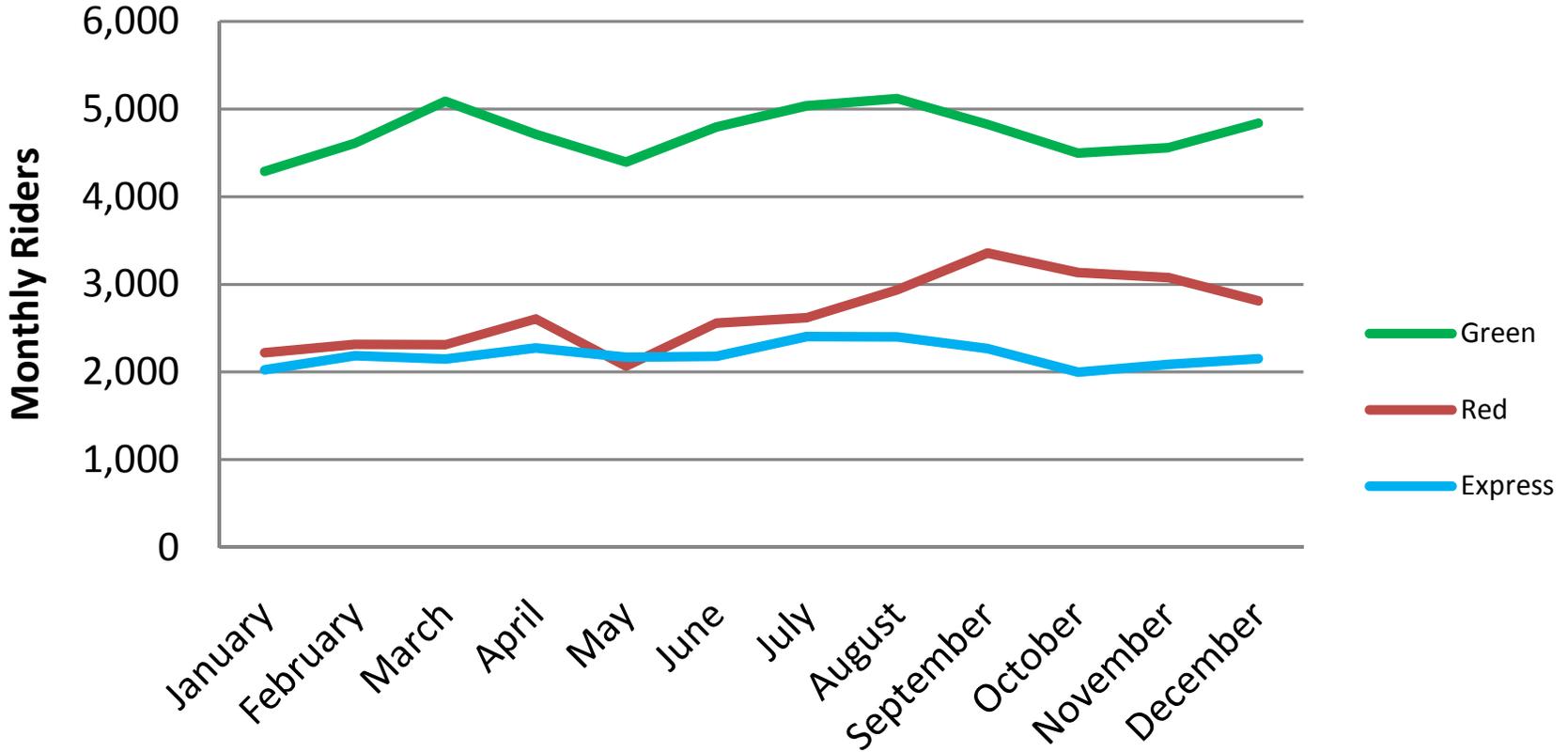
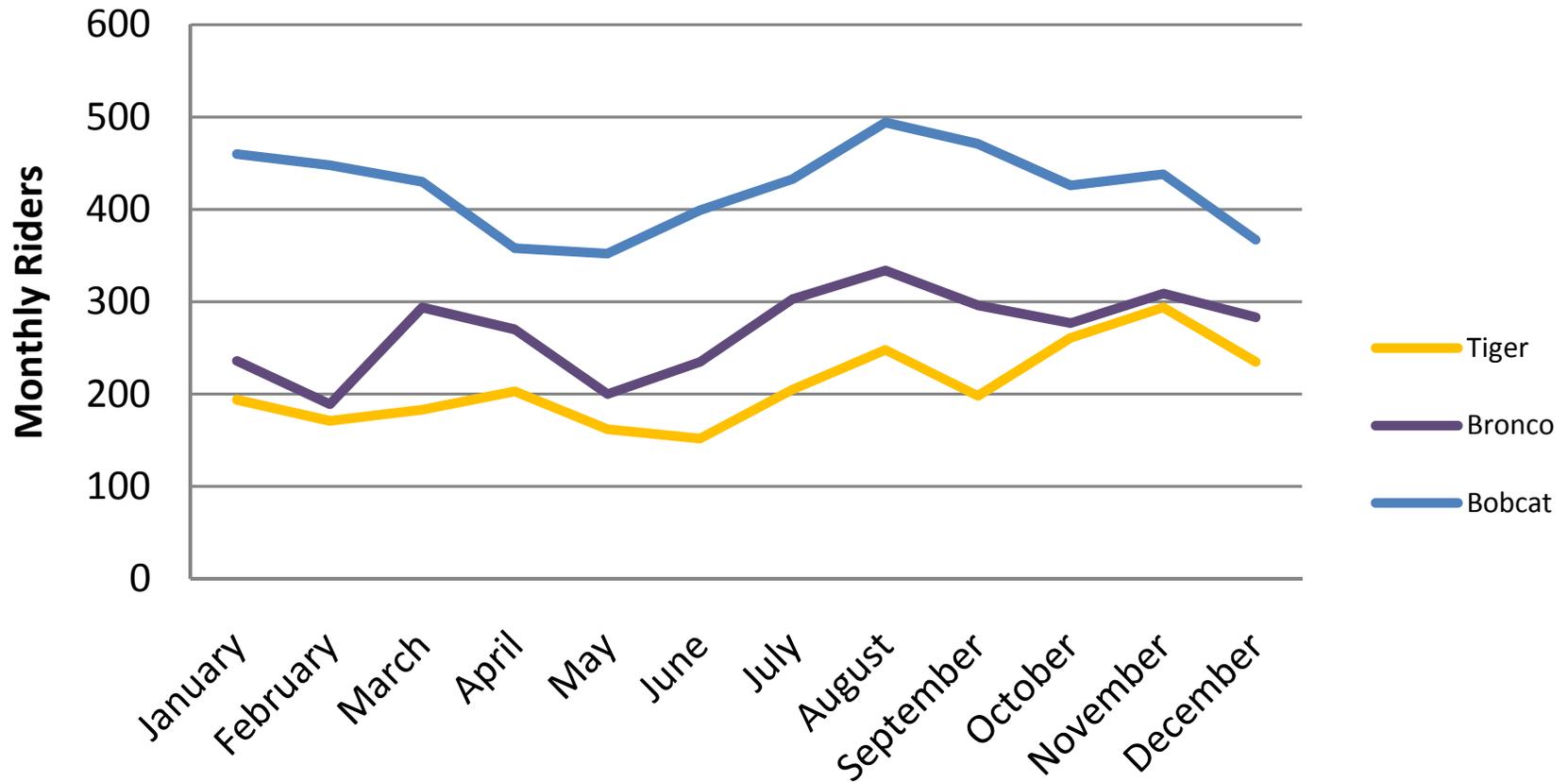


Figure IV-4
Regional 2009 Route Ridership by Month



**Table IV-4
Route Ridership by Month for 2009**

	January	February	March	April	May	June	July	August	September	October	November	December
Green	4,288	4,611	5,087	4,713	4,393	4,794	5,036	5,119	4,823	4,497	4,557	4,837
Red	2,221	2,314	2,311	2,607	2,068	2,559	2,619	2,938	3,358	3,136	3,076	2,810
Express	2,027	2,185	2,147	2,275	2,170	2,179	2,403	2,400	2,269	1,998	2,088	2,152
Tiger	194	171	183	203	162	152	205	248	198	261	294	235
Bronco	236	189	294	270	200	235	303	334	296	277	309	283
Bobcat	460	448	430	358	352	399	433	494	471	426	438	367

Source: Red Apple Transit, 2010.

Table IV-5 shows the ridership trends for the regional routes over the last four years. As shown in the table, all of the regional routes have experienced significant growth over the last four years, now totaling over 10,000 trips per year. The Bobcat has the highest amount of ridership, followed by the Bronco route.

Table IV-5 Regional Route Ridership				
	2006	2007	2008	2009
Tiger	1,720	2,390	2,349	2,494
Bobcat	651	2,759	5,208	4,986
Bronco	860	1,624	2,191	3,244
Total	3,231	6,773	9,748	10,724
<i>Source: Red Apple Transit.</i>				

Cost Model

Based on 2009 data for operations and maintenance, a cost model was developed. This cost model was used to estimate the costs of future service scenarios including both service adjustments and service expansion. Costs were divided into three categories: fixed/administrative, operating, and maintenance. The costs were divided by the units of service delivery—service hours for operating and service miles for maintenance.

Cost Center	Cost	Units
Fixed/Administrative:	\$107,699	1
Operating:	\$565,950	22,800 hours
Maintenance:	\$154,342	378,912 miles

The resulting cost model for total costs is:

$$\$107,700 + \$24.82/\text{hour} \times \text{Hours of Service} + \$0.41/\text{mile} \times \text{Miles of Service}$$

For incremental or marginal costs, the model is:

$$\$24.82/\text{hour} \times \text{Hours of Service} + \$0.41/\text{mile} \times \text{Miles of Service}$$

As a single-variable cost model, all reduced to cost per hour, Red Apple Transit operates at $\$31.59/\text{hour} = (\$565,950 + 154,352)/22,800$.

The current number of hours is estimated to require 14.3 full-time-equivalent operators at approximately 86.5 percent utilization (1,800 hours worked of 2,080, after vacation, sick, and holiday benefits as well as annual training time.) This number was used for expansion scenarios to estimate the growth in staffing needs.

OTHER TRANSPORTATION SERVICES

In addition to services provided by Red Apple Transit, there are a few other providers active within the area. A couple of these providers run scheduled service, while others are human service agencies that provide service as needed for their clients.

Senior Centers

Aztec Senior Center

Local senior centers often play a key role in human service transportation. The study area has three different senior centers. The Aztec Senior Center has four nine-passenger vans that are used to help transport clients. The vans are used to transport individuals to the center between 8:00 and 9:20 a.m., and for the reverse trip at around 12:45 p.m. The center serves Aztec as well as Flora Vista. In total, approximately 8 to 12 one-way rides are provided daily via the Aztec Senior Center.

Farmington Senior Center

The Farmington Senior Center also provides some transportation services within the area. The agency can provide transportation between 8:00 a.m. and 4:00 p.m. on weekdays, for individuals over the age of 60 within the City of Farmington. The agency has two 13-passenger vans, along with a 20-passenger bus. These vehicles are used for various activities within the area. Bloomfield also has a senior center; however, specifics on the transportation services they provide were not available at this time.

Intercity Services

Navajo Transit

Navajo Transit operates the Number 7 Shiprock/Window Rock Route, which has stops in Kirtland and Farmington (at American Plaza). This route has two different weekly schedules—one for Monday and Friday, and the other for Tuesday, Wednesday, and Thursday.



Service on Monday and Friday stops at Kirtland in the eastbound direction at 6:45 a.m. and 5:08 p.m., and in the westbound direction at 7:17 a.m. and 5:35 p.m. In Farmington the stops are at American Plaza at 7:00 a.m. and 5:20 p.m.

The Tuesday/Wednesday/Thursday schedule includes the aforementioned times, as well as a midday run, which stops in Farmington at 1:55 p.m. The additional Tuesday through Thursday stop in Kirtland is at 1:35 p.m. in the eastbound direction and, though not scheduled, would reach Kirtland at 2:17 p.m. in the westbound direction.

The fare is \$2.00 daily for the service. Navajo Nation Transit has reached an agreement with Greyhound, for Navajo Nation Transit to serve as the intercity provider between Shiprock and Farmington.

Road Runner Transit

Through mid-2010, the Southern Ute Tribe—which operates Road Runner Transit—operated bus service between Ignacio and Aztec. The service operated seven round-trips daily and cost \$4.50. A one-way trip takes approximately 45 minutes, and the termini of the route are in Aztec and the Sky Ute Casino. As of late 2010, this service was discontinued, after grant funding elapsed. Pending re-application, this service may resume.

TNM&O/Greyhound

TNM&O (now part of Greyhound) has a station in Farmington that allows users to connect to intercity bus service. The station is located on East Animas Street, east of the downtown area. The majority of longer trips require that users transfer in either Grand Junction or Albuquerque. Buses are currently scheduled to leave Farmington twice daily, once at 4:55 a.m. and again at 11:00 p.m.

Having access to intercity bus services is an important part of the larger transportation network, especially for users that need to travel long distances, but cannot afford rail or air travel. There is immediate access to intercity rail services, with the nearest Amtrak station being located in Gallup, approximately 88 miles away.

Other Providers

San Juan Community College

While San Juan Community College does not provide specific transportation outside of incidental travel for class purposes, they are a key player in the local landscape. With three separate campuses (Farmington, Aztec, and Kirtland), coordination opportunities between the organizations could help to strengthen ridership while allowing students to attend classes more reliably (especially regarding night classes). The opportunity also exists to add an additional stop at the Health and Human Performance Center on campus.

San Juan Center for Independence

The San Juan Center for Independence is an organization that operates an independent living center for individuals with disabilities. As part of their overall mission, some transportation services are provided for this population.

Safe Ride Services

Safe Ride Services, a division of First Transit, has an office in the Kirtland area. The organization provides door-to-door, non-emergency medical transportation. Most of the services the organization provides are on behalf of local health organizations and hospitals.