# Town of Prescott Valley

## Transit Tax District

## Draft

## Technical Report 1

TransitPlus
Moving People & Ideas

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# 1: Introduction

## Study Purpose

This project is designed to identify the transit services that would be appropriate within the Town of Prescott Valley and how a district might be used to fund and deliver these services. Previous transit studies have looked at services provided on a regional basis, but development of regional services is something that will take a larger group of stakeholders. This project focuses on what could be done within the Town of Prescott Valley. This project includes identification of:

- The level of service appropriate for a town the size of Prescott Valley
- Transit service options
- Citizen involvement through public meetings and Transit Advisory Committee meetings
- Recommendations for services, funding levels, district boundary, and implementation activities.

A related project, known as the Regional Mobility Management Implementation Plan for Yavapai County, is being undertaken at the same time. This mobility management project will serve as the region's coordination plan and covers all of Yavapai County. It is looking at a wide range of ways to improve mobility for residents, including clients of human service or employment and training programs and is actively working with the local coordinating council members in the CYMPO and Verde Valley region. The mobility management project will address:

- Coordination among agencies;
- Institutional and funding mechanisms to improve the use of resources;
- Measuring the value of transit services; and,
- Development of services (local or regional transit, ridesharing services or vanpools, specialized services for the elderly and disabled, voucher programs, etc.);

It is anticipated that each of these projects will benefit from the other. The Prescott Valley Transit District project will draw from information gathered in the broader mobility management plan. For example, information on the value of transit services will assist in identifying the value of any transit services considered for implementation in Prescott Valley. Similarly, the service plans developed in the Prescott Valley Transit District project will inform the mobility management plan.

## Project Guidance

A Transit Advisory Group has been established to guide the project. This group consists of interested citizens and representatives of a wide range of agencies who are interested in the development of transit services. Notes from the advisory group meetings, with participants listed, is included in Appendix A.

Two public meetings will also be held as part of this project. The first will be held October 20th to obtain feedback on goals and preliminary service options and funding levels.

## Prior Studies

Two transit studies, the *"2009 Transit Implementation Plan"* by TransitPlus and the *"2007 Regional Transit Needs Study"* by Nelson|Nygaard serve as a foundation for this work. They examined regional and local services for the Central Yavapai Metropolitan Planning Organization (CYMPO). The focus of this project is the Town of Prescott Valley so it primarily builds on the local service portions of these studies.

## Approach

The key activities in this project are:

- Identifying a recommended service plan
- Developing financial plan
- Identifying the institutional structure and district boundary
- Identifying the details needed to implement the service and institutional plans.

Both the service plan and institutional structure will be developed in a process that starts with preliminary options that are presented first to the Transit Advisory Group and then to the public at an Open House meeting. The plans will then be refined, taking into consideration the comments received. A recommended plan will be identified by the Transit Advisory Group, and will serve as the basis for developing the final service, financial, capital, and institutional details.

The implementation plan is anticipated to include information needed to get a ballot measure on the ballot and to build support for the measure.

## Technical Report Contents

This technical report provides information on preliminary service, funding, and institutional options. Chapter 2 provides information on context, beginning with information on the size and type of system that would be appropriate for the Town of Prescott Valley and addressing questions about the value of transit.

Chapter 3 covers the basic service options and provides conceptual alternatives so residents can see the level and type of services that can be considered. The chapter begins with pertinent demographic and economic information as this is used in developing service plans that will be effective.

# 2: Context for Developing Transit Services

## Transit Services in Urbanized Areas

Across the nation, the majority of communities that are part of urbanized areas have transit services. In fact, transit systems become quite common once an area reaches about 25,000 to 30,000 in population. Prescott Valley has a population of approximately 40,000 and is part of an urbanized area with a population of 81,000.

It is useful to understand why transit services are widely available in urban areas of the US and the challenges to establishing and operating transit services in Arizona and other states that do not have state funding for transit services.

### WHY HAVE TRANSIT SERVICES?

The reason transit services are common in such communities is because of the benefits transit service provide to a community. These benefits include enabling people who do not drive or do not have cars to participate in the work force; enabling seniors to participate in community life and to continue living independently in their own homes for more years because they have a way to get groceries, to social activities, and to medical appointments; and providing an economic driver for the economy.

Transit users benefit by having lower cost trips than if they have to maintain an automobile or pay for a taxi ride. As a result, more trips will be made for work, health care, education, shopping, etc., resulting in many benefits: increased earnings, involvement in the local community, and additional spending in the community. Improved health and reduced likelihood of experiencing isolation and depression are additional benefits experienced by people with access to transit services. These cost savings and mobility benefits provide about $2 of benefits for every $1 spent on transportation services in small urban areas such as the Prescott Valley/Prescott area.

There are also economic benefits for the community as a whole due to the impact of spending on transit services. These include the direct effects from jobs created in the community and the indirect effects of spending on industries that provide supplies to transit agencies.

They have shown that, the economic benefit of transit services about in the categories of transportation cost savings and low-cost mobility benefits. In addition, economic impact benefits add about $1.15 for every dollar spent. For each $1million in annual expenditures, an average of 5.3 jobs are supported.

Economic studies have been conducted to measure these benefits, so basic information is available on the national and regional level. The Mobility Management Implementation Plan will drill down to obtain specific economic information for Yavapai County. In the meantime, using a figure of $3 in benefits for every $1 spent is a reasonable approximation.

## WHAT IS THE IMPACT OF NO STATE FUNDING?

After AZ LTAF funding was no longer available for matching Federal dollars, many smaller communities found they could not afford to maintain the same level of transit services. Some have eliminated transit service entirely but more commonly it has been cut back or taxpayers have been asked to pay additional taxes.

Most states provide some level of funding for transit services. Arizona, Alabama, Hawaii, Nevada, and Utah are states that do not provide state funding for transit services.

One key reason that states and Federal programs support transit services is to help provide services that bridge jurisdictional boundaries. People travel between cities and counties for jobs and other activities, but it is hard for localities to justify funding services outside their jurisdictional boundaries. The Federal and state funds help to bridge this gap; good agreements among local entities are also key to making this work. Another key reason that states and Federal programs fund transit service is that many of the benefits of transit that have been identified accrue to the Federal and State government rather than local governments. These include lower unemployment and Temporary Assistance to Needy Families payments, and lower Medicaid payments. A funding system that is balanced between local, state, and federal sources makes good sense.

Relying on just Federal and local funds is more of a challenge. In the case of the Town of Prescott Valley, this is easier because the Town will have access to a significant amount of Federal funding unless and until other CYMPO municipal agencies decide to participate in a transit service. Many communities in Arizona do find enough value in funding transit service that it is worth funding it with local funds. It is important to note that the larger the area, the less important Federal funds are to the mix. Large metropolitan areas like Phoenix rarely get more than 4-5% of their funding from Federal sources.

## TYPICAL TRANSIT SERVICES IN SMALL URBAN AREAS

TransitPlus recently completed a peer analysis of small urban areas for the Lake Havasu City Metropolitan Area. The results provide a good gauge of the level and type of system that would be appropriate for the Town of Prescott Valley. The peers largely included western transit systems in small urban areas with a population of about 50,000. Some communities were larger and others smaller, as shown in Table 2.1.

While each system varies somewhat, together they provide an idea of the type of service level that might be anticipated for the Town of Prescott Valley. At present, the transit services in the Town of Prescott Valley are provided through a taxi voucher program operated by NACOG. A total of $50,000 is provided annually and NACOG is responsible for qualifying individuals (based on income) who apply for vouchers and disbursing them to eligible individuals. The individuals are responsible for paying a $2 fare per trip. This program fills a key gap for some of the most vulnerable individuals.

**Table 2.1: Peer Communities**

| Community/MPO | | 2013 Population |
|---|---|---|
| Kingman | AZ | 28,393 |
| Bullhead City | AZ | 39,383 |
| Casa Grande | AZ | 50,111 |
| Grand Island | NE | 50,440 |
| Sierra Vista | AZ | 52,745 |
| Farmington | NM | 53,049 |
| Lake Havasu | AZ | 53,427 |
| Flagstaff | AZ | 71,957 |
| **Prescott Valley /Prescott** | **AZ** | **80,381** |
| Santa Fe | NM | 89,254 |
| El Centro | CA | 107,672 |
| Greeley | CO | 117,825 |
| Grand Junction | CO | 128,124 |

The peer cities have a range of ridership, vehicles, service levels, and costs. Table 2.2 shows the range that might be expected for a Town system, based on the population of 40,000. The purpose of this table is to provide an idea of what level of service might be provided. Four vehicles operating 13 hours per day, six days a week, results in a system with about 16,000 annual service hours. The actual service alternatives may have peak hour services or a van pool program, looking different than this.

A typical cost is $6 per rider, so this is used in the estimates. The operating costs in the middle of the range are $40 to $62 per hour. Most of these systems are directly operated rather than operated by third party contractors. To be conservative, it is recommended Prescott Valley plan on costs at the high end and also adjust for inflation.

**Table 2.2: Typical Transit Service Levels for Peer Communities**

| Characteristic | Range: Middle of Peers | |
|---|---|---|
| | Low | High |
| Vehicles in Service | 5 | 8 |
| Annual Riders | 123,225 | 164,300 |
| Annual Service Hours | 16,430 | 20,538 |
| Annual Cost | $739,350 | $985,800 |

It is also helpful to understand what this might mean in terms of costs per capita and costs per household, particularly as a ballot initiative is anticipated. The numbers in Table 2.3 do not reflect fare or advertising revenues, nor do they include a budget for capital costs. Remember, this is just for understanding the range of costs that may be reasonable. The actual service plan may be different than this. If costs can be kept in this range, each household would expect to pay $2 - $3 per month for the local share of transit services, or $24 to $36 annually.

**Table 2.3: Typical Transit Service Costs**

| Annual Costs | Range: Middle of Peers | |
|---|---|---|
| | Low | High |
| Cost per capita: Total cost / 40,000 people | $18 | $24 |
| Cost per household: Total cost / 15,256 HH | $50 | $65 |
| Cost/HH - Local share (balance is Federal funds) | $25 | $33 |

# Relationship to the Urbanized Area and County

The Town of Prescott Valley spearheaded this opportunity for the advocates of transit service to identify the transit services that could be provided through a taxing district and develop the information necessary to go to a vote. As such, this project only examines the Town of Prescott Valley.

The Town of Prescott Valley has strong economic ties to the City of Prescott and rest of the urbanized area. At the first Transit Advisory Committee meeting the importance of having regional services was discussed and the consensus was that regional services are important. Although transit services can be initiated in Prescott Valley, it is important to consider how they will, at some point, be part of a larger system.

Yavapai County also supports some transit services within the County, and there are County lands in and around the Town of Prescott Valley. The overall role of Yavapai County in funding transit services is not included in this project, but may be a part of the broader Mobility Management Implementation Plan for Yavapai County.

# Opportunities and Challenges

## OTHER SERVICES

Transit services have developed in other parts of the region and Yavapai County.

- Cottonwood has solid local transit services that have operated for many years, and also provides commuter services to Sedona. The local Cottonwood services started as demand response services and over time developed into fixed route as well.
- Yavapai Regional Transit operates limited regional services connecting Chino Valley to Prescott and Prescott Valley. They also operate services within Chino Valley.
- Prescott Transit Authority, a private business, has operated a loop route in Prescott for many years. It is called Citibus and is subsidized primarily by the private business operations, although advertising revenues and fares are part of the funding support.

Two major volunteer driver programs operate in the County, People Who Care serves Prescott Valley, Prescott, and surrounding area while Verde Valley Caregivers Coalition operates in the Verde Valley area. A wide variety of human service programs operate and primarily serve specific client groups for which program funding is available for transportation.

The voucher program operating in the Town of Prescott Valley is another example of a service that is operating to fill the gaps.

***Opportunity***: The opportunity is to build upon both services and expertise that exists locally.

***Challenge***: All of these agencies have limited funds to put into management and administration and none have expertise with managing FTA urbanized area funds. The mobility management

plan will examine ways to build a common management structure; Prescott Valley could benefit from this and "purchase" management services.

## FUNDING RESOURCES

Financial resources include a substantial portion of the Federal Transit Administration urbanized area program funds for the urbanized area. This is an annual apportionment of about $1.25 million, of which at least half is available for services and capital in the Town of Prescott Valley. These funds are constrained in terms of the portion that can go for operating and capital expenses.

- In areas under 200,000 in population (the Prescott-Prescott Valley urbanized area is less than half of this), this fund source can be used for up to 50% of the net operating loss.
- These funds can cover 80% of capital expenses, including the capital cost of contracting when the contractor provides vehicles

This is the big picture, and there are a variety of other rules that affect the amount of funding that can be claimed. In terms of the overall context, covering 50% of operating and 80% of capital expenses is assumed.

In addition, there is about three years worth of funding that is available for capital equipment which would enable the Town to obtain a fleet for initial services.

The Town of Prescott Valley presently has $50,000 annual expense for the taxi voucher program, provided to eligible individuals. It is anticipated that public transit service would replace the voucher program, at least in the area where public transit is operated. The Town could be requested to redirect these funds into transit services for the general public.

***Opportunity***: Federal funds are available to fund capital and a portion of operating expenses, with an accrued balance that can be accessed.

***Challenges***: Local funds will be needed for about 50% of operating costs and 20% of capital costs. Expertise in managing a direct Federal Transit Administration program will be needed.

# 3: Transit Service Options

This section begins with an overview of demographic characteristics and employment characteristics. The demographic characteristics provide a foundation for identifying the areas of greatest transit need. This information provides a foundation for the service plans that follow.

## Demographic and Employment Characteristics

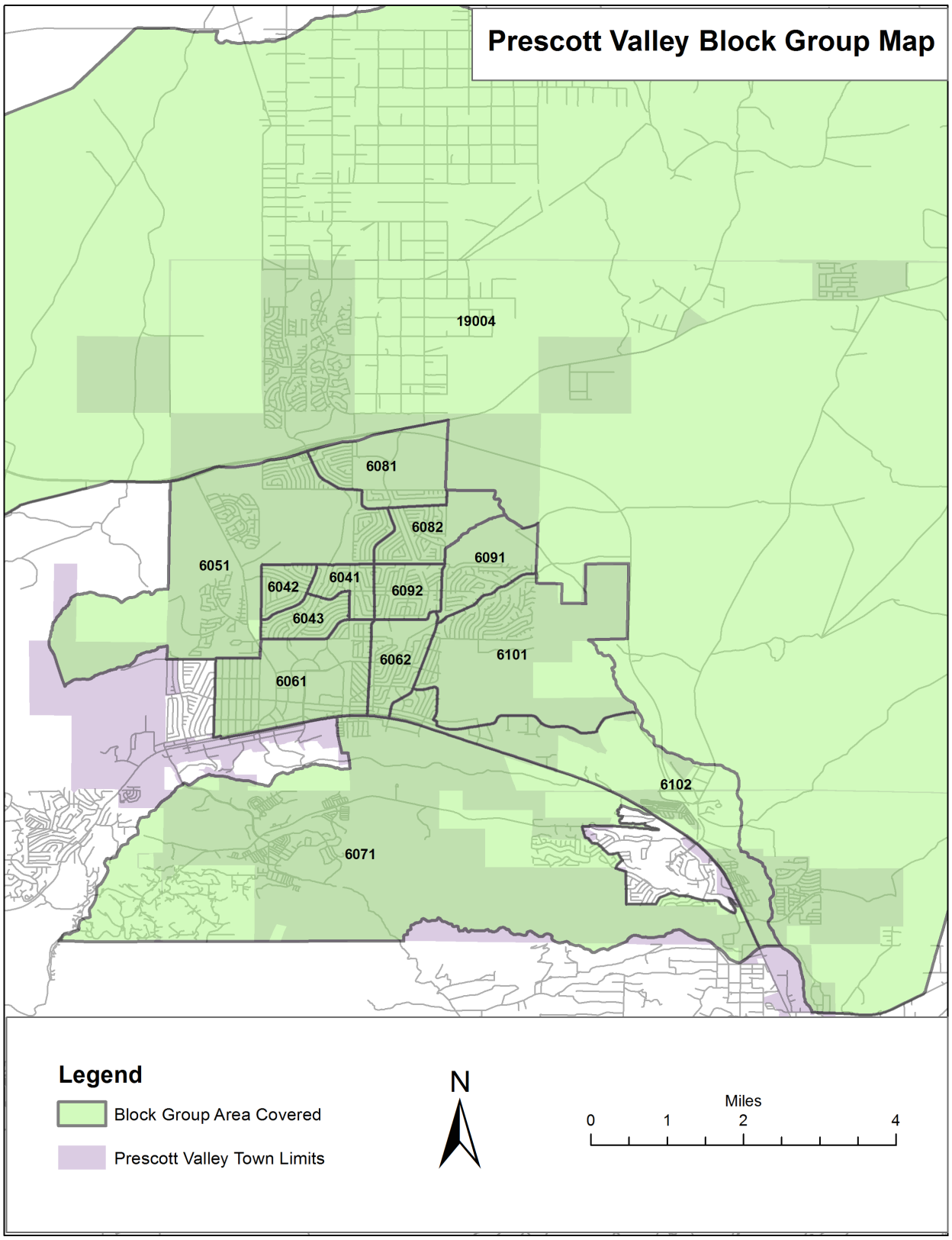
### DEMOGRAPHIC CHARACTERISTICS

There are key demographic characteristics that are useful to understand as service alternatives are constructed. These include the number of low-income households, number of zero-vehicle households, total population, population above age 65. While the number of Veterans has not been included in traditional demand models (most of which were developed when this population was limited), they are clearly an important part of the market these services are designed to serve so they are identified here. Figure 3.1 on the next page illustrates the census tracts and block groups that cover the Town of Prescott Valley. Table 3.1 presents the basic data on key characteristics.

**Table 3.1: Demographic Characteristics by Block Group**

| Tract and Block ID | Tot Pop | Total HH | 65+ | | HH Below Poverty | | Veterans | | Zero-Vehicle HH | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | # | % | # | % | # | % | # | % |
| 6043 | 1,370 | 545 | 250 | 18.2% | 44 | 8.1% | 222 | 16.2% | 22 | 4.0% |
| 6042 | 1,141 | 431 | 185 | 16.2% | 24 | 5.6% | 313 | 27.4% | 17 | 3.9% |
| 6041 | 1,969 | 748 | 251 | 12.7% | 34 | 4.5% | 238 | 12.1% | 29 | 3.9% |
| 6051 | 5,956 | 2,252 | 776 | 13.0% | 306 | 13.6% | 501 | 8.4% | 29 | 1.3% |
| 6062 | 2,788 | 1,086 | 244 | 8.8% | 192 | 17.7% | 334 | 12.0% | 0 | 0.0% |
| 6061 | 3,100 | 1,182 | 630 | 20.3% | 258 | 21.8% | 279 | 9.0% | 16 | 1.4% |
| 6071 | 3,560 | 1,546 | 987 | 27.7% | 139 | 9.0% | 651 | 18.3% | 33 | 2.1% |
| 6082 | 2,166 | 806 | 425 | 19.6% | 30 | 3.7% | 292 | 13.5% | 26 | 3.2% |
| 6081 | 1,414 | 428 | 169 | 12.0% | 111 | 25.9% | 152 | 10.7% | 0 | 0.0% |
| 6092 | 3,580 | 1,061 | 351 | 9.8% | 65 | 6.1% | 241 | 6.7% | 26 | 2.5% |
| 6091 | 1,135 | 498 | 200 | 17.6% | 149 | 29.9% | 66 | 5.8% | 0 | 0.0% |
| 6102 | 2,011 | 921 | 687 | 34.2% | 96 | 10.4% | 408 | 20.3% | 19 | 2.1% |
| 6101 | 3,189 | 1,107 | 620 | 19.4% | 226 | 20.4% | 334 | 10.5% | 16 | 1.4% |
| 19004 | 6,766 | 2,645 | 1,359 | 20.1% | 142 | 5.4% | 730 | 10.8% | 0 | 0.0% |
| **Total** | **40,145** | **15,256** | **7,134** | | **1,816** | | **4,761** | | **233** | |
| **Average** | | | | **17.8%** | | **13.0%** | | **13.0%** | | **1.8%** |

**Figure 3.1: Census Tracts and Block Groups**



It is useful to have both the numbers of people and the percentages in developing service plans. It is individuals who will ride the bus, and their relative density will affect the number of stops or type of service that is appropriate. As you look at the percentages, keep in mind that there is a significant difference in the size of block groups – ranging from 1,100 to over 6,000. Note also that these tracts cover more than the population of the Town of Prescott Valley. In particular, the tracts on the outskirts pick up areas outside Town limits.

# Relative Need for Transit Services

The need for transit services can be assessed based on the demographic characteristics of the people living in the region as well as on the activity centers (jobs, schools, stores, medical facilities, etc.) to which they travel. To calculate the greatest transit need of residents, the demographic data identified in Table 3.1 was used as a foundation. The density of individuals or households for the following characteristics was calculated:

- Persons aged 65+
- Households below poverty
- Veterans
- Zero vehicle households
- Persons with disabilities.

The density of each characteristic was ranked from one to five to show the relative level of each characteristic. These rankings were then totaled and resulted in an index of transit need, as illustrated in Figure 3.2. Detailed tables are included in Appendix B.

The highest need is in the area bounded by Manley on the north and E. Long Look / E. Loos on the south. The west boundary is Glassford Hill and the east boundary is Robert Road. The Census Block Groups to the northeast and south of this area are the ones with the next highest level of transit demand among residents.

The employment characteristics, described next, illustrate many of the locations people travel to. Linking the residential areas with the highest needs to the employment centers is key in developing successful routes.

## EMPLOYMENT CHARACTERISTICS

Key information on jobs includes the type of jobs, where they are located, and where workers live and work. Figures 3.3 and 3.4 illustrate, respectively, the location of jobs and type of jobs in the Town of Prescott Valley. The data in both is drawn from the 2013 Longitudinal Employment and Housing Data, also known as LEHD. All jobs, not just primary jobs, are reflected. There are a total of 9,265 jobs in the database, and 15,989 individuals in the workforce.

**Figure 3.2: Relative Need for Transit Services**

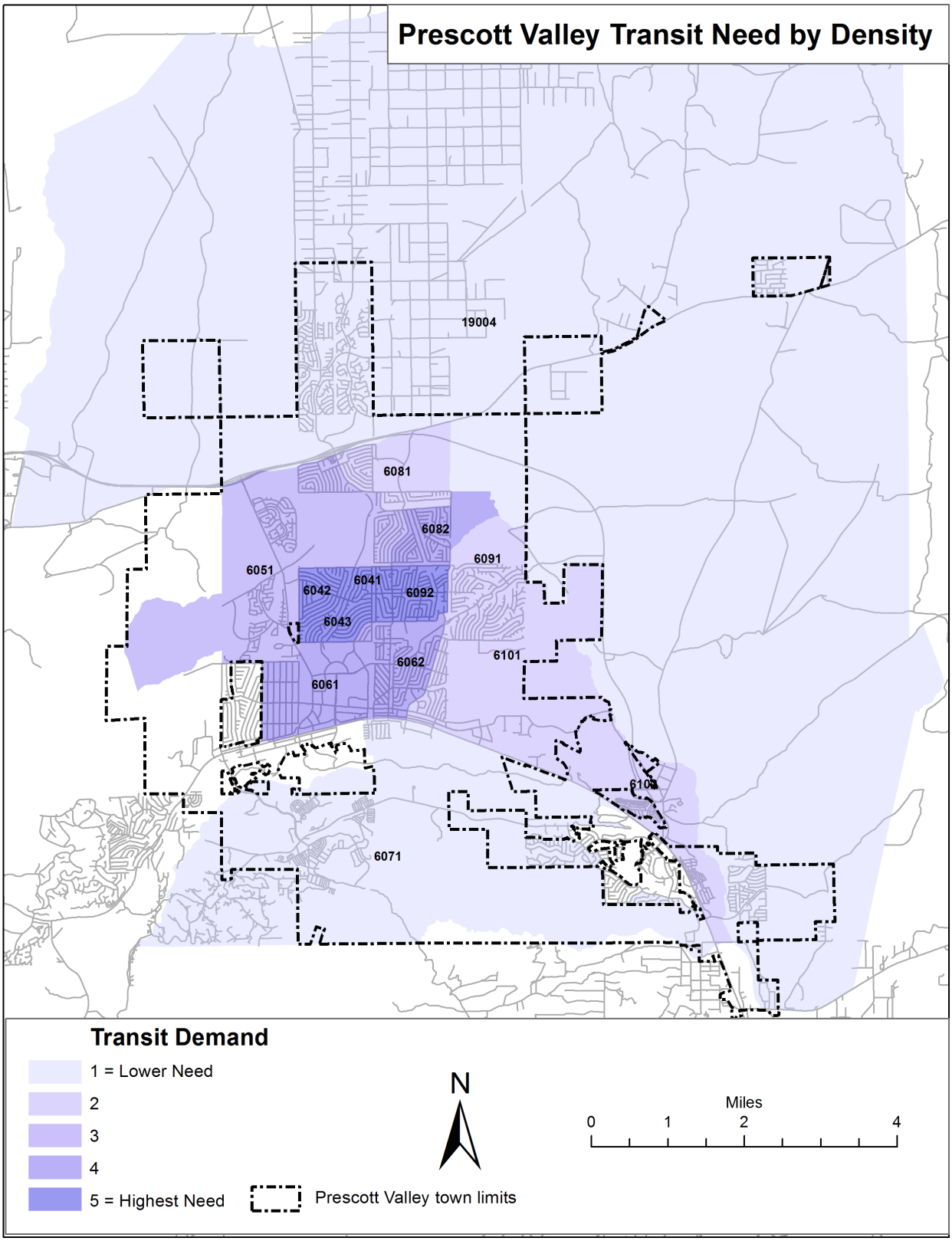


Figure 3.3 shows the importance of jobs on both sides of the main stretch of Highway 69 (including the jobs on East Valley Road just north of Highway 69, the Civic Center/Lakeshore Drive area, and the Robert Road corridor.

**Figure 3.3: Location of Jobs**

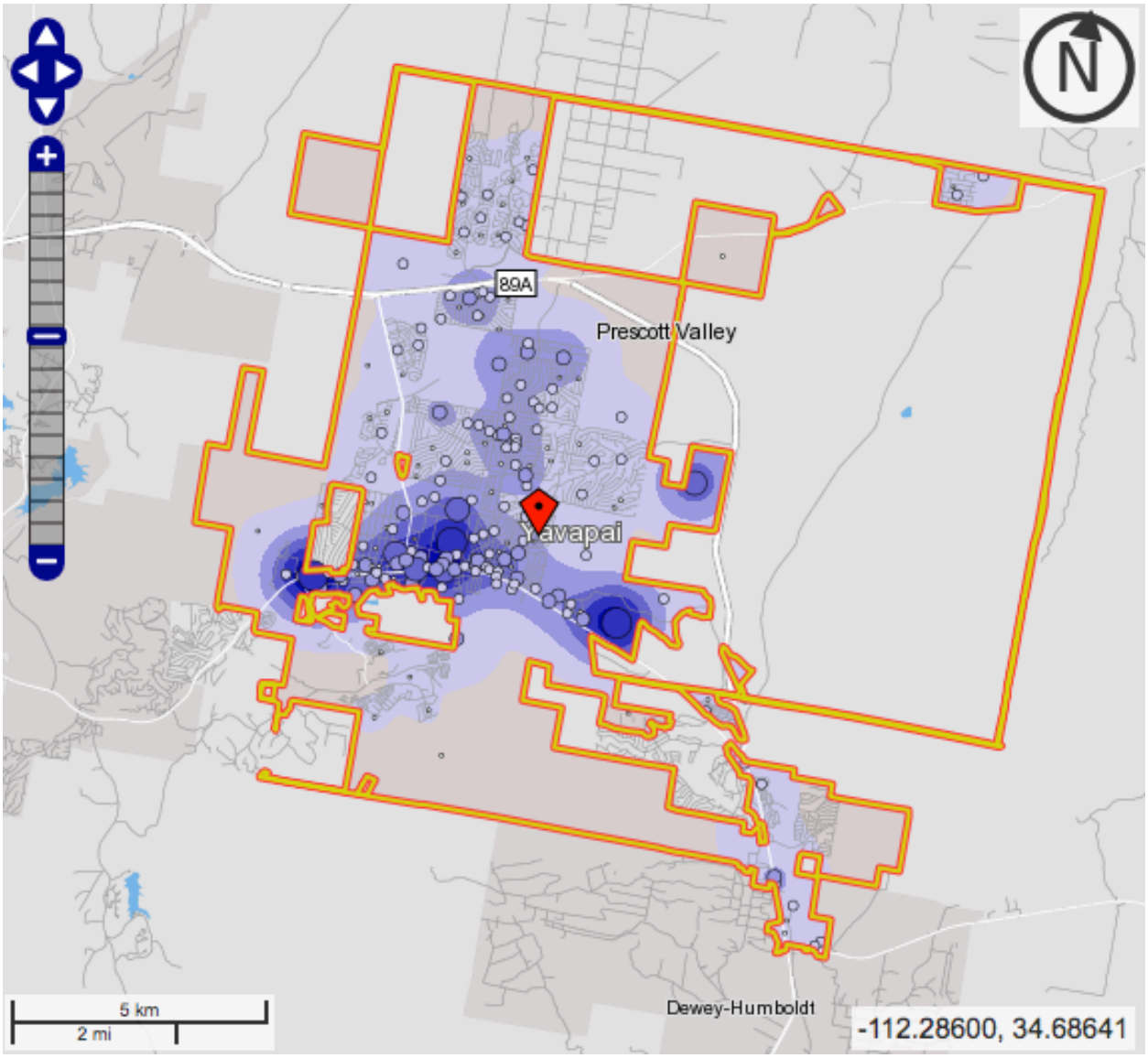
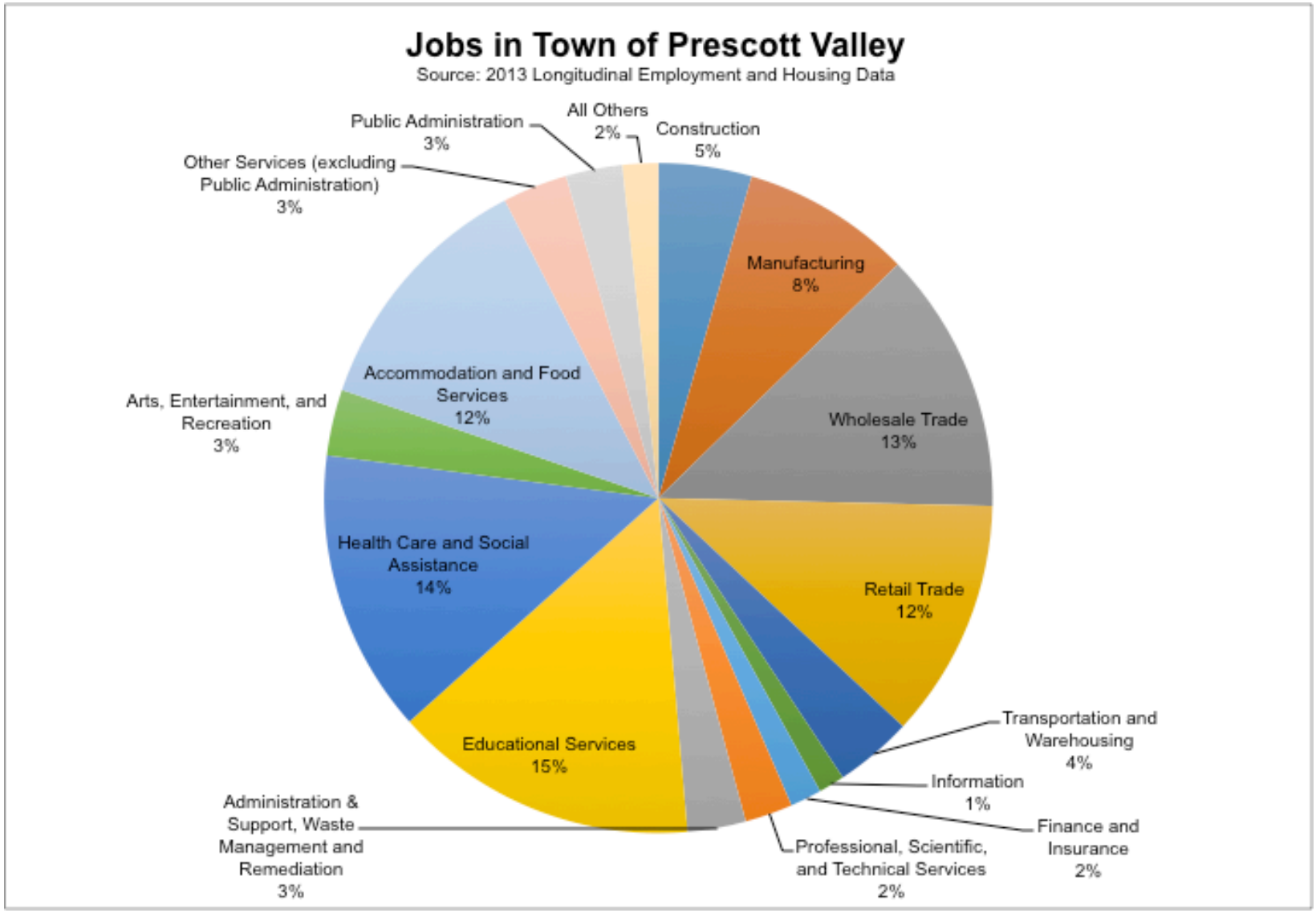


**Figure 3.4: Type of Jobs in Prescott Valley**



The following tables describe a bit more about the jobs in Prescott Valley and about where employees live and work. Table 3.2 breaks out the jobs by earnings. It is the jobs in the first two categories (under $1,250 per month and between $1,250 and $3,333 per month) that would be most likely served by transit services. There are a good number of jobs in the mid-range ($15,000 - $40,000 annually).

**Table 3.2: Jobs by Earnings**

| Earnings | Number | % |
|---|---|---|
| $1,250/month or less | 2,630 | 28.4% |
| $1,251 - $3,333/month | 3,457 | 37.3% |
| More than $3,333/mo. | 3,178 | 34.3% |
| Total | 9,265 | 100% |

**Table 3.3: Jobs by Distance Traveled**

| Distance | Number | % |
|---|---|---|
| Less than 10 miles | 4,614 | 49.8% |
| 10-24 miles | 1,381 | 14.9% |
| More than 25 miles | 3,270 | 35.3% |
| Total | 9,265 | 100% |

Good general information on where people live and work can be found in the LEHD. The accuracy of the information depends on where people report their permanent address, which is sometimes different than where a person resides. Just the same, it provides useful information.

Three tables provide a picture of where people live and work, and how far they travel to work. Beginning with Table 3.3, nearly 50% of the workers live within ten miles of their jobs. Of these, 3,001 live within the Town of Prescott Valley and 1,613 live elsewhere. Having one-third of the local jobs filled by town residents is typical. However, it is somewhat surprising that 91% of the workforce travels elsewhere for work. Many travel within Yavapai County, especially to the City of Prescott. This strengthens the picture of the urbanized area as a cohesive region.

**Table 3.4: Where People Live and Work**

| Characteristic | Number | % |
|---|---|---|
| **Employed in Prescott Valley** | **9,265** | **100%** |
| Living outside Prescott Valley | 6,264 | 67.6% |
| Living inside Prescott Valley | 3,001 | 32.4% |
| | | |
| **Workforce Living in Prescott Valley** | **15,989** | **100%** |
| But employed outside Prescott Valley | 12,985 | 91.2% |
| Living and employed in Prescott Valley | 3,001 | 8.8% |

Table 3.5 provides more detail on where workers for the jobs in Prescott Valley live. Less than 1,000 workers come from the City of Prescott, but when the analysis was run to look at where workers in the City of Prescott come from the data set reports over

4,000 workers from the Town of Prescott Valley travel to Prescott to work. While the populations of these two communities are about equal, the City of Prescott reports 22,000 jobs while the Town of Prescott Valley reported 9,000 jobs. While some people may travel from the Phoenix metro area to Prescott Valley on a daily basis, it is likely that a good number of these individuals have other arrangements (living in Prescott Valley during the week, working remotely but having a work address as Prescott Valley, etc.).

Relatively few individuals travel from Chino Valley or Dewey-Humboldt. The "all other" category in this data is the largest category and can be confounding: it represents smaller communities, those living in unincorporated areas near to the Town of Prescott Valley, and people with different permanent and work addresses.

**Table 3.5: Places Where Workers Reside**

| Location of Residence | Number | % |
|---|---|---|
| Prescott Valley, town | 3,001 | 32.4% |
| Prescott, city | 984 | 10.6% |
| Chino Valley | 237 | 2.6% |
| Dewey-Humboldt | 150 | 1.6% |
| Clarkdale | 137 | 1.5% |
| Phoenix Metro | 1,134 | 12.2% |
| Flagstaff | 212 | 2.3% |
| All Other | 3,410 | 36.8% |
| **Total** | **9,265** | **100.0%** |

# Conceptual Service Alternatives

A number of transit services could be deployed to improve access to jobs and services in Prescott Valley. Prescott Valley has the benefit of an expansive network of multipurpose trails; these trails can further serve to connect residents to bus stops and potentially enable customers to bike to transit stops. The right of way in areas where trails exist is also in a good condition to operate buses. Future capital, operating and maintenance budgets could benefit/capitalize on the operation of bus routes along major arterials and near existing multi-use trails.

Using population and employment data from the 2011 American Community Survey and knowledge of the service area, we propose two basic alternatives for service. Option A has three fixed routes and one bus providing ADA paratransit service. Option B is a combination of fixed and flexible route. Table 3.6 describes the characteristics of these options and Figures 3.5 and 3.6 illustrate them. At this time, these two options should be thought of as conceptual. The route mileage and service span are estimated, but precise stop locations have not been determined.

**Table 3.6: Conceptual Service Options**

| Option A: All Fixed Routes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | One-way | | | | | | | | | |
| Route Color/Name | Mileage | Runtime | Layover/ Recovery | Number of Veh. | Frequency | Span of Service | Days / Week | Transfer Points | Annual Hours | Annual Miles |
| Green | 6.05 | 26 | 4 | 1 | Hourly | 6:00 -- 18:00 | 6 | DES, Loos & Robert | 3,744 | 45,300 |
| Red | 6.8 | 27 | 3 | 1 | Hourly | 6:00 -- 18:00 | 6 | DES, Civic Center, High School | 3,744 | 50,900 |
| Blue Route | 6.4 | 27 | 3 | 1 | Half-hourly | 6:00 -- 18:00 | 6 | Loos & Robert, Yavapai College/Bradshaw Mtn High School | 3,744 | 47,900 |
| ADA Paratransit | 3/4-mile | | | 1 | n/a | 6:00 -- 18:00 | 6 | n/a | 3,744 | 52,400 |
| Total | | | | 4 | | | | | 14,976 | 196,500 |

| Option B: Some Flexible Service | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | One-way | | | | | | | | | |
| | Mileage/ Area | Runtime | Layover/ Recovery | Number of Veh | Frequency | Span of Service | Days / week | Check points/transfer points | Annual Hours | Annual Miles |
| Green Fixed Route | 6.05 | 26 | 4 | 1 | Hourly | 5:30 -- 19:00 | 6 | DES, Loos & Robert | 4,212 | 51,000 |
| Red Fixed Route | 6.8 | 27 | 3 | 1 | Hourly | 5:30-9:00 ; 15:30-19:00 | 6 | DES, Civic Center | 2,184 | 29,700 |
| Central Demand Response | 5.0 sq miles | varies | 10 | 1 | Hourly at Check Points | 5:30 -- 19:00 | 6 | Loos & Robert, Yavapai College/Bradshaw Mtn High School; DES; Lakeshore and Navajo Dr. | 2,028 | 28,400 |
| Northern Demand Response | 6.8 sq miles | varies | | 1 | Hourly at Check Points | 9:30-15:00 | 6 | Loos & Robert; Long Mesa and Robert; N Viewpoint Dr and Park View Dr. | 4,212 | 59,000 |
| Total | | | | 4 | | | | | 12,636 | 168,100 |

In developing these options, no regional service was included. The need for regional service is noted, and the service hour budget is purposely kept below the 16,200 hours that is appropriate for the region so that the additional hours for regional service can be added at a later time. It is also the intention that the schedules would align with those for regional services operated by Yavapai Regional Transit.

The intention is that some combinations of 3 or 4 of these routes could be selected for further discussion and analysis. Primary stop locations are also described in a subsection to illustrate transfer points between routes and driver layover locations.

## OPTION A: FIXED ROUTE

A primarily fixed route system has the advantage that riders can understand it; schedules can be posted and updated at stops; and the operator and drivers have a target time to visit particular stops. If fixed route services are selected, we recommend a combination of what we have named the green route, red route, and blue loop route to serve the incorporated areas of Prescott Valley and connect jobs and residents across the community with opportunities for transfers. These routes were selected not only for their ability to connect the relevant origins and destinations but also due to the current right-of-way and pavement quality along the proposed route alignments.

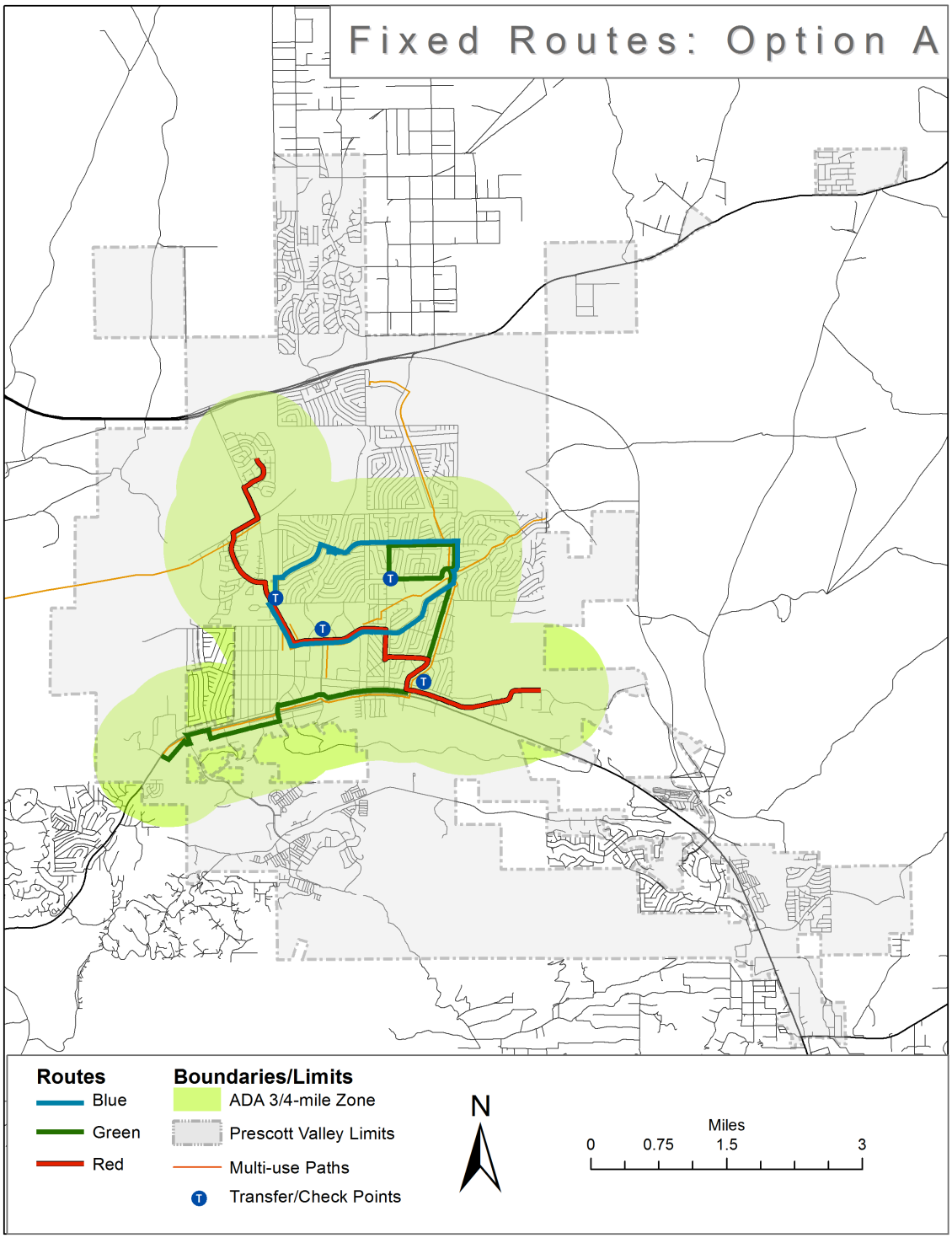
Figure 3.5 shows this fixed route option with the ADA ¾-mile zone.

Every route can run in a single direction in 30 minutes. For the blue loop, this means headways of 30 minutes if one vehicle operates on each route. For the green and red routes, this means headways of one hour for one vehicle.

Schedules would be coordinated such that transfers could be made where routes cross one another. Customers could transfer between red and blue routes at Yavapai College/Bradshaw Mountain High School or Lakeshore and Robert. Vehicles would be timed to arrive at these points as close together as possible. Customers could transfer between red and green routes near the Department of Economic Security Offices at Navajo Road and Bob Drive. Customers could transfer between green and blue routes at the intersection of Spouse & Robert Dr.

If demand for any of these routes is not expected to be high, some combination of them can be run as demand responsive or deviated fixed routes. Demand responsive routes have the benefit of curb-to-curb service so when demand is low, customers can wait at home or a designated stop instead of walking a longer distance to catch a vehicle. The next section describes a service option with demand responsive zones.

**Figure 3.5 - Fixed Routes: Option A**



file:///Users/Michael/Downloads/PV_FixedRoutes_Correct.pdf

## OPTION B: BLENDED FIXED ROUTE AND DEMAND RESPONSE

Where demand is expected to be low, demand responsive or demand adaptive routes may better serve customers. In Option B (Figure 3.6 below), the green and red routes would remain, but the red route would operate only during peak hours to serve the school, central Prescott Valley and the employment centers along E Valley Road. The vehicle that was previously assigned to the red route for the entire day would spend the midday operating as a demand responsive vehicle on the north side of Spouse Drive. The blue route would become a demand responsive zone for the area between Manley Drive and Highway 69. With a demand responsive central zone (shown in Figure 3.6 in blue) instead of a blue loop route, the service could better serve the Sungate Villa Senior Community, Lynx Lake Estates and the shopping centers located along Pav Way. The north and central zones overlap between Manley Drive and Spouse Drive in order to facilitate trips that may cross Prescott Valley.

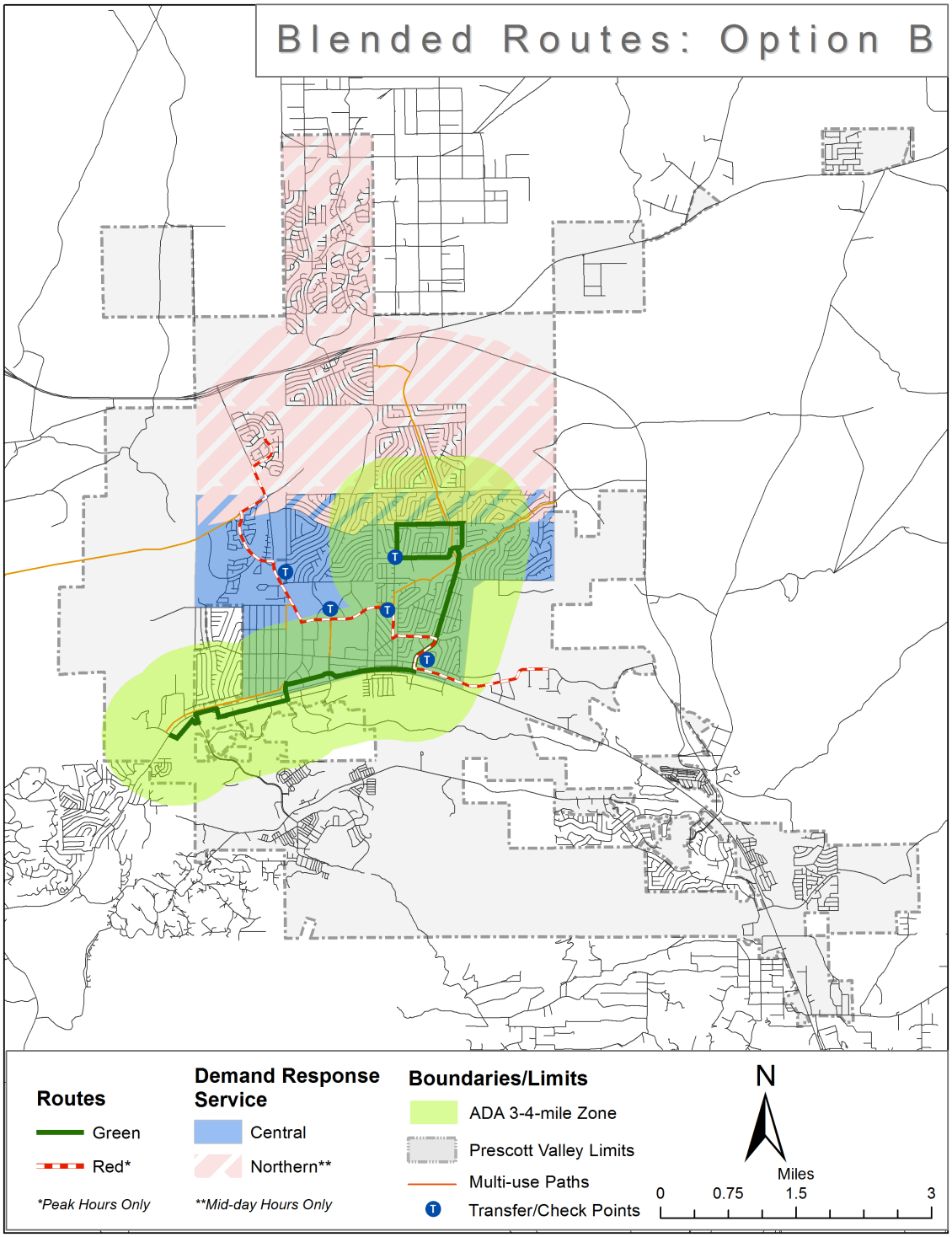
In this case the green route would still require a roughly 1 hour headway, but the central demand responsive zone could have time points every 30-60 minutes at the furthest termini (e.g. at Yavapai College at :10 and :40, and at the DES at :25 and :55, meaning a maximum of 15 minutes to get across Section 14 of Prescott Valley). The northern demand responsive zone could be have time points at the intersections Loos Dr. & Robert Road and N Viewpoint Dr. and Park View Dr. in order to have some structure and reliability in the schedule for customers to plan around.

Demand responsiveness would also reduce the need for using right of way along roads such as Florentine Rd, which are not well-suited to bus operations due to narrow lanes and culverts on either side of the street. The consulting team cautions against full demand-responsiveness right away, as people would resist it becoming a fixed route or even a route deviation style service in the future. Instead of a fully demand responsive zone, the transfer points and check points noted in Figure 3.6 could operate on a flexible schedule while customers learn to use the service. If more flexibility in the schedule is warranted after some months of implementation, some of the checkpoints could be eliminated.

For more flexibility, the red route could also be demand responsive at times, with time points at various locations along the route. The red route could be a route-deviation style service in that case where customers must make a reservation except at a few major points.

Figures 3.6 shows the routes and demand responsive zones for Option B.

**Figure 3.6 - Blended Routes Option B**



## PRIMARY STOP LOCATIONS

This section describes some of the important stop locations in Prescott Valley from an operational perspective. For efficient and user-friendly service, stops should be large enough to have two buses able to stop for transfers. It is also important to have a few larger areas for appropriate service branding (benches, signs, potentially shelters). These larger areas also need to serve as layover areas for drivers to take breaks. Table 3.7 below compares some of the main locations served and their functions for both options, and each is described in detail following.

**Table 3.7 Primary Stop Locations and Functions**

| Stop Location | Directly Served by Options | Functions |
|---|---|---|
| Bradshaw High School | A, B | Layover and driver rest area, transfer between services |
| Sundog Ranch Road and Hwy 69 Shopping | A, B | Layover and driver rest area, potential future transfer |
| E Valley Road at Enterprise Parkway | A, B | Bus turn-around and lay-over area |
| Loos & Robert Road | B only | Transfer between routes, driver restroom break |
| Prescott Valley Library/Civic Center/NAU | B only | Major trip attractor |
| DES Offices | A, B | Major trip attractor |
| Granville Community Center | A, B | Layover and driver rest area |

*Bradshaw Mountain High School* is well-suited for bus lay-overs or as a major time point. The stop also serves the middle school and a Yavapai College program. Students might wish to use the bus to between school, home and part-time jobs in Prescott Valley. Between E Long Look Dr. and E Panther Path, there is a wide driveway buses could use to turn around (Figure 3.7), and it is near enough to the Yavapai College building that a driver could use the restroom. This area is also large enough for a future shelter and benches. Vehicles could stop on the east side of this drive in order to make right turns and avoid the culvert on the west side.

**Figure 3.7 Bradshaw Mountain High School / Yavapai College Bus Stop,**
Aerial and ground views (Source: Google Maps)

*Sundog Ranch Road and Highway 69 Shopping Area* has many shopping and dining destinations for employment and leisure trips. There are four 12-foot travel lanes, two in each direction, along the driveway providing access from Highway 69. This would allow cars to pass while a bus sits for a few moments during driver break times. It would be beneficial to place the stop here so bus passengers are near enough to the shopping destinations to access them easily, but still avoid the time it would take a bus to drop passengers at the main entrances to each of these box retailers. Avoid parking lot travel is critical for schedule adherence of the proposed green route. Figure 3.8 illustrates an aerial view with a potential bus berth area indicated. A local retailer could partner with the operator to establish guidelines for driver restroom breaks.

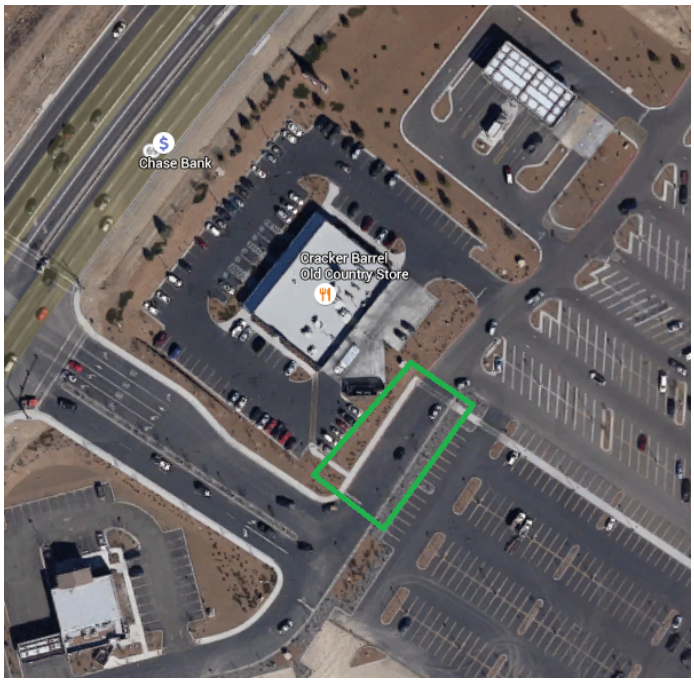



**Figure 3.8. Highway 69 Shopping Area**

(with bus stop zone in rectangle)

*E. Valley Road at Enterprise Parkway* serves as the eastern terminus for the red route and could be a transfer point for future regional service. Many large employers are accessible from this intersection, and there is a large shoulder that could be paved (or left unpaved) as a layover point for one or more vehicles. Ambulatory passengers could walk to a number of destinations from this point, or non-ambulatory passengers could be driven to the front door of their employer if time is allowed in the schedule. Figure 3.9 below shows an aerial view of the potential boarding area, which is less than 500 feet from the entrance to five of the large employers near this intersection (some of which are visible in corners), and less than 1000 feet from Ace Hardware Distribution Center and RockWise, LLC. In either option A or B, the end of this route potentially drop passengers nearer to the buildings if the schedule allows.


**Figure 3.9 Aerial View of E Lake Valley Road and Enterprise Parkway**

(Source: Google Maps)

The *Southeast Corner of Loos & Robert Rd* offers access to the Prescott Valley Recreational Area. Under option A, the green route stops here. Under Option B, this would be a service centroid where all three services (Green fixed route and north and central demand responsive services) could meet at the same time. If three vehicles cannot be accommodated along the south side of Loos Road just east of Robert Road, a bus stop could be created within the parking lot. Since Loos Road is only one lane in each direction, this would be safer and more efficient for bus and private auto travelers than a stop along Robert Road.

Two suggested stop areas are indicated below in Figure 3.10 with green rectangles. Either of these bus areas could be linked to the existing park area that extends to the south and west of this image via short sidewalks (indicated with blue lines) heading south toward the soccer field and adjacent to the skate park. Under Option A, instead of transferring here, a stop could be located at the *southwest corner of Spouse and Robert* – adjacent to the Shell gas station along Robert Road.


**Figure 3.10. Prescott Valley Civic Center and Library Bus Stop Area**

*Prescott Valley Civic Center and Library* could be served by a stop on E Lakeshore Drive, which is wide enough to permit traffic to continue when one or more buses are stopped to allow transfers from the red route to the central demand responsive vehicle for Option B. There is an existing crosswalk to a central point where customers could alight to visit the many public services along Civic Center Drive. This is also a more direct route for vehicles than actually stopping along Civic Center Drive. A potential bus stop area is outlined below in Figure 3.11.

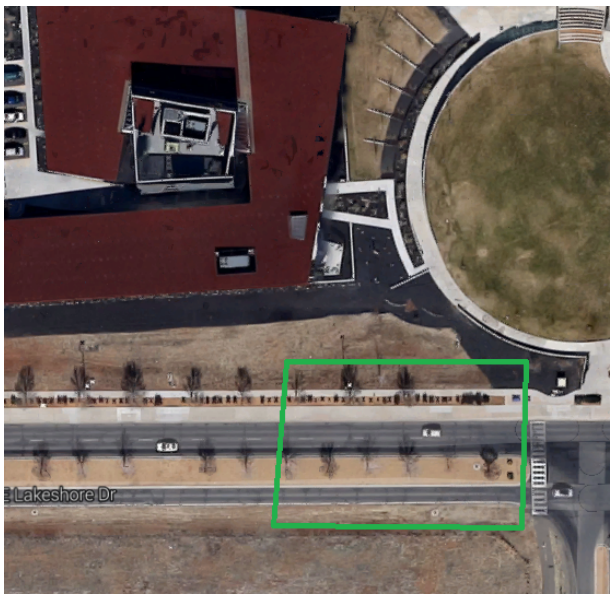



**Figure 3.11. Potential Bus Stop on E. Lakeshore Drive**

*Department of Economic Security Offices and Yavapai Village Apartments* at Bob Drive and Navajo Drive are served by both the red and green routes. There are two travel lanes in each direction and sidewalks at all parts of this intersection. A proposed bus stop area is indicated in Figure 3.12 below.


**Figure 3.12. DES / Yavapai Village Apartments Potential Stops**

*Granville Community Center* is the current northern terminus for the red route and would be an appropriate place for a bus layover and a brief driver break when needed. The red route would not necessarily need to come this far north unless the TAC and voters determined this zone needs service.

## FUTURE GROWTH

Future local or regional network route expansions would be possible, and these options are meant to serve as a core service area for Prescott Valley.

One means to improve non-motorized transportation options in Prescott Valley would be to coordinate multi-purpose trails with transit operations. The existing trail network would be well suited to support a bike-sharing system that could feed into the transit services to provide additional mobility in underserved communities.

# Appendix A:  Transit Advisory Meeting Notes

Insert 4 pages as PDF

## Appendix B: Detailed Demographics Table & Rankings

| Census Tract | Block Group | Unique ID | Area (SqMi) | Total Population | | Total Households | | Population 65+ | | | | HH Below Poverty | | | | Veterans | | | | Zero-Vehicle HH | | | | Disability* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | # | Density | # | Density | # | % | Density | Ranking | # | % | Density | Ranking | # | % | Density | Ranking | # | % | Density | Ranking | < 5 years | 5-17 | 18-64 | 65+ | Total | Density | Ranking |
| 000604 | 3 | 6043 | 0.41 | 1,370 | 3,347.2 | 545 | 1,332 | 250 | 18.2% | 610.8 | 1 | 44 | 8.1% | 107.5 | 1 | 222 | 16.2% | 542.4 | 1 | 22 | 1.6% | 53.8 | 2 | 4 | 12 | 114 | 42 | 171 | 417.5 | 5 |
| 000604 | 2 | 6042 | 0.31 | 1,141 | 3,631.7 | 431 | 1,372 | 185 | 16.2% | 588.8 | 1 | 24 | 5.6% | 76.4 | 1 | 313 | 27.4% | 996.3 | 2 | 17 | 1.5% | 54.1 | 2 | 6 | 10 | 101 | 37 | 155 | 492.5 | 5 |
| 000604 | 1 | 6041 | 0.36 | 1,969 | 5,500.4 | 748 | 2,090 | 251 | 12.7% | 701.2 | 1 | 34 | 4.5% | 95.0 | 1 | 238 | 12.1% | 664.9 | 1 | 29 | 1.5% | 81.0 | 3 | 3 | 8 | 80 | 29 | 120 | 334.0 | 5 |
| 000605 | 1 | 6051 | 5.11 | 5,956 | 1,165.7 | 2,252 | 441 | 776 | 13.0% | 151.9 | 3 | 306 | 13.6% | 59.9 | 3 | 501 | 8.4% | 98.1 | 3 | 29 | 0.5% | 5.7 | 3 | 0 | 269 | 1,328 | 446 | 2,043 | 399.9 | 5 |
| 000606 | 2 | 6062 | 0.67 | 2,788 | 4,170.5 | 1,086 | 1,625 | 244 | 8.8% | 365.0 | 1 | 192 | 17.7% | 287.2 | 1 | 334 | 12.0% | 499.6 | 2 | 0 | 0.0% | 0.0 | 1 | 3 | 14 | 45 | 37 | 98 | 146.5 | 3 |
| 000606 | 1 | 6061 | 1.86 | 3,100 | 1,665.3 | 1,182 | 635 | 630 | 20.3% | 338.4 | 2 | 258 | 21.8% | 138.6 | 1 | 279 | 9.0% | 149.9 | 2 | 16 | 0.5% | 8.6 | 2 | 7 | 32 | 104 | 85 | 227 | 122.2 | 3 |
| 000607 | 1 | 6071 | 13.34 | 3,560 | 266.9 | 1,546 | 116 | 987 | 27.7% | 74.0 | 3 | 139 | 9.0% | 10.4 | 2 | 651 | 18.3% | 48.8 | 3 | 33 | 0.9% | 2.5 | 3 | 0 | 52 | 450 | 699 | 1,201 | 90.0 | 2 |
| 000608 | 2 | 6082 | 0.79 | 2,166 | 2,724.6 | 806 | 1,014 | 425 | 19.6% | 534.6 | 2 | 30 | 3.7% | 37.7 | 1 | 292 | 13.5% | 367.3 | 2 | 26 | 1.2% | 32.7 | 3 | 0 | 10 | 57 | 59 | 126 | 158.0 | 4 |
| 000608 | 1 | 6081 | 1.22 | 1,414 | 1,157.8 | 428 | 350 | 169 | 12.0% | 138.4 | 1 | 111 | 25.9% | 90.9 | 1 | 152 | 10.7% | 124.5 | 1 | 0 | 0.0% | 0.0 | 1 | 0 | 10 | 57 | 59 | 126 | 102.8 | 2 |
| 000609 | 2 | 6092 | 0.51 | 3,580 | 6,960.8 | 1,061 | 2,063 | 351 | 9.8% | 682.5 | 2 | 65 | 6.1% | 126.4 | 2 | 241 | 6.7% | 468.6 | 1 | 26 | 0.7% | 50.6 | 3 | 0 | 21 | 41 | 12 | 74 | 143.4 | 3 |
| 000609 | 1 | 6091 | 0.90 | 1,135 | 1,261.9 | 498 | 554 | 200 | 17.6% | 222.4 | 1 | 149 | 29.9% | 165.7 | 1 | 66 | 5.8% | 73.4 | 1 | 0 | 0.0% | 0.0 | 1 | 0 | 21 | 41 | 12 | 74 | 82.0 | 2 |
| 000610 | 2 | 6102 | 2.98 | 2,011 | 674.3 | 921 | 309 | 687 | 34.2% | 230.3 | 2 | 96 | 10.4% | 32.2 | 2 | 408 | 20.3% | 136.8 | 3 | 19 | 0.9% | 6.4 | 2 | 0 | 12 | 194 | 139 | 346 | 115.9 | 2 |
| 000610 | 1 | 6101 | 3.63 | 3,189 | 879.5 | 1,107 | 305 | 620 | 19.4% | 171.0 | 2 | 226 | 20.4% | 62.3 | 2 | 334 | 10.5% | 92.1 | 2 | 16 | 0.5% | 4.4 | 2 | 0 | 12 | 194 | 139 | 346 | 95.3 | 2 |
| 001900 | 4 | 19004 | 87.99 | 6,766 | 76.9 | 2,645 | 30 | 1,359 | 20.1% | 15.4 | 3 | 142 | 5.4% | 1.6 | 3 | 730 | 10.8% | 8.3 | 3 | 0 | 0.0% | 0.0 | 1 | 0 | 60 | 908 | 1,284 | 2,252 | 25.6 | 1 |
| **Total** | | | | **40,145** | | **15,256** | | **7,134** | **17.8%** | | | **1,816** | **4.5%** | | | **4,761** | **11.9%** | | | **233** | **0.6%** | | | **22** | **542** | **3,714** | **3,079** | **7,357** | | |
| **Average persons per HH** | | | | | **2,391.7** | **2.63** | **873.9** | | | **344.6** | | | | **92.3** | | | | **305.1** | | | | **21.4** | | | | | | | **194.7** | |

*U.S. Census Bureau, 2011 ACS 5-year Estimates*

**Disability Data was taken from the 2013 ACS 5-Year Estimates*