BENTON PLANNING STUDIES REPORT

This Planning Study Report provides planning and development related information to assist in the preparation of an updated Benton Comprehensive Plan

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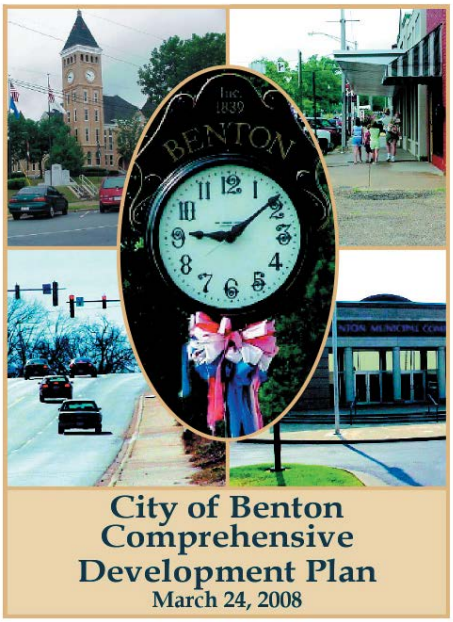
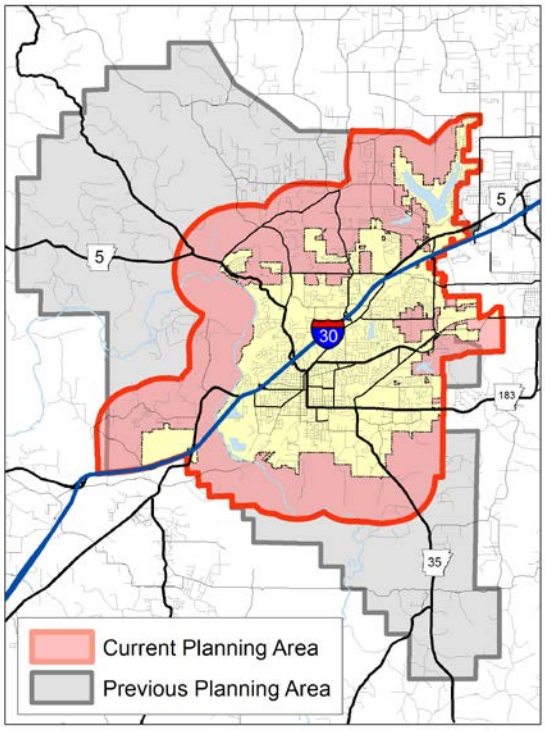


Since the adoption of the 2008 Benton Comprehensive Plan the city of Benton has experienced a number of developments that have potentially necessitated an update of the comprehensive plan. Among the changes that have occurred in Benton over this period are: significant growth in the city's population, changes in the demographics of the city, changes in the development patterns of the city, and the opening or planning of major new community facilities, including the Benton Event Center, Riverside Park, and the Southwest Trail. Though mostly still valid, the goals and objectives laid out in the 2008 Comprehensive plan will need to be revisited in light of changes in housing and commuting patterns subsequent to the 2007-2009 recession. These changes along with emerging housing and commuting trends which are now becoming better understood may also affect assumptions that were used in developing the Comprehensive Plan's Land Use, Master Street, and Community Facilities plans.

Arkansas Act 186 of 1957 requires that prior to the preparation of a new comprehensive plan cities conduct suitable studies. This document is a presentation of the findings of those studies, the purpose of which is to provide the city with population, demographic, economic, land use, transportation and other planning related information that will be relevant in developing a new comprehensive plan. The last planning studies report which was completed prior to the preparation of the 2008 Comprehensive Plan was completed in 2006. Many of the trends and patterns identified in that planning studies report have subsequently changed. Data which has become available since the completion of the 2006 planning study report includes the 2010 Decennial Census, new population and housing projections from the Imagine Central Arkansas plan, and new commuting data from the 2013 CTPP.



Map 1. Benton revised planning area.

These data can be used to verify some of the population and land use trends and forecasts that appeared valid in 2006, but may have since shifted to an extent that they are no longer valid. Additionally, the planning area used as the basis for the 2006 planning study has been greatly reduced in size due to the passage of §14-56-413 of the Arkansas Code, which reduced the planning area for cities with Benton's population to a maximum of one mile from the city limits. This is a significant reduction from the previous planning area which extended up to five miles from the city limits. As a result of this 45% or 40 square mile reduction in the size of Benton's Planning Area, this planning study will focus to a greater extent on development within the Benton city limits than did the 2006 Benton Planning Studies Report.

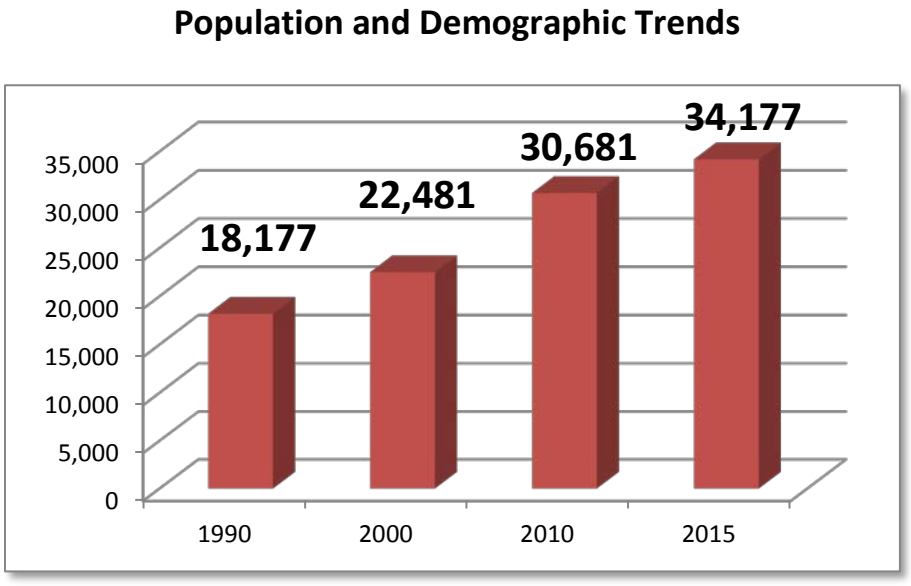


Figure 1. Benton population 1990 to 2015.

The city of Benton has experienced significant growth since the year 2000. Since 2000 Benton's population has increased by over fifty percent to an estimated population of 34,177 in 2015. However, growth rates over this 15 year period have varied significantly. Growth over this period was faster in the period from 2000 to 2010 than was experienced from 2010 to 2015. Since the 2010 Census Benton's population has increased by 11.4%, or 3496 persons, or an annual growth rate of 2.28%. This rate is significantly slower than the 3.65% annual growth rate experienced between 2000 and 2010 and is similar to the 2.37% annual growth rate experienced from 1990 to 2000. Benton's population grew rapidly in the period from 2000 to 2007 along with most suburban communities in Central Arkansas. After the national housing crisis began in 2008, the growth rate in many suburban areas slowed dramatically through the remainder of the decade. Benton's growth rate, along with construction of new housing, has accelerated in the last few years, but not to the same pace the city experienced in the period preceding the housing crash of 2008.

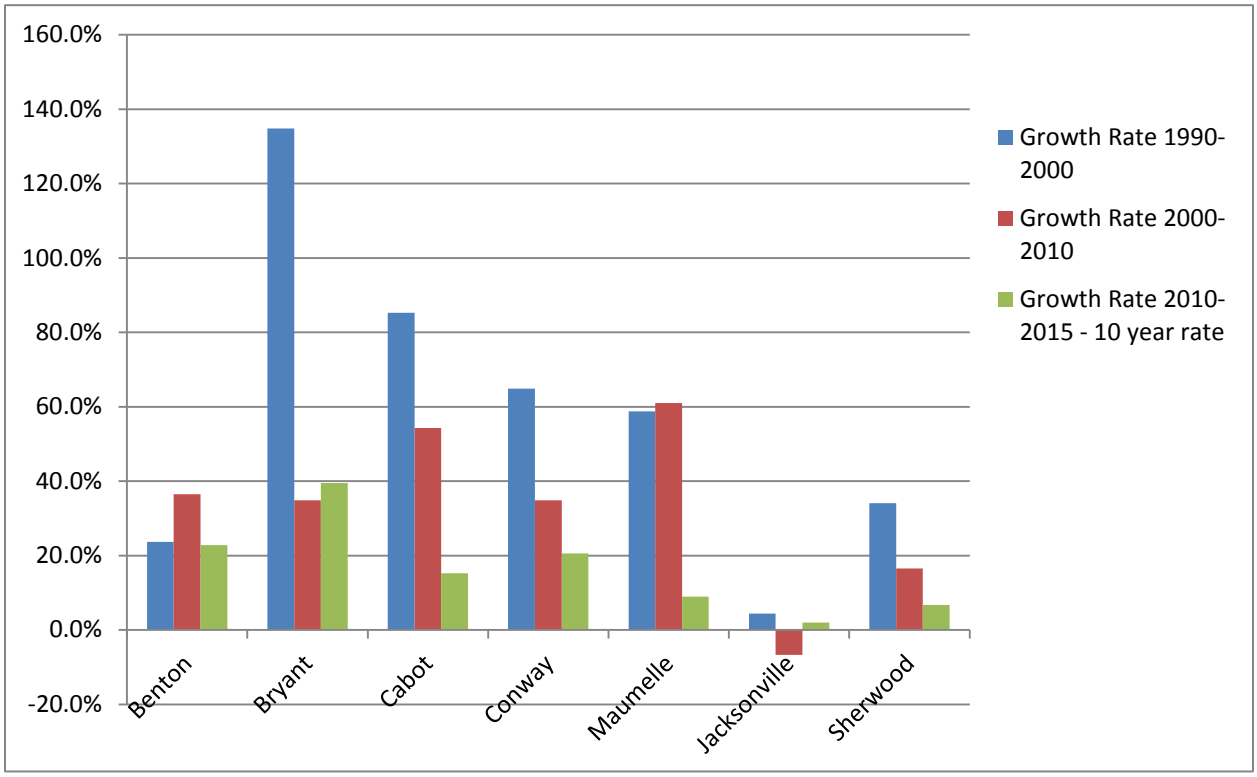


Table 1. Central Arkansas Growth rates (10 year rates): 1990 to 2000, 2000 to 2010, and 2010 to 2015.

While Benton's growth rate has slowed subsequent to the 2008 housing crisis, it is still growing at a faster rate than most of the larger cities in Central Arkansas (Table 2). Of Central Arkansas cities with a population over 10,000 only Bryant experienced a faster rate of growth between 2010 and 2015 than did Benton. Benton's population has grown at a significantly higher rate over the last five years than has the population of Cabot, Maumelle, and Conway. This represents a change in the trend seen from 2000 to 2010. During that period Cabot, Maumelle, and Conway grew at a significantly higher rate than did Benton. Conway's larger overall population partially explains its slowing rate of growth as compared to Benton. Conway has experienced a larger net increase in population than has Benton, 6,072 people as compared to Benton's increase of 3,496 people. As Benton's population becomes larger its population growth rate will also likely decline, even if net population increases remains large. Bryant experienced similar growth rates to Benton from 2000 to 2010. Over this period Bryant's population grew by 34.9% as compared to Benton's growth rate of 36.5%, but since 2010 Bryant has grown at a faster rate, 3.9% annually as compared to Benton's 2.3% annual growth rate. The higher growth rate does not necessarily reflect a faster rebound from the housing recession of 2008 as Benton's net population gain of 3,496 is actually slightly larger than Bryant's gain of 3,298 people since 2010.

Signifcant changes in the housing market that have occurred subsequent to the 2008 housing crisis may affect the growth rate of Benton as well as other central Arkansas cities in the near future. More strict lending guidelines for mortgages coupled with changes in housing preferences has led many to turn to renting since 2008. The relative supply of multi-family units from city to city may affect cities growth rates in the near term. However, some analysis suggests that while younger Millineals will continue to opt for multi-family, older Millineals starting new families will begin to enter the single family market. Additionally demand for muli-family should remain high due to empty nester baby boomers seeking to downsize to multi-family.[1]

There are no pronounced trends in the age of Benton's population that would suggest a dramatic shift in the age distribution of the city is occuring. As of 2014, the median age of Benton was 36.2, which is only slightly higher than the 2000 median age of 35.9. Table 3 compares median age amongst Central Arkansas citites. Benton's 2015 estimates median age of 36.2 is slightly higher than the 34.2 average for central Arkansas cities with a population over 10,000 but is lower than state average age of 37.6.

A large increase in new construcion subdivisions, such as Benton experienced prior to the 2008 Housing Crisis can coincide with an overall decrease in the age of a city and a large increaase in the school age population, as more young families move to the city. However, Benton's age cohorts have actually remained fairly consistent over the last couple of decades (Table 4). There has been a modest increase in the youth population, age under 20, from 27.9% in 2000 to 30.9% in 2014. Also, there has been a consistent yet modest decline in the percentage of Benton's population aged 65 and over, from 15.7% in 1990 to 11.7% in 2014.

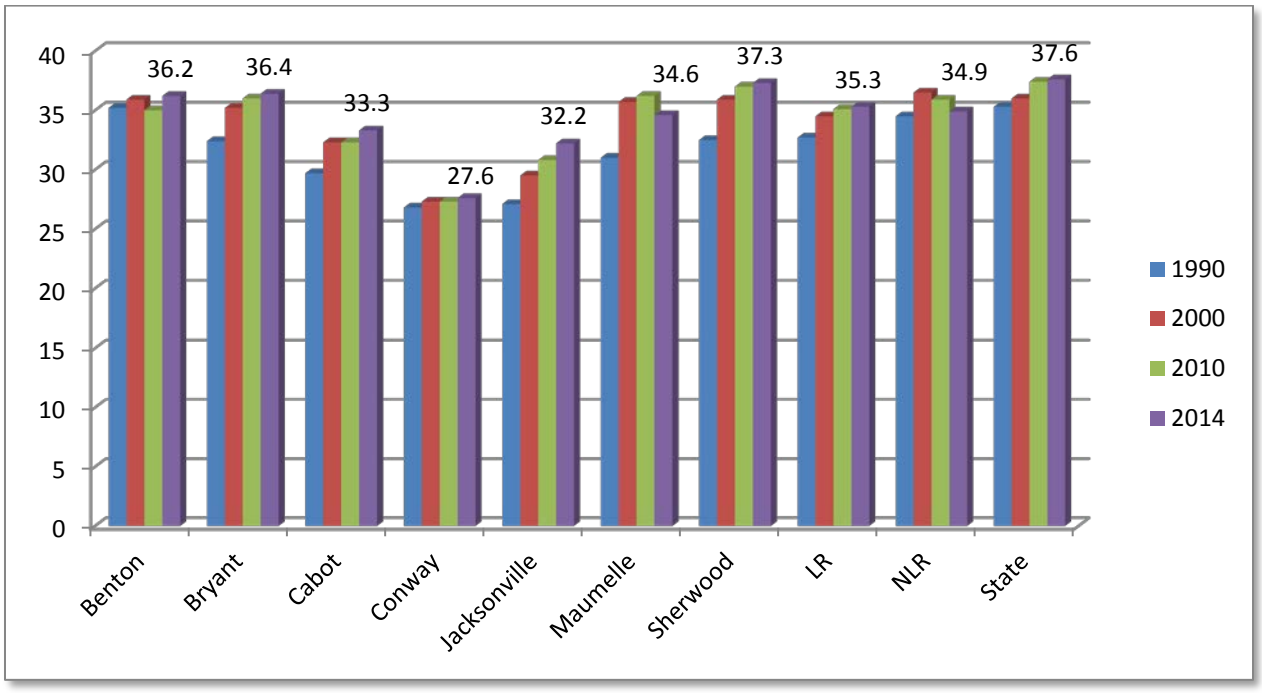


Table 3. Median age by city in 1990, 2000, 2010, 2014. Source US Census SF1 data.

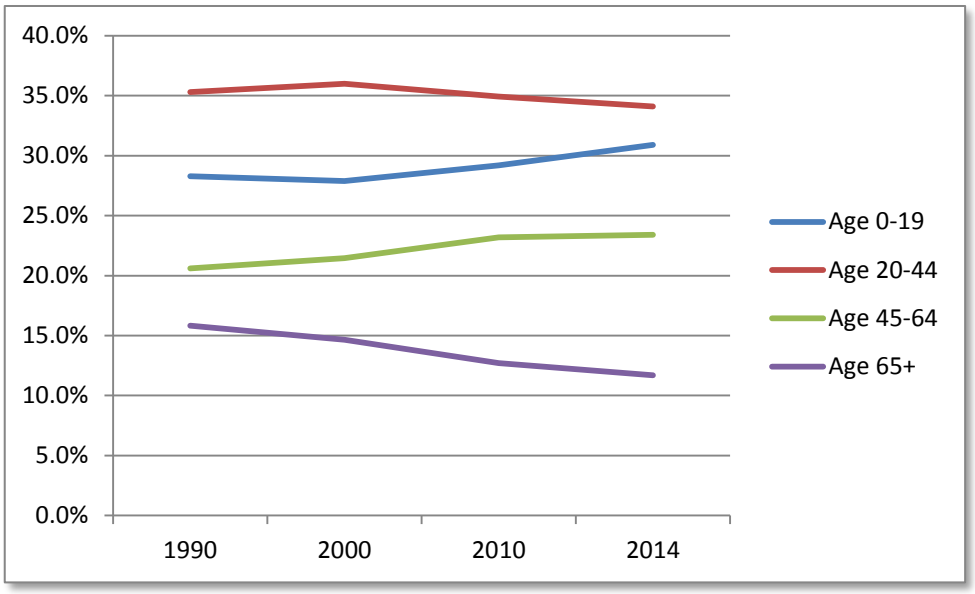
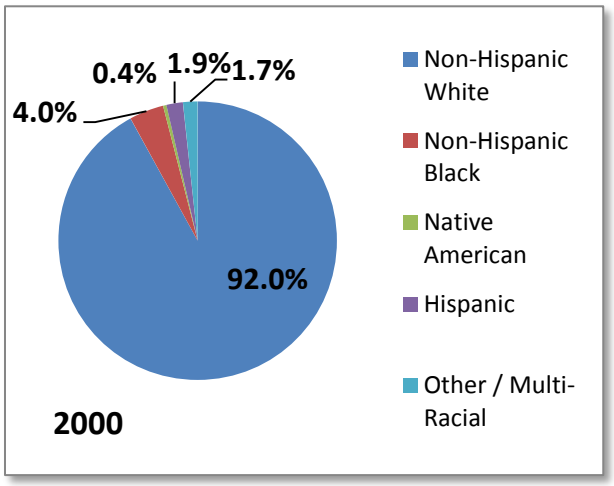


Table 4. Benton age cohorts trends 1990 to 2014. US Census SF1 data



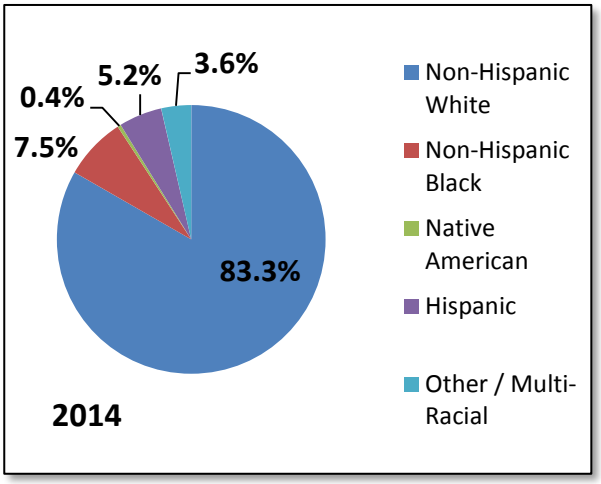
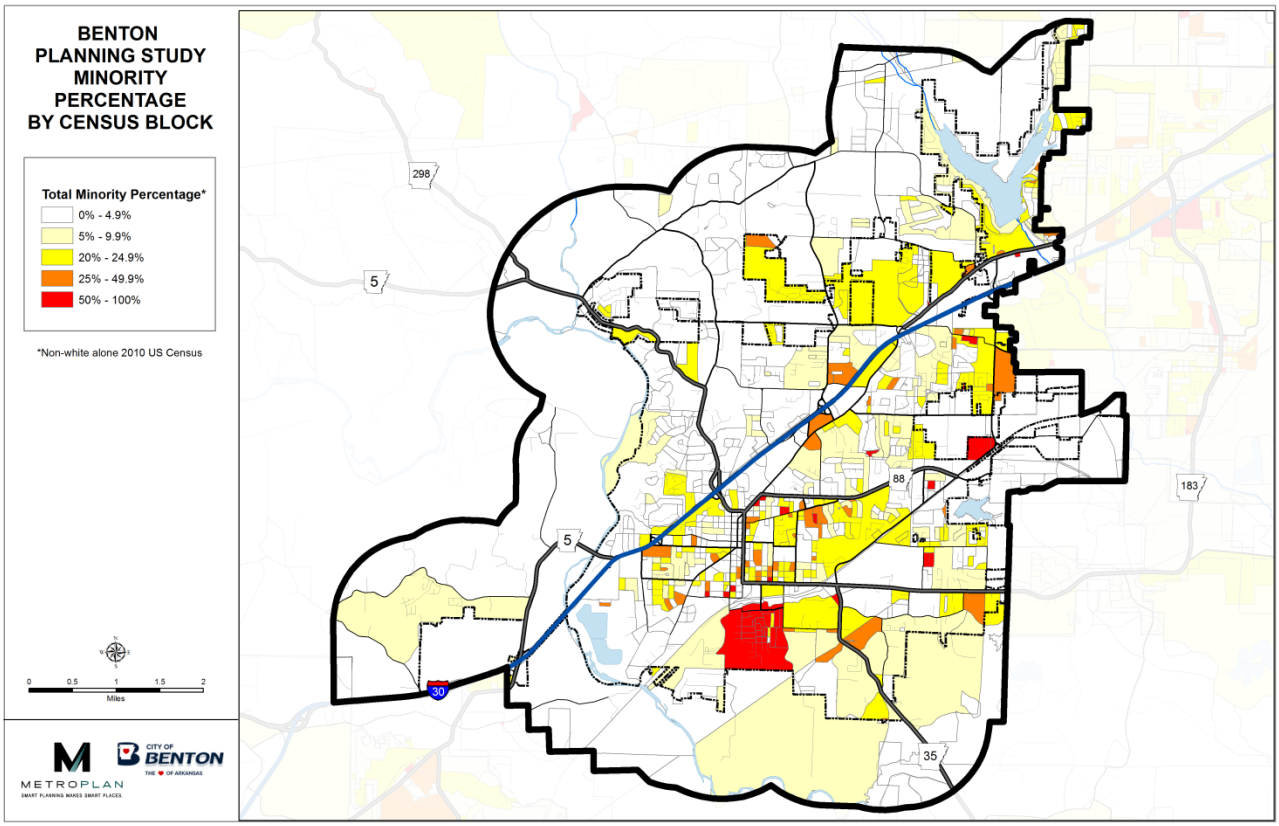


Table 5. Benton racial distribution in 2000 and 2014 (Table 6). Source US Census PL 94-171 data.

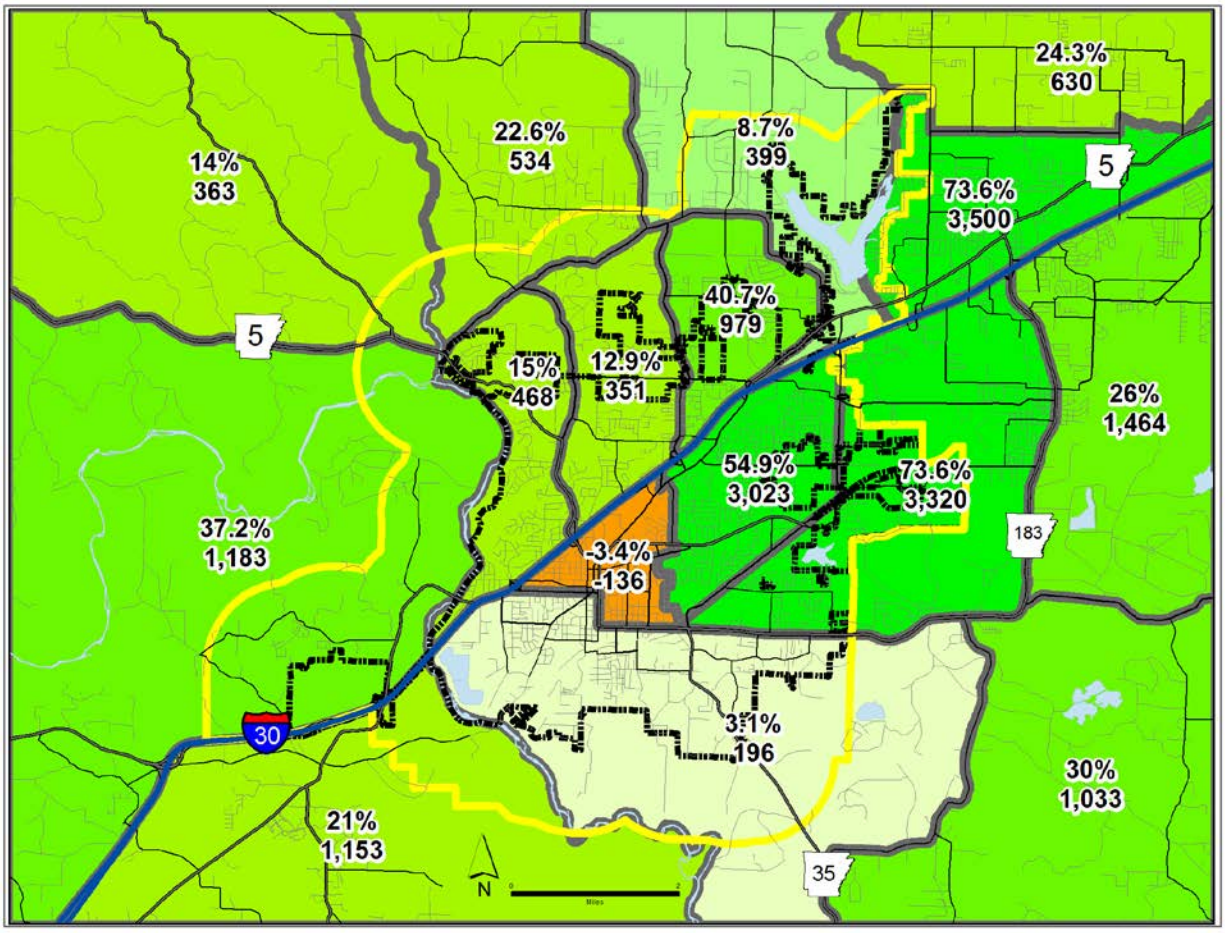
The city of Benton is gradually becoming a more racially diverse community. From 2000 to 2014 the percentage of the Benton population defined by the Census as being non-Hispanic white has decreased from 92% to 83.3%. Over the same period the percentage of the city population defined by the Census as non-Hispanic black has increased from 4% to 7.5%.

Other racial groups as identified by the Census Bureau, including Asian Americans, Native Americans, and Hawaiian and Pacific Islanders continue to constitute only a small percentage of Benton's overall population. However, the Hispanic population of Benton has more than doubled since 2000, increasing from 1.9% in 2000 to 5.2% of the population 2015. For

planning purposes it is important to track the racial breakdown of the population of Benton to ensure that protected classes are identified with respect to environmental justice considerations. The growth of the Hispanic population will require the city to take into consideration the needs of a growing population with potentially limited English proficiency and to provide appropriate services and information are provided to that population. The Hispanic population of Benton is not concentrated in any particular area of the city. Map 2 shows the distribution of the overall minority population of Benton. Minority is defined as all population not identified as white alone in the US Census. Generally the minority populations are distributed throughout the city, however one particular area of heavy minority concentration is located in southern Benton, south of the Union Pacific rail line. For environmental justice considerations it is important to consider if minority populations are disproportionately impacted by a project or development, or are not benefiting from city investment. Disproportionate impacts should be evaluated for this area of southern Benton for future city projects.

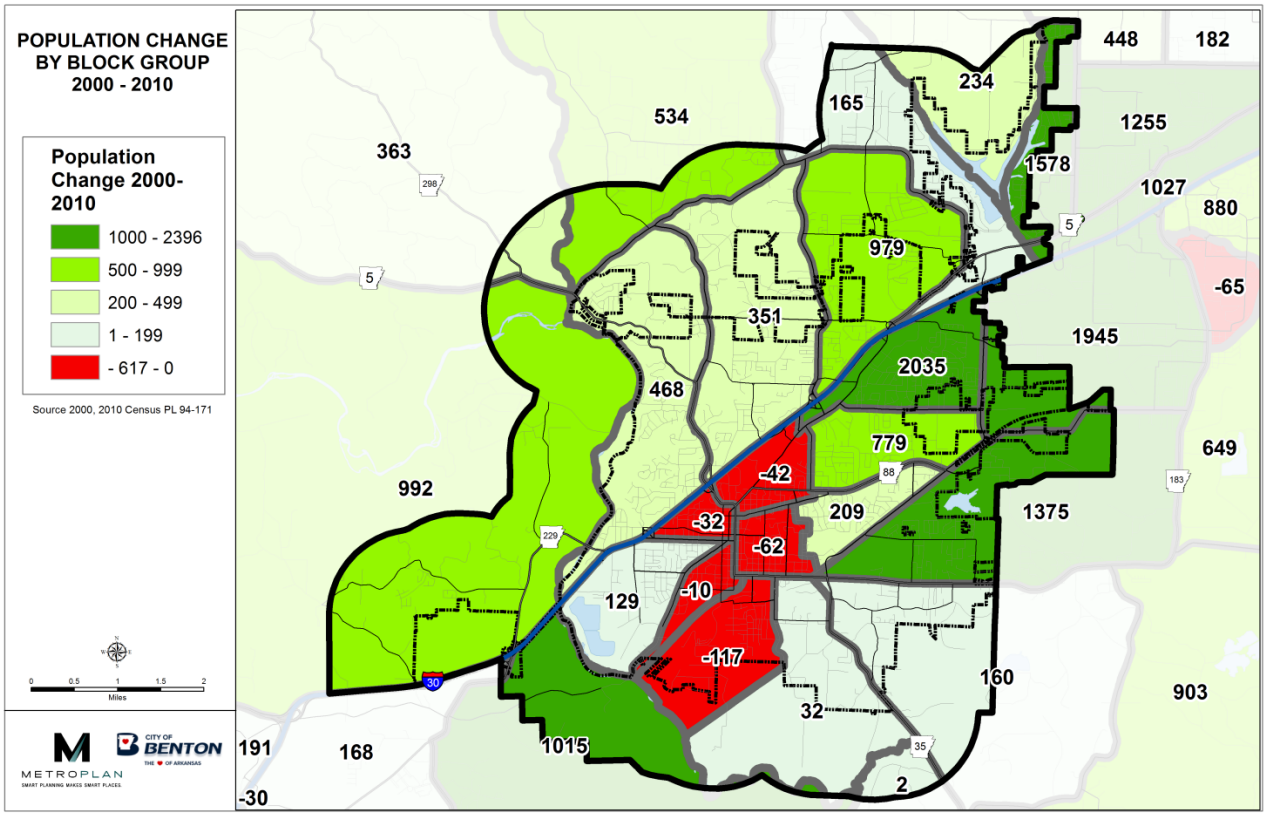


Map 2. Minority population percentage by census block. Source US Census.

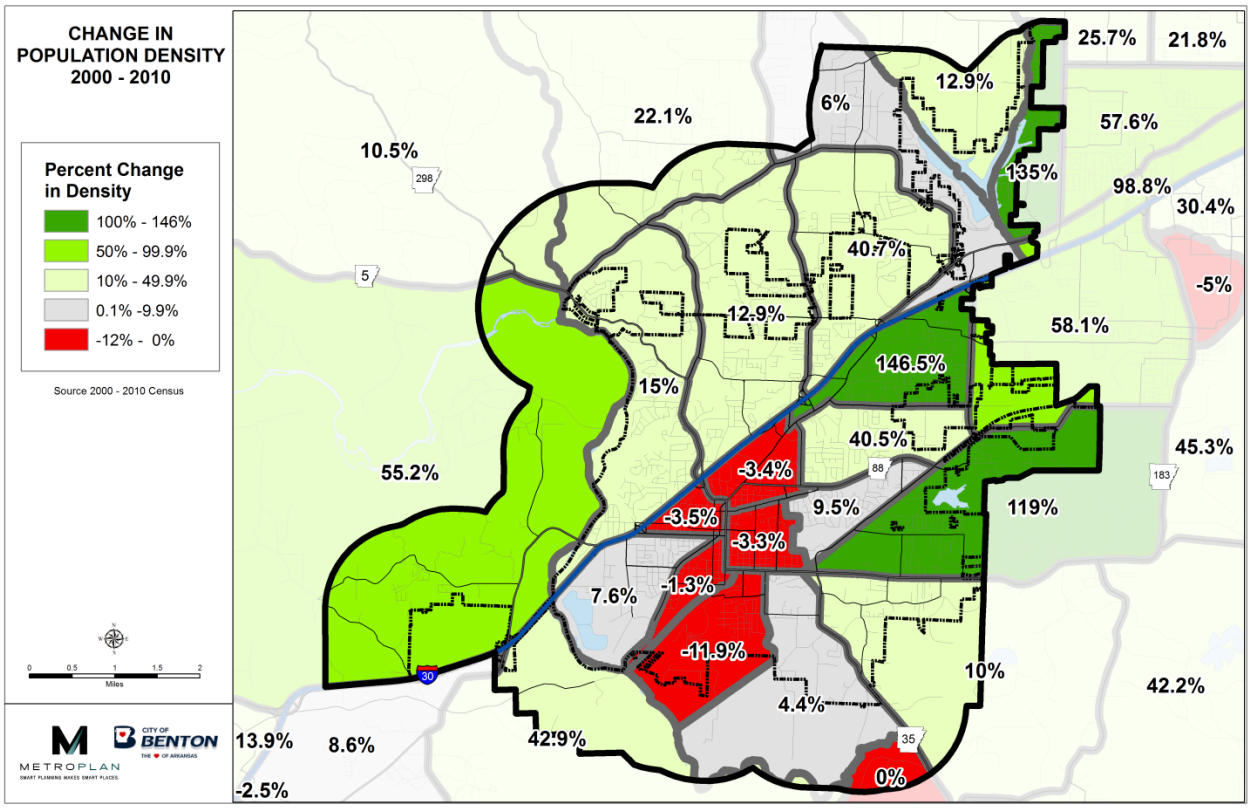


Map 3. Population change by census tract 2000 to 2010.

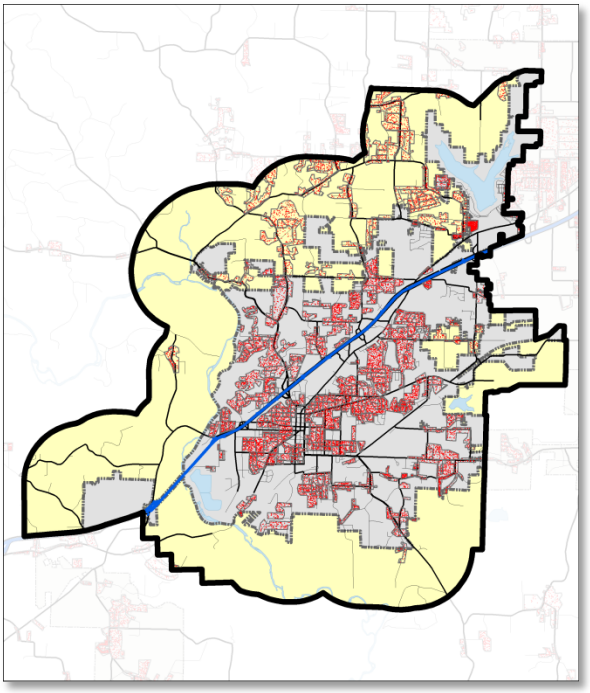
Benton's population growth since 2000 has not been evenly distributed throughout the Benton city limits or the Benton Planning Area. Map 3 shows the percentage change in population in the Benton Planning Area between 2000 and 2010 by Census Tract. The northeastern areas of the city experienced the greatest increases in population over the 2000 to 2010 time period, while central areas of the city have seen modest decreases in population. Areas north of Interstate 30 have generally experienced moderate growth, while the southeastern portion of the planning area, to the south of Highway 183 and along Highway 35 experienced limited population change during this period. Map 4 shows net population growth or losses from 2000 to 2010 at the smaller Block Group Level of census geography. US Census American Community Survey data showing population in 2014 is available and was reviewed, but due to sample size and large margins of error these data are not ideally suited for comparisons of population change at the block group level. So for this study it was only possible to assess changes from 2000 to 2010. During this period Block Group 1 of Census Tract 101.02, which is bound to the south by Northshore Dr, to the East by



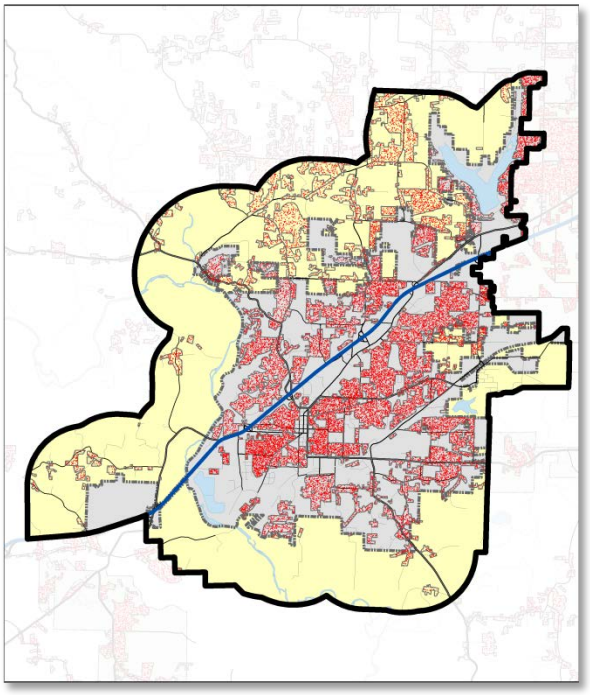
Map 4 2000-2010 Population Change by Block



Map 5. 2000-2010 population density change by block.



Map 6. Population 2010. 1 dot = 1 person.

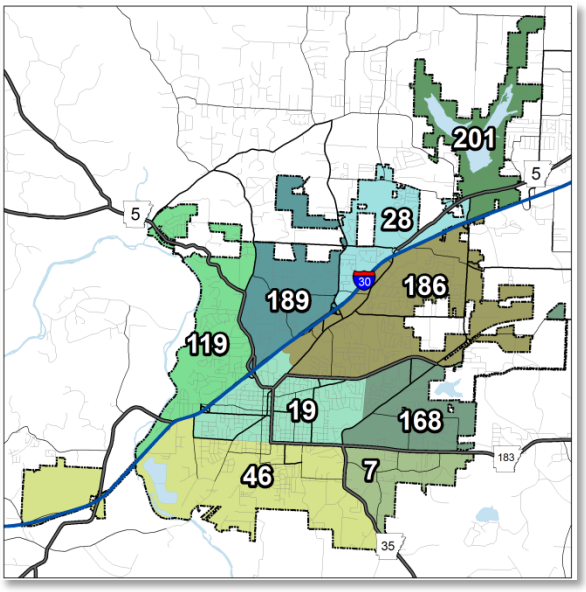


Map 7. Population 2014. 1 dot = 1 person.

Alcoa Rd and to the North and West by Interstate 30 experienced a 2,035 person increase in population. Block Group 3 of Census Tract 105.1, which is the area of Benton east of Hurricane Lake, also experienced a large population gain, increasing in population by 1578 people over the 2000 to 2010 period. Another eastern area of the city experiencing a large population gain, 1375 people, was Block Group 2 of Census Tract 101.03 which extends into portions of Bauxite and Bryant , but within the Benton Planning Area the block group is bound on the north and west by Cyanmide Road and the Union Pacific Railroad and to the south by Highway 183. This block group includes several new subdivisions bordering Gattin Road. Population growth in eastern areas of the city occurred primarily due to the construction and occupation of a large number of single family homes. Block Group 2 of Census Tract 105.03 which extends into the southwestern portion of the planning area on the west side of the Saline River and south Interstate 30, also experienced significant growth during this period, however almost all of this growth occurred in the Haskell portion of that block group. The block groups to the north of Interstate 30 and within the Benton Planning Area all grew at moderate rates during the period. The thee block groups bound by the Saline River to the west, Mulberry-Salem and Salem road to the north and East and Interstate 30 to the south, which includes all of Benton north of I-30 except the Hurricane Lake area gained a combined 1,798 people over the 2000 to 2010 period.

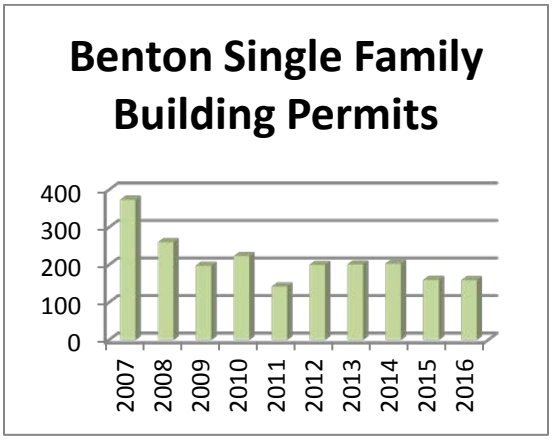
Not all areas of the Benton Planning Area gained population between 2000 and 2010. Population decline within the Benton Planning Area occurred in five contiguous block groups in and around downtown Benton. The losses in these five block groups were small, ranging from 10 to 117 people, and reflect a lack of new construction in the area, combined with empty nesting. Overall the area of Benton south

Interstate 30 and generally west of Smithers, the Benton school complex, and Neely Road, or an area which includes all of central and southwestern Benton, lost a total of 134 people over this time period. Though small the population loss in Central Benton could have impacts on efforts to revitalize the Central Business District and to create a vibrant multiple used district in the area surrounding downtown as called for in the 2008 plan.



Map 8. Residential Building Permits by region 2010-2014.

Building permits can be used to forecast population growth in particular areas of the city. Annual building permit totals have fluctuated year to year, since the sharp drop brought on by the 2008 national housing crisis. They have average 194 a year over the nine years from 2008 through 2016. Over the 2010 to 2014 period for which permits have been mapped, 963 residential building permits were issued in Benton. Map 9 shows the location of these building permits. Residential construction over this period was fairly evenly distributed around the city with the exemption of central and southern Benton. Southern Benton, or the area of the city generally described as south of Edison Ave/ Jackman Street only had 53 building permits over this time, and Central Benton saw even fewer new starts, with 19 total residential building permits being issued. New subdivisions construction was fairly evenly distributed around the remainder of the city. The largest area of new construction was Hurricane Lake Estates in northeast Benton, other areas with significant new starts were the Coldwater Creek subdivision in northwest Benton, The Woodlands and Sterling Oaks Subdivisions in North Central Benton, the Hickory Heights, Chapel Creek, and St. Andrew Woods subdivisions in northeastern Benton, and the Pleasant Forest, Wildwood and Madison Village subdivisions in the Benton Parkway/Gattin Road areas of eastern Benton. Map 10 shows where remaining undeveloped parcels of over 5 acres are remaining in the Benton Planning Area which are not currently zoned for industrial, mining, or commercial uses. These represent the areas most likely to see new large scale residential development in the future. In non-floodplain areas of the planning area and city, these parcels tend to be clustered just north of the city limits, in southeastern portions of the city, and west of the Saline River.



Benton single family building permits 2007 to 2016.

MAP 9
PLANNING STUDY
BUIDING PERMITS
2010 - 2014

- Single Family Building Permits
- Multi-Family Building Permits
- Benton Planning Area

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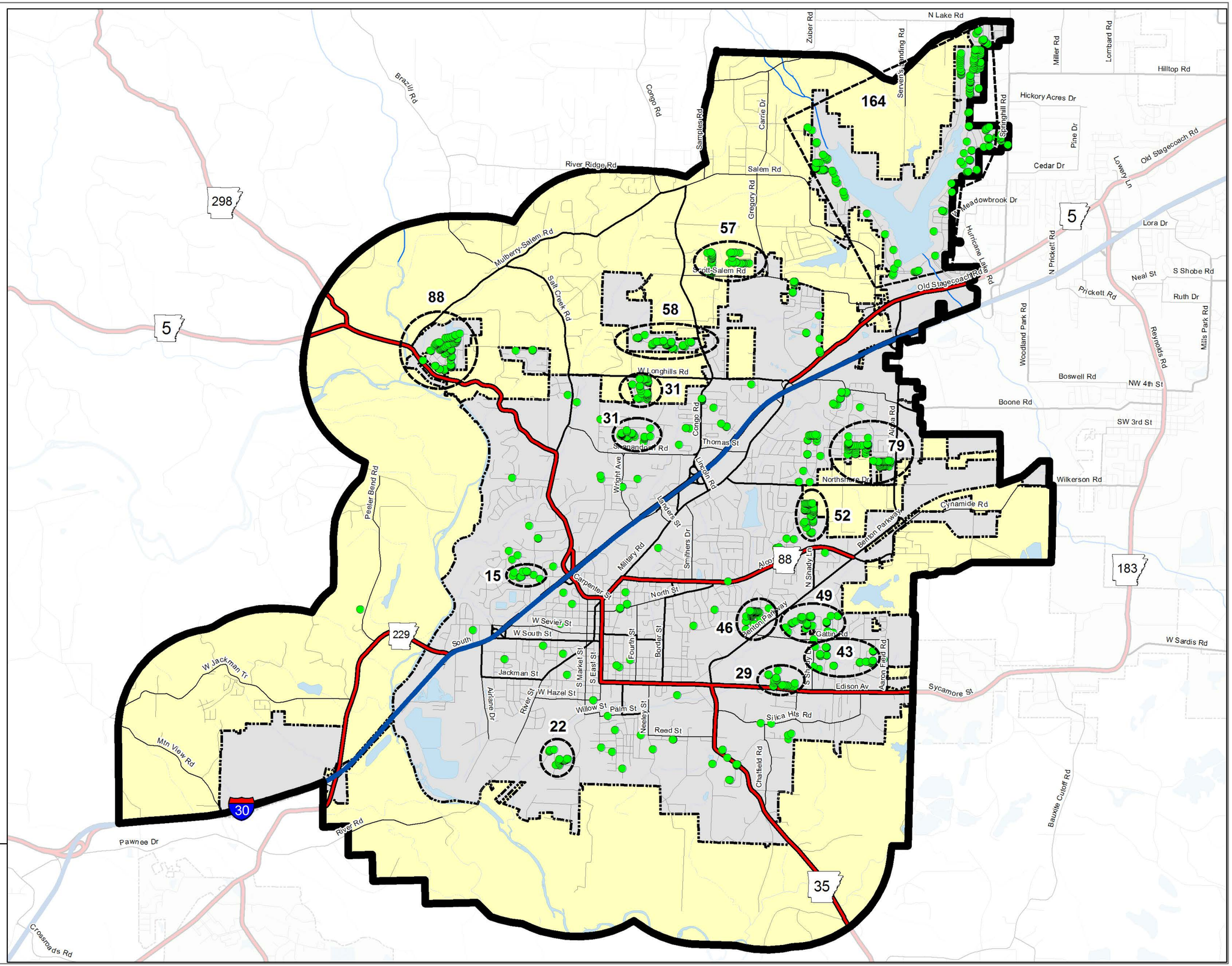
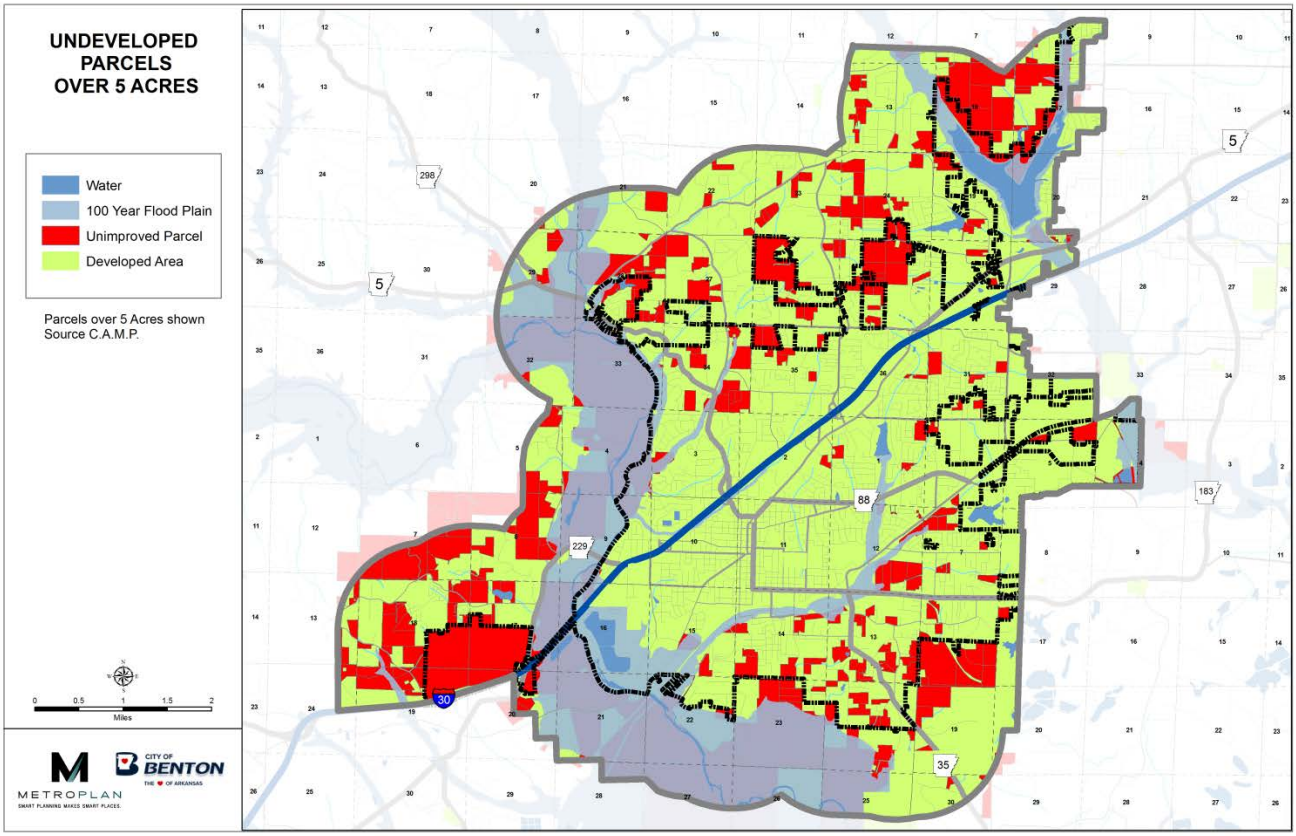




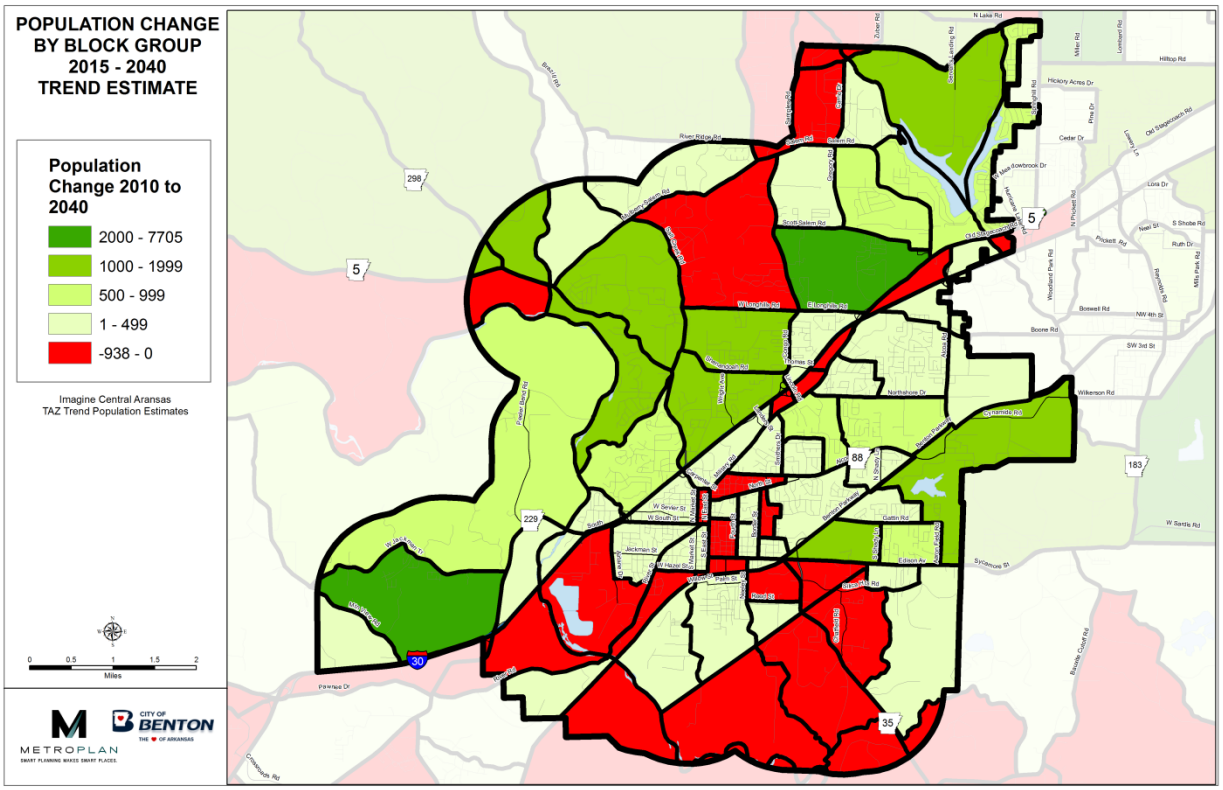
Map 10. Potential new subdivision sites on undeveloped parcels in non-commercial and non-industrial areas

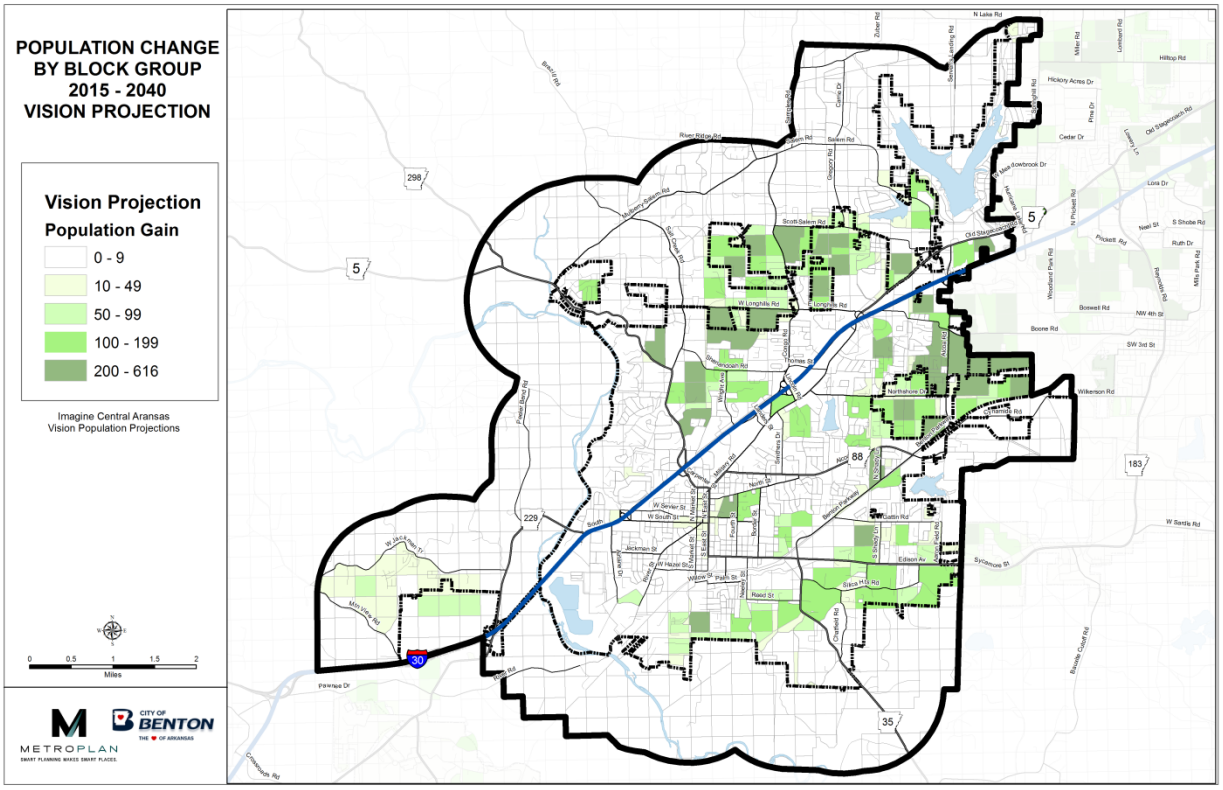
Accurately projecting Benton's population into the future is difficult. This difficulty can be seen in how the city's population trend from 2000 to 2007 changed so abruptly in 2008, along with many other Central Arkansas Cities. However, Metroplan has attempted to project population well into the future. In developing Central Arkansas's latest long range transportation plan, Imagine Central Arkansas, 2040 population projections were developed for Central Arkansas. Two 2040 population projections were developed for the Imagine Central Arkansas Plan, an Emerging Trend Scenario projection and a Regional Vision Scenario Projection. The Emerging Trend scenario assumes a continuation of present development patterns in the region which are characterized by moderate density single family residential subdivisions, scattered low density rural development, highway oriented commercial development, a limited amount of new compact walkable development, and limited intensification of downtown core areas. The Emerging Trend projections used several factors including the character and density of current development, developmental constraints, zoning, the availability of vacant land, and the suitability of land for development based on factors that are believed to be an influence on current development patterns in order to allocate the 2040 population projected to be added to the region. The iterative process used to allocate growth assigned population to areas with the highest developmental suitability scores first before assigning remaining

population to areas with lower suitability scores in later iterations.

The result of this process is shown in Map 11. In the Emerging Trend Scenario the northern and northeastern areas of the Benton experience the most growth. The area north of Longhills Road east of Highway 5 and south of Mulberry-Salem Road grows by over 5000 people in this scenario. Additional areas of significant growth in the Emerging Trend Scenario include the area west of Alcoa Road and on both sides of Northshore Dr which are projected to increase in population by almost 3000. The area bound by Longhills, Highway 5, Congo Road, and I-30 is also projected to increase in population by nearly 3000 people. The Emerging Trend Projection shows limited growth to slight declines in population for the area around downtown Benton and for the area between Highway 5 and the Saline River. Moderate growth is shown along Highway 183 east of Benton Parkway and for the area east of Hurricane Lake.

The Regional Vision Scenario which was also developed for the Imagine Central Arkansas Plan is a projection which differs from the Emerging Trend, in that it reflects the development goals of the long range plan rather than a continuation of the ongoing development trends. These goals include promoting compact, walkable, mixed use development and strengthening the regions historic downtowns and the areas surrounding them. For the goals of the Imagine Central Arkansas Plan to be realized changes to existing zoning regulations must be made to allow for denser mixed used development. How and the extent to which various communities implement the changes called for in the goals and objectives of the Imagine Central Arkansas Plan will affect the accuracy of these projections. The Vision Projection forecasts the greatest areas of population growth in Benton along Alcoa Road and in North Central Benton East of Highway 5/Salt Creeks Roads and south of Scott-Salem Rd. Another growth area is along the Highway 183 corridor in eastern Benton. Moderate growth is also forecast for the area of the city west of the Saline River, but significantly less growth is forecast in this area than in northern and eastern areas of the city. Areas outside of the city limits, but within the Benton planning are forecast to have limited growth in the Vision Projection(Map 12).





Map 11 (top) ICA Trend population change 2015 to 2040. Map 12 (bottom). ICA Vision population change 2015 to 2040.

Development Constraints

Not all areas of the Benton Planning area are equally suited to future development. Physical constraints to development in the Benton Planning Area include flood plain, steep slopes, wetland areas, streams, poor soils, and un-reclaimed mining areas. Map 13 shows developmental constrains within the Benton Planning Area.

The physical constraint on development which impacts the largest percentage of the Benton Planning Area is the 1-percent, or 100 year, flood plain. The 1-percent flood plain is defined as the area that will be inundated by a flood event having a 1–percent chance of being equaled or exceeded in any given year. Approximately 23%, or 7,161 acres, of the planning area is in the 1-percent flood plain. Of the area in the 1-percent flood plain, 3699 acres, or about half of the flood plain, is classified as floodway. For the portion of the 1-percent flood plain in the flood way, any development must receive a no impact certification showing that the project will not result in an increase in upstream flood elevations. The majority of flood plain in the planning area is located along the Saline River and the North Fork of the Saline River. Additional and much less extensive areas of flood plain can be found along Hurricane Creek, Depot Creek, Salt Creek, and McNeil Creek. Development in the 1-percent floodplain is possible provided the development can be raised above the base flood elevation, however an assessment should be made to determine that the project will not negatively impact flood plain functioning[2]. The best practice in flood plain management is to limit all development in the 1-percent floodplain to what is essential.

Steep slopes are the second largest physical constraint in the Benton Planning Area. Development on steep slopes increases erosion, increases water pollution, increases the costs of extending infrastructure including roads, sewer, and water, and can detract visually from scenic areas. What is considered a steep slope varies from area to area. Generally though, some of the negative impacts listed above can be seen when development occurs on slopes over 10 percent, and negative impacts become much more pronounced at 15%. Approximately 2,658 acres or 8.5% of the total acres in the Benton planning area have slopes over 10%, and 647 acres or 2 percent of the Benton planning area have slopes over 15%. Steep slopes are most prevalent in the portion of the planning area west of the Saline River and along the east side of the Saline river north of its confluence with Salt Creek. These areas are generally comprised of Carnasaw -Townley soils which are characterized by high shrink-swell and low strength which makes them poorly suited to urban development[3]. An additional but smaller concentration of steeper slopes is located along Highway 35 in the southern portion of the city limits.

Wetland areas in the Benton Planning Area primarily consist of Riverine wetlands along the Saline River and seasonally flooded palustrine wetlands located in the Saline River floodplain and the Hurricane Creek Floodplain. The total wetland area within the planning area is approximately 203 acres or less than 1 percent of the total area of the Benton Planning Area. Additionally, as the vast majority of wetlands are located within the 1-percent floodplain they do not present a significant developmental constraint within the Benton Planning Area.

MAP 13
DEVELOPMENT CONSTRAINTS

- Stream
- Sensitive Stream
- Railroads
- Wetlands
- Slope 15%
- Slope 10%
- Cemeteries
- Lakes
- Park\Protected
- Alcoa Saline Bottoms Natural Area
- Power Line ROW
- Gann Historic Distric
- Un-reclaimed Pit Mine
- Benton Utility Mapping Boundary
- Wastewater Treatment
- 100 Year Flood Plain
- Benton Planning Area

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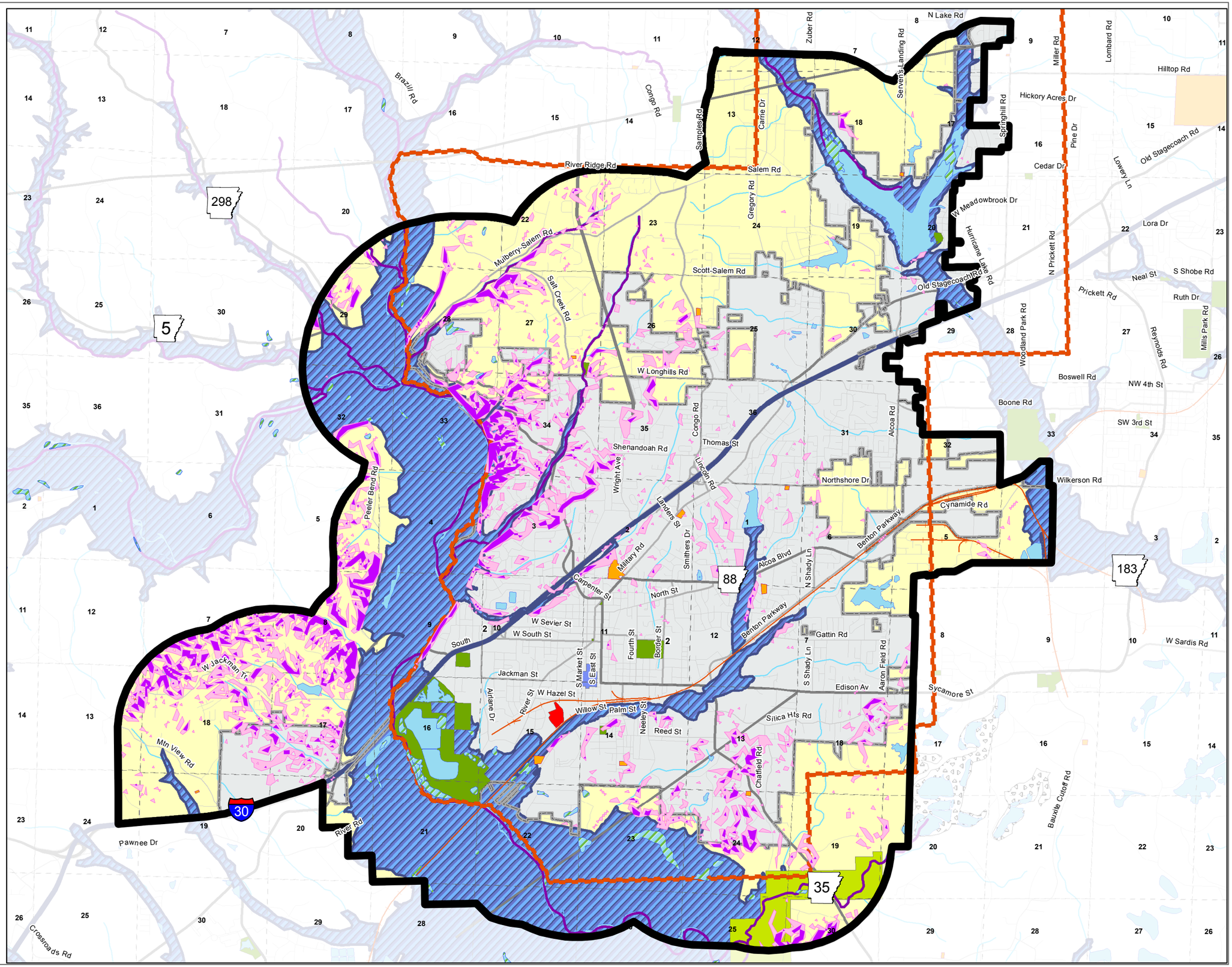
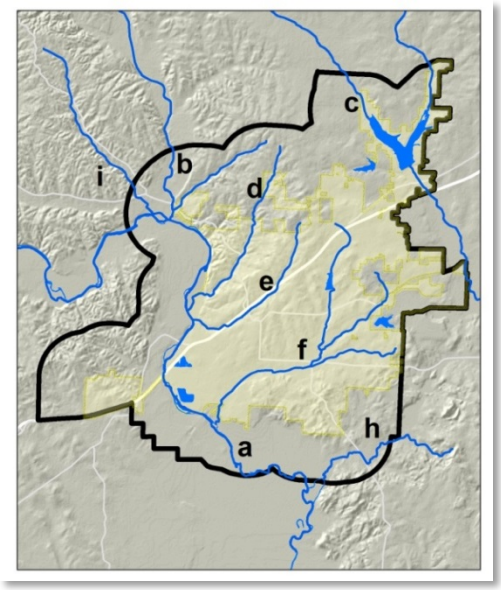


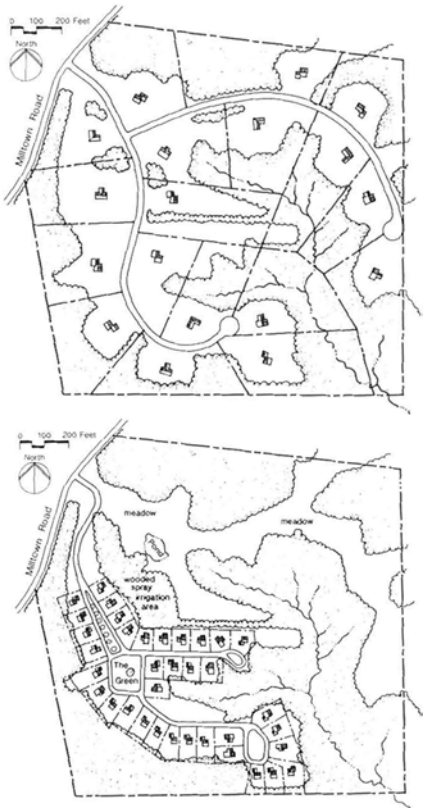
In addition to the Saline River the many tributary streams of the Saline River that flow through the Benton Planning Area can be considered a developmental constraint. The area along streams, often called a Riparian buffer, help maintain the integrity of stream channels, help remove pollutants from storm water runoff, and supply food and shade which is beneficial to wildlife[4]. Because of their benefits best planning practice is to preserve riparian buffers as green space which can be used as park space or as a greenway. Map 14 shows riparian corridors in the Benton Planning area. The most significant Riparian corridors in the planning area are:



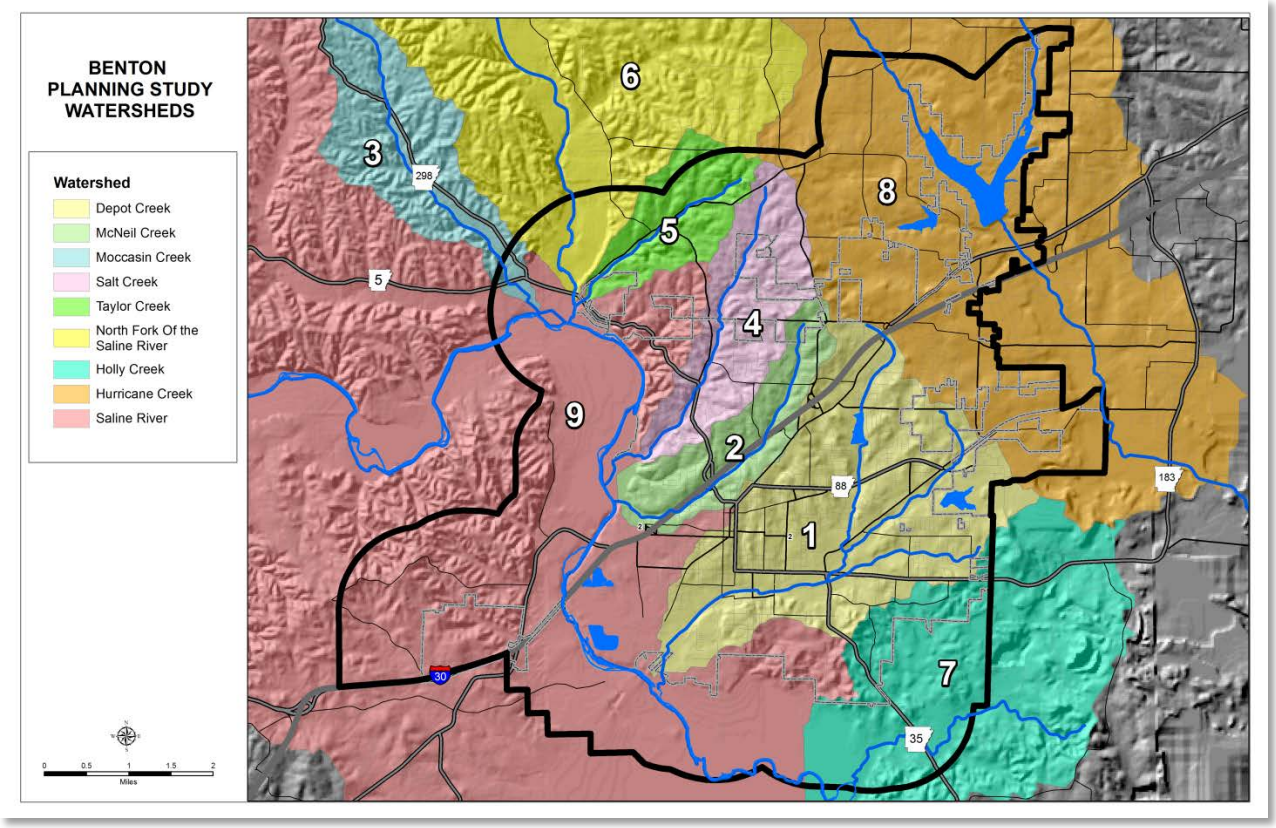
Map 14. Benton riparian corridors.

- Saline River (a)
- North Fork Of the Saline River (b)
- Hurricane Creek (c)
- Salt Creek (d)
- McNeil Creek (e)
- Depot Creek (f)
- Taylor Creek (g)
- Holly Creek (h)
- Moccasin Creek (I)

Conservation Subdivisions



The use of conservation subdivisions in which housing is clustered on smaller than otherwise permissible lots on less physically constrained areas of a development in order to conserve other areas which may contain steep slopes or flood plain is a method of allowing development in areas with physical constraints



Map 15. Benton Planning Area major watersheds.

All watersheds within the Benton Planning Area eventually drain into the Saline River watershed. This means that storm water discharge and pollutants from all Benton watersheds eventually empty into the Saline River (Map 15). McNeil Creek and Depot Creek are particularly susceptible to degradation as their watersheds drain the most heavily built up areas of the Benton Planning Area and have high percentages of impervious surfaces which can adversely impact the water quality of these streams. In addition, Depot Creek has a Benton wastewater treatment facility that discharges into it. Because of these factors these streams may be the most susceptible of those in the planning area to water quality issues. Significant development at I-30 and Alcoa Road has the potential to adversely impact the Hurricane Creek watershed. However, the use of detention basins and other storm water management strategies can help mitigate the impact of significant new areas of impervious surface that are being added to this watershed.

Development Patterns and Building Form

In recent years cities have begun placing an increased emphasis on enhancing walkability, creating a sense of place, and in promoting sustainable development. These issues have become particular concerns for cities in recent years due in part to a shift in the preferences of residents about what development patterns in a city are most desirable and also due to a realization by cities that previous patterns of development are not sustainable. For most of the post war period suburban development patterns characterized by separated land uses, single family homes, wide roads, abundant parking, and large building setbacks were viewed as the most desirable form of development. Single family detached housing with large lawns sited along wide curvilinear streets and cul-de-sacs was viewed as most desirable for residential areas and big box and strip shopping centers with abundant parking sited along major multi-lane corridors was seen as most desirable for commercial areas. Buildings in this suburban development pattern are widely spaced, set back far from sidewalks, and surrounded by large lawns or surface parking lots. Residential and commercial areas are clearly separated with very few mixed use areas. This pattern is especially prevalent in Sunbelt cities and suburbs including almost all Arkansas cities. However, in recent years there has begun to be a dramatic shift in preferences away from auto dependent suburban development towards more walkable compact development, and that dynamic has been coupled with an increasing understanding by cities that such patterns are more sustainable

and efficient for the city. This is true in large cities as well as suburbs. The change in preferences to more compact walkable development from auto dependent suburban development is perhaps most pronounced in the Millennial Generation. This generation has recently reached an age at which they can make a choice about where they want to live and many Millennials are choosing to live in walkable, compact mixed use areas.[5] This has led to a rebound in the population of many urban cities that had been experiencing population declines for several decades. This change in preference is also prevalent amongst empty nesters of the "Baby Boomers" generation. Recent surveys show that these generations as well as an overall majority of Americans, now state a preference for denser, more compact, and more walkable development and generally desire less dependence on cars. A recent poll found that 61 percent of Americans would prefer a smaller home and shorter commute to a larger home and longer commute. Seventy-six percent of Millennials place a high value on walkable communities.[6] As Millennials are now choosing where to buy or rent their first home this has great significance to the growth and future of Central Arkansas Communities.

Many planners and New Urbanists have advocated a shift away from suburban, auto dependent, segregated land use development patterns since the early 1990's, however changes in developmental patterns have been slow to shift until more recent years. This is due in large part to zoning codes which actually prevent building compact and walkable development in most cases. The majority of zoning codes written from 1950 to 2000 require large front and side setbacks for commercial and residential development, have high minimum parking requirements, and strictly segregate allowable uses. They do not regulate how buildings front streets or how they shape the public realm.

Auto oriented buildings in downtown Benton.

Many zoning codes still do not allow for the type of development in downtown areas as had been the historical precedent and which are viewed as assets to the community. Newer buildings in historically walkable downtown areas still are often built in a suburban auto dependent form as a result of the lack of guidance on how a building should be built in a downtown, or because the zoning codes actually require buildings to have a suburban form. In Benton's case, the zoning code did not so much prevent compact walkable areas in downtown, as it did not require a built form that is appropriate for downtown and does allow auto dependent suburban type buildings in the historic core of downtown. However, despite issues with the existing zoning code the built form of downtown has remained largely urban in form.

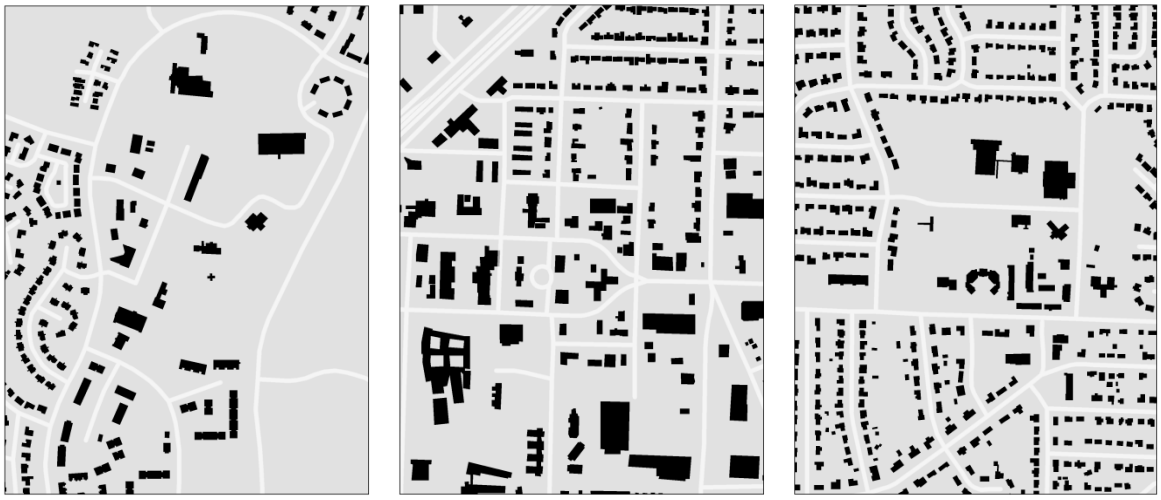


Figure ground of Benton above, other central Arkansas cities on top row.

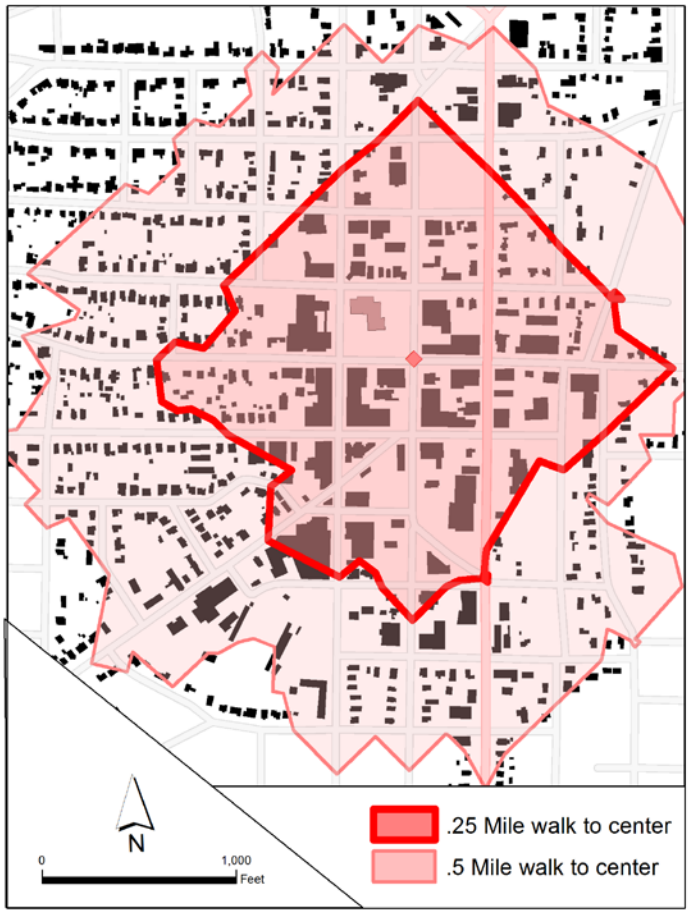
A figure field or figure ground diagram shows the relationship between built and unbuilt spaces. By showing the configurations of buildings and open space, areas that have a strong urban form or sense of place can be seen. The relationship between buildings and public space is an important part of creating a sense of place. Traditional downtowns have a recognizable form when viewed in figure ground. Continuous blocks of buildings generally frame the main streets of downtown. Buildings are predominately attached, meaning there is no side setback between buildings. Streets tend to be gridded into smaller size regular blocks, and buildings are situated close and frame the streets. The three figure ground images above show the central areas of three cities in Central Arkansas and the figure field to the left shows the pattern of buildings in downtown Benton. These figure field diagrams show Benton has a much more traditional downtown form with a regular street grid, regular blocks sizes, and buildings set close to the street, which helps to frame streets and public spaces, and the majority of buildings in downtown being attached. This compares favorably to most central Arkansas cities which have a less recognizable downtown pattern with a less regular street grid, large front and side setbacks, and few attached buildings helping to frame streets. As a result of their built form many Central Arkansas suburban cities lack the strong sense of place that is present in downtown Benton. This is a major asset for the city of Benton and is something that should be preserved and enhanced.

Many of the essential components which new urbanists promote in the redevelopment of existing downtowns and also use in designing neo-traditional developments(TNDs) are already present in downtown Benton:

- There is an increase in intensity and a mixing of uses towards the core of Benton.
- There is an increase in the size and height of structures towards the core.
- The opportunity to mix uses vertically within the existing structures of downtown currently exists.
- Most commercial buildings are built out to the sidewalk and abut neighboring buildings, creating a continuous street wall.
- Sidewalks, street lighting, and crosswalks are generally present and in good condition.
- Most commercial buildings have awnings to provide shade for pedestrians and to reduce glare on shop front windows.
- Shopfront windows are ample and well placed.
- There is a sense of enclosure along the street created by the ratio of building height to street width.
- Block sizes are pedestrian friendly.
- The principal civic building, the Saline County Courthouse, occupies a significant and central site within downtown.

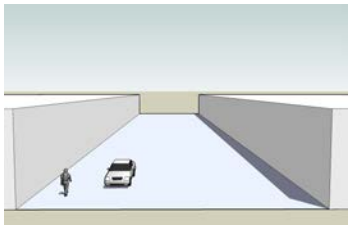
Many of the above elements are lacking in communities within this region. This may give Benton a head start in attracting infill development downtown and future neo-traditional development elsewhere in the city.

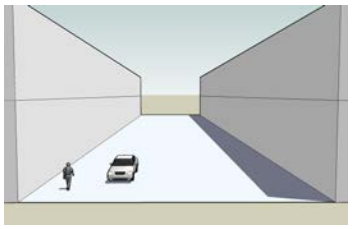
Benton benefits from having a residential area surrounding its downtown. Studies have shown that a majority of people will walk on trips of a quarter of a mile or less given a safe and appealing walking environment. The residential area surrounding downtown can provide a market to help support downtown businesses in addition to visitors from other parts of the city and region.

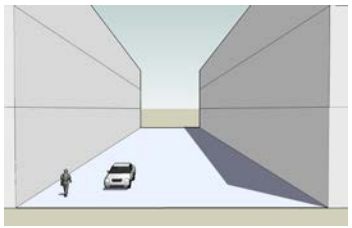


Map 16. Downtown Benton pedestrian sheds.

Sense of Place







The ratio of building height to street width is important in creating a sense of place. Some studies have shown that a 1:1 ratio is optimal for creating a perception of enclosure which is a fundamental component of creating a sense of place and a unique downtown.

A figure ground of buildings and open space along central Military Road (Figure 2) reveals a very different building pattern than is present in downtown Benton. Strip development consisting of big box stores, drive-thus, and strip malls characterizes much of the Military corridor. Building generally are set back for from the street and do not contribute to framing the street. Buildings are predominately single story with many have very large footprints. Several buildings exceed 100,000 square feet and numerous building footprints exceed 30,000 square feet. Large parking lots, often exceeding the size size of the accompanying building in square footage, separate most buildings from the street and sidewalk. This type of auto oriented development has been the predominate form of commercial development in most cities in central Arkansas and across much of the United Sates for multiple decades. However, cities across the county are beginning to take steps to discourage this type of development and are now seeking ways to retrofit existing auto dependent commercial development with more walkable infill development in order to promote walking, enhance the communities sense of place, minimize auto trips with their associated negative impacts such as congestion and air pollution, and to encourage more sustainable development for the city.

Conventional suburban style auto dependent commercial development, such as is found along Military, and which is common throughout Central Arkansas is hostile to pedestrians for several reasons. In order to reach the entrance of many buildings, a pedestrian walking along Military might have to cross 200’ to 300’ of surface parking lot. Generally, no designated walkways or other safety provisions are made for the pedestrian. Additionally pedestrians must contend with the long distances between buildings, long stretches of blank walls, numerous driveways and associated vehicular turning movements, and the long distances between signalized crosswalks along Military.

Redevelopment and infill development along the Military corridor will be needed to insure that this commercial area remains a viable alternative to other newer retail destinations within the region, such as lifestyle centers and other similar developments which attempt to create an environment in which

patrons can enjoy walking between multiple retail and entertainment destinations. Historically, corridors with large amounts of auto oriented / big box development have begun to decline when corridors are developed nearby with newer and larger big box stores. To some extent this is happening along Military due to the completion of a newer shopping destination at Alcoa and I-30. Newer strip retail areas such as Alcoa and I-30 may also face challenges in the future as retailers move towards lifestyle centers and away from strip shopping centers.

Walkable infill buildings and liner buildings along big box retail frontages can go a long way towards revitalizing the Military Road corridor by enhancing walkability, reducing vehicular trips, and helping to create a sense of place along the corridor. See the sidebar and zoning section for examples of these buildings. Military has more potential for this type of infill development than the larger and newer retail developments along Alcoa and the I-30 Frontage Roads which are almost exclusively drive to destinations with limited nearby residential areas from which visitors might walk.

Liner Buildings

Liner Buildings can be an important tool in retrofitting aging auto oriented commercial corridors. They are shallow buildings built along the street side of large parking lots and have entrances that are convenient to both the parking lot and the sidewalk along the major street. Generally, these buildings serve as out parcel retail and are built on underutilized areas of parking lots. Line buildings help to enclose the street and help enhance walkability and sense of place.

Communities across the country are now seeking to retrofit auto dependent commercial corridors. There are several simple design changes which do not affect the cost of development nor negatively impact motorists access to commercial sites but can still make a big impact in increasing walkability. This can be achieved by simply siting buildings close to the right of way and sidewalk, moving buildings to the corner side of corner sites, providing fenestration along street facing sides, and placing parking to the rear or side of buildings.

To the left are examples of a variety of new walkable commercial infill buildings along multi-lane commercial corridors with higher traffic volumes than Military Road. These buildings enhance the walkability of these corridors, but still provide convenient access and abundant parking for motorists. The two top photos are a retail building and grocery store along Poplar Avenue in Germantown, TN. The bottom two photographs are a minor medical clinic along Oak Street and a drug store built to the corner at Oak Street and Harkrider St, both in Conway, AR. Projects like these are being built in hundreds of cities across the country and show that most business, regardless of whether they are a big box store, fast food restaurant or even a gas station can help contribute to a corridors walkability, enhance a communities sense of places, reduce traffic, and potentially help revitalize commercial areas.

Additional commercial corridors in Benton including South Street and Edison Street may have potential for redevelopment due to their proximity to residential areas and the smaller scale of existing development which may make redevelopment more economically feasible than redeveloping larger more expensive properties. Smaller scale pedestrian oriented infill development along these corridors will be necessary to ensure the commercial viability of these corridors in the future. South Street can benefit from its proximity to downtown and is also within the area that was designated as a Multiple Use area on the 2008 Benton Land Use Plan. South Street has an eclectic mix of building types which makes the corridor well suited to redevelopment as a multiple use corridor.

Single family homes along South Street

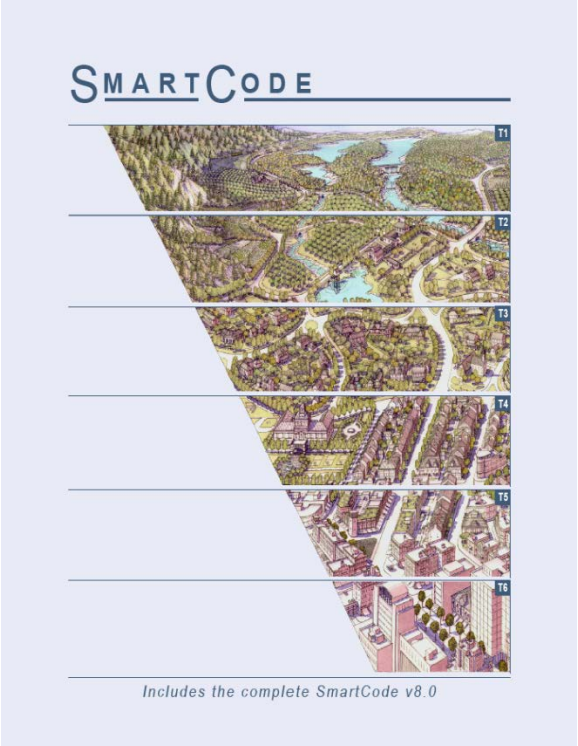
In the multiple use district, single family homes along South Street can remain residential or could also potentially be repurposed as retail, restaurants, or for other commercial uses. Similarly to how homes along Kavanagh in the Hillcrest and Height neighborhoods of Little Rock have been repurposed and now house a variety of businesses, or they could remain as single family residential uses.

Former single family homes along Kavanagh in the Heights neighborhood of Little Rock.

Just as cities have begun to reassess commercial areas to look at ways to make them less auto dependent, residential areas are also beginning to be designed differently across the country.[7] For most of the period from 1950 through 2000, suburban subdivisions typically consisted of single family homes on large lots. Lot sizes in most subdivisions have generally been over 7,000 square feet and are often over 10,000 square feet. Streets in a conventional suburban subdivision generally are wide and curving and generally do not conform to a traditional street grid. Cul-de-sacs are common. For many decades this model of development was the predominant form of new residential development in Benton and in most suburban areas in central Arkansas and across the country.

Though this type of development pattern was viewed as ideal by many communities across central Arkansas for multiple decades, this pattern of development does have significant drawbacks. Studies have shown that as housing density decreases more land is consumed and infrastructure and services per housing unit, including sewer, water, electric, roads, police and fire protection, becomes more expensive, public transit becomes increasingly impractical, miles driven per household increases, and people become more dependent on their cars.[8] This has negative impacts on congestion, air quality, and public health. Conversely, it should be noted that very large lots do not necessarily preserve open space. Large lot development spreads houses out in a way that makes remaining land largely unusable for farming, forestry, or recreation.

Over the last decade a shift has begun in the design of new subdivisions which attempts to address some of the sustainability, walkability, and sense of place issues of conventional subdivision design. Many of the problems of conventional subdivision design can be fixed by returning to the development patterns that were predominant before World War II. This type of development is often called traditional neighborhood development. Traditional neighborhood developments are increasingly gaining popularity across the country and in Central Arkansas.



The SmartCode is a model form based code

The cities of Conway and Bryant have in recent years adopted Traditional Neighborhood Development Ordinances based of the Smartcode. These ordinances allow compact walkable mixed use development. Typically TNDs include a variety of housing types, including detached single family homes, town homes, multi-family buildings, and live work

units. TND developments have well defined centers that typically have mixed use or commercial buildings. Public buildings such as schools, post offices, community centers are located in community centers, post offices and schools are often are sited near public open park space that serves as a neighborhood center. Homes have smaller lots and lawns than conventional subdivisions, however more public open space is generally provided than in conventional suburban development. While smaller lots and yards do provide less private outdoor space, they do allow for more space to be set aside as public open space. This means less maintenance of lawns, which may be a particular benefit to a large aging baby boomer generation. TND development incorporates alleys to minimize front loaded garages and driveways, and detached homes have small side and front setbacks, which help to create a sense of street enclosure which contributes to sense of place. This form of development is generally more economically sustainable for a city as there are fewer miles of streets, water lines, electric lines, and sewer lines to be maintained. It also minimized the miles driven by police and fire departments, which can reduce costs to these departments and potentially improve emergency response times.

TND Development. Hendrix Village, Conway, AR at left and above. Providence in Huntsville, AL top.

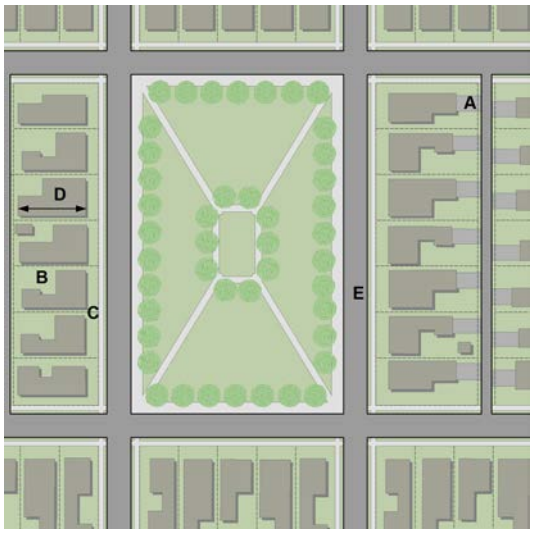
Another trend that is emerging in residential subdivisions is the development of traditional housing subdivisions. These subdivisions have many of the characteristics of a traditional neighborhood development, but do not include mixed uses. Specifically houses are sited close to the street, with rear alleys, and minimal side setbacks. Side setbacks are often 5 feet or less. Lots are small, often 3,000 to 5,000 feet. Most houses have minimal front yards and comparatively small backyards. Housing is sited to front and help frame public open spaces.

Traditional neighborhoods in Collierville and Germantown, TN.

This type of development offers many of the benefits of traditional neighborhoods development including reduces costs to maintain road, water, sewer, and electric infrastructure for the city. These developments also are more compact than conventional subdivisions, so they minimize walking distances to other destinations.

Conventional Subdivision

Traditional Subdivision



Traditional Design Fundamentals
A. Driveways are accessed from alleys
B. Minimal side setbacks
C. Small front setbacks and yards
D. Houses are narrower and deeper
E. Houses frame public open spaces

Multi-family is crucial to providing housing choice to a community. An update of the Comprehensive Plan should reassess the role of multi-family housing in Benton. The 2008 Comprehensive Plan does not include multi-family housing on the land use plan, and states in Objective 3.4.2.3 "…this land use plan seeks a dispersed pattern of rental housing" and that "All new multi-family developments shall be permitted as planned developments subject to the PUD regulations."

Multi-family housing has experienced strong and growing demand since the housing market crash of 2008, both throughout the country and in Central Arkansas specifically. As mortgages became harder to obtain many people looking for new homes have chosen to live in

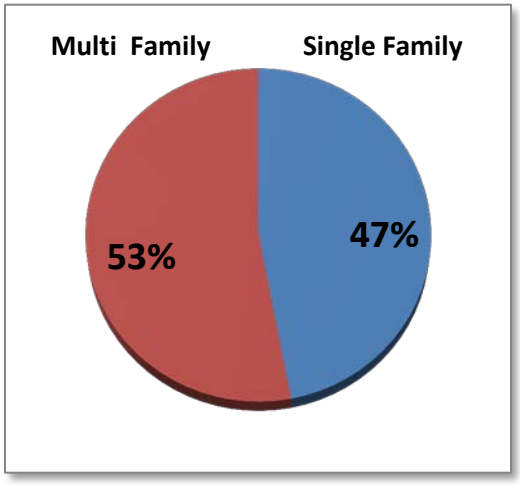


Table 7. Multi-Family vs Single Family permitted units in Central Arkansas 2010 -2014.

rental apartments. While many that have moved to rental apartments subsequent to the housing market crisis did so out of necessity, there is some evidence that many are doing so by choice.[9] The sharp decrease in home values and subsequent wave of home foreclosures during the housing market crisis led many to conclude that buying a home was not as safe an investment as in previous periods and that renting may made more sense in the short term. Over time many renters may choose to enter the single family home market, but demand for apartments remains high. Nationally, multifamily starts for projects with 5 or more units have increased by 275% from their 2008 post housing crash lows. Single family starts have only increased by 58% from their 2008 recession low. Multi-family units with 5 or more units accounted for 38.4% of all new starts nationally in 2015, while they previously accounted for only 18% of starts at the height of the housing boom in 2005.[10] For the period from 2010 thru 2014, multi-family accounted for an even larger share of Central Arkansas housing starts than they did nationally.

With the increased importance of multi-family housing both regionally and nationally, the objectives of the 2008 Comprehensive Development Plan with regards to multi-family may need to be revisited. Multi-family housing is an important affordable housing option for many, including young people and older empty nesters looking to downsize. A city failing to provide the amount of multi-family housing that the market is demanding due to zoning restrictions may actually disadvantage itself relative to other cities in the region. Concerns about the impacts of large concentrations of rental multi-family housing on a community can be addressed through a variety of zoning measures that do not require a planned unit development review. The requirement from the 2008 Plan that all new multi-family be subject to PUD requirements, has not achieved the stated objective of creating a dispersed pattern of rental housing. The new multi-family project at Longhills and Highway 5 will be one of the largest concentrations of rental multi-family housing in Saline County. A more dispersed

pattern of multi-family residential housing can be better achieved by allowing for smaller multi-family buildings that better integrate into neighboring residential areas.

Small scale multifamily in Bentonville, AR (top) and Little Rock(bottom). The Larger scale The Greens at Longhills, Benton top.

In order to better integrate multi-family buildings into the city multi-family buildings should front and frame neighboring streets with entrances and walkways connected to exterior streets and sidewalks. Exterior corridors and stairs should not be visible from exterior streets to minimize noise and impacts on surrounding residential areas. Larger complexes should contribute to the built environment of the community by connecting to and extending street grids through the development and siting

New multi-family building in Little Rock.

buildings so that they help frame both interior and surrounding streets. Currently, most apartment complexes throughout central Arkansas tend to poorly integrate with surrounding areas and streets. Typically, buildings are sited around parking areas and are set back far from surrounding streets. On street parking along streets within the complex can minimize the need for large surface parking lots.

This new multi-family development in Argenta, North Little Rock, integrates wells with the neighboring single family residential area

A new multi-family building in Little Rock that is compatible with neighboring single family residential area.

Multi-family with structured parking, Addison, TX

One technique to help multi-family buildings have a more urban form and better integrate with surrounding streets is to incorporate a parking deck into a multi-family building. This format is growing in popularity across the country. However the added cost of building structured parking will increase projects costs and these costs will be passed on to residents, which may make this format only feasible for higher rent apartments or for condominiums.

Figure 4. How multi-family developments can be better integrated with the surrounding neighborhoods.

Above is an example of how a large multi-family development can better integrate into surrounding neighborhoods and contribute to the built environment of the city.

a. Road entrances to the complex align with the surrounding street grid
b. Buildings are built parallel and close to surrounding streets
c. Buildings are built along and help frame interior streets
d. On street parking is using to minimize the size of parking lots
e. Buildings have entrances and walkways from surrounding streets, but exterior stairs and corridors, should not be visible from surrounding streets.

Zoning Considerations

In order for Benton to provide the needed guidance to developers as to the type of development which the community desires, Benton will need to revise its current zoning regulations. Many of the goals and objectives laid out in the 2008 Comprehensive Plan address the built environment and development patterns. Changes to the current zoning are necessary in order to realize the following goals from that plan:

1. Become central Arkansas's premier community by developing unique public spaces.
2. Enhancing the aesthetic appeal and livability of the built environment..
3. Encourage and facilitate appropriate residential, commercial and industrial development and redevelopment.
4. Leverage scenic and quality of place amenities to attract knowledge workers.
5. Revitalize the central business district and adjacent neighborhoods.
6. Encourage the retention and expansion of existing local businesses.
7. Attract and retain retirees to the Benton area.
8. Attract tourists and other visitors to shop and spend recreational dollars in Benton.
9. Provide for the orderly and efficient transition of land from rural to urban use.
10. Promote and encourage infill development and other sustainable and efficient development patterns.
11. Encourage the preservation and adaptive reuse of historic buildings and structures.
12. Encourage traditional neighborhood design in targeted areas.
13. Encourage a mix of activities, uses and densities and the application of pedestrian and/or transit oriented design in targeted neighborhoods.
14. Encourage the development of attractive and well-built affordable housing.
15. Encourage the development of housing that is appropriate to each neighborhood.
16. Encourage the redevelopment of housing, other real property, and complementary facilities.
17. Create or preserve attractive and unique built environments and public places.
18. Encourage the development of high quality neighborhoods that take advantage of natural settings and feature special amenities, such as golf courses, recreation centers, trails, lakes, parks, and open space.
19. Encourage the dedication of land for public use.
20. Encourage development of a built environment that is visually attractive and incorporates high quality construction standards.
21. Disperse multi-family rental housing and avoid any potential adverse impacts on neighborhoods of concentrating rental housing.
22. Reserve land for planned community facilities, including any public buildings, public schools, community centers, parks, recreation facilities, and open space.

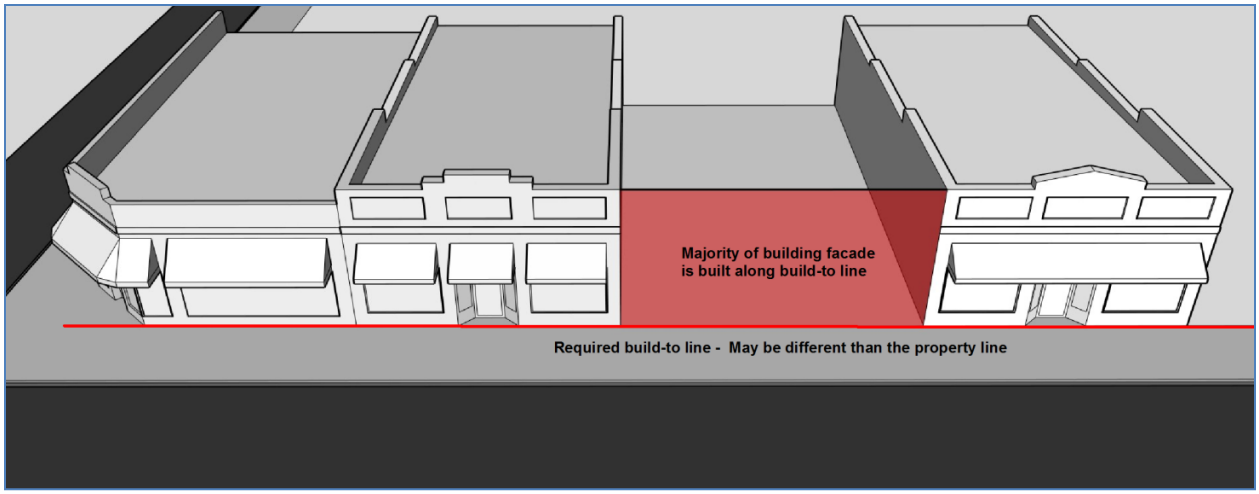
23. Encourage neighborhood and facility designs that support a range of transportation choices and are visually attractive.
24. Encourage the development of a network of multi-use trails, including trails buffering riparian habitat along the Saline River and other streams.
25. Provide for a multi-modal transportation system that effectively supports economic growth and guides land development in concert with the land use and community facilities plans.

Subsequent to the completion of the Benton Comprehensive Plan of 2008, Metroplan began working with the Benton Planning Commission to draft a new zoning ordinance to implement the land use portion of the 2008 plan. That draft of that zoning ordinance was completed and adopted by the Planning Commission, but has not yet been adopted by the City Council. The draft zoning ordinance incorporates many elements of a Form Based Code in order to better achieve projects which are consistent with the vision laid out in the Comprehensive Plan. That vision varies significantly from recent development patterns in Benton which were characterized by auto centric big box development in commercial areas, and auto dependent residential areas which are less efficient from the city's perspective than denser and more walkable residential subdivisions which are now considered more desirable by a majority of home buyers nationally. [11]

Benton's adopted zoning code is similar to Euclidian zoning codes found throughout the country. These codes emphasize separation of uses, large building setbacks, high parking minimums, and generally attempt to minimize density while tightly controlling allowable uses. Typically, these zoning ordinances are largely text, with little illustrative examples of desirable development. For this reason, Euclidean Zoning has been criticized for failing to provide any vision or guidance in what a development or community is trying to achieve, such as are listed in the Goals and Objectives from the 2008 Comprehensive Plan listed above. Rather than promoting a vision for a community, Euclidian zoning focuses on preventing specific outcomes which are viewed as undesirable. Some of the outcomes that Euclidean zoning attempts to prevent that were largely considered undesirable by many communities for multiple decades, such as a mixing of uses and increased density in certain areas, are now consistent with Benton's vision for the community as expressed in the 2008 Comprehensive Plan.

The form based elements incorporated into the draft Benton zoning which was written subsequent to the 2008 Comprehensive plan adoption attempt to achieve a more predictable built outcome. Specifically, these elements regulate the disposition of a building in an effort to better shape the public realm and to enhance and protect the sense of place in areas such as downtown Benton, to allow for more walkable development in other commercial areas, and to allow for more sustainable residential development which will allow Benton to remain competitive in the regional housing market.

Some of the elements which are new to Benton and were included in the draft zoning ordinance which can help to create a more predictable outcome and allow for more walkable and less auto dependent development in commercial and mixed use areas are the use of build-to lines, requirements for liner buildings for big

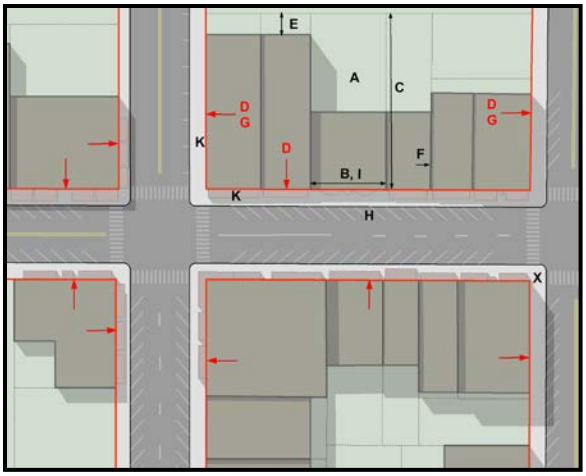


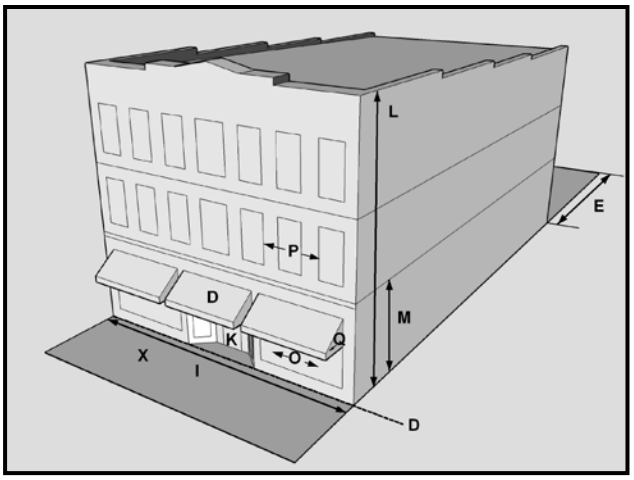
Build to lines create a consistent street wall, and are essential to creating a sense of place in a downtown.

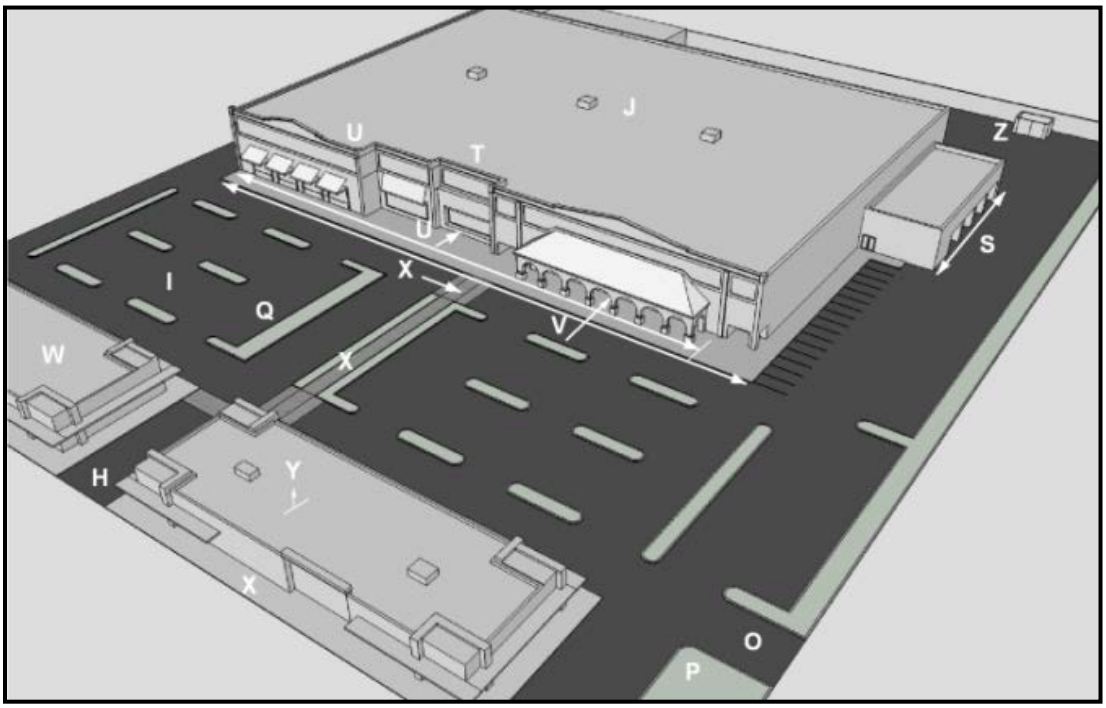
box development, specific requirements on the location of surface parking, and recommended site configurations for drive thru buildings and gas stations.

Build-to lines are an important tool in form based codes. Unlike a minimum set back line which regulates how far a structure must be from a property line, a build-to line specifies a line to which all or part of the front facade must be built along. Consistent build-to lines will be essential to preserving and enhancing the walkable environment and sense of place in downtown Benton. Most downtown and Main Street development has historically used build to lines, though more by understanding than by regulation, however their use began to wane in the latter half of the 20th century as auto oriented development styles became more common and zoning codes began to incorporate large front and side setback lines even in walkable areas where a continuous street wall was desirable.

In addition to marking a significant change in Benton's approach to regulating development by encouraging more walkable, mixed use, and sustainable development the draft zoning document also attempts to make the zoning ordinance more understandable to the average reader. The draft zoning includes graphics which show what elements of a development are regulated by the code and uses tables to show specific regulations. The draft ordinance also eliminates exhaustive use lists for each zoning district. These allowable use lists, though quite lengthy, do not envision new uses well and generally become dated quickly. They are also unnecessarily specific, for example listing: apparel stores, book stores, candy stores, drug stores, etc., instead of just listing retail. The draft zoning has a single page use matrix which covers all zoning districts and greatly simplifies allowable uses.







On this page are Examples of the type of graphics included in the draft Benton zoning. At the top are an overhead, or plan view and perspective view of the TC3 district. Similar plan and perspective views are shown for each zoning district. The graphics are labeled with each regulated element and these are accompanied with a table listing the specific requirements for those regulated elements. The middle graphic shows regulated elements for large floorplate sites, and at the bottom is the R2 plan view.

The draft zoning includes a new set of zoning districts. Some are comparable to previous districts, but others such as the Town Center Districts which are proposed for the multiple use area of the 2008 Land Use map are substantial changes from any current zone. The zoning districts from the draft zoning are listed below.

RESIDENTIAL DISTRICTS

- R1 - Single family zone with largest lot size
- R2 - Single family zone most equivalent to current R1-7.5 zone, allows for reduced lot sizes with alley loaded driveways.
- R3 - Single family zone smallest lot sizes
- R4 - Single family zone allowing manufacturing housing
- R5 - Multi-Family district allowing duplexes, triplexes, and quadplexes
- R6 - Multi Family medium density for small multi-family buildings at 8 units/per acre max
- R7 - Multi Family medium density for small multi-family buildings at 16 units/per acre max
- R8 - Multi Family higher density for apartment complexes at 32 units/per acre max

TOWN CENTER DISTRICTS

- TC1- Town Center zone for periphery of downtown. Predominately residential, but does allow for some additional conditional uses.
- TC2 - Town Center zone allowing multiple uses.
- TC3 - Town Center zone for central downtown allows multiple uses and has the most regulated form requirements to ensure buildings are walkable and consistent with historic district character

COMMERCIAL ZONES

- C1 – Neighborhood commercial for small scale development compatible with nearby neighborhoods
- C2 - General Commercial for medium intensity commercial development throughout the city
- C3 – Service Commercial allows large scale commercial development in more auto dependent areas

INDUSTRIAL ZONES

- LI – Light Industrial
- HI – Heavy Industrial

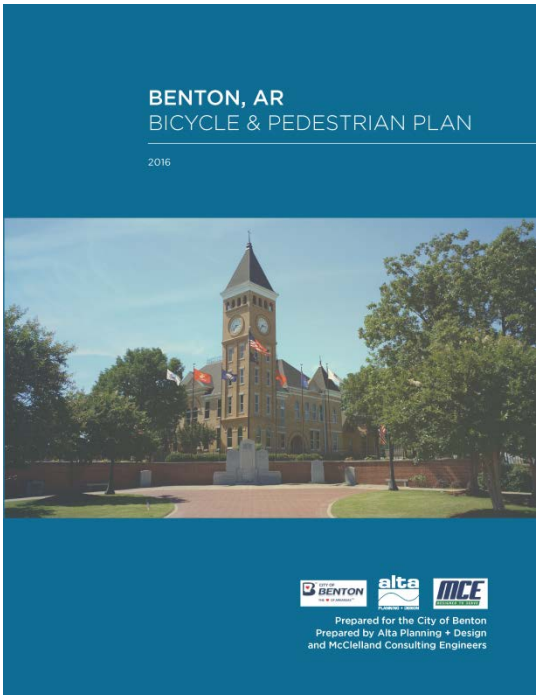
ADDITIONAL ZONES

- PUD – Planned Unit Development allowing flexible planned development
- A – Agricultural zone for areas not yet appropriate for more intense development
- M –Mining
- OS – Open space
- S – School zone for public schools

The draft zoning ordinance incorporates many of the current best practices in municipal zoning and attempts to put in to place regulations that will help Benton achieve the goals set out in the 2008 Comprehensive Plan. If public input from the Comprehensive Plan update indicates that the goals and objectives from the 2008 Comprehensive Plan are still valid, then the draft zoning can serve as the basis for a new zoning ordinance, meaning that the time consuming process of drafting a new ordinance should not be necessary. However, new or revised goals and objectives that may arise as a result of input received during the plan update may require slight revisions to the draft zoning ordinance.

Pedestrian and Bicycle Facilities

Sidewalks are an important component of any complete street and an essential component of the Benton transportation network. Sidewalks are especially important for children, elderly, and for those that cannot drive. Sidewalks are necessary for the creation of a walkable community. Gaps in a sidewalk network limit the mobility of those that cannot drive and can present a safety issue when pedestrians must resort to walking in streets. In addition to increasing mobility and safety, sidewalks can help contribute to a more healthy community. Studies have shown that given a safe and comfortable walking environment most people will walk to a destination that is less than a quarter mile away.[11] Increasing physical activity on a daily basis is essential to creating more healthy communities. Sidewalks are also increasingly seen as essential for economic development. Walkability has become a major real-estate selling point and websites now allow potential home buyers or renters to compare the walkability of neighborhoods and cities.[12] Recent trends including a decline in the percentage of youth applying for driver's licenses, a multi-year stagnation in annual vehicle miles traveled, and population gains in walkable central cities support recent claims that younger American's are walking more and choosing to live in walkable neighborhoods. [13,] These same trends also apply to some extent to older empty nesters that are increasingly moving to walkable neighborhoods. For Benton to remain competitive with other cities in the region in attracting younger residents the city may need to enhance its walkability. Ensuring all new roads have adequate sidewalks and closing gaps in the existing sidewalk network is enhancing walkability along with the earlier mention changes to zoning.



Benton recently commissioned a Bicycle and Pedestrian Plan from Alta Planning + Design and McClelland Consulting Engineers. The plan identified opportunities and challenges the city faces in extending bicycling and walking opportunities and laid out a plan of proposed projects.

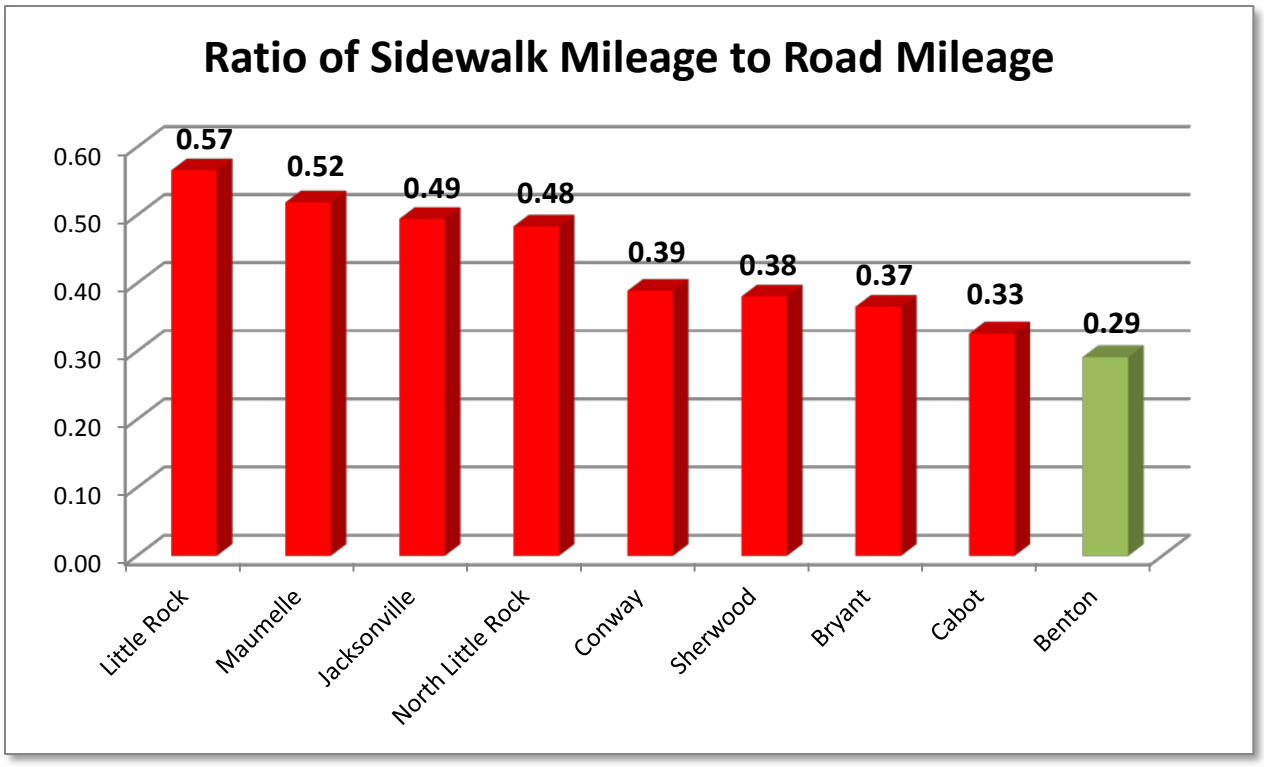


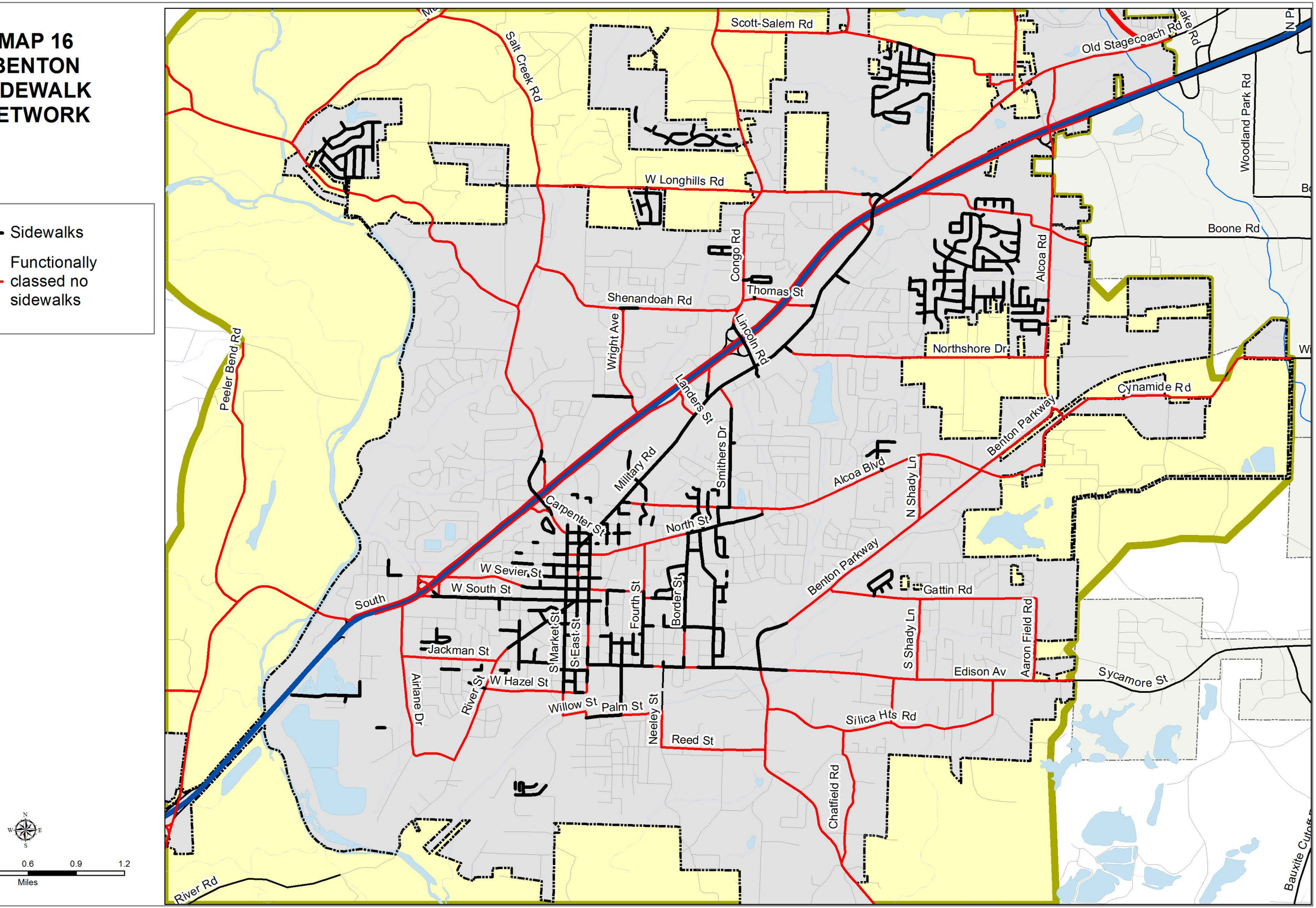
Table 8. The ratio of sidewalk mileage to road mileage in larger cities in central Arkansas.

Table 8 shows the ratio of road miles to sidewalk miles for larger cities in Central Arkansas. Benton currently has the lowest ratio of sidewalk miles to road miles of these cities. Note that Benton's road mileage to sidewalk mileage ratio of .29 does not mean that 29% of Benton roads have sidewalks, as a significant percentage of roads that have sidewalks have sidewalks on both sides. Of Benton's 224 miles of non-interstate roadways 47.4 miles, or 19.4% has a sidewalk. Table 9 shows the sidewalk mileage by road functional classification. 22.9% of minor arterials have sidewalks, 14.6% of collectors, and 19.2% of local roads. Map 16 shows the location of Benton sidewalks and identifies some significant gaps in the sidewalk network . Most of the older gridded streets in and around downtown have sidewalks. Sidewalks are also prevalent on streets east of downtown, and around the Benton school complex. However the streets outside of the older gridded core of Benton generally lack any sidewalks. Many subdivisions were built in an extended period in which the Benton subdivision regulations did not require sidewalks. Current subdivision regulations require a sidewalk on at least one side of every street unless the Planning Commission finds they are not feasible. Extensive sidewalk networks have been built in several subdivisions, such as Heritage Farms, Coldwater Creek, and Longhills Village. The sidewalk mileage added in these subdivisions account for the majority of sidewalk mileage added to the city since 2000.

MAP 16
BENTON
SIDEWALK
NETWORK

Sidewalks

Functionally classed no sidewalks



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Miles

SIDEWALK NETWORK

- Public School
- Existing Sidewalk
- High Need for Sidewalk
- Under Construction Sidewalk
- Federal Aid Roadway without Sidewalk
- Higher Density Residential Census Block

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Miles

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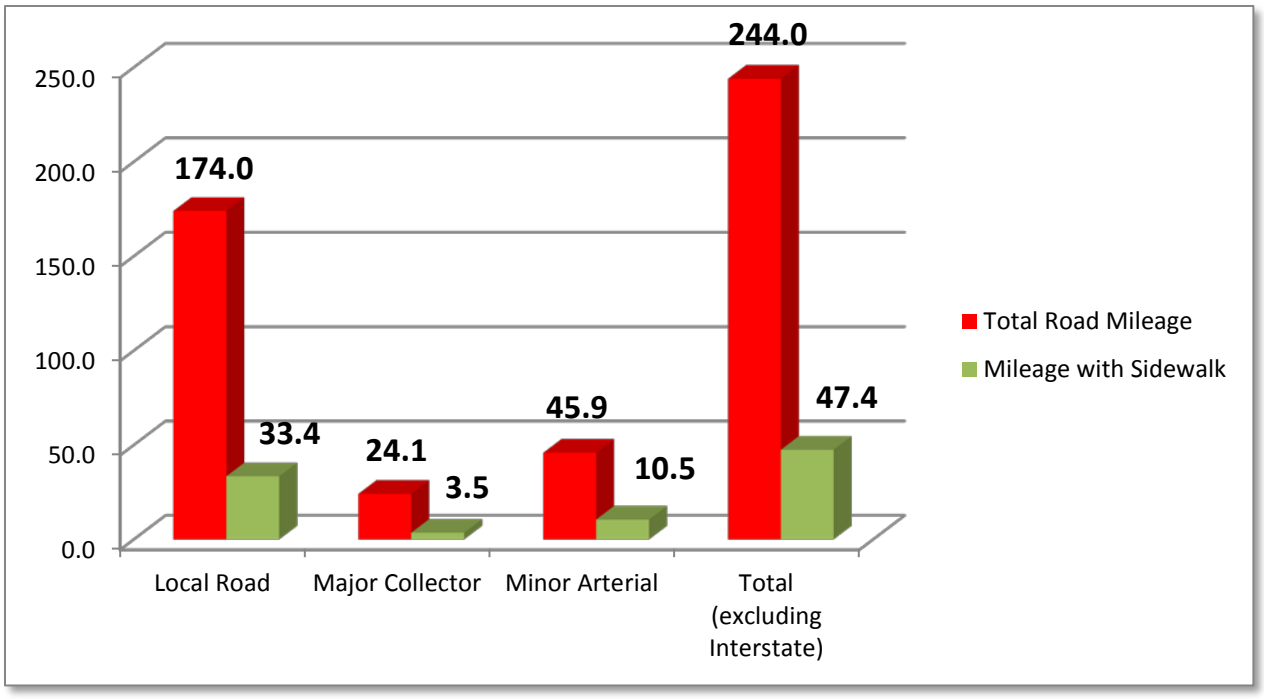


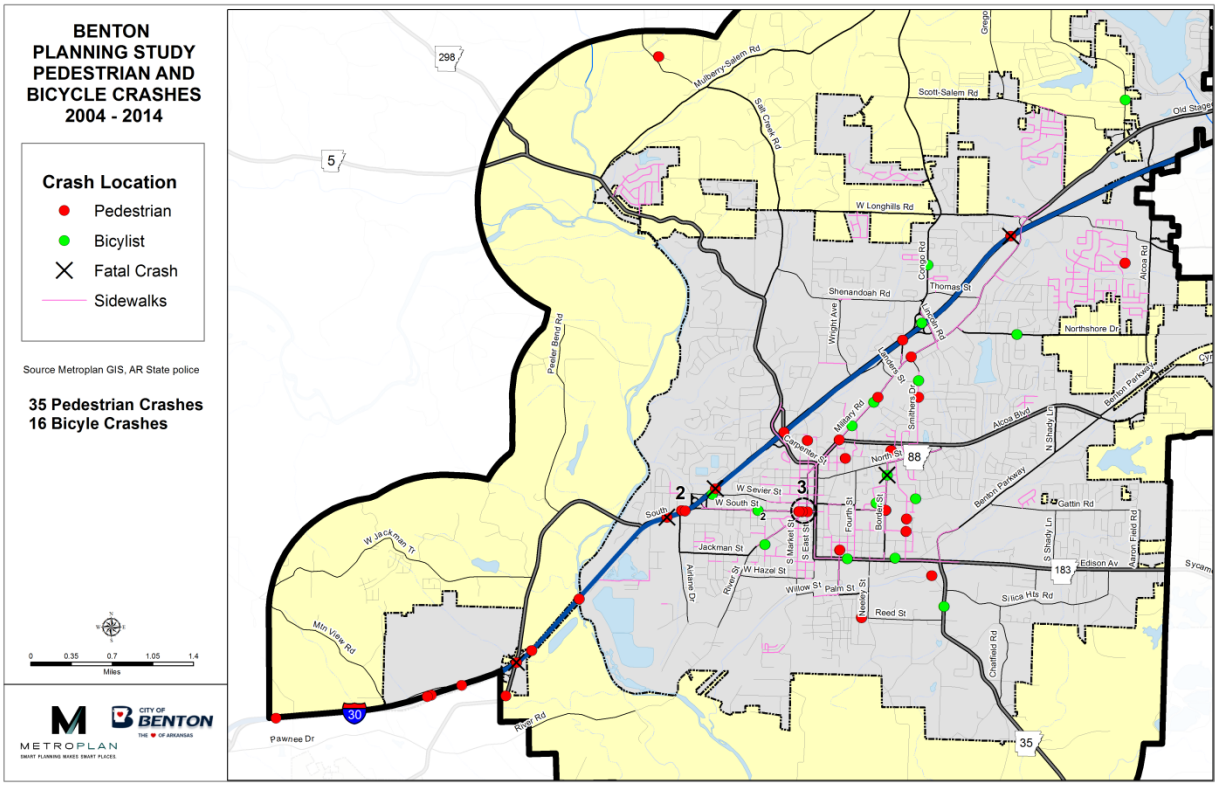
Table 9. Sidewalk mileage in Benton by road functional classification.

While some more extensive sidewalk networks have been built in larger subdivisions, significant gaps remain in the Benton network. This effectively isolates pedestrians using these larger subdivision sidewalk networks from reaching destinations outside of the subdivisions. For example, while Heritage Farm's has an extensive sidewalk the lack of a sidewalk on Boone Road isolates the subdivision from other nearby potential walking destinations. Similarly, Coldwater Creek's network is isolated by the lack of a sidewalk along Highway 5, and Longhills Village by the lack of a sidewalk along much of Scott-Salem Road. Map 17 shows gaps in the sidewalk network on functional classed roadways and highlights gaps which significantly limit accessibility from higher density population concentrations to potential destinations such as commercial areas, schools, and parks. Significant gaps in the sidewalk network along functionally classed roads include:

- E Sevier Street between downtown and the Tyndall Park area
- Jackman Street between River St and Riverfront Park
- Boone Road
- Congo Road – Longhills Rd to Lincoln Rd
- Northshore Dr – W Lakeview – Millbrook Dr
- North St – Border to East
- Shenandoah Rd – Congo Road west
- Highway 5 - Salt Creek Rd south to Carpenter
- Highway 5 – Waterfall Way to Augusta Dr
- Alcoa Blvd

Pedestrian and bicycle crashes occurring in the Benton Planning Area in the ten year period from 2005 to 2014 were mapped to determine if there was any correlation between crash locations and a lack of facilities. However, a majority of pedestrian crashes, 75% occurred

on road segments that did have sidewalks. Map 18 shows pedestrian and bicycle locations. A majority of crashes occurred in central areas of Benton:, along Military Road, around the school complex, and downtown. These areas have the most extensive sidewalk networks in the city. The prevalence of crashes in these areas is likely a product of the number of pedestrians in these areas as compared to other parts of the city and is likely not the result of a deficiency in pedestrian facilities. However, a lack of crosswalks or signalized crossings can still be a factor even when sidewalks are present.



Map 18. Pedestrian and bicyclist crashes in Benton 2004 to 2014.

Bicycling facilities are another important component of a complete transportation network. The provision of bicycle facilities encourages more healthy and active communities and can provide an alternative form of transportation for those without the means to drive. Currently, a very small percentage of work related trips are made by bicycle in Central Arkansas.[14] This could partially be due to the perceived safety and comfort of biking in the region. CTPP data indicate less than 1% of work commutes in Benton are made by bicycle. However, nationally in recent years there has been an increase in bicycle commuting and perhaps more importantly bicycling facilities such as off road path and bike lanes are now viewed as an essential part of making a city more livable even if the facilities are primarily used for recreational trips.[15]

New three legged bridge in Rogers, AR. One of many new trail facilities recently built in Northwest Arkansas. Many cities are expanding trail networks to provide alternatives modes of transportation, improve quality of life, enhance community health, and encourage economic development.

The Saline River is an ideal riparian corridor for a greenway

Currently Benton has a limited number of bicycle facilities. Roadways with bicycle lanes include Benton Parkway, and Worth Avenue and Westminster in the Hurricane Lake subdivision. Edison Road has paved shoulders but they are not signed or otherwise designated as bike lanes. There are 1.65 miles of separated paths in Tyndall Park and around Sunset Lake, but these paths serve primarily as walking trails due to their length and width. As part of the underway Alcoa Road widening a bicycle lane will be added to the east side of Alcoa Road. An additional trail is planned to encircle Chenault Reservoir.

Perimeter of Chenault Reservoir. Location of a planned loop trail.

The Benton Bicycle and Pedestrian Plan has recommendations for the location of new bicycle facilities. These recommended facilities are comprised of:

- Off road paths (including independent R.O.W. and side paths in road R.O.W.)
- On street routes with designated space for bicycles - Cycle Tracks and Bicycle Lanes
- On street shared space for bicyclists - Bicycle Boulevards, sharrows

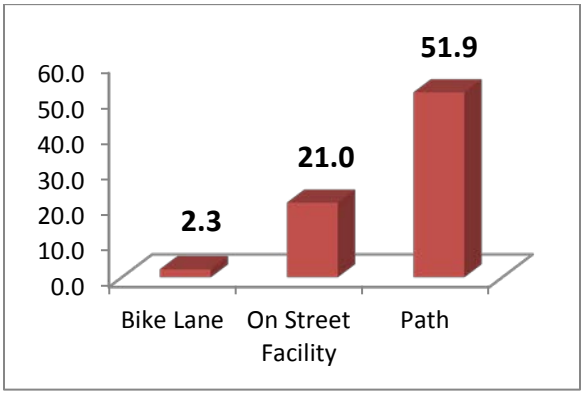


Table 10. Mileage of planned facilities by facility type for the Benton Bicycle and Pedestrian Master Plan. City Limits only.

A large percentage of new facilities that are recommended in the Bicycle and Pedestrian Master Plan are off street facilities which include separated paths outside of road right of ways or are side paths along new or planned roads within the road right of way. Table 12 shows the mileage of recommended facilities by facility type. Over 50 miles of separated paths are planned for the city with an additional 15 miles planned for the planning area. Separated bike facilities offer the most safety for bicyclists and are most likely to encourage new ridership due to the comfort level cyclists feel in riding on paths separated from traffic. However, separated paths are significantly more expensive than on street facilities. Twenty-one miles of on street facilities are planned for within the city limits. These routes, sometimes called bicycle boulevards, are lower speed roads on which cyclists operate in traffic without a dedicated lane. Sharrows and other signage alert motorists to share the street with cyclists. In addition to signage, some cities encourage local vehicle use only on bicycle boulevards by physically closing roads to through vehicle traffic in

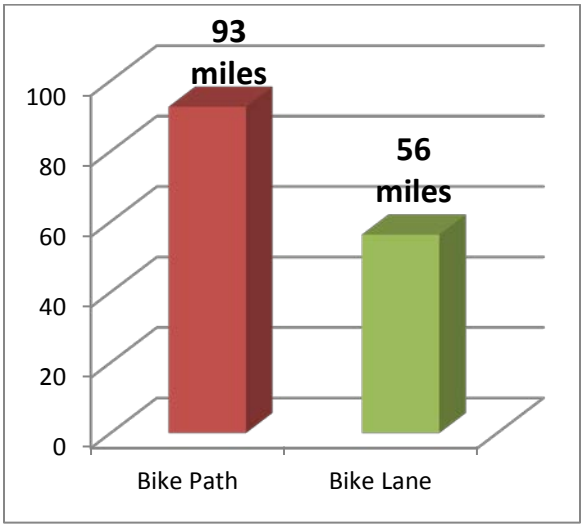


Table 11. Overall ratio of on road bike lanes to separated bike paths in Central Arkansas

strategic places, but making provisions for cyclists to pass though the closures. In addition to on road bicycle boulevards and separated paths, the Bicycle and Pedestrian Plan also identifies 2.3 miles of roads suitable for bicycle lanes. The ratio of approximately 25 times as many miles of planned separated paths as miles of planned bike lanes is significantly higher than the regional ratio (Table 11). Overall in the four county area there are less than twice as many miles of separated paths as there are miles of roads with bike lanes. The significantly lower cost of bike lanes have made bike lanes more feasible and quickly deployable for many cities,

such as Conway, which recently added significant mileage to its bicycle network by striping bike lanes on existing roadways, while only adding a much smaller amount of off road paths.

Completion of the extensive off road bicycle network envisioned in the Benton Bicycle and Pedestrian Plan will not be feasible without the identification of new funding. With this in mine the plan identifies 11 priority projects. These 11 projects by themselves would greatly enhance the accessibility of many destinations in central Benton to bicyclists and have the potential to be the catalyst for new development. However, shorter term opportunities to add lower cost bicycle lanes where they are feasible should be evaluated. Additionally, the priority project list does not include projects in the faster growing eastern, northeastern, and northern portions of the city. In order to gain more support for the plan and to better serve these areas of the city which are attracting the majority of families that may be most likely to use bicycle facilities a priority project in these areas of the city should be identified.

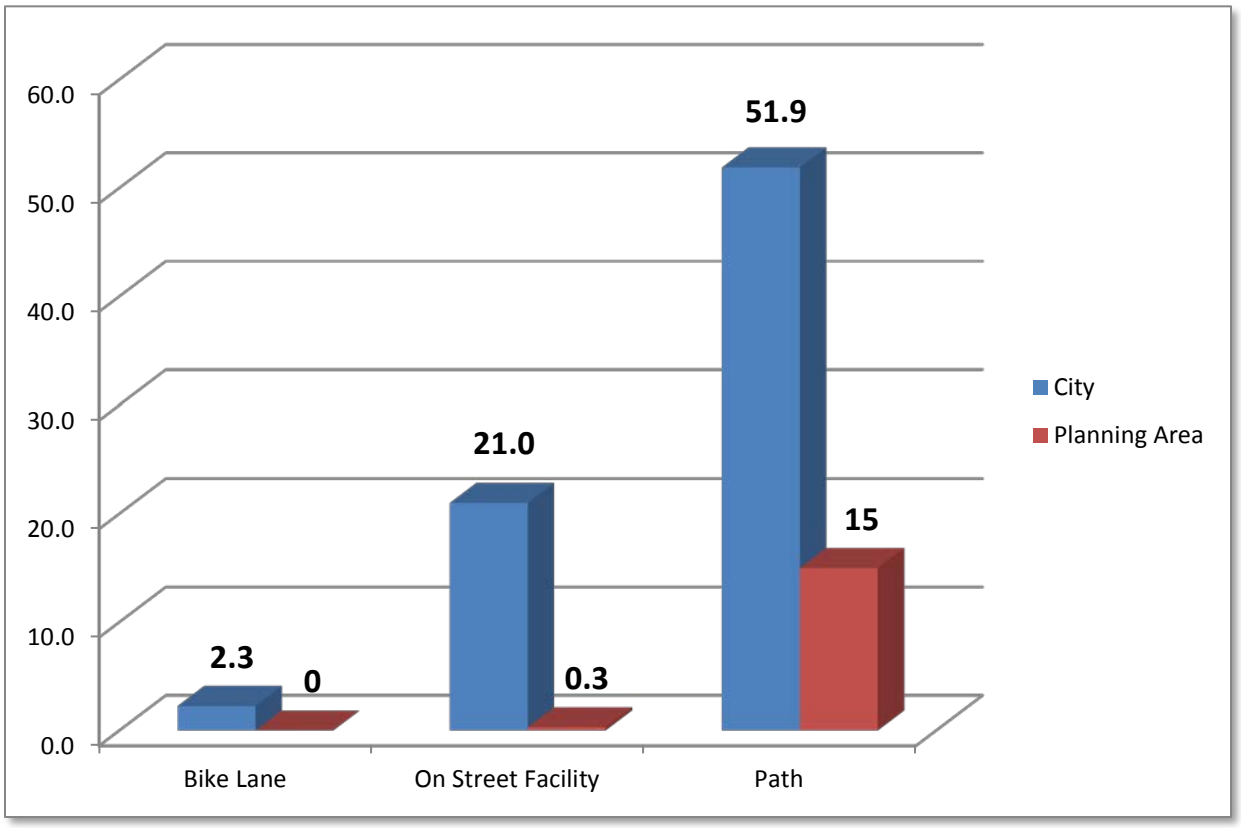


Table 12. Benton Bicycle and Pedestrain Plan. Planned faciltiies.

Parks and Open Space

Parks and open space are increasingly viewed as municipal assets which are essential not only for improving the quality of life of existing citizens but also in attracting new residents to a city and in encouraging economic development. [16] Parks not only provide recreational areas for youth and families but also contribute to the overall health of the population. Parks can be an economic development tool for a community as new tech/information sector companies can place more emphasis on quality of life considerations than can many employment sectors for which transportation and proximity to suppliers have often been more influential in site selection.[17]

Benton maintains eight municipal parks within the Benton Planning Area, with a ninth park, Riverside Park, currently close to completion. Benton's parks very greatly in both size and available facilities. They range in size from under a quarter acre for downtown's Bart Owens memorial Park to over 60 acres for the under development Riverside Park. An additional park facility owned by the city at Lake Norrell is outside of the Benton Planning Area. In total there are 168 acres of public parks in the Benton Planning Area, all of which are located within the Benton city limits.

Table 13 shows the ratio of public park acreage to population for Central Arkansas cities. This ratio is often used to assess if a community has enough parks to adequately serve its population. While not a perfect measure, as not all park acreage is similarly developed and utilized. For example, a large undeveloped natural area with limited facilities counts equally toward the total park acreage as would a city park with playing fields, trails, and other recreational facilities. This measure does allow Benton to compare its park facilities to other cities in the region. Benton currently has 3.6 acres of public parks for each 1,000 residents.

With the completion of Riverside Park the ratio of park acres to residents will improve to 5.5 acres per 1000 residents. However, this is fewer park acres per resident than found in many cities. Nationally the average is 12.5 park acres per 1,000 residents. Benton's park acreage per resident is also lower than all other Central Arkansas cities with 10,000 residents. The average ratio of parks to residents in Central Arkansas is 13.9 acres per 1000 residents, with the ratio ranging from a low of 3.6 acres per 1,000 residents for Benton to 36.8 acres per 1,000 residents for North Little Rock. North Little Rock's high ratio of park acreage is due in large part to the 1,750 acre Burns Park which accounts for over 70% of its park acreage. Cabot and Conway have the next lowest ratios of park acreage to population at 6.6 and 6.8 acres per 1,000 residents. A guideline which was used for many years was is that cities should aim at providing 10 acres of park land per 1,000 residents, but this guideline has been relaxed in recent years in favor of each community setting its own goal.[18]

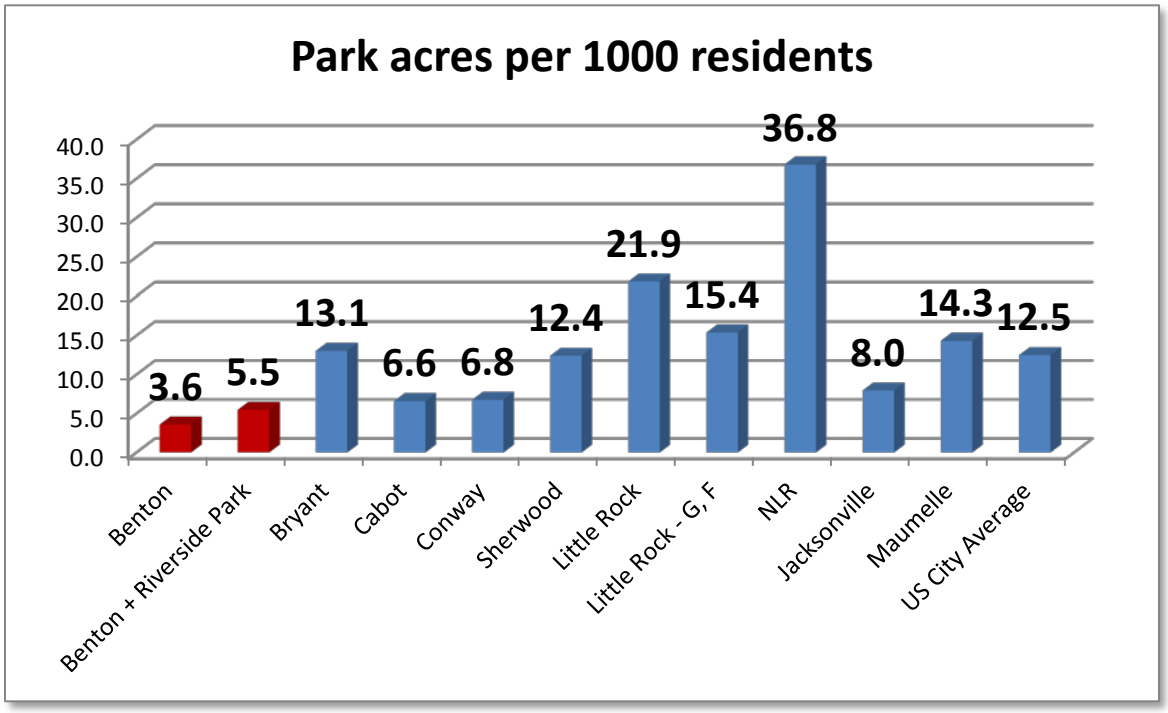


Table 13. Acres of parks per 1,000 residents for larger cities in central Arkansas.

Another useful measure of the amount of parks provided is the percentage of a cities total area that is public parkland. Table x shows this percentage for Central Arkansas cities. Currently 0.6% of Benton's total area is devoted to public parkland. With the completion of Riverside Park this will increase to 0.9%. This is the lowest percentage of any Central Arkansas city with 10,000 residents. The percentage of Central Arkansas cities that is devoted to parkland varies from 0.6% in Benton to over 10 times as much percentage wise in North Little Rock. On average 2.8% of the area of Central Arkansas cities is public park land.

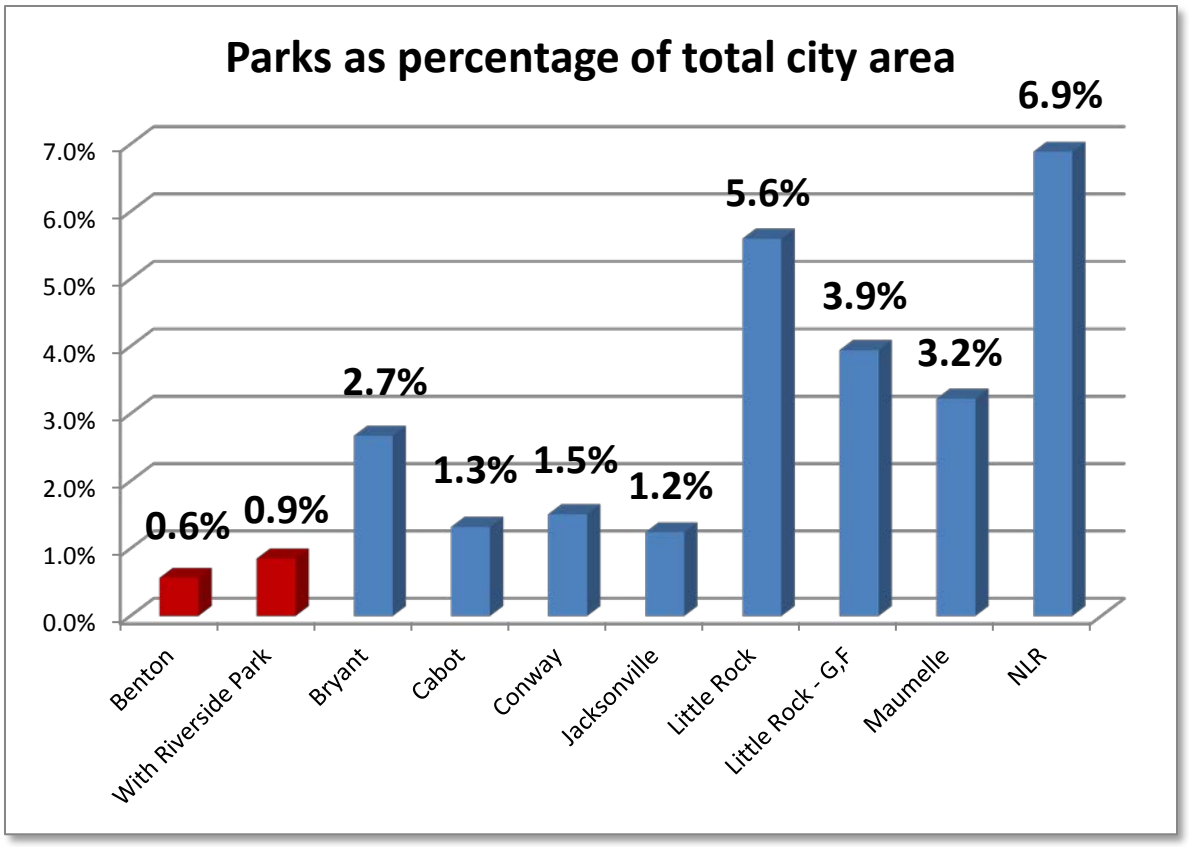


Table 14. Parks as percentage of a cities total area for central Arkansas cities.

Another consideration which is important to consider is the accessibility of existing parks to Benton residents. One way to measure the accessibility of parks is to determine how many people live within a half mile of a park. Many studies have shown that most people are willing to walk to a destination that is within one quarter mile of their home, but for destinations beyond a quarter mile the amount willing to walk the destination markedly decreases. However, other studies have shown that walks for recreational purposes tend to be longer than walks for utilitarian purposes such as commuting and shopping, and that people generally will walk a half mile to reach a park.[18] Table 15 shows the population in Benton that is within a half mile walking distance of city parks. Approximately 12% of Benton residents live within a half mile walk of a city park, this includes the under construction Riverside Park, but excludes downtowns Bart Owens pocket park, which has no recreational facilities. Approximately 88 percent of Benton residents are not within a half mile walk from a city park. If all parks are included, including Bart Owens and private property owners association parks, the population not within a half mile of a park decreases to 82%. Tyndall Park is the best situated of Benton parks in terms of proximity to residents, with more than 2,000 people within a half mile walk of the park. The new Riverside Park, which will have the greatest variety of recreational opportunities of any city park, will be primarily a drive to destination for most visitors, as less than 1,000 people live within a half mile of the park. Map 19 shows the half mile pedestrian walksheds around Benton parks.

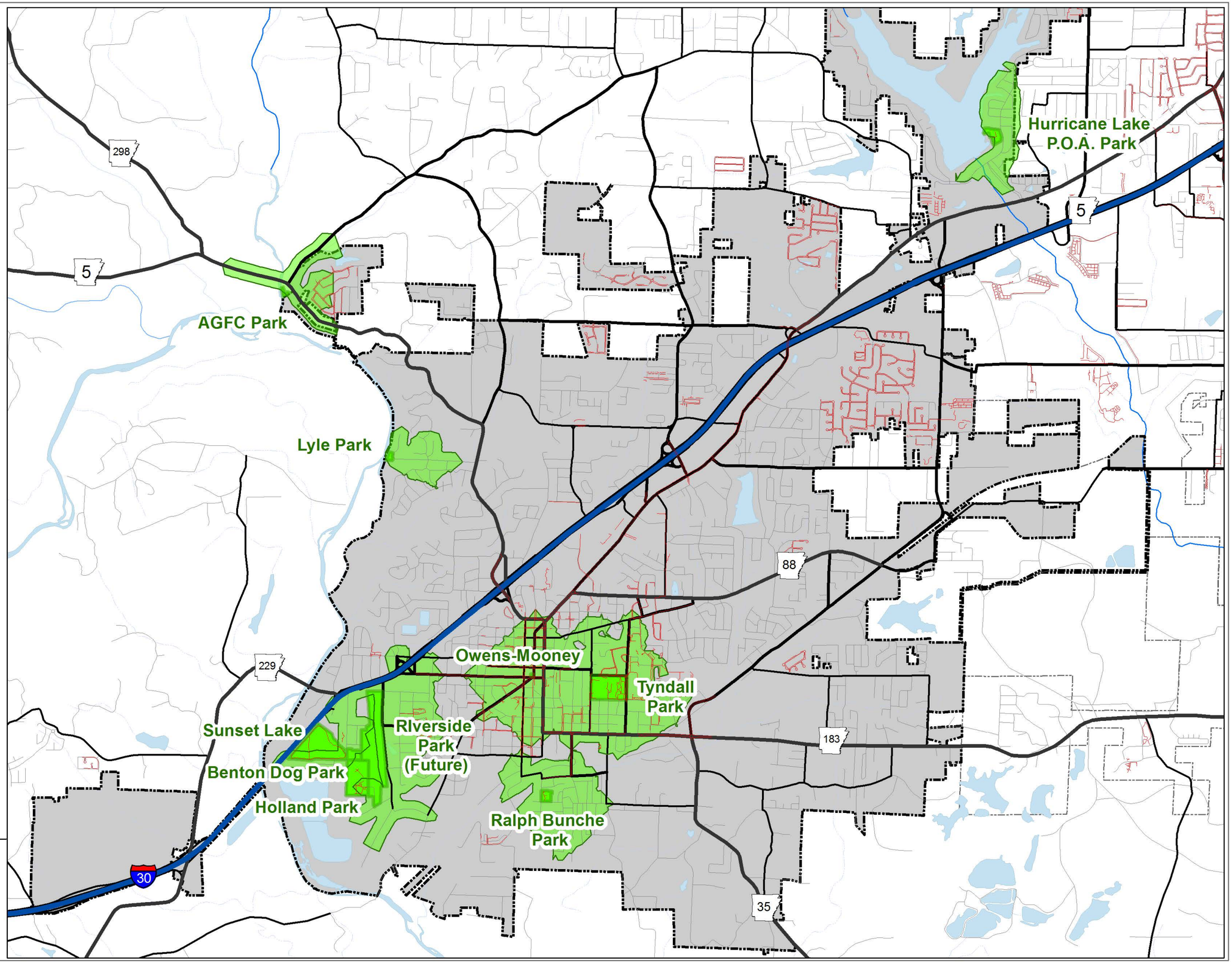
MAP 19
HALF MILE
PARK ACCESSIBILITY

- Sidewalk
- Area Within Half Mile Walk to a Park
- Park

Source: Metroplan GIS

5,454 TOTAL WITHIN .5 MILES OF A PARK

TYNDALL = 2,167
RALPH BUNCHE = 419
RVERSIDE\HOLLAND = 961
SUNSET LAKE = 178
LYLE = 220



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Miles

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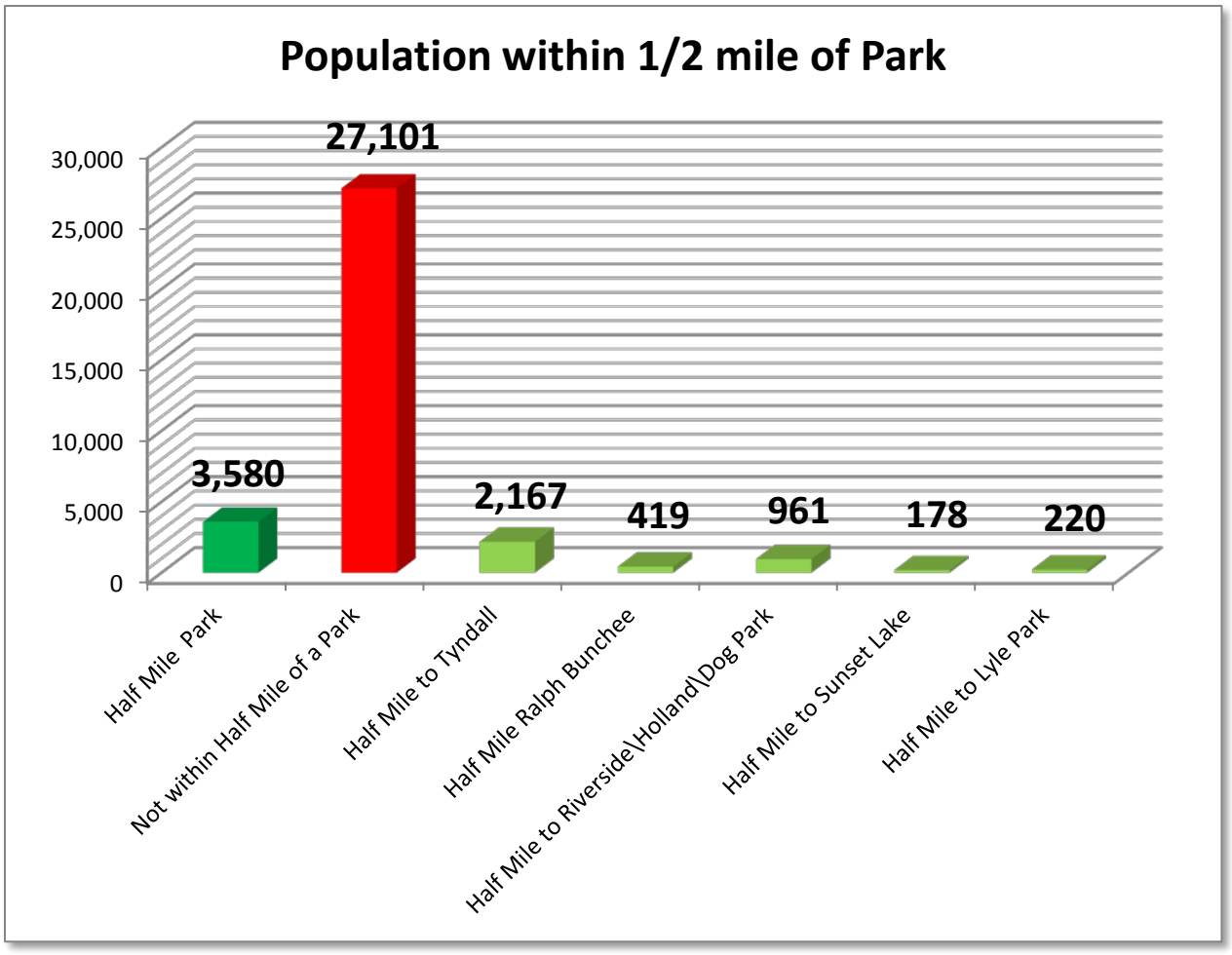

Table 15. Benton population within .5 miles of city parks.

Existing public land along the Saline River would make for a scenic park site that could be linked by greenway to the Southwest Trail

Benton's city parks are clustered in the older sections of the city with no city parks being located in the fastest growing eastern and northeastern portions of the city. The area of Benton north of Interstate 30, which had a 2010 population of 10,536 has only one city park, Lyle Park, which is less 2 acres in size. To meet the needs of these residents additional park land should be identified and developed in eastern and northern areas of the city.

Roadway Considerations

A major component of a comprehensive plan is the master street plan. Since the completion of the 2008 Benton Master Street Plan there have been several planning developments that may impact the street network of Benton. These include projects added to the 2016 to 2020 Transportation Improvement Plan, transportation projects included in the Imagine Central Arkansas plan, and an updated functional classification system.

The 2008 Master Street Plan covers the five mile maximum planning area that was valid in 2008. The revised Benton Planning area, adopted in order to comply with §14-56-413 of the Arkansas Code, only extends a maximum of one mile from the city limits. A new master street plan should reflect this new planning area and this will eliminate most of the proposed collector and arterial connections shown on the 2008 master street plan. However, additional collectors that were not identified on the 2008 plan may need to be proposed to better connect new subdivisions and create a more defined street grid in growing areas of the city and planning area. Additionally, the 2008 master street plan identified six proposed Saline River crossings. Due to the expense and difficulty in building these crossings, the feasibility of these facilities should be reevaluated.

Another element of the 2008 Master Street Plan that should be updated is the roadway cross-section standards. Some cross sections, such as the urban collector, are no longer reflective of best practices. Since the completion of the 2008 Benton Comprehensive plan a new long range transportation plan for Central Arkansas, Imagine central Arkansas, has been adopted. The ICA plan contains roadway cross-section standards. These standards should be incorporated into a new master street plan.

The Imagine Central Arkansas plan that was adopted in 2014 contains both a vision transportation plan for Central Arkansas and a financially constrained plan. The vision plan contains projects that are thought to be needed within the region to the freeway network, regional arterial network, transit system, and for bicyclists and pedestrians. Existing and identified future funding sources are not adequate to pay for all projects identified in the vision plan. To account for this a scoring system was used to rank vision projects in order to develop a fiscally constrained plan which more accurately lists project that can reasonably be expected to be completed over the plan period with projected funding. In the financially constrained transportation plan the only Benton planning area project selected is the widening of the remaining four lane section of Interstate 30 to six lanes.

The transportation improvement plan (TIP) is a list of all federally funded transportation and transportation related projects to be under taken in the Central Arkansas Transportation Study Area in the next five years. The current TIP is for the period from 2016 through 2020. Map 20 shows projects in the Benton Planning Area which are on the current TIP or are ongoing projects from a past TIP. The projects planned for the Benton Planning area can be categorized as being widenings, system preservation, or safety improvements. Map 20 shows the location of these transportation projects. There are several planned widening projects on the TIP in the Benton Planning Area

which will increase system capacity and should significantly impact traffic flow in Benton. Widening of Interstate 30 to 6 lanes from Highway 70 to South Street will complete the widening of Interstate 30 through the Benton planning area and will mitigate some incident related congestion between Benton and the Highway 70 exit for Hot Springs, but may be of limited benefit to Benton residents as Interstate 30 traffic originating in Benton is predominantly bound for destinations east of this segment in Benton, Bryant, and Pulaski County.

The widening of the segment of Highway 5 between Military Road in Benton and Highway 183 in Bryant to 4 lanes will provide needed roadway capacity to an area of the city which has experienced significant population growth and commercial development over the last 10 years and is forecast to continue being one of the fastest growing areas of the city in the future. Continued residential development around Hurricane Lake, the 612 unit apartment complex at Longhills Road and Highway 5, and commercial development at Alcoa Road and Highway 5 will add additional traffic to this segment in the near future, and may lead to increased congestion on the Highway 5 corridor as this widening project is not scheduled to be let until 2018.

The widening of Alcoa Road between Interstate 30 and Benton Parkway is underway and will provide needed capacity to the fastest growing area of the city. As of 2016 year end, right of way has been acquired for the project and utility relocation is underway. Commercial development at Alcoa and Interstate 30, new subdivision development off of Alcoa and Boone Rd, and the opening of the Hurricane Creek Elementary School has led to traffic counts more than doubling along Alcoa Road since 2000. New subdivisions recently built or under development off of Alcoa Boulevard, Benton Parkway, and Gatlin Road will add additional traffic to Alcoa Road in the future.

Other planned projects on the 2016 to 2020 TIP will address system preservation and safety issues. The segment of Highway 5 between the North Fork of the Saline River and Interstate 30 is to be resurfaced in 2019. Additional safety improvements will also be made to Highway 5 by realigning some curves between Hot Springs Village and Interstate 30, including the section of Highway 5 in the Benton Planning Area. Additional resurfacing that is at least partially within the Benton Planning Area includes Highway 64 from Interstate 30 to the Hot Spring County line to be let in 2017 and Highway 35 beginning in the Benton Planning Area and extending south to Highway 190 to be let in 2019. An additional local roadway improvement which is not on the TIP is the resurfacing of Lillian which is now underway.

Map 21 shows 2015 average daily traffic in the Benton Planning Area. The highest average daily traffic in the Benton Planning Area is on Interstate 30 between the Alcoa interchange and Military with a 2015 average daily traffic of 74,000 vehicles. Traffic counts on Interstate 30 in the Benton Planning area and throughout Saline County increase from west to east due to the large percentage of trips which are commuting trips to Pulaski County. The average daily traffic on Interstate 30 west of the Highway 64 interchange in the western portion of the planning area decreases to 53,000, a 28% reduction in traffic from the I-30 traffic at the eastern planning area boundary. This reduction of traffic along I-30 is relatively incremental with traffic decreasing to the west at each Benton interchange.

MAP 20
PLANNED/ONGOING TRANSPORTATION IMPROVEMENT PROJECTS

- Capacity Needs
- System Preservation
- Safety

Sources:
Transportation Improvement Plan 2013-2016
Transportation Improvement Plan 2016-2020

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Miles

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#061441
Hwy 5 Safety
Let year 2016

#06X005
Hwy 5 Widening
Let year 2018

#06X015
Hwy 5 System Preservation
Let year 2019

#061335
Hwy 5 Widening
Let year 2018

#061297
Alcoa Rd Widening
Let year 2016
TIP 2013-2016

#CA0610
US 70 Widening
Let year 2016

#CA0601
I-30 Widening
Let year 2017

#06X011
US 70 System Preservation
Let year 2017

#06X022
Hwy 35 System Preservation
Let year 2019

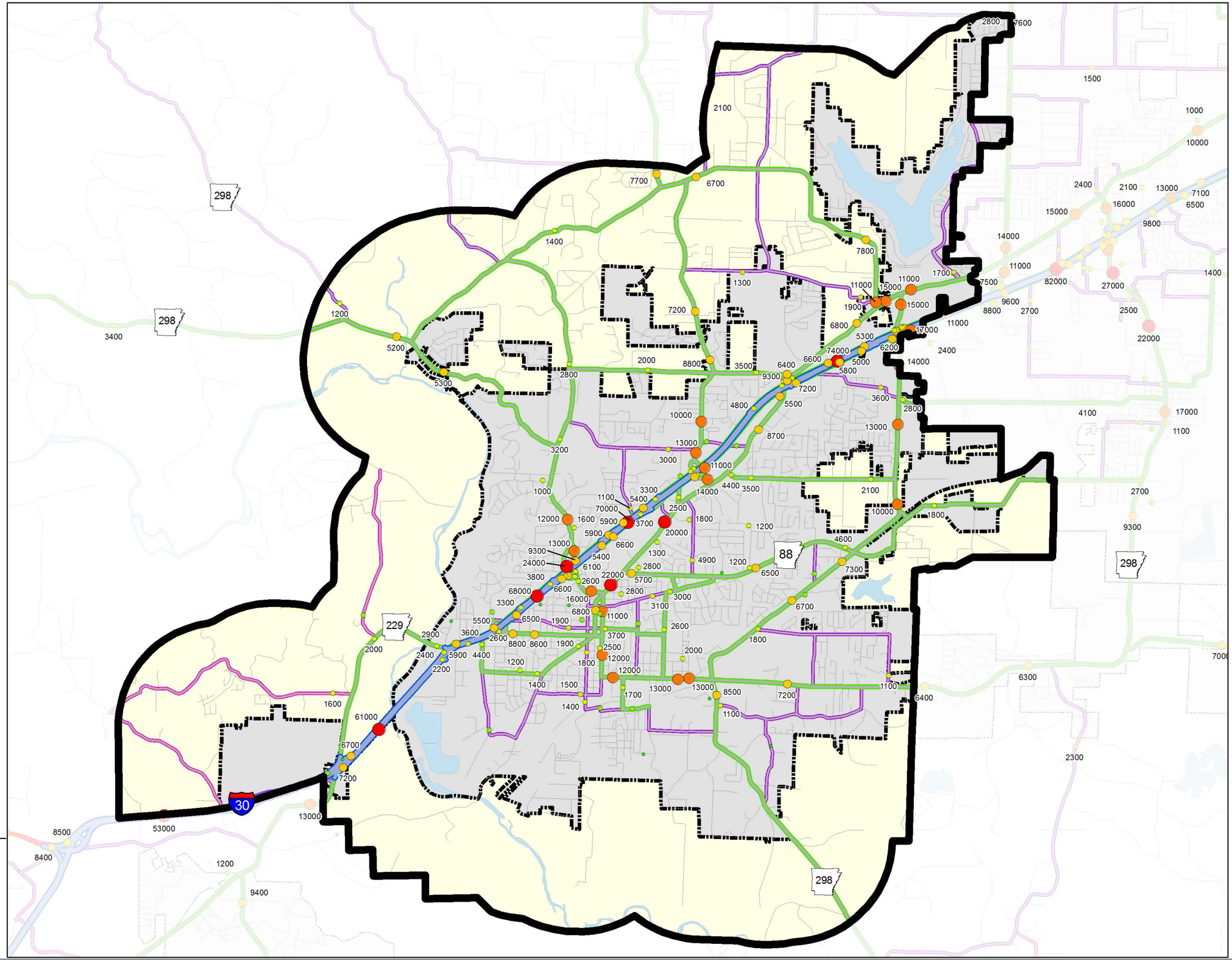
298
5
30
88
229
183
70
64
35

MAP 21
AVERAGE
DAILY TRAFFIC
2015

2015 Average Daily Traffic

- 20,000 +
- 10,000 - 19,999
- 5,000 - 9,999
- 1,000 - 4,999
- 500 - 999
- 100-499

Source AHTD



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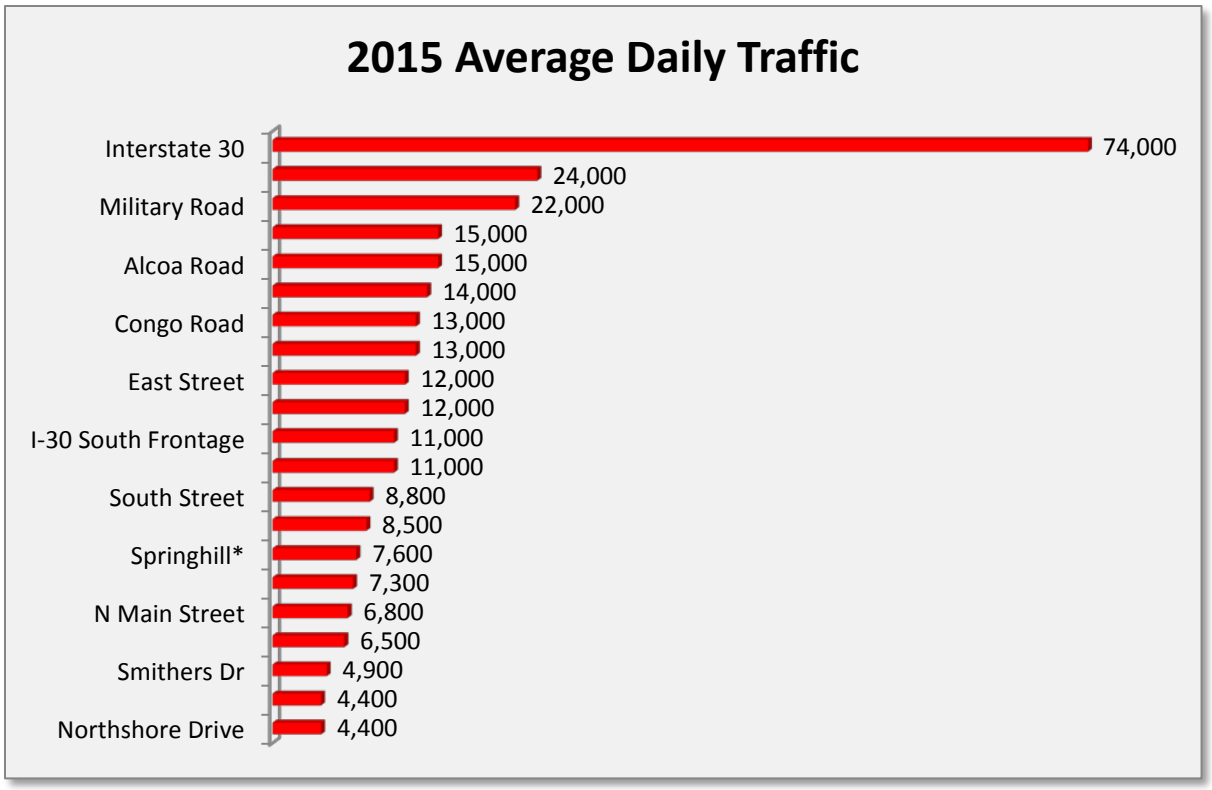

Table 16. 2015 highest average daily traffic in Benton,

Off of the interstate system the highest traffic counts in the Benton Planning Area are on Carpenter and Military Roads. Carpenter between Military and Kenwood Roads had over 16,000 cars a day in 2015, with the section just north of the Interstate 30 frontage ramps having 24,000 vehicles a day count. Military Road was the only other road exceeding 20,000 cars a day, with the section between Carpenter and Lincoln having daily counts exceeding 20,000. On Military traffic counts increase towards the East/Carpenter intersection from Lincoln Road, reaching 22,000 just east of East/Carpenter Streets. Average daily traffic drops significantly on the recently widened section of Military north of Lincoln Rd with a 2015 traffic count of 8,700 at Military and Denise. Other roadways with average daily traffic of at least 15,000 in 2015 were Alcoa Rd north of Interstate 30 and Highway 5 between Salem Road and Alcoa Road. Table 16 shows the roadways with the highest average daily traffic in 2015.

Overall roadway traffic has increased in the Benton Planning area over the last 10 years, but the increases have not been uniform and roads in some areas have seen limited growth or even a slight decreased in traffic. These local trends in growth of traffic mirror regional and national trends that have been observed over this period. Nationally, a multiple decade streak of year over year growth in vehicle distance traveled ended with the recession of 2008, and for several years after 2008 vehicle distance traveled remained stagnant. However in 2015 and continuing into 2016 vehicle distance traveled again appeared to be increasing. [19]

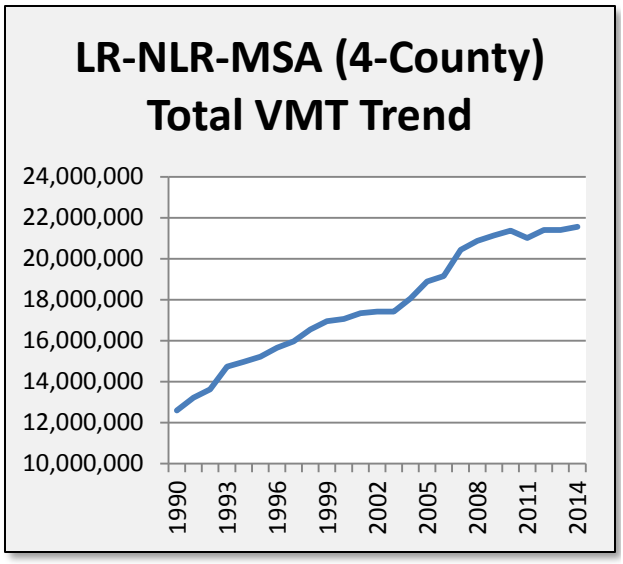

Table 17. Annual Vehicle Miles Traveled trend in central Arkansas.

Table 17 shows annual vehicle miles traveled for the four county LR-NLR-Conway Metropolitan statistical area. The same flat lining of VMT/VDT growth that occurred nationally also has occurred in Central Arkansas, but was slightly delayed from the national trend with growth in regional VDT somewhat mirroring the regional economy. However, explanations for this period of growth stagnation in VDT have extended beyond decreased economic activity due to the recession, and include speculation on fundamental changes in driving patterns due to millennials and baby boomers opting to drive less, and choosing to live in more urban areas over more suburban areas where higher VDT per capita is the norm. [20] With the more recent increases once again seen in VDT it is unclear what the trend will be in the future in the nation, regionally, or in the Benton Planning Area.

Benton traffic patterns and traffic counts are influenced by local development patterns to a greater extent than shifting demographics or national trends in driving. Changes in local traffic patterns can be seen by looking at historic traffic counts. Map 22 shows changes in traffic counts over the last ten years in Benton. While overall traffic counts in the planning area have increased along with VDT, the growth of traffic in Benton has not been uniform. Generally central or more developed areas of Benton have seen limited growth in traffic or even modest declines in traffic counts. When Comparing 3 year average traffic counts to 3 year averages from 10 years previous, Main Street, South Street, East Street, Sevier Street, Market Street, and eastern Edison Ave. have all seen slight declines in traffic. This may partially be the result of the declining population in the area, but may also point to the areas potential declining importance as a commercial district relative to other areas of the city.

Highways leading into and out of the city have generally seen growth in traffic over the last ten years including the western and eastern sections of Highway 5 and Highway 35 south of Benton. Interestingly, Highway 183 in eastern Benton has seen a slight decline in traffic over the ten year period despite significant population growth in the area. This might reflect more trips using Gatlin Road and Benton Parkway to access destinations on Alcoa Road and Interstate 30, rather than trips on Edison to central Benton. Traffic counts in the portion of the planning area north of Interstate 30 have generally increased over the last ten years with increases in traffic counts on Alcoa, Congo, Salem, Springhill, Longhills, and Highway 5 east and west.

The Benton Planning Area has a limited number of multi-lane roadways off of the interstate system. Map 23 shows the current lane configurations and signalized traffic intersections in Benton. At present the only road segments with four or more road lanes are Military, a short segment of Carpenter, and a short segment of Lincoln/Congo Road at the Interstate 30 overpass. Military has a five lane cross section with a two way left turn lane south of Lincoln and the four lane cross section with median on the recently widened section north of Lincoln. Addition roads with increased capacity due to left turn lanes are Edison Ave, South Street, Congo Road south of Interstate 30, Landers Road, and a short segment of Carpenter St. Additionally, Alcoa Road north of Interstate 30 has two north bound lanes and one south bound lane. The remaining roadways in the Benton Planning Area are two or one lane.

Alcoa Road, which has had the largest net increase in average daily traffic over the last ten years and had 2015 average daily traffic as high as 14,000 is currently being widened to four lanes. Currently, the only other planned widening in the Benton Planning Area is Highway 5 from Military to Highway 183 in Bryant, which is on the 2016 to 2020 TIP. Of the two lane roadways without two way left turn lanes or planned widenings the highest traffic volume to lane ratios are on Congo Road from I-30 to Long Hills Road, Highway 5 between Kenwood and Salt Creek Road. Both Congo and Highway 5 have over 6,000 cars per day per lane with no turning lanes, medians, or turn bays. Additionally, as both roadways have increasing year over year traffic counts and are in areas of the Benton Planning Area with growing populations, Congo Rd south of Long Hills and Highway 5 south of Salt Creek should be considered for future widening. 2015 traffic counts indicate that Salem north of Highway 5 had 5,500 cars per lane per day. However, a count just north of Scott-Salem Road has a three year average under 4,000 cars per day, meaning Salem is less likely to need widening than Congo Road or Highway 5. Two other

Road	Vehicles per Lane
Alcoa Road	7500
Edison Road	6500
Congo Road	6500
Hwy 5 (west sec.)	6000
East Street	6000
Salem Road	5500
I-30 South Frontage	5500
South Street	4400
Hwy 35 (S. of Edison)	4250

Benton highest vehicle per lane on 2 lane roads.

roadways with volume to lane ratios that suggest the need to consider widening are the Edison Ave and East Street segments of Highway 35. Edison's 6500 vehicle per lane per day in 2015 indicates a potential need for widening. However, several factors may mitigate this need: a two way left turn lane increases capacity, there has been limited growth in traffic over the last ten years, and this area of the city has slower projected population growth than other areas of the city. This makes Edison Ave a less logical choice for widening than Congo Road or Highway 5. An additional candidate for roadway widening based on traffic volume to lane ratios is East Street. However, East Street also has a two way left turn lane, and has had decreasing traffic counts over the last ten years, and is in an area that has experienced a loss of population since 2000. Additionally, widening East Street has the

MAP 22
TRAFFIC COUNT TRENDS

Traffic Count Comparison

27,000

- Y2005
- Y2010
- Y2013
- Y2014
- Y2015

25% increase 2015 over 2004-06 Avg.

Source: AHTD Traffic Count Data

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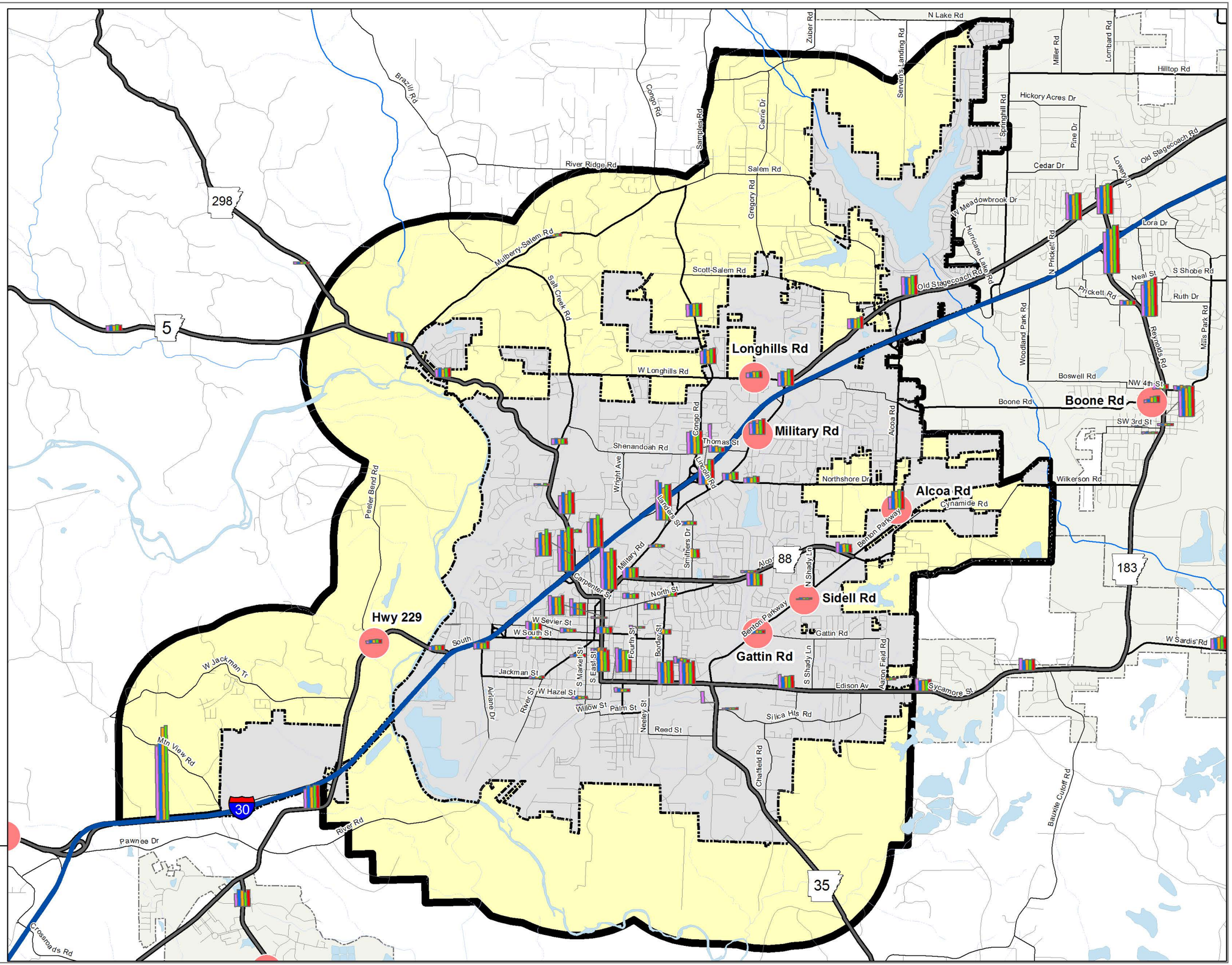

MAP 23
ROAD LANES AND TRAFFIC SIGNALS

Traffic Signals

- Traffic Control
- Flasher / Stop

Lane Configuaration

- 6 Thru Lanes
- 6 Thru Lanes Planned - Let Year 2017
- 4 Thru Lanes with Median
- 4 Thru Lanes Planned or Under Construction
- 4 Thru Lanes with Center Turn Lane
- 4 Thru Lanes No Median
- 3 Thru Lanes
- 2 Thru Lanes with Center Turn Lane
- 2 Thru Lanes - Functionally Classed Road
- 2 Thru Lanes - Local Road
- 1 Thru Lane

Source Metroplan GIS

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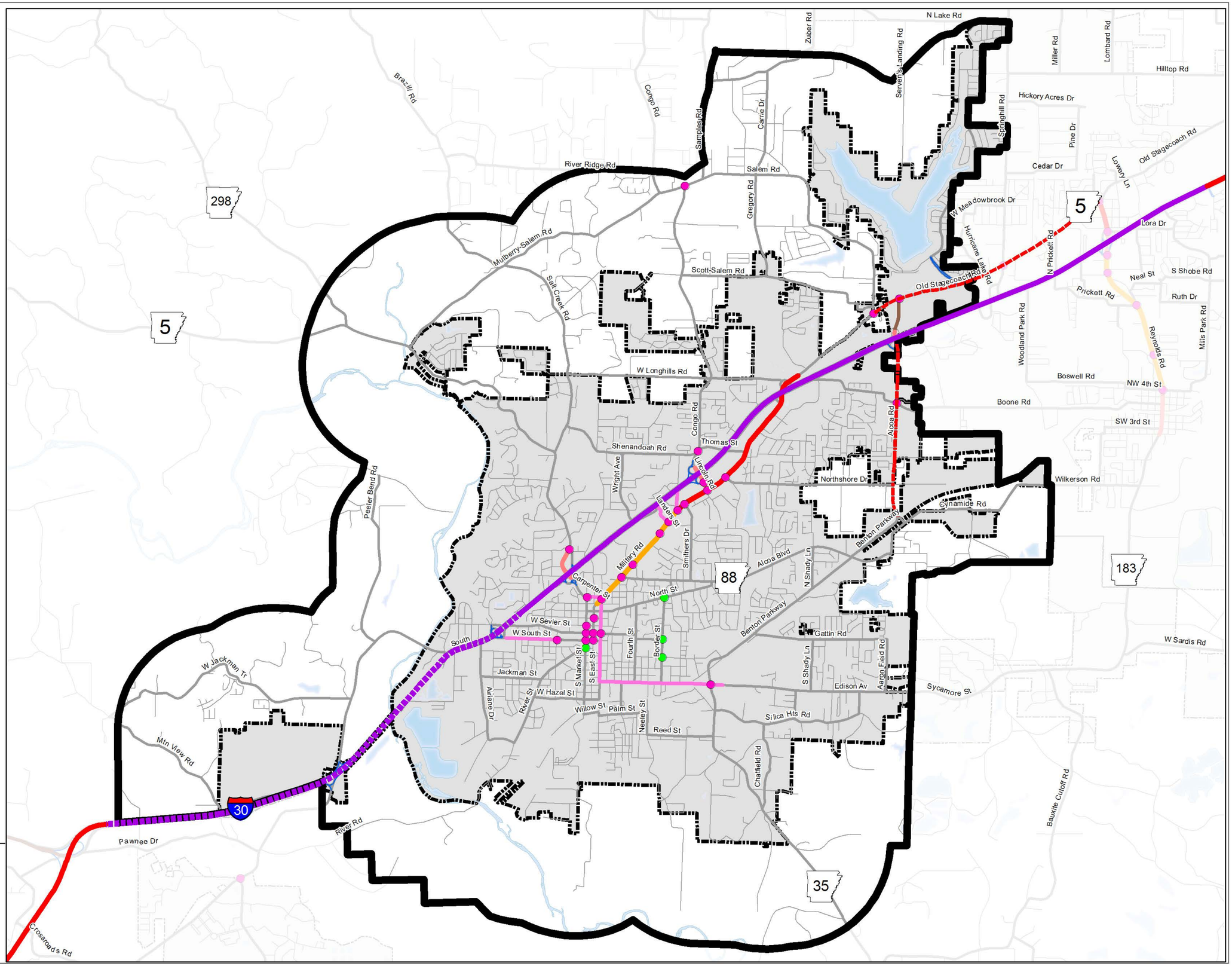


potential of adversely impacting the walkability of downtown Benton. However, an alternative argument could be made that improving access to downtown Benton by widening Edison Ave and East Street will allow growing areas of eastern Benton in subdivisions off of Benton Parkway and Gattin Road to more easily access downtown and could potentially help downtown compete commercially with Alcoa Road and other emerging commercial areas along Interstate 30. A prioritization of needed road improvements should be considered in the public participation process of updating the Benton comprehensive plan.

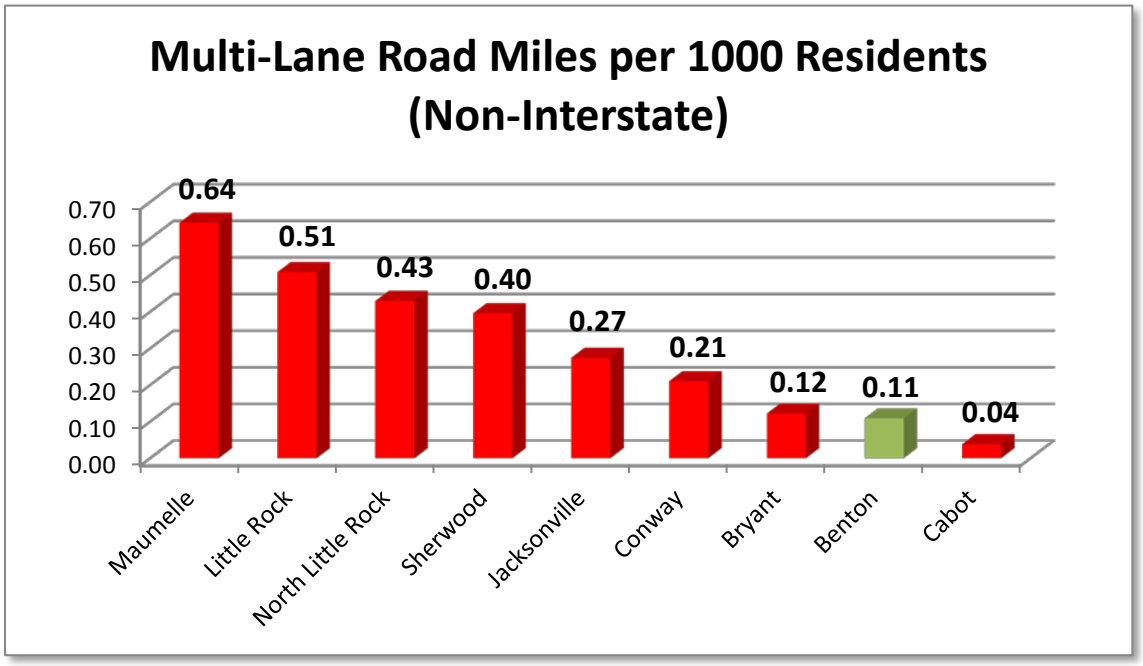


Table 18. Mileage of roads with 4 or more lanes per 1,000 residents for central Arkansas citites.

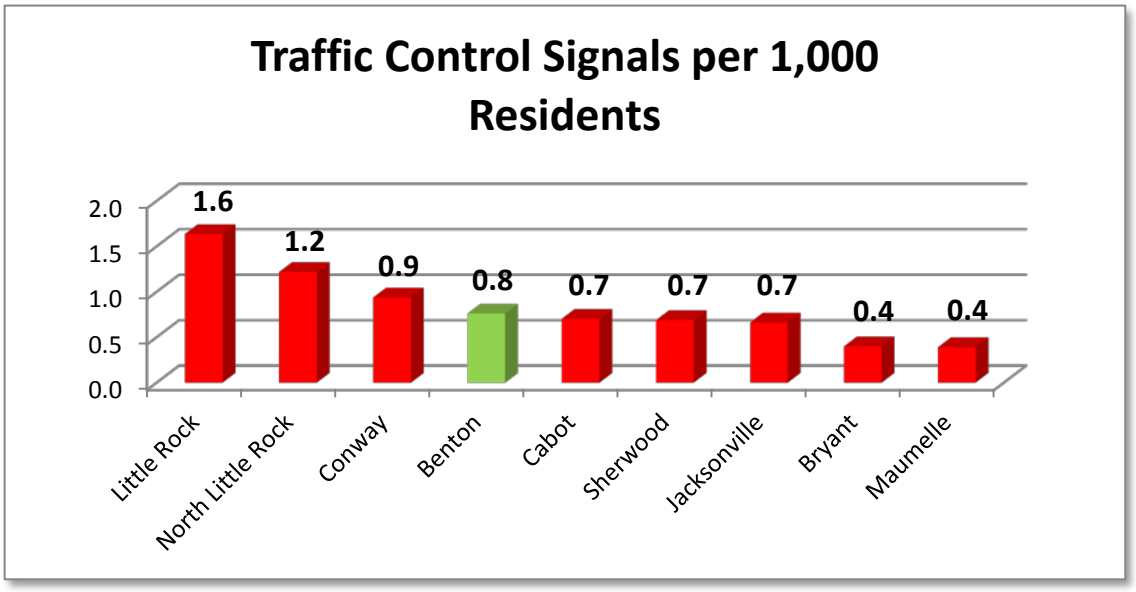


Table 19. Traffic control signals per 1,000 residents for central Arkansas cities.

Major Street	Minor Street	Major Street A.D.T. 2015	Minor Street A.D.T. 2015	Road Maintenance
Highway 5	Salt Creek Road	< 12,000	3,200	AHTD
Congo Road	Longhills Road	8,800-10,000	3,500	Benton/Saline
Highway 5	Waterfall Way	11,000-15,000	1,700	AHTD
Military Road/Hwy 5	Longhills Road	9,300	6,400	AHTD
Benton Parkway	Alcoa Boulevard	7,300-10,000	4,600	Benton
Edison Avenue	Border Street	13,000	2,000	Benton
Edison Avenue	Second Street	12,000	1,700	Benton
Alcoa Boulevard	Smithers Dr	6,500	4,900	Benton

Table 20. High volume unsignalized intersections

Benton currently has 26 signalized traffic control intersections within the Benton city limits and one additional traffic control intersection located in the Benton Planning Area. These intersections are concentrated primarily in downtown Benton and along the military/Highway 5 Corridor. With recent population growth, particularly in northern and eastern area of the city and planning area, additional intersections may be approaching the minimum criteria needed to meet signal warrants. Table 20 lists the intersections which may next need further study to determine if they meet signal warrants.

Roadway Safety

Roadway safety is an important consideration that should be addressed when analyzing future roadway needs. An analysis of the last five years of vehicular crash data available which covers the period from 2010 through 2014, shows that there were 133 roadway crashes classified as being serious with incapacitating injury or were fatal that occurred within the Benton Planning Area. Of these crashes 16 were fatal, and 117 were serious with incapacitating injury. Map 24 shows the location of incapacitating and fatal crashes in the Benton Planning Area. Forty-four of the crashes, or approximately one third of all crashes occurred on Interstate 30. However, half of the fatal crashes were on the interstate system, the higher rates on the interstate system can be attributed to the higher speeds and traffic volumes on the Interstate 30 which has a 70 MPH speed limit and over 70,000 vehicles using it in parts of the planning area.

Table 21 shows the highest crash corridors in the planning area for the five year period from 2010 through 2014. Interstate 30 as a whole has a crash rate of 4.7 severe/fatal crashes per mile in the Benton planning area. However, the segment between Highway 54 and South Street had a significantly higher rate at 6.96 sever/fatal crashes per mile for the five year period. Although traffic counts are lower on this section of Interstate 30 as compared to sections further east in the Benton Planning Area, this section does have a higher traffic volume per lane than do the six lane sections of Interstate 30. This section of Interstate 30 is planned for

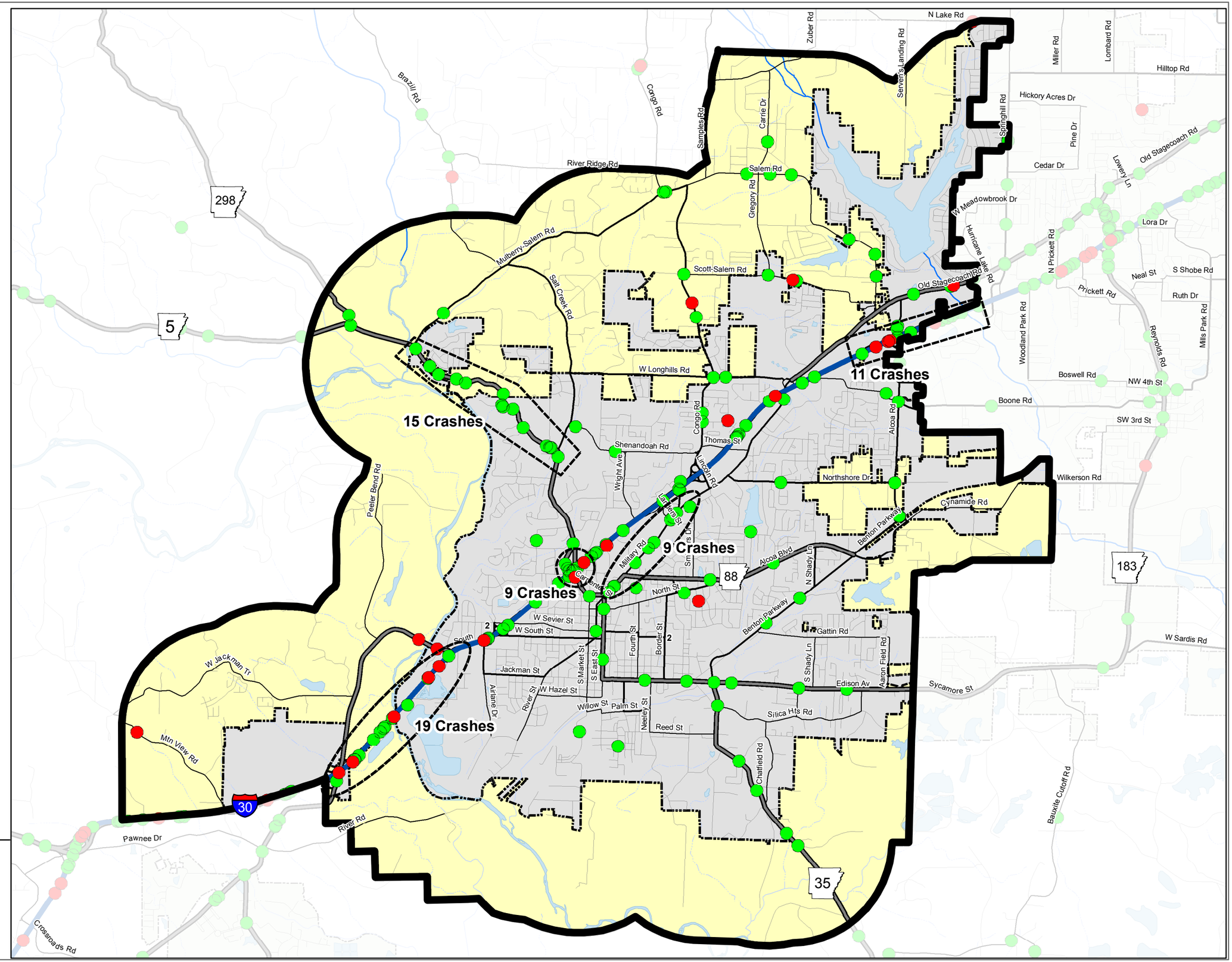
MAP 24
SERIOUS AND FATAL VEHICLE CRASHES 2009 - 2014

Vehicle Crash

- Fatal Crash
- Serious Crash

Source Metroplan GIS, AR State Police

24 Fatal Crashes
145 Serious Crashes



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widening on the 2016-2020 TIP, which may potentially reduce congestion related crashes on this segment. The next highest crash rate corridor is Highway 5 between Salt Creek Road and Mulberry Salem Road. This section of Highway 5 had a crash rate of 6.2 severe crashes per mile for the five year period, and also likely has the highest crash rate when traffic volume is factored in of any road segment in the Benton Planning Area. Significant horizontal curves could play a role in this section of roadway having an elevated crash rate. Recent data from the Federal Highway Administration show that 27 percent of fatal crashes occur on horizontal curves, and the majority these were due to roadway departure.[21] This section of Highway 5 is scheduled on the 2016-2020 TIP for safety enhancements. A variety of measures can be used to decrease the likelihood of roadway departures on horizontal curves, including guardrails, high friction pavements, clear zones along the roadway, rumble strips, and breakaway feature for roadside objects such as signs and utility poles.[22] The only other road segment with a rate over 5 for this five year period, or over 1 fatal serious/fatal crash per mile per year, was Military Road from Carpenter to Congo Road. The higher rate on Military can be expected due to the traffic volume on this segment of Military and the high number of intersections and drive way conflict points. No safety improvements are planned at this time for this section of roadway.

Route	From	To	Mileage	Severe	Fatal	Total	5 year rate per mile	Appx. ADT
I-30	US 64	South Street	2.2	10	5	15	6.96	61,000
Highway 5	Salt Creek Rd	Mulberry-Salem	1.9	12	0	12	6.17	5,300
Military Road	Carpenter	Congo Rd	1.1	7	0	7	6.15	20,000
Alcoa Road	Benton Parkway	Highway 5	2.1	10	0	10	4.67	14,000
I-30	W. Planning Area Bnd.	E. Planning Area Bnd.	9.5	35	9	44	4.66	53,000-74,000
I-30	Lincoln Rd	Alcoa Rd	2.4	9	2	11	4.65	74,000
I-30	South St	Lincon Rd	2.5	11	0	11	4.41	70,000
Congo Rd	Thomas St	Scott-Salem Rd	1.8	5	1	6	3.40	10,000
Highway 183	Highway 35	Summit Road	1.5	4	0	4	2.75	7,200
Salem Road	Highway 5	Congo Rd	2.9	6	0	6	2.08	7,800
Highway 35	Highway 183	S. Planning Area Bnd.	2.8	3	0	3	1.06	4,700-8500

Table 21. Highest crash rate road segments in Benton for fatal or incapacitating injury crashes.

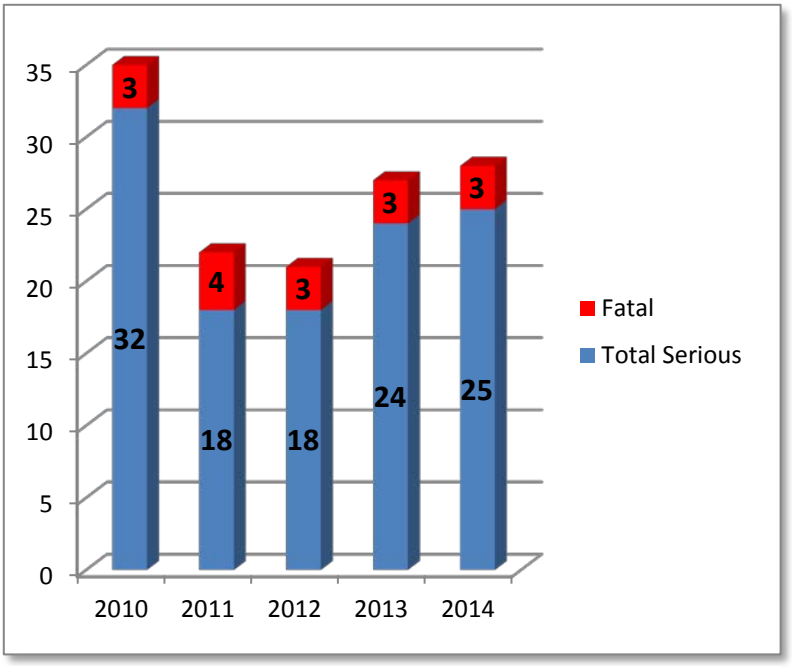


Table 22. Fatal and serious crashes in Benton Planning Area by year

Due to time constraints it was not possible to map crashes of lesser severity. The number of minor crashes far exceeds the number of severe and fatal crashes and as these crashes have not been recorded with geocoding information, time constraints prevented mapping these crashes. However, mapping lesser severity crashes at a future date may reveal significant safety concerns which can potentially be addresses through roadway improvements. Though not as concerning as fatal crashes these more minor crashes still result in a significant cost to the community due to vehicular damage and traffic delays resulting from incident related congestion.

Commuting Flows

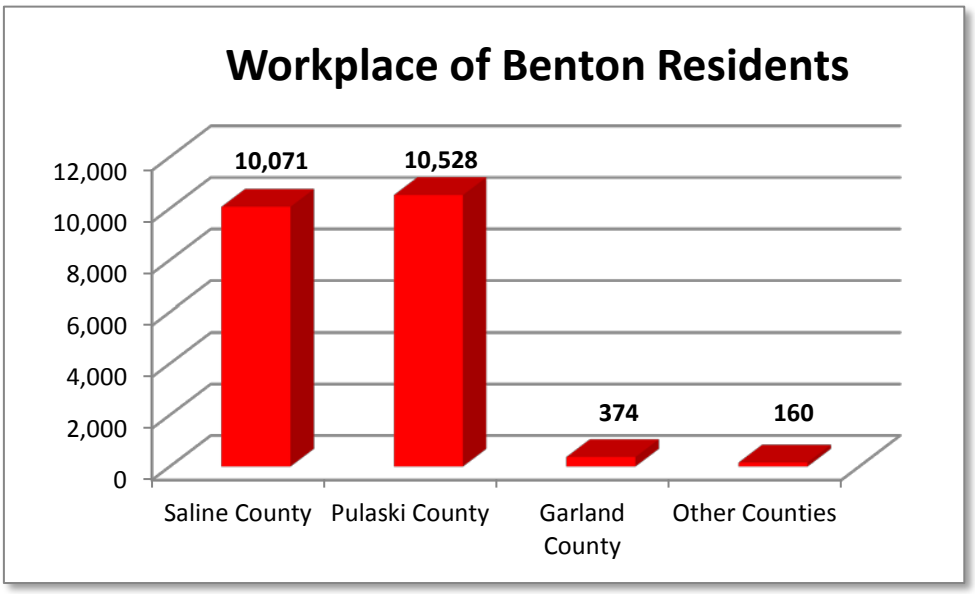


Table 23. Workplace of Benton residents by county.

The flow of commuters to their workplace is an important issue for the city of Benton to understand both for its potential economic development impacts to Benton and also to understand and manage the traffic patterns that results from these commuter flows. Census

Transportation Planning Products Data were released in 2013 which contain a variety of work flow data derived from 2006 to 2010 American Community Survey data. Analyses of these data show which areas Benton residents are most likely to work in, and where those employed in the city are residing.

Benton like many communities in the Little Rock/North Little Rock/Conway Metropolitan Statistical Area has served as a bedroom community for Little Rock where the majority of the regions employment is concentrated. CTPP data shows that a majority of employed Benton residents work outside of Saline County. Of employed Benton residents 46,7% worked in Saline County, 49.8% worked in Pulaski County, 1.7% worked in Garland County, and under 1% worked in other counties. Map 25 shows traffic analysis zones (TAZ) in the Benton Planning area by the most common county of employment for that TAZ. Generally, residents living in the northeastern portions of the city are more likely to work in Pulaski County than work in Benton or even Saline County. While residents of longer developed parts of the city, which are generally in southern, central, and western portions of the city/planning area, are more likely to work in Benton or other parts of Saline County. Faster growing portions of the city in general have a larger portion of residents working in Pulaski County than in Benton. In the fast growing Traffic analysis zone bound By Alcoa Rd, Northshore Drive, and Interstate 30, 64% of employed residents work in Pulaski County. This commuting pattern results in heavy Interstate 30 and Little Rock bound commuter traffic on Alcoa Road in the AM and PM peak traffic periods. In the Hurricane Lake area over 55% work in Pulaski County, which results in heavy left turn movements out of the Hurricane Lake subdivision onto eastbound Highway 5 to utilize the Springhill Interstate30 interchange, although the close spacing of the Alcoa and Springhill interchanges does make it feasible for Pulaski County traffic to use the Alcoa interchange. In the growing area between Benton parkway and Highway 183 over 70% of employed residents work in Pulaski County, this also results in significant percentage of traffic from this area using Alcoa Road and Benton Parkway in the commuting peaks.

Map 26 shows commuting flows of over 100 daily trips from Benton Traffic Analysis Zones to larger traffic analysis districts. The highest work flows are from central Benton Traffic analysis Zones to Traffic Analysis District 3 which encompasses most of Benton. From most Benton TAZ the single highest work flow is to an employer located in Benton, however, due to the greater number of employment centers in Pulaski County, commuter flows from Benton TAZ to Little Rock are more distributed amongst several TAD including the downtown, UAMS area, and west Little Rock

MAP 25
COMMUTING DESTINATION FOR BENTON RESIDENTS

Benton TAZ

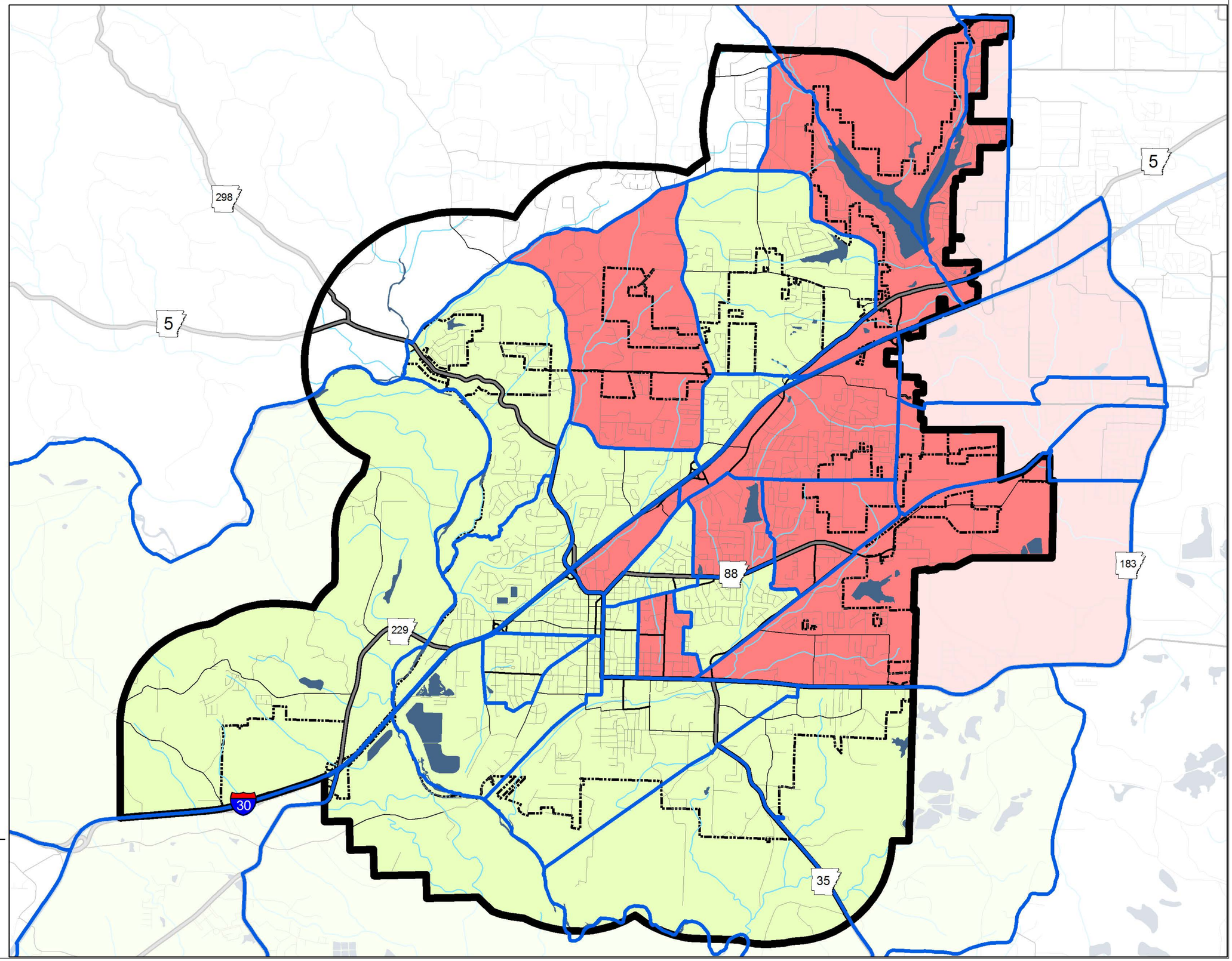
Most Common Destination

Pulaski County

Saline County

Source Metroplan GIS data

Saline County 10,071 Workers
Pulaski County 10,528 Workers
Garland County 374 Workers
Other Counties 160 Workers



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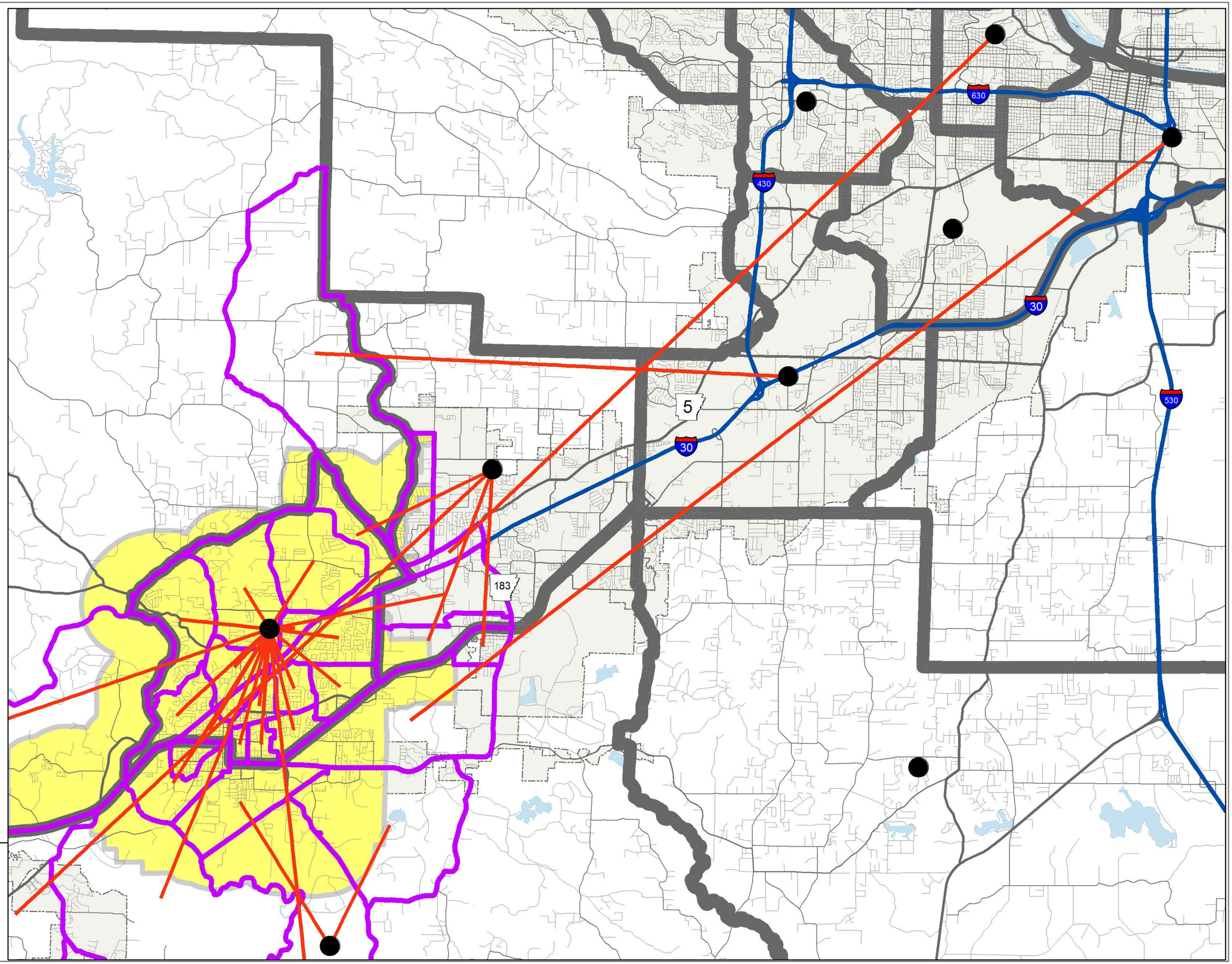
MAP 26
TOP COMMUTING DESITNATION TAD

- Top Commute Flow
- Traffic Analysis Zone
- Planning Area Boundary
- Traffic Analysis District

Source 2013 CTPP data



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Utilities (Additional Information Needed)

Information on Benton utilities, including water, waste water, and electric services, was not available as of this writing. It is generally beyond the scope of this report to assess the capacities of Benton Utilities. While it is possible that future development may be impacted by the city's ability to provide utilities, the reduction of the Benton Planning Area to a maximum of 1 mile from the city limits by § 14-56-413 from the five mile planning area at the time 2006 Planning Study greatly minimizes the potential areas to which the extension of city services must be considered. Additional input will be needed from Benton Utilities including Water, Waste water, and Electric to assess if future development could be impacted by the city's ability to provide those services to a growing population and to new areas of development.

Schools

Benton is partially located in four separate school districts: the Benton School District, Bryant School District, Bauxite School District, and Harmony Grove School District. The Harmony Grove School district portion of the Benton planning area is unpopulated. Overall, seventy percent of school age children in Benton live in the Benton school district, 25 percent are in the Bryant school district and 5% of the school age population is within the Bauxite school district. Map 27 shows the location of public schools and the boundaries of Benton area school districts. The Bryant

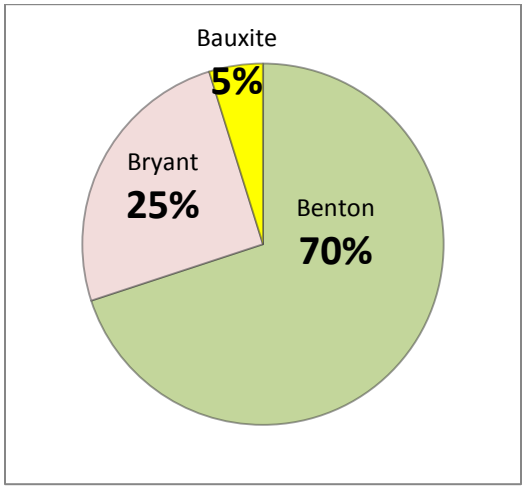

Table 24. Benton school Age population by school district

School District portion of Benton in general grew faster over the 2000 to 2010 period than did portions of the city in the Benton School District. However, total residential building permits in the 2010 to 2015 period were fairly evenly distributed between the Benton and Bryant school districts portions of the city, with a much smaller percentage being located in the Bauxite School District portion of the city.

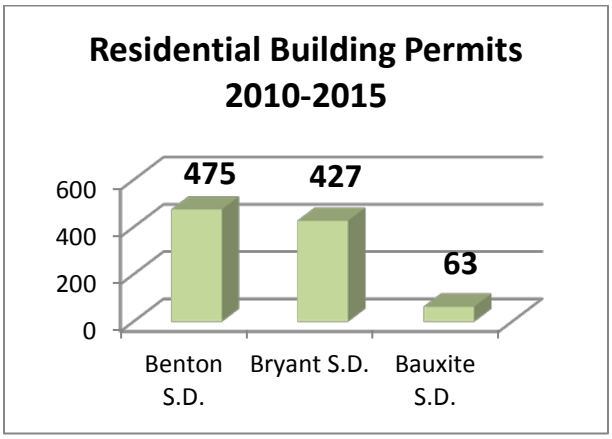

Table 25. Building permits by school district, 2010-2015.

In particular, the Hurricane Lake Elementary and Springhill Elementary Attendance zones of the Bryant school District have experienced significant growth in recent years. Map 28 shows the elementary school aged population

MAP 27
SCHOOL DISTRICTS AND SCHOOLS

Public School

- Elementary
- High
- Middle
- NA
- Pre-K

School DIstrict

- Bauxite School District
- Benton School District
- Bryant School District
- Harmony Grove
- Benton Planning Area

Source: UALR GIS Applications Laboratory

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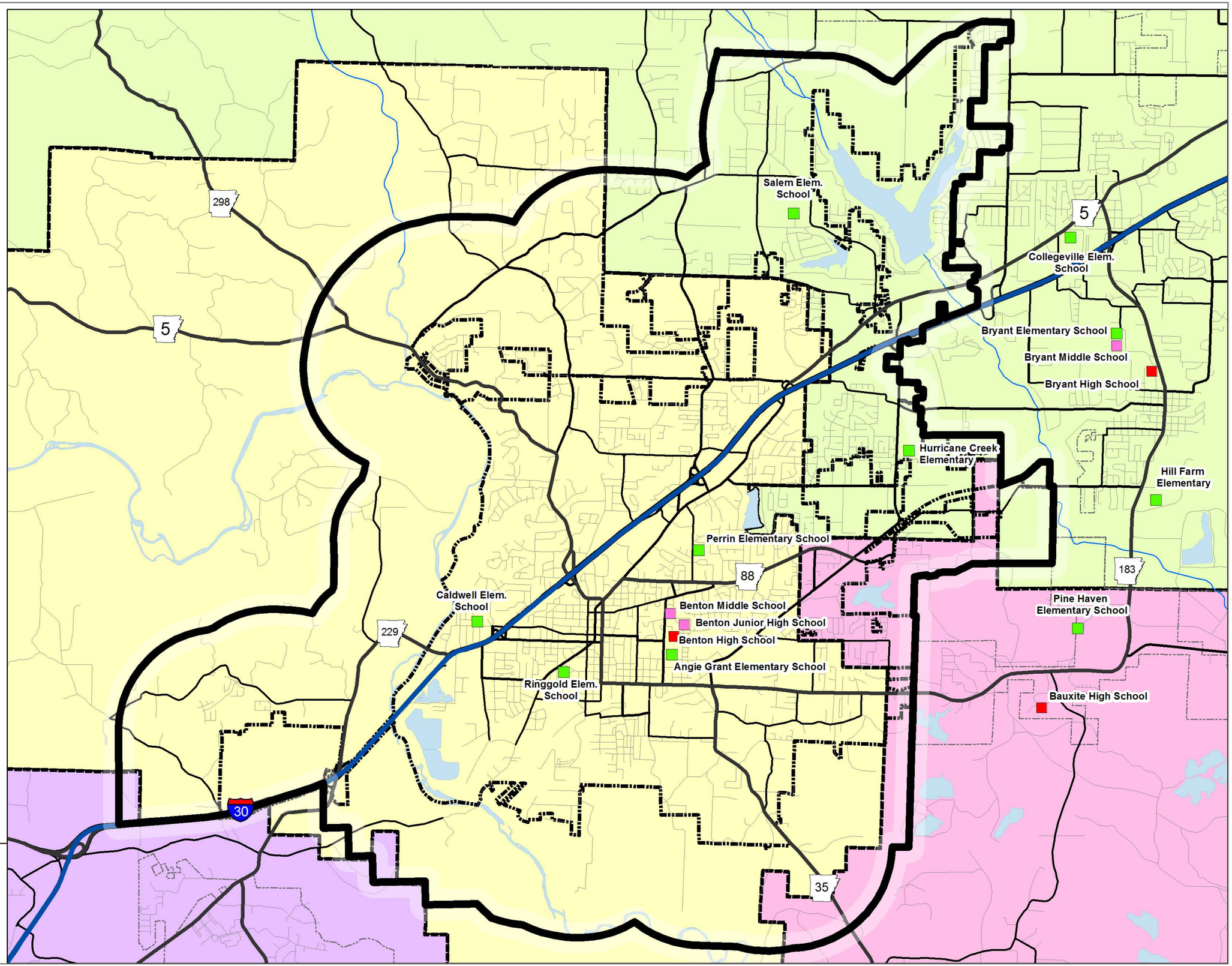

BENTON PLANNING STUDY ATTENDANCE ZONE ELEMENTARY AGE POPULATION

Public School

Elementary

Elementary Age Population

- 324 - 499
- 500 - 599
- 600 - 699
- 700 - 799
- 800 - 818

Elementary Attendance Zone

School District Boundary

Source: 2010 Census SF1 Data

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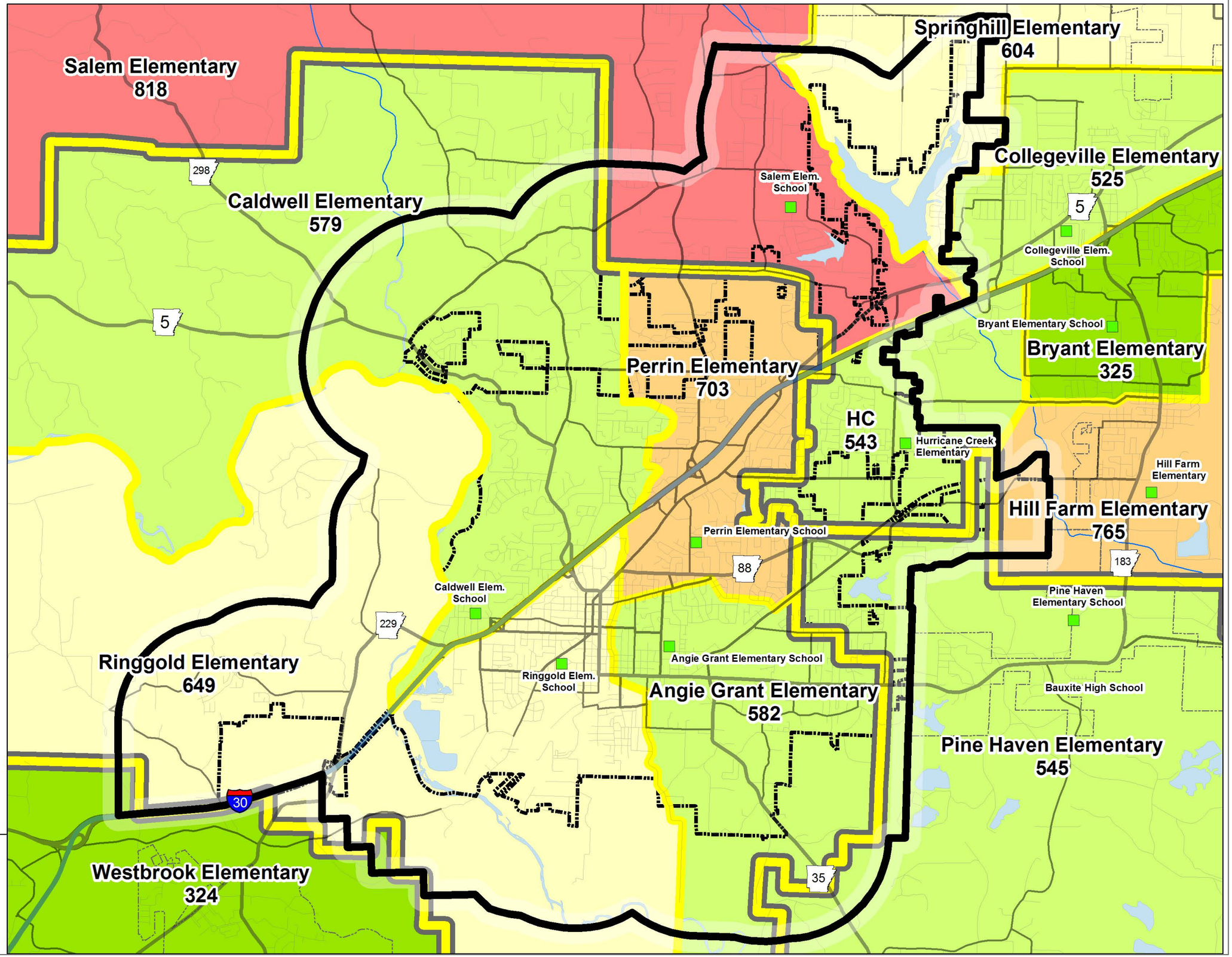


for attendance zones in the Benton Planning Area. As of the 2010 Census, the Salem Elementary attendance zone of the Bryant school district had the highest population at 818, followed by the Perrin Elementary Attendance zone of the Benton School District at 703. All other Elementary attendance zones had an elementary age population under 650. Elementary school capacities are generally around 600 students. Specific capacity numbers were only available for Bryant school District schools. Hurricane Creek Elementary has a designed capacity of 621 students and 537 were enrolled in the 2015-2016 school year, which gives the school some capacity to absorb new students from the growing Alcoa Road area of Benton. Salem Elementary has a design capacity of 596, which was already exceeded by the 2015-2016 enrollment of 608 students. Without specific capacity numbers it is not possible to assess impacts of future development on other schools. However, it appears most schools will be approaching design capacities in the near future. Ringgold Elementary may be an exception to this, as its attendance zone has lost population in recent years

Future plans for the Bryant Elementary school include a new Elementary zone north of Interstate 30. After the completion of this school, elementary attendance zones will be redrawn to reduce attendance at the remaining elementary schools. Additionally, a new Junior High School in the Bryant School District for 8th and 9th grades will increase capacity at both the Bryant Middle School and the Bryant High School.

The Benton School District Facilities Plan calls for a new 600 student elementary school, which will allow existing elementary schools to reduce enrollment through adjustment of attendance zones. Additionally, expansions of Benton Junior High School and Benton High School are planned. Continued and regular capacity expansions will likely be needed in the near future.

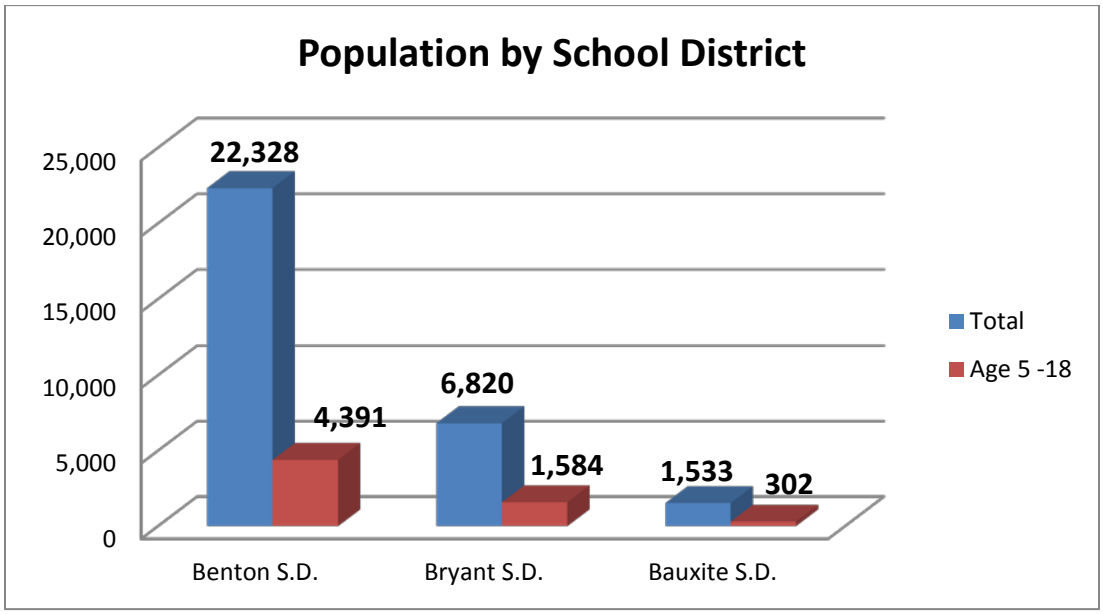


Table 26.Benton 2010 population by school district.

Elementary School	2010 Elementary Age Population Attendance Population	2015-2016 Enrollment
Angie Grant Elementary	582	572
Caldwell Elementary	579	574
Collegeville Elementary	525	619
Hill Farm Elementary	765	582
Hurricane Creek	543	537
Perrin Elementary	703	591
Pine Haven Elementary	545	578
Ringgold Elementary	649	434
Salem Elementary	818	608
Springhill Elementary	604	688
Westbrook Elementary*	324	377

Table 27. 2010 Attendance zone populations and 2015-2016 enrollments.

School	2015-2016 Enrollment
Bryant High School	2,694
Benton High School	1,128
Bryant Middle School	1,119
Benton Middle School	789
Benton Junior High	781

Table 28. 2015-2016 enrollment middle and high schools.

Fire Protection

A critical component of ensuring safe future development of Benton is providing adequate fire safety. Map 28 shows fire protection districts and fire station locations in the Benton Planning Area. The Benton Fire Department provides fire protection and emergency response for the Benton city limits, and covers an area of 22.8 miles with a 2015 population of 34,177. Several additional fire districts cover the remainder of the Benton Planning Area including Salem Volunteer Fire Department, which covers the northern portion of the Benton Planning Area, and the Turtle Creek Volunteer Fire department which covers most of the planning area west of the Saline River, The Haskell Fire Department which covers a small undeveloped portion of the planning area south of the city limits, and the Shaw, Bauxite, and Salem Volunteer Fire Departments which cover eastern portion of the Benton Planning Area.

The Benton Fire Department currently serves the city with four strategically located fire stations. A fifth fire station is planned on Highway 5 between Salem and Alcoa Roads to serve the growing population and commercial areas in northeastern portions of the city.

The location of fire stations is an important consideration in determining a numeric grading of fire districts called the Public Protection Classification (PPC). The PPC allows fire departments to measure the effectiveness of their fire protection, and is a factor used by insurance companies to determine insurance rates for homeowners. Map 29 shows one of the factors used in determining the Public Protection Classification, which is the distribution of fire stations equipped with pumper trucks and ladder service apparatus. Specifically, this criteria considers the portion of the built-up area of a fire district that is within one mile of a pumper truck equipped fire station and 2.5 miles of a ladder truck equipped fire station. Map 29 shows that with the completion of Fire Station 5 the majority of the city will be within either 1.5 miles of a pumper

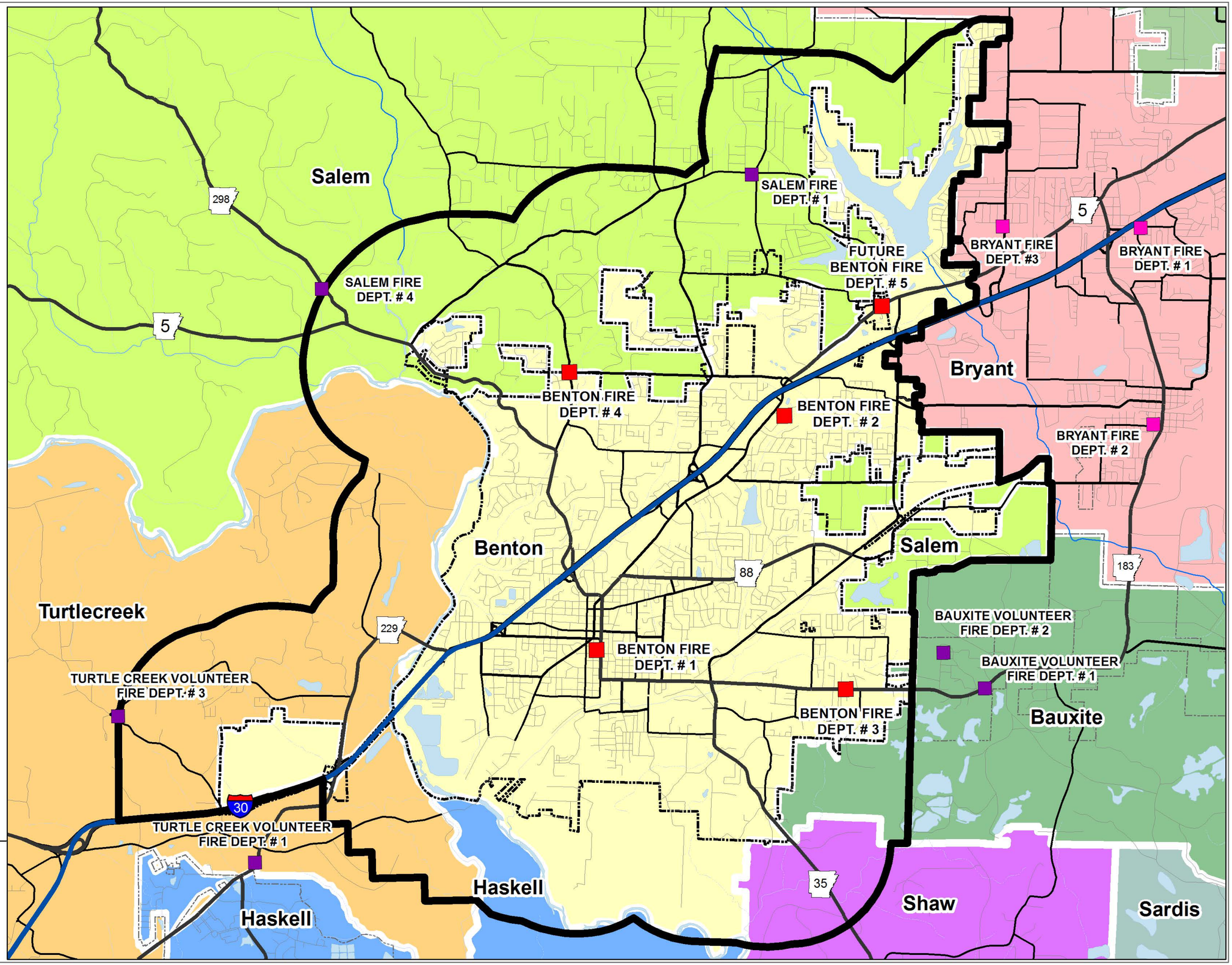
MAP 28
FIRE PROTECTION DISTRICTS

- Benton Fire Station
- Bryant Fire Station
- Volunteer Fire Stations

Fire District

- Bauxite
- Benton
- Bryant
- Collegeville
- Haskell
- Salem
- Sardis
- Shaw
- Turtlecreek
- Benton Planning Area

Source: UALR GIS Applications Laboratory



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Miles

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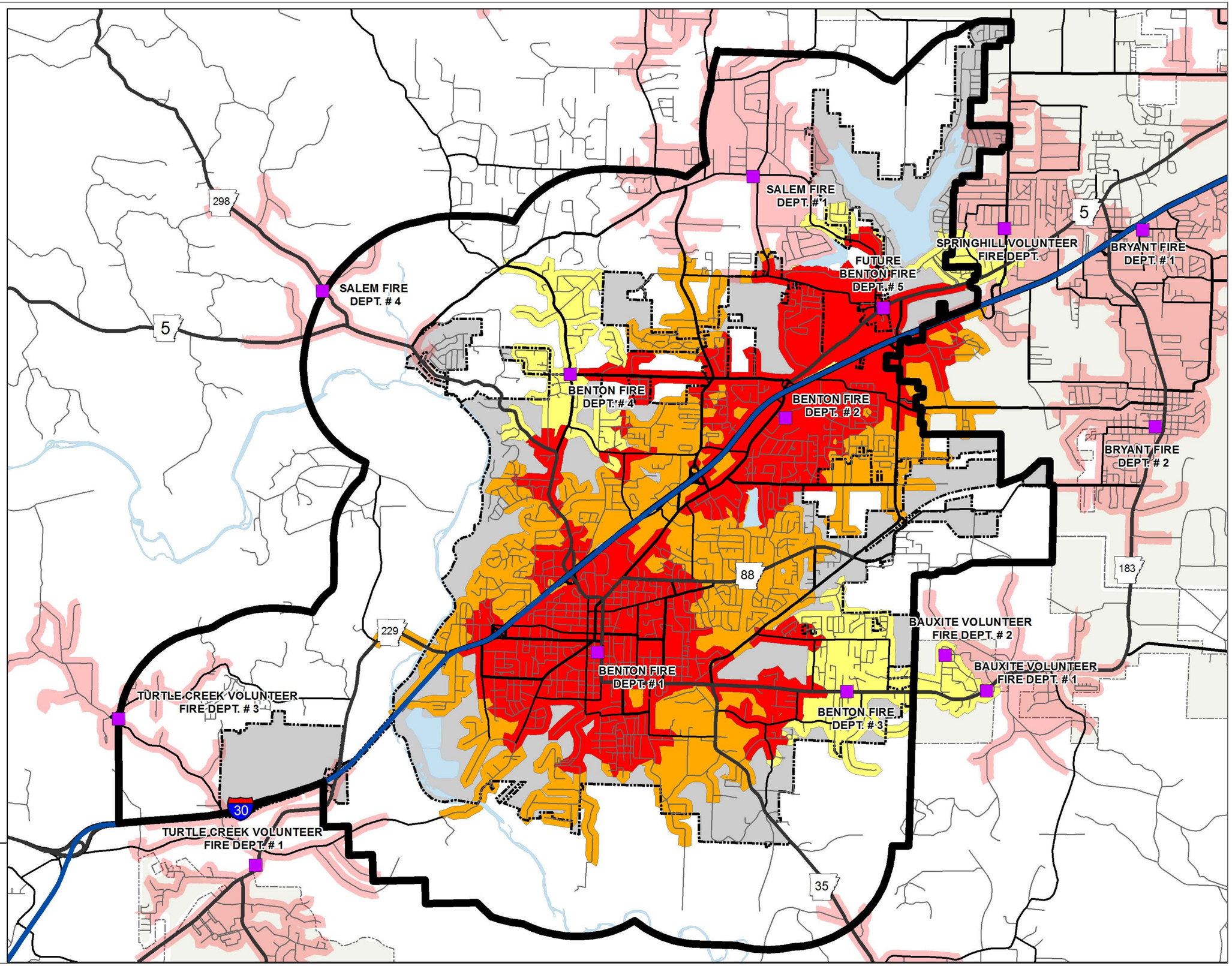
BENTON PLANNING STUDY FIRE PROTECTION 1.5-2.5 MILE AREAS

- Benton Fire Station - Pumper Only within 1.5 miles
- Benton Fire Station - Pumper within 1.5 miles and Ladder Truck within 2.5 miles
- Benton Fire Station - Ladder and Pumper Truck Station within 1.5 miles
- Non-Benton Fire Station within 1.5 Mile Area

Source: Metroplan GIS



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MAP 30

BUILT UPON AREAS BEYOND 1.5 MILES FROM FIRE STATION

Benton Fire Station
Bryant Fire Station
Volunteer Fire Station

Built Upon Land In City beyond 1.5 mile from Fire Station

Commercial
Industrial
Institutional
Multi-Family Residential
Single Family Residential
Within 1.5 road Miles of Benton Fire Station

Built Upon Land In Planning Area Beyond 1.5 mile from Fire Station

Commercial
Industrial
Institutional
Multi-Family Residential
Single Family Residential
Within 1.5 road miles of non-Benton Station
Benton City Limits
Benton Planning Area Boundary

Source: UALR GIS Applications Laboratory

N W E S

0 0.5 1 1.5 2
Miles

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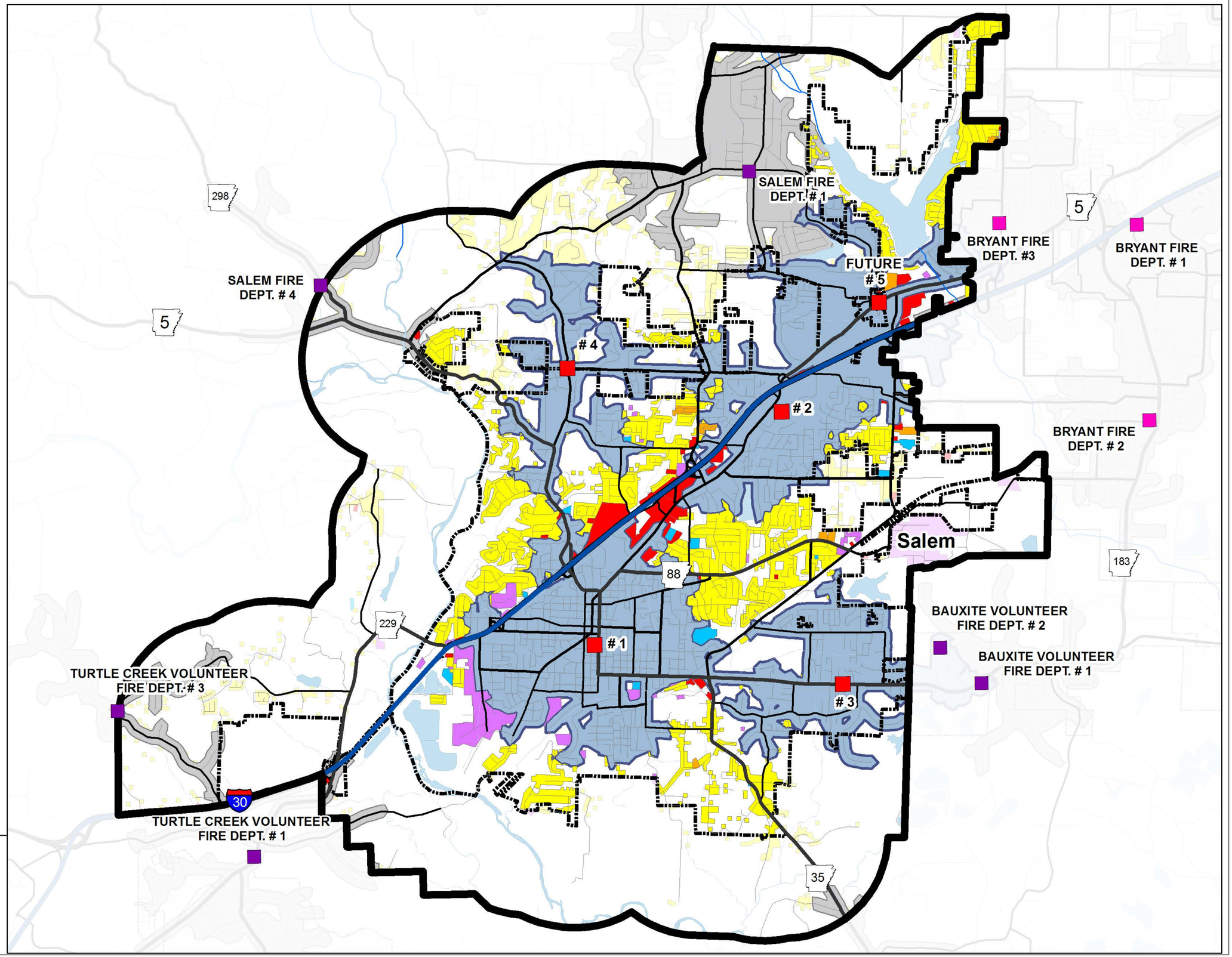

equipped fire station or 2.5 miles of a ladder truck equipped

station. However significant portions of the city do not meet both criteria. A larger percentage of the city meets the 2.5 mile criteria for distance to a ladder truck equipped station than meets the 1.5 mile criteria for pumper truck stations. Subdivisions off of Benton Parkway, Alcoa Boulevard, southern Alcoa Road, and in a large portion of the area between Congo Road and the Saline River are beyond 1.5 miles from the nearest fire station (Map 30). Eastern areas of the city off of Highway 183 and Gattin Road and areas off of Salt Creek Road are beyond the 2.5 mile distance to a ladder truck equipped stations.

Additionally, upon completion of fire station number 5, most of the Hurricane Lake subdivision will still be beyond 1.5 miles from Fire Station number 5 and beyond 2.5 miles from the ladder equipped station number 2. The Coldwater Creek Subdivision will also be beyond both the 1.5 and 2.5 mile distance criteria from a Benton Fire Station. Additional areas outside of the city limits but within the Benton Planning Area do not meet either criteria, including areas in the Turtle Creek Fire District, the Salem Fire District, and the Shaw Fire District. Map 31 shows overall distances to Benton fire stations including the planned number 5 station by road mileage. The northern areas of the Hurricane Lake Subdivision are the most distant areas within the Benton city limits from a Benton Fire Station, with considerable population to still be over 3 miles from the nearest station upon the completion of fire station number 5. Future development planned for the area north of Hurricane Lake will potentially be over four miles from the nearest Benton fire station.

MAP 31
FIRE PROTECTION ROAD DISTANCE TO STATION

Road Distance to B.F.D. Station

- Less than 0.5 miles
- 0.5 miles - 1.0 miles
- 1.0 miles - 1.5 miles
- 1.5 miles - 2.0 miles
- 2.0 miles - 2.5 miles
- 2.5 miles - 3.0 miles
- Other Stations
- Benton Fire Department Station
- Public Schools
- Benton Planning Area

Distances shown are road miles to nearest Benton Fire Department Station. Benton Future fire Station #5 is included
Source: Metroplan GIS

0 0.5 1 1.5 2
Miles

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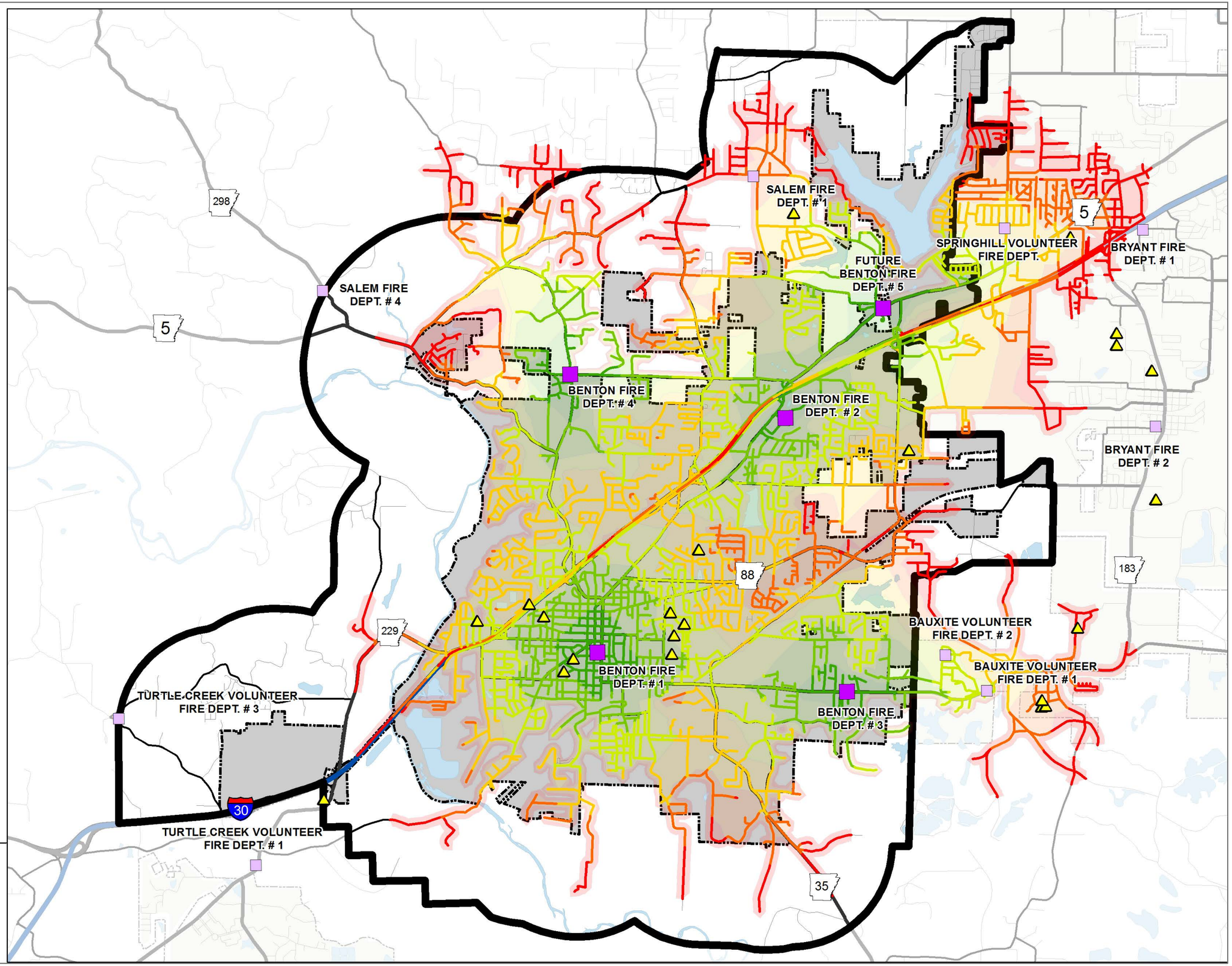


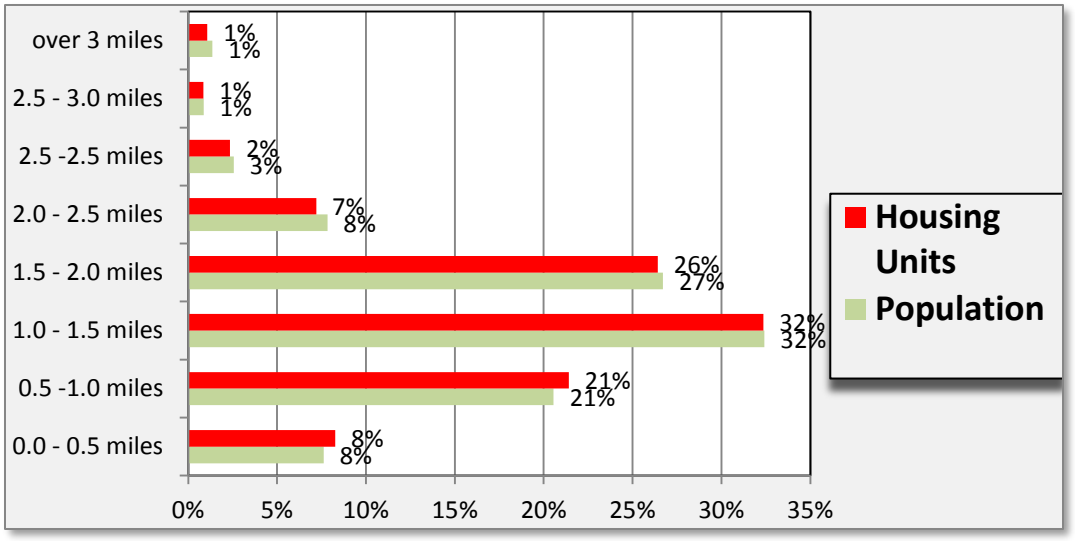


Table 29. Population by road distance to a Benton Fire Station

Table 29 shows the distance that the population of Benton is in road miles to the nearest fire station. The percentage of housing units and population are shown. Over 60% of the population is within 1.5 miles of a fire station, and five percent of the population is beyond 2.5 miles of the nearest fire station. These numbers were calculated using 2010 census population and include the future fire station number 5 location in the calculations.

Police Protection

Law enforcement within the Benton city limits is provided primarily by the Benton police department. The Saline County Sheriff also has jurisdiction within the Benton city limits, but is primarily responsible for patrolling unincorporated portions of the county, this includes portions of the Benton Planning Area which are outside of the Benton City Limits. Benton like most other cities of its size in the state experiences a wide variety of issues that require police intervention. These issues range from crime and domestic issues to traffic incidents. In each of the last 3 years the Benton police department has responded to over 40,000 calls. To respond to this call load the Benton Police Department currently employs a total of 94 people. Employees of the Benton Police department include both sworn officers and civilian employees. Civilian employees consist primarily of communication supervisors, dispatchers, and office assistants that assist sworn patrol officers and detectives. The ratio of police personnel per 1,000 residents in Benton is slightly below the national average at 2.1 sworn officers per 1,000 Benton residents and 2.9 total police employees per 1,000 residents. Table29a. Amongst Central Arkansas cities Benton is slightly below average in the ratio of sworn officers to city residents. Table 29b.

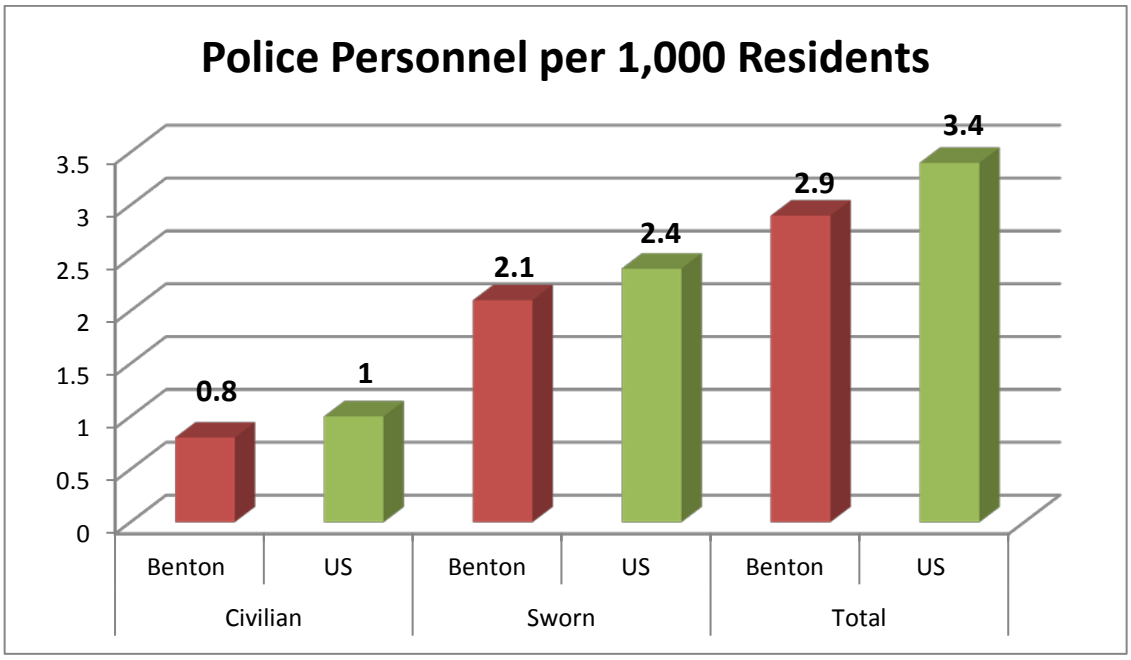


Table 29a. Police personnel per 1,000 residents Benton vs. US municipal average 2011. Source FBI: UCR, Benton Police Dept.

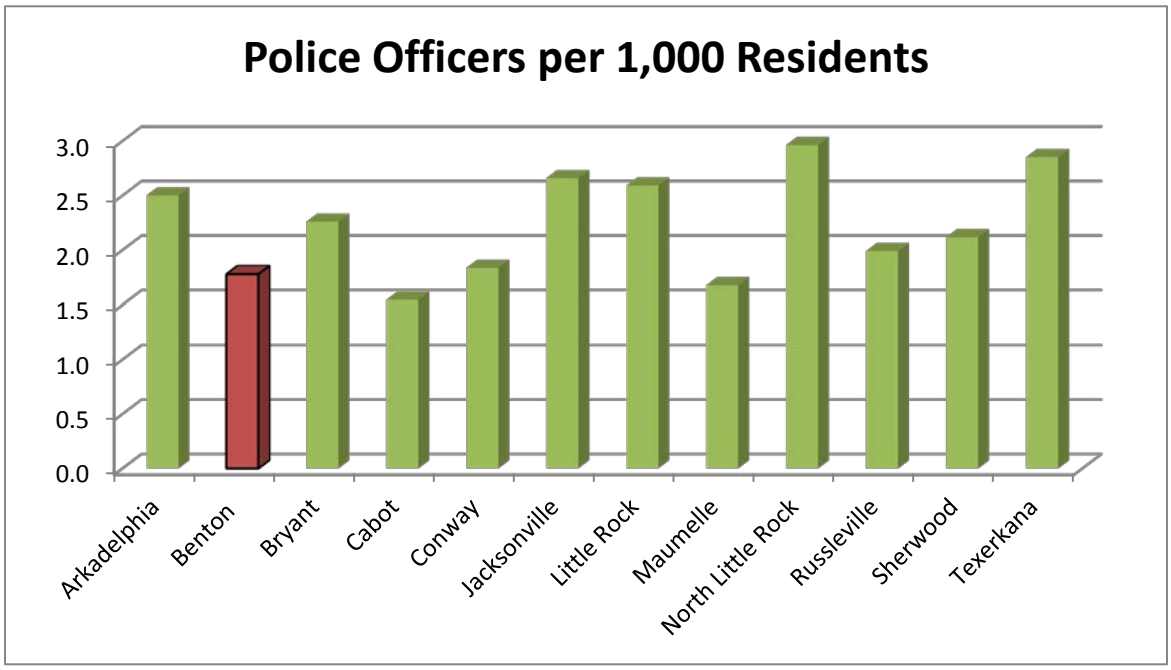


Table 29b. Sworn police personnel per 1,000 residents Arkansas cities 2011. Source FBI:UCR.

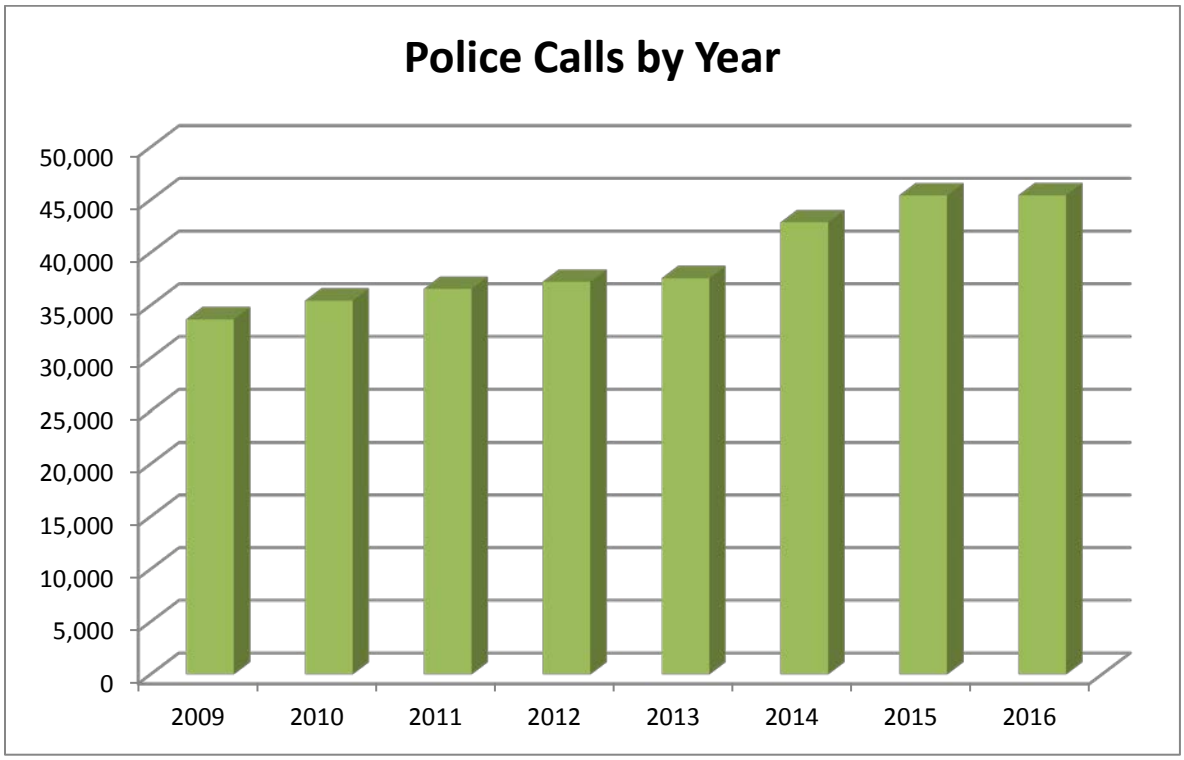


Table 29c. Benton police calls received 2019-2016. Source Benton Police Department.

Crime rates in Benton have remained fairly stable over the period from 2010 to 2014, the most recent five year period for which comparable data were available. In 2014 there were 429 property crimes per 1,000 Benton residents and 38 violent crimes per 1,000 Benton residents (Table 29d). Benton's property crime rates are close to average when compared to the sample of Arkansas cities listed in Table 29e. Benton's violent crime rate is below average for that same sample of Arkansas cities in Table 29f. However, the violent crime rate average is closer to average when larger cities with significantly higher violent crime rates are excluded. Comparing crime rates between cities is problematic due to significant variations in factors that can influence crime rates within a city. These factors include a city's demographics, including age, race and ethnicity; the transience of the population; educational levels; the city's transportation network; proximity to other population centers; and the presence of employment, educational, government, or commercial destinations that attract population from outside of the city. Because these factors vary so significantly from city to city caution should be used in making assumptions about the causes of crime in cities or in comparing crime rates between cities. However, these numbers do suggest that Benton's crime profile is not unusual for this region.

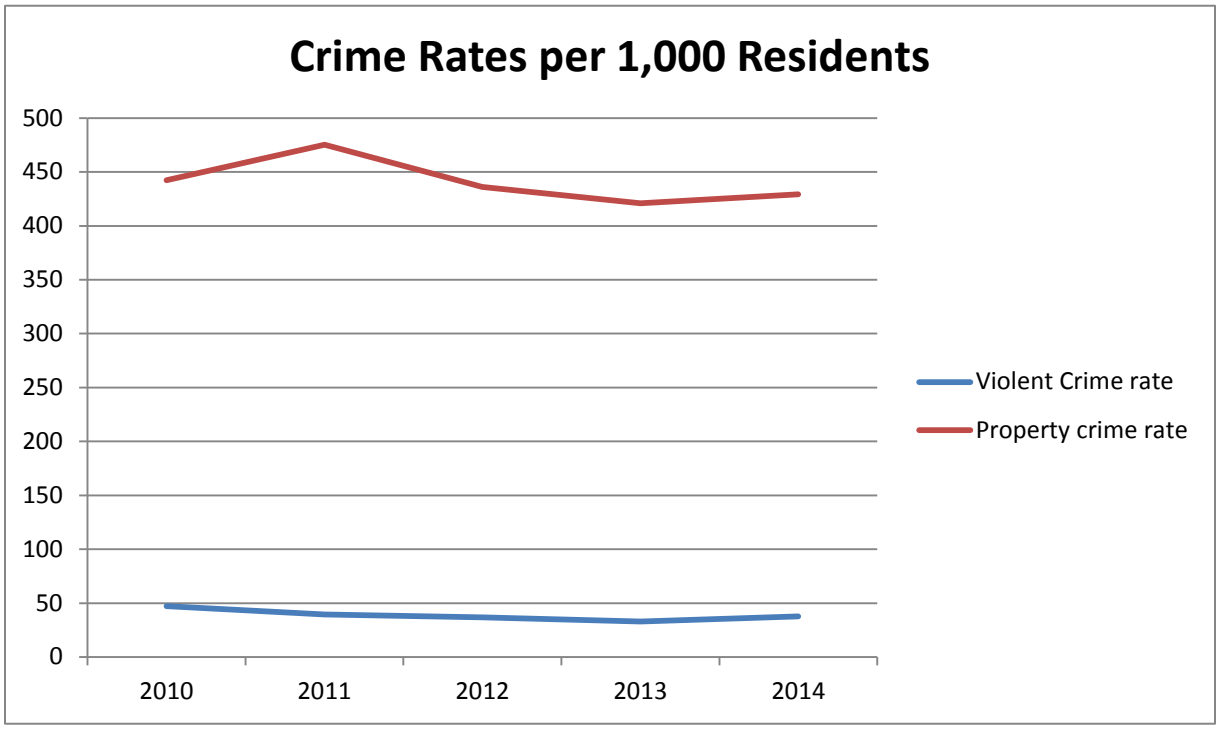
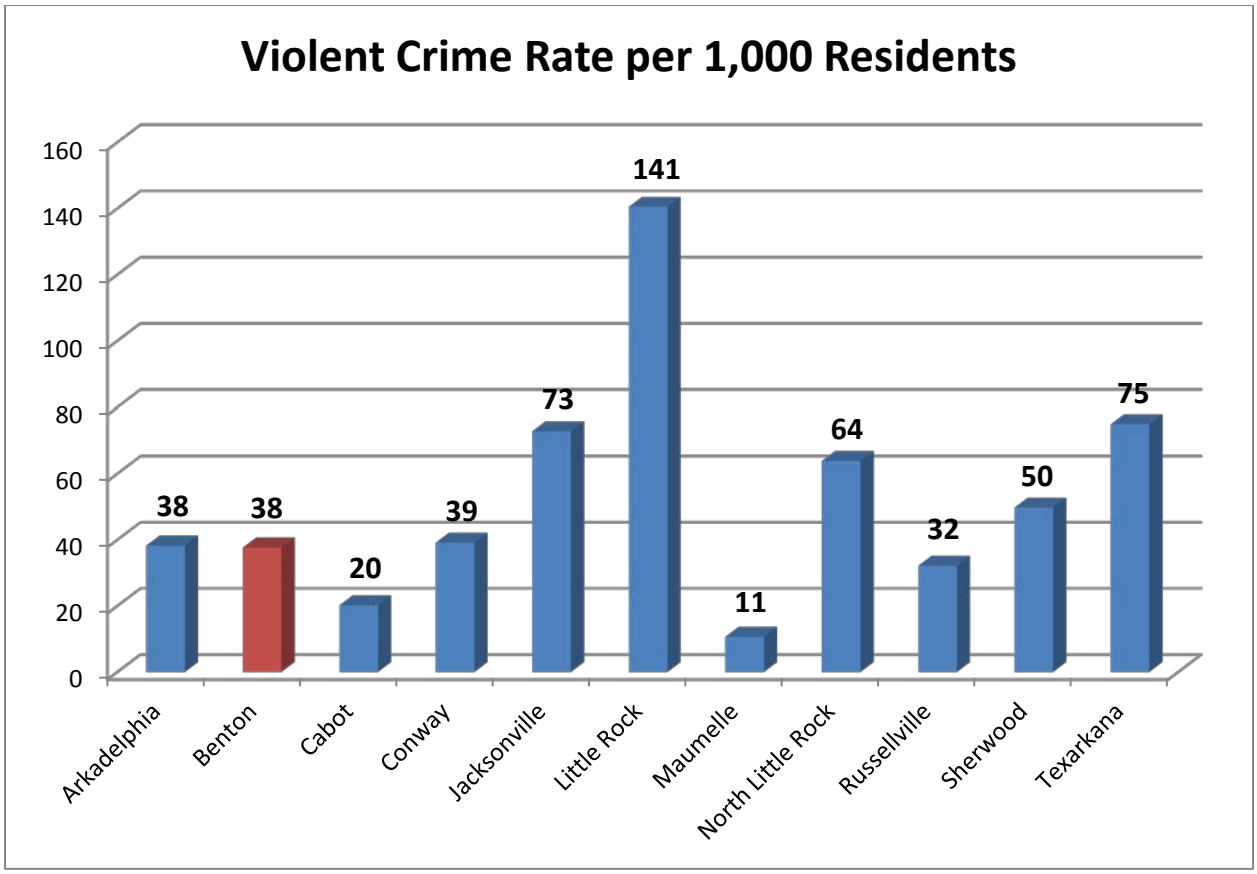


Table 29d. Violent and property crime rates per 1,000 Benton resident 2010 - 2014. Source FBI: UCR



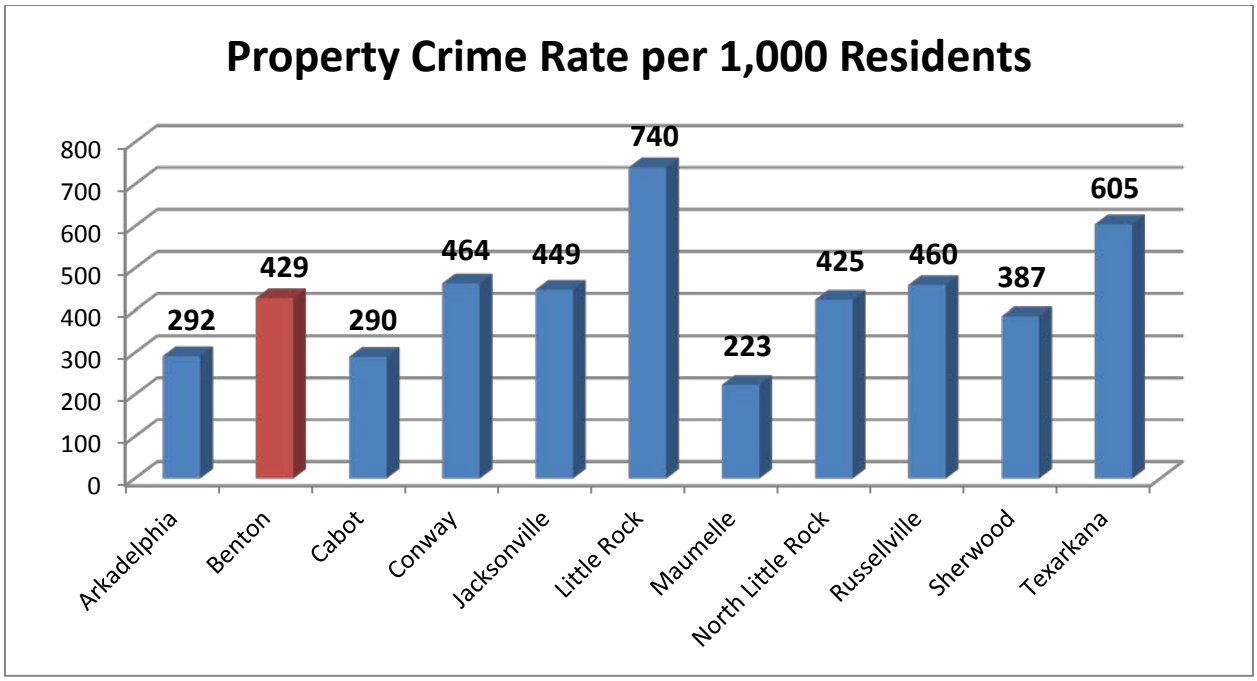


Table 29e Violent crime per 1,000 residents (top), Table 29f Property crime rates per 1,000 rates (bottom). Source FBI:UCR 2014 data. Caution should be used when comparing crime rates between cities due to the multitude of factors that can influence crime rates within a city.

	Benton Percent	MSA Percent	Location Quotient
Retail	19.9%	10.4%	1.92
Health Care	19.7%	19.9%	0.99
Education	14.2%	8.7%	1.63
Hotel /Food Service	13.2%	7.4%	1.80
Construction	6.5%	3.6%	1.79
Public Administration	5.2%	7.6%	0.68
Manufacturing	4.1%	6.6%	0.62
Other Services	3.6%	2.4%	1.49
Waste Management	2.8%	6.3%	0.44
Scientific/Technical Services	2.5%	5.8%	0.43
Finance Insurance	2.4%	4.7%	0.53
Information	0.9%	3.1%	0.30
Real Estate	0.8%	1.2%	0.68
Transportation	0.7%	3.3%	0.21
Utility	0.5%	0.8%	0.67
Art/Entertainment	0.5%	0.7%	0.66
Management	0.2%	1.8%	0.09
Mining/Quarry	0.0%	0.5%	0.06
Agriculture/Forestry	0.0%	0.1%	0.00
Wholesale Trade	0.0%	5.0%	0.00

Table 30. Benton location quotient by employment sector.

Benton's employment is concentrated in four employment sectors: retail, hotel and food service, education, and health care. These same four sectors are also the largest employment sectors in the four county Little Rock/North Little Rock/Conway MSA. However, location quotient analysis reveals that Benton's employment is more highly concentrated in these sectors than it is regionally (Table 30).

The location quotient compares the percentage of local employment in a particular sector to the percentage of employment in that same sector in a larger area; such as nationally, or in this case, the region's percentage of employment in the same sector. By using the regional employment percentage rather that the national average the large variations that are found in employment in different regions of the country can be accounted for. A location quotient over 1 indicates employment is more highly concentrated in a particular sector than it is regionally. The largest employment sector in Benton is the retail sector which accounts for approximately 20% of all employment in Benton. The location quotient for this sector is 1.9 indicating employment is significantly more concentrated in this sector than it is regionally. The high concentration of employment in the retail sector can present an area of concern as the retail sector is one of the lowest paying employment sectors. Additionally, growth in on-line retailing, which generally employs fewer

people than brick and mortar retailers and which is more concentrated in other regions of the country, may erode employment from local retailers in the future. Additionally, Benton must compete with other regional retail centers along Interstate 30 in Bryant and southwest Little Rock that will compete for Saline County shoppers with the Military Road and Alcoa Road retail areas of Benton. It should be noted that the development of auto centric strip shopping centers is counter to the national trend in retail, which is increasingly moving away from strip shopping center formats and turning more to lifestyle centers, which while not necessarily urban, are much more pedestrian oriented in design than are traditional strip shopping centers. The Promenade at Chenal is an example of this type of design in Central Arkansas. It should be noted that these types of retail formats do not necessarily integrate with surrounding areas of a city much better than do conventional strip shopping centers, and may be no more sustainable if designed as an auto only destination. This study is not advocating for this type of design in lieu of compact walkable mixed use development, but pointing out that from an economic development standpoint these types of retail formats may be preferable to conventional strip shopping centers.

Lifestyle Centers

Lifestyle center are gaining in popularity as compared to traditional strip shopping centers. A comparison of Alcoa Exchange, a traditional strip shopping center and The Promenade at Chenal, a Lifestyle Center A. Buildings along a central corridor or plazas create a sense of enclosure which is an important place making concept. B. Pedestrian friendly sidewalks and frontages. C. Terminated vista which is another important place making concept. D. Parking is primarily located on the periphery of the shopping center.

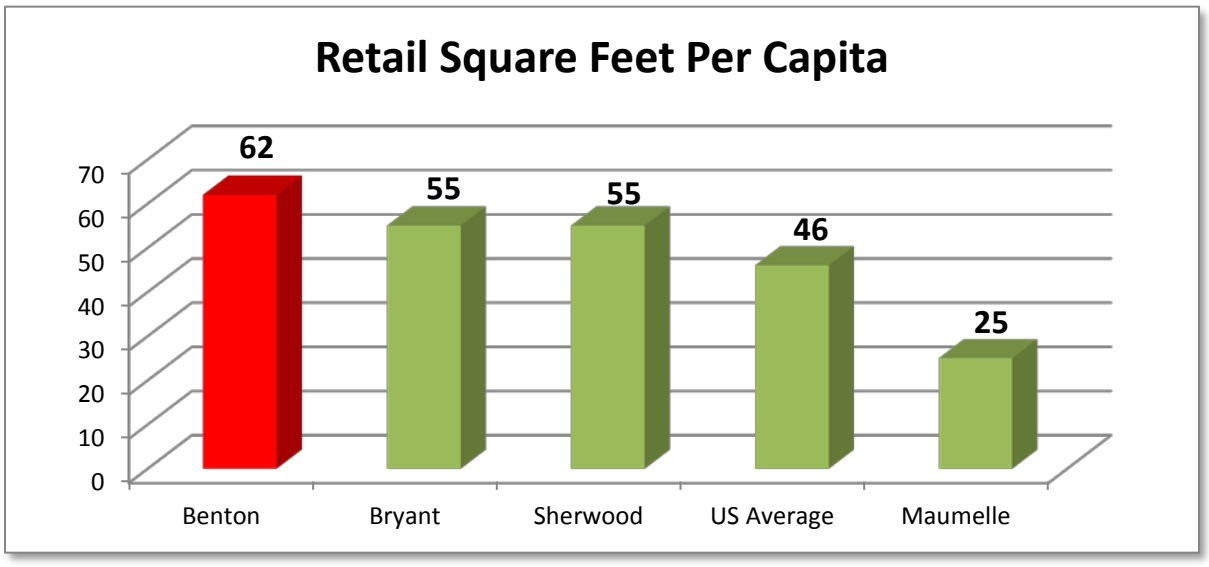


Table 31. Retail square feet per capita select cities.

Table 31 compares the approximate amount of retail square footage per capita for several areas. A comparison of retail square footage for all Central Arkansas cities was not possible; however Benton's existing ratio of 62 retail square foot is slightly higher than Sherwood's and Bryant's ratio of 55 retail square feet per capita and is over double Maumelle's ratio of retail square footage per capita. Benton's retail space is also significantly higher than the national average of 46 retail square feet per capita, which itself is already quite inflated, as the United States now has five times as much retail square footage per capita as the next highest country.[24] Note that comparing the retail square footage between cities can be problematic as not all space built for retail purposes ends up being used for retail, and some buildings that include retail space also are used for onsite storage or manufacturing space. These numbers exclude car dealerships, and warehouses or light manufacturing buildings which might have a small retail component. Because of Benton's high ratio of retail to population, a high rate of growth in retail employment may be unrealistic and new retail developments though potentially commercially successful, would largely be taking customers from existing retailers.

The second largest employment sector in Benton is health care which accounts for approximately 20% of Benton's jobs. The percentage of workers employed in this sector in Benton is comparable to the regional average. The healthcare sector has been the fastest growing employment sector nationally over the period 2010 through 2014. However, potential changes to health care laws make it difficult to project future trends in health care employment. Another economic benefit of having a high percentage of local employment in the health care sector is that on average wages are higher for healthcare workers than for workers in many other employment sectors. The presence of the 177 bed Saline Memorial Hospital gives Benton a strong advantage in attracting health service providers. With the closing of the Southwest Medical Center in 2008, the nearest comparable hospital facilities are in west Little Rock, making Saline Memorial the closest hospital facility for approximately 80,000 people.

The third largest employment sector in Benton is the education sector, in which 14.2% of Benton workers are employed. Education, which has a location quotient of 1.63, makes up a significantly larger percentage of Benton's employment than the regional average. The majority of these jobs are with the Benton School District and at Hurricane Creek Elementary school in the Bryant School District. Due to a growing population of school age children in Benton in recent years, employment in the education sector should remain stable in the future. ACS data shows an increase of over 1,000 in the number of children age 19 or under in Benton between 2010 and 2014. Additional employment in the education sector is at the UALR Benton Center, which could potentially benefit from a growing college age population in Benton.

Accommodation and food service is the final sector in which a large percentage of Benton workers are employed. Over thirteen percent of Benton workers are employed in accommodation and food service, which is a significantly higher percentage than the regional average of 7.4%. Similarly to retail employment, jobs in the accommodations and food service sector tend to be lower paying compared to other industry sectors. However, unlike the retail sector, employment in accommodations and food service should not have to contend with online competition. However, the recent construction of multiple new hotels in close proximity to Benton in Bryant at Interstate 30 and Highway 183 will potentially negatively impact older accommodations in Benton, by capturing a large percentage of hotels stays from those traveling through the region. Aging accommodations are increasingly less competitive as travelers can now easily compare all accommodations available within a region using a variety of online apps. These travelers may pass by accommodations viewed as older or less desirable for newer hotels a short drive up Interstate 30. Benton food service employment may also face competition from new fast casual and full service

restaurants along the Interstate 30 corridor, including those near the new retail center at Interstate 30 and Otter Creek, and at Highway 183 and Interstate 30.

Several important industry sectors are underrepresented in Benton when compared to regional averages, including information, scientific technical services, and finance and insurance. Information related employment accounts for less than 1 percent of Benton jobs while the regional average is over 3 percent. Information is one of the fastest growing and highest paying industry sectors. High paying scientific technical service jobs and finance and insurance jobs also are underrepresented in Benton as compared to regional and national averages. These sectors are not as dependent on proximity to natural resources, proximity to parts suppliers, and with proximity to consumers markets as some other sectors. This relative flexibility in location for these industries has allowed cities and regions across the country to compete for these employers. One

Sunset Lake, Benton. Parks are a key component of a city's quality of life.

of the key selling points of many communities competing for these employers is the quality of life of their community. Considerations such as having a compact, walkable and vibrant downtown, neighborhoods with a sense of place, and having nice parks and trails have become key selling points in promoting a community to an information sector employer. In addition to having an educated and skilled workforce these quality of life issues are increasingly important in attracting the high paying jobs of the future.

New development and businesses in Springdale, AR catering to Razorback Trail users.

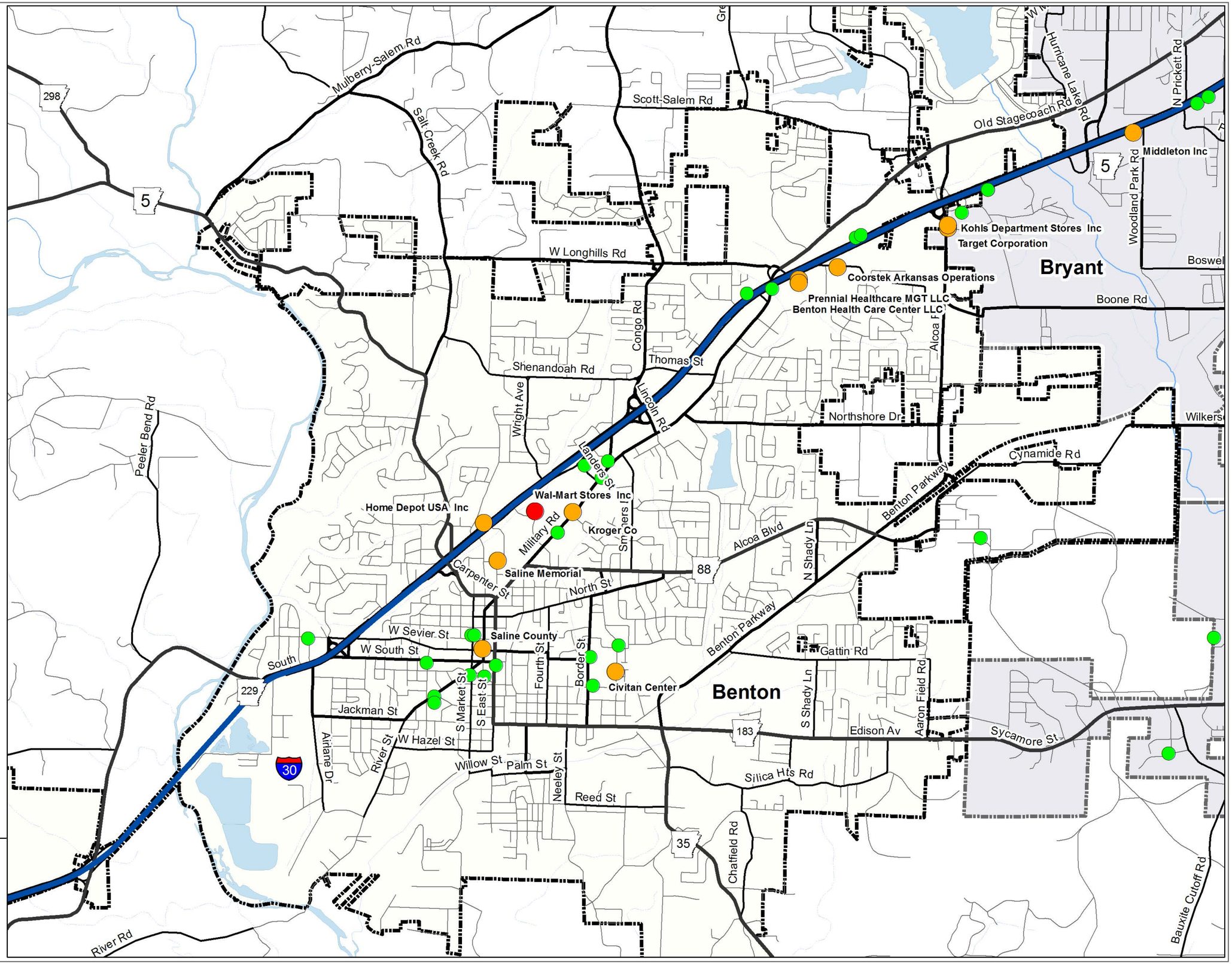
Bicycling facilities such as off road path and bike lanes are now viewed as an essential part of making a city more livable and are concrete way communities can promote itself to employers and may have additional potential economic development benefits. Little Rock and North Little Rock have seen an increase in recreational bicycling since the completion of the Big Dam Bridge and the Arkansas River Trail. The Big Dam Bridge was used an estimated 9 million times in its first ten years of use. Bicycle tourism is now occurring to some extent in Central Arkansas as a result of the River Trail, however measuring the exact economic impact of bicycle facilities is difficult. Northwest Arkansas cities are also seeing new businesses locating next to the recently completed Razorback Greenway. The most significant economic impact of these trails may not be attracting out of town visitors to use bicycle facilities but in potentially attracting new residents or businesses to the city.

MAP 32
DISTRIBUTION OF MAJOR EMPLOYERS

Employees

- 50 - 99
- 100 - 199
- 200 - 300

Source: Dun and Bradstreet Data
Metroplan GIS



0 0.35 0.7 1.05 1.4
Miles

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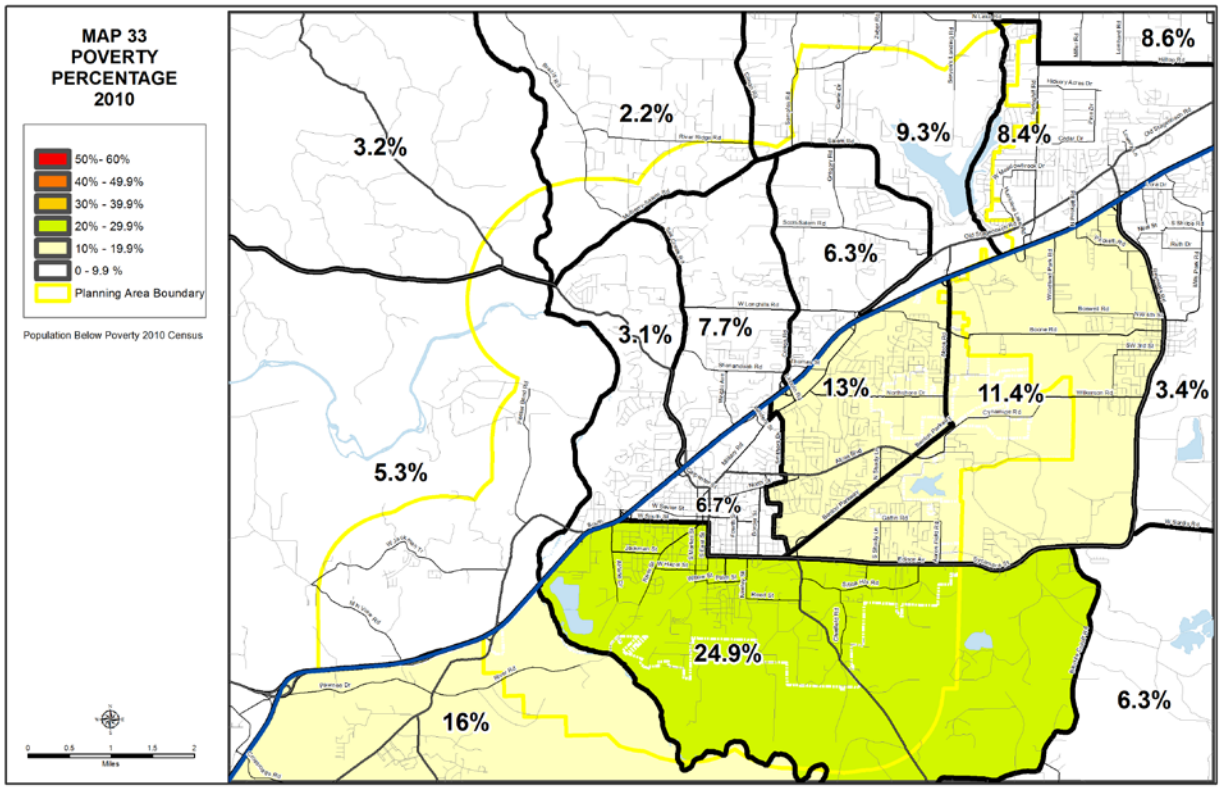
Map 32 shows the location of the largest employers in Benton. The largest employment concentrations in Benton are along Military Road, the I-30 corridor, and in and around downtown Benton. Table 32 lists the largest employers in Benton as of 2010. The largest individual employers are retailers, restaurants, schools, car dealerships, and the city of Benton and Saline County.

Commuting flows, discussed in the commuting patterns section of this study, show that a majority of Benton residents are employed in Pulaski County. Keeping a larger percentage of these workers in Benton by attracting additional employers to Benton is one key to economic development. There are many strategies and ideas about how to do this. However, it is beyond the scope of this study to review all the various factors relevant to economic development and the many strategies that have been employed to strengthen a local economy. The key point of this economic development section is that a well thought out comprehensive plan, and ordinances to implement that plan, can promote economic development by encouraging development patterns that enhance Benton's quality of life and can potentially attract new residents, new investment, and new employers to the city.

Business Name	Description	Employment 2010
Wal-Mart Stores	Discount Department Stores	300
Civitan Center	Developmental Services	150
County of Saline	General Medical and Surgical Hospitals	133
Coorstek Arkansas Operations	Porcelain Electrical Supply Manufacturing	125
Kroger Co	Grocery Store	113
Kohls Department Stores	Department Store	112
Saline County Court	Courts	100
Benton Health Care Center	Nursing Care Facilities	100
Prennial Healthcare MGT	Nursing Care Facilities	100
Home Depot USA	Home Centers	100
First Baptist Church	Religious Organizations	99
Benton School District	Elementary and Secondary Schools	99
City of Benton Police	Police Protection	85
Benton High School	Elementary and Secondary Schools	85
Coltons Restaurant Group	Restaurant	80
W S Benton LLC	Restaurant	76
Landers Chevrolet	New Car Dealers	75
David Hull	Restaurant	73
Chilis	Restaurant	70
Elliott Electrical	Electrical Contractors	70
Landers Auto Group	New Car Dealers	70
Hilbilt Sales Corp - Arkansas	New Car Dealers	70
Crain Ford Lincoln Mercury	New Car Dealers	70

Sutherland Lumber-Southwest	Home Centers	65
Saline County	Government Offices	60
Everett Buick Pontiac GMC	New Car Dealers	58
Sutherland Lumber & HM Ctr	All Other Personal Services	55
Benton High School	Elementary and Secondary Schools	55
Hilbilt Mfg Co	Truck Trailer Manufacturing	55
City of Benton	Fire Protection	51
Almatis Inc	Basic Inorganic Chemical Manufacturing	50
United States Postal Service	Postal Service	50
Ringgold Elementary School	Elementary and Secondary Schools	50
Angie Grant Elementary	Elementary and Secondary Schools	50
Horizon Publications	Newspaper Publishers	50
Caldwell Elementary School	Elementary and Secondary Schools	50
Salem Elementary School	Elementary and Secondary Schools	50

Table 32. Largest employers in Benton 2010. Source Dunn and Bradstreet



Map 3. Poverty percentage by census tract. Source 2010 Census SF3 dat

Conclusion

This Planning Study Report attempts to provide planning and development related information to assist in the preparation of an updated Benton Comprehensive Plan and fulfills the requirement that suitable studies be conducted prior to the preparation of that plan. The 2008 Benton Comprehensive Plan presented a strong vision for the city of Benton and provided essential guidance on how the city should achieve that vision through an updated land use plan, master street plan, and community facilities plans. However, in the relatively short time since this plan was adopted significant shifts in development patterns, commuting patterns, and municipal planning have occurred both nationally and regionally. To some extent these shifts were brought on by the changing values and expectations of a new generation of home seekers and an older generation of empty nesters. The suburban development pattern that dominated the last half of the twenty century across the country and across Central Arkansas is beginning to shift. This new paradigm that is emerging was in part brought on by the housing crisis of 2008, which reached its peak just after the adoption of the 2008 Benton Comprehensive Plan. The 2008 housing crisis and subsequent shifts in home buying patterns and commuting patterns are having lasting impacts on communities, and require a reassessment of plans that were adopted before these trends were so pronounced.

Historically, perceptions about the quality of school districts has strongly influenced where people have chosen to live in Central Arkansas. Specifically, school districts have led many to choose to live in a county different than where their employment is located. This has contributed to the growth of Benton, as well as many other cities in Central Arkansas. School districts will likely continue to drive housing choices to some extent in this region for the foreseeable future. However, additional factors such as quality of life and housing choice may begin to play a more important role in the decision on where someone lives in Central Arkansas.

Cities in Central Arkansas are competing to some extent for new residents and factors other than schools may begin to have a stronger influence on where people choose to live in the future. Many new residents of cites Central Arkansas have been and will continue to be families choosing where to live primarily based on home cost and school district considerations. However, others such as an aging population of empty nesters and young adults without children are beginning to choose where to live differently than they might have in the past. A large house and yard are not as important as they might once have been. Surveys indicate that many now consider walkability as more important than home size, and this is particularly true for Millennials. This is significant as this is the generation that is coming of age and deciding where they will live. There has been much news in recent years concerning the growth of more urban cities which had been declining in population for many decades while suburban communities grew. The growth of these more urban places has been contributed in part to Millennials choosing to move to more walkable mixed use areas from the suburban auto dependent communities they grew up in. Additionally the growing population of empty nesters can now downsize and often prefer to have less lawn and home maintenance, and as they age may have more mobility if they live in a compact walkable community that does not require driving to all destinations.

The shift in preferences to more compact walkable mixed use development from the conventional development patterns that were predominant in most cities in the country coincides with a shift in planning that has been occurring over the last decade or more. Planners now put increasing emphasis on encouraging compact walkable mixed use development and less on separating land uses, providing abundant parking, and ensuring lower density through large building setbacks and minimum lot sizes. This shift is in part due to a realization that current development patterns are not sustainable. Costs to maintain infrastructure and provide city services are higher for conventional suburban development than they are for more compact walkable mixed use development. These include costs to provide and to maintain streets, water lines, sewer lines, electric lines, and to provide fire and police protection, and sanitation services. While the initial costs to the city are largely born by developers, the additional costs of less compact development become more of financial burden to the city as subdivisions age. Additionally, as low density conventional suburban development becomes more spread out vehicle miles travelled increases. This has impacts to air quality, congestion, and to the transportation and time costs of commuters.

The 2008 Comprehensive Plan addressed to some extent the need for cities to adopt policies ad plans which encourage smarter growth. However, the trends seen since the adoption of that plan clarify the need for the new plan to emphasize smart compact walkable mixed use development. This type of development, which is not adequately provided in our region to meet future demand:

- is desired by a growing percentage of the population
- allows for housing choice
- decreases the costs of providing city services, such as sanitation, fire, and police
- decreases the costs of providing and maintaining road, water, sewer, and electric infrastructure
- is better for air quality
- reduces urban heat island effect
- decreases congestion, vehicle miles driven, and total delay
- allows for transportation choices
- makes future transit service feasible
- decreases commuting times
- contributes to community health by encouraging more active lifestyles
- encourages infill development
- enhances sense of place
- contributes to downtown redevelopment
- contributes to the local economy by potentially attracting new residents and businesses
- allows Benton to compete with other regional cities that are beginning to promote walkable, compact mixed use development
- enhances sense of place

Findings and Recommendations

Many additional elements could have been considered in this study. However, time considerations prevent and in depth analysis of every factor that could potentially impact future growth and development in Benton. Many of the data presented in the 2006 Planning Study remain relevant, however many trends that are now mpacting development and municipal planning were just emerging in 2006. A primary focus of this study is to look at some of these trends that are impacting development nationally and in our region and should be considered in the development of a new Comprehensive Plan. Specific recommendations of this study include:

1. Due to changes in housing and commuting trends, changing best practices in planning, and the reduction in size of the Benton Planning area it is recommended that Benton complete a new Comprehensive Plan.
2. Most goals and objectives from the 2008 Comprehensive plan are likely still valid and have community support, but some need to be reevaluated
3. The goals and objectives can be streamlined to more concisely address elements the plan will have the most impact on.
4. Community input should be used to reevaluate the goals.
5. Community input for the plan should utilize the internet to maximize reach and ease of participation
6. Inexpensive\free online polling sites can be used to verify support for new goals and check support for some previous goals from the 2008 plan which many need to be revisited
7. The Benton website be used to direct people to the poll
8. Information can be included with mailed utility bills that can raise awareness of comprehensive plan update process and direct residents to the online polling
9. In order for the updated plan to be made more usable as a guide to city departments, the planning commission, city council, developers, and the public it should be concise and highly graphic.
10. The Comprehensive Plan should reflect the reduction in size of the Benton Planning Area from the previous plan in its master street plan map and land use plan map
11. The plan should focus on encouraging compact walkable mixed use development
12. In addition to encouraging compact walkable development The plan should recognize the need and demand for more conventional suburban development in certain areas in order to provide housing choice that is competitive with other cities in the current and future housing markets.
13. The land use plan should be more general in nature and identify areas where more compact walkable development is appropriate and areas where more conventional suburban development is appropriate
14. Use categories should be specific with regards to the nature of development that is appropriate. For example is a commercial node identified on the map an auto oriented commercial node at a higher speed arterial crossroads in the planning area or a walkable commercial node at a collector intersection near a neighborhood in the city limits.
15. The pedestrian and bicycle recommendations from the recently completed Pedestrian and Bicycle Plan should be included as an element of the plan as may be revised.

16. The Bicycle and Pedestrian Plan is heavily weighted towards more expensive and time consuming to construct off road paths. The plan should be assessed for opportunities to add bike lanes to existing facilities in lieu of side paths where possible, when planned facilities are following road rights of way.
17. Bicycle facilities are increasingly viewed as a catalyst to economic development. Benton has one of the premier regional greenway opportunities along the Saline River. This greenway alone could have significant impact for the city and should be emphasized as well as the Southwest Trail as top priorities in the plan.
18. Building form needs to be at least an equal consideration to "use" in planning new development in the city, but is not currently addressed in the adopted zoning.
19. Benton has advantages in built form to many other cities in Central Arkansas. The walkable built form of downtown Benton provides a strong sense of place to the community and it is essential that this built form be preserved an enhanced in order for the Benton to achieve many of the goals of the 2008 plan. (e.g. attract knowledge sector employers, tourists)
20. Benton should encourage use of liner buildings for big box retail and allow more walkable mixed use infill development along Military to ensure the economic vitality of this corridor.
21. Many examples can be found of simple design solutions that allow big box stores, drive thru businesses, gas stations and other traditionally auto oriented development to be more walkable and contribute to a commercial corridor's sense of place. The comprehensive plan should provide some of these examples in order to better present a vision of the type of development that is most desired by the community.
22. The city should aim to allow multi-family in smaller buildings dispersed in different areas of the city rather than allowing very large multi-family rental complexes and/or concentrating all multi-family in one area of the city.
23. Multi-Family housing has grown significantly regionally and nationally in recent years and will continue to be an essential part of the housing market in the future that should not be underserved.
24. Approving all new multi-family projects as planned unit developments as recommended in the last plan is not ideal and has not produced the desired results from the 2008 plan of a dispersed pattern of multi-family housing. This goal should be reassessed.
25. The draft zoning ordinance can serve as a basis to implement the land use plan and implements many of the form based zoning ideas that are essential to helping Benton achieve the plan's vision.
26. Some goals from the 2008 plan may be inconsistent, such as those limiting multi-family housing and those encouraging affordable housing. The goals should be reassessed to ensure they are consistent.
27. Evaluation of pedestrian car crash locations did not identify any particular sidewalk network deficiency leading to safety issues, however significant gaps in the sidewalk network exist along collector and arterial roads in heavily populated areas of the city that prevent pedestrians from safely reaching nearby destinations such as commercial areas, schools, and parks. The plan should prioritize those gaps in the network and present a strategy to close them.

28. Riverside Park is a major community amenity; however even with this park's opening Benton will remain below other Central Arkansas cities in providing park space for citizens. A small and decreasing percentage of Benton residents live within a half of a city park due to population growth in eastern and northern areas of the city which lack park facilities.
29. Identify open space and park sites in the underserved and fastest growing northern and eastern areas of the city
30. The construction of Benton fire station number 5 should enhance emergency response time for much of northeastern Benton, however the area due north of Hurricane Lake will remain a significant distance from fire station #5. The impact this may have on Benton PPC ratings is not known but may warrant consideration in evaluating development in this area.
31. The master street plan road way cross-sections should be updated. The CARTS design Standards can be incorporated into the master street plan.
32. The 2008 Benton Master Street Plan shows six proposed Saline River crossing. The feasibility and need for this many crossings should be evaluated.
33. The network of proposed arterials and collectors on the master street plan should be reevaluated. The 2008 master street plan may have an excess of planned collectors and arterials in areas more distant from the city limits in the Benton Planning Area, while additional collectors are needed to enhance connectivity between neighborhoods within the city and within the one mile planning area.
34. Benton should incorporate a complete street policy into the master street plan component of the plan, so that all future s streets are built with all road users in mind.
35. Areas that could be suitable for transit oriented development in the future should be identified that would be compatible with future bus rapid transit or other potential express transit service to Little Rock employment centers.
36. Benton's workforce is more heavily concentrated in four employment sectors: retail, hotel and food service, education, and health care than is the regional average. Diversifying the economy by attracting high paying and fast growing information sector employment should be an economic development strategy for the city.
37. Benton has more retail square footage per capital than the national average and has a high location quotient in the retail sector. For Benton to remain competitive as a retail destination for surrounding areas, new retail formats, should be encouraged that move away from auto-oriented strip shopping centers. The national trend in shopping centers is to move away from strip shopping centers and concentrate on enhancing the shoppers pedestrian experience.
38. Enhancing the built environment, creating a strong sense of place, redeveloping downtown into a vibrant mixed use neighborhood, developing a greenway network, and adding new park space can all help Benton compete for knowledge/information sector employment. This growing and high paying employment sector has factored in quality of life considerations more so than many other employment sectors.

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