Evaluation of
Urban Village Land Use Scenarios

DRAFT REPORT for:

Urban Village Focus Group Meeting, April 30, 2007
And
Urban Village Subcommittee Meeting May 2, 2007

Prepared by Urban Village Planning Team

April 24, 2007

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PURPOSE OF THE REPORT

The Metropolitan Transportation Planning Organization (MTPO) has directed Alachua County, the City of Gainesville, and the University of Florida staff to develop proposals and action items to implement the Urban Village: SW 20th Avenue Transportation Design Proposal, a planning document which was accepted by the MTPO on May 2, 2006.

The purpose of this report is to evaluate four generalized land use scenarios for the "Urban Village"/SW 20th Avenue study area, which would implement the Urban Village: SW 20th Avenue Transportation Design Proposal. At the February 28, 2007 Urban Village Subcommittee Meeting, the Subcommittee asked staff to provide factual information about the various impacts of the proposed land use scenarios to assist them in recommending a preferred land use scenario for the study area. Upon recommendation by the Subcommittee of a preferred land use scenario, staff will begin to develop more detailed planning strategies to implement the generalized concept of land use and density that is recommended by the Subcommittee.

DESCRIPTION OF LAND USE SCENARIOS

The four land use scenarios identified in this report address generalized issues of land use and density for the Urban Village. The four scenarios that are evaluated in this report are: the No-Change Scenario (adopted land use), Core Park Plan, Activity Node Plan, and Density Maximization Plan. These scenarios are described in detail in Section III. The Table below highlights the buildout conditions for each of the scenarios.

Summary of Buildout Conditions for Land Use Scenarios

Scenario	Dwelling Units	Average Residential Density	Population	Non-Residential Floor Area	Employment
No-Change (adopted land use)	5,577	18 du/ac	11,154	272,500	600
Core Park	5,686	20 du/ac	11,371	437,205	963
Activity Node	15,310	50 du/ac	30,619	1,172,410	2,578
Density Maximization	30,625	100 du/ac	61,250	1,172,410	2,578

IMPACTS OF LAND USE SCENARIOS

- The land use scenarios described in this report would have a planning horizon of 2050. The population of Alachua County is estimated to grow by about 131,000 people by the Year 2050 (see Section IV). Two of the scenarios being considered, the Activity Node and Density Maximization Plans, would provide for a significantly higher population in the Urban Village area than is currently anticipated under existing City and County Comprehensive Plans. The Activity Node and Density Maximization Plans would therefore absorb a much greater percentage of the County's future population growth in the Urban Village area than the No Change Scenario (adopted land use) or the Core Park Plan. A key issue in the evaluation of the four land use scenarios is what percentage of the County's future growth can be reasonably expected or is desired to occur in the Urban Village area (see page 23).

- It is uncertain whether the Urban Village concept would result in a re-allocation of future population growth from other areas of the County to the Urban Village, or if it would result in new residents being attracted to Alachua County from outside the County. The establishment of a unique Urban Village has the potential to attract new residents to Alachua County, which may increase the expected rate of future population growth. At the same time, the establishment of this Urban Village also has the potential to re-allocate some percentage of the County's future population growth into the study area, and possibly away from other locations within the County. The degree to which either of these scenarios will occur is uncertain without the benefit of a more detailed scientific analysis of the population dynamics of the four land use scenarios.

- Automobile traffic congestion is a critical issue for the Urban Village area. All of the scenarios will result in roads which fall below adopted level of service standards. Higher population and density will add more automobile trips to the roadway network and reduce travel speeds on the roads. In order to implement a higher density land use scenario for the study area, alternative solutions to transportation concurrency will be necessary.

- A key finding in the transportation analysis is that the percentage of automobile trips (as a percentage of total trips of all travel modes) on the roadway network decreases while the percentage of transit and bicycle/pedestrian trips increases, when residential density and land use diversity are increased. This "mode share" for transit and bicycle/pedestrian modes increases in a higher density mixed use environment. The mode share percentages, however, remain constant when residential density reaches an average of 60 units per acre. Despite the increase in transit and bicycle/pedestrian mode share that result from higher density and land use diversity, the total number of automobile trips on the roadway network still increases as the population and density of the scenarios increase.

- The Urban Village contains significant natural resources. Hogtown Creek forms the north and west boundaries of the study area, and the wetlands surrounding the creek comprise about 139 acres of the total study area. Hogtown Creek is an "Impaired" water body as designated by the Florida Department of Environmental Protection (FDEP), and as such it has a Total Maximum Daily Load (TMDL) which limits the maximum amount of a pollutant that a water body can assimilate without causing further degradation of water quality. Special planning consideration will need to be given to the design standards used in development adjacent to or near Hogtown Creek. For example, Low Impact Development (LID) stormwater practices should be considered for higher density sites near the creek (see Section XII).

- The Urban Village Study Area also contains small portions of the 1,782-acre Hogtown Prairie-Sugarfoot site identified in the *Alachua County Ecological Inventory Project* (KBN Study) (KBN 1996). The KBN study ranks this site 3rd out of 47 projects evaluated in the county, and categorizes is ecological value as high. This site runs along the north and west edges of the Urban Village study area. The Hogtown Prairie-Sugarfoot site is designated as a Strategic Ecosystem in the Alachua County Comprehensive Plan, which requires the County to preserve, conserve, enhance, and manage the ecological integrity of Strategic Ecosystems, as determined through ground-truthing using the KBN report as a guide. A special area plan is required to establish specific guidelines for Strategic Ecosystems prior to approval of land use changes, zoning changes, or development approvals within these areas.

- Gainesville Regional Utilities (GRU) has indicated that they do not anticipate any deficiencies in the provision of potable water and sanitary sewer service resulting from any of the proposed land use scenarios through the planning horizon of 2050. The levels of service adopted in the City and County Comprehensive Plans should continue to be met under each scenario.

- According to current public school capacity and enrollment figures provided by the School Board of Alachua County, there may be deficiencies in public school capacity resulting from all of the proposed land use scenarios (including the adopted land use). The assigned elementary and high schools for the study area are currently above the permanent student capacity, while the assigned middle school is currently at 85% of the permanent student capacity. There are proposed new school facilities and sites identified in the Tentative Facilities Work Program for the School District. These new sites may relieve capacity issues to some degree, although these planned facilities do not take into account the significant population increase that would result from the Activity Node or Density Maximization Plans. If either of these plans is recommended by the Subcommittee, there will need to be extensive coordination with the School Board regarding school capacity issues.

- Recreation levels of service will be impacted by the proposed land use scenarios. Alachua County currently meets its adopted level of service standards for recreation. The County, however, may fall below its adopted standard for improved resource based and activity-based recreation in the near future, based on currently anticipated population growth. The additional population growth resulting from the Activity Node and Density Maximization Plans could magnify the future level of service deficiencies. The addition of certain lands that have been acquired by Alachua County through the Alachua County Forever land conservation initiative are expected to be made publicly accessible and may be counted toward the resource-based level of service. It is unsure at this time how many acres of Alachua County Forever lands may be counted toward the improved resource-based recreation total, but these additional lands, in part, are anticipated to serve the recreation needs of future population growth in the area.

- The City of Gainesville currently meets its minimum level of service standards for recreation. The City would, however, fall below the adopted levels of service for several recreational facilities and park acreage under the Activity Node and Density Maximization Plans. New recreational facilities may need to be added to the system to serve the new population resulting from these two scenarios.

- Public safety levels of service are expected to continue to be met under all land use scenarios, however, the Activity Node Plan and Density Maximization Plan could result in taller buildings than are currently found in most parts of Alachua County. Fire equipment needs may need to be further evaluated in the next stages of this process in order to ensure that the fire rescue service needs can be met for the preferred land use scenario.

- The Activity Node and Density Maximization Plans could result in the development of unique housing options in the Urban Village area. The maximum residential densities proposed under the No-Change Scenario (1 to 24 units/acre) and Core Park Plan (also 1 to 24 units/acre) would likely result in a mix of multi-family and single-family attached housing unit types. The maximum residential densities proposed under the Activity Node Plan (40 to 75 units/acre) and Density Maximization Plan (80 to 150 units/acre) would result in predominantly vertical multi-family housing unit types. Higher density development can potentially be more affordable than lower density development because more dwelling units are placed on a parcel of land, although after a point, higher density housing can become more costly to build due to greater construction and engineering requirements.

SUMMARY

Of the four proposed land use scenarios, two of them, the No-Change Scenario and Core Park Plan, are not significantly different than the existing condition. The No-Change Scenario and Core Park Plan feature suburban-type residential densities, which are characteristic of existing development in the area. The Activity Node Plan and Density Maximization Plan provide for significantly higher residential density and population

than the other two scenarios. Regardless of which scenario is recommended by the Subcommittee, there will be implementation challenges, particularly in the area of transportation concurrency. The development of a concurrency solution for the area will be one of the major implementation tasks for any of the scenarios. The Activity Node Plan and Density Maximization Plan will also present additional challenges in terms of maintaining the adopted levels of service for various City and County services and infrastructure. The Activity Node Plan and Density Maximization Plan will also require the development of a unique set of development design standards that are oriented more toward a higher density urban area.

Impacts of Land Use Scenarios

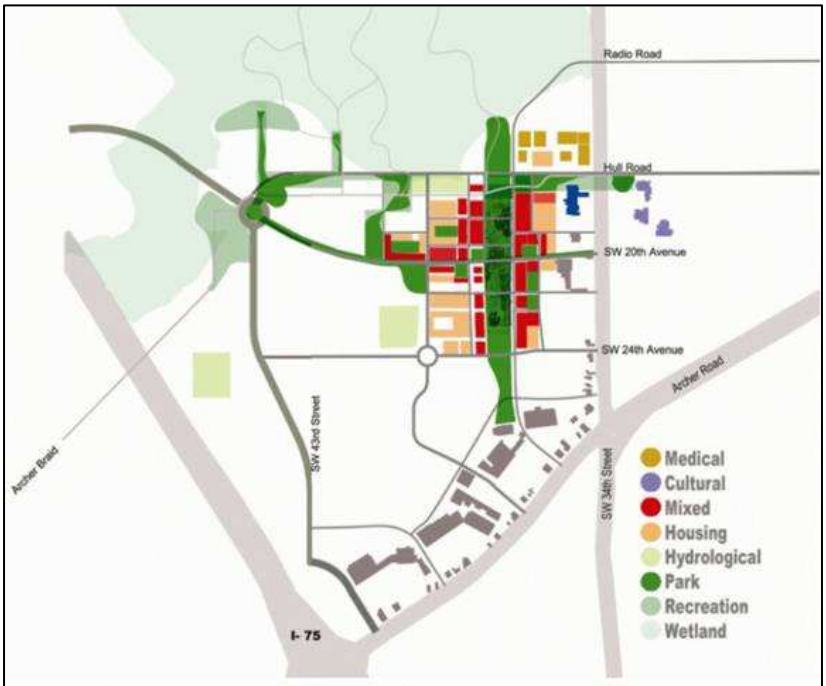
I. INTRODUCTION AND BACKGROUND

Alachua County, the City of Gainesville, and the University of Florida have received direction from the Metropolitan Transportation Planning Organization for the Gainesville Urbanized Area (MTPO) to develop proposals and action items to implement the Urban Village: SW 20th Avenue Transportation Design Proposal which was accepted by the MTPO on May 2, 2006. The Urban Village: SW 20th Avenue Transportation Design Proposal is a plan developed by the University of Florida School Of Architecture in collaboration with the MTPO with the following primary goals:

- Develop transportation strategies that reduce automobile congestion, enhance multi-modal connectivity, local walkability, cycling and transit.
- Promote mixed use development, urban density morphologies and mixed demographic opportunities
- Advance design innovation, sustainability, and economy through integrated design.

The Plan contains various recommendations relating to land use, transportation, and urban design, among other items. In August 2006, staff from Alachua County, the City of Gainesville, and University of Florida began a process to develop the requested action items to implement the Urban Village: SW 20th Avenue Transportation Design Proposal.

Figure 1. Land Use Vision from Urban Village: SW 20th Avenue Transportation Design Proposal



(School of Architecture, University of Florida, 2006)

An Urban Village Subcommittee was appointed, consisting of two County Commissioners, two City Commissioners and the University of Florida MTPO member. The Subcommittee's task is to oversee the implementation of the Urban Village: SW 20th Avenue Transportation Design Proposal through joint planning by Alachua County, the City of Gainesville, and University of Florida. A Focus Group, consisting of representatives from the Gainesville Chamber of Commerce, Gainesville Home Builders Association, Florida Department of Transportation, Florida Community Design Center, and other interested stakeholders and citizens was also appointed to assist the Subcommittee with this task. Staff assistance to the Subcommittee and Focus Group is provided by the Urban Village Planning Team, which consists of staff from Alachua County, the City of Gainesville, the MTPO, and the University of Florida Facilities Planning Division.

The Planning Team developed a Scope of Work for the project, which was presented to and approved by the Subcommittee on October 4, 2006. Key components of the approved Scope of Work are:

- Identification of a proposed "Study Area" and "Context Area"
- Inventory of Existing Conditions
- Development of conceptual Future Land Use scenarios
- Evaluating impacts of the Future Land Use scenarios (including traffic modeling by consultant)
- Selection of a preferred Future Land Use Scenario
- Development of Implementation Strategies and Concurrency Solutions
- Draft Comprehensive Plan Amendments (City and County)

Currently, the Planning Team is in the process of evaluating the impacts of the Future Land Use Scenarios (4th bullet point). The results of this evaluation are contained in this report. The next step in the process will be for the Subcommittee to review the report and recommend a preferred land use scenario for the Urban Village.

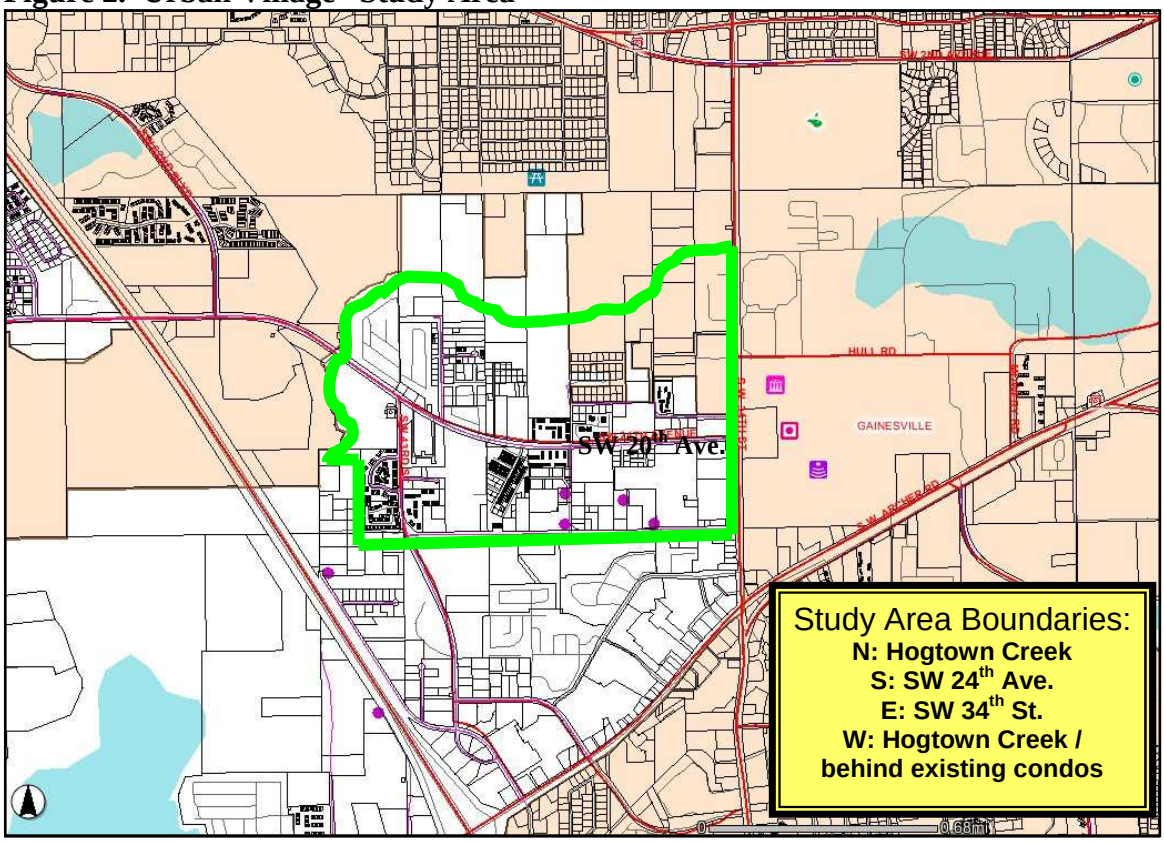
After the Subcommittee has recommended a preferred land use scenario, the Planning Team will begin to develop specific implementation strategies for this scenario. These strategies will include the development of draft land use and concurrency management approaches that will serve as a foundation for joint Comprehensive Plan amendments by the City and County. The implementation strategies will also include an urban design template for bicycle-pedestrian friendly, transit-oriented development and redevelopment considerations.

The draft implementation strategies will be presented to the Focus Group and Subcommittee around August or September of 2007. The Subcommittee will then make a recommendation to the MTPO, with a request to the MTPO for recommendations to the City and County Commission on joint Comprehensive Plan amendments for the Urban Village area. Following direction and authorization by the City and County Commissions, the Planning Team will initiate the necessary City and County Comprehensive Plan amendments, in coordination with FDOT and DCA.

II. STUDY AREA AND CONTEXT AREA

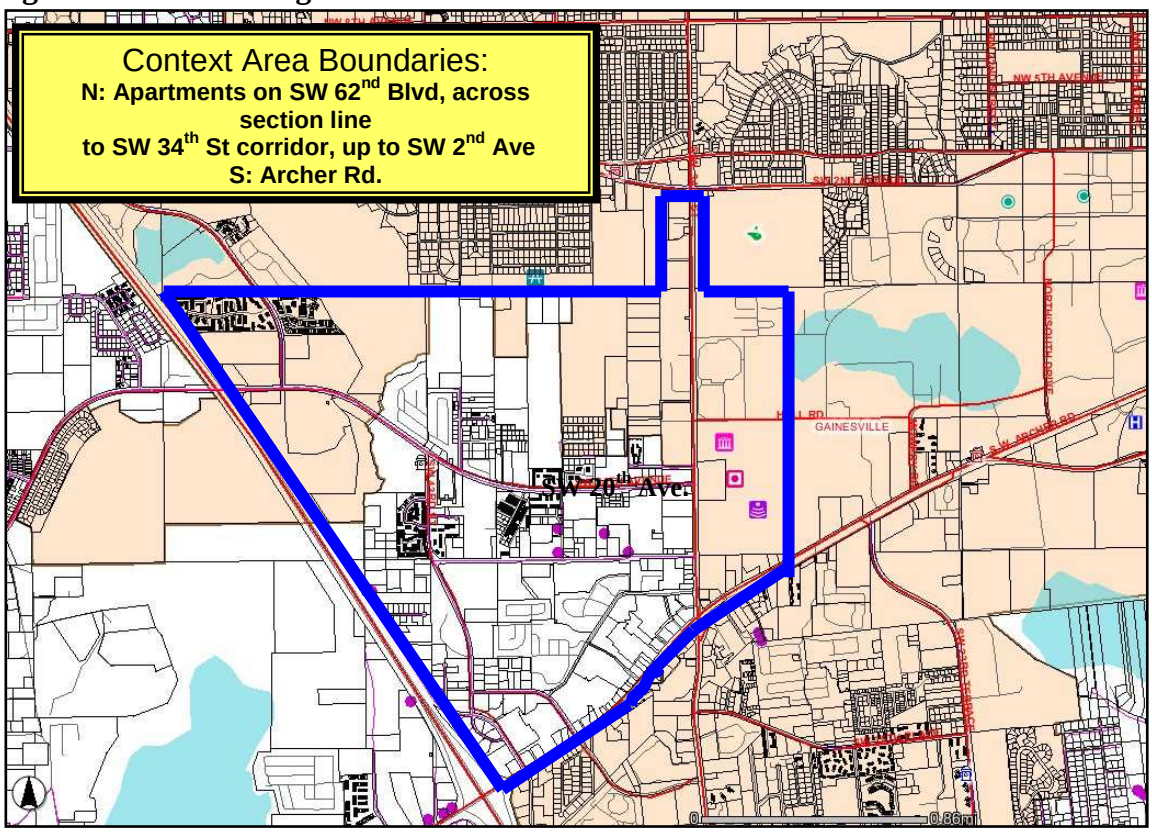
The Planning Team identified a "Study Area" (see Figure 2) which consists of about 500 acres that forms the core of the Urban Village. This area is generally bound by Hogtown Creek to the north, SW 24th Avenue to the south, SW 34th Street to the east, and Hogtown Creek/existing condominium development to the west. This is the area where land use changes and design standards could potentially be applied in order to implement the Urban Village concept.

Figure 2. Urban Village "Study Area"



The Planning Team also identified a "Context Area" (see Figure 3) which is a larger area surrounding the Study Area. The Context Area was identified primarily as an area where the transportation impacts of Study Area land use changes would be evaluated.

Figure 3. Urban Village Context Area



III. LAND USE SCENARIOS

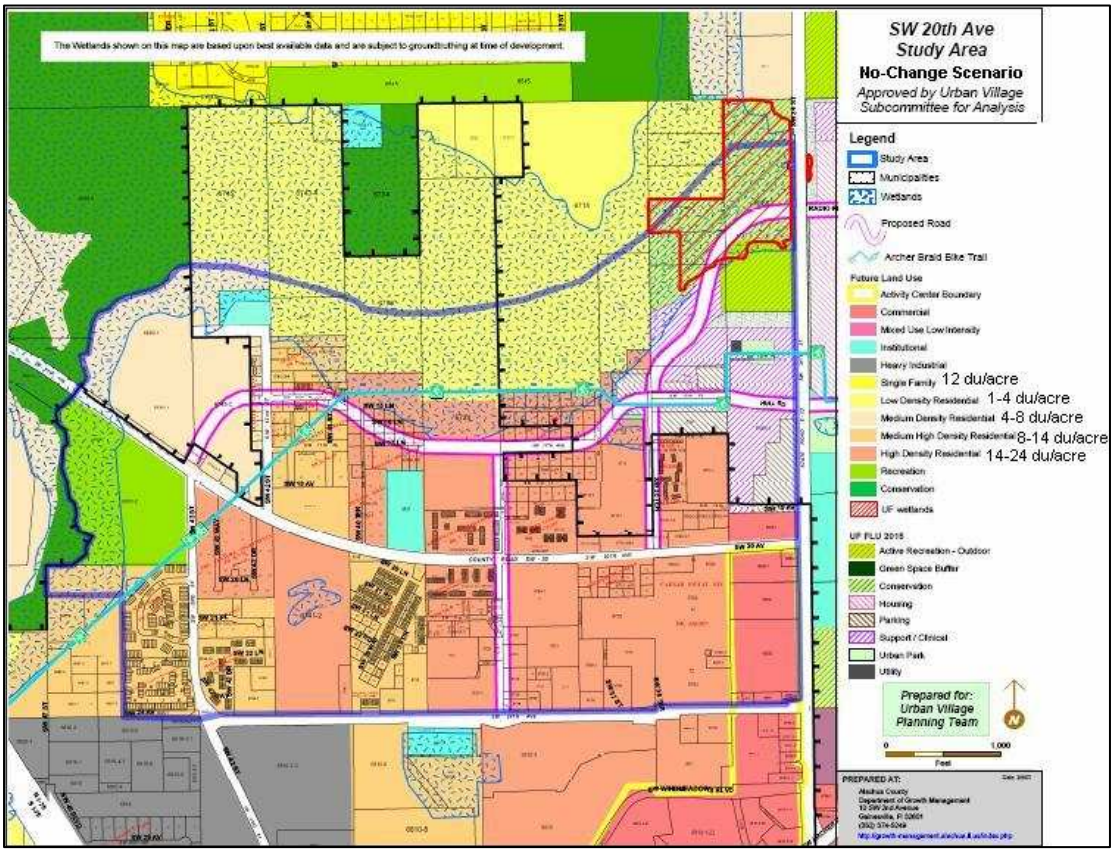
The Urban Village: SW 20th Avenue Transportation Design Proposal describes the Urban Village Concept as "a community of approximately 20,000 people at a density of approximately 120 per acre, who would not need an automobile." Using this statement as a guide, the Planning Team prepared four conceptual land use scenarios for the Urban Village area which were approved for evaluation by the Subcommittee on November 16, 2006. The scenarios are briefly described as follows.

No Change Scenario

The No-Change Scenario (see Figure 4) represents the currently adopted Future Land Use for the study area. This includes Future Land Use designations adopted in the City and County Comprehensive Plans and the University of Florida Master Plan. The No-Change scenario is included in this evaluation as a baseline condition for comparison to other scenarios. This scenario assumes the "Option M" transportation network will be in place at buildout, and that the transit level of service will remain the same as it is today.

The residential densities of the adopted Future Land Use categories range from a low of 1 to 4 units per acre to a high of 14 to 24 units per acre. The average residential density for the study area is 18 units per acre. There are also about 22 acres of Commercial land use located along SW 34th Street, which could potentially result in about 272,500 square feet of non-residential floor area.

Figure 4. No Change Scenario



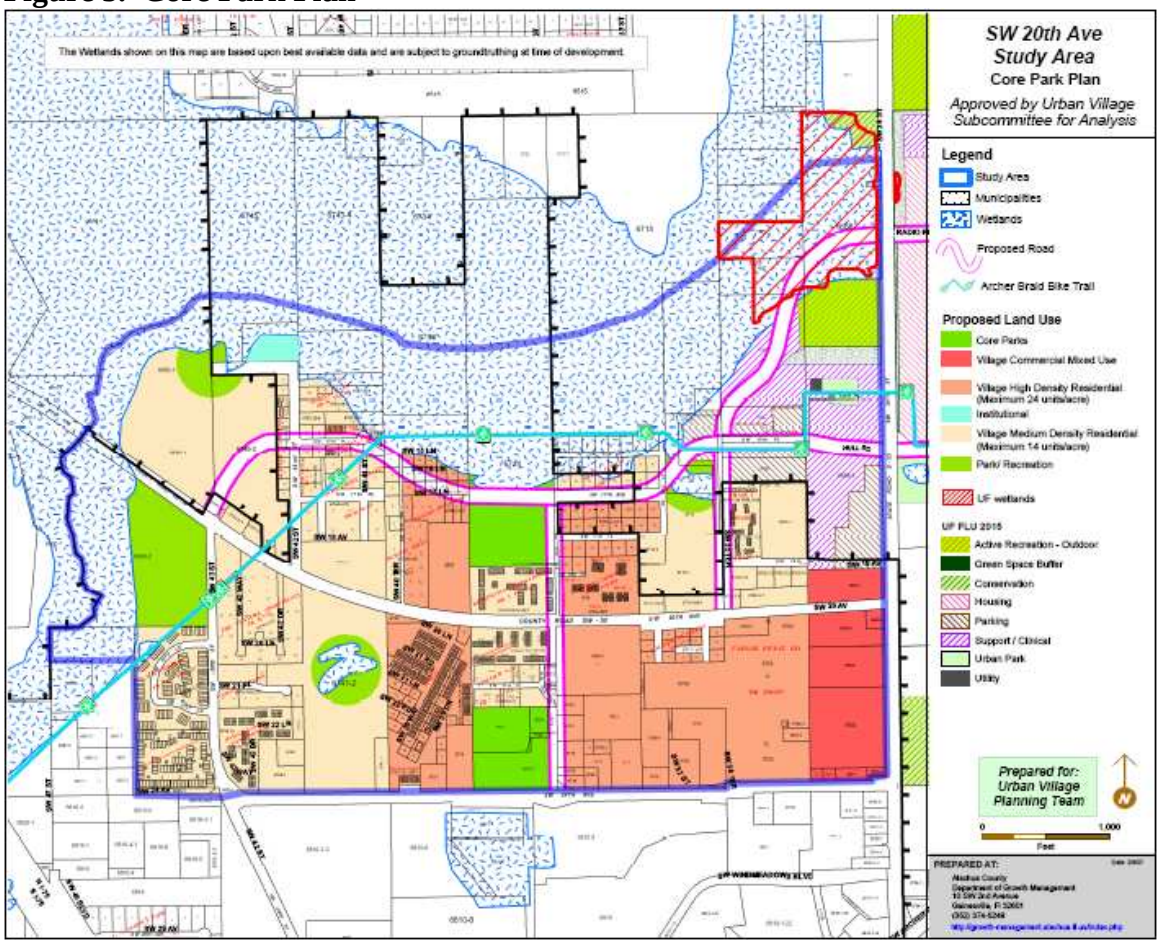
Core Park Plan

The Core Park Plan proposes similar residential densities to the No-Change Scenario, while also providing for designated mixed use and park areas. This Plan features large "core park" areas near the center of the Village and several smaller parks dispersed throughout the Village. The Core Park Plan assumes the "Option M" transportation network will be in place at buildout, and that the transit level of service will remain the same as it is today. This plan also assumes that parking will be restricted to one space per dwelling unit.

The maximum residential densities of the Core Park land use categories would range from a low of 14 units per acre to a high of 24 units per acre. The average residential density for the study area would be 20 units per acre. The Core Park Plan would accommodate a build out population of approximately 11,371. This Plan is similar in population and residential density to the No-Change Scenario, with the primary difference being that a similar population would be accommodated in a smaller land area due to the designated open space and park areas that would remain undeveloped. It should be noted that the park areas were assigned a residential density of 24 dwelling units per acre, with the idea that this density could be transferred to adjacent areas designated "Village High Density Residential."

The Core Park Plan would allow for an estimated 437,205 square feet of non-residential land uses in the study area. The total non-residential floor area was estimated using a ratio of 30 square feet of retail per person, and an office floor area equal to 25% of the estimated retail area. Most of the non-residential floor area would be located in the 22 acre "Village Commercial Mixed Use" area along SW 34th Street. A limited amount of non-residential would also be located within mixed use developments in the "Village High Density Residential" and "Village Medium Density Residential" land use categories.

Figure 5. Core Park Plan



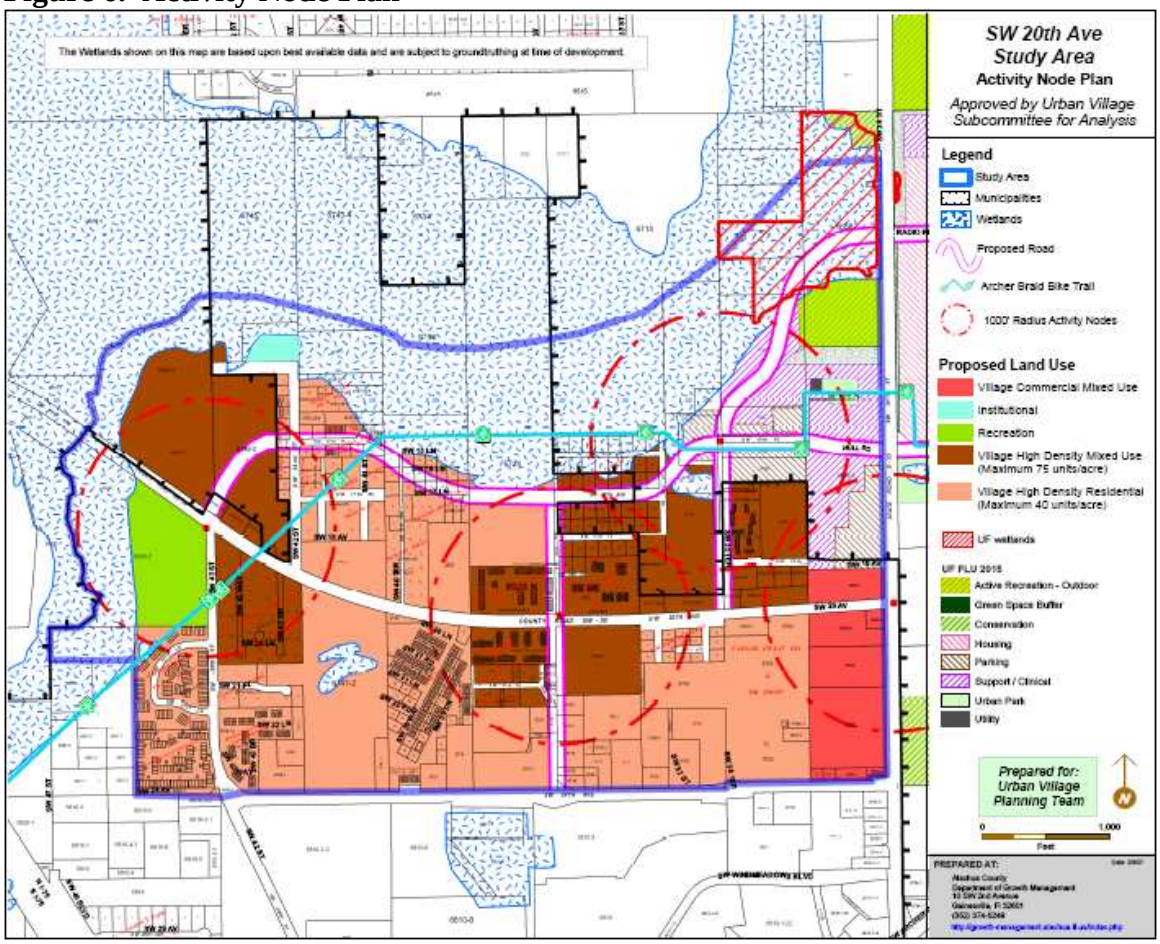
Activity Node Plan

The Activity Node Plan proposes much higher residential densities and non-residential allocations than both of the previous scenarios. This Plan features mixed use "Activity Nodes" at four road intersections within the study area. These nodes would contain the highest density and intensity land uses within the study area. The Activity Node Plan assumes the "Option M" transportation network will be in place at buildout, and that parking will be restricted to one space per dwelling unit. This Plan also assumes that premium transit service will be provided from the University to Butler Plaza via Hull Road and SW 43rd Street.

The maximum residential densities of the Activity Node land use categories would range from a low of 40 units per acre to a high of 75 units per acre. The average residential density for the study area under this Plan would be 50 units per acre. The Activity Node Plan would accommodate a build out population of approximately 30,619. This Plan would accommodate a much higher build out population than either the No-Change Scenario or the Core Park Plan.

The Activity Node Plan would allow for an estimated 1,172, 410 square feet of non-residential land uses in the study area. The total non-residential floor area was estimated using a ratio of 30 square feet of retail per person, and an office floor area equal to 25% of the estimated retail area. Most of the non-residential floor area in this Plan would be located in the "Village High Density Mixed Use" category, most of which is located within the designated Activity Nodes. In addition, a significant amount of non-residential floor area would be located in the "Village Commercial Mixed Use" category, located along SW 34th Street. A limited amount of non-residential would also be located within mixed use developments in the "Village High Density Residential" land use category.

Figure 6. Activity Node Plan

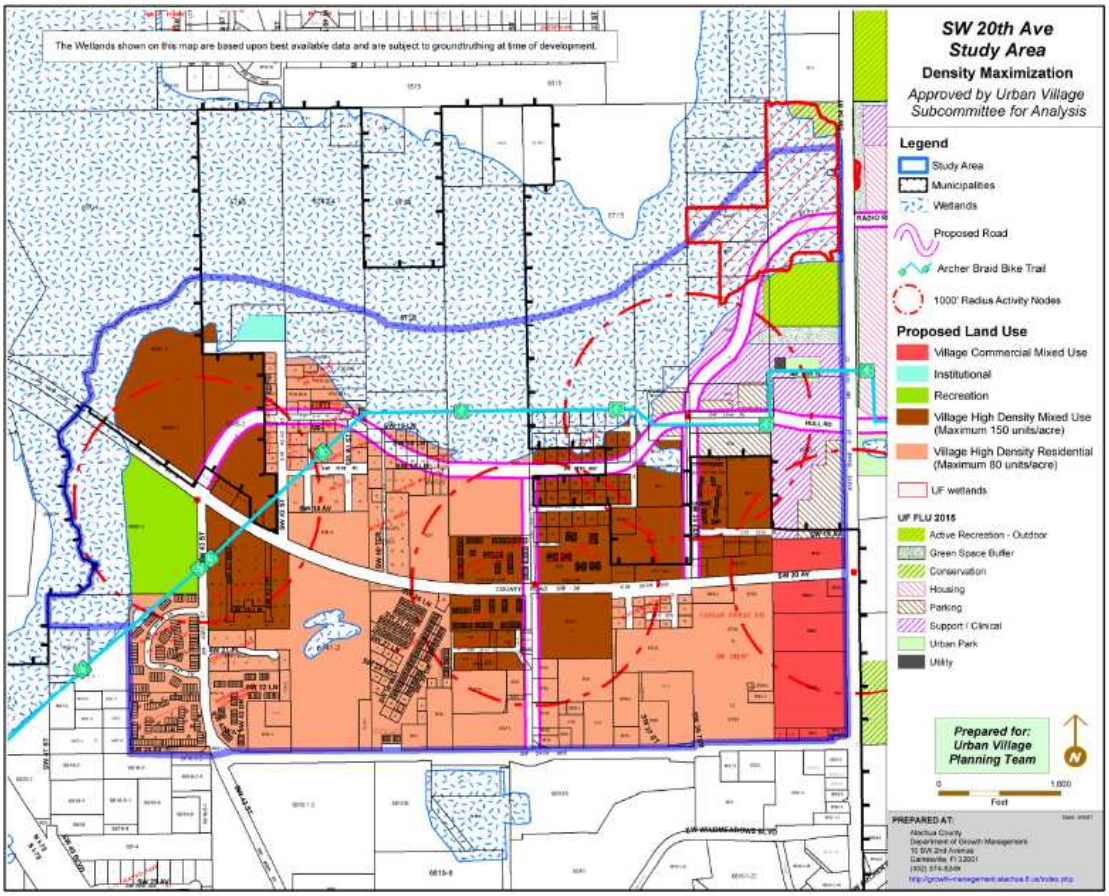


Density Maximization Plan

The fourth land use scenario, the Density Maximization Plan, maximizes the residential density in the study area to the greatest extent possible. According to the direction provided by the Urban Village Subcommittee, the Density Maximization Plan should be a test of how much density can potentially be accommodated in the Urban Village area before significant roadway levels of service impacts will occur. Staff found, however, that significant roadway level of service impacts would occur in the No-Change scenario (see Transportation section), which uses the currently adopted Future Land Use residential densities. Staff has, therefore, presented the Density Maximization Plan as a modified version of the Activity Node Plan, with significantly higher residential densities.

The maximum residential densities of the land use categories would range from a low of 80 units per acre to a high of 150 units per acre. The average residential density for the Study Area under this Plan would be 100 units per acre. The Density Maximization Plan would accommodate a build out population of approximately 61,250. This Plan would accommodate a much higher build out population than the No-Change Scenario, Core Park Plan, or Activity Node Plan.

Figure 7. Density Maximization Plan



The Density Maximization Plan would allow for an estimated 1,172, 410 square feet of non-residential land uses in the study area. This is the same non-residential floor area total as the Activity Node Plan. The non-residential total for the Density Maximization Plan was not increased proportionately with the added population because the market may not be able to support any additional non-residential, given the location of the Study Area between two existing regional commercial centers, Butler Plaza and the Oaks Mall.

As with the Activity Node Plan, the Density Maximization Plan assumes the "Option M" transportation network will be in place at buildout, and that parking will be restricted to one space per dwelling unit. This Plan also assumes that premium transit service will be provided from the University to Butler Plaza via Hull Road and SW 43rd Street.

Table 1. Summary Build-Out Data for Land Use Scenarios

Scenario	Dwelling Units	Average Residential Density	Population	Non-Residential Floor Area	Employment
No-Change	5,577	18 du/ac	11,154	272,500	600
Core Park	5,686	20 du/ac	11,371	437,205	963
Activity Node	15,310	50 du/ac	30,619	1,172,410	2,578
Density Maximization	30,625	100 du/ac	61,250	1,172,410*	2,578*

* *The non-residential figure was kept the same as the Activity Node Plan because it is unlikely that the market can support more non-residential space, given the Study Area's location between two existing regional commercial centers, Butler Plaza and the Oaks Mall.*

IV. POPULATION GROWTH

Population projections used for planning purposes are provided by the Bureau of Economic and Business Research (BEBR). The most recent BEBR population projections extend to the Year 2030. The Urban Village Action Plan uses a planning horizon of 2050, therefore, it was necessary to generate an estimate of the population of Alachua County for 2050 for comparison to the proposed scenario populations for the Urban Village. This evaluation attempts to present a simple estimate of the 2050 population of Alachua County based on the most recent projections from BEBR for the Years 2010 to 2030. It should be noted that the estimates of population beyond 2030 provided in this report have been estimated by the Urban Village Planning Team staff, and are not calculated or endorsed by BEBR. BEBR does not provide population projections beyond 2030 because there is too much uncertainty and the margin of error is too large to be useful.

The Planning Team generated a 2050 County population estimate by creating a best-fit curve for the BEBR projections from 2010-2030. Staff used three extrapolated best-fit curves: (1) An extrapolated "high" estimate based on the "high" projections shown by BEBR from 2010-2030; (2) An extrapolated "medium" estimate based on the "medium" projections shown by BEBR from 2010-2030; and (3) An extrapolated "low" estimate based on "low" projections shown by BEBR from 2010-2030.

Using the “medium” extrapolation, staff estimates the population of Alachua County in the Year 2050 to be 374,920. This estimate is intended to be used only for Urban Village planning purposes.

Table 2. Alachua County 2050 Population Projection

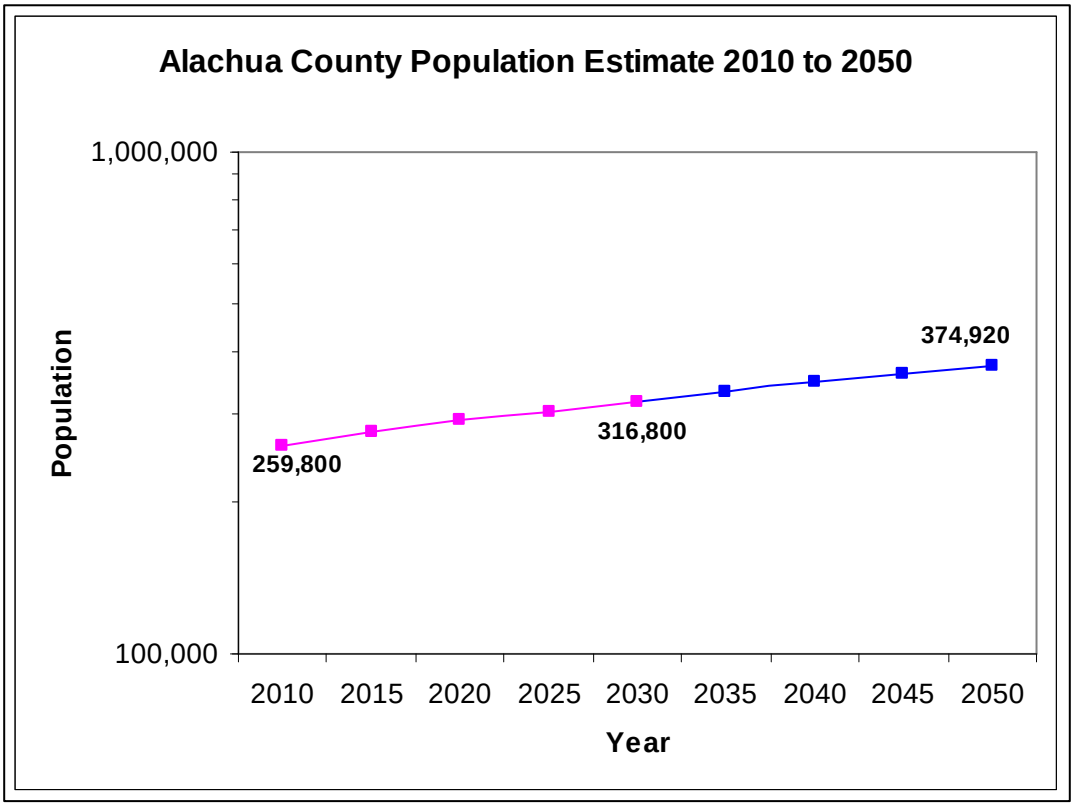
YEAR	POPULATION
2010	259,800
2015	277,300
2020	291,800
2025	304,700
2030	316,800
2035	332,500
2040	346,640
2045	360,780
2050	374,920

Sources:

2010 to 2030: BEBR- Florida Population Studies: Projections of Florida Population by County, 2006-2030. Volume 40 Bulletin 147, Feb 2007

2035 to 2050: Estimated by Alachua County Growth Management staff. Years 2035 to 2050 are estimates and not official BEBR population projections.

Figure 8. Alachua County Population Estimate: 2000 to 2050



Notes:

The pink line represents BEBR population projections as provided in: Florida Population Studies: Projections of Florida Population by County, 2006-2030. Volume 40 Bulletin 147, Feb 2007

The blue line represents Planning Team staff estimate based on extrapolation of BEBR estimates from 2010 to 2030.

Urban Village Study Area Population

The Gainesville Urbanized Area Transportation Study: Socioeconomic Report, dated July 15, 2004 and prepared for the MTPO, provides socioeconomic data for Alachua County for a base year (2000), interim year (2015), and target year (2025). The data is broken down into small geographic areas known as Traffic Analysis Zones (TAZ). These TAZs provide the best means of estimating the population of the Urban Village area, although the TAZ boundaries do not match the study area boundaries exactly. Using several Traffic Analysis Zones that encompass the Urban Village Study Area, staff estimated the current and projected population of the Urban Village and surrounding area under current conditions. It should be noted that the boundaries of some of the selected TAZs extend beyond the Urban Village Study Area, and that the population of the study area itself is likely less than what the TAZ data indicates, due to sampling of a larger area. According to this data, the population of the Urban Village and surrounding area in 2000 was approximately 8,480, or about 4% of the County's total population. The percentage of the County's population within the Urban Village and surrounding area is expected to increase only slightly through the Year 2025 under currently adopted Plans, but will likely remain at about 4%.

Table 3. Population Within Selected Traffic Analysis Zones in SW 20th Avenue Area: 2000 to 2025

Year	County Population*	SW 20th Ave. TAZ Population**	Urban Village Percent of County Population
2000	217,955	8,480	3.89%
2015	277,300	11,004	3.97%
2025	304,700	12,687	4.16%

* *Source: BEBR- Florida Population Studies: Projections of Florida Population by County, 2006-2030. Volume 40 Bulletin 147, Feb 2007*

** *Source: Gainesville Urbanized Area Transportation Study: Socioeconomic Report, dated July 15, 2004 (prepared for the MTPO)*

The current population of Alachua County is estimated by BEBR (April 2006) to be 243,779. If the County grows to a population of 374,920 by the Year 2050, this would be a 54% increase in the population, or 131,141 new residents in the next 43 years. A key question in the evaluation of the four land use scenarios is what percentage of the County's future growth by the Year 2050 can be reasonably expected or is desired to occur in the Urban Village area. Table 4 shows the population increase in the Urban Village Area by the Year 2050 under each scenario (increase above the 2000 census population for the area), then shows the percentage of the countywide total projected population increase by the Year 2050 that would be located in the Urban Village under each scenario.

Table 4: Population Increase in the Urban Village by 2050 and Percent of County's Total Population Increase by 2050, by Land Use Scenario

Scenario Name	Current Urban Village Population (2000 Census)	Urban Village Buildout Population (2050)	Population Increase in Urban Village by 2050*	Percent of County's Total Population Increase by 2050**
No Change	8,480	11,154	2,674	2.04%
Core Park	8,480	11,371	2,891	2.20%
Activity Node	8,480	30,619	22,139	16.88%
Density Maximization	8,480	61,250	52,770	40.24%

*Note: * The population increase in the Urban Village by 2050 is the increase above the current Urban Village population of 8,480 (2000 census)*

*** Percentage of the total County population growth of 131,141 by 2050, which would be located in the Urban Village*

The population of the Urban Village area today is approximately 8,480. The No-Change Scenario would result in a 2050 buildout population in the Urban Village of 11,154. This yields a population increase in the Urban Village of approximately 2,674 by the Year 2050, which amounts to 2.04% of the countywide total projected population increase by the Year 2050.

The Core Park Plan would result in a 2050 buildout population in the Urban Village of 11,371. This yields a population increase in the Urban Village of approximately 2,891 by the Year 2050, which amounts to 2.20% of the countywide total projected population increase by the Year 2050.

If a goal of this planning exercise is to concentrate a high percentage of the County's future population growth in the Urban Village area (this would create a more compact

rather than sprawled development pattern), then the No-Change Scenario and Core Park Plan do not accomplish this.

The Activity Node Plan would result in a 2050 buildout population in the Urban Village of 30,619. This yields a population increase in the Urban Village of approximately 22,139 by the Year 2050, which amounts to 16.88% of the countywide total projected population growth by the Year 2050.

The Density Maximization Plan would result in a 2050 buildout population in the Urban Village of 61,250. This yields a population increase in the Urban Village of approximately 52,770 by the Year 2050, which amounts to 40.24% of the countywide total projected population growth by the Year 2050.

The Activity Node and Density Maximization Plans both result in significant percentages of the County's 2050 population growth being located in the Urban Village. Concentrating future population growth in a compact Urban Village area as is proposed under the Activity Node and Density Maximization Plans could help the County and City contain sprawl to a degree, provide multi-modal transportation access to major employment centers, and provide urban services to future populations in an efficient manner.

V. IMPACTS ON CITY AND COUNTY PLANS

The Activity Node Plan and Density Maximization Plan will result in significant increases in population in the Urban Village above and beyond that which is anticipated under the current Future Land Use. The Activity Node Plan would accommodate an additional 19,465 residents in the study area above what is currently allocated under the adopted Future Land Use Map. The Density Maximization Plan would accommodate an additional 50,096 residents in the study area above what is currently allocated under the adopted Future Land Use Map. As estimated in Section IV of this report, the County's total population is expected to grow by about 131,141 residents by the Year 2050. It is uncertain whether the establishment of a true Urban Village concept will significantly impact the expected rate of population growth in the County, or if the new population in the Urban Village will be re-allocated growth from other locations within the County. A significant issue to consider is how much of the County's expected population growth through the Year 2050 can be and should be expected to be located in the Urban Village area, and how much of that growth will consist of new residents to the County versus existing residents who may choose to relocate to the Urban Village.

There is a possibility that the creation of an Urban Village in this location would attract new residents to Alachua County who otherwise would not have considered relocating to the area. The Urban Village is envisioned as a compact mix of high density residences, shops, offices and civic uses designed to be walkable, bikeable and transit-friendly, that enhances access to the University area and the ability of the overall transportation system to meet the mobility needs of the general community. This concept, at the large scale being proposed, would result in a unique urban setting in Alachua County, which could attract new residents. If the Urban Village concept is realized, it could potentially affect the rate of growth in the County to some degree, although it is uncertain to what degree this may occur.

On the other hand, the establishment of an Urban Village in this location could also attract a certain percentage of existing County residents. In this case, the rate of population growth in the County would remain as it is currently projected, but a larger percentage of that growth would be concentrated in the Urban Village area. This scenario could potentially reduce the future rate of conversion of vacant land to urban residential uses. The Urban Village area would capture some percentage of the population that would have otherwise resided in new developments elsewhere in the County or in its municipalities.

If the Urban Village captures a greater percentage of the projected population growth in the County than is currently expected, then the expected future population growth may be reduced in other areas of the County. It is uncertain which areas of the County would receive less population growth as a result of the Urban Village. This would be a future policy decision that would need to be considered by the governing bodies of the County and its municipalities, through a coordinated planning effort.

The City of Gainesville indicates that it is interested in compact, mixed-use urban densities within the Urban Village, as it is believed that higher densities are beneficial to the community when they are located in proximity to a major trip generator such as the University of Florida campus. However, the City would like to see a balance struck between population densities sought within the Village and the need to promote a healthy, revitalized, redeveloped downtown Gainesville. In general, cities are healthiest when the most significant community densities and intensities are located in the downtown area, with densities and intensities cascading down as one moves away from the downtown.

The Alachua County Comprehensive Plan also provides support to high density mixed use development in specific locations within the unincorporated County. Policy 1.3.10.1 of the Future Land Use Element, for example, states that:

> *High Density Residential development should occur in the vicinity of the University of Florida, along related corridors such as SW 20th Avenue, transit corridors, immediately adjacent to Santa Fe Community College and in or near activity centers, preferably in mixed developments, to reduce the length and number of automobile trips. High density residential areas shall be located in the urban cluster.*

Policy 1.3.10.4 of the Future Land Use Element takes this a step further and describes policy changes that would need to occur in order to establish densities above 24 units per acre.

> *Densities higher than 24.00 DU/Acre may be considered in high activity centers, on well served transit corridors, such as SW 20th Avenue, or in the vicinity of the University of Florida, provided that the development is compatible with surrounding land uses. A comprehensive plan amendment will be required to establish policies and identify areas appropriate for these higher densities. The policies shall provide for the integration of these developments into the surrounding community using high quality development design features.*

A Comprehensive Plan amendment is required to establish policies which provide for integration of higher density development into the surrounding community using high quality design features. Such design features would be included in the eventual Comprehensive Plan amendments which would implement the preferred land use scenario.

Policy 1.1.4 of the Transportation Mobility Element recognizes the need for a viable concurrency solution for the SW 20th Avenue area, and requires the County to coordinate with the City of Gainesville on a joint special area plan which integrates both land use and transportation:

> *Alachua County may consider a Transportation Concurrency Exception Area in accordance with Section 163.3180, Florida Statutes, with the City of Gainesville to implement the recommendations of the SW 20th Avenue Charrette. The area is bounded by the City of Gainesville's City Limit to the North, SW 34th Street to the East, SW 24th Avenue to the South, and I-75 to the West. The purpose of a TCEA for the area would be to promote the objectives of the SW 20th Avenue Charrette to create a pedestrian and bicycle-oriented student village. As a preliminary transportation plan for that area, the County accepts the map and guidelines of the proposed transportation modifications of the SW 20th Avenue Charrette (see Appendix B). The County will coordinate with the City of Gainesville on a joint Special Area Plan which addresses and integrates both land use and transportation. Upon completion of the Special Area Study, a Comprehensive Plan amendment adopting the Special Area Study and TCEA shall be considered. The TCEA developed with the City of Gainesville for this area shall also include standards for developer mitigation of impacts within the area and those standards will be linked to the specific transportation plan for the area. Prior to programming specific projects involving the expenditure of County funds, additional analysis shall be required.*

The area described in this policy is somewhat larger than the Urban Village study area, but the direction is provided to prepare a joint City/County special area plan which integrates land use and transportation for the SW 20th Avenue area. The current Urban Village planning process is intended to achieve the intent of this policy.

With regard to the proposed non-residential land uses in the study area, the Alachua County Comprehensive Plan seeks to concentrate higher intensity non-residential land uses in Activity Centers which are designated on the Future Land Use Map. Existing Activity Centers in the Urban Cluster area are expected to accommodate most of the non-residential demand in the unincorporated County at least to the Year 2020. It is uncertain, therefore, how much additional non-residential area can realistically be expected to develop in the Urban Village area, given the existing activity centers in the unincorporated area. These existing Activity Centers include:

- Springhills
- Oaks Mall
- Archer Road/34th Street
- Tower Road/24th Avenue
- Archer Road/Tower Road
- Jonesville
- Eastside

VI. TRANSPORTATION

The Urban Village study area is generally centered around the SW 20th Avenue roadway corridor. In the larger context, the area is surrounded by four major regional roadways: SW 34th Street, Archer Road, I-75, and Newberry Road (see Figure 9). A transportation consultant conducted a detailed analysis of the level of service and operating conditions of the road facilities surrounding the Urban Village area under each of the land use scenarios identified in Section III. It should be noted that the background population data for the transportation analysis assumes that the additional population for each scenario was in addition to the existing population expected for the study area. Population was not re-allocated from other areas of the County to the study area.

Figure 9. Location Map and Major Trip Generators

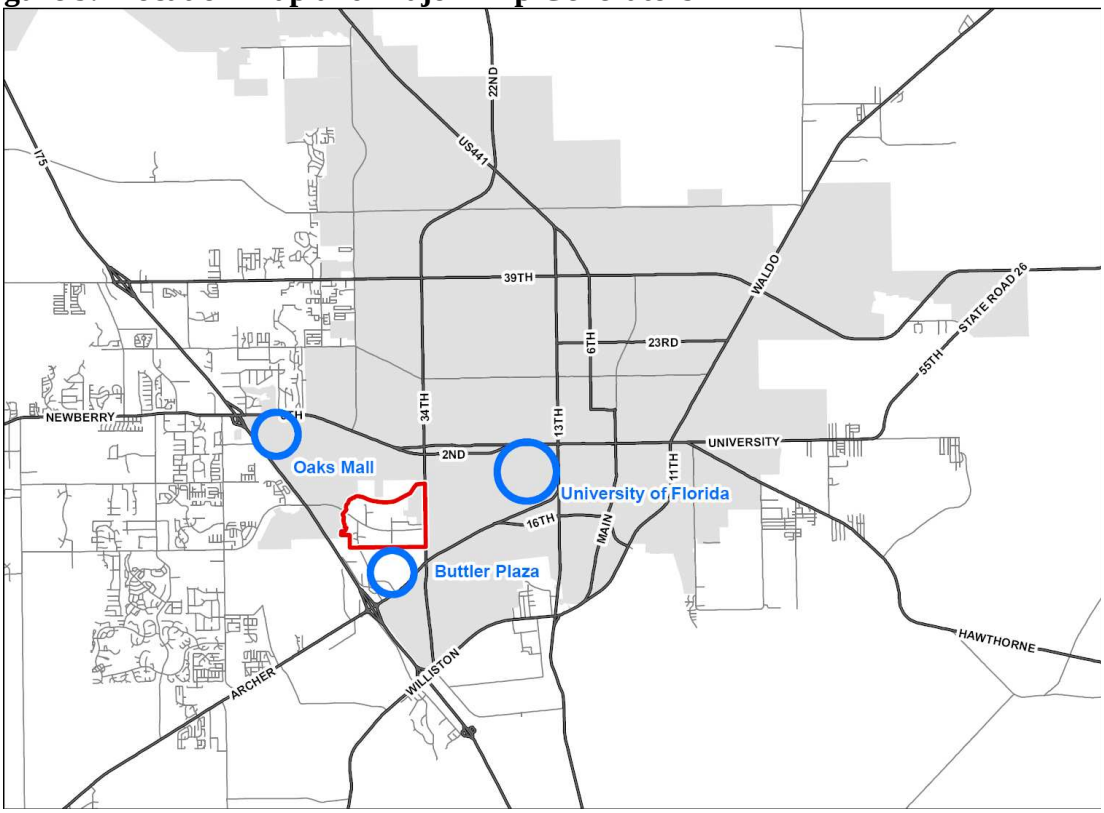


Figure 10 shows the proposed Urban Village roadway network which was used in modeling the transportation impacts of the land use scenarios. The network corresponds closely to the "Option M" roadway network (Figure 11) which was adopted by the MTPO for the Urban Village/SW 20th Avenue area. Key improvements provided in "Option M" include: widening of SW 43rd Street and a portion of SW 20th Avenue from two lanes to 4 divided lanes; an extension of Hull Road west of SW 34th Street to SW 20th Avenue; and a new road, SW 38th Street, running from the new Hull Road extension to Windmeadows Boulevard. The only difference between the adopted "Option M" and the network which was modeled for this exercise was the addition of the Radio Road extension from SW 34th Street to SW 24th Avenue.

Figure 10. Urban Village Roadway Network

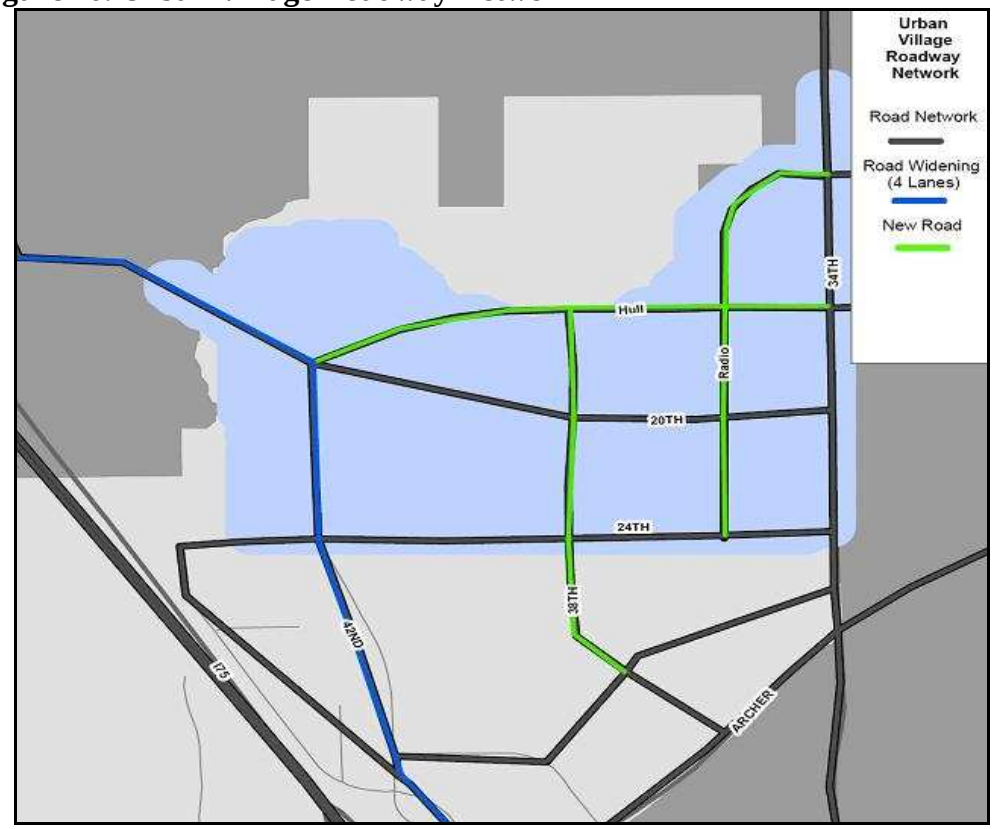
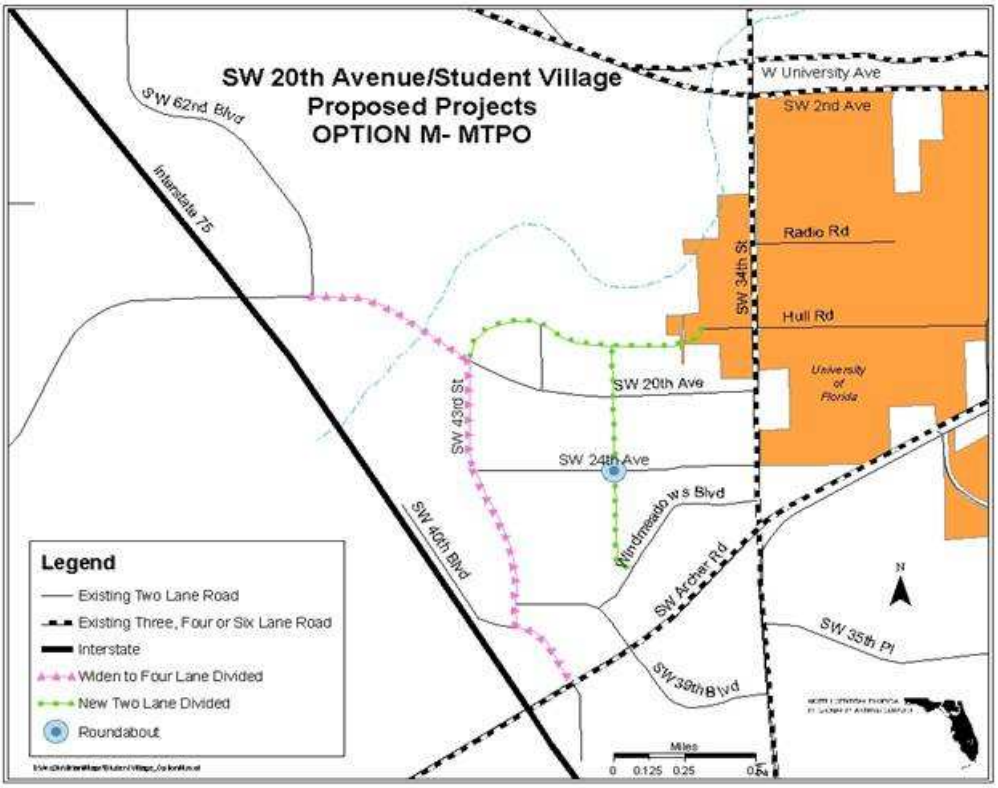


Figure 11. Option M Transportation Network: Adopted by MTPO



The Planning Team worked with the consultant to translate the land use scenarios described in Section III into data (e.g., population, dwellings, and employment) to be input into a transportation model. For each land use scenario and its associated data, the transportation model produced results related to volume to capacity ratio, vehicle miles and travel time per trip, projected roadway speeds, and mode share. The results are presented as maps and data on the following pages.

The volume to capacity ratio is a measure of roadway congestion. A higher volume to capacity ratio corresponds to higher roadway congestion. The area-wide volume to capacity ratio for roadways generally increases with more density and population in the Study Area. All of the scenarios have congested or severely congested roads. The No-Change Scenario has the lowest overall volume-to-capacity ratio of the land use scenarios, the Core Park Plan has a slightly higher ratio, and the Activity Node Plan is even higher, and so forth. Additional traffic congestion, however, could induce more compact, higher-density, mixed use, multi-modal development within the Urban Village.

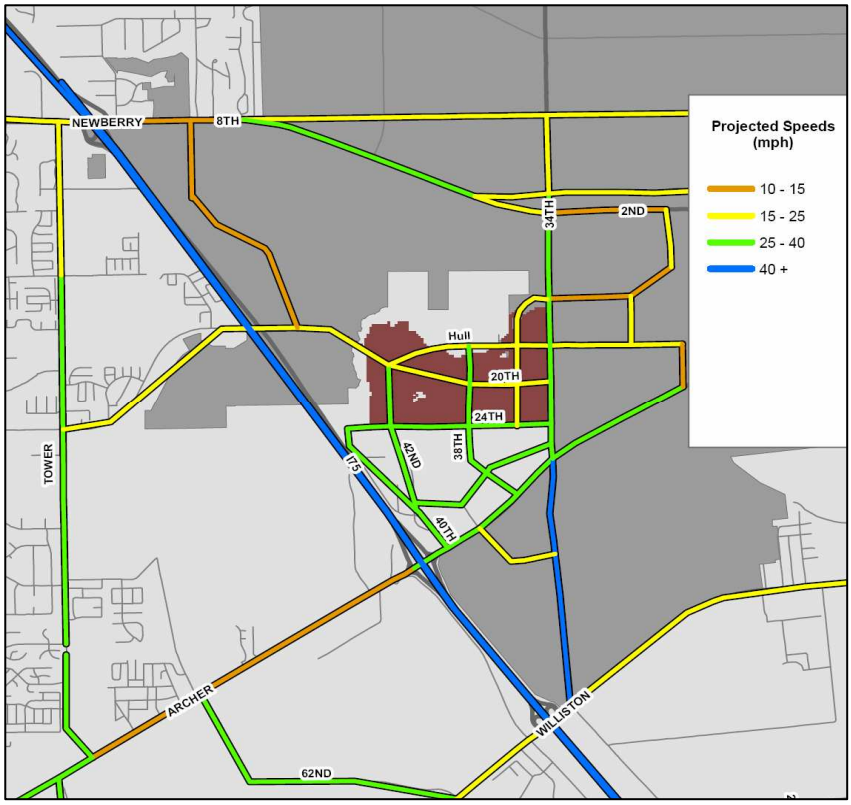
The average vehicle miles per trip (VMT/trip) is an additional measure of automobile travel behavior in the area. The average vehicle miles per trip measures how far, on average, vehicles travel from their origin to their destination. This figure generally decreases with more density and a more diverse mix of uses. In this case, the VMT/trip actually increases from the No-Change to the Core Park Plan, although this is an abnormality. The Activity Node Plan, however, does have a much lower VMT/trip than the other scenarios (lower VMT/trip is an indicator of relatively compact development patterns).

The average vehicle travel time per trip (VHT/trip) is another measure of automobile travel behavior in the area. The VHT/trip measures the average time that it takes for vehicles to travel from their origin to their destination. This figure generally decreases with more density and a more diverse mix of uses. In this case, the VHT/trip actually increases from the No-Change to the Core Park Plan, which is an abnormality. The Activity Node Plan, however, does have a much lower VHT/trip than the other scenarios.

Roadway travel speeds are another indicator of traffic congestion which was modeled by the consultant. The maps on the following pages show the changes in travel speeds resulting from each of the land use scenarios. There would be travel speed reductions on a few roadway segments when comparing the Core Park Plan to the No-Change Scenario. Under the Activity Node Plan, the majority of the road segments in the Study and Context area would experience some degree of travel speed reduction as compared to the No-Change Scenario.

Mode share refers to the mode of travel used to get from an origin to a destination. The maps on the following pages show the percentage of total person-trips that would use automobile, transit, or bicycle/pedestrian travel modes under each land use scenario. As the residential density and the diversity of the land use mix increases, there would also be a decrease in automobile usage accompanied by an increase in the transit and bicycle/pedestrian travel modes. The Core Park Plan would result in greater use of transit and bicycle/pedestrian modes than the No-Change Scenario. The Activity Node Plan would result in greater use of transit and bicycle/pedestrian modes than both the No-Change and Core Park Plans.

Figure 12. Projected Roadway Speeds: No-Change Scenario



Auto travel
VMT/trip: 10 miles
VHT/trip: 21 minutes
Areawide V/C: 1.69

Mode share
Auto: 66%
Transit: 26%
Ped/Bike: 8%

Implications
Study Area Road Network is 70% over capacity

Figure 13. Level of Traffic Congestion: No-Change Scenario

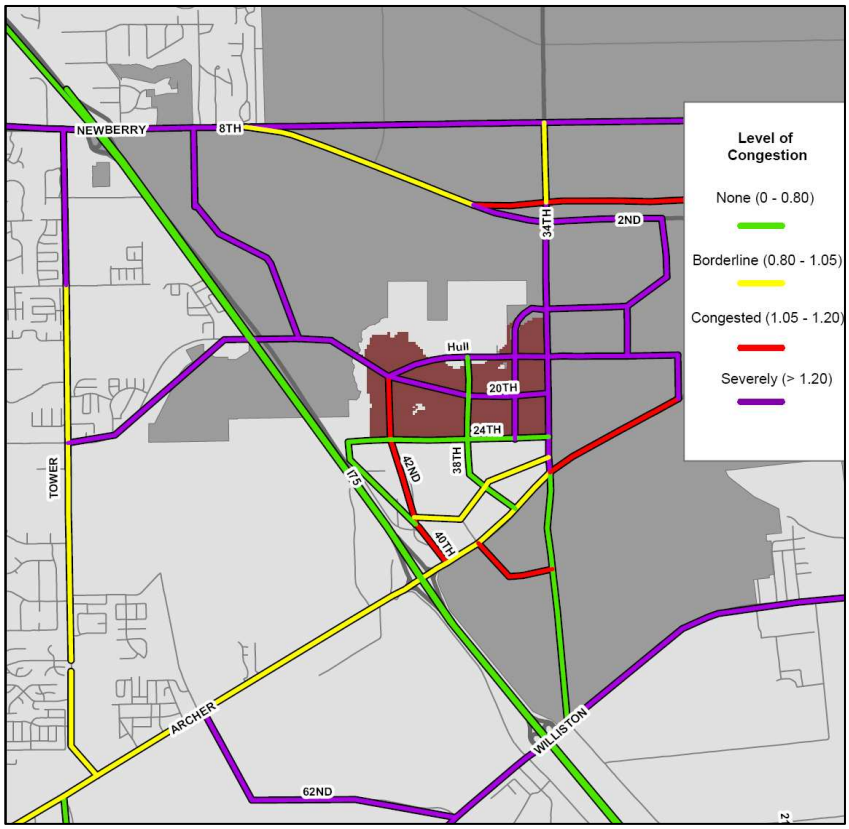
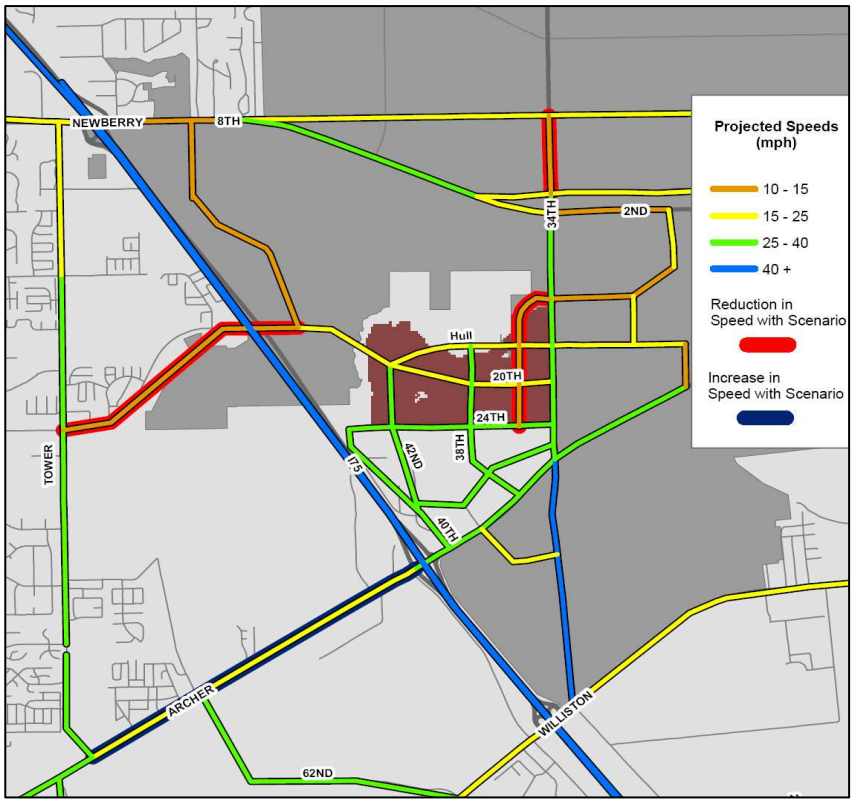


Figure 14. Projected Roadway Speeds: Core Park Plan



Auto travel
VMT/trip: 12 miles
VHT/trip: 27 minutes
Areawide V/C: 1.70

Mode share
Auto: 52%
Transit: 33%
Ped/Bike: 15%

Implications
Congested Road Network

Increased Mode Split

Figure 15. Level of Traffic Congestion: Core Park Plan

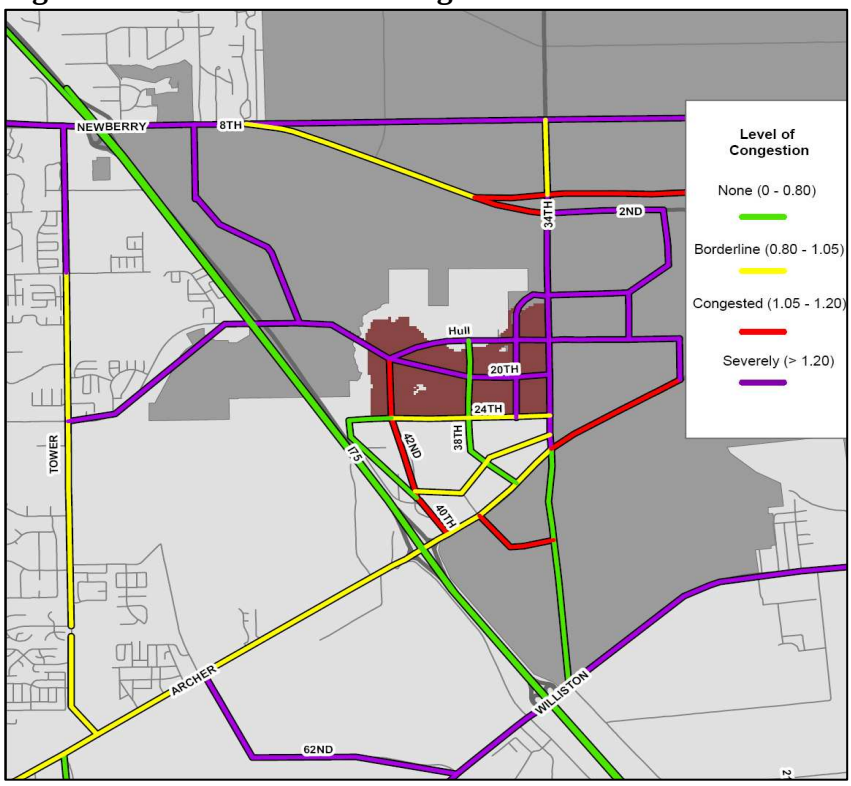
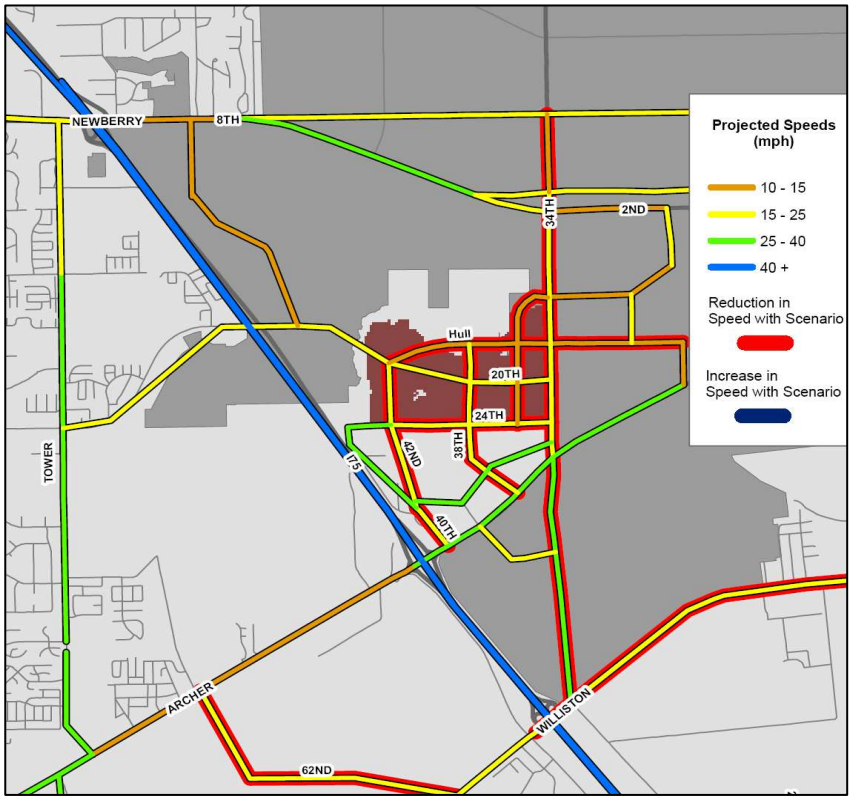


Figure 16. Projected Roadway Speeds: Activity Node Plan



Auto travel
VMT/trip: 5 miles
VHT/trip: 13 minutes
Areawide V/C: 1.85

Mode share
Auto: 48%
Transit: 33%
Ped/Bike: 19%

Implications
Congested Road Network

Increased Mode Split

Travel Speed reduction in Urban Village area and SIS facility

Figure 17. Level of Traffic Congestion: Activity Node Plan

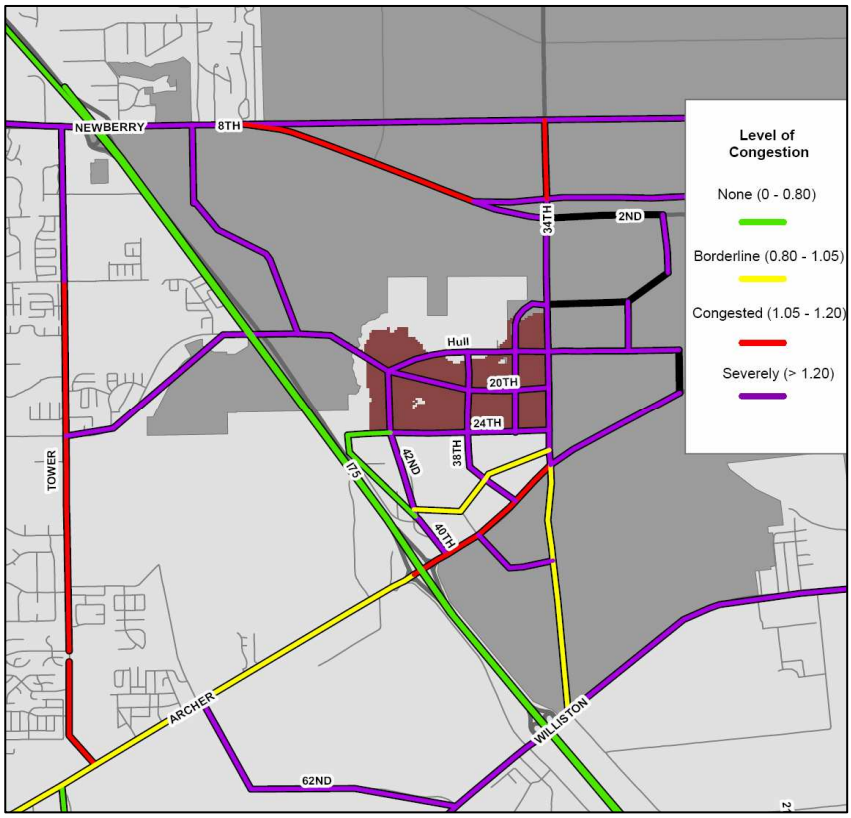


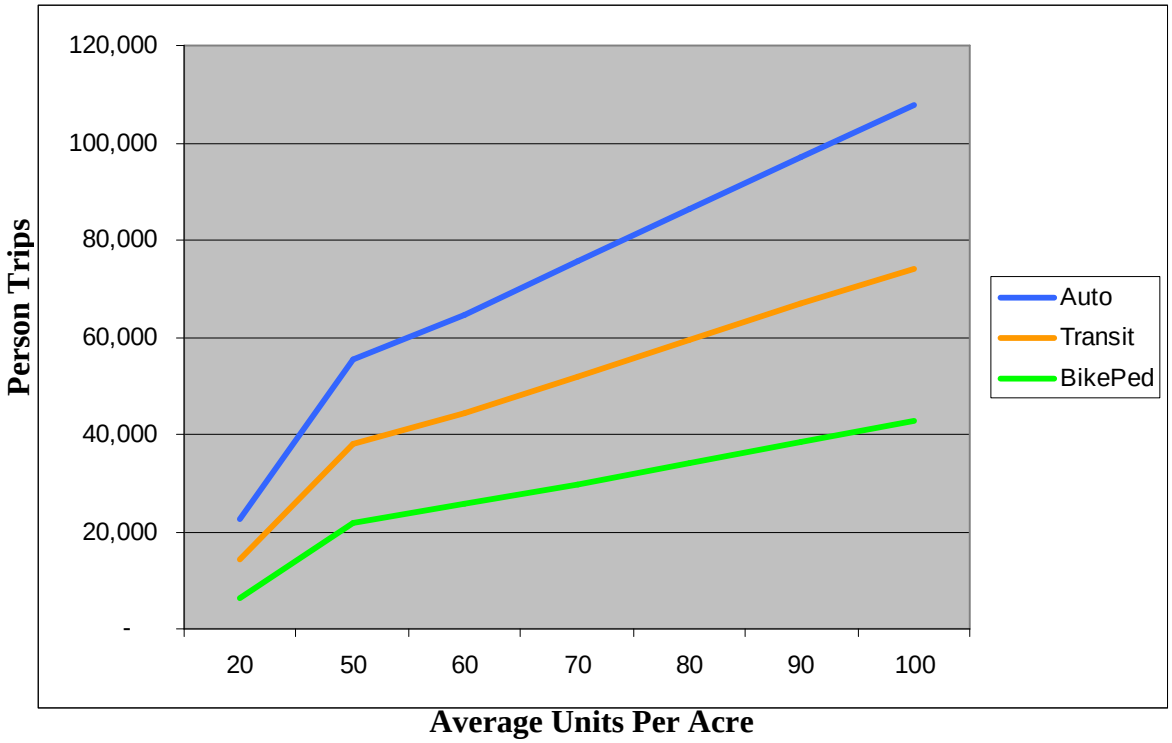
Table 5 – Summary of Transportation Implications for Land Use Scenarios

	No Change	**Core Park**	**Activity Node**	**Density Maximization**
VMT/TRIP	10 miles	12 miles	5 miles	--
VHT/TRIP	21 minutes	27 minutes	13 minutes	--
AREA WIDE V/C	1.69	1.70	1.85	--
AUTO MODE SHARE	66%	52%	48%	41%
TRANSIT MODE SHARE	26%	33%	33%	38%
PED/BIKE MODE SHARE	8%	15%	19%	21%

*Supplemental information from the transportation consultant, which responds to questions raised by the Subcommittee on February 28, has been provided, and is included as an attachment at the end of the report.

Figure 18 shows how the number of person trips by travel mode (automobile, transit, and bicycle/pedestrian) varies by average residential density. The information presented in the previous pages indicates that the transit and bicycle/pedestrian mode share generally increases along with increases in residential density. It should be noted, however, that the transit and bicycle/pedestrian mode share becomes maximized and will remain constant beyond a density of 60 units per acre. Another key point which is shown in Figure 18 is that, although the transit and bicycle/pedestrian mode shares will increase along with increased density (up to 60 units/acre), the total number of automobile trips on the network would still increase as a result of the additional density in the area.

Figure 18. Mode Split for Auto, Transit, and Bike by Average Density



Implications

- Mode Share percentages are maximized and will remain constant as density increases beyond 60 units an acre
- Auto trips will increase on the network
- SIS and Regional Facilities will experience increased Congestion

Mode share (maximum)

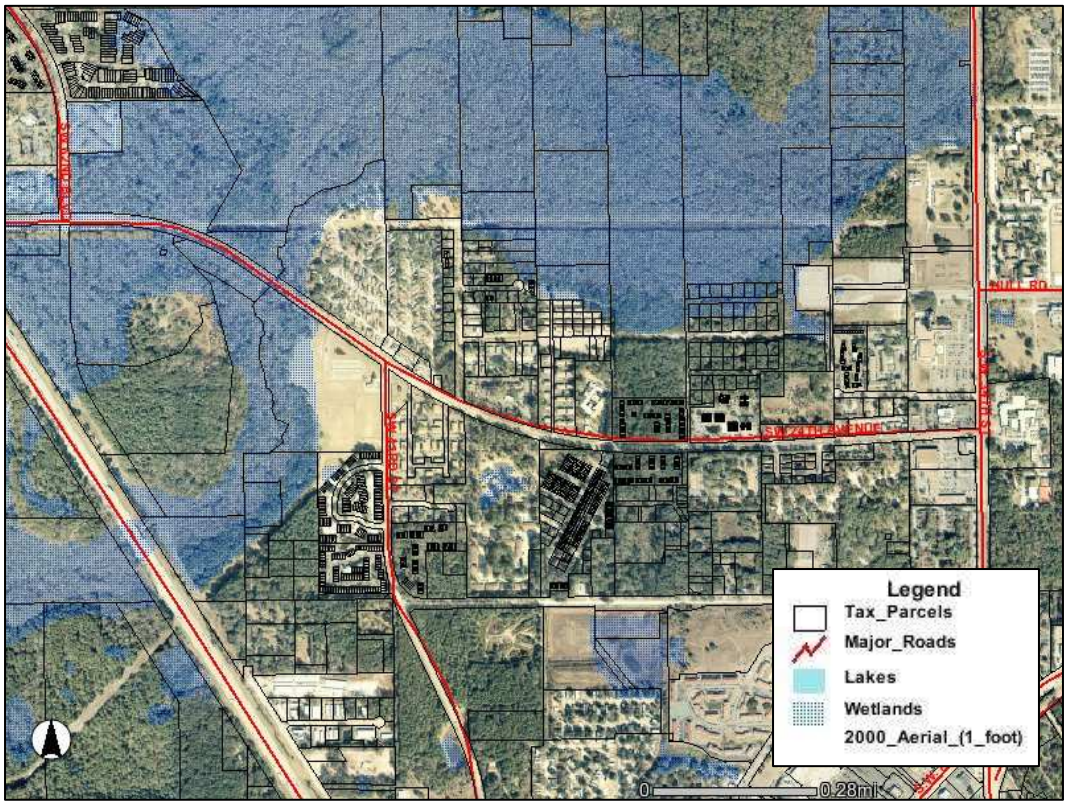
Auto: 41%
Transit: 38%
Ped/Bike: 21%

VII. NATURAL RESOURCES

The Urban Village contains significant natural resources, including wetlands, surface waters, flood hazard zones, significant archaeological sites, Alachua County Strategic Ecosystems, and conservation lands along the north and west sides of the study area.

Hogtown Creek forms the north and west boundaries of the study area and the wetlands surrounding the creek comprise approximately 139 acres of this study area. There are several smaller isolated wetlands located in the south portion of the study area. Figure 19 shows wetlands in and around the Urban Village. The large wetland system along the north and west boundaries of the study area is currently designated as Low Density (1 to 4 units/acre) or Medium Density (4 to 8 units/acre) Residential. There are a few isolated wetlands south of 20th Avenue, which are currently designated as High Density (14 to 24 units/acre) Residential.

Figure 19. Wetlands in Urban Village Study Area



Wetland acreage and function are currently protected from development activity through policies adopted in the Alachua County and City of Gainesville Comprehensive Plans. Wetland (and surface water) buffers should be strictly followed as described in the Alachua County Land Development Regulations. The conceptual land use scenarios for the Urban Village that have been described in this report propose no further intensification of Future Land use within the areas identified as wetlands, and although not clearly shown on any of the figures, this should also apply to the areas required under code to buffer the wetlands. Any future development occurring in these areas will be subject to County and City wetland and water quality protection policies and shall be designed to meet these requirements.

The Florida Department of Environmental Protection (DEP) has identified Hogtown Creek as an impaired water body and had adopted Total Maximum Daily Loads (TMDLs) for fecal coliforms for the creek. Fecal coliform bacteria, a microbiological indicator of human and warm-blooded animal fecal pollution, continue to be found at elevated levels in the creek. The presence of these organisms indicates that there may be other disease causing pathogens also present. DEP is authorized by state law (Section 403.067, Florida Statutes) to develop basin management action plans to implement TMDLs. DEP is currently in the process of developing a basin management action plan (BMAP) to achieve TMDLs adopted by DEP for the Orange Creek Basin, which includes Hogtown Creek and 7 other water bodies that have water quality impairments.

Best Management Practices (BMPs) should be used to manage pet waste, stormwater management, water quality protection at apartment complexes, meeting water quality code (Chapter 77 Alachua County Code) requirements, maintaining wetland and creek buffers, and designing developments to limit indirect and direct impacts to the creek.

Over the past few years, techniques to minimize the impacts of new development or redevelopment are becoming more common place. Low Impact Development (LID), has become important nationwide and throughout Florida. LID techniques include those that are more “environmentally friendly” or sustainable. Low Impact Development (LID) has emerged as an effective approach to controlling stormwater pollution; protecting developing watersheds and already urbanized areas. LID strategies integrate green space, native landscaping, natural hydrologic functions, and various other techniques to generate less runoff from developed land. LID techniques include reducing the need or size of stormwater management systems by reducing impervious area in the development. This is conducted by a number of mechanisms, some of which involve reductions of impervious area and decentralized stormwater management systems to enhance rainfall recharge.

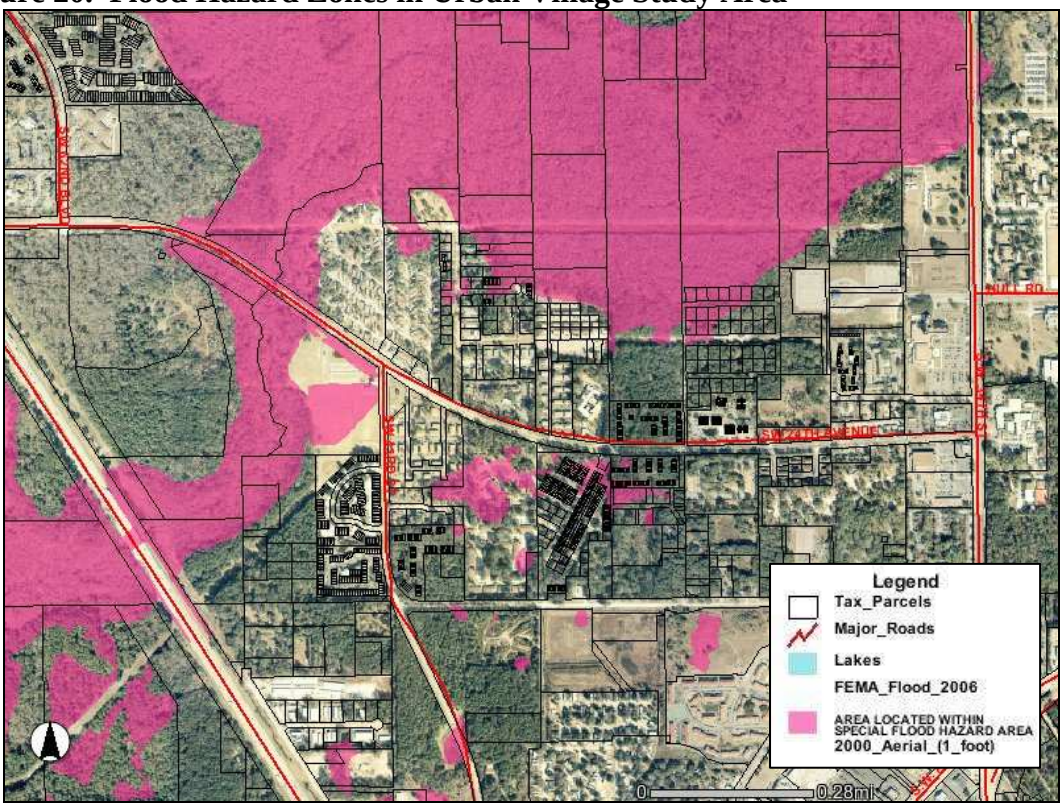
One of the primary goals of LID stormwater design is to reduce runoff volume by infiltrating rainfall into the ground, evaporating it back to the atmosphere after a rainfall event and finding beneficial uses for water rather than exporting it as a waste product to storm sewers. This results in a landscape function more similar to predevelopment hydrologic conditions, which means less surface runoff and less pollution damage to lakes and streams. Decentralized stormwater techniques are important in areas of

sensitive karst geology by preventing sinkhole formation, which may allow stormwater to directly enter the Floridan aquifer.

LID is important in this area because it is a high aquifer recharge area with Hogtown creek draining directly to the Floridan Aquifer by way of Haile sink. At a minimum, LID practices should be utilized for all developments that abut or drain to the Hogtown Creek system within the project area.

The north and west sides of the study area also contain Special Flood Hazard Areas associated with the Hogtown Creek flood plain. These areas are shown in Figure 20. The natural functions of flood plains are protected under the County and City Comprehensive Plans. Future development in the Urban Village would be subject to the policies in the respective Comprehensive Plans relating to flood plain protection.

Figure 20. Flood Hazard Zones in Urban Village Study Area



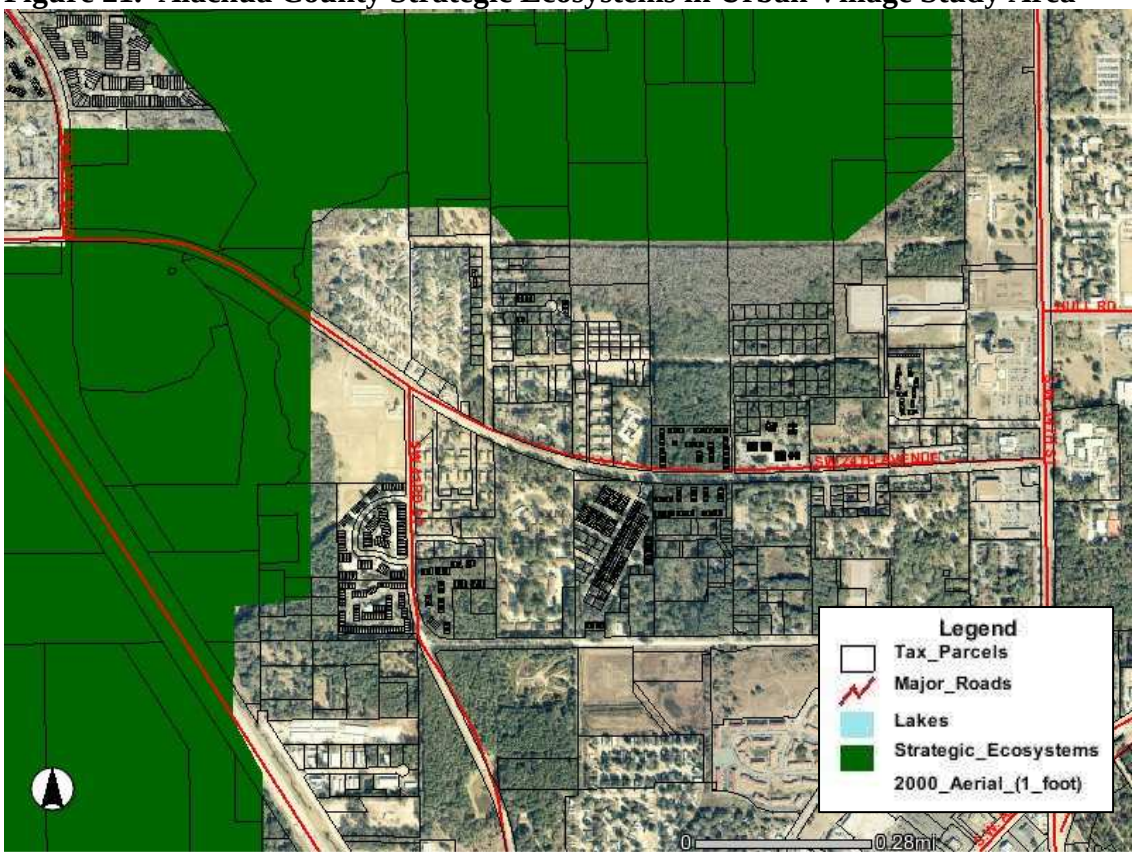
The Urban Village Study Area contains small portions of the 1,782-acre Hogtown Prairie-Sugarfoot site identified in the *Alachua County Ecological Inventory Project* (KBN Study) (KBN 1996). The purpose of the KBN Study was to identify, inventory, map, describe, and evaluate the most significant natural biological communities, both upland and wetland, that remain in private ownership in Alachua County and make recommendations for protecting these natural resources (KBN 1996). The KBN study ranks this site 3rd out of 47 projects evaluated in the county, and categorizes is ecological value as high. The Urban Village Study Area, however, contains only the outermost fringes of this site, and much of the site has already been acquired for conservation by the City of Gainesville through the Florida Communities Trust.

The following excerpts from the KBN study describe the Hogtown Prairie-Sugarfoot site as follows.

> *KEY FEATURES: This site is on the west side of Gainesville in and adjacent to the downstream end of Hogtown Creek. It contains a part of Sugarfoot Hammock, which is one of the most outstanding calcarious mesic hammocks in the county (what is left of it). It also contains the lower Hogtown Creek floodplain which has magnificent mature forest hardwood forests of different kinds, some prairie, a lake, and perhaps the finest example of a slough in north Florida. Finally, it contains the sink where Hogtown Creek goes underground down into the Floridan Aquifer.*

The Hogtown Prairie-Sugarfoot site is designated as a Strategic Ecosystem in the Alachua County Comprehensive Plan. Figure 21 shows the location of the Strategic Ecosystem in relation to the Urban Village Study Area. The Alachua County Comprehensive Plan requires the County to preserve, conserve, enhance, and manage the ecological integrity of Strategic Ecosystems that are determined through ground-truthing using the KBN report as a guide. A special area plan is required to establish specific guidelines for Strategic Ecosystems prior to approval of land use changes, zoning changes, or development approvals within these areas.

Figure 21. Alachua County Strategic Ecosystems in Urban Village Study Area



There are known significant archaeological sites within the project area. Any development activities that could impact these resources will require coordination with the Office of Cultural and Historical Programs, within the Department of State, which is the state agency responsible for the oversight of the historical, archaeological, museum, arts, and folk culture resources in Florida. The Director of the Division of Historical Resources serves as Florida's State Historic Preservation Officer (SHPO).

Lowering residential densities is not necessarily an appropriate or the most effective way of protecting valuable natural resources in or near the Urban Village. The design of development, which can be articulated through Comprehensive Plan policies or Land Development Code regulations, can potentially protect natural resources more effectively than lowering residential densities.

VIII. POTABLE WATER AND SANITARY SEWER

Potable Water and Sanitary Sewer service is provided to the area by Gainesville Regional Utilities (GRU). The area is served by the Murphree Treatment Plant, which has a maximum design capacity of 60 million gallons per day. Currently, the plant is operating at about 26 million gallons per day. The Murphree Treatment Plant is expected to near its maximum design capacity in the Year 2034, based on established population growth projections used by GRU, as provided by BEBR. Table 6 shows the projected water and wastewater demand, as estimated by GRU for facilities planning purposes, for each of the land use scenarios. GRU does not anticipate any deficiencies in the provision of potable water and sanitary sewer service resulting from the proposed land use scenarios through the planning horizon of 2050.

Table 6. Water and Wastewater Demand (as provided by GRU)

Scenario Name	Residential Demand (gallons per day)	Non-Residential Demand (gallons per day)	Total (gallons per day)
No Change	1,100,000	109,000	1,209,000
Core Park	1,100,000	174,882	1,274,882
Activity Node	3,000,000	468,964	3,468,964
Density Maximization	6,125,000	468,964	6,593,964

Source: Email from GRU staff. For planning purposes, water and wastewater demand was estimated to be 100 gallons per person per day for residential and 0.4 gallons per day per square foot of non-residential.

Note: Water and wastewater demand are assumed to be the same for planning purposes.

In addition to the long range forecasts provided by GRU, the County and City Comprehensive Plans provide adopted Levels of Service for potable water and sanitary sewer. These adopted Levels of Service are not the same as the figures used by GRU to generate long range demand forecasts for facilities planning purposes.

Alachua County Comprehensive Plan Level of Service Standards

Policy 1.2.4.E of the Capital Improvements Element provides the following Level of Service standards for potable water:

- Potable Water - Raw Water and treatment capacity: Peak Day
- Sanitary Sewerage - Treatment and disposal: Annual average daily flow which allows for anticipated peak hour flow
- Pressure: The system shall be designed for a minimum pressure of 40 psig under forecasted peak hourly demands to assure 20 psig under extreme and unforeseen conditions;

In the case of the Urban Village area, the peak flows are based on the municipal system which is operated by the City of Gainesville (GRU). These peak flows are established in the City of Gainesville Comprehensive Plan as follows:

City of Gainesville Comprehensive Plan Level of Service Standards

Policy 1.1.1 of the Potable Water/Wastewater Element provides the following LOS standards for potable water:

- Maximum Day (Peak) Design Flow: 200 gallons daily demand per capita;
- Pressure: The system shall be designed for a minimum pressure of 40 psig under forecasted peak hourly demands to assure 20 psig under extreme and unforeseen conditions;

Policy 1.1.2 of the Potable Water/Wastewater Element provides the following Level of Service standard for wastewater services:

- Average Day Standard: 113 gallons daily flow per capita. Peak Standard: 123 gallons daily flow per capita

Using the Level of Service standards provided in the City's Comprehensive Plan, the future water and sewer requirements for each land use scenario are estimated in Table 7 below. The figures based on the adopted Level of Service standards are significantly higher than those estimated by GRU. One reason for this is that the GRU figures are generated based on realistic expectations of system demand over a long range period of time, while the Level of Service standards are based on a desired level of service for proposed development for concurrency purposes. Also, the GRU standards separate residential and non-residential demand, while the Level of Service standards incorporate both into one per capita figure.

Table 7. Potable Water and Wastewater Demand (based on adopted Level of Service in City and County Comprehensive Plans)

Scenario Name	Potable Water Demand (gallons per capita)	Wastewater Demand (gallons per capita)
No Change	2,230,800	1,371,942
Core Park	2,274,200	1,398,633
Activity Node	6,123,800	3,766,137
Density Maximization	12,250,000	7,533,750

Note: Figures are based on City of Gainesville Comprehensive Plan Level of Service standards of 200 gallons per capita daily potable water demand and 123 gallons per capita daily wastewater demand.

IX. PUBLIC SCHOOLS

The Urban Village area is zoned for student attendance to Littlewood and Terwilliger Elementary, Kanapaha Middle, and Buchholz High schools. As Table 8 indicates, the current enrollment for the 2006 school year for the assigned elementary and high schools are above the permanent student capacity, while the projected enrollment for the middle school is below the permanent student capacity.

Table 8. School Capacity versus Enrollment

School Name	School Type	Capacity	Enrollment	Utilization Percentage
Littlewood	Elementary	616	650	105.5%
Terwilliger	Elementary	615	616	100.2%
Kanapaha	Middle	1,079	919	85.2%
Buchholz	High	2,054	2,357	114.8%

Source: School Board of Alachua County web site, School Capacity vs. Enrollment, Revised September 27, 2006.

Specific school assignments for students in the Urban Village area would be determined in accordance with Alachua County School Board Policy 5.11(2)(f), which states that the Board may assign or reassign students to alternative schools or programs located in or out of their assigned zone, for the health, safety, or welfare of the students, other students or staff, to relieve crowded schools or avoid school crowding. No assurances are given that the assignments will be made to the most closely located, or currently zoned, facilities. The provision of services to students in the Urban Village area may require redrawing of attendance zone lines, reassignment and busing to facilities elsewhere in the District, the use of temporary facilities, and/or the relocation of specific educational programs. This would need to be coordinated with the School Board.

Each of the Urban Village land use scenarios would result in a significant number of new public school students attending schools in the area. Table 9 indicates the projected number of elementary, middle, and high school students that could result from buildout of each of the proposed land use scenarios. These projections are based on general county-wide student generation multipliers used for planning purposes. Generally speaking, the higher the population of the scenario, the more potential new students will be generated in the study area. The projected number of new students could result in area public schools being further over-capacity, and further create a need for additional school facilities. Additional public school facilities would likely be needed under any of the land use scenarios, and in particular, the Activity Node Plan and Density Maximization Plan.

Table 9. Projected Number of Students for Buildout Scenarios

Scenario Name	Number of Dwelling Units	Number of Students
No Change	5,577	2,007 Elem.: 662 Middle: 542 High: 803
Core Park	5,686	2,047 Elem.: 675 Middle: 553 High: 819
Activity Node	15,310	5,512 Elem.: 1,819 Middle: 1,488 High: 2,205
Density Maximization	30,625	11,025 Elem.: 3,638 Middle: 2,977 High: 4,410

Note: Projections use a multiplier of .36 total new students per dwelling unit. The total is then broken down as follows: 33% elementary, 27% middle, and 40% high school

The Alachua County School District Tentative Facilities Work Program, revised November 7, 2006, indicates proposed general locations of planned public school facilities. Those planned facilities are as follows:

Elementary School - Fletcher property - 39th Ave., Alachua County
Elementary School - Oakmont property - 122nd Street, Alachua County
Elementary School - Tillman property - City of High Springs
Elementary School - Santrust property - City of Newberry
Elementary School - Future property to be determined - City of Alachua
High School - Diamond Sports Park - 122nd Street, Alachua County

These planned facilities would increase the overall student capacity of the district. In particular, the planned Oakmont property elementary school and the planned Diamond Sports Park high school may provide service to future students in the Urban Village area. These new sites may relieve capacity issues to some degree, although these planned facilities do not take into account the significant population increase that would result from the Activity Node or Density Maximization Plans. If either of these plans is recommended by the Subcommittee, there will need to be extensive coordination with the School Board regarding future school facility and capacity issues.

X. RECREATION

Alachua County Level of Service

Policy 1.2.4 (B) of the Capital Improvements Element of the Alachua County Comprehensive Plan states that the minimum Level of Service standard for recreation in the unincorporated area of Alachua County is 0.5 acres of improved activity-based recreation sites and 5.0 acres of improved resource-based recreation sites per 1,000 persons. The current population (2006) of the unincorporated County is 101,950. Under the adopted Levels of Service, this population requires 51 acres of improved activity-based recreation sites and 510 acres of improved resource-based recreation sites.

At present, the Alachua County Parks System consists of 96.28 acres of improved activity-based recreation and 519.91 acres of improved resource-based recreation. This yields an existing level of service of .94 for activity-based recreation and 5.10 for resource based recreation. Alachua County currently meets or exceeds the adopted level of service for recreational facilities.

The current County inventory of improved activity-based recreation will be sufficient to serve the unincorporated population through at least the Year 2025, under existing growth projections. The Activity Node and Density Maximization Plans would likely cause the County's level of service for activity based recreation to fall below the adopted standards prior to 2025 unless additional activity based sites are added to the system.

The level of service for improved resource-based recreation in the unincorporated County, however, will not be met beginning in the Year 2007, under existing growth projections. The Activity Node and Density Maximization Plans would likely cause the County's level of service for resource based recreation to fall further below the adopted standard unless additional activity based sites are added to the system.

It should be noted that portions of certain lands that have been acquired by Alachua County through the Alachua County Forever land conservation initiative are expected to be made publicly accessible and may be counted toward the resource-based level of service standard. At this time, it has not been determined how many acres of Alachua County Forever lands may be counted toward the improved resource-based recreation total, but these additional lands are, in part, anticipated to meet future needs.

City of Gainesville Level of Service

Currently, the City of Gainesville is meeting the minimum level of service standards for recreation facilities and park acreage, as provided in the City of Gainesville Comprehensive Plan. This is based on the April 1, 2005 population estimate of 119,889. Recreation level of service standards were analyzed for the four different land use scenarios based on the 2006 population estimate for the City of Gainesville of 120,919, and the four different Urban Village population estimates: 11,154, 11,371, 30,619, and 61,250. Additionally, since the Urban Village area includes Forest Park, a community

sized facility currently located in unincorporated Alachua County, the facilities in Forest Park were added to the facility and acreage numbers for the City of Gainesville, assuming this park would be part of the area annexed into the City.

Under the No-Change Scenario and Core Park Plan, the City of Gainesville would continue to meet the minimum level of service standards for recreation facilities and park acreage with the exception of tennis courts. The adopted level of service standard for tennis courts is 1 per 6,000 persons. The current 2006 level of service is 1 per 5,450. Under the scenarios, the level of service would be 1 per 6,003 and 1 per 6,013 respectively.

Under the Activity Node Plan, the level of service standards for tennis courts, trails, community park acreage, and total park acreage would fall below the adopted level of service standards. The level of service for tennis courts would be 1 per 6,888. The existing level of service standard for trails/linear corridor/greenway is 1 mile per 4,500 persons. Under the Activity Node Plan, this level of service would be 1 mile per 5,051 persons. The existing level of service standard for community parks is 2.00 acres per 1,000 persons; the Activity Node Plan level of service would be 1.92 acres per 1,000 persons. The existing level of service standard for total park acres per 1,000 persons is 9.30 acres. The level of service for total park acreage under the Activity Node Plan is 8.53 acres per 1,000 persons.

Finally, under the "density maximization" scenario, many level of service standards would fall below acceptable levels. In addition to the items listed above in the Activity Node population scenario, the level of service standards for swimming pool (50 meter), softball fields, basketball courts, and racquetball courts would fall below the level of service standards.

In the Urban Village area, there will continue to be sufficient access to recreation facilities. Forest Park is a community park located in the area that can be accessed by pedestrians and bicyclists in the area. These existing facilities serve the present population and will serve the future population of the Urban Village area. Although the development of recreational facilities in Possum Creek Park will help provide more "breathing room" for meeting level of service standards citywide, the acquisition of community park acreage will be necessary under the higher population scenarios. The park acreage along with a mix of facilities designed to meet citizen demands and the level of service standards should be considered to meet the future population increases.

Level of Service (LOS) for City Recreation Facilities and Parks

EXISTING CITY FACILITIES

Swim Pool (50 m)	3 pools total; 2 are 50m in size.
Swim Pool (25 yd)	Third pool is less than 50m in size
Softball Field (adult)	12
Soccer Field	9 not including SBAC or colleges; 26 including all SBAC and college sites (8 at UF, 1 at Santa Fe, 8 at Lincoln).
Trail/Linear Corridor/ Greenway	30 miles not including any of Gainesville/Hawthorne trail
Basketball Court	68 hoops (an estimated 34 courts)
Tennis Court	22
Racquetball Court	14 (15 at UF, 8 at Santa Fe)
Equipped Play Area	28

EXISTING CITY PARKS

Local Nature/CON	2,270.6 (City only, including Palm Point, not Depot Park)
Sports Complex	If Boulware Springs is counted as before, 103 acres.
Community Park	290.7 acres (Community park acreage minus Boulware S.)
Neighborhood Park	153.4 acres (not including SBAC)

Table 10. City of Gainesville Recreation Level of Service for Each Land Use Scenario

No Change Scenario

FACILITY	**Existing 2000 LOS Standard**	**No Change Scenario Level of Service**
Swim Pool (50m)	1 per 85,000	1 per 66,036
Swim Pool (25 yd)	1 per 75,000	1 per 44,024
Softball Field (adult)	1 per 14,000	1 per 11,006
Soccer Field	1 per 11,000	1 per 14,675 without SBAC and colleges; 1 per 5,080 with SBAC and colleges
Trail/Linear Corridor/Greenway	1 mile per 4,500	1 mile per 4,402*
Basketball Court	1 per 4,500	1 per 3,884
Tennis Court	1 per 6,000	1 per 6,003
Racquetball Court	1 per 12,000	1 per 9,434
Equipped Play Area	1 per 10,000	1 per 4,717**
PARK	**Existing 2000 LOS Standard (acres per 1,000 people)**	**No Change Scenario Level of Service (acres per 1,000 people)**
Local Nature/Conservation	6.00 acres	17.19 acres**
Sports Complex	0.50 acres	0.78 acres
Community Park	2.00 acres	2.20 acres
Neighborhood Park	0.80 acres	1.22 acres
Total Acres Per 1000***	9.30 acres	9.79 acres

*** Does not include Duval Stormwater Park** **** Does not include Depot Park.**

Core Park Plan

FACILITY	Existing 2000 LOS Standard	Core Park Plan Level of Service
Swim Pool (50m)	1 per 85,000	1 per 66,145
Swim Pool (25 yd)	1 per 75,000	1 per 44,096
Softball Field (adult)	1 per 14,000	1 per 11,024
Soccer Field	1 per 11,000	1 per 14,699 without SBAC and colleges; 1 per 5,088 with SBAC and colleges
Trail/Linear Corridor/Greenway	1 mile per 4,500	1 mile per 4,409*
Basketball Court	1 per 4,500	1 per 3,891
Tennis Court	1 per 6,000	1 per 6,013
Racquetball Court	1 per 12,000	1 per 9,449
Equipped Play Area	1 per 10,000	1 per 4,725**
PARK	**Existing 2000 LOS Standard (acres per 1,000 people)**	**Core Park Plan Level of Service (acres per 1,000 people)**
Local Nature/Conservation	6.00 acres	17.16 acres**
Sports Complex	0.50 acres	0.78 acres
Community Park	2.00 acres	2.20 acres
Neighborhood Park	0.80 acres	1.22 acres
Total Acres Per 1000***	9.30 acres	9.78 acres

*** Does not include Duval Stormwater Park** **** Does not include Depot Park.**

Activity Node Plan

FACILITY	Existing 2000 LOS Standard	Activity Node Plan Level of Service
Swim Pool (50m)	1 per 85,000	1 per 75,769
Swim Pool (25 yd)	1 per 75,000	1 per 50,513
Softball Field (adult)	1 per 14,000	1 per 12,628
Soccer Field	1 per 11,000	1 per 16,838 without SBAC and colleges; 1 per 5,828 with SBAC and colleges
Trail/Linear Corridor/Greenway	1 mile per 4,500	1 mile per 5,051*
Basketball Court	1 per 4,500	1 per 4,457
Tennis Court	1 per 6,000	1 per 6,888
Racquetball Court	1 per 12,000	1 per 10,824
Equipped Play Area	1 per 10,000	1 per 5,412**
PARK	**Existing 2000 LOS Standard (acres per 1,000 people)**	**Activity Node Plan Level of Service (acres per 1,000 people)**
Local Nature/Conservation	6.00 acres	14.98 acres**
Sports Complex	0.50 acres	0.68 acres
Community Park	2.00 acres	1.92 acres
Neighborhood Park	0.80 acres	1.06 acres
Total Acres Per 1000***	9.30 acres	8.53 acres

*** Does not include Duval Stormwater Park** **** Does not include Depot Park.**

Density Maximization Plan

FACILITY	Existing 2000 LOS Standard	Density Maximization Plan Level of Service
Swim Pool (50m)	1 per 85,000	1 per 91,084
Swim Pool (25 yd)	1 per 75,000	1 per 60,723
Softball Field (adult)	1 per 14,000	1 per 15,181
Soccer Field	1 per 11,000	1 per 20,241 without SBAC and colleges; 1 per 10,716 with SBAC and colleges
Trail/Linear Corridor/Greenway	1 mile per 4,500	1 mile per 6,062*
Basketball Court	1 per 4,500	1 per 5,358
Tennis Court	1 per 6,000	1 per 8,280
Racquetball Court	1 per 12,000	1 per 13,021
Equipped Play Area	1 per 10,000	1 per 6,506**
PARK	**Existing 2000 LOS Standard (acres per 1,000 people)**	**Density Maximization Plan Level of Service (acres per 1,000 people)**
Local Nature/Conservation	6.00 acres	12.46 acres**
Sports Complex	0.50 acres	0.56 acres
Community Park	2.00 acres	1.60 acres
Neighborhood Park	0.80 acres	0.88 acres
Total Acres Per 1000 people***	9.30 acres	7.10 acres

*** Does not include Duval Stormwater Park** **** Does not include Depot Park.**

NOTES:

The No Change Scenario LOS is based on the April 1, 2006 estimated City of Gainesville population of 120,919 + 11,154 = 132,073.

The Core Park Plan LOS is based on the April 1, 2006 estimated City of Gainesville population of 120,919 + 11,371 = 132,290.

The Activity Node Plan LOS is based on the April 1, 2006 estimated City of Gainesville population of 120,919 + 30,619 = 151,538.

The Density Maximization Plan LOS is based on the April 1, 2006 estimated City of Gainesville population of 120,919 + 61,250 = 182,169.

Underline represents new facility totals based on the addition of Forest Park.

Highlighted areas in tables represent LOS deficiencies.

XI. PUBLIC SAFETY

Policy 1.2.5 of the Capital Improvements Element of the Alachua County Comprehensive Plan provides Level of Service standards for Fire Rescue services.

> ***Policy 1.2.5*** *Alachua County shall adopt LOS guidelines for Category "C" public facilities, and include those facilities in the CIP. These LOS guidelines are to be used for analysis and identification of Capital Improvement Project needs for these facilities to be included in the Capital Improvement Program. These level of service guidelines shall be for advisory purposes only. The LOS guidelines for Category "C" public facilities are the following:*
>
> *A. Fire LOS guidelines are as follows:*
>
> *1. In the Urban Service Area, initial unit response LOS guideline is within 4 minutes for 80% of all emergency responses within a 12 month period. Fire suppression/ protection service level for all properties in the Urban Service Area shall be at the ISO (Insurance Service Office) Class Protection 4 or better. Land development regulations shall require that 100% of development shall provide water supply served by hydrants.*
>
> *2. In the Urban Cluster, initial unit response LOS guideline is within 6 minutes for 80% of all emergency responses within a 12 month period. Fire suppression /protection service level for all properties in the Urban Cluster shall be at the ISO (Insurance Service Office) Class Protection 6 or better. Land development regulations shall require that 100% of development shall provide water supply served by hydrants.*

The Urban Village area is served primarily by Alachua County Fire Station 19 located at the corner of SW 20th Avenue and SW 43rd Street, with expanded response and coverage by Gainesville Fire Rescue Stations 2 and 4. The Urban Village area is well within the response zone of County Station 19 (not on the fringe of the response zone). Given the proximity of County Fire Station 19 to this area, the response times should not be significantly impacted due to any of the proposed land use scenarios. The Level of Service guidelines as listed in Policy 1.2.5 of the Capital Improvements Element, therefore, should continue to be maintained under any of the scenarios without a need for new equipment or stations. It should also be noted that any new structures built in the Urban Village will be fully compliant with the Florida Fire Code (sprinkler systems, firewalls, etc).

XII. STORMWATER MANAGEMENT

The higher density Urban Village scenarios may require unique approaches to stormwater management, including the development of an area-wide approach to stormwater and the implementation of select Low Impact Development (LID) principles. The Urban Village: SW 20th Avenue Transportation Design Proposal provides the following recommendations relating to stormwater management:

- *Whenever possible, utilize decentralized water catchments and retention, rather than channeling runoff. This is the basis for utilizing green spaces as the organizational anchor of the village*

- *Provide stormwater systems that will retain water for extended periods to allow wetland grasses and reeds to flourish.*

- *Promote green roof systems as alternatives to stormwater catchment requirements. Green roofs slowly absorb rain and delay runoff peak and reduce runoff intensity. This relieves the pressure caused by local downpours.*

These recommendations represent a small part of an overall stormwater management approach known Low Impact Development (LID). The Low Impact Development Center provides the following general description of LID:

> *Low Impact Development is an innovative stormwater management approach with a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed decentralized micro-scale controls. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. Techniques are based on the premise that stormwater management should not be seen as stormwater disposal. Instead of conveying and managing / treating stormwater in large, costly end-of-pipe facilities located at the bottom of drainage areas, LID addresses stormwater through small, cost-effective landscape features located at the lot level. These landscape features, known as Integrated Management Practices (IMPs), are the building blocks of LID. Almost all components of the urban environment have the potential to serve as an IMP. This includes not only open space, but also rooftops, streetscapes, parking lots, sidewalks, and medians. LID is a versatile approach that can be applied equally well to new development, urban retrofits, and redevelopment / revitalization projects.*

LID techniques are particularly relevant and effective in a more urban setting, such as the one proposed in the Urban Village. LID provides opportunities to retrofit existing highly urbanized areas with pollution controls, as well as address environmental issues in newly

developed areas. Many LID techniques, such as rooftop retention (green roofs), permeable pavements, and bioretention provide for the reduction of impervious surfaces on individual development sites, which reduce the volume of runoff generated by rainfall. In high density urban areas, stormwater flows can be directed into rain barrels, cisterns or across vegetated areas. Opportunities also exist to implement bioretention systems in parking lots with little or no reduction in parking space.

Implementation of LID stormwater management techniques for the preferred Urban Village land use scenario will require a more comprehensive evaluation of City, County, and Water Management District regulations to determine how these techniques fit in with existing stormwater management policies and requirements. This evaluation should include identification of those areas within the Urban Village where LID stormwater management techniques would be required in order to limit the impacts of urban stormwater runoff on surface waters in the and around the study area. In particular, the property in the northwestern portions of the study area, which are proposed for High Density Mixed Use under the Activity Node and Density Maximization Plans, should be considered for possible implementation of LID stormwater management techniques because of their proximity to Hogtown Creek, which is designated as an Impaired water body (see Section VII).

XIII. AFFORDABLE HOUSING

Recent data indicates that there are approximately 4,201 total dwelling units in the Urban Village Study Area. Approximately 3,700 (88%) are multi-family units and 12% are single-family units.

At the densities proposed under all four scenarios, any new residential development or redevelopment that occurs will most likely be multi-family or single-family attached. The maximum residential densities proposed under the No-Change Scenario (1 to 24 units/acre) and Core Park Plan (14 to 24 units/acre) would likely result in a mix of multi-family and single-family attached housing unit types. The maximum residential densities proposed under the Activity Node Plan (40 to 75 units/acre) and Density Maximization Plan (80 to 150 units/acre) would result in predominantly multi-family housing unit types. The densities proposed under the Activity Node and Density Maximization Plan would provide a unique housing choice for residents of the community.

Higher density housing can potentially be more affordable than lower density housing by virtue of its design. High density housing constructed as apartments, town homes or condos typically has a smaller parcel footprint than conventional single family housing. Units are often constructed up instead of out without extra yard space, but share some common area. The construction of higher density housing often places units one above the other, allowing several or more housing units to occupy a single parcel footprint. Constructing a sufficient number of dwelling units on a given parcel provides a developer with a greater return on their investment in sales or rents, which can be passed onto the consumer in the form of more affordable housing. At the same time, however, the construction costs for multiple-story buildings can be greater than single-story buildings due to additional construction and engineering requirements.

Another indirect consideration relating to the issue of housing affordability involves transportation costs. Persons residing in housing which is located in close proximity to employment centers and public transit corridors would have shorter commutes to work or school, and these commutes may be via transit, bike, or walking, as opposed to the automobile. In such cases, people may spend a lower percentage of their income on transportation, allowing them the option of spending a greater percentage of their income on housing. The transportation cost savings realized by people living in a dense mixed use transit-oriented setting may allow a percentage of the population to afford housing in the local market which may not have otherwise been affordable to them.

The Alachua County Comprehensive Plan Housing Element Policy 1.1.1 requires the provision of areas for residential development which would be suitable for the development of affordable housing. The policy states that these areas shall take into account the availability of infrastructure and land, the accessibility to employment and services, the proximity to shopping, daycare facilities, transit corridors, and the promotion of infill opportunities. The Urban Village area has available urban infrastructure and land, although roadway level of service is an issue that must be addressed; the area is accessible to employment, with its proximity to the University of

Florida and Shands; the area is accessible to services and shopping, with its proximity to Butler Plaza and the Oaks Mall, and their surrounding commercial areas; the area is served by a heavily used transit corridor; and the area does present possible infill opportunities. The Urban Village Study Area is an area that could be suitable for the development of affordable housing.

SUPPLEMENTAL INFORMATION FROM TRANSPORTATION CONSULTANT

Information provided directly by consultant via email in response to questions from the Subcommittee at the February 28 meeting

1) Travel time from SW 62nd Blvd to SW 34th Street on SW 20th Avenue:

No Change	- 10.4 minutes
Core Park	- 11.6 minutes
Activity Node	- 12.4 minutes

2) Unfortunately we are unable to estimate emissions at this time. The current model did not include the air quality module, and there are too many factors to calculate it manually. What we can do is estimate the amount of delay between scenarios, the more delay the higher the particulate matter and ozone levels.

Using the same corridor of SW 20th Avenue, with no congestion the trip from SW 62nd blvd to SW 34th Street would take on average 5 minutes
(4.8 according to the model)

No Change	- 5.6 minutes of delay with congestion
Core Park	- 6.8 minutes of delay with congestion
Activity Node	- 7.6 minutes of delay with congestion

3) Internal Capture - number of person trips with origins in the Urban Village / the number of trips with destinations in the urban village.

No Change	- 7.8%
Core Park	- 8.2%
Activity Node	- 7.6%

The reason these numbers are so close is because as the scenarios increased destinations (employment opportunities) the productions (population) increased at a higher rate. The raw numbers show a substantial increase in the number of trips being satisfied within the Urban Village but the amount of trips being produced in the scenarios is roughly the same amount.

No Change	- 25,000 person trips, with 2,000 internal trips
Core Park	- 33,000 (+30%), with 2,700 (+34%) internal trips
Activity Node	- 53,000 (+106%), with 4,000 (+101%) internal trips