



**Mayor**  
Ben White  
**Mayor ProTem**  
Lynn McIlhaney  
**City Manager**  
Glenn Brown

**Councilmembers**  
John Crompton  
James Massey  
Dennis Maloney  
Lawrence Stewart  
David Ruesink

**Agenda**  
**College Station City Council**  
**Workshop Meeting**  
**Thursday, September 25, 2008 2:00 p.m.**  
**City Hall Council Chambers, 1101 Texas Avenue**  
**College Station, Texas**

Workshop

1. Presentation, possible action, and discussion on items listed on the consent agenda.
2. Presentation, possible action, and discussion regarding crime issues and trends impacting the community as well as the organizational transformation and the implementation of a new policing vision and strategy.
3. Presentation, possible action, and discussion on the implementation of the strong and sustainable neighborhoods program including enhanced development services, enhanced neighborhood services, and enhanced code enforcement.
4. Presentation, possible action, and discussion regarding the UDO requirements related to single-family dwelling units.
5. Presentation, possible action and discussion regarding possible revisions to the Park Land Dedication Ordinance.
6. Presentation, possible action, and discussion regarding a proposed wireless plan for the City.
7. Council Calendar
  - September 29 American Society of Mechanical Engineers at Green room – Wolf Pen Creek, 3:00 p.m.
  - September 30 Dedication and Ribbon Cutting Ceremony at Bryan Justice Center, 4:00 p.m.
  - October 2 6<sup>th</sup> Annual International Faculty and Scholar Welcome BBQ at Veterans Park, 5:00 p.m.
  - October 3 National Night Out Proclamation at Brazos County Admin. Bldg, 12:00 p.m.
  - October 4 Kick off Event for City Manager at Post Oak Mall, 10:00 a.m.
  - October 5 Annual Intercultural Friendship and Dialog Dinner at Pebble Creek Ctry Club, 6:30 p.m.
  - October 6 2008 Fall Girl's Softball Opening Ceremonies at Stephen C. Beachy Centrl Park, 6:00 pm
  - October 7 National Night Out, 5:00 p.m.
  - October 9 Council Workshop/Regular Meeting, 3:00 p.m. & 7:00 p.m.
8. Presentation, possible action, and discussion on future agenda items: A Council Member may inquire about a subject for which notice has not been given. A statement of specific factual information or the recitation of existing policy may be given. Any deliberation shall be limited to a proposal to place the subject on an agenda for a subsequent meeting.

*Traditional Values, Progressive Thinking*  
*In the Research Valley*

9. Discussion, review and possible action regarding the following meetings: Arts Council of the Brazos Valley, Audit Committee, Brazos County Health Dept., Brazos Valley Council of Governments, Brazos Valley Wide Area Communications Task Force, Cemetery Committee, Design Review Board, Historic Preservation Committee, Interfaith Dialogue Association, Intergovernmental Committee, Joint Relief Funding Review Committee, Library Committee, Metropolitan Planning Organization, National League of Cities, Outside Agency Funding Review, Parks and Recreation Board, Planning and Zoning Commission, Sister City Association, TAMU Student Senate, Research Valley Partnership, Regional Transportation Committee for Council of Governments, Texas Municipal League, Transportation Committee, Wolf Pen Creek Oversight Committee, Wolf Pen Creek TIF Board, Zoning Board of Adjustments (Notice of Agendas posted on City Hall bulletin board).

10. Executive Session will immediately follow the workshop meeting in the Administrative Conference Room.

Consultation with Attorney {Gov't Code Section 551.071}; possible action. The City Council may seek advice from its attorney regarding a pending or contemplated litigation subject or settlement offer or attorney-client privileged information. Litigation is an ongoing process and questions may arise as to a litigation tactic or settlement offer, which needs to be discussed with the City Council. Upon occasion the City Council may need information from its attorney as to the status of a pending or contemplated litigation subject or settlement offer or attorney-client privileged information. After executive session discussion, any final action or vote taken will be in public. The following subject(s) may be discussed:

- a. Application with TCEQ for permits in Westside/Highway 60 area, near Brushy Water Supply Corporation.
- b. Sewer CCN permit requests.
- c. Water CCN permit requests.
- d. Water service application with regard to Wellborn Special Utility District.
- e. Bed & Banks Water Rights Discharge Permits for College Station and Bryan
- f. Legal aspects of Water Well, permits and possible purchase of or lease of water well sites.
- g. Cliff A. Skiles, DVM & C.A. Skiles Family Partnership, Ltd. Water permit applications with the Brazos Valley Groundwater Conservation District.
- h. JK Development v. College Station.
- i. Taylor Kingsley v. College Station.
- j. State Farm Lloyds as Subrogee of Mikal Klumpp v. College Station.
- k. TMPA v. PUC (College Station filed Intervention).
- l. City of Bryan suit filed against College Station, Legal issues and advise on Brazos Valley Solid Waste Management Agency contract, on proposed methane gas contract. Update on legal proceedings for Grimes County Landfill site and contracts for development of Grimes County site.

Real Estate {Gov't Code Section 551.072}; possible action The City Council may deliberate the purchase, exchange, lease or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the City in negotiations with a third person. After executive session discussion, any final action or vote taken will be in public. The following subject(s) may be discussed:

- a. Hotel/Conference Center

Economic Incentive Negotiations {Gov't Code Section 551.087}; possible action The City Council may deliberate on commercial or financial information that the City Council has received from a business prospect that the City Council seeks to have locate, stay or expand in or near the city with which the City Council in conducting economic development negotiations may deliberate on an offer of financial or other

incentives for a business prospect. After executive session discussion, any final action or vote taken will be in public. The following subject(s) may be discussed:

a. Proposed Development generally located southeast of the Intersection of Earl Rudder Freeway and Southwest Parkway.

11. Action on executive session, or any workshop agenda item not completed or discussed in today's workshop meeting will be discussed in tonight's Regular Meeting if necessary.

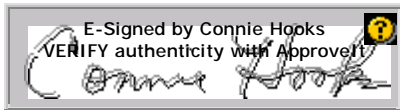
12. Adjourn.

APPROVED:

\_\_\_\_\_  
City Manager

Notice is hereby given that a Workshop Meeting of the City Council of the City of College Station, Texas will be held on the 25<sup>th</sup> day of September, 2008 at 2:00 pm in the City Hall Council Chambers, 1101 Texas Avenue, College Station, Texas. The following subjects will be discussed, to wit: See Agenda

Posted this 22<sup>nd</sup> day of September, 2008 at 1:00 pm.



\_\_\_\_\_  
City Secretary

I, the undersigned, do hereby certify that the above Notice of Meeting of the Governing Body of the City of College Station, Texas, is a true and correct copy of said Notice and that I posted a true and correct copy of said notice on the bulletin board at City Hall, 1101 Texas Avenue, in College Station, Texas, and the City's website, [www.cstx.gov](http://www.cstx.gov) . The Agenda and Notice are readily accessible to the general public at all times. Said Notice and Agenda were posted on September 22, 2008 at 1:00 pm and remained so posted continuously for at least 72 hours proceeding the scheduled time of said meeting.

This public notice was removed from the official board at the College Station City Hall on the following date and time: \_\_\_\_\_ by \_\_\_\_\_.

Dated this \_\_\_\_ day of \_\_\_\_\_, 2008.  
CITY OF COLLEGE STATION, TEXAS

By \_\_\_\_\_

Subscribed and sworn to before me on this the \_\_\_\_ day of \_\_\_\_\_,  
\_\_\_\_\_  
Notary Public – Brazos County, Texas

My commission expires: \_\_\_\_\_

This building is wheelchair accessible. Handicap parking spaces are available. Any request for sign interpretive service must be made 48 hours before the meeting. To make arrangements call (979) 764-3517 or (TDD) 1-800-735-2989. Agendas may be viewed on [www.cstx.gov](http://www.cstx.gov). Council meetings are broadcast live on Cable Access Channel 19.

**September 25, 2008  
Workshop Agenda Item No. 2  
Police Department Update**

**To:** Glenn Brown, City Manager

**From:** Michael A. (Ike) Ikner, Police Chief

**Agenda Caption:** Presentation, possible action, and discussion regarding crime issues and trends impacting the community as well as the organizational transformation and the implementation of a new policing vision and strategy.

**Recommendation(s):** N/A

**Summary:** It is important for any police chief to provide the council with both a mid-year and annual summary of trends and issues impacting public safety which affords them a situational awareness related to the police department's operations. This presentation will summarize major crime statistical data and trends from January 1, 2008 through August 31, 2008. Additionally, I will offer my policing vision, strategy and planned organizational modifications to achieve our public safety mission. Lastly, I will address any questions from the Council.

**Budget & Financial Summary:** TBD

**Attachments:** N/A

**September 25, 2008**  
**Workshop Agenda Item No. 3**  
**Implementation of Strong and Sustainable Neighborhoods Program**

**To:** Glenn Brown, City Manager

**From:** Bob Cowell, AICP, Director of Planning & Development Services

**Agenda Caption:** Presentation, possible action, and discussion on the implementation of the strong and sustainable neighborhoods program including enhanced development services, enhanced neighborhood services, and enhanced code enforcement.

**Recommendation(s):** Staff recommends the Council provide direction on implementation efforts regarding the program.

**Summary:** In the winter of 2007 and the spring of 2008 staff worked with stakeholders representing the neighborhoods, TAMU students, TAMU Administration, property managers, and others to develop a comprehensive approach to developing and maintaining strong and sustainable neighborhoods. This effort culminated in a report entitled "Strong and Sustainable Neighborhoods: An Action Plan for Neighborhood Integrity". This report outlined four strategies to address the issues identified. Each of these strategies had a series of actions that would result in implementation of the plan.

In the spring of 2008 the City Council accepted the report and directed staff to proceed with its recommendations. Since that time the staff has proceeded with implementation of the immediate items (organizational restructuring, re-activation of the party patrol, etc), initiated work on the mid-term items (rental registration, increased interaction with TAMU, etc) and started the planning work for long-term items (increased development standards for high-density rental developments, etc).

The purpose of this workshop item is to update Council on the actions taken to date and to further discuss the implementation of this program.

**Budget & Financial Summary:** Budget adjustments enabling additional code officers, police officers, etc. have been included in the City Manager's FY2009 budget proposal.

**Attachments:**

1. Strong and Sustainable Neighborhoods Report

# **Strong and Sustainable Neighborhoods An Action Plan for Neighborhood Integrity**

## **Introduction**

Neighborhood Integrity or perhaps more to the point, the desire for strong neighborhoods meeting the demand for housing and contributing positively to the quality of life experienced in College Station, has been at the forefront of community discussions for some time. Indeed, one could argue that the desire to build and maintain strong neighborhoods closely integrated with the University was the very basis for the formation of the city itself.

As the home of Texas A&M University, College Station is home to thousands of university students. As the University continues its growth and expansion, the community has the opportunity to accommodate an increasing number of students in off campus housing. Our challenge is to welcome the increasing number of students while retaining the strength and vitality of our neighborhoods.

Among the challenges before us are; first our housing stock is aging resulting in maintenance requirements and often leading to investment ownership and renter occupation in traditional single family neighborhoods. Second, there are issues which manifest themselves in our residential neighborhoods as a result increased number of units being available for rent – parking, trash, poorly maintained housing, and noise. Third, homeowners view the transition of homes in their neighborhoods into rentals as intrusive and unwelcome change. Finally, current market conditions will likely see additional housing constructed to accommodate the student rental market.

## **Objective of this Action Plan**

Strong and Sustainable Neighborhoods – An Action Plan for Neighborhood Integrity has a threefold objective:

1. Gain an understanding of the issues and present a policy rationale for strong and sustainable neighborhoods.
2. Identify existing neighborhood integrity efforts employed in the City of College Station.
3. Recommend specific policy initiative(s) to enhance existing efforts.

## **Rationale for Strong and Sustainable Neighborhoods**

Neighborhoods are the basic building blocks of our city. Neighborhoods are where we live, raise our families, and socialize with our friends and neighbors. In many ways our city is only as strong and sustainable as our neighborhoods. Our neighborhoods are a collection of varying housing types with an increasingly diverse occupancy composition. There are greater than 34,000 dwelling units (including all housing types except “group quarters”) in College Station. The majority of these dwelling units are renter occupied, though the majority of single family homes remain owner occupied.

In 2000 it was estimated that nearly 75% of the single family homes located in College Station were owner occupied. Still more than 5,000 single family homes are occupied by renters. Further, the majority of dwelling units are occupied by non-family households, that is households functioning as a family but not related to one another. In 2000 it was estimated that approximately 60% of all households were composed of non-related individuals.

College Station citizens have been clear in their desire to promote strong and sustainable neighborhoods. Throughout the Comprehensive Plan update, citizens voiced their support for efforts that protect neighborhood integrity. The Comprehensive Plan Advisory Committee (CPAC) has addressed this specifically through establishing working goals for the Comprehensive Plan update that state “Strong, unique neighborhoods...” and “Long-term viability and appeal of established neighborhoods”.

For the purposes of this action plan we have adopted the working goal of

*Protect and Strengthen College Station neighborhoods resulting in distinct neighborhoods that welcome homeowners, renters, students and others, maintain their viability over time and enhance the overall quality of life for our citizens.*

Strong and sustainable neighborhoods are too important to leave to piece-meal solutions implemented to address what is portrayed as the current crisis. Strong and sustainable neighborhoods demand the best we have to offer; that is a thoughtful and comprehensive policy approach that contributes positively to the quality of life for all that call College Station home.

The City Council directed the City Manager at its November 19, 2007 Council meeting to proceed with developing a holistic response to issues being confronted by College Station neighborhoods. Since receiving direction from the Council, the following actions have been undertaken:

- Convened a 35+ member engagement panel consisting of homeowners, students, realtors/investors, TAMU administration and city staff
- Conducted two – day long engagement sessions to identify issues and possible solutions
- Conducted a review of best practices from other major university communities
- Conducted a review of existing codes, ordinances, and organizational practices of the City of College Station to identify gaps, inconsistencies, and potential areas of modification
- Established an interactive web page discussing neighborhood integrity

## **Challenges Before Us**

Given the current and anticipated future environment, the City government is being called to provide leadership in the critical area of Neighborhood Integrity. The Council has recognized the need to be proactive articulating through its Strategic Plan several policy directives and initiatives related to neighborhood integrity. This proposed Plan of Action attempts to quantify and offer the Council and community specific direction to move the organization and community towards a positive response to our present and future conditions.

As we address the challenges presented by enhancing the quality of our neighborhoods, providing protection to homeowners, and providing a welcoming home to our university students, we must acknowledge it is a shared responsibility by the entire community – City government, resident homeowners, students, investor-property managers, and University administration. We will not be successful without the full involvement of each key stakeholder to contribute towards the solution.

The City government must take a leadership role to bring together the key stakeholders. We must position ourselves to implement strategies and programs to enhance the quality of life and stabilize neighborhoods in transition. There must be a full recognition that we have limitations. We must strike a clear balance between actions appropriately belonging with City government and actions which more appropriately belong to other key stakeholders.

The proposed Plan of Action should be viewed as a beginning point and not an end unto itself. The proposed plan presents several key strategies, programs, and actions which represents our best efforts to understand the problem and offer meaningful responses to address the identified problems.

## **Emphasis Areas, Proposed Strategies and Actions**

### **Emphasis Areas**

- § Adapt current service delivery system (planning, code enforcement, outreach, etc) to have a greater orientation toward neighborhoods.
- § Enhanced use of regulatory and enforcement tools currently available to the City
- § Full engagement of all stakeholders in the solution

### **1.0 Strategy**

Improve the capacity of neighborhoods to deal with a myriad of planning and quality of life issues including those resulting from an aging housing stock and an increase in the number of rental units.

One of the many challenges we face is the recognition that we have aging housing stock in the community. As the housing stock ages, it is frequently converted to rental units in previously owner occupied single family neighborhoods or falls into disrepair. Our strategy suggests that we should be proactive in addressing this issue through multiple actions.



- 1.1 Action Re-establish the neighborhood planning program and ensure that the efforts compliment the comprehensive plan and are closely aligned with City objectives to stabilize and enhance neighborhoods. Our Neighborhood Planning efforts should focus on developing neighborhood specific strategies and protections to promote neighborhood stabilization, appearance, public infrastructure, and compatible land use.
- 1.2 Action Promote home ownership through various programs managed by the City for first time home buyers to increase homeownership in targeted neighborhoods. Home ownership is a key to neighborhood stabilization.
- 1.3 Action Use adopted property maintenance codes and ordinances to enhance property maintenance. We need to better use existing legislation to promote neighborhood pride and appearance.

**2.0 Strategy** Orient service delivery toward neighborhoods and enhance the City's enforcement tools to better address the rental market.

- 2.1 Action Establish a single point of responsibility in the City organization oriented to addressing neighborhood issues and coordination of all City programs. One of the weaknesses identified through this process was the identification of multiple points of entry into the City processes. This can be both confusing and time consuming for citizens with legitimate concerns.
- 2.2 Action Conduct intensive neighborhood enforcement programs in select neighborhoods for code compliance. This is a multi-functional approach to address transitional neighborhoods. If a neighborhood association is not present work to develop an association. Provide education programs as well as enforcement activities. Bring together key stakeholders to identify needs of the neighborhood and use the array of tools provided in this plan to address the concerns.
- 2.3 Action Promote the formation and registration of neighborhood associations and enhance their effectiveness. Perhaps one of the best ways that a neighborhood can partner with the city and others ensuring that neighborhoods remain strong and sustainable is to form a neighborhood association and to get it registered with the city. This organizational structure allows us to address issues in a systematic manner and enables the city to readily engage neighborhood. Certain services offered by the city can only be reasonably offered at this level.
- 2.4 Action Implement Universal Rental Registration Program. All single family rental properties should be registered at no cost to the property owner. The registration should be minimally intrusive and should be easy to complete. The information collected should include a mandatory local point of contact and the current number and names of tenants on the lease.

Registrations should be renewed annually and should coincide with the University calendar. This always creates an opportunity to present information to tenants about city codes, neighborhood activities, and the educational programs offered by the city.

- 2.5 Action Landlords and property investors should be encouraged to adopt model leases which provide protections to landlords to deal with difficult situations. The model lease is in place with a number of properties already in the city with good results. The City and Landlord Associations should through its education efforts strongly suggest the adoption of the model lease to provide landlords with the tools to address problem properties.
  - 2.6 Action Enhance development standards. Dense small lot development (i.e., developments that are susceptible to conversion to rental units) should have higher development standards including no parking zones concurrent upon recording of the plat, designated overflow parking areas, mandatory alleys, off-street parking tied to # of bedrooms, maximum lot coverage, etc. These standards could be lessened or waived if the development is subjected to a zoning prohibition against two or more unrelated individuals residing in the homes.
  - 2.7 Action Improve data collection on neighborhood problems and challenges. Better use of the city's web site and GIS to collect data on neighborhood problems should be implemented. Better collection of data related to violations, including mapping, data bases, etc. to aid in identifying trends and "hot spots" to permit proactive action by the City in addressing the issues and concerns.
- 3.0 Strategy** Educate key stakeholders and community. One of the critical needs is to provide continuous education of key stakeholders on the need to have strong viable neighborhoods.
- 3.1 Action Fully implement the Aggieland Solution program presented by TAMU student leadership. This is a proactive program which benefits the entire community.
  - 3.2 Action Work with University Administration to apply the Aggie Code of Honor and other codes of conduct and behavior to off campus activities. This will provide an additional support system to assist students in transitioning to life in the community at large and promote good citizenship.
  - 3.3 Action Work with University Administration to educate students upon arrival on Campus to understand community standards and expectations. There is a gap between students understanding local standards and expectations which can be met during orientation sessions when they arrive on campus to begin their college work.

- 3.4 Action     Develop and implement “Howdy Neighbor” program as a direct outreach by neighborhood associations to welcome new residents to their neighborhoods. There are several good examples already in place within the community in which neighborhood associations provide new residents with informational packets to help them transition into the neighborhood. This program needs to be expanded and implemented by Neighborhood Associations.
- 3.5 Action     The City government should develop a comprehensive training and education program to assist key stakeholders to address the many facets of this Plan of Action. The city should become the reservoir of materials, information, and programs to assist students, neighborhood associations, individual citizens, and landlords to obtain information to assist them in developing a positive response to Neighborhood Integrity issues.
- 3.6 Action     Establish performance measures that address programmatic accomplishments, outputs, and outcomes. These measures should be grounded in this action plan and other adopted Council plans and policies and should be use to determine the success of the various efforts identified in this plan.

**4.0 Strategy**   Provide for additional enforcement tools to address Neighborhood Integrity issues. This plan suggests a number of specific proposals to address Neighborhood Integrity.

- 4.1 Action     Amend the City code to codify that any property that receives three verified actions (i.e., written warnings, citations, etc) in a period of one year (that is the registration cycle) will be considered a nuisance property and procedures for enforcement as provided by Local Government Code will be initiated by the City. Failure to have a property properly registered at the time of a verified complaint shall constitute a verified action in itself. Once a property has been declared a nuisance property a zero tolerance policy will be employed for a period of at least one year, meaning that subsequent verified actions will result in mandatory levying of applicable citations and fines.
- 4.2 Action     Amend the City code to codify host responsibilities for parties in residential areas. This should clearly outline who is responsible for what and what the potential consequences will be for failure to meet these expectations. This information could be made a part of what is delivered to the tenants during the rental registration process.
- 4.3 Action     Adopt a mediation procedure to resolve areas of disagreement between various parties involving Neighborhood Integrity issues. The mediation procedure is suggested by the Aggieland Solution and merits implementation.

### **Unrelated Individuals**

A great deal of discussion has centered around the issue of the permitted number of unrelated individuals allowed to reside in a single dwelling unit. Currently the City regulates this number at four per unit. It is the staff's belief that the afore-described action plan can succeed with or without adjustment in the permitted number of unrelated individuals. If Council elects to reduce the permitted number of unrelated individuals, staff continues to recommend all of the identified actions contained in this plan. If Council elects to reduce the permitted number of unrelated individuals it is recommended that such a provision apply only to neighborhoods that succeed in securing the support of at least 60% of the property owners located in a plat or phase of a plat. It is also important to remember that any such action will not eliminate the non-conforming (or grandfathered) status of properties currently housing four unrelated individuals.

### **Conclusions**

A real opportunity exists in College Station. An opportunity to demonstrate how a community can welcome thousands of students, address an aging housing stock, and build strong and sustainable neighborhoods. This opportunity will not be without its challenges, but then few things that are worth doing come without challenges. This opportunity requires a clear focus, tailored solutions, and the commitment of all partners. Implementation of this action plan will result in strong and sustainable neighborhoods that continue to make College Station a great place to call home for homeowner, renter, and student alike!

**September 25, 2008  
Workshop Agenda Item No. 4  
Discussion of Single-Family Dwelling Units**

**To:** Glenn Brown, City Manager

**From:** Mayor Ben White

**Agenda Caption:** Presentation, possible action, and discussion regarding the UDO requirements related to single-family dwelling units.

**Recommendation(s):** N/A

**Summary:** N/A

**Budget & Financial Summary:**

**Attachments:**

**September 25, 2008**  
**Workshop Agenda Item No. 5**  
**Park Land Dedication Ordinance Presentation**

**To:** Glenn Brown, City Manager

**From:** Marco A. Cisneros, Director, Parks and Recreation

**Agenda Caption:** Presentation, possible action and discussion regarding possible revisions to the Park Land Dedication Ordinance.

**Recommendation(s):** Staff recommends proceeding with the final production of possible revisions to the Park Land Dedication Ordinance. Further staff recommends routing these revisions through the Parks and Recreation Advisory Board and the Planning & Zoning Commission.

**Summary:** Ordinance 2997, the current Park Land Dedication Ordinance, was approved by the City Council on September 13, 2007. The Park Land Dedication Ordinance provides a means to acquire and develop neighborhood parks in the City and the ETJ. The funds for these park developments are generated by the development of new residential subdivisions and must be used for neighborhood park acquisition and/or development with a prescribed service area as defined by the City's approved Park Zones.

The ordinance requires a three year review period, and the City Council approved the most recent changes in September, 2007. However, both acquisition and development costs associated with park development have increased dramatically over the past few years. There are also some key policy issues to consider:

- What level of parks and recreation service will be provided for in the future?
- Who will pay for those services?
- Can community parks serve the function of neighborhood parks?

These issues were reviewed and discussed by the Joint Parks and Recreation Advisory Board and Planning & Zoning Commission Subcommittee June, 2008 as well as a public hearing was held as a part of the Parks and Recreation Advisory Board meeting held in July, 2008. The major points of discussion at these meetings included:

- The current cost of land
- The cost of park construction
- The need for more community parks in newly developed areas
- The estimated population growth for the City in the next ten years

**Budget & Financial Summary:** Future budgetary implications are dependent upon Council direction. Any revisions to the current Park Land Dedication Ordinance will likely result in some increased funding being available for neighborhood and community parks land acquisition and/or development. These revisions however do not pay for any of the increased operations and maintenance costs associated with any of these new parks and recreation facilities.

**Attachments:**

1. City of College Station Park Land Dedication Ordinance

2. June 25, 2008 Joint Parks and Recreation Advisory Board and Planning & Zoning Commission Subcommittee Minutes
3. July 8, 2008 Public Hearing and Parks and Recreation Advisory Board Minutes

ORDINANCE NO. 2997

AN ORDINANCE AMENDING CHAPTER 9, "SUBDIVISIONS" OF THE CODE OF ORDINANCES OF THE CITY OF COLLEGE STATION, TEXAS, BY AMENDING SECTION 10, "PARK LAND DEDICATION", BY INCREASING FEES, EXTENDING PARK LAND REQUIREMENTS INTO THE ETJ; PROVIDING A SEVERABILITY CLAUSE; DECLARING A PENALTY; AND PROVIDING AN EFFECTIVE DATE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF COLLEGE STATION, TEXAS:

PART 1: That Chapter 9, "Subdivisions", of the Code of Ordinances of the City of College Station, Texas, be amended as set out in Exhibit "A", attached hereto and made a part of this ordinance for all purposes.

PART 2: That if any provisions of any section of this ordinance shall be held to be void or unconstitutional, such holding shall in no way effect the validity of the remaining provisions or sections of this ordinance, which shall remain in full force and effect.

PART 3: That any person, firm, or corporation violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not less than Twenty Five Dollars (\$25.00) nor more than Two Thousand Dollars (\$2,000.00). Each day such violation shall continue or be permitted to continue, shall be deemed a separate offense. Said Ordinance, being a penal ordinance, becomes effective January 1, 2008.

PASSED, ADOPTED and APPROVED this 13<sup>th</sup> day of September, 2007.

ATTEST:



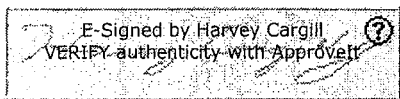
CITY SECRETARY

APPROVED:



MAYOR

APPROVED:



CITY ATTORNEY



**EXHIBIT "A"**

That Chapter 9, "Subdivisions", of the Code of Ordinances of the City of College Station, Texas, is hereby amended as follows:

1. By amending SECTION 10: "Requirements for Park Land Dedication" by deleting the entire section and substituting the following:

**SECTION 10: Requirements For Park Land Dedication****10-A Purpose**

This section is adopted to provide recreational areas in the form of neighborhood park facilities as a function of subdivision and site development in the City of College Station and its Extra-Territorial Jurisdiction (ETJ). This section is enacted in accordance with the home rule powers of the City of College Station, granted under the Texas Constitution, and the statutes of the State of Texas, including, but not by way of limitation, Texas Local Government Code Chapter 212 (Vernon 1999; Vernon Supp. 2004-2005) as amended from time to time.

It is hereby declared by the City Council that recreational areas in the form of neighborhood parks are necessary and in the public welfare, and that the only adequate procedure to provide for neighborhood parks is by integrating such a requirement into the procedure for planning and developing property or subdivisions in the City and its ETJ, whether such development consists of new construction on vacant land or rebuilding and remodeling of structures on existing residential property.

Neighborhood parks are those parks providing for a variety of outdoor recreational opportunities and located within convenient distances from a majority of the residences to be served thereby. The park zones established by the Parks and Recreation Department and shown on the official Parks and Recreation map for the City of College Station shall be prima facie proof that any park located therein is within such a convenient distance from any residence located therein. The primary cost of neighborhood parks should be borne by the ultimate residential property owners who, by reason of the proximity of their property to such parks, shall be the primary beneficiaries of such facilities.

Therefore, the following requirements are adopted to effect the purposes stated above and shall apply to any land to be used for residential purposes:

**10-B General Requirements**

The City Manager or his designee shall administer this Section 10, Requirements for Park Land Dedication with certain review, recommendation and approval authorities being assigned to the Planning and Zoning Commission and the Parks and Recreation Advisory Board as specified herein.

Dedications shall cover both land acquisition and development costs for neighborhood park land for all types of residential development. Dedications shall be based on actual dwelling units for the entire development. Increases or decreases in final unit count prior to final plat will require an adjustment in fees paid or land dedicated. If the actual number of dwelling units exceeds the original estimate additional park land shall be dedicated in accordance with the requirements in this Section 10 with the filing of a final plat.

The methodology used to calculate fees and land dedications is attached hereto as Appendix I and incorporated and made a part of this ordinance for all purposes.

Fees paid under this Section may be used only for development or acquisition of neighborhood parks located within the same Zone as the development.

#### 1. Land Dedication

For residential developments the area of land to be dedicated for neighborhood park land purposes shall be determined by the procedures described in Appendix I.

The total amount of land dedicated for the development shall be dedicated in fee simple by plat:

- a. Prior to the issuance of any building permits for multi-family development,
- b. Concurrently with the final plat for a single phase development,
- c. For a phased development the entire park shall be either platted concurrently with the plat of the first phase of the development or
- d. The developer may provide the City with financial security against the future dedication by providing a bond, irrevocable letter of credit, or other alternative financial guarantee such as a cash deposit in the amount equal to the number of acres park land required. The amount of the financial guarantee is calculated by multiplying the number of acres of park land required to be dedicated by \$24,000 as the estimated value of an acre of land in the proposed subdivision.

The financial guarantee will be released to the developer, without interest, upon the filing of the final plat for the subsequent phase that dedicates the required park land.

#### 2. Fee in Lieu of Land

The amount of the Fee-in-Lieu of Land (“Fee”) shall be set at an amount sufficient to cover the costs of the acquisition of neighborhood park land.

A landowner may elect to meet the requirements of Section 10.B.1, in whole or in part, by paying a fee in the amount set forth in Appendix I. Before making this election, for any required dedication greater than three (3) acres, or for any development containing floodplain or greenway, the landowner must:

- a. Obtain a recommendation from the Parks and Recreation Advisory Board, and
- b. Obtain approval from the Planning & Zoning Commission pursuant to the Plat Approval Procedures in Article 3.3 of the Unified Development Ordinance.

For neighborhood park land, the fee shall be calculated using the procedure described in section 10.B.1d to value the land, and the procedure shown in Appendix I to calculate the total amount of the fee which shall be remitted:

- Prior to the issuance of any building permits for multi-family development; or
- Upon submission of each final plat for single family, duplex or townhouse development.

Fees may be used only for acquisition or development of a neighborhood park facility located within the same Zone as the development.

The City Manager or his designee is authorized to accept the Fee for dedications of fewer than three (3) acres where:

- There is a sufficient amount of park land existing in the park zone of the proposed development or
- The proposed dedication is insufficient for a Neighborhood Park site under existing park design standards.

This determination shall be made based on the Recreation, Park & Open Space Master Plan, as amended from time to time.

### 3. Park Development Fee

In addition to the land dedication, there shall also be a fee established that is sufficient to develop the land to meet the Manual of Park Improvements Standards to serve the zone in which such development is located. This fee and the estimate of neighborhood park improvement costs shall be computed as shown in Appendix I. The total fee shall be paid upon submission of each final plat or upon application for a building permit, whichever is applicable.

#### 4. Park Development Option in Lieu of Fee

A landowner may elect to construct the neighborhood park improvements in lieu of paying the Park Development Fee under the following terms and conditions:

- a. A park site plan, developed in cooperation with the Parks and Recreation Department staff, must be submitted to the City Manager or his designee for review. A site plan approved by the Director of Parks and Recreation and Parks and Recreation Advisory Board is required upon submission of each final plat or upon application for a building permit, whichever is applicable.
- b. Within twelve (12) months from the date of said submission or application the landowner shall submit detailed plans and specifications in compliance with the site plan to the City Manager or his designee for review and approval.
- c. All plans and specifications shall meet or exceed the Manual of Park Improvement Standards in effect at the time of the submission.
- d. If the improvements are constructed on land that has already been dedicated to and/or is owned by the City, then the Developer must post Payment and Performance Bonds to guarantee the payment to subcontractors and suppliers and to guarantee Developer completes the work in accordance with the approved plans, specifications, ordinances, other applicable laws and that City has issued a Certificate of Completion for the improvements.
- e. The construction of all improvements must be completed within two (2) years from the date of the approval of the plans and specifications. A final, one-time extension of twelve months may be granted by the Administrator upon demonstration that said improvements are at least 50% constructed.
- f. Completion and Acceptance – Park development will be considered complete and a Certificate of Completion will be issued after the following requirements are met:
  - i. Improvements have been constructed in accordance with the Approved Plans,
  - ii. All Park Land upon which the improvements have been constructed has been dedicated as required under this ordinance and
  - iii. All manufacturers' warranties have been provided for any equipment.

- g. Upon issuance of a Certificate of Completion, Landowner warrants the improvements for a period of one (1) year as per the requirements in the Manual of Park Improvements Standards.
- h. The developer shall be liable for any costs required to complete park development if:
  - i. Developer fails to complete the improvements in accordance with the Approved Plans
  - ii. Developer fails to complete any warranty work

#### 5. Reimbursement for City Acquired Park Land

The City may from time to time acquire land for parks in or near an area of actual or potential development. If the City does acquire park land in a park zone, the City may require subsequent Park Land dedications for that zone to be in Fee-in Lieu-of-Land only. This will be to reimburse the City for the cost(s) of acquisition. Once the City has been reimbursed entirely for all such Park Land within a park zone, this Section shall cease to apply.

#### 10-C Prior Dedication or Absence of Prior Dedication

If a dedication requirement arose prior to enactment of this Section 10, that dedication requirement shall be controlled by the ordinance in effect at the time such obligation arose, except that additional dedication shall be required if the actual density of structures constructed upon property is greater than the former assumed density. Additional dedication shall be required only for the increase in density and shall be based upon the ratio set forth in Section 10.B. (Credit shall be given for land dedicated or fees paid pursuant to prior Park Land Ordinance Nos. 690, 983 or 2546.)

#### 10-D Comprehensive Plan Considerations

The Recreation, Park and Open Space Master Plan is intended to provide the College Station Parks and Recreation Advisory Board with a guide upon which to base its recommendations. Because of the need to consider specific characteristics in the site selection process, the park locations indicated on the Plan are general. The actual locations, sizes, and number of parks will be determined when development occurs. The Plan will also be used to locate desirable park sites before development occurs, and those sites may be acquired by the City or received as donations.

Park Zones are established by the City's Comprehensive Plan, in the Recreation, Park and Open Space Master Plan and are configured to indicate service areas for neighborhood parks. Zone boundaries are established that follow key topographic features such as major thoroughfares, streams, city limit and ETJ boundary lines Park Zones may be created or amended by the Recreation, Park and Open Space Master Plan as dedications or circumstances dictate.

#### 10-E Special Fund; Right to Refund

1. All Park Land fees will be deposited in a fund referenced to the park zone involved. Funds deposited into a particular park zone fund may only be expended for land or improvements in that zone.
2. The City shall account for all fees-in-lieu-of land paid under this Section with reference to the individual plat(s) involved. Any fees paid for such purposes must be expended by the City within five (5) years from the date received by the City for acquisition and/or development of a neighborhood park as defined herein. Such funds shall be considered to be spent on a first-in, first-out basis. If not so expended, the landowners of the property on the expiration of such period shall be entitled to a prorated refund of such sum, computed on a square footage of area basis. The owners of such property must request such refund within one (1) year of entitlement, in writing, or such right shall be barred.

#### 10-F Park Land Guidelines and Requirements

Parks should be easy to access and open to public view so as to benefit area development, enhance the visual character of the city, protect public safety and minimize conflict with adjacent land uses. The following guidelines and requirements shall be used in designing parks and adjacent development.

1. Any land dedicated to the city under this section must be suitable for park and recreation uses. The dedication shall be free and clear of any and all liens and encumbrances that interfere with its use for park purposes. The City Manager or his designee shall determine whether any encumbrances interfere with park use. Minerals may be reserved from the conveyance provided that there is a complete waiver of the surface use by all mineral owners and lessees. A current title report must be provided with the land dedication. The property owner shall pay all taxes or assessments owed on the property up to the date of acceptance of the dedication by the City. A tax certificate from the Brazos County Tax Assessor shall be submitted with the dedication or plat.
2. Consideration will be given to land that is in the floodplain or may be considered "floodable" even though not in a federally regulated floodplain as long as, due to its elevation, it is suitable for park improvements. Sites should not be severely sloping or have unusual topography which would render the land unusable for organized recreational activities.
3. Land in floodplains or designated greenways will be considered on a two for one basis. Two acres of floodplain or greenway will be equal to one acre of park land
4. Where feasible, park sites should be located adjacent to greenways and/or schools in order to encourage both shared facilities and the potential co-development of new sites.
5. Neighborhood park sites should be adjacent to residential areas in a manner that serves the greatest number of users and should be located so that users are not required to cross arterial roadways to access them.
6. Sites should have existing trees or other scenic elements.

7. Detention / retention areas will not be accepted as part of the required dedication, but may be accepted in addition to the required dedication. If accepted as part of the park, the detention / retention area design must be approved by the City Manager or his designee and must meet specific parks specifications in the Manual of Park Improvements Standards.
8. Where park sites are adjacent to Greenways, Schools existing or proposed subdivisions, access ways may be required to facilitate public access to provide public access to parks.
9. It is desirable that fifty percent (50%) of the perimeter of a park should abut a public street.

#### 10-G Consideration and Approval

Any proposal considered by the Planning and Zoning Commission under this Section shall have been reviewed by the Parks and Recreation Advisory Board or the City Manager or his designee as provided herein, and a recommendation given to the Commission. The Commission may make a decision contrary to the recommendation by a majority vote.

#### 10-H Review of Land Dedication Requirements and Dedication and Development Fee

The City shall review the Fees established and amount of land dedication required at least once every three (3) years. The City shall take into account inflation as it affects land acquisition and park development costs as well as changes in the City's existing level of service. Fees are authorized to be set by resolution of the City Council.

#### 10-I Warranty Required:

All materials and equipment provided to the City shall be new unless otherwise approved in advance by the City Manager or his designee and that all work will be of good quality, free from faults and defects, and in conformance with the designs, plans, specifications, and drawings, and recognized industry standards. This warranty, any other warranties express or implied, and any other consumer rights, shall inure to the benefit of the City only and are not made for the benefit of any party other than the City.

All work not conforming to these requirements, including but not limited to unapproved substitutions, may be considered defective.

This warranty is in addition to any rights or warranties expressed or implied by law.

Where more than a one (1) year warranty is specified in the applicable plans, specifications, or submittals for individual products, work, or materials, the longer warranty shall govern.

This warranty obligation shall be covered by any performance or payment bonds tendered in compliance with this Ordinance.

**Defective Work Discovered During Warranty Period.** If any of the work is found or determined to be either defective, including obvious defects, or otherwise not in accordance with this ordinance, the designs, plans, drawings or specifications within one (1) year after the date of the issuance of a certificate of Final Completion of the work or a designated portion thereof,

whichever is longer, or within one (1) year after acceptance by the City of designated equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by this ordinance, Developer shall promptly correct the defective work at no cost to the City.

During the applicable warranty period and after receipt of written notice from the City to begin corrective work, Developer shall promptly begin the corrective work. The obligation to correct any defective work shall be enforceable under this code of ordinances. The guarantee to correct the defective work shall not constitute the exclusive remedy of the City, nor shall other remedies be limited to the terms of either the warranty or the guarantee.

If within twenty (20) calendar days after the City has notified Developer of a defect, failure, or abnormality in the work, Developer has not started to make the necessary corrections or adjustments, the City is hereby authorized to make the corrections or adjustments, or to order the work to be done by a third party. The cost of the work shall be paid by Developer.

The cost of all materials, parts, labor, transportation, supervision, special instruments, and supplies required for the replacement or repair of parts and for correction of defects shall be paid by Developer, its contractors, or subcontractors or by the surety.

The guarantee shall be extended to cover all repairs and replacements furnished, and the term of the guarantee for each repair or replacement shall be one (1) year after the installation or completion. The one (1) year warranty shall cover all work, equipment, and materials that are part of the improvements made under this section of the ordinance.



**APPENDIX I  
PARK LAND DEDICATION FEE METHODOLOGY**

**NEIGHBORHOOD PARK REQUIREMENTS**

**I. Land Requirements for Neighborhood Parks**

The current level of service is one (1) acre per 276 people.

**2006** Total Population - 77,261.

2.80 Persons per Household (PPH) for Single Family and 2.28 PPH for Multi-Family based on Census information for owner and renter occupied units.

**Single Family**  
276 people / 2.80 PPH = 98 DUs  
1 Acre per 98 DUs

**Multi-Family**  
276 people / 2.28 PPH= 121 DUs  
1 Acre per 121 DUs

**II. Neighborhood Park Acquisition Costs (Determines Fee in Lieu of Land)**

*One (1) acre costs \$24,000 to purchase.*

**Single Family**  
\$24,000 / 98 DUs = \$245 per DU

**Multi-Family**  
\$24,000 / 121 DUs = \$198 per DU

**III. Neighborhood Park Development Costs (Determines Fee for Development)**

- The cost of improvements in an average Neighborhood Park in College Station is \$516,450.<sup>a</sup>
- One Neighborhood Park serves 2,207 people, based on a total city population of 77,261 being served by 35 parks (count includes neighborhood parks and 6 mini parks).
- It costs \$234 per person to develop an average intergenerational neighborhood park.

**Single Family**

\$234 x 2.80 PPH = \$655 per DU

**Multi-Family**

\$234 x 2.28 PPH = \$533 per DU

**IV. Total Neighborhood Park Fee:**

**Single Family**

\$245 + \$655 = **\$900**

**Multi-Family**

\$198 + \$533 = **\$731**

**Footnote a**

**NEIGHBORHOOD PARK COST ESTIMATES WINTER 2005**

1. Basketball Court	\$35,000
2. 6' Sidewalk @ \$5.00 per SF x 4000 LF	\$120,000
3. Handicap Accessible Ramp x 2	\$2,000
4. Bridge (Average 30')	\$30,000
5. Picnic Unit (slab, table, trash can, grill) @ \$3,000 x 2	\$6,000
6. Shelter & Slab (2 picnic tables w/trash cans)	\$34,000
7. Area Lights (12' ht.) @ \$3,000 x 20	\$60,000
8. 2' x 8' Park Sign (Cylex) and Keystone Planter Bed	\$4,000
9. Benches (painted steel) with slab @ \$2,000 x 4	\$8,000
10. Bicycle Rack	\$1,000
11. 50 Trees (30-45 gal. installed) w/Irrigation @ \$350	\$17,000
11. Lawn Irrigation (average area)	\$3,000
12. Drinking Fountain (concrete - handicap accessible, dual height, dog dish)	\$7,500
13. Water Meter 1.5"	\$1,000
14. Electric Meter/Panel	\$2,000
15. Finish Sodding, Grading & Seeding	\$3,000
16. Drain Lines @ \$15 LF (Average 100')	\$1,500
17. Swing Set w/Rubber & Gravel Mix	\$10,000
18. Playground w/Concrete base & Rubber Surfacing	\$50,000
19. Playground Shade Cover	\$15,000
20. Galvanized Fence @ \$35 LF 2,500'	\$87,500
21. Pond	\$30,000
	<b>Sub Total</b>
	<b>\$469,500</b>
	<b>10% Contingency</b>
	<b>\$46,950</b>
	<b>Total</b>
	<b>\$516,450</b>

**PARKS / PLANNING AND ZONING SUB-COMMITTEE  
NOTES**

**PARK LAND DEDICATION  
12:00 PM, Wednesday, June 25, 2008  
Administrative Conference Room  
1101 Texas Avenue  
College Station, TX 77840**

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**STAFF PRESENT:** Marco A. Cisneros, Director, Parks and Recreation; David Schmitz, Assistant Director, Parks and Recreation; Pete Vanecek, Senior Park Planner; Amanda Putz, Staff Assistant; Jason Schubert, Staff Planner – Planning and Development Services

**COMMISSIONERS PRESENT:** Glenn Schroeder, Marsha Sanford

**BOARD PRESENT:** Jodi Warner, Chair; Jody Ford; Gary Erwin, Vice Chair

**COUNCIL PRESENT:** Ben White, Mayor


**DISCUSSION:** The meeting began at 12:15PM. The discussion began with everyone introducing themselves. The purpose of the meeting was for the Board and Commission to come together for a general purpose of looking into Park Land Dedication. Some of the factors that were included in the discussion were the park construction costs, park land dedication fees, differences between community and neighborhood parks and land values. Marco A. Cisneros asked if there was a need for a task force regarding this issue. The responses were overall that a task force was not necessary, and public hearings were the answer. Jodi Warner explained the recent history behind the park land dedication and the fee change. She explained that the Park Land Dedication fees as they are right now are not enough for the development of a park. There was discussion concerning the Greenway / Greenbelt ordinance and if that was input into the Park Land Dedication Ordinance. However, it was not, and it needs to be discussed regarding placing it into the Park Land Dedication Ordinance. There was discussion that some developers are building developments in phases. Then they are eventually developing more phases, and parks are not placed anywhere near the development. This is an issue that needs to be addressed. The City may need to look at the appraised value for proposed park land, so that we can alleviate the building of many houses on acres with a park no where close by. Marsha Sanford, Commissioner, said that a 30 day appraisal should be required. The City has to make sure that we have maintenance costs for all of the parks that we create. Jodi Warner explained that the developers need an informational meeting to explaining park land dedication. The developer needs to be shown what they will

be given for what they are giving the city. Marsha Sanford commented on the *Existing Residents Should Not Be Taxed to Build New Parks For New Residents*, that was posted on the PowerPoint handout. She commented that the money is going to have to come from somewhere. She said that she would like to keep her park maintained. She commented that she does not think that the citizens would mind that issue either. When developers develop they need to be better monitored when they do several phases, as to make sure a park gets incorporated into the plans. Ben White, Mayor, asked why the city could not monitor the developer's account and stop several phases from happening without a park being incorporated. The appraised value has got to be put back into the ordinance, to determine the Park Land Dedication fee. The level of service needs to be clearly defined. The costs of all amenities need to be clearly stated and defined, so that the public and developers are aware of the costs associated. Jodi Warner stated that the Park Land Dedication needs to be on the Council calendar by the end of the summer 2008. When it comes to Zone monies, the particular monies that are allocated for a particular park need to be used for that particular park. The meeting ended at 2:00 PM.

approve the absence requests submitted, and Shawn Rhodes seconded. The vote was called. All were in favor, and the motion passed unanimously.

3. **Hear visitors:** Hearing none, this item was closed.

4. **Consideration, possible approval and discussion of minutes from the Regular Meeting of June 10, 2008:** Shawn Rhodes moved to approve the minutes as submitted, and Billy Hart seconded. The vote was called. All were in favor, and the motion passed unanimously.

 5. **Presentation, public hearing and discussion regarding park land dedication:** Marco A. Cisneros gave a brief overview regarding park land dedication and why the public hearing had been called. A presentation was given on the items that would be open for discussion.

~ The meeting was opened for public comment. ~

Charles Thomas, Citizen - He believed that contractors would be cheaper and would do a better job constructing parks than the city could do. He said that there were already 50+ parks, yet the City was trying to add more parks and was looking for the money to maintain them.

*Response: Jodi Warner explained the history of Edelweiss Gartens Park. She explained that the City was two years behind in building the park due to the revision of the park land dedication ordinance.*

Randy French, Developer and Builder – Mr. French asked how developers would know how much the fee would be if it was based on an appraisal. He also asked how he would know how much land would be attached to the appraisal. He stated that currently he knew how much to pay and it was a big concern for him that if changed, it would be a moving target. He added that developers look at impact fees, park land dedication, traffic impact analyses, etc., all at one time. The biggest amenity is affordability and he asked staff to please consider the developers when looking at the revision to the park land dedication ordinance.

*Response: This was still in the planning process and staff was unsure of the exact answers. The park land dedication fees were trying to be made more equitable.*

*Gary Thomas said he could sympathize with what both gentlemen had said regarding the fees. He did not think that it was unreasonable to ask for higher fees because a park could not be built for any less than you can build a home. Having a park near your homes you can sell your home for more because of that. The City is under the ordinance and having to abide by that ordinance.*

Charles Thomas – Mr. Thomas asked what the normal procedure for building a park was and if certain price factors were looked at.

*Response: The procedures for planning and developing parks were explained (public hearings, bid process, etc.).*

Bo Miles, 241 Landsburg Lane in Edelweiss Estates – He said that he liked his park and commended the Board and staff. He stated that he would like to see how much money had been collected by zone and what has been done in the zone (basically tracking of the money). He asked what the length of time was between when the money was dedicated and when it was spent.

*Response: Typically it takes approximately six years. If the money has not been spent by then, the developer could petition the city for reimbursement of the money. The process of park zone monies was explained and how it was not always feasible to be able to shorten the development timeframe. There were times when it was due to the development of other projects in the same zone or it could be due to a lack of money in the city's General Fund to maintain the park if it were to be developed.*

Bo Miles – Stated that he would like to see the process streamlined.

Glenn Thomas, Builder and Citizen – Mr. Thomas asked what the park land dedication fee included. He would rather see nice community parks rather than tiny parks the size of his back yard.

*Response: The park land dedication fee, the level of service, and what the expectations were by and for the citizens was explained.*

Sondra Meyer, Realtor and CPA – From a budget standpoint, she felt it would be better to leave the park land dedication as it was, and not go with the appraised value option due to the hardship it could cause for the developer.

Paul Levantes, 9007 Sandstone – Mr. Levantes asked what percentage of the 80,000 Texas A&M University students had been included in the presentation that had been shown, and how the \$950 dedication fee compared to other cities.

*It was explained that population estimates were received from development services and that the percentage was approximately twenty percent. Some comparisons were given.*

Todd Carnes, Developer, Creek Meadows – Mr. Carnes felt it would be fairer to base the park land dedication fee on frontage rather than on the lot and asked if that had ever been thought about before.

*Response: No, it had not been considered before. It was explained that the ordinance was calculated by the dwelling unit. The higher the square footage of the home (the larger it is), the fewer number of houses can be built. If smaller houses are built, you will be able to build more homes.*

Charles Thomas and Kim Jacobs, 1000 Charleston Court – Both asked what recommendations staff would be bringing to Planning and Zoning and what they would be presenting.

*Response: Staff will do a presentation with all of the comments that had been received at this meeting. Open-ended options would be presented to the Planning and Zoning Commission.*

Kim Jacobs – Ms. Jacobs stated that she would like to see places such as Waco included in the presentations. She felt that some of the cities in the presentation were not comparable to College Station.

Glenn Thomas – Asked if the Board was comfortable with the larger number of pocket parks being considered rather than a smaller number of regional/community parks.

*Response: The Board said that they were.*

Charles Thomas – Stated that one of the biggest concerns as a developer was that they felt unappreciated for what they do as developers.

**Letter sent in from Steve Arden from BrazosLand Realty regarding his park land dedication concerns.**

July 7, 2008

Mrs. Jodi Warner, Chairperson  
Parks and Recreation Advisory Board  
College Station, Texas

Re: Consideration of parkland requirements

Mrs. Warner,

For several reasons College Station is at the cross roads in policy for parkland dedication requirements based on the present or considered increases in acreage dedications from residential development. Major municipal policy changes must be considered to provide satisfactory management, improvements and maintenance of open land prior to anticipating even more property. College Station has fallen far behind improving new parks while providing only substandard maintenance to existing open areas. There is little reason to consider adding more open areas until the community can determine new direction for the following issues.

Dedication of new parkland has progressed at a faster rate than the City can accommodate. Accumulated deposits at \$358 per household were at a level to have constructed the park two years prior to actual construction of Edelweiss Gartens. With streets on four sides of that park, it was located to be the focal center of the neighborhood. Not only was it not constructed on a timely basis, but the mowing has been so infrequent that even City ordinances for the private sector have not been met. Rather than being a nice visual feature for the neighborhood families, it has become a question that sellers must explain away. Apparently, parkland has outgrown the City's maintenance ability.

As residential development continues to occur further south, more and more fingers of the Brazos and Navasota river tributary flood plains extend into the City. College Station has yet to address the utilization of what will become huge open areas. To date, these drainage ways have not been features but at the rear of houses as in Southwest Valley subdivision or a difficult bridge as Longmire Drive unattractively crosses Lick Creek. These wooded open areas should be features in the community, not just something to be avoided. Consider the potential benefit to the homes that face the Lick Creek tributary on Chesapeake Lane vs. the lost



opportunity that backs to the same drainage way along Starling Drive. In addition to the aesthetics, Chesapeake Lane has plenty of space for small children playgrounds at much less cost than our present system.

Carter's Crossing is probably not unusual in many future land dedications where approximately a quarter of the total land area is open area due to natural, heavily wooded drainage ways. There are over 1,000 acres of similar land within College Station's growth pattern that will require some level of maintenance. Before we extend policies that are no longer working, there must be a paradigm shift to determine how best to handle the lands that we can expect to be given to the City. How can those areas be assets, rather than continue as waste land?

Please do some longer range thinking and planning before simply extending existing present out dated policies.

Sincerely,

Steve Arden

Jody Ford made a motion to approve the park land dedication presentation as presented including the projected ordinance revisions as listed, also not putting any dollar amounts, and Billy Hart seconded the motion. The vote was called. All were in favor, and the motion passed unanimously.

**~ The public hearing portion closed at 8:55 p.m. ~  
A short break was taken and the meeting reconvened at 9:15 p.m.**

6. **Consideration, possible action and discussion regarding the appointments of the Chairman, Vice Chairman and new or reappointed members for the Senior Advisory Committee:** Marci Rodgers reported on the appointments to the Senior Advisory Committee. She explained that four of the members will be new, and the other four are up for reappointment. She reported that the Senior Advisory Committee requests that Ron Silvia be appointed as Chairman and that Rick Heaney be appointed as Vice Chairman. Discussion followed. Wayne Williams made a motion to accept Ron Silvia as Chairman and Rick Heaney as Vice Chairman, as well as all the other six appointments. Gary Thomas seconded the motion. The vote was called. All were in favor, and the appointments were accepted.

**September 25, 2008  
Workshop Agenda Item No. 6  
City Wireless Plan**

**To:** Glenn Brown, City Manager

**From:** Ben Roper, IT Director

**Agenda Caption:** Presentation, possible action, and discussion regarding a proposed wireless plan for the City.

**Recommendation(s):** Staff recommends approval of the recommendations in the Wireless Plan.

**Summary:** Development and implementation of a Wireless Plan for the city was identified as a Departmental Focus item during the 2007 Council Retreat. This proposed Plan was developed in response to this direction; and provides a focused and measured approach to implementing greater wireless access within our community.

The following objectives form the basis of the proposed wireless plan:

- Provide the most bang for the buck
- Establish a framework that can be expanded and grown, if needed
- Interface with and leverages existing infrastructure
- Provide for and encourage partnerships with governmental and non-governmental entities/organizations
- Offer a unified approach to deploying indoor and outdoor wireless

**Budget & Financial Summary:** The proposed wireless plan can be implemented using budget funds in the Wireless Infrastructure project (CO 0704).

**Attachments:**  
Proposed Wireless Plan

## **Executive Summary**

Wireless network access has gained tremendous popularity in the last few years. In many locations, the ability to access the Internet using wireless technology is no longer a novelty, but an expectation. The City of College Station uses wireless technology in a number of applications to support operations and service, including providing free Internet wireless access for patrons of the Larry J Ringer library. Plans for near blanket wireless access were developed in the 2003 Wireless Plan, but due to several factors, were not implemented.

While many of the wireless needs identified in the 2003 Plan still exist, there is no definitive requirement for city-wide wireless access. However, there are specific instances where wireless technology would provide significant benefit to employees and citizens. This updated Wireless Plan provides specific recommendations aimed at meeting the most pressing of these identified needs, including public Internet access from selected city facilities and designated outdoor hot zones, employee wireless network access in selected city buildings and designated hot zones, and a pilot wireless surveillance project in Northgate.

The proposed implementation can be accomplished using the funds available in the currently budgeted Wireless Infrastructure project (project # CO 0704). An objective of the plan is to limit annual recurring costs by partnering with industry and local service providers to achieve cost saving, and targeting service delivery to achieve the greatest return for investment.

## **Municipal Wireless**

Shortly after 2000, the concept of municipal wireless began to gain prominence throughout the country. The idea of free or low cost ubiquitous wireless access was appealing to citizens and officials alike. Many communities adopted the municipal wireless idea out of frustration with commercial provider's slow roll out of broadband services, and the realization that commercial providers would not provide service to areas judged as not profitable. Many communities also believed that wireless access would spur economic development and serve to bridge the "digital divide".

Section 54.202 of the Texas Public Utility Regulatory Act prohibits a municipality from offering for sale to the public a service offered either directly or indirectly through a telecommunications provider. This regulation has been interpreted to mean the municipalities can provide free wireless service, but cannot offer that service for sale to the public. This makes it extremely challenging in Texas for a municipality to develop a wireless plan that is self funding. As a result, many municipalities sought to entice corporate partners to enter into agreements for designing and deploying wireless networks that would provide the municipality with a designated level of service or capacity, provide reduced cost or free service to segments of the population or designated areas, and offer remaining capacity for sale to fund the enterprise.

From 2003 through 2007, numerous Texas cities and municipalities announced plans for wireless municipal networks and projects, including Corpus Christi, Granbury,

Brownsville, Houston, and San Marcos to name a few. One of the most notable of these projects fell through when EarthLink announced its decision to withdraw further investments in municipal wireless networks in November 2007 and subsequently withdrew from its contract with the City of Houston. Since this time, numerous municipalities throughout the nation have announced the cancellation or delay of wireless projects. It is worth noting that wireless networks in Corpus Christ and Granbury were successfully deployed. In both of these instances, the cities established specific goals, objectives, and services to be delivered. In both instances, the primary reason for building the network was not to offer free wireless fidelity (Wi-Fi) access.

## **History**

In 1997 the City of College Station retained the engineering firm of New Signals Engineering Corporation to develop a comprehensive data/telecommunications network plan. The plan provided a roadmap that would allow the City to migrate to a higher performance network and a more reliable topology. Initial implementation stages were to create local area networks (LANs) and a wide area network (WAN) via a fiber optic SONET ring that connects the City's "major buildings" with a self healing network topology. Later stages depended upon a cost/benefit matrix that determined whether specific edge facilities/equipment should be connected via fiber optic cable, copper cable, leased lines, or wireless technology.

In 2003, The Office of Technology and Information Services (predecessor to the current Department of Information Technology) was implementing the final stages of the 1997 network plan, and due to significant advances in wireless technology began investigating Wi-Fi to extend the city's network to connect outlying facilities and to accommodate mobile workers.

Departmental interviews were conducted in April, May and June of 2003 to identify the city's needs, and to help create a budgetary estimate. Based on these interviews and the technology available at the time, a wireless plan was developed that called for placing 2.4 GHz, IEEE 802.11b/g access points (APs) on the radio tower, Greens Point water tower and the Park Place water tower. The plan also called for multiple support coverage APs to be installed, principally on fiber-connected traffic signal poles. Due to multiple factors, including budget and personnel resource constraints, this proposed wireless plan was not implemented.

## **City Wireless in Use Today**

The city makes use of wireless today in a number of ways and applications. These include Public Safety voice and data using the Motorola 800 MHz system, the 900 MHz Supervisory Control and Data Acquisition (SCADA) system, commercial cellular based voice and data services, a wireless mesh network connecting designated water locations operating in the 5GHz band, and point to point links to connect remote city facilities and traffic signals. Additionally, the city provides free wireless internet access in the Larry J Ringer Library.

### 800MHz System

Mobile Data Terminals (MDTs) operate over a FCC licensed 800MHz system that supports the Motorola Private DataTac Mobile Data System. It utilizes a single channel, single-site transmitter co-located with the City's 800MHz Motorola Smartnet Trunk Radio System at 2221 Earl Rudder Freeway (across from Post Oak Mall). This system provides generally good radio coverage throughout the City with reliable serial data transfer at 4800-9600 Bps, depending on the device used as the MDT. However, coverage is less consistent in the southern edge of the city limits where much of the City's growth is occurring. The Police and Fire Departments together operate approximately 55 Panasonic Toughbook® MDT workstations mounted in their vehicles. These Public Safety Departments use the wireless communications function for Computer Aided Dispatch (CAD) tasks such as placing themselves "in service" as well as car-to-car and car-to-dispatch text messaging. They also use the workstation component for stand alone map access via hard drives or CD drives. The Electrical Department operates 15 Panasonic Toughbook® laptop computers with Motorola VRM 660 radio modems providing the data transfer through the laptops' standard serial port. This combination allows the users to operate in the vehicle using accessory power outlets and an external antenna connection as well as in the field using a PRM 660 belt case with integrated battery power and "stubby" antenna. Electrical crew leaders and other specific field personnel use the laptops to access their HTE Work Order System, which is hosted on the I5e located at City Hall. The Panasonic Toughbooks®, and the PRM 660 all utilize Motorola's proprietary Radio Data-Link Access Procedure (RD-LAP) for the over-the-air communications access protocol. Digital Encryption Standard (DES) provides over-the-air data encryption for security. The serial speeds of 4800-9600Bps are sufficient for the applications described above. However, both public safety users and utility users have identified the need for wireless applications that are to bandwidth intensive to use over the 800 MHz system.

### SCADA

The Supervisory Control and Data Acquisition (SCADA) systems are used by Water Services and Electric Departments. This FCC licensed spectrum is used to by Water Services and Electric Departments to monitor and control field equipment and devices.

### Commercial Cellular Voice and Data

The city makes extensive use of commercial cellular based services for both voice and data. The city currently has approximately 180 cell phones, 75 Blackberry devices, and 26 wireless data cards used in field applications. The substantial growth of commercially available broadband service was not anticipated when the initial city wireless plan was developed in 2003.

### Wireless Mesh Network Water Services

In 2007 the Water Services Department installed a limited wireless mesh system to connect specific operational sites. This network is configured to operate in either the unlicensed 5.8 GHz band, or the licensed 4.9 GHz band, and uses Cisco Aironet 1500 Series APs to support data and video.

#### Point to Point Links

There are several locations throughout the city where point-to-point wireless links are in use for specific purposes. Most of these links are used to connect remote facilities to the city fiber optic network or to support Traffic Control operations. These links generally operate in the unlicensed frequency bands of either 2.4 GHz or 5.8 GHz.

#### Larry J. Ringer Library

Beginning in February 2005, free wireless Internet access was made available to patrons of the Larry J. Ringer library. This service uses Cisco access points and supports IEEE 802.11 a/b/g wireless standards.

### **City Network**

Since a wireless deployment that would support mobile workers with access to city applications would require connection to the city's wired network, it is relevant to understand the current city network topology. The City completed a twenty mile singlemode (1310nm/1550nm window) fiber optic ring in 1999, complementing the existing but limited fiber infrastructure. Subsequently, the City has installed multiple segments of spur fiber cable to provide high speed connectivity to existing and newly constructed facilities. The City's current data network utilizes the ring to connect the four main nodes (City Hall, Police Department, Utility Service Center, and Utility Customer Service (IT building) and has grown to approximately 67 miles of aerial and underground fiber. Each of the main nodes is served by a Fore Systems ASX-1000 ATM core switch with OC-12 SM ring optical modules. At each site, Fore System ES-3810 10/100 Ethernet edge switches with OC-3 MM links to its respective ASX-1000 provide 10/100 Ethernet connectivity to premises edge devices. In addition, Fore Systems ES-2810 and Intel 510 switch stacks are uplinked via 100Base-T to these ES-3810s to provide additional lower cost 10/100 connectivity for lower tier users and edge devices. There are a total of ten (10) ES-3810s and thirty ES-2810s/Intel 510s at the four core sites. Medium and small remote facilities typically utilize spur fiber infrastructure and discrete Fiber/Copper media converters to provide 100/1000Mbps Ethernet connectivity to premises edge switches such as the ES-2810s and Intel 510s (total of approximately twenty). The smallest and/or most remote City facilities are typically connected to one of the four main nodes via 802.11 wireless bridges, Cable Modems or digital subscriber line (DSL) leased services.

In 2006 the City replaced its Nortel Option 61 PBX with a Cisco Voice over Internet Protocol (VoIP) solution. This system also utilizes the same four nodes in a Gigabit Ethernet ring architecture with multiple route and equipment redundancy features. Due to the desire for system independence and reliability as well as other factors, the majority of this network is dedicated to phone service and is not converged with the

existing data network at the end user level. Instead, a single 100BaseT Ethernet gateway provides the necessary operational connectivity between the two systems.

The city has a current active project to replace and upgrade the ATM core network with a fault tolerant, singlemode fiber based backbone that will increase the network backbone base speed to 10 Gigabit Ethernet at the four main nodes, and to a minimum speed of 1 Gigabit Ethernet at most other facilities.

### **Needs Determination**

Many of the needs identified in the original wireless plan still exist. Meetings with internal city departments reiterated the need for the following capability that is not currently being met:

- Access to Department-specific applications by mobile workers
  - Public Safety information to support Police and Fire units that is to bandwidth intensive to be transmitted over the 800 MHz system; including fingerprint and photos, criminal history, video, mapping updates.
  - Sungard Public Sector (HTE) applications for field workers
  - Departmental work order systems
  - Code enforcement
  - GIS mapping
- Internet access
  - Informational kiosks
- SCADA applications
  - Utilities
  - Traffic signal control
  - Security
  - Lighting, irrigation, gate control
  - Electronic signage control
- Digital still photography
- “Live” video

Streamlining workflow in the field represents an enormous potential reduction in manpower and increase in productivity. A primary goal of providing wireless access to the city’s network is enabling employees to remain in the field instead of having to return to their office to enter data, receive the next job or modify their route as a result of changing conditions. Using wirelessly enabled PDAs or laptops allows city personnel to enter information, receive job assignments, plans, or research material or equipment databases while in the field. The increased availability of high bandwidth cellular service has served to mitigate or solve the connectivity requirement for some field personnel. Examples include building inspectors and Emergency Medical Service (EMS) personnel.

There are numerous locations throughout the city where there is a demonstrated need to provide public wireless internet access. These include both in-building and outdoor locations. Wireless internet access has been repeatedly requested by citizens at City Hall, by customers and patrons at the Conference Center, by patrons of the various city parks, and users of various meeting and training rooms in city buildings. The new meeting and training facility being constructed at College Station Utilities is planned to have free wireless internet access via cable modem.

Another important application that can be facilitated by a wireless system is automatic meter reading, which is currently a time-intensive task. A wireless network can aggregate data from automatic meter reading (AMR) solutions in areas of the city where the fiber network is not available. This could eliminate or decrease the need for manual reading, which is not only expensive, but is also a safety risk for meter reading personnel. Another use of AMR is the real-time monitoring of water and electricity usage data, creating more visibility into consumption. With real-time monitoring, the city can determine if a high usage of electricity or water at any given time could be a result of faults in the system, such as water leakage from broken pipes. A quick response can improve customer satisfaction with the city's performance in emergency situations. Real-time monitoring can also be used to provide detailed usage data to customers, enabling them to know peak use hours, and may aid in their development of conservation measures, supporting the city's Green initiative. Electric Department has identified AMR as an initiative to explore in their Strategic Business Plan.

A review of the identified needs and requirements does not reveal a single or collective requirement or set of requirements that would justify the cost of installing a city wide wireless network. The most compelling argument for city wide access is in support of public safety (Police, Fire, Emergency Management, and in some instances, Public Works). Testing performed by the city in late 2007 resulted in satisfactory use of commercial cellular service to PD vehicles using existing equipment and the addition of a cellular data card with per vehicle one time costs of \$185.00 and annual reoccurring cost per vehicle of approximately \$606.00. This reoccurring cost is primarily for the monthly wireless data access plan. The result of this testing was provided to PD, but to date budget constraints have precluded implementation.

In previous discussion with the Police Department, the need to provide enhanced surveillance in the Northgate area has been discussed. The difficulty and expense of providing traditional wired access to this area has precluded installation of security cameras, or other equipment requiring network connectivity. Recent technology developments in wireless surveillance and mesh technology provide potential solutions to address the connectivity and security challenges of the Northgate area.

### **Wireless Technology Overview**

Wireless network access means a network that uses radio frequency spectrum for connectivity in the place of a traditional "wired" network. These wireless networks are generally referred to as 802.11 networks or Wi-Fi networks. Wi-Fi, often interpreted to mean wireless fidelity, was pushed by the Wi-Fi Alliance, a trade group that pioneered



commercialization of the technology. Today Wi-Fi broadly refers to any system that uses the 802.11 standard. The 802.11 designation comes from the Institute of Electrical and Electronics Engineers (IEEE). The IEEE sets standards for a range of technological protocols, and it uses a numbering system to classify these standards.

In a Wi-Fi network, computers, or other devices, with Wi-Fi network cards connect wirelessly to a wireless router. In Wi-Fi networks that provide public Internet access, the router is connected to the Internet by means of a modem, typically a cable or DSL modem. For applications used by city employees, the Wi-Fi network will connect to the city's wired network, permitting mobile access that ideally will provide employees with the same applications and connectivity as they have in the office.

Wi-Fi networks may operate at either licensed or unlicensed frequencies. Most wireless networks that provide personal, business, or free Internet service are unlicensed and operate at frequencies of either 2.4GHz or 5.8 GHz. Recognizing the need for additional wireless spectrum to support public safety agencies, in February 2002, the Federal Communications Commission announced the allocation of 50 megahertz (MHz) of spectrum in the 4940-4990 MHz band (4.9 GHz band) for fixed and mobile wireless services and designated the band for use in support of public safety.

### Wireless Network Standards

In 1997, the Institute of Electrical and Electronics Engineers (IEEE) created the first wireless local area network (WLAN) standard. They called it *802.11* after the name of the group formed to oversee its development. Unfortunately, 802.11 only supported a maximum network bandwidth of 2 Mbps - too slow for most applications. For this reason, ordinary 802.11 wireless products are no longer manufactured.

#### 802.11b

IEEE expanded on the original 802.11 standard in July 1999, creating the *802.11b* specification. 802.11b supports bandwidth up to 11 Mbps, comparable to traditional Ethernet. 802.11b uses the same unlicensed radio signaling frequency (2.4 GHz) as the original 802.11 standard. Vendors often prefer using these frequencies to lower their production costs. Being unlicensed, 802.11b gear can incur interference from microwave ovens, cordless phones, and other appliances using the same 2.4 GHz range.

- **Pros of 802.11b** - lowest cost; signal range is good and not easily obstructed
- **Cons of 802.11b** - slowest maximum speed; home appliances and other devices and networks may interfere on the unlicensed frequency band

#### 802.11a

While 802.11b was in development, IEEE created a second extension to the original 802.11 standard called *802.11a*. Because 802.11b gained in popularity much faster than did 802.11a, some believe that 802.11a was created after

802.11b. In fact, 802.11a was created at the same time. Due to its higher cost, 802.11a is usually found on business networks whereas 802.11b better serves the home market. 802.11a supports bandwidth up to 54 Mbps and signals in a regulated frequency spectrum around 5 GHz. This higher frequency compared to 802.11b shortens the range of 802.11a networks. The higher frequency also means 802.11a signals have more difficulty penetrating walls and other obstructions.

Because 802.11a and 802.11b utilize different frequencies, the two technologies are incompatible with each other. Some vendors offer hybrid 802.11a/b network gear, but these products merely implement the two standards side by side (each connected device must use one or the other).

- **Pros of 802.11a** - fast maximum speed; regulated frequencies prevent signal interference from other devices
- **Cons of 802.11a** - highest cost; shorter range signal that is more easily obstructed

#### 802.11g

In 2002 and 2003, WLAN products supporting a newer standard called *802.11g* emerged on the market. 802.11g attempts to combine the best of both 802.11a and 802.11b. 802.11g supports bandwidth up to 54 Mbps, and it uses the 2.4 Ghz frequency for greater range. 802.11g is backwards compatible with 802.11b, meaning that 802.11g access points will work with 802.11b wireless network adapters and vice versa.

- **Pros of 802.11g** - fast maximum speed; signal range is good and not easily obstructed
- **Cons of 802.11g** - costs more than 802.11b; appliances may interfere on the unregulated signal frequency

#### 802.11n

The newest IEEE standard in the Wi-Fi category is *802.11n*. It was designed to improve on 802.11g in the amount of bandwidth supported by utilizing multiple wireless signals and antennas (called *MIMO* technology) instead of one. When this standard is finalized, 802.11n connections should support data rates of over 100 Mbps. 802.11n also offers somewhat better range over earlier Wi-Fi standards due to its increased signal intensity. 802.11n equipment will be backward compatible with 802.11g gear.

- **Pros of 802.11n** - fastest maximum speed and best signal range; more resistant to signal interference from outside sources
- **Cons of 802.11n** - standard is not yet finalized; costs more than 802.11g; the use of multiple signals may greatly interfere with nearby 802.11b/g based networks.

## 802.16

Wi-Max, also known as 802.16, is a developing standard that looks to combine the benefits of broadband and wireless. WiMax will provide high-speed wireless Internet over very long distances, and appears to be ideal for backhaul requirements. Since the standard is still being developed and few vendors have developed Wi-Max products, specific applications for this technology are in the very early stages of development.

## Wireless Deployments

Outdoor wireless LAN deployments generally fall into one of three different categories: hotspots, hot zones, or a pervasive umbrella wireless deployment. Each type of deployment has its own advantages, disadvantages, and distinct requirements.

### Hotspots

Hotspots are characterized by deployment of a single access point. The term is commonly used to refer to a single wireless LAN access point within a café or restaurant, but it is also applicable when that access point is deployed outdoors. Many cities have found that the simplest entry point into an outdoor wireless network is to create hotspots of coverage outdoors around government buildings—fire stations, police stations, courthouses, field service depots, and so on—allowing city personnel to gain high-speed connectivity at various locations around town without having to return to headquarters.

### Hot Zones

Deploying multiple access points to create a single contiguous coverage area creates a hot zone. Hot zones typically concentrate a wider coverage in dense areas with a higher capacity to support many users. Downtown business districts, city government campuses, recreational parks and venues, and harbors or marinas are all common locations for WLAN hot zones.

### Pervasive Wireless Deployments

Pervasive wireless deployments are simply extensions of hot zones across an entire municipality or a significant portion of it. Aside from the obvious increase in access points needed with a larger deployment, the main difference between a hot zone deployment and a pervasive wireless deployment is the requirement for more backhaul points of broadband connectivity to the edge access points, allowing data traffic to move more quickly to the Internet and reducing congestion at the access level.

Because hot zones and pervasive wireless deployments consist of multiple access points, these deployments must support two requirements:

- Uninterrupted roaming of mobile devices across access points
- Easy backhaul connectivity for the access points

Similar to an indoor wireless LAN deployment, outdoor wireless deployments require the infrastructure to support uninterrupted connectivity as a mobile device roams across an access point boundary.

There are multiple reasons for limiting the requirement for backhaul to each access point when deploying a hot zone or pervasive Wi-Fi network. Wireless access points typically have a range of 1000 to 2000 feet outdoors, depending on the density of buildings, foliage, the presence of other devices or networks operating in the same frequency range, and other obstacles; as a result, they must be placed fairly close together to create pervasive coverage. A good average estimate for many suburban cities is 20 to 25 access points per square mile. The higher the access point is placed, the better its range will be. Desirable mounting sites include utility poles, water towers, and the top of city buildings. Existing backhaul at these types of sites is highly unlikely. And the cost of providing network connectivity to these sites is much higher than pulling cable inside a building. To address this problem, linking access points over the wireless medium, also known as mesh networking, allows significant reduction in the number of backhaul points, dramatically reducing the cost of a hot zone or pervasive wireless network.

### **Proposed Wireless Implementation**

As previously stated, there is no requirement or set of requirements that makes a business case for the city to develop and deploy a city wide municipal wireless network. There are, however, areas that would benefit greatly from wireless access. The proposed wireless implementation plan meets the following objectives:

- Provides the most bang for the buck
- Establishes a framework that can be expanded and grown, if needed
- Interfaces with and leverages existing infrastructure
- Provides for and encourages partnerships with governmental and non-governmental entities/organizations
- offers a unified approach to deploying indoor and outdoor wireless

#### Indoor Wireless – Public Access

There is immediate need and demand to provide public wireless Internet access within certain city buildings. This need can be met relatively easily and at relatively low cost by the city funding and installing the infrastructure, and funding the monthly access costs to connect to the Internet via an Internet service provider (ISP). This proposal would make free Internet available, but would not require the city to manage the day-to-day operations of providing public Internet access. The following city buildings are recommended for initial implementation:

- City Hall (first floor)
- Conference Center
- CSU Meeting and Training Facility (Assembly room and Conference Room)
- Utility Customer Service/IT Building
- Municipal Court Lobby and Courtroom
- Wolf Pen Creek Green Room

- CCWWTP Training Room

The city could issue a Request for Proposals (RFP) soliciting Internet Service Providers to provide most favorable rates and service plan to become the city's preferred provider. Additionally, the city would benefit by providing a service to the public.

Funding for the initial equipment needed would be purchased from the Wireless Infrastructure project (project CO0704). Depending on actual cost, monthly connection charges for City Hall, Conference Center, and Utility Customer Service/IT Building could be funded out of the current IT/E-Government operating budget. The Electrical Department is planning to fund the monthly connection cost for the new CSU Meeting and Training Facility. Municipal Court would fund the Municipal Court Lobby and Courtroom monthly connection charge.

Implementation of this part of the wireless plan should be coordinated with the ATM Network Upgrade project that is beginning. There are substantial potential cost and resources savings that could be realized by coordinating the integration of the wireless and wired network.

#### Indoor Wireless – City Staff Access

There is also demand for city staff to have mobile access to their normal desktop applications throughout city hall. The infrastructure for this access is partially in place and could be expanded using Wireless Infrastructure project funds. Implementation of this portion of the plan does not imply departmental or budget approval for expanding the number of laptop computers issued to staff.

A laboratory/test network for staff access would be set up in the IT building. This site would be used as proof of concept and as a test bed for configuration changes as well as hardware and software upgrades.

#### Outdoor Wireless – Public Access

There are several locations in the city, both city owned and privately owned, where there is demand for public internet access in outdoor areas. City owned areas that lend themselves to the establishment of hot zones include the Wolf Pen Creek Amphitheater area and Veterans Park. The most notable privately owned area is in Northgate.

The city was approached in the past by a private company wishing to fund wireless internet access at Wolf Pen Creek in exchange for advertising rights. The city should immediately contact this firm to determine if they are still interested in sponsoring this access, and if so, begin negotiations. The city should also solicit sponsors for wireless access at Veterans Park and other city parks.

The Northgate area is of interest to both the city and the area merchants. The city would greatly benefit from increased video surveillance in this area, and merchants may be interested in providing free or subsidized wireless access to patrons in a

coordinated fashion. While it is acknowledged that several establishments currently provide wireless Internet access, there may be benefit in approaching the Northgate Merchants Association with a proposal to provide area coverage, as an alternative to each establishment providing access individually. A partnership between the City and area merchants has the potential for benefiting both parties with enhanced safety and security and the mounting of video surveillance equipment and access points on building and infrastructure owned by both parties. As was previously discussed, due to the expense of implementing a traditional wired network, the Northgate area is a prime candidate for a wireless mesh solution that can support both public and private needs.

#### Outdoor Wireless – City Staff Access

The establishment of hot zones in key areas of the city should be further explored. There is significant advantage to various city departments to have areas of the city where employees in the field can go to “connect to the network” without having to return to the office. Specific examples include hot zones within established police beats, and areas where code enforcement officers can connect to update information and file reports. The demand for and location of these designated hot zones requires further study and meeting with other department representatives. The other aspects of the proposed wireless plan provide a basis to further develop and refine this portion of the plan.

### **Recommendations**

The proposed wireless plan builds on previous work done in this area by the city, and recognizes the advances in technology and changes in the commercial wireless environment that has occurred in the last five years. The plan provides for significant movement forward in several areas, while preserving the ability to modify and adjust course if needed. Current and past investment in infrastructure is heavily leveraged to provide the most gain for dollars spent. Specific recommendations include:

- Issue a RFP soliciting Internet Service Providers to provide public Internet service from city facilities.
- Solicit proposals from private firms to provide wireless internet service from city owned outdoor locations.
- Engage the Northgate Merchants Association to determine their willingness to cooperate with the city to enhance safety and security in Northgate by installing wireless video surveillance equipment, and partnering with the city to share infrastructure cost that could be used to support public wireless internet service.
- Approve the locations identified for indoor wireless internet access and implementation that is coordinated with the network upgrade project.