

# **Wireless Communication Master Plan**

Prepared by:

Wichita-Sedgwick County Metropolitan Area Planning Department

With the assistance of:

City of Wichita Engineering Division

Sedgwick County Public Works

September 2016

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## **I. Background**

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In 1999, the City of Wichita and Sedgwick County determined that they needed a clearer framework to review proposals for wireless communication facilities. An extensive planning process was initiated that included outreach to the community and wireless communication industry representatives. Community workshops and a wireless industry roundtable were held. Wireless industry representatives were surveyed and meetings were held with individual industry representatives. After a joint workshop with the Wichita City Council, Sedgwick County Commission and Metropolitan Area Planning Commission (MAPC) to review a draft plan, a city-county staff task force was assigned to meet further with the various stakeholders and prepare revisions to the draft plan. The city-county task force held numerous meetings with stakeholders from December 1999 through July 2000. In July 2000, the MAPC adopted the Wireless Communication Master Plan (“the Plan”) as an element of the Wichita-Sedgwick County Comprehensive Plan. The Plan was subsequently approved by the Wichita City Council and the Sedgwick County Commission in August 2000.

Implementing revisions to the Wichita-Sedgwick County Unified Zoning Code (UZO) were approved at the same time. The UZO revisions were based on the Plan’s recommendations to limit the overall number of wireless communication facilities by promoting collocation of multiple providers’ antennas at a single facility. The UZO revisions also addressed visual obtrusiveness by restricting the tallest towers to heavy commercial and industrial areas, requiring setbacks from low-density residential areas, and promoting the use of monopole rather than lattice-type towers. Over the next ten years, over 100 new wireless communication facilities were built in the community, most of them monopole towers located in commercial areas that supported multiple providers’ antennas.

In March 2011, the Plan was updated to reflect modifications made in 2008 to the UZO pertaining to the heights and zoning districts in which Administrative Permits could be granted, as well the limitation of Administrative Permits within the city limits to certain designated properties. The March 2011 update also included revisions that clarified when it is acceptable to use a lattice-type tower and when it is acceptable to use a monopole.

In 2016, the Kansas Legislature adopted Senate Substitute for House Bill No. 2131, which declared the regulation of wireless communication facilities to be a state-wide interest and directed the approach of cities and counties to regulate wireless communication facilities. The bill prohibits the following established practices of the City of Wichita and Sedgwick County:

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- 1) Requiring applicants to document that no collocation opportunity is available prior to permitting construction of a new wireless communication facility.
- 2) Requiring applicants to demonstrate that a wireless communication facility addresses a wireless service provider need rather than being constructed as a speculative facility.
- 3) Evaluating the merits of an application based on collocation opportunities.
- 4) Requiring small cell facilities in lieu of macro facilities in visually/ environmentally sensitive locations.
- 5) Requiring applicants to agree to permit collocation on their facility by other service providers as a condition of approval.

Additionally, the bill deems an application for a wireless communication facility approved if the application is not acted upon within 150 days for a new facility or 60-90 days (depending on type) for a collocation application. The bill also requires that small cell facilities or distributed antennae systems located in an interior structure or upon the site of any campus, stadium, or athletic facility be permitted by right. Finally, the bill requires equal treatment of wireless communication facilities with utility installations when applying to locate in right-of-way but establishes a right-of-way fee cap on local governments that is lower than the fee charged utilities.

The September 2016 update of the Wireless Communication Master Plan addresses the state-mandated approach to reviewing proposals for wireless communication facilities. The updated Plan also has corresponding implementing revisions to the UZC.

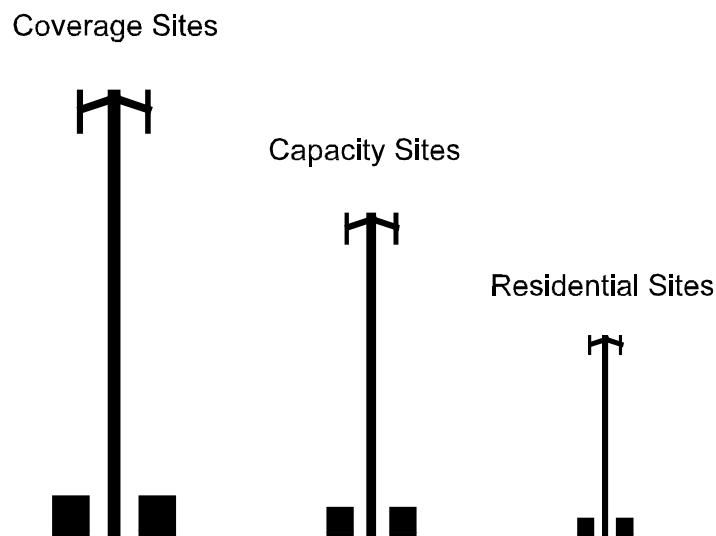
## II. Wireless Communication Deployment

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Wireless communication has evolved from a niche business catering to corporate executives in the early 1990s to a ubiquitous communication tool used by almost everyone less than 25 years later. As the business has evolved, the number of wireless communication facilities in Wichita and Sedgwick County has grown from a few dozen in the early 1990s to several hundred today. By the year 2035, there may well be thousands of wireless communication facilities. They wireless communication facilities have deployed in three phases:

- Coverage. The initial phase occurred primarily between mid-1990s and mid-2000s when carriers tried to spread their signal throughout the community in an attempt to reach new subscribers.
- Capacity. Following the coverage phase, new capacity sites were built between the coverage sites to address areas where a high number of users are located.
- Residential. The current phase of the business plan involves the replacement of most wired phones in customers' homes with wireless devices that are used more for text and data than for voice communication.

The last phase of deployment brings wireless communication facilities into residential areas where they are restricted to shorter facilities, as illustrated below.



The impact of the phases of wireless communication deployment in Wichita and Sedgwick County are:

- Coverage. Most areas of Wichita and Sedgwick County presently have coverage. The construction of additional wireless communication facilities to provide coverage will be limited in the future and are mostly like to occur in rural areas.
- Capacity. As areas of the community grow in population, the demand on the wireless communication systems will exceed the capacity of the coverage sites and providers will need new sites in developing areas to add capacity. These sites mostly can be accommodated in commercial areas and along major roadways.
- Residential. As the use of wireless devices in homes continues to increase, it is likely that there will have to be many more sites for each provider located immediately within residential areas. These mostly likely deployment of these sites will be small cell facilities and distributed antenna systems located in street right-of-way, as illustrated below.



The challenge of planning for wireless communication facilities is the same as that for many other land uses: balancing marketplace demands with public expectations for an orderly and attractive environment. This Plan anticipates and guides future wireless communication deployment with guidelines and policies that should be applied in the review of proposed new wireless communication facilities.

### **III. Location/Design Guidelines**

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This chapter contains guidelines for location, siting and design of new wireless communication facilities. The term “guidelines” is used in recognition that deviations from these guidelines can be considered on a case-by-case basis, if consistent with the general spirit and intent of this Plan.

The intent of the Location/Design Guidelines is to balance marketplace demands for deployment of wireless communication facilities with the community’s desire for an orderly and attractive environment. In general, tall wireless communication facilities should be limited to heavy commercial and industrial areas and should decrease in height as the intensity of development decreases, with the shortest facilities being located in residential areas. Additionally, facilities should be located and designed in a manner that minimizes visual obtrusiveness and negative aesthetic impacts on surrounding properties.

#### **A. Location/Height Guidelines**

1. The following wireless communication facilities should be permitted by right in any zoning district, subject to the issuance of a building permit, if they conform to the Location/Design Guidelines in this chapter. Note that right-of-way is not zoned and has separate permitting requirements described below in Section C.
  - a. New facilities that are concealed in or mounted on top of or the side of existing buildings (excluding single-family and duplex residences) and other structures, including collocation and support structures up to 20 feet above the building or the maximum height permitted by a building permit or an Administrative Permit in the underlying zoning district, whichever is greater.
  - b. Modification and/or replacement of support structures that are not significantly more visible or intrusive, including collocation and cumulative height extensions of up to 25 percent above the original structure height.
  - c. Modification and/or replacement of wireless communication facilities, including collocation and cumulative height extensions of up to 25 percent above the original structure height that comply with the compatibility height standards of the Unified Zoning Code.
  - d. New or modified lattice towers no larger than 18 inches wide on any side up to 80 feet in height measured from grade.
  - e. Small cell facilities or distributed antennae systems located in an interior structure or upon the site of any campus, stadium, or athletic facility.

If the Zoning Administrator determines that the wireless communication facility does not conform to the Location/Design Guidelines, the building permit should be denied. Denied building permits may be appealed by applying for an Administrative Permit or a Conditional Use. An Administrative Permit should be approved subject to conditions that maintain conformance with the Location/Design Guidelines. Wireless communication facilities that do not conform to the Location/Design Guidelines may be approved for a Conditional Use on a case-by-case basis as circumstances warrant.

2. The following wireless communication facilities should be approved by Administrative Permit in any zoning district, with the concurrence of the Director of Planning and the Zoning Administrator, if they conform to the Location/Design Guidelines in this chapter and, for zoning lots located within the City, are designated on the “Properties Eligible for an Administrative Permit for a Wireless Communication Facility Map”. Note that right-of-way is not zoned and has separate permitting requirements described below in Section C.
  - a. New disguised ground-mounted facilities up to 85 feet in height.
  - b. New undisguised ground-mounted facilities up to 65 feet in the SF-10, SF-5, TF-3, MF-18, MF-29, B, U, and MH zoning Districts that comply with the compatibility height standards of the Unified Zoning Code.
  - c. New undisguised ground-mounted facilities up to 85 feet in height in the NO, GO, and NR zoning districts that comply with the compatibility height standards of the Unified Zoning Code.
  - d. New undisguised ground-mounted facilities up to 120 feet in the RR, SF-20, LC, OW, and GC zoning Districts that comply with the compatibility height standards of the Unified Zoning Code.
  - e. New ground-mounted facilities up to 150 feet in height in the IP, CBD, LI, GI, and AFB zoning districts that comply with the compatibility height standards of the Unified Zoning Code.
3. Wireless communication facilities that exceed the maximum height for an Administrative Permit should be reviewed through the Conditional Use process. Conditional Use approvals typically should be subject to conditions that maintain conformance with the Location/Design Guidelines in this chapter; however, wireless communication facilities that do not conform to the Location/Design Guidelines may be approved for a Conditional Use on a case-by-case basis as circumstances warrant. Note that right-of-way is not zoned and has separate permitting requirements described below in Section C.



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4. There should be no nighttime lighting of or on wireless communication facilities except for aircraft warning lights or similar emergency warning lights required by applicable governmental agencies. Flashing white obstruction lights should not be permitted for nighttime operation. Lighting for security purposes should be permitted at the base of wireless communication facilities. Temporary lighting for nighttime repairs should be permitted.
5. No signs should be allowed on a wireless communication facility other than those required by applicable governmental agencies.
6. The owner should be responsible for the removal of unused facilities, including the uppermost 20% of support structures that are unused (except where removal of the uppermost 20% would require the removal of a lower portion the support structure that is in use, in which case the required removal will be raised to the next highest portion of the support structure not in use), within 60 days if the wireless communication facility, or portion thereof, has been unused for 12 consecutive months. If such a facility or portion of a facility is not removed by the owner, then the City or County may employ all legal measures, including, if necessary, obtaining authorization from a court of competent jurisdiction, to remove it, and after removal may place a lien on the subject property for all direct and indirect costs incurred in its dismantling and disposal, including court costs and reasonable attorney fees. Under this paragraph, “owner” includes both the owner of the real property and the owner of the wireless communication facility, whether such ownership is divided or in the same person.
7. All wireless communication facilities should comply with all federal, state, and local rules and regulations.

Wireless communication providers are particularly encouraged to seek the following new locations for new facilities:

1. Mounted on top or the side of multistory buildings and other structures, appropriately concealed, screened, disguised or camouflaged.
2. On existing utility poles in street right-of-way and on parking lot and athletic field/stadium light standards.
3. On existing support structures, including those constructed for school district microwave antennas and private dispatch systems.
4. In wooded areas.

5. At certain City and County-owned properties, where the size and nature of the use does not interfere with other functions and allows for compatible siting; these may include multistory buildings, water towers, large park areas, sewer treatment plant sites, maintenance yards, and public airports.
6. The City and County should also work with public and private agencies such as KDOT, KTA, and Westar, to encourage the use of highway light standards, sign structures, and electrical support structures for new wireless communication facilities.

## **B. Design Guidelines**

As a general rule, the less visible and obtrusive a proposed wireless communication facility is, the more acceptable it will be to the community. The visibility of facilities can be minimized by techniques such as concealment, disguise, camouflage, and sensitive design and siting. Specific guidelines include:

1. Preserving the pre-existing character of the area as much as possible.
2. Minimizing the height, mass or proportion of the facility to minimize conflict with the character of its proposed surroundings.
3. Minimizing the silhouette presented by new support structures and antenna arrays. Lattice-type support structures are generally appropriate in areas outside the “Urban Growth Areas” identified in the Wichita-Sedgwick County Comprehensive Plan. Lattice-type support structures inside the Urban Growth Area boundaries generally should be limited to installations that have antennas mounted flush to the support structure with cables attached to the main support arms rather than the girders. When an antenna array that protrudes from the wireless communication facility is used on a support structure inside the Urban Growth Area boundaries, the support structure generally should be a monopole. The figure below illustrates the types of support structures that are “encouraged” and “discouraged” by this section.

Encouraged



Discouraged



4. Using colors, textures and materials that blend in with the existing environment and minimize reflection; under some circumstances, surfaces should be painted, or otherwise treated, to match or complement existing background structures or utility poles, as appropriate.
5. Concealing facilities within potential space in or on existing structures, or disguised to look like another type of facility, like a flagpole, clock tower, or church steeple.
6. Placing facilities in areas where trees and/or buildings obscure some or all the facility from view, and installing new plantings/screening around the site where visible from major streets or residential areas.
7. Placing facilities on existing walls, flush-mounted, or on roofs buildings (excluding single-family and duplex) and structures, up to 20 feet above the existing structure, as opposed to building new ground-mounted support structures. Facilities on rooftops generally should be set back from roof edges or screened from view.
8. Screening equipment shelters and cabinets through landscaping, walls and/or fencing, as appropriate to the surroundings. In most cases, ground-level equipment should respect the setbacks for accessory uses in the applicable zoning district and be enclosed by 6-8 foot high security fencing, of a material compatible with its surroundings. Equipment should be encouraged indoors if space is available nearby. Burying equipment in an underground vault, to keep most of the equipment out of sight, may be necessary in right-of-way and in some other visually/environmentally sensitive locations, such as tourist attractions, historic landmarks/districts, museum district, river corridor, and other locations of civic importance or architectural significance. Ground level shelters/equipment, appropriately screened and generally landscaped with trees and/or shrubs, should be permitted on lots adjacent to right-of-way, to facilitate the use or reconstruction of utility poles in those right-of-way.
9. Permitting lighting on facilities only if required by federal regulations.

### **C. Right-of-Way**

City and County right-of-way is an encouraged location for wireless communication facilities, particularly for small cell facilities and distributed antenna systems. Locating wireless communication facilities in the right-of-way requires an agreement with the City or County, as applicable. Such agreements should include an ongoing rental fee, as allowed by law, to ensure that private

property owners are not at a competitive disadvantage to the public sector in regards to renting land for the location of wireless communication facilities. However, state law requires that any rental fee for right-of-way must be competitively neutral with fees charged to other users of the right-of-way such as utility companies.

In addition to the design guidelines described in Section B above, wireless communication facilities should also meet the following additional design guidelines when located in the right-of-way:

**1. Adjoining Property Owners**

To the extent practical, the design and location should be changed to mitigate an adjoining property owner's concerns and increase consistency with the guidelines of this Plan.

**2. Wiring – Underground or Aerially**

Facility wiring should be installed underground and within the support structure or within conduit immediately attached to the support structure. Facility wiring should not cross over, under, or through private property.

**3. Public Safety**

Place facilities in locations that are outside of the clear zone and do not cause a sight obstruction for the traveling public and/or obstruct pedestrian safety.

**4. Right-of-Way/Utility Accommodations**

Place facilities in locations to do not hinder existing or planned uses of the right-of-way such as utilities, drainage, street lights, sidewalks, driveways, turn lanes, etc.

**5. Facility Height**

The height of facilities should not exceed 40 feet above ground level unless authorized by the applicable City or County Engineer, or designee.

**6. Poles**

Replacing or utilizing existing utility poles is encouraged and installing new support structures solely for the wireless communication facility is discouraged. The figure below illustrates the types of support structures that are "encouraged" and "discouraged" by this guideline.

Encouraged



Replacement of Existing Light Pole

Discouraged



New Pole Installation

**E. Submittal Requirements**

Review of proposals for wireless communication facilities will be greatly aided by using a set of standardized submittal requirements. This Plan suggests the following submittal requirements:

1. A scaled vicinity plan, dimensioned and identifying existing buildings, trees, and other features within 200 feet of the wireless communication facility in the City of Wichita or within 1,000 feet of the wireless communication facility in the unincorporated area of Sedgwick County.
2. A one-inch-equals-20 feet site plan, dimensioned, identifying the location of all facility elements.
3. Typical elevations of all facility elements, dimensioned.
4. Specification of exterior materials and colors of all facility elements.
5. Landscape/ screening plan, with all materials and sizes specified.
6. Appearance of proposed facility shown in site context by photo-simulation.

## Appendix A: Definitions

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**Applicant.** Any person or entity that is engaged in the business of providing wireless services or the wireless infrastructure required for wireless services and that submits an application.

**Application.** A request submitted by an applicant for: (A) the construction of a new wireless support structure or new wireless facility; (B) the substantial modification of a wireless support structure or wireless facility; or (C) collocation of a wireless facility or replacement of a wireless facility.

**Collocation.** Mounting or installation of wireless facilities on a building, structure, wireless support structure, tower, utility pole, base station or existing structure for the purposes of transmitting or receiving radio frequency signals for communication purposes.

**Distributed Antenna System.** A network that distributes radio frequency signals and consisting of: (A) Remote communications or antenna nodes deployed throughout a desired coverage area, each including at least one antenna for transmission and reception; (B) a high capacity signal transport medium that is connected to a central communications hub site; and (C) radio transceivers located at the hub's site to process or control the communications signals transmitted and received through the antennas to provide wireless or mobile service within a geographic area or structure.

**Lattice Tower.** A type of support structure that consists of an open network of braces forming a tower that is usually triangular or square in cross section.

**Modification and/or Replacement.** Modification of a support structure or wireless communication facility of comparable proportions and of comparable height or such other height that would not constitute a substantial modification in order to support wireless facilities or to accommodate collocation and includes replacement of any pre-existing wireless communication facility or support structure.

**Monopole.** A type of support structure that consists of a vertical pole fixed into the ground and/or attached to a foundation.

**Right-of-Way.** The area of real property in which the City or County has a dedicated or acquired right-of-way interest in the real property. It shall include the area on, below or above the present and future streets, alleys, avenues, roads, highways, parkways or boulevards dedicated or acquired as right-of-way. "Right-of-way" does not include any state, federal or interstate highway right-of-way, which generally includes the area that runs contiguous to, parallel with,

and is generally equidistant from the center of that portion of the highway improved, designed or ordinarily used for public travel.

**Small Cell Facility.** A wireless communication facility that meets both of the following qualifications: (A) Each antenna is located inside an enclosure of no more than six cubic feet in volume, or in the case of an antenna that has exposed elements, the antenna and all of the antenna's exposed elements could fit within an imaginary enclosure of no more than six cubic feet; and (B) primary equipment enclosures that are no larger than 17 cubic feet in volume, or facilities comprised of such higher limits as the federal communications commission has excluded from review pursuant to 54 U.S.C. § 306108. Associated equipment may be located outside the primary equipment, and if so located, is not to be included in the calculation of equipment volume. Associated equipment includes, but is not limited to, any electric meter, concealment, telecommunications demarcation box, ground-based enclosures, back-up power systems, grounding equipment, power transfer switch, cut-off switch and vertical cable runs for the connection of power and other services.

**Substantial Modification.** Modification of a wireless communication facility or support structure that will substantially change the physical dimensions under the objective standard for substantial change, established by the federal communications commission pursuant to 47 C.F.R. 1.40001.

**Support Structure.** A freestanding structure, such as a monopole, guyed or self-supporting tower or other suitable existing or alternative structure designed to support or capable of supporting wireless facilities, and any structure that is currently supporting or designed to support the attachment of wireless facilities, including, but not limited to, towers, buildings and water towers.

**Utility Pole.** A structure owned or operated by a public utility as defined in K.S.A. 66-104, and amendments thereto, a municipality as defined in K.S.A. 75-6102, and amendments thereto, or an electric cooperative as defined in K.S.A. 2015 Supp. 17-4652, and amendments thereto, that is designed specifically for and used to carry lines, cables or wires for telecommunications, cable, electricity or to provide lighting.

**Wireless Communication.** Personal wireless services and personal wireless service facilities as defined in 47 U.S.C. § 332(c)(7)(C), including commercial mobile services as defined in 47 U.S.C. § 332(d), provided to personal mobile communication devices through a wireless communication facility or any fixed or mobile wireless services provided using a wireless communication facility.



**Wireless Communication Facility.** Equipment at a fixed location that enables wireless communications between user equipment and a communications network, including, but not limited to: (A) a support structure consisting of a freestanding support structure, such as a monopole, guyed, or self-supporting tower or other suitable existing or alternative structure designed to support or capable of supporting wireless facilities; (B) a base station that supports or houses an antenna, transceiver, coaxial cables, power cables or other associated equipment at a specific site that is authorized to communicate with mobile stations, generally consisting of radio transceivers, antennas, coaxial cables, power supplies and other associated electronics; (C) equipment associated with wireless services such as private, broadcast and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul; and/or (D) radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies and comparable equipment, regardless of technological configuration.

## Appendix B: Adopting Documents

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### RESOLUTION

#### WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION

WHEREAS, pursuant to the authority granted by the statutes of the State of Kansas, in K.S.A. 12-747 et seq., the Wichita-Sedgwick County Metropolitan Area Planning Commission developed a Comprehensive Plan, entitled Community Investments Plan that was adopted by the City of Wichita on December 8, 2015, and Sedgwick County on January 20, 2016; and

WHEREAS, the Comprehensive Plan may be amended as needed to ensure it reflects timely and relevant information and the needs of the community; and

WHEREAS, the Metropolitan Area Planning Commission did initiate an update of the Wireless Communication Master Plan to reflect changes to Kansas State Law enacted by Senate Substitute for House Bill 2131; and

WHEREAS, before the adoption of any Comprehensive Plan or amendment thereto, the Wichita-Sedgwick County Metropolitan Area Planning Commission is required by K.S.A. 12-747 et seq. to hold a public hearing; and

WHEREAS, the Wichita-Sedgwick County Metropolitan Area Planning Commission did give notice by publication in the official City and County newspaper on July 28, 2016, of a public hearing on said Plan; and

WHEREAS, the Wichita-Sedgwick County Metropolitan Area Planning Commission, on August 18, 2016, tabled the public hearing to September 29, 2016, and on September 29, 2016, did hold a public hearing at which a quorum was present, and did hear all comments and testimony relating to said area plan;

NOW, BE IT THEREFORE RESOLVED, the Wichita-Sedgwick County Metropolitan Area Planning Commission hereby adopts the Wireless Communication Master Plan, September 2016, as an official amendment to the Wichita-Sedgwick County Comprehensive Plan; and

BE IT FURTHER RESOLVED, that notice of this action be transmitted to the City Council of the City of Wichita and to the Sedgwick County Board of County Commissioners for their consideration and adoption.

ADOPTED at Wichita, Kansas, this 29<sup>th</sup> day of September 2016.



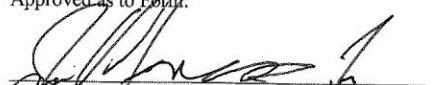
Carol Chapman Neugent, Chair  
Wichita-Sedgwick County  
Metropolitan Area Planning Commission

Attest:

Approved as to Form:



Dale Miller, Secretary  
Wichita-Sedgwick County  
Metropolitan Area Planning Commission



Jennifer Magana, City Attorney and Director of Law  
City of Wichita