

Enhanced Wireless Technology Update (5G Strategic Plan)

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Guiding Principles & Timeline



Guiding Principles

The City of McKinney seeks 5G communications infrastructure that adheres to the following guiding principles:

1. Minimize disruption of public and private property and ensure efficient use of public and private assets, as well as maintain consistency with the City's comprehensive land development plan;
2. Ensure reliable 5G services at the lowest cost to the City's residents and businesses;
3. Maximize universal access and interconnectivity;
4. Ensure maximum number and variety of 5G communications, IoT and smart city services;
5. Enhance the City's economic development programs;
6. Receive fair compensation for the use of public property and City participation; and
7. Enhance or augment community and public safety services; and
8. Ensure the health and safety of the residents and visitors of the City of McKinney.*

*Item 8 has been summarized to form. Original language continued, "..., to include, but not be limited to, studies on the effects of health in areas serviced by 5G communications and radiation emitted from signals transmitted by the same."

Timeline of Events

September 1st, 2017:
Senate Bill 1004 (85th
Legislature) Goes Into
Effect

- Provided a uniform framework for the deployment of network nodes in a public right-of-way,
- Limited the ability of local municipalities to regulate network nodes in right-of-way, and
- Limited revenue collection of local municipalities concerning network nodes in right-of-way.

September 19th, 2017:
City of McKinney
Adopts SB 1004
Complying Ordinance
& Design Manual

- Due to the law change, McKinney was required to update the code of ordinances, and
- Adopted a [design manual](#) to regulate the deployment of network (“small cell”) nodes in the right-of-way.

2017 – 2019: No
Public Right-of-Way
Installations

Timeline of Events (cont.)

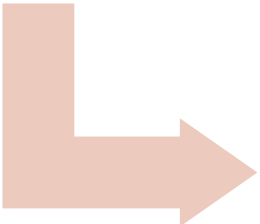
February 8th,
2019: Council
Goals Work
Session

- During the City Council's annual strategic goals and priorities work session, it was recommended to develop a strategic plan relating to "5G infrastructure."



April 22nd,
2019: City
Council Work
Session

- City Staff facilitated a discussion with the City Council during a Council Work Session concerning efforts to embrace "5G" wireless technology.



May 21st, 2019:
City Council Goals
& 5G Guiding
Principles
Adoption

- The [City Council adopted](#) the City Council Goals & Strategies for Fiscal Year 2020,
- Within the Council goal to provide "Direction for Strategic & Economic Growth," the City Manager's Office was tasked with Objective 1A, "move forward with a 5G strategic plan for the city..."
- The [City Council "5G Guiding Principles"](#) are adopted.

Timeline of Events (cont.)

May 2019 –
August 2019

- City Staff from the City Manager's Office, Public Works, Development Services, Information & Technology, Purchasing, and the MEDC developed and published an RFQ for 5G Strategic Plan Consultant Services.



August 2019 –
September
2019

- City Staff reviewed submitted qualifications from 7 firms, interviewed 2 finalists, and selected HR Green as the recommended firm to assist the City of McKinney.



October 15th,
2019

- Update of events and processes provided to City Council, and
- Recommendation for contract approval.

Terminology & Process



Clarity of Terminology

- **Wireless Infrastructure**

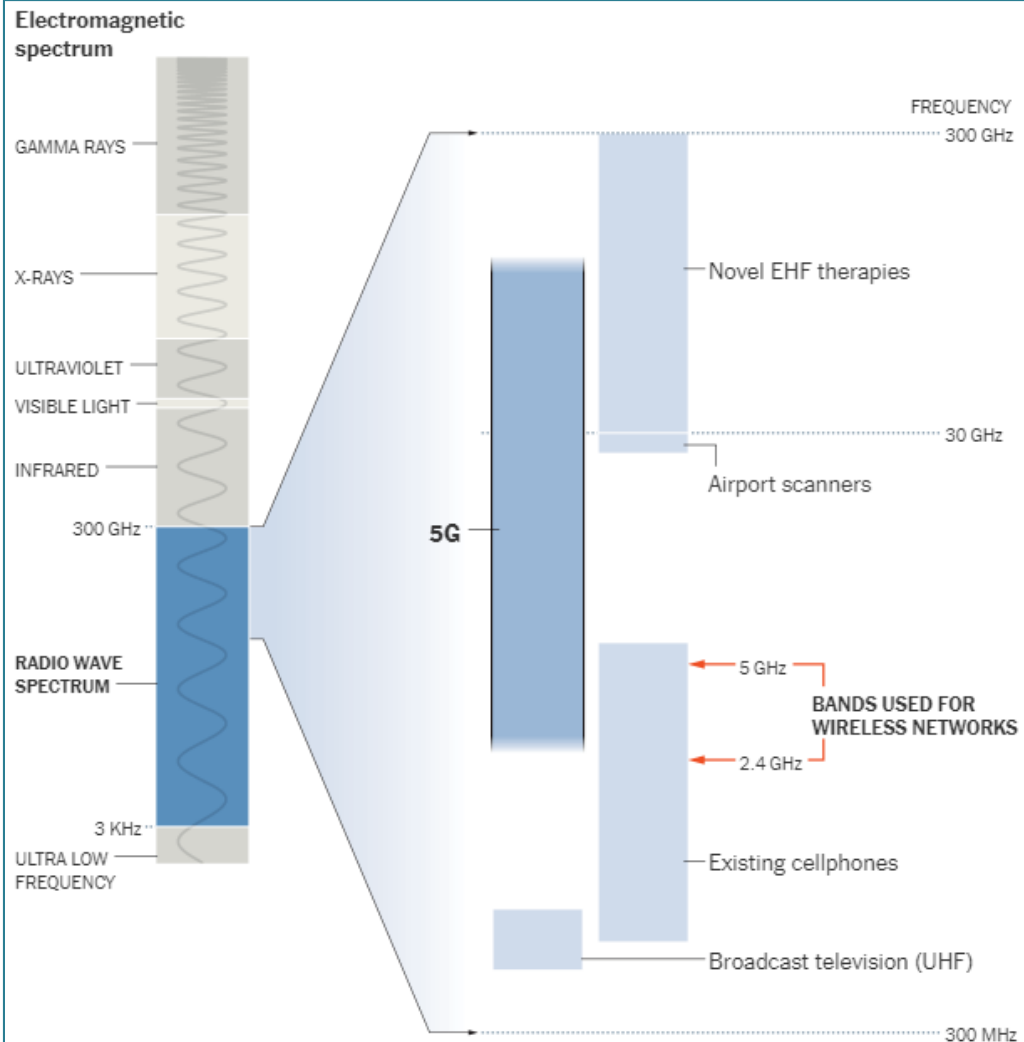
- *Cabling “in the Dirt”*
- *Cell Phone Towers*
- *Conduit*
- *Radio Towers*
- *Small-Cell Nodes*
- *Small-Cell Poles*
- *Satellite Technology*

- **Fiber**

- *In the ground infrastructure that supports enhanced wireless technology, as well as a host of other uses.*

- **Radio Wave Spectrum, 4G, 5G, Non-Ionizing/Ionizing, Frequency, etc.**

- *See next slide.*



By The New York Times | Sources: National Aeronautics and Space Administration, National Academies of Sciences, National Institute of Environmental Health Sciences, Congressional Research Service, Institute of Electrical and Electronics Engineers

Process Today: Public Right-of-way Access

Step 1: Determine the Type of Project

Before applying for the permit(s) required for installation of small-cell facilities on new or existing structures within City of McKinney public right-of-way, determine if your project meets the definition of a small-cell facility as identified in the [Right-of-Way Use and Management Ordinance PDF](#). Applicants are encouraged to review the ordinance amending the City of McKinney

Right-of-Way Use and Management Ordinance, the [Wireless Services \(Small Cells\), Design Manual \(WSDM\) PDF](#) and the [Small Cell Tower availability map](#).

Step 2: Registration of Small Cell Network Provider

Before applying for a permit(s), a network provider seeking to install small-cell facilities must register with the City of McKinney Public Works Department through the [Small Cell permit application](#). A certificate of insurance is required at the time of submittal.

Step 3: Submit Required Permit Application

Permit for Installation of Network Nodes, Poles, and/or Transport Facilities: This is the required permit application for all small-cell projects. Traffic Control Plans shall be included within the plans if lane closures are needed. Designate on the application whether the permit is for network nodes, poles or transport facilities.

Step 4: Application Review Process

The following review processes are applicable based upon the type of permit listed below:

- The City of McKinney has 30 days to complete the initial review of each network node permit application and applicants will be notified by the City of McKinney Public Works Department whether the permit application is incomplete and what specific information is missing.
- The City of McKinney has 30 days to complete the initial review of each support pole permit application and applicants will be notified by the City of McKinney Public Works Department whether the permit application is incomplete and what specific information is missing.
- The City of McKinney has 10 days to complete the initial review of each transport facility permit application and applicants will be notified by the City of McKinney Public Works Department whether the permit application is incomplete and what specific information is missing.

Once the application is deemed complete during initial reviews, the City of McKinney Public Works Department will review the entire permit and notify the applicant of approve or disapprove status as follows:

- Within 60 days for network nodes.
- Within 150 days for support poles.
- Within 21 days for transport facilities.

Process Today: Public Right-of-way Access

Submission & Review Process	Application Requirements	Application Checklists	Submit GIS & Digital Info.	Application Fees
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Application Requirements

- A fully completed and signed permit application as noted in Step 3. The permit will be issued in the name of the network provider that will own the facilities.
- All application fees must be paid at the time of submittal. Submit payment to [Kelvin Bryant](#) at the City of McKinney 972-547-7512. Applications will not be accepted if payment does not accompany the application.
- If applicable, an applicant proposing collocation on a city-owned service pole must submit a copy of the signed agreement with the city allowing the collocation at the pole's specific address at the time of filing the permit application. The contract form will be available soon. An applicant proposing collocation on any other pole must submit a signed agreement with the pole's owner allowing for the collocation at the pole's specific address at the time of filing the permit application. For example, if small-cell facilities will be attached to Oncor's poles, approval from Oncor is required for each pole and each pole must have a specific address.
- On the application, each proposed small-cell-facility installation location must have an address. Address assignment can be obtained by emailing [Dana Stillwell](#) at the City of McKinney or calling at 972-547-2633. Listing multiple addresses on an application is **not** acceptable. Please provide an aerial map of exact locations of proposed facilities. One map may cover multiple locations.
- On the application, each proposed small cell installation location must also designate which zoning district it will be located within. Zoning district designation helps identify whether the proposed installation will be in historic or design districts or other regulated areas. Obtain zoning district information by contacting the City of McKinney Planning Dept. at 972-547-2000. The applicant must disclose if the applicant proposes that the facilities will be located in: a design district; historic district; within 300 feet of public art; near a historic site, or a structure or landmark recognized as historic by the city, state or federal government; within a park; within a residential district; or in an area that has undergrounding requirements.
- The submitted application must include an electronic set of plans in PDF format with the following, as applicable:
 - Approval from the owner of the structure granting permission to the wireless service provider to collocate equipment on each existing structure associated with such permit.
 - Vicinity map drawn to a scale of 1"= 500' or larger showing the locations of existing structure(s) to which small-cell facilities shown on each application are proposed to be attached. The map must show strict conformity with all distance and spacing requirements. All locations will be reviewed for potential conflicts with pending City of McKinney CIP projects and any identified conflicts may require revisions to the proposed small-cell-facility-installation location(s). Identify other small-cell installations within the vicinity.
 - If the proposed installation lies within a right-of-way of another agency (TxDOT, NTTA, etc.), the applicant must provide evidence of a permit from the appropriate agency at the time of application.
 - The type(s) of equipment to be attached and/or installed at each location and no more than one network node on any one pole.
 - The plans must show an elevation profile indicating the height and dimensions of each existing structure.
 - The plans must depict and dimension any and all infrastructure proposed to be installed to support the small cell facility, including but not limited to: any equipment located within the right-of-way, antennas, meters, concealment boxes, grounding equipment, power transfer or cutoff switches, cabinets, vertical cable runs, horizontal fiber runs and power source locations. Include the cubic feet of antennae, the cubic feet of ancillary wireless equipment associated with each facility installation location and the total cubic feet combined.
 - For equipment attached to poles, a State of Texas engineer's seal, signature and date is required.
 - For underground transport facilities plans, bore work requires profiles at all crossings for 12 inch or larger water and sewer lines. Obtain as-built drawings of City of McKinney existing water, sewer, and storm lines by [submitting an Open Records Request](#).
 - If applicable, provide a Traffic Control Plan (TCP) for review.
 - Provide a dated aerial photograph of the overall site depicting the site's relation to major streets, highways and poles. For any application requesting a new pole, "street view" photos are required showing the before and after conditions.
 - An analysis indicating that the proposed facilities will not interfere with city safety communications.
 - For transport service, if third-party transport services are used, the applicant must provide documentation that the third-party provider is paying city fees and that the applicant has received written permission to use the specifically-addressed transport services.

Submission & Review Process	Application Requirements	Application Checklists	Submit GIS & Digital Info.	Application Fees
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Submittal of GIS and Digital Information to the City

As identified in the WSDM, an applicant is required to submit Geographic Information System (GIS) data for the location of each proposed wireless facility or node support pole. The following summarizes these requirements.

Step 1

As part of the permitting process, the City of McKinney requires network providers submit GIS data associated with poles and network nodes. Please download one of these GIS data structures below as a template and complete for proper submittal. This is required prior to submitting a ROW permit application.

- Node Pole Shapefile
- Node Pole Geodatabase
- Service Pole Shapefile
- Service Pole Geodatabase
- Transport Facility Shapefile
- Transport Facility Geodatabase
- Utility Pole Shapefile
- Utility PoleGeodatabase

The following attributes are required for data approval:

- PoleType (P TYPE)
- PoleSubtype (P SUBTYPE)
- PoleOwner (P OWNER)
- PoleHeight (P HEIGHT)
- PoleInstallType (P INST TYP)
- NetworkNodeType (NN TYPE)
- NetworkNodeOwner (NN OWNER)
- NetworkNodeBaseMountingHeight (NN BASE HT)
- NetworkNodePhysicalWidth (NN WIDTH)
- NetworkNodePhysicalHeight (NN_PHYS_HT)

Step 2

Once the shapefile or geodatabase are populated with the required attributes, submit to the city as a .zip file using the Network Node Permit Form.

The Network Node Permit Form shall also be used to submit all other application submittal requirements as a PDF to the city.

Step 3

Prior to final inspection, complete the following attributes for the poles and nodes installed. Please append these attributes to the existing attributes previously submitted in Step 2. Submit to the city as a .zip file using the Network Node Permit Form.

- PermitNumber (Permit_NO)
- PoleInstall (P_INSTALL)
- PoleImage (P_IMAGE)
- NetworkNodeSerialNumber (NN_SERIAL)
- NetworkNodeImage (NN_IMAGE)

Submission & Review Process	Application Requirements	Application Checklists	Submit GIS & Digital Info.	Application Fees
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Application Checklists

The following are to be used and included with a submitted application.

- [Utility Poles \(not City Owned\) Application Checklist PDF](#)
- [Transport Facility Application Checklist PDF](#)
- [Service Pole \(City Owned\) Application Checklist PDF](#)
- [Node Support Pole Application Checklist PDF](#)

Strategic Plan Consultant Services



Scope of Work – Staff Recommendations

- **Proposed Phase 1 – “Develop Policies to Manage 5G Rollout”**
 - ***Measured approach to city-wide policies***
 - *Evaluation of Health Concerns,*
 - *Review/Revise 5G Policy & Design Standards,*
 - *Conduct Cost Recovery Study,*
 - *Develop ROW Policies & Fiber Master Plan,*
 - *Create and Map Key Fiber Arterials,*
 - *Conduit Design Guidelines & Construction Specifications,*

- **Proposed Phase 2 – “Pilot Projects”**
 - ***(Send to MEDC for funding/approval after Policy Phase is complete, or as a MEDC project may require)***
 - ***Proactive approach to MEDC-owned parcels***
 - *Design Sites,*
 - *Engineer Sites,*
 - *Manage Provider Selection Process,*
 - *Financial Modeling, and*
 - *Negotiate with Vendors*
 - *Create Conduit Lease Financial Model, and*
 - *Provider Outreach (Cost Sharing & Participation)*



Next Steps

- **10/15/2019 Council Meeting**

- *Approve the city manager to execute the proposed contract (as recommended)*
- *Accomplishes first two milestones of City Council Strategic Goal*
 - *“1A | Establish regional and infrastructure incentives to increase economic growth | Move forward with a 5G strategic plan for the city...”*

- **4Q 2019 – 1Q 2020**

- *Consultant begins scope and prepares findings and recommendations for Council Consideration*

- **2Q 2020**

- *Consultant & Staff review findings and recommendations, and*
- *Consultant & Staff bring forward to a Council Work Session presentation of work and next steps forward*



Thank You!

