Small Cells Frequently Asked Questions

1. **What are small cells facilities?**

   Small cell facilities are low powered antennas that are used to supplemental a cellular network, expand cellular coverage, and facilitate the deployment of 5G wireless communication which is considered to be the next wireless evolution beyond current 4G/LTE communication. These low powered cell sites are installed every few blocks by private communication providers. Small cells fill the gaps between macro cell towers and densify the existing networks adding capacity and improving service for wireless customers.

2. **Why are small cells needed?**

   The proliferation of wireless users, wireless devices, and the introduction of Internet of Things (IoT) has made cellular data usage increase exponentially in North America and it is projected to continue increasing at an accelerated rate. Reliable mobile data has become an important element of daily lives, from individual users to public safety and first responders. This increased demand requires wireless companies to expand and enhance their current infrastructure. Small cells facilities are intended to improve existing wireless networks allowing communication providers to support more users, faster broadband speeds, and strengthen reliability and coverage. Small cells will be essential in implementing 5G wireless technologies that will allow for interconnected devices to operate at high speeds and will make possible smart city applications.

3. **Can the city prevent small cells from being installed in the public right-of-way?**

   Small cell facilities are allowed in the public right of way per federal and state laws, just like other utilities. In September 2018, the Federal Communications Commission (FCC) adopted a ruling that does not allow cities to prohibit the installation of small cell facilities in the right-of-way. While the city cannot prohibit the installation of small cell facilities, it has adopted specific Small Cell Design Guidelines to regulate appearance and location to ensure that small cell facilities are placed in a way that minimizes their impact.

4. **Where will small cells be placed?**

   Small cell communications utilizes higher frequencies with the capability to accommodate the significantly higher data needs that 5G promises. While macro cells that operate under the current 4G/LTE technologies are deployed at spacing of +/- 2 miles, the physical limits of the higher frequencies require that the transmitters be installed at a much higher density every few under feet apart. Small cells facilities can be deployed on utility poles, streetlight poles, and possibly traffic signal poles. However, existing poles do not normally have the structural capacity to handle the additional weight of the small cell equipment. Thornton's Small Cell Design Guidelines provide incentives for the industry to replace existing poles with new ones that can meet both the small cell needs and other needs. Small cells can also be deployed on their own in monopoles. There is also the possibility for communication providers to share a small cell facility.

5. **What do small cells look like?**

   A small cell facility typically consists of an antenna mounted to a pole, equipment inside a cabinet that can be either attached to the pole or mounted inside the pole, and a meter for electric utility purposes. The antennas are generally cylindrical and shrouded at the top of the pole. The height of the small cell poles could vary between 30 to 40 feet.

The city has adopted specific Small Cell guidelines that establish standards to ensure architectural compatibility, such as using the same color and similar pole design that the ones in the area, and hiding the equipment when possible.

6. **Who to contact if I have a question about a specific small cell location?**

   If you have questions or concerns about a small cell installation in front of your residence or business, you can contact the wireless service provider or wireless infrastructure company directly. All small cell facilities are required to have labels identifying the service provider or company and a 24-hour contact number. The service provider or company can address your questions or concerns.