



OFFICIAL PROPOSAL
Police Station Radio Installations
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General Overview

To provide laptop level service to end users, Freenet needs to install approximately 450 mesh radios throughout the city of Lawrence. To facilitate data services to end users and make the service available for public safety, the company would like to make use of several City owned buildings.

Site Selection Criteria

The specified sites were chosen to facilitate services to end users and provide for future expansion of city services.

The proposed sites are as follows:





Proposed Installation Details

As with Freenet's City Hall installation, the proposed radios would be installed on rooftops using non-penetrating roof mounts. These mounts are inconspicuous, durable and do not puncture or impact roof membranes.



Figure 1: Example of Non-Penetrating Roof Mount Installation

Power will be drawn off of the nearest available power port. These units have cords up to 30' in length. If the unit is further from power, the company commonly uses a low voltage DC Power Over Ethernet (PoE) solution. The image in Figure 1 above uses this PoE solution.

Police Department Uses

Once Freenet has completed the installation of its mesh network at the selected locations, the City may wish to make use of the additional network capacity for the purposes of providing high speed data to police officers in the field.

As an example, here is the difference that mesh networking has made in Granbury, Texas:



Before the Mesh Network Installation: A Granbury, Texas, patrol officer pulls over a Ford Explorer at 2 a.m. on U.S. Highway 377, a popular through route to Mexico. The officer suspects that the vehicle may be stolen and its four occupants driving the car across the border to sell it. The officer has no way to verify his suspicions from the road. He collects names and the license plate number and allows the four to leave. Back at the station, the officer checks law enforcement databases. The Explorer was indeed stolen earlier that night and the occupants are known members of a Dallas-based auto theft ring.

After the Mesh Network Installation: Another late-night vehicle stop. A Granbury patrolman suspects that one of the auto's occupants may be someone he booked the previous week. He also thinks the driver's auto license may be a fake. The patrolman uses a digital camera to snap high-resolution pictures of the driver, his license, the familiar-looking man, and some fingerprints on the auto that the officer raised with an evidence collection kit. He loads the pictures into the patrol car's laptop and sends them via Granbury's city-wide wireless network to an investigator at headquarters. The investigator confirms that the patrolman is correct on all counts. The two men are arrested on the spot.

Police departments are often the primary motive force behind deploying City wide broadband systems. As a group, Lawrence Freenet would like to extend its service to the Police Department for use in security communications.

Attached are three case studies showing the benefits that Police Departments have experienced using mesh networking solutions.