

Wireless Improvement 2020: Planning for Outdoor Coverage

June 4, 2020

Overview

- UNM WiFi
 - The need for coverage
 - Who benefits from the coverage
 - SSIDs that you will see
- Outdoor wireless coverage
 - Existing
 - Planned and completed
- Planning and design
 - Factors that affect signal strength
 - Onsite testing

The need for coverage

- Social distancing recommendations
 - Allows students to access learning resources and submit assignments online.
 - Allows the general public to access online resources limited to web traffic
- Convenient access from within or just outside of your vehicle
 - Signal will be better outside of vehicle

Who benefits from the coverage

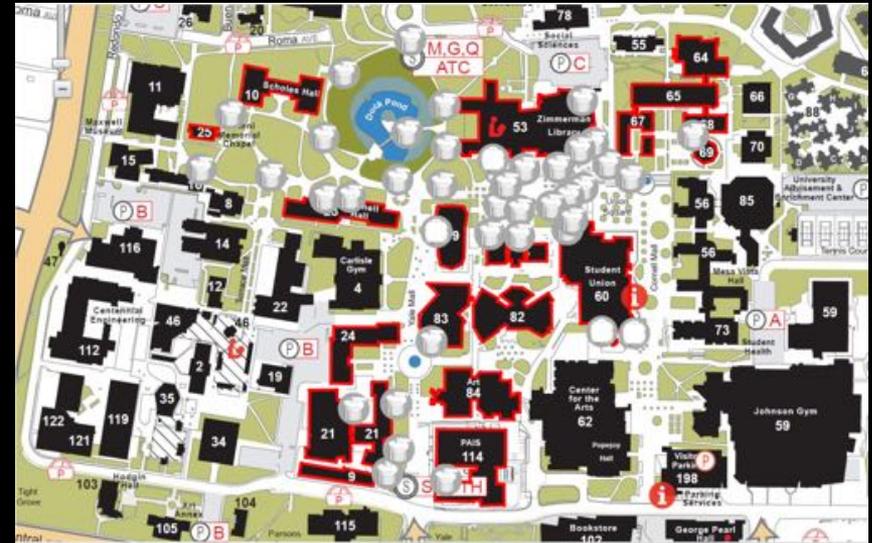
- UNM students, faculty, staff have a UNM NetID
 - Lobo-WiFi
- Those affiliated with institutions that participate in eduroam
 - eduroam
- UNM visitors and the general public
 - Lobo-Guest

SSIDs that you will see

- **Lobo-WiFi**
 - Encrypted
 - Requires UNM NetID
 - More services supported
- **Lobo-Guest**
 - Open
 - Agree to terms and conditions
 - Services limited to web traffic on ports 80 and 443
- **Eduroam**
 - Encrypted
 - Requires full email address from eduroam participating institution
 - More services supported

Existing Outdoor Wireless Coverage

- Duck Pond-11
- Zimmerman-4
- Smith Plaza-13
- Masely Hall-1
- Yale Mall-5
- Mitchell Hall-2
- PAIS-1
- Casterter-1
- Student Union Building-2

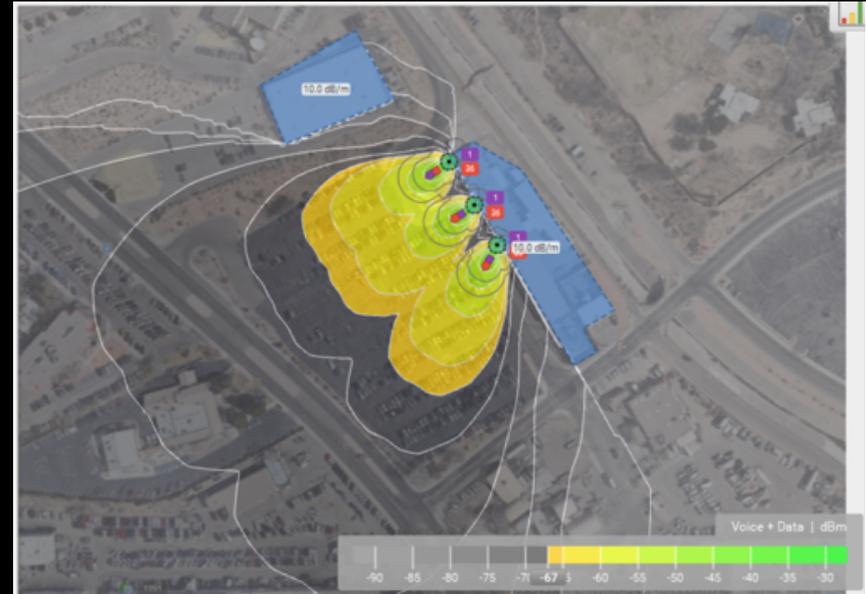


Planned Wireless Access Point Locations

- SRS building
- UNM IT building
- Pit building
- SSSC building
- Football Stadium

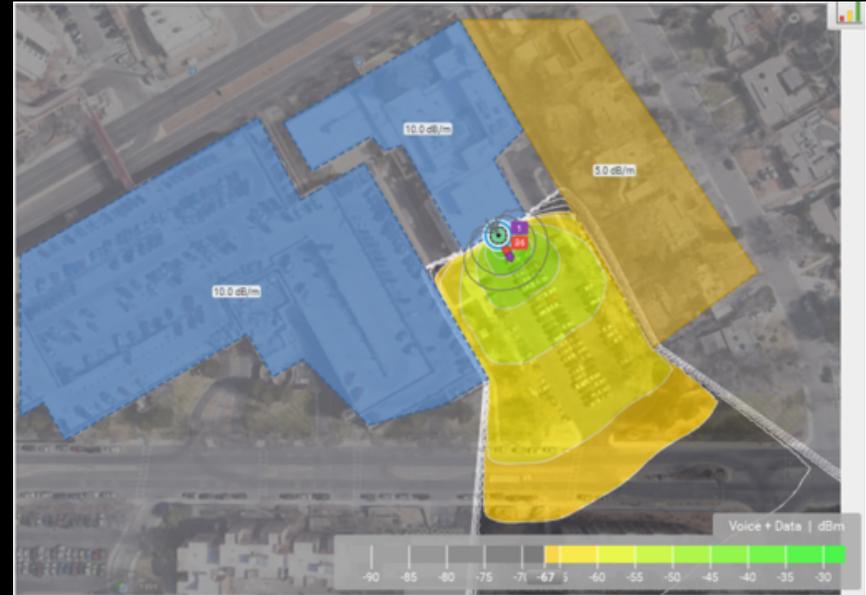
SRS Parking Lot

- Three Aruba model 274 access points.
- Installation complete.
- Testing complete.



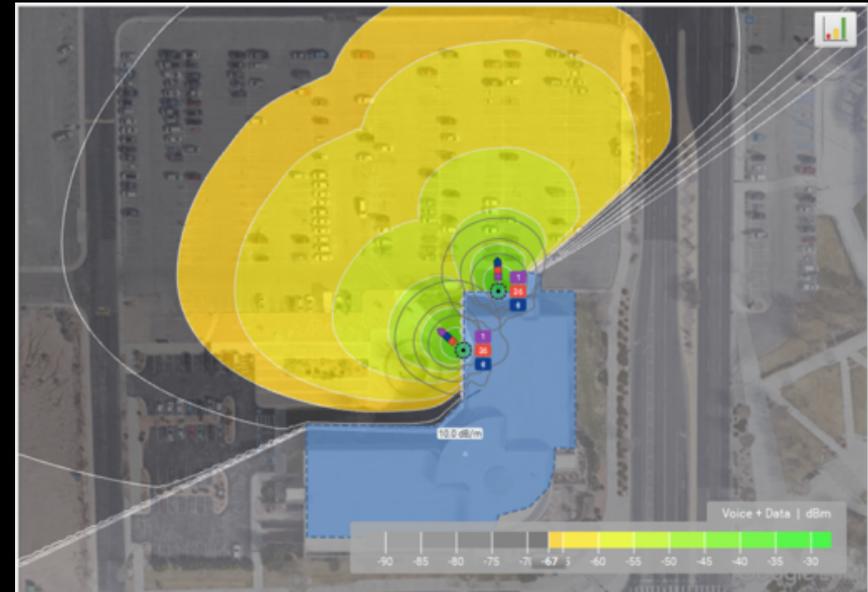
UNM IT Parking Lot

- One Aruba model 277 access point.
- Installation complete.
- Testing complete.



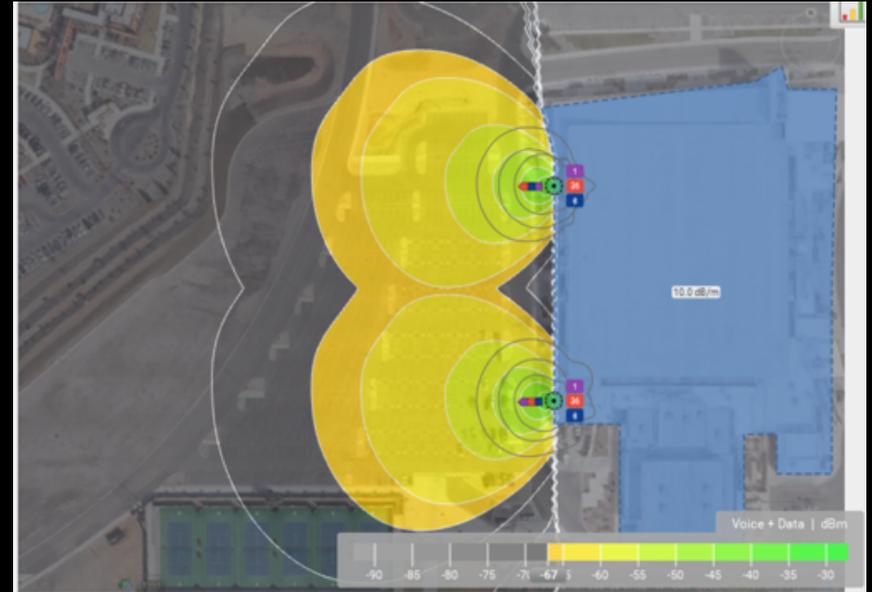
SSSC Parking Lot

- Two Aruba model 377 access points.
- Installation complete.
- Testing complete.



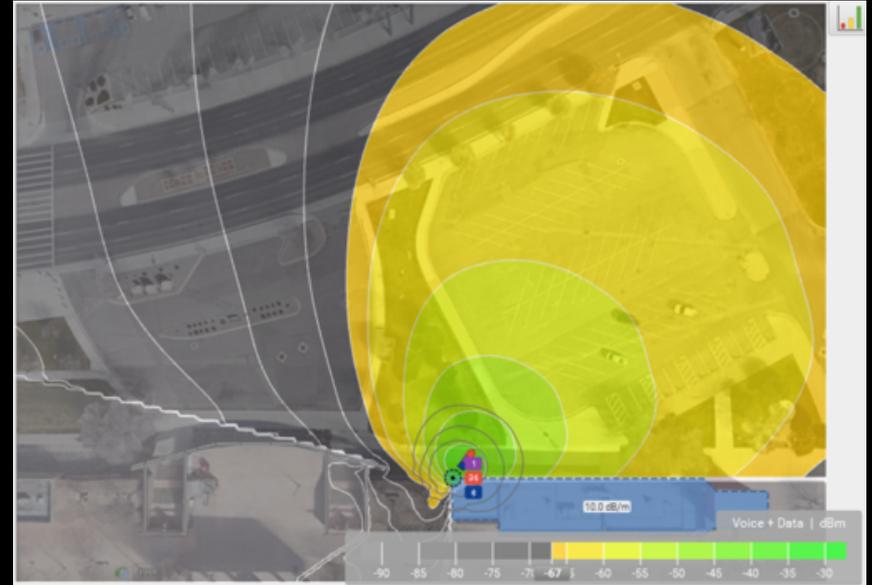
PIT Parking Lot

- Two Aruba model 377 access point.
- Proposed.



Football Stadium Parking Lot

- One Aruba 377 access point.
- Proposed.



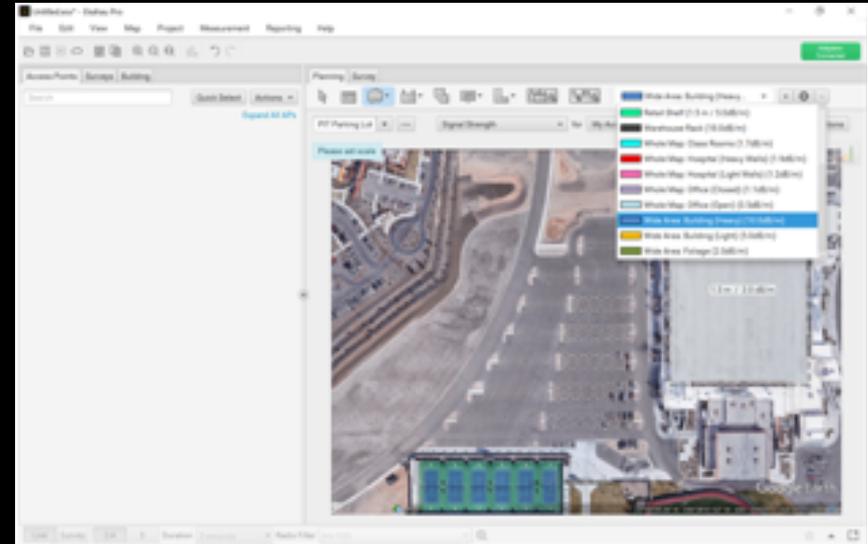
Planning and Design: Step 1

- Google Earth
 - Locate region
 - Zoom in and adjust view directly overhead
 - Measure distance
 - Take a screen shot



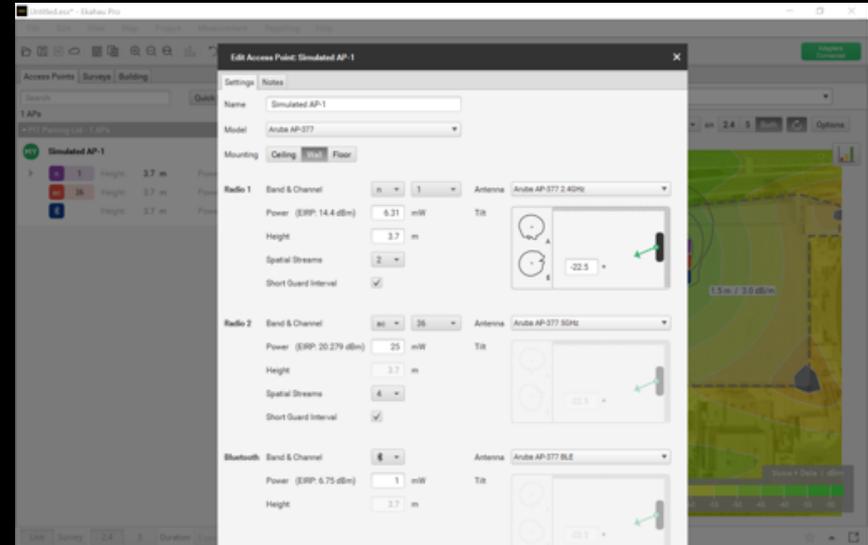
Planning and Design: Step 2

- Ekahau Site Survey Tool
 - Add map
 - Set scale
 - Define attenuation areas



Planning and Design: Step 3

- Place wireless access points
 - Model
 - Mount
 - Height
 - Tilt
 - Power
 - Direction



Factors that Affect Signal and Speed

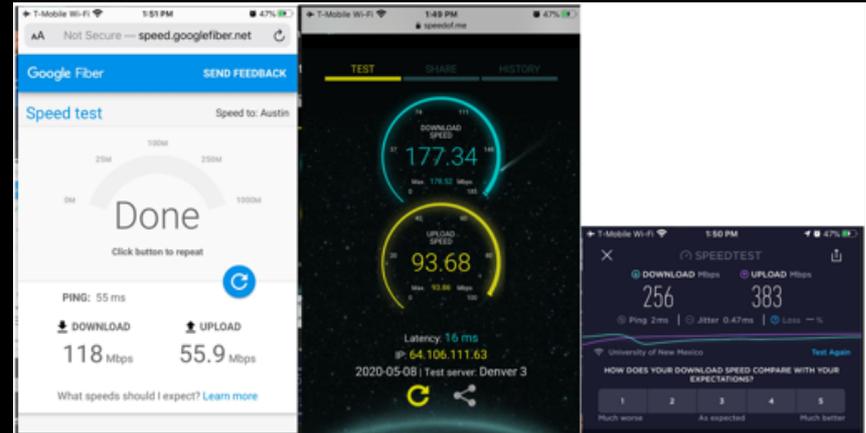
- Physical obstacles
- Distance and position relative to the access point.
- Utilization
- Other wireless networks
- Encryption vs. no encryption

Onsite Testing and Making Adjustments

- WiFi Analyzer
 - Speed Test
 - Signal Strength
- Distance and location
- Make adjustments to power in the Ekahau site survey tool to reflect actual signal strength

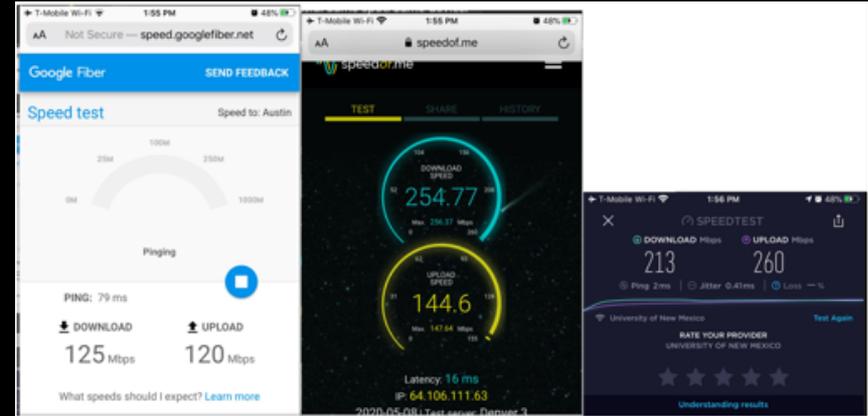
SSSC North Access Point-Lobo-WiFi

- Speed Tests
 - speed.googlefiber.net
 - speedof.me
 - Speedtest.net
- Distance
 - 132 feet
- Location
 - Line of sight



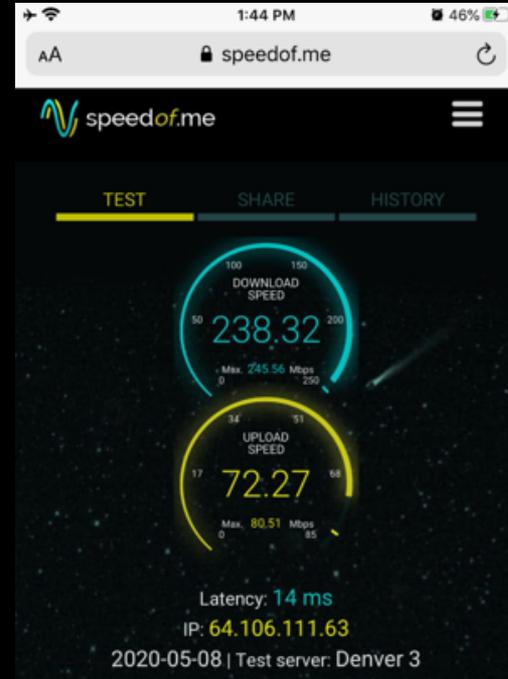
SSSC North Access Point-eduroam

- Speed Tests
 - speed.googlefiber.net
 - speedof.me
 - Speedtest.net
- Distance
 - 132 feet
- Location
 - Line of sight



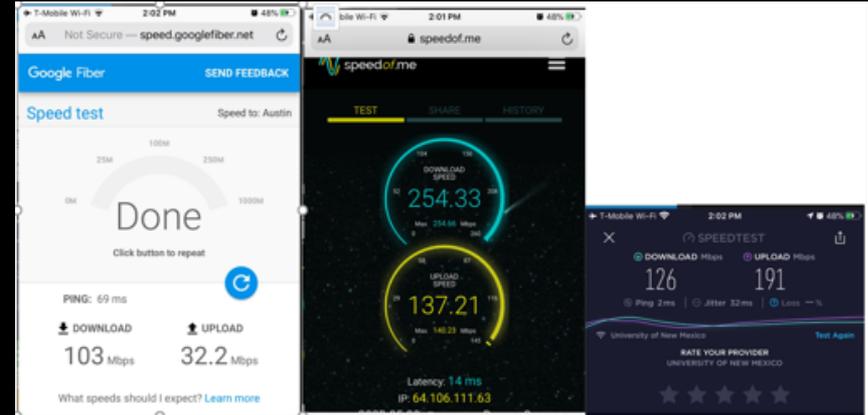
SSSC North Access Point-Lobo-Guest

- Speed Tests
 - speedof.me
- Distance
 - 132 feet
- Location
 - Line of sight



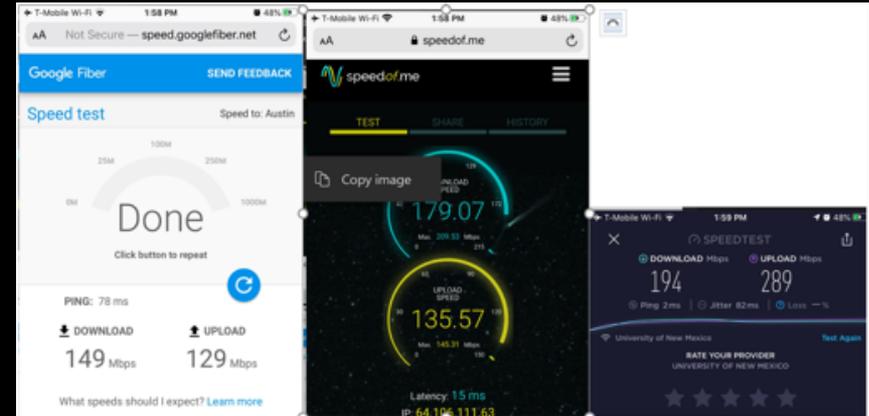
SSSC North Access Point-Lobo-WiFi

- Speed Tests
 - speed.googlefiber.net
 - speedof.me
 - Speedtest.net
- Distance
 - 244 feet
- Location
 - Line of sight



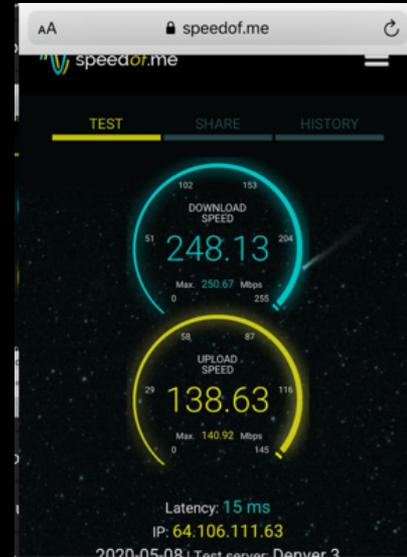
SSSC North Access Point-eduroam

- Speed Tests
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 - Speedtest.net
- Distance
 - 244 feet
- Location
 - Line of sight



SSSC North Access Point-Lobo-Guest

- Speed Tests
 - speedof.me
- Distance
 - 244 feet
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Thank You

Questions?