Mountain View
Whisman
School District

CBRS Update

April 7, 2022

Strategic Plan Alignment

- 5b.2. Ensure that students have access to the internet inside and outside of school with support for families.

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What is CBRS?

Citizens Broadband Radio Service

- Utilizes 150Mhz wide band of the 3.5Ghz
- Allows for creation of private LTE networks
  - No need to acquire spectrum licenses
- Benefits over traditional wifi
  - Longer range
  - Reduced power usage
  - Operates outside of wifi spectrum

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Building the network

Initial Pilot and testing - 2020-21

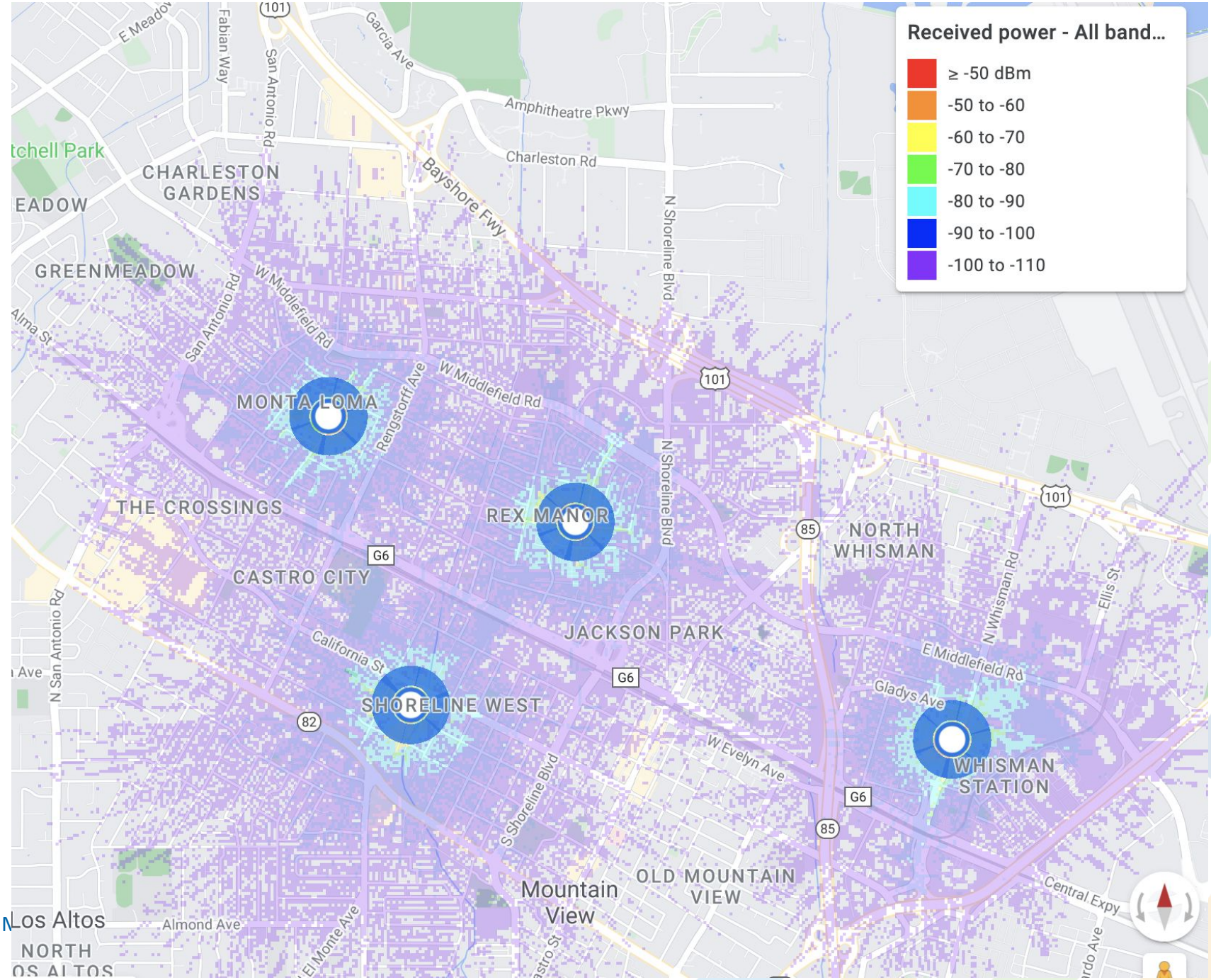
- Created a small pilot at Castro/Mistral
- CBRS Technology proved successful
- Need to find alternate manufacturer
  - Radio used in the pilot was unstable
  - Manufacturer abandoned planned CBRS roadmap
  - Category A radio was piloted
- Reconfigured pilot site with different manufacturer

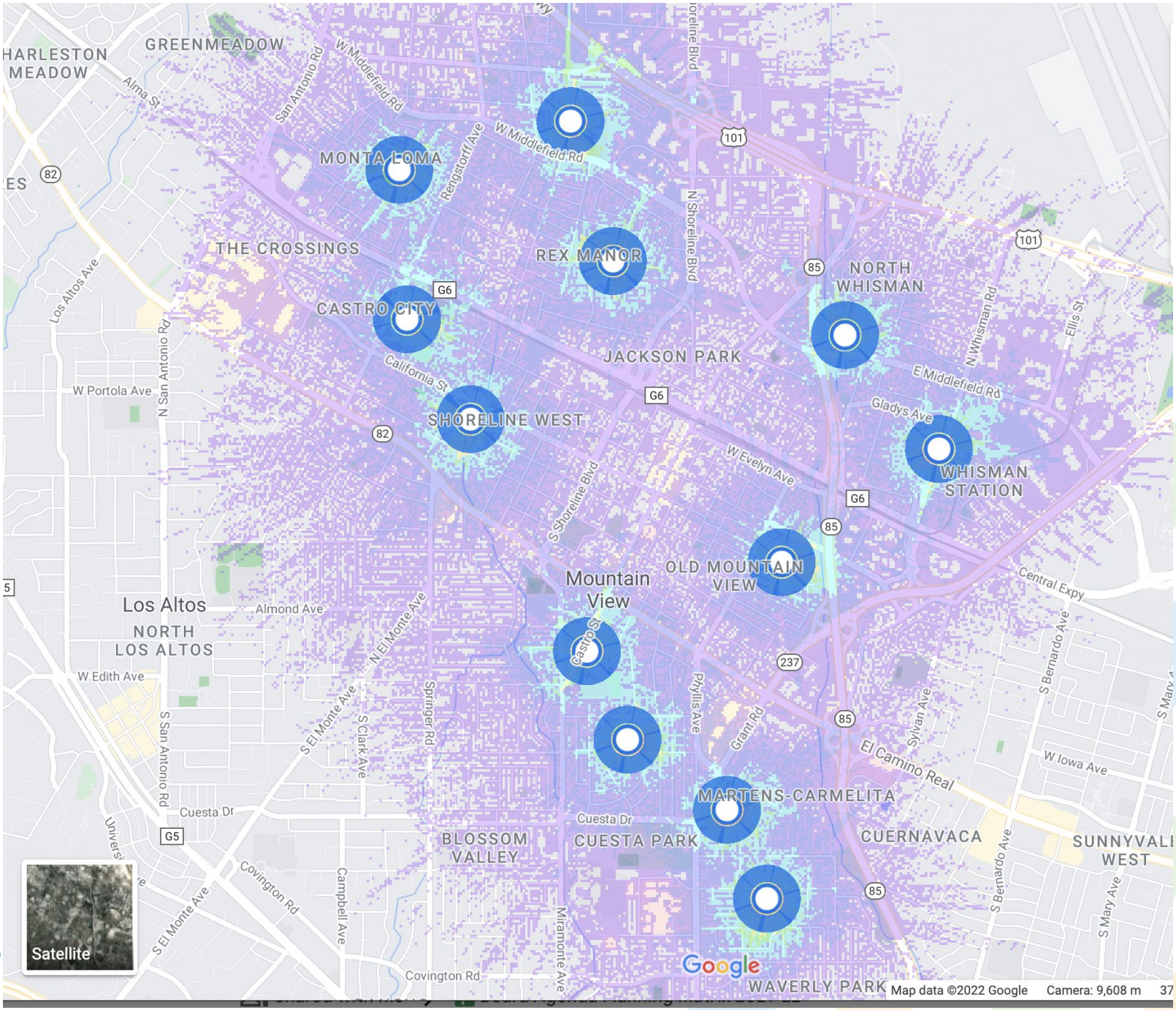
Building out the network - 2021-22

- Standard set up for all sites
  - Three radios
  - Three external antennas
  - Location varies by site
- Deployed radios at four school sites
- Supply chain issues with rooftop mounts

Monta Loma

Vargas


Received power - All band...
≥ -50 dBm
-50 to -60
-60 to -70
-70 to -80
-80 to -90
-90 to -100
-100 to -110
CHARLESTON GARDENS
GREENMEADOW
MONTA LOMA
THE CROSSINGS
REX MANOR
CASTRO CITY
JACKSON PARK
NORTH WHISMAN
SHORELINE WEST
WHISMAN STATION
OLD MOUNTAIN VIEW
Mountain View
Los Altos
NORTH LOS ALTOS
Amphitheatre Pkwy
Charleston Rd
Bayshore Fwy
N Shoreline Blvd
W Middlefield Rd
E Middlefield Rd
San Antonio Rd
Rengstorff Ave
California St
Gladys Ave
W Evelyn Ave
S Shoreline Blvd
N Whisman Rd
Ellis St
Central Expy
Almond Ave
101
85
82
G6


GREENMEADOW
HARLESTON MEADOW
MONTA LOMA
THE CROSSINGS
REX MANOR
NORTH WHISMAN
CASTRO CITY
JACKSON PARK
SHORELINE WEST
WHISMAN STATION
OLD MOUNTAIN VIEW
Mountain View
Los Altos
NORTH LOS ALTOS
MARTENS-CARMELITA
BLOSSOM VALLEY
CUESTA PARK
CUERNAVACA
SUNNYVALE WEST
WAVERLY PARK
W Middlefield Rd
Rengstorff Ave
N Shoreline Blvd
S Shoreline Blvd
California St
W Portola Ave
N San Antonio Rd
S San Antonio Rd
Los Altos Ave
W Evelyn Ave
E Middlefield Rd
Gladys Ave
N Whisman Rd
Ellis St
Central Expy
El Camino Real
W Iowa Ave
Almond Ave
W Edith Ave
N El Monte Ave
S El Monte Ave
S Clark Ave
Springer Rd
Castro St
Phyllis Ave
Grant Rd
Sylvan Ave
S Bernardo Ave
Cuesta Dr
Covington Rd
Campbell Ave
Miramonte Ave
S Mary Ave
101
82
85
237
G6
G5
Satellite
Google
Map data ©2022 Google
Camera: 9,608 m

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Supporting families

Initial Client testing 2020-21

- 30 client USB modems
- Low-cost
- Compact
- USB-powered

Client device testing - 2021-22

- Tested a variety of client devices
- iPad with built-in PLTE
- USB modem
- Several PLTE routers

Cradlepoint routers

- Managed CBRS router
- Supports 5Ghz WiFi
- External antennas
- Rugged design

MVWSD Connect

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- Program for families that need Internet access
- Variety of access methods
  - 200 Cradlepoint routers
  - 30 USB modem
  - 20 hotspots

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Next Steps

Next Steps

- Continue with radio deployment at school sites
- Move families over to CBRS that have been using hotspots
- Test additional client devices
- Optimize radio set up to improve coverage