



## **CITY COUNCIL CONNECTIVITY SUBCOMMITTEE MEETING**

Tuesday, June 18, 2024  
1:45 p.m.

Chandler City Hall  
175 S. Arizona Ave.,  
Chandler, AZ 85225

Pursuant to Resolution No. 4464 of the City of Chandler and to A.R.S. 38-431.02, notice is hereby given to the members of the Chandler City Council Connectivity Subcommittee and to the general public that the Chandler City Council Connectivity Subcommittee will hold a meeting open to the public on Tuesday, June 18, 2024, at 1:45 p.m. at Chandler City Hall, Fifth Floor Large Conference Room, 175 S. Arizona Avenue, Chandler, Arizona.

Persons with disabilities may request a reasonable modification or communication aids and services by contacting the City Clerk's office at 480-782-2181. Please make requests in advance as it affords the City time to accommodate the request.

Agendas are available in the Office of the City Clerk, 175 S. Arizona Avenue.

### **Agenda**

1. Frye Road Protected Bike Lanes
2. Broadband and Digital Equity

### **Public Comment**

Public comments will be heard only for the item(s) on the published meeting agenda. Up to 15 minutes will be allotted for public comments on the agenda item(s) and each speaker will be allotted three minutes at the discretion of the Presiding Officer.



## City Council Subcommittee Memorandum

**Date:** 06/18/2024  
**To:** Council Subcommittee  
**From:** Tera Scherer, Executive Management Assistant  
**Subject:** Council Connectivity Subcommittee

---

### Attachments

Frye Road Protected Bike Lanes Presentation

# Frye Road Protected Bike Lanes



**City Council Connectivity Subcommittee**

**June 18, 2024**

# Strategic Framework



Forward-thinking transportation & technology networks with:

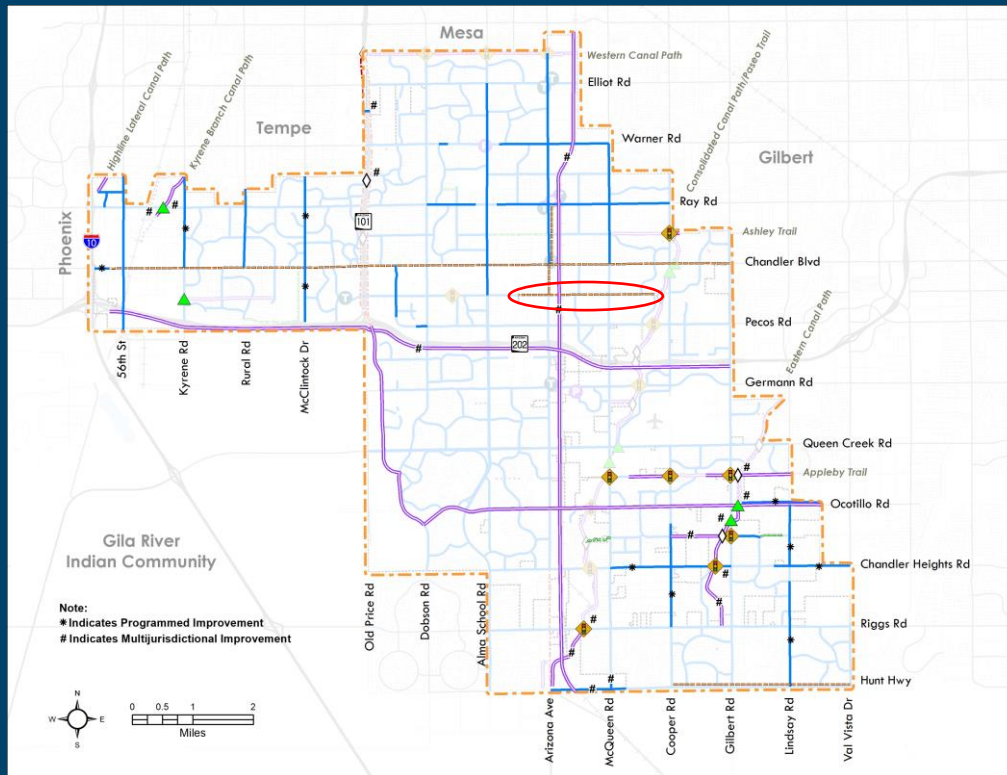
- **Multi-modal**, integrated options to **access** Chandler's **employment** corridors, **local destinations** and connections with Valley cities.
- **Safe, attractive** and well-managed roadways, **paths** and traffic systems **connecting developments** and **neighborhoods**.
- Innovative micro-transit options integrated into regional systems to serve Chandler residents and visitors.
- Fiber and wireless technology providers that quickly and reliably connect people and business.
- **Regional resources** that maximize the ability **to finance** transportation projects.



# Transportation Master Plan

Approved by City Council Feb. 13, 2020

- Improve Multi-Modal Transportation Options
- Provide More Separated and Protected Bike Facilities
- Public feedback:
  - Strong interest in biking
  - Concern over biking adjacent to high-speed traffic
- Frye Road Recommended as First Protected Bike Lane



# Project Limits

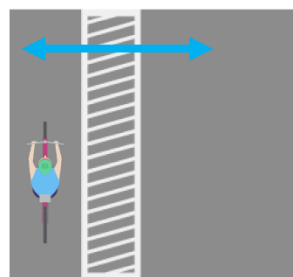
Frye Road from Paseo Trail to San Marcos Park (2.5 miles)



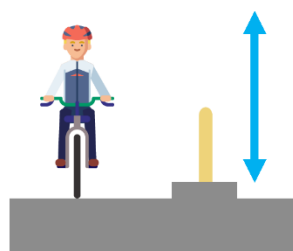
# Building Blocks of a Protected Bike Lane



Photo Source: Minneapolis Public Works



**Horizontal  
Buffer**



**Vertical  
Element**



**High visibility  
markings of  
conflict areas**

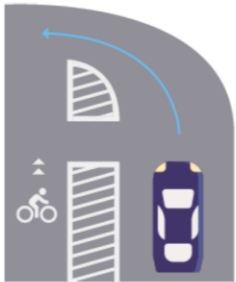
# Benefits of Protected Bike Lanes



Reduce/eliminate  
dooring issues



Reduce/eliminate  
parking and loading  
conflicts



Reduce conflicts/slow  
turning vehicles



Provide space for ALL  
roadway users, reducing  
stress for ALL

BENEFITS OF PBLs OVER  
CONVENTIONAL BIKE LANES\*

SAFETY

COMFORT

RIDERSHIP

SHIFTED TRIPS

\*Source: Monsere et al. Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S. NITCRR-583.

\*\*Crash data does not show that the corridor has experienced safety issues

# Project Objectives

- Create a more bicycle- and pedestrian-friendly environment along this corridor
- Provide a more comfortable bicycle facility that physically separates bicyclists from vehicular traffic.
- Enhance connection and accessibility to Downtown Chandler and the Paseo Trail.
- Connect enhanced bicycle facility to schools and parks located along the project corridor.
- Incorporate landscaping, hardscaping, and art within the project corridor.



# Public Engagement



- Preliminary Design (Feb. 2021):
  - 115 survey responses received
  - 57 additional comments through social media
  - Majority positive response for protected bike lanes
- Design:
  - Public Meeting (Nov. 2022)
    - 9 attendees
    - Mostly positive feedback
  - Stakeholder Outreach
    - Schools, Businesses



# What We Heard from the Public

- **64% bicycle at least once a week** primarily for recreation, social activities, and dining.
- Perceived lack of safety for pedestrians and bicyclists
- Majority of positive response for improved/protected bike lanes
- Additional requests for landscaping, connections to bicycle network, and detection at intersections
- **3.6 out of 10** for how comfortable Frye Rd is to ride today
- Parents indicated they would allow their child to bike to and from school without an adult in 5th grade with protected bike lanes versus 7th grade as it is



Protected Two-Way Bicycle Lane, Mesa, AZ

# May 2021 Council Micro Retreat

## Council Feedback

- Safety
- Connections to Destinations
- Downtown Bike Parking
- Invest to Make Appealing
- Spend More Up Front to Make More Durable
- Be Prepared to do Elsewhere

## Modifications to Plans

- • More Green Paint and Signage
- • Wayfinding Signage Added
- • Created Downtown Bike Parking Map
- • Added Art Panels and Monument Signs
- • Repave Entire Roadway
- • Thermoplastic instead of Green Paint
- • Protected Bike Lanes Study

# Proposed Barriers



**Delineator Posts**



**Raised Bike Lane**



**Precast Concrete Curbs**



**Raised Pavement Markers**



**Parking Protected**



# West of Arizona Ave.

- Striped Crosswalk at San Marcos Park
- Landscaped Medians and Monument Sign at Western Entry
- Precast Curbs



# West of Arizona Ave. (Cont.)





# East of Arizona Ave.

- Interspersed Curb and Raised Pavement Markers
- Connection to Paseo Trail and Homestead North Park





# Eastern End of Frye Road Current Condition

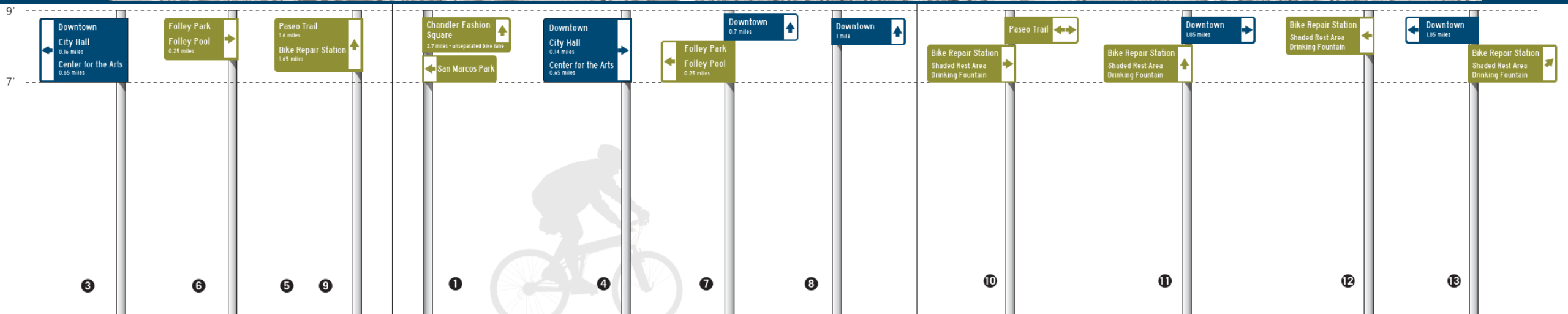
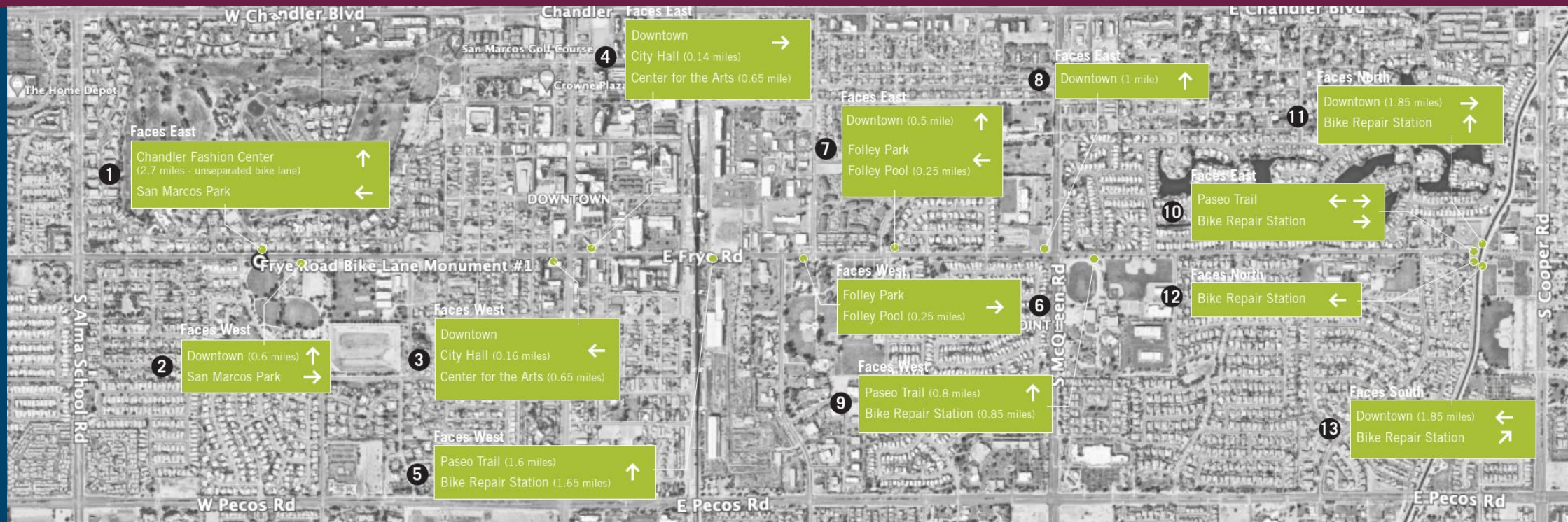


# Eastern End of Frye Road





# Wayfinding





# Art Panels

- Professional Art Design



- Student Artwork – Near Schools



# Maintenance

## Landscaping

- Medians at western end
- Connection to Paseo Trail at eastern end

## Street Sweeping

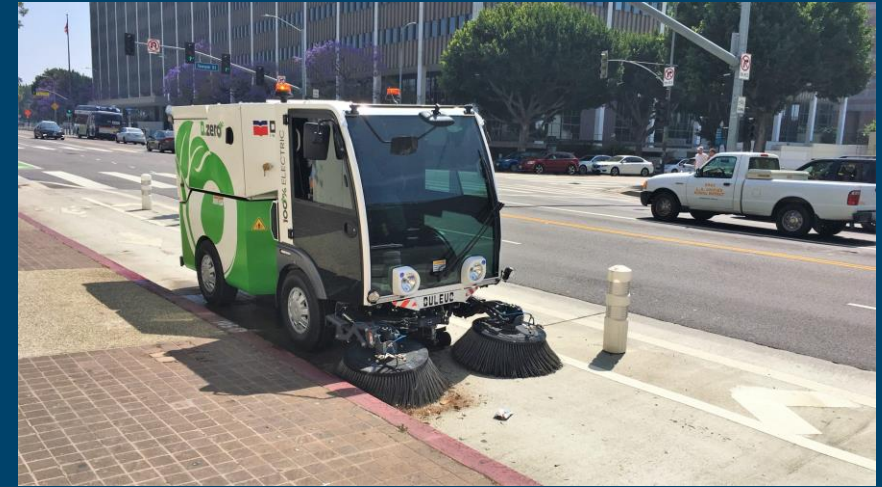
- Purchase smaller sweeper with grant funds

## Replacement Parts

- Curbs
- Bollards
- Raised Pavement Markings

## Green Thermoplastic

- Reapply every 8 – 10 years



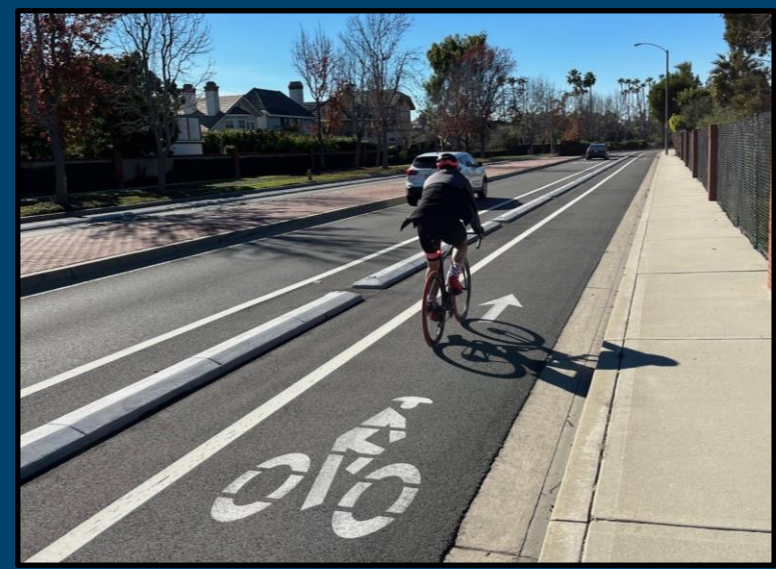


# Project Funding and Timeline

- Preliminary Design – 2020 - 2021 (\$80,000 Grant)
  - Council Micro Retreat – May 12, 2021
- Design (\$914,000 Grant)
  - December 2021 – June 2024
- Construction (\$13.52M Grants)
  - Award Contract in Fall 2024
  - Construction in 2025







# Questions and Comments





## City Council Subcommittee Memorandum

**Date:** 06/18/2024  
**To:** Council Subcommittee  
**From:** Tera Scherer, Executive Management Assistant  
**Subject:** Broadband and Digital Equity

---

### Attachments

Broadband and Digital Equity





# Broadband and Digital Equity

## City Council Connectivity Subcommittee



Dennis Aust, Telecommunications & Utility Franchise Manager  
Sam Andrea, Planning Senior Analyst  
Niki Tapia, Diversity Equity & Inclusion Officer  
Kerstin Nold, IT Chief Technology Officer

June 18, 2024

# PURPOSE OF PRESENTATION

## **Council Strategic Framework Guidance:**

- **Forward-thinking transportation and technology networks with fiber and wireless technology providers that quickly and reliably connect people and business.**
  - **Assess the current state of Chandler's level of service from broadband providers, identifying gaps and recommending strategies for improved coverage.**

## **Chandler strives to be the Most Connected City and a Community of Innovation**

- **Broadband infrastructure and digital equity are crucial for Chandler's goal to be the most connected city.**
- **High-speed internet fosters economic growth, education, healthcare access, and social inclusion.**
- **Digital equity ensures all residents can participate fully in the digital age.**

**What role can the City play in meeting these goals?**

# LICENSE AGREEMENTS

## **Initiatives and policies related to broadband infrastructure:**

- Federal Code (Telecommunications Acts)
- State Law (ARS 9-581 et. Seq.)
- City Code (Chapter 46 and others...), Engineering Standards & City Policies ([DSP-201](#))
  - Class 4, Class 5, Class 6 or Class 7 “Broadband” provider / mixed use

## **City’s role in regulating/providing broadband:**

- Right-of-Way Management – Enforcement of CCC, Standards & Policies
- Project Coordination (project tracking, but not project management)
- Influence/encourage direction – FTTH = Improved Reliability

## **Challenges the city faces with agreements and regulations:**

- Limited authority – State and Federal pre-emption
  - Treating like providers similarly (Fee models, PEG Channels, etc.)
- Resident education and outreach



# Background – Broadband Service Levels

- What does it mean to be well served?
  - Availability –
    - Competition
    - Network Congestion (time of day, a.k.a. peak internet usage hours)
  - Reliability –
    - Copper/Coax, HFC or FTTH
      - HFC – FTTN vs. FTTP vs. FTTH
- Broadband Level of Service Standard:
  - 3/14/2024 – FCC Officially upgraded Broadband Standard from 25/3 Mbps to 100/20 Mbps

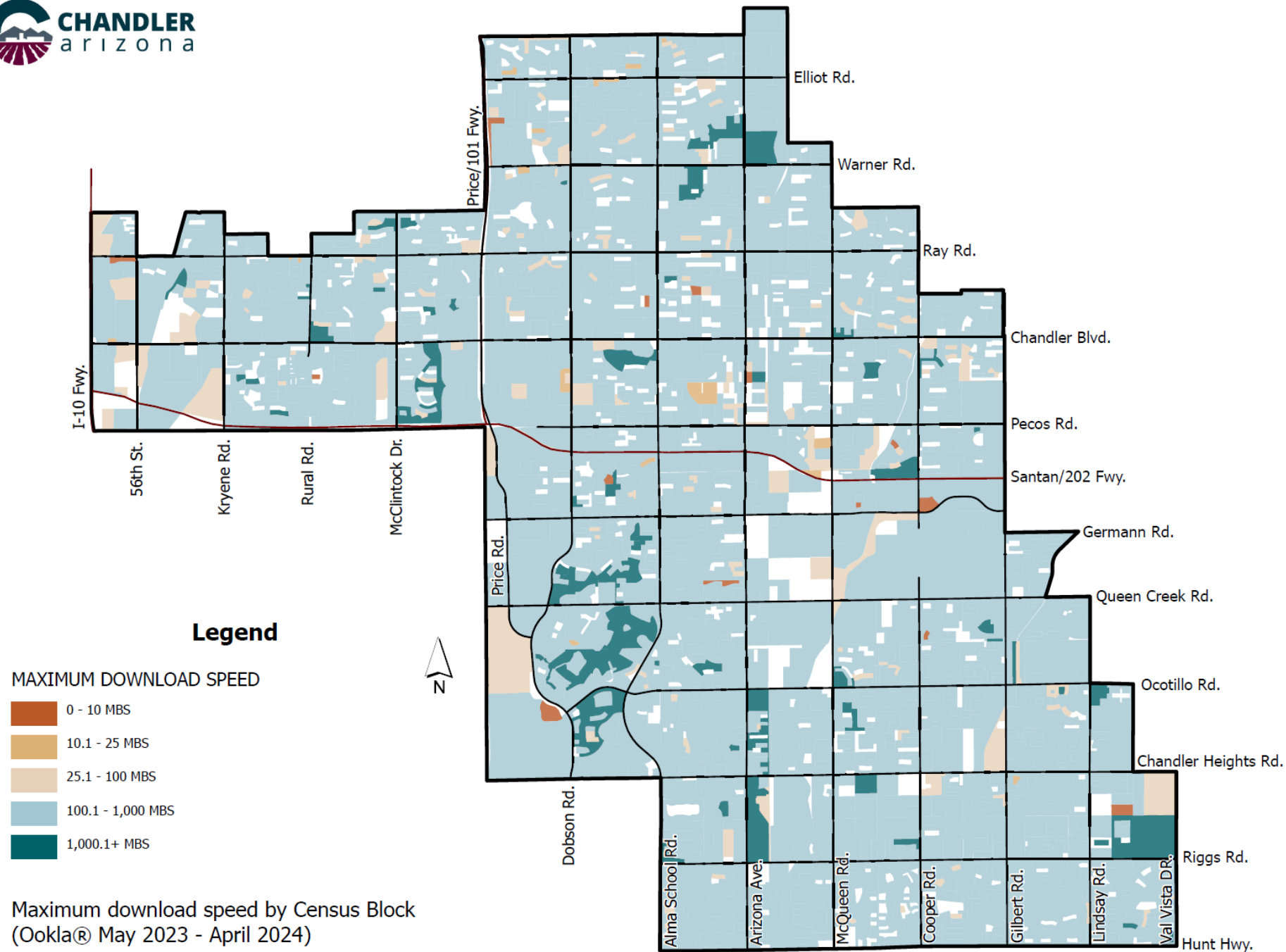


# Background – Broadband Service Levels

- Are there gaps in service currently?
  - What is an unserved area?
    - <25/3 Mbps
  - What is an underserved area?
    - >25/3, but <100/20Mbps
  - What is a low “take rate”?
    - Service is available, but customers are not subscribing.
- So, when and how will these gaps be filled?
  - Let’s take a look at a few facts before we answer this question.

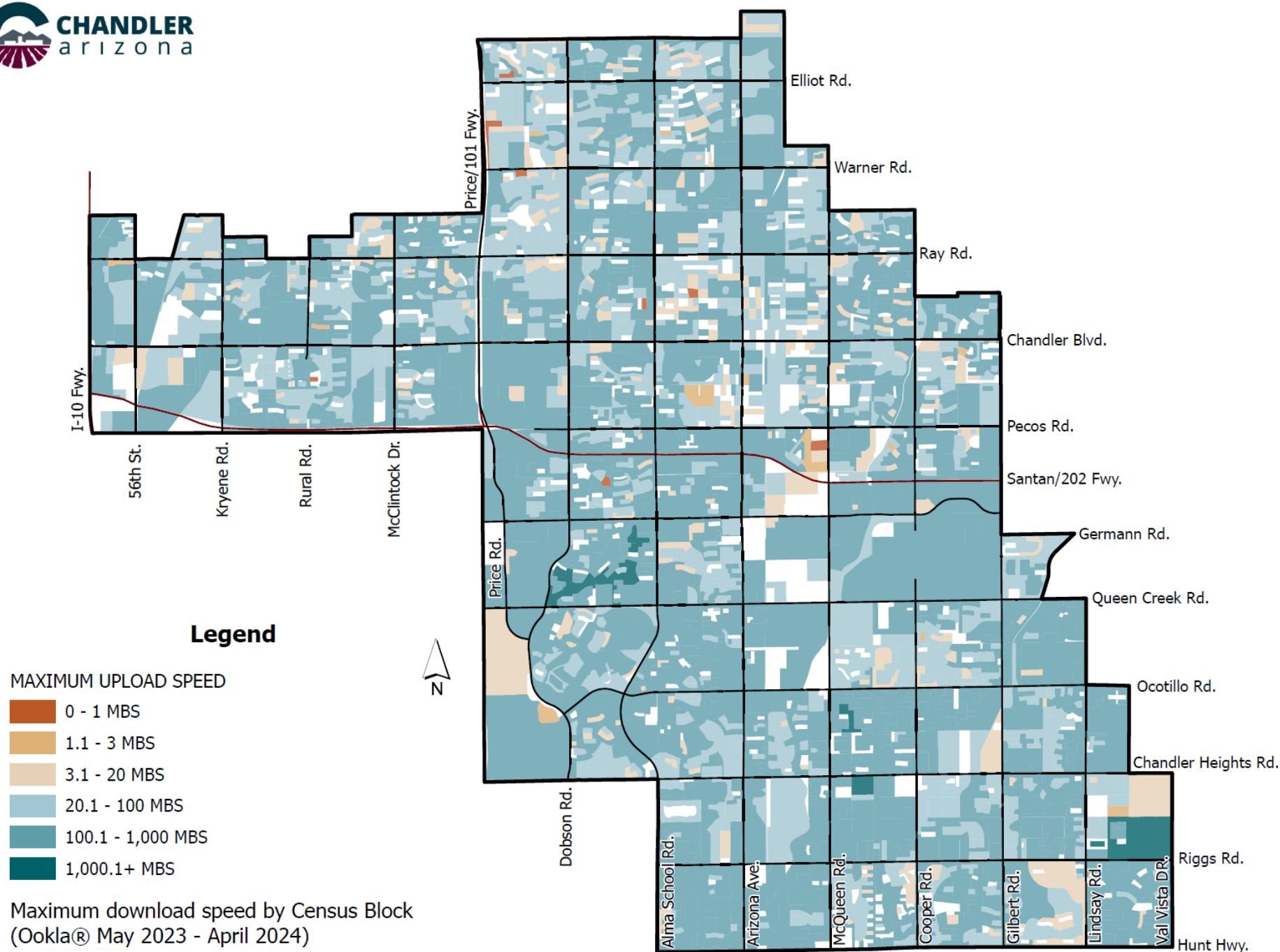
# Competition

- Served = only requires 1 provider >100/20 Mbps
- Well served = Multiple providers >100/20 Mbps
- *Both download and upload speeds must be met.*



# Competition

- Served = only requires 1 provider >100/20 Mbps
- Well served = Multiple providers >100/20 Mbps
- *Both download and upload speeds must be met.*





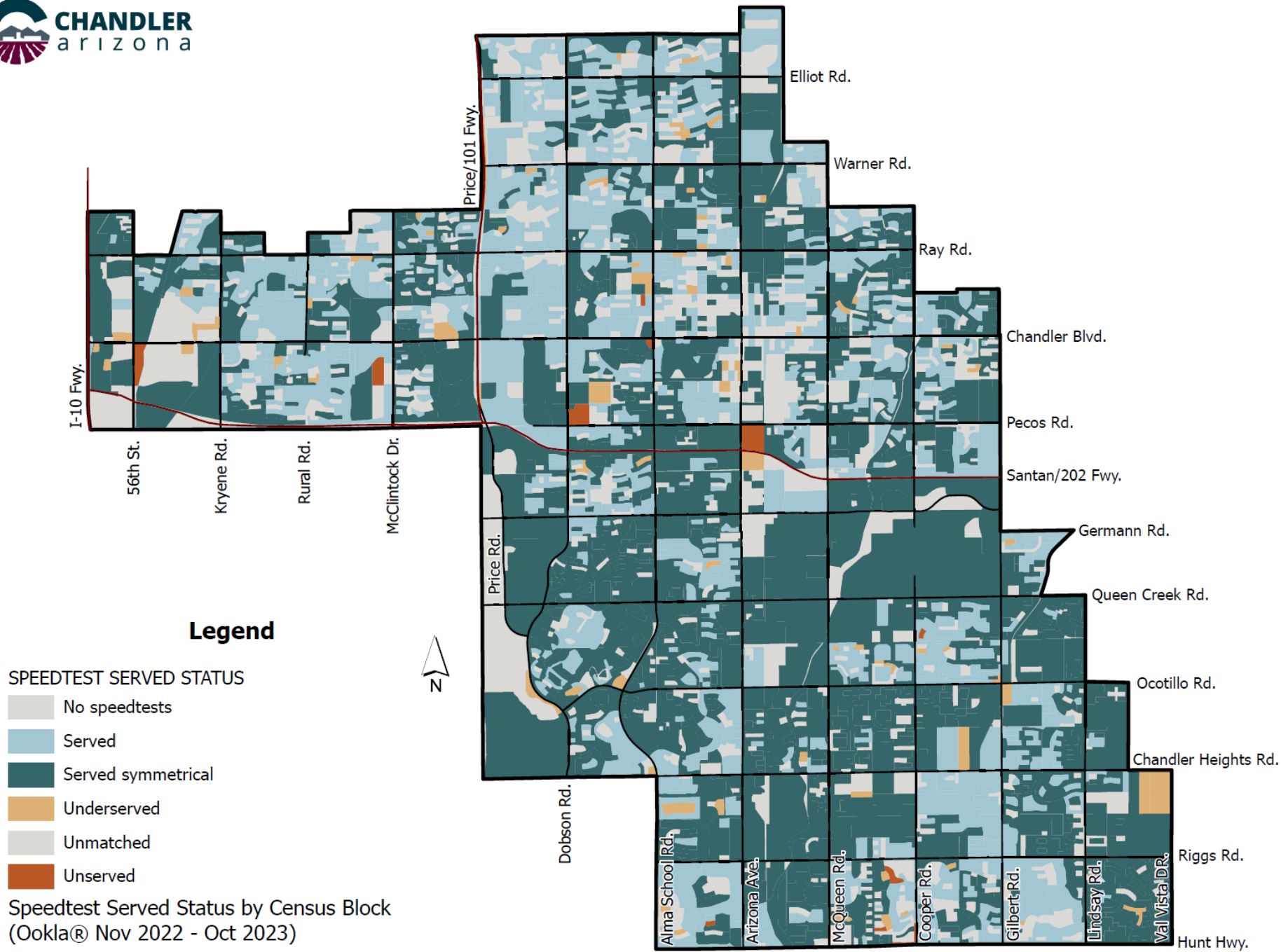
# Speedtest Served Areas

- 3<sup>rd</sup> party crowd sourced data
- Only takes 1 provider at >25/3 Mbps

Getting the public to perform speed tests would help improve this data.

CityScope outreach?

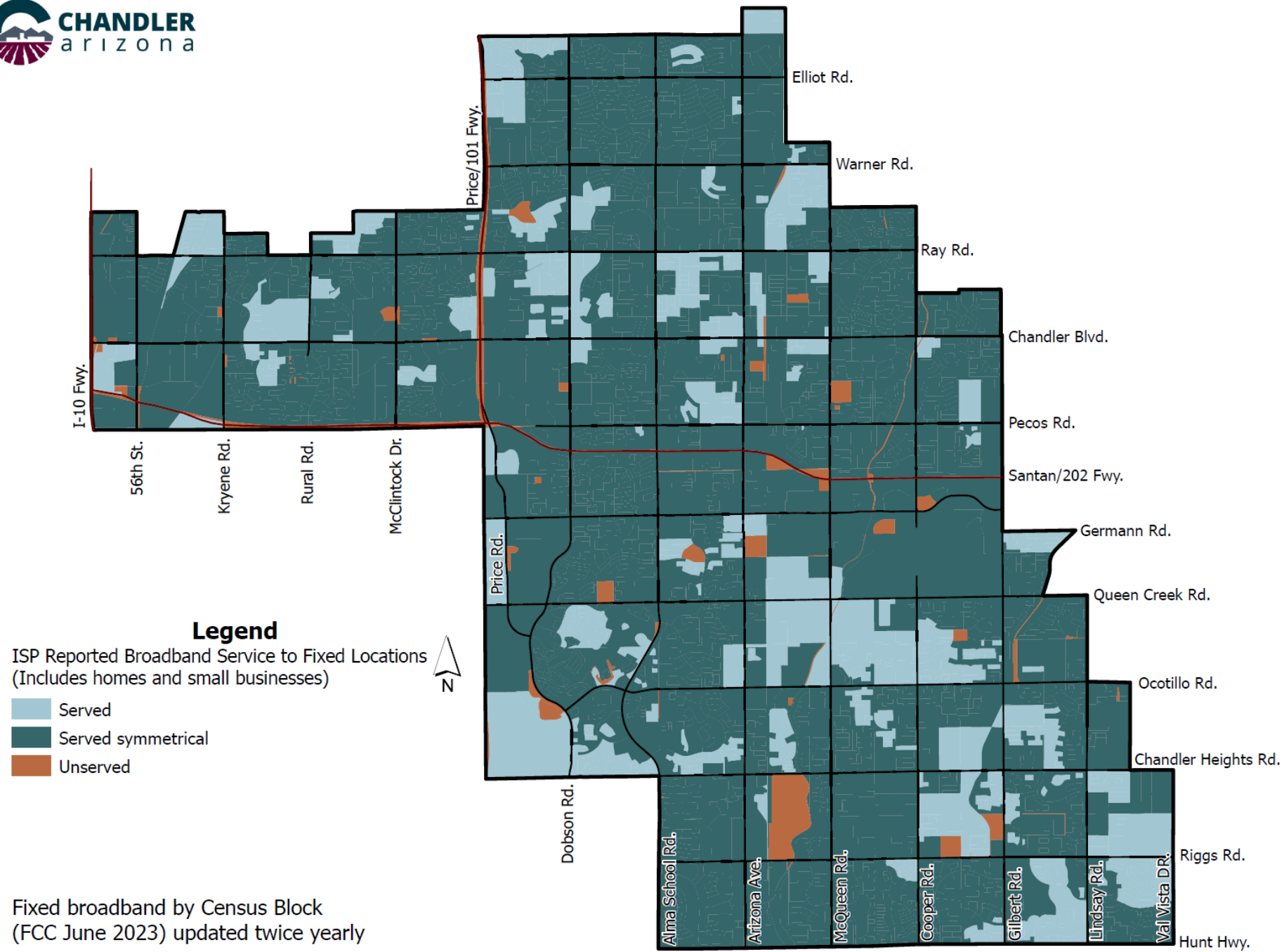
Source: Ookla





# Served Areas

- Provider reported data
- Only takes 1 provider at >25/3 Mbps



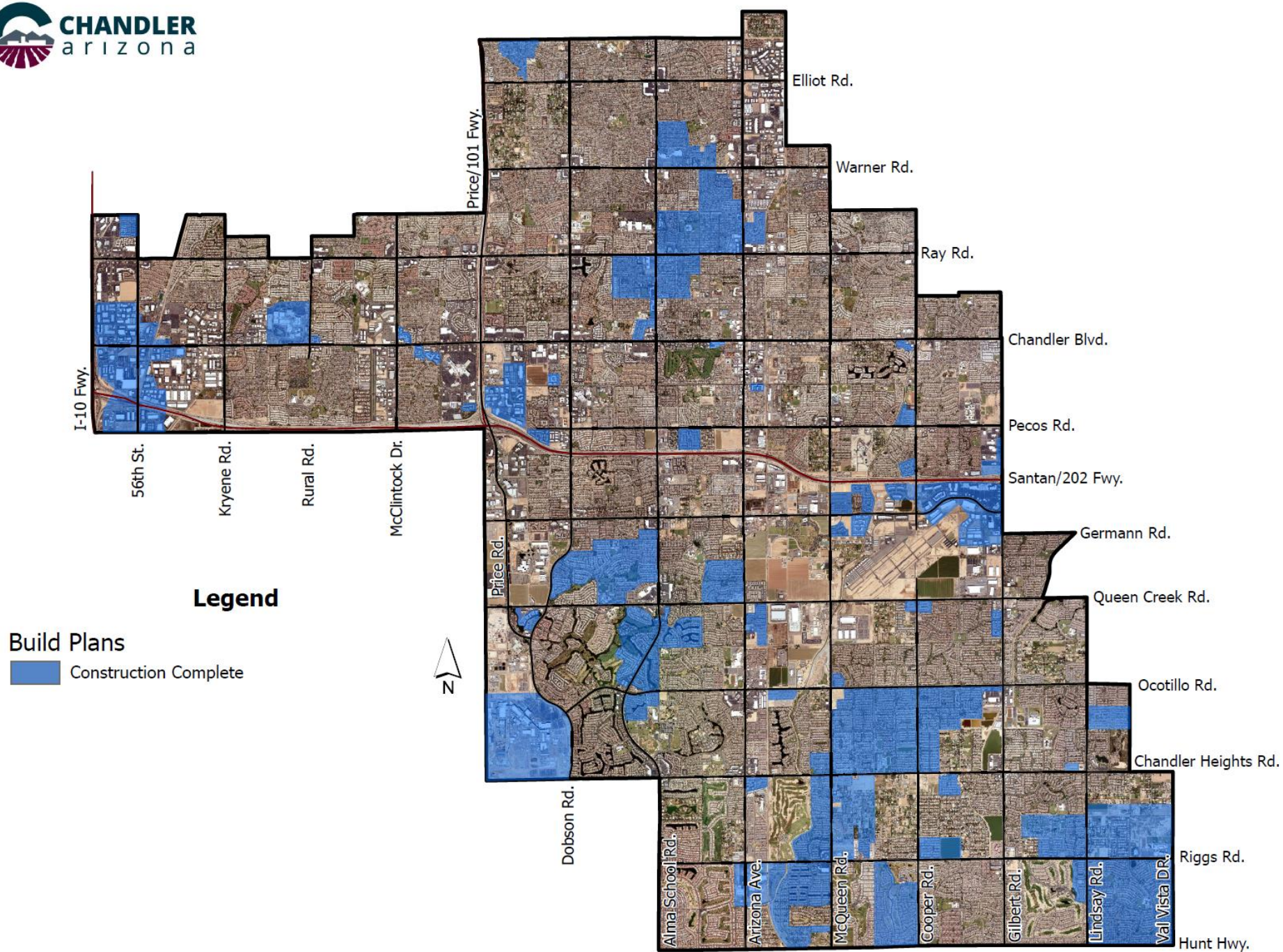
Source: FCC

# Background – CCC Permit Class system

- Provider projects – 15 fiber providers in Chandler
  - What's a like provider? How do we treat them similarly?
- Class 4 Provider (ILEC) – CenturyLink/Lumen (Copper/HFC/FTTH)
- Class 5 Providers –
  - Commercial/Industrial Focus – Alluvion, Light Source, MCI, TCA, Zayo
  - FTTH Focus –
    - Traditional – Google Fiber, Zoom Tech AZ
    - Open Access – Gigapower and Ubiquity
  - SWF Focus – Crown Castle Fiber
- Class 6 Providers – Cox (Coax/HFC/FTTH) and Orbitel (Coax/HFC/FTTH)
- Class 7 Providers (Easements) – SRP (Commercial/Industrial Focus), City of Chandler (Municipal and IGA partners)

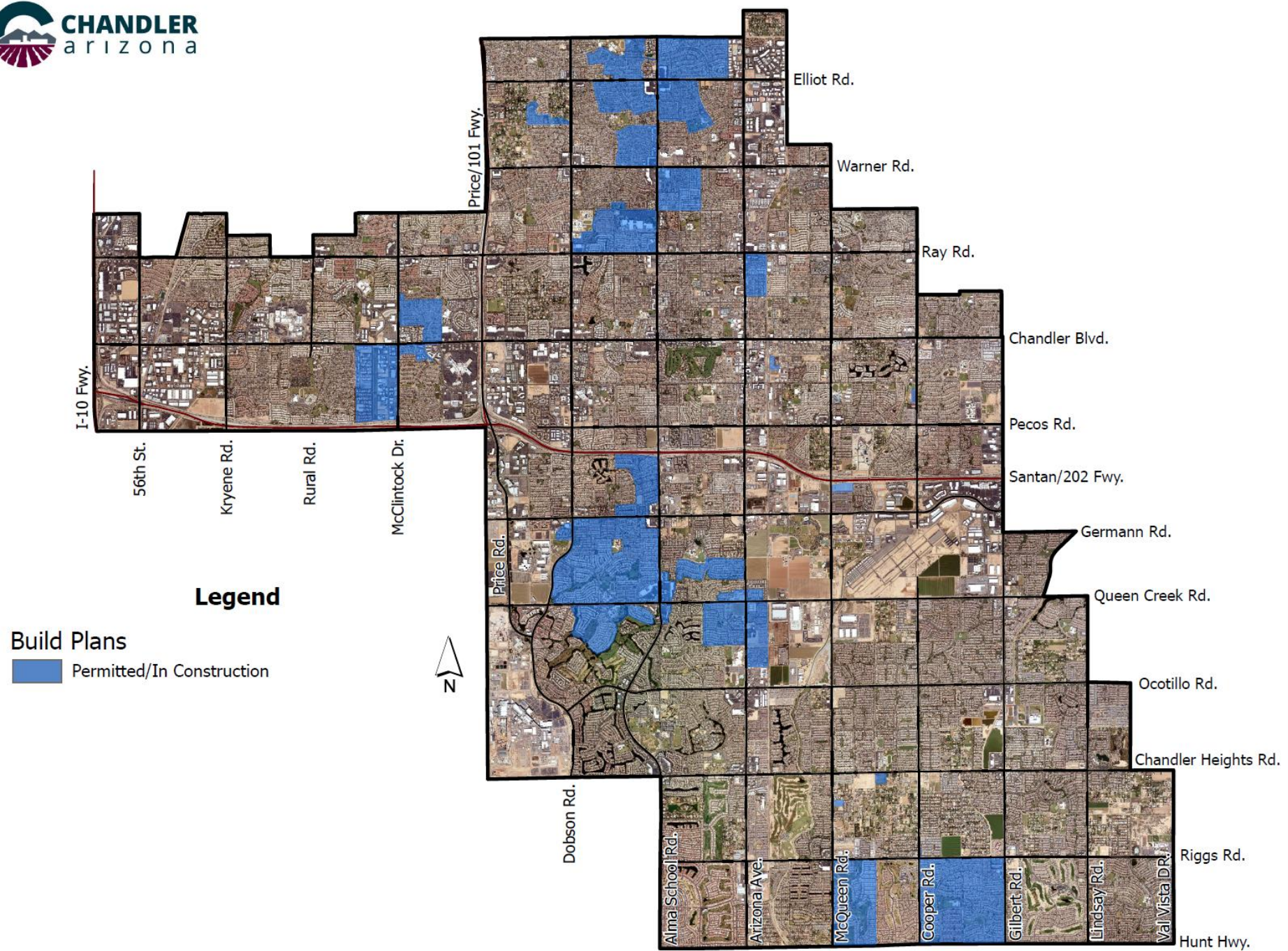


# FTTP - Construction Complete





# In Construction





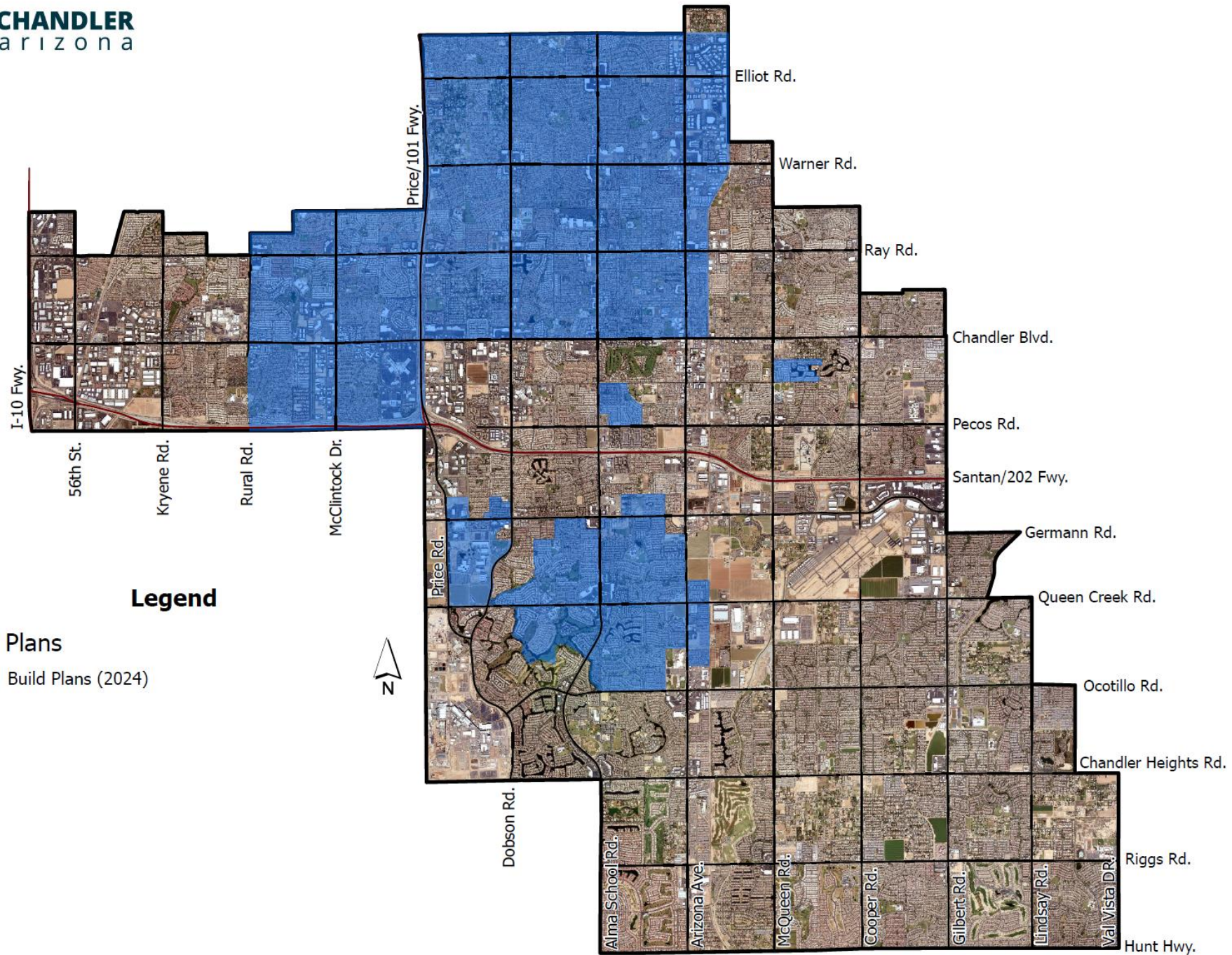
# Build plans for 2024



## Legend

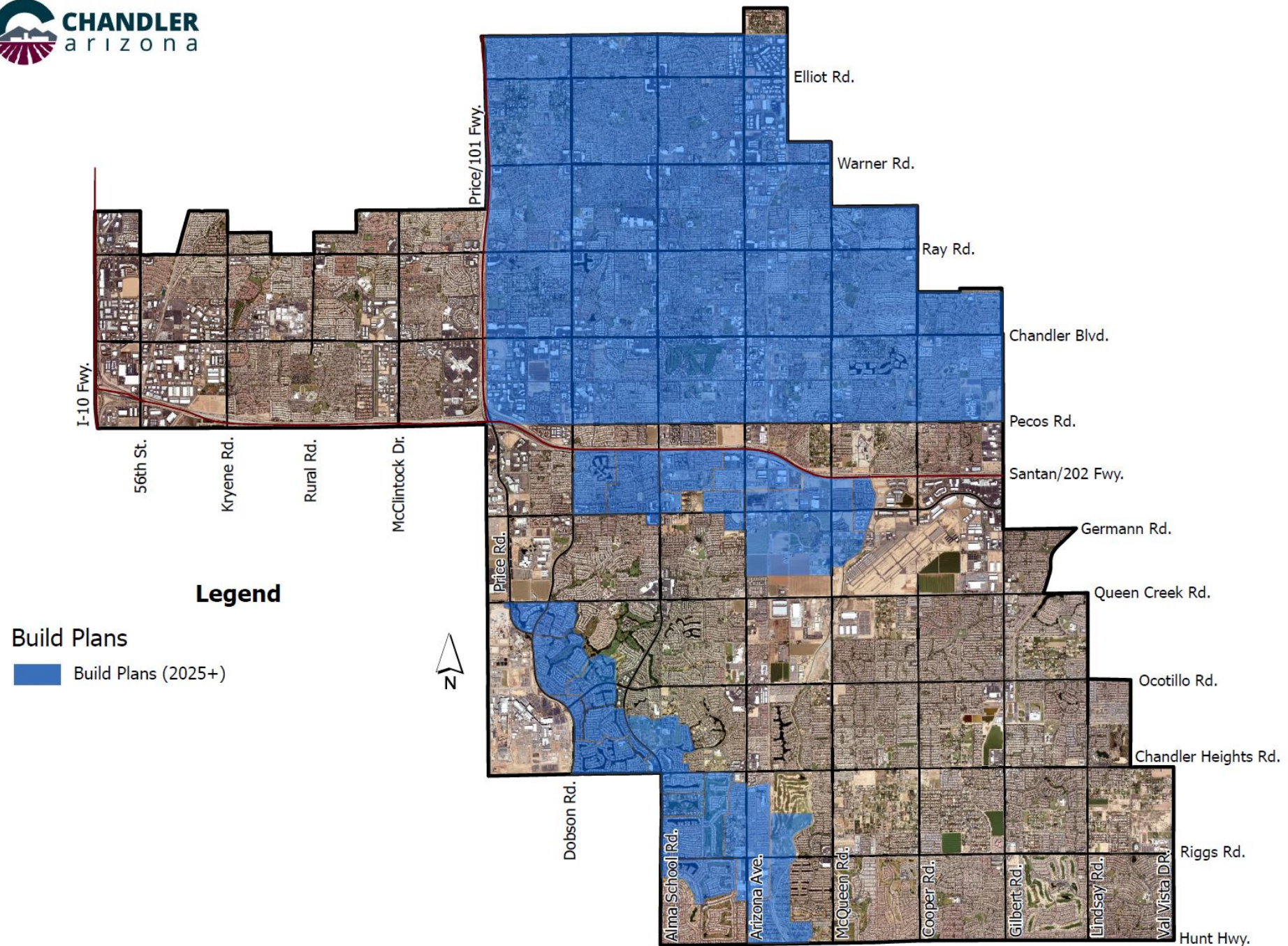
### Build Plans

 Build Plans (2024)



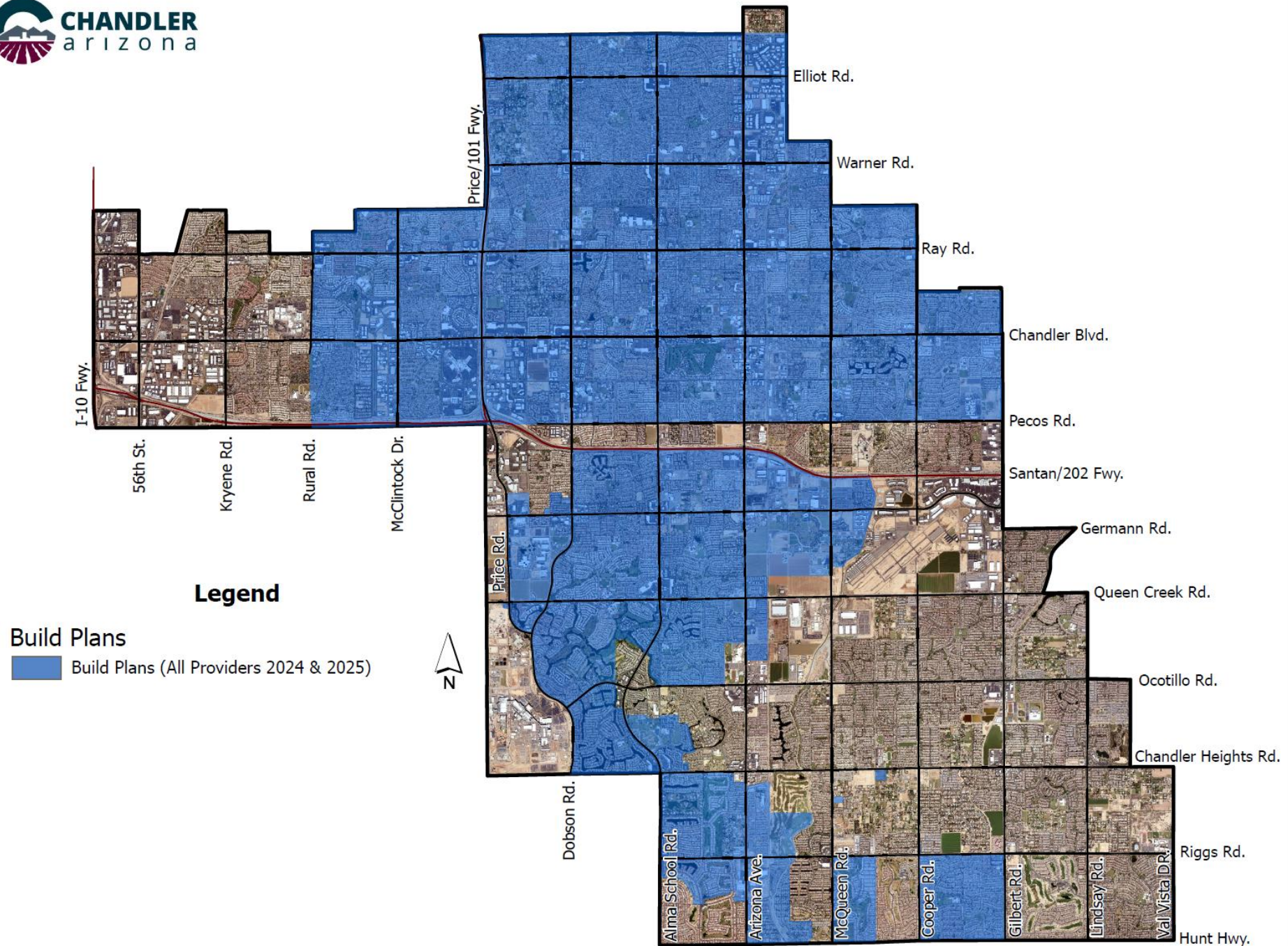


# Build Plans 2025 +



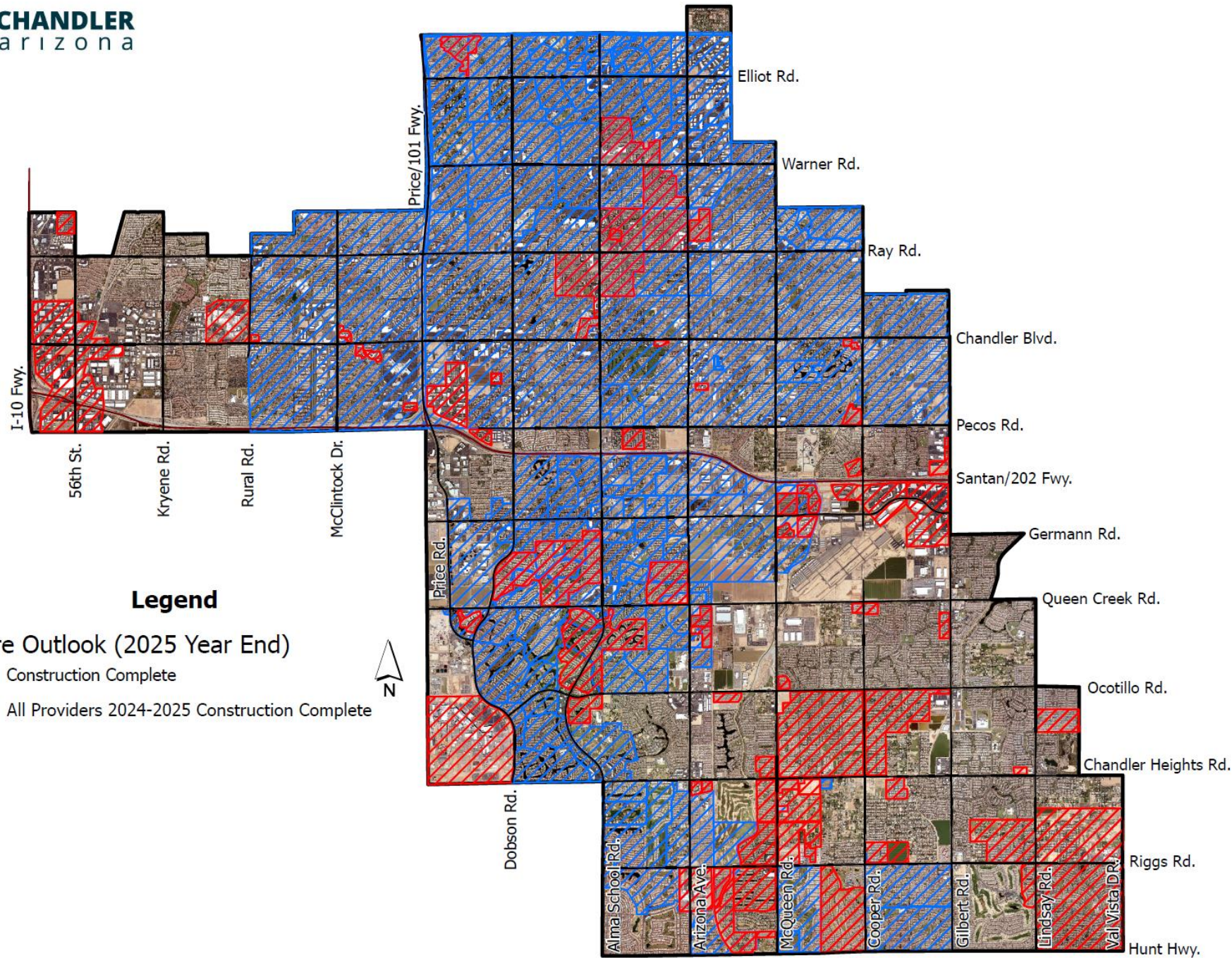


# Build Plans All Providers (2024 & 2025)





# Future Outlook (2025 Year End)



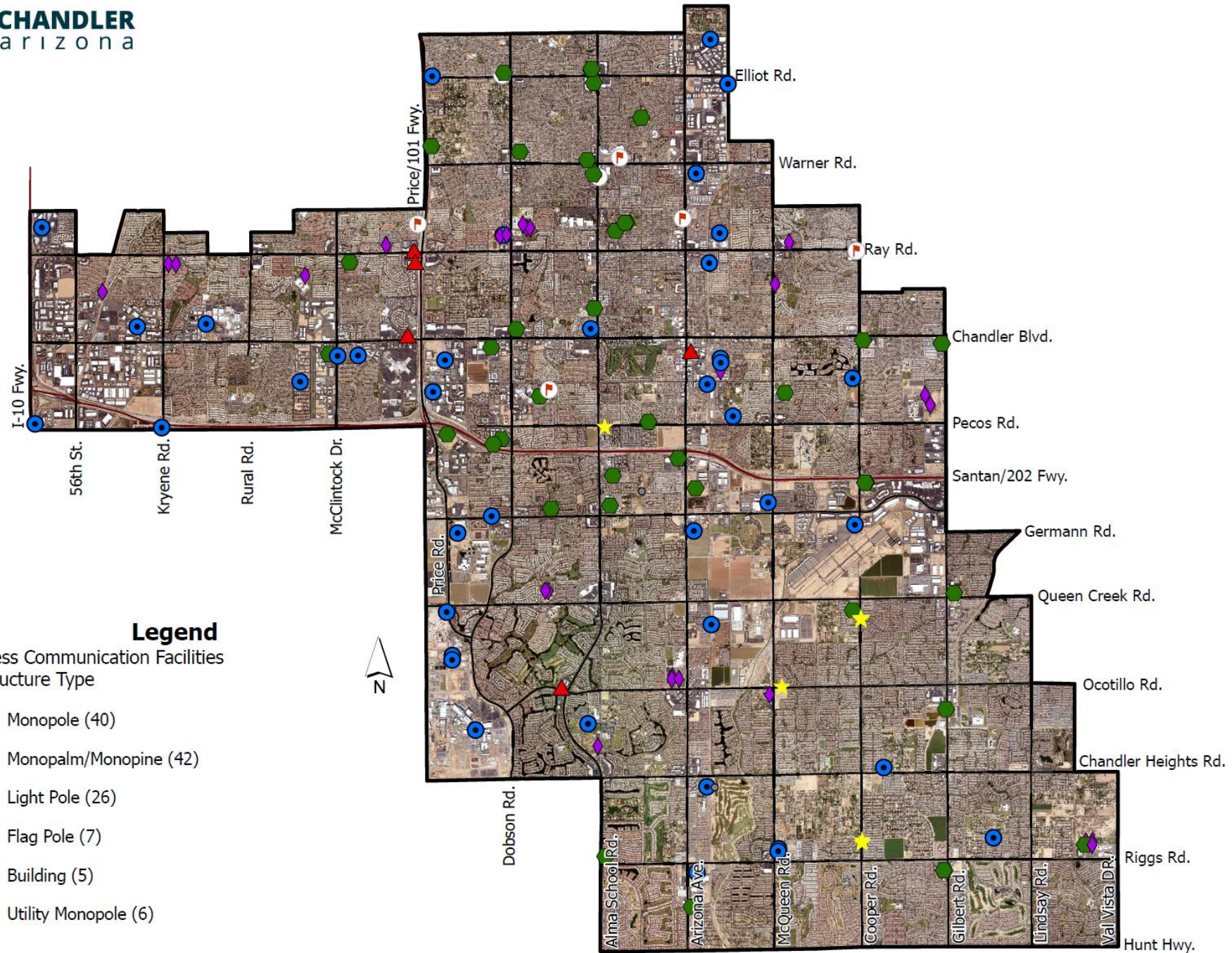


# Background – Wireless Broadband

- Provider projects – 3 primary wireless broadband providers in Chandler
  - AT&T
  - Verizon
  - T-Mobile + former Sprint sites
- Site Types:
  - Macro Sites
  - Small Wireless Facilities
- Heat Maps



# Macro Cell Sites



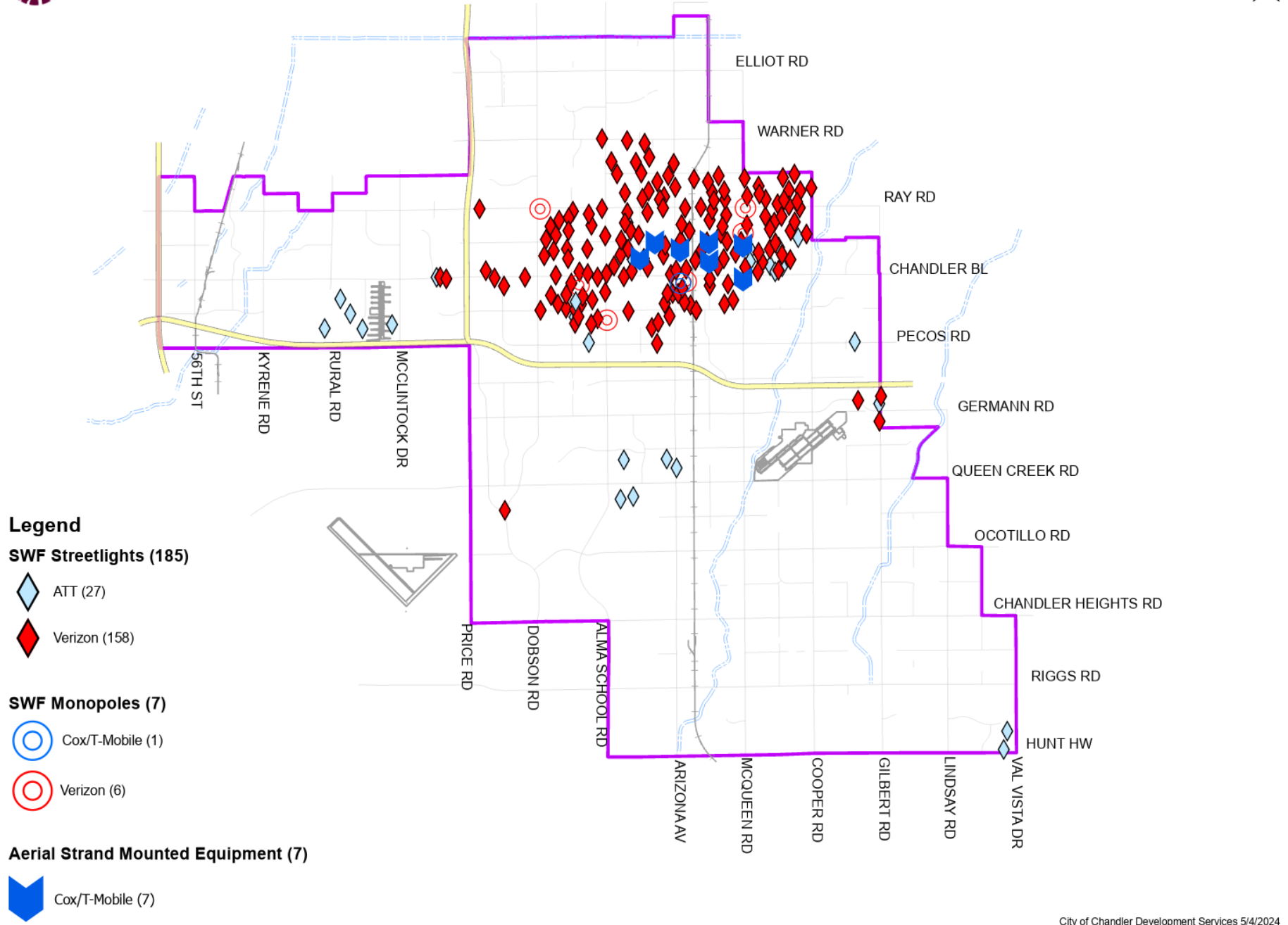


# Small Cell Sites



## Small Wireless Facilities - 199 Construction Complete City Wide

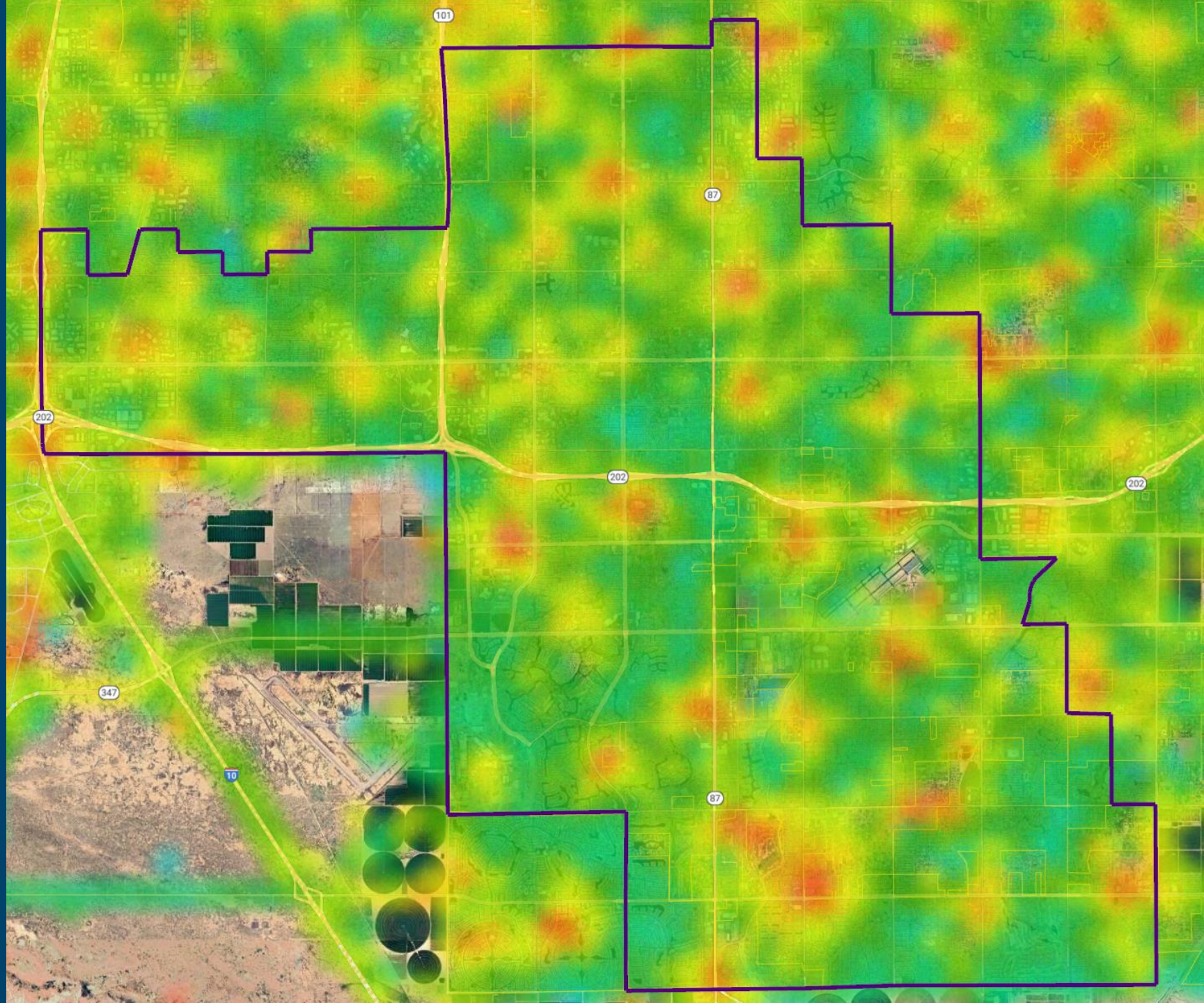
(of 374 previously approved)



# All Carriers

Heat map shows the following:

- Red = great service
- Yellow = good service
- Green = Not the best service



<https://cellanalytics.ookla.com/>



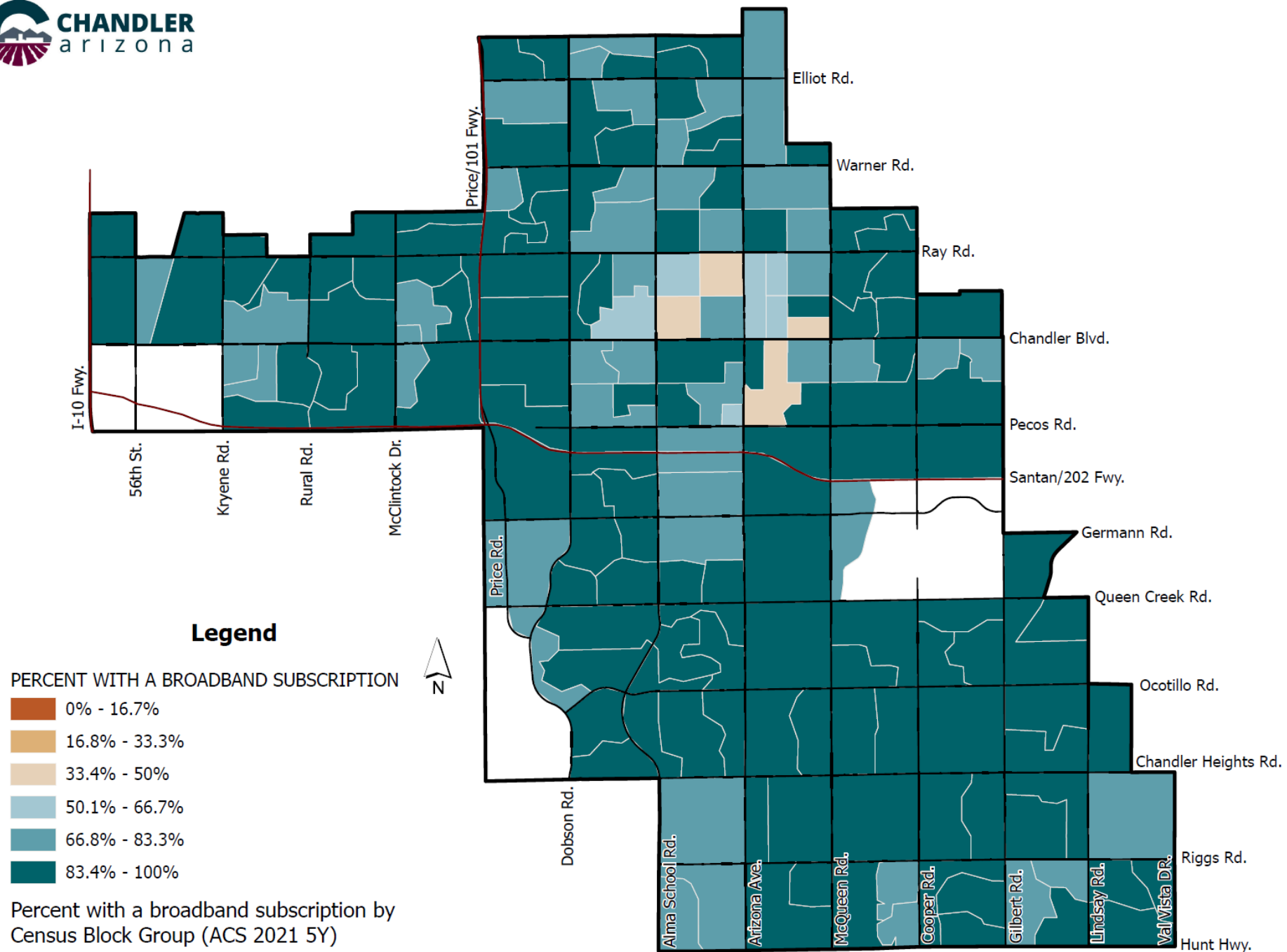
# Background – Service Gaps?

- Is Chandler underserved?
  - Maybe in terms of a lack of reliability and competition, but we certainly have low “take rates” in some areas.
- Why?
- Here are some data points that may help explain:
  - Median Household Income
  - CDBG Eligible Census Blocks
  - Households without a laptop or a desktop
  - Areas with no broadband subscription (i.e. low take rates)
- When and how will these gaps be filled?

# Percent with Broadband Subscriptions

As we've seen, availability isn't really the problem.

Affordability might be, though.

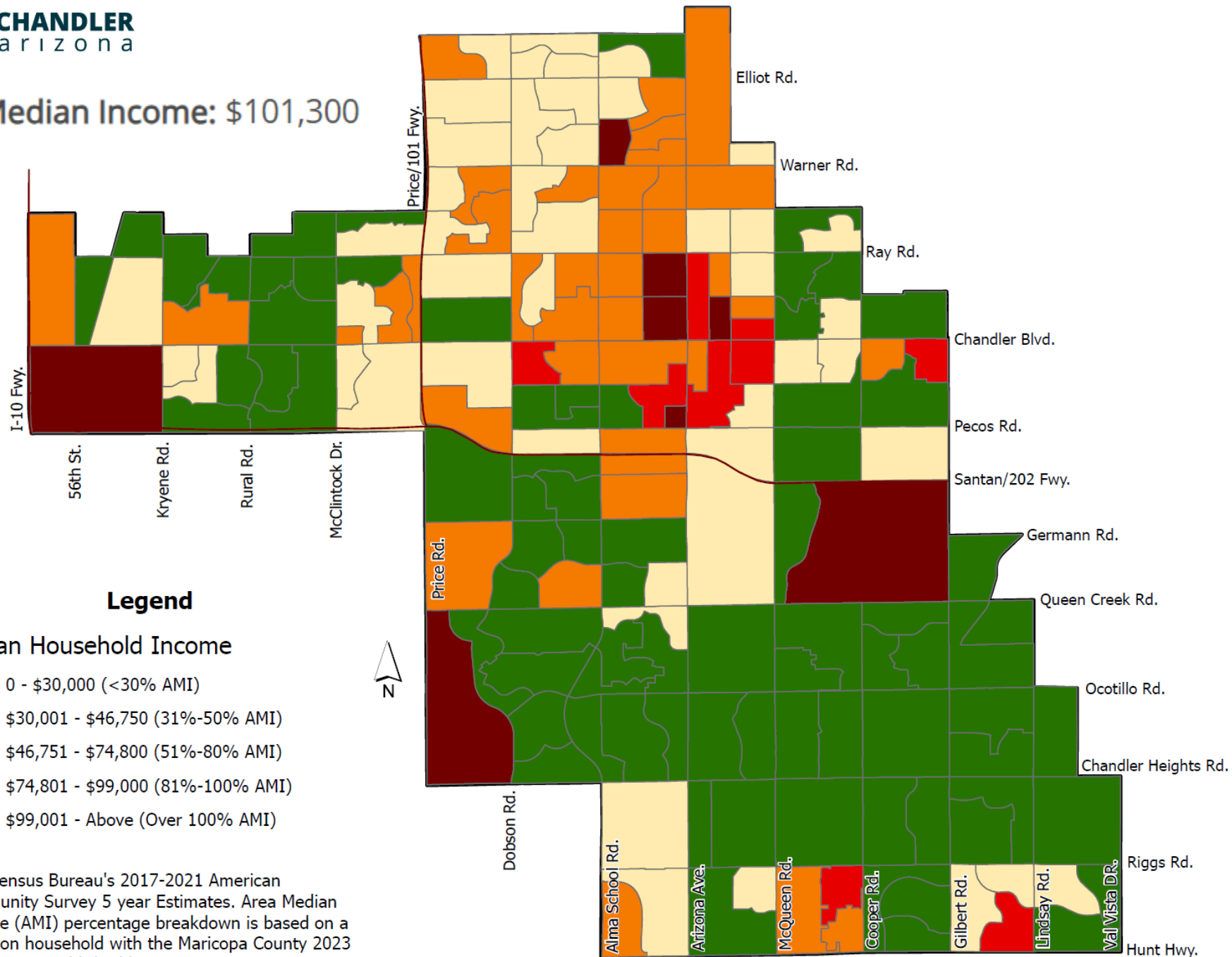




# Median Household Incomes

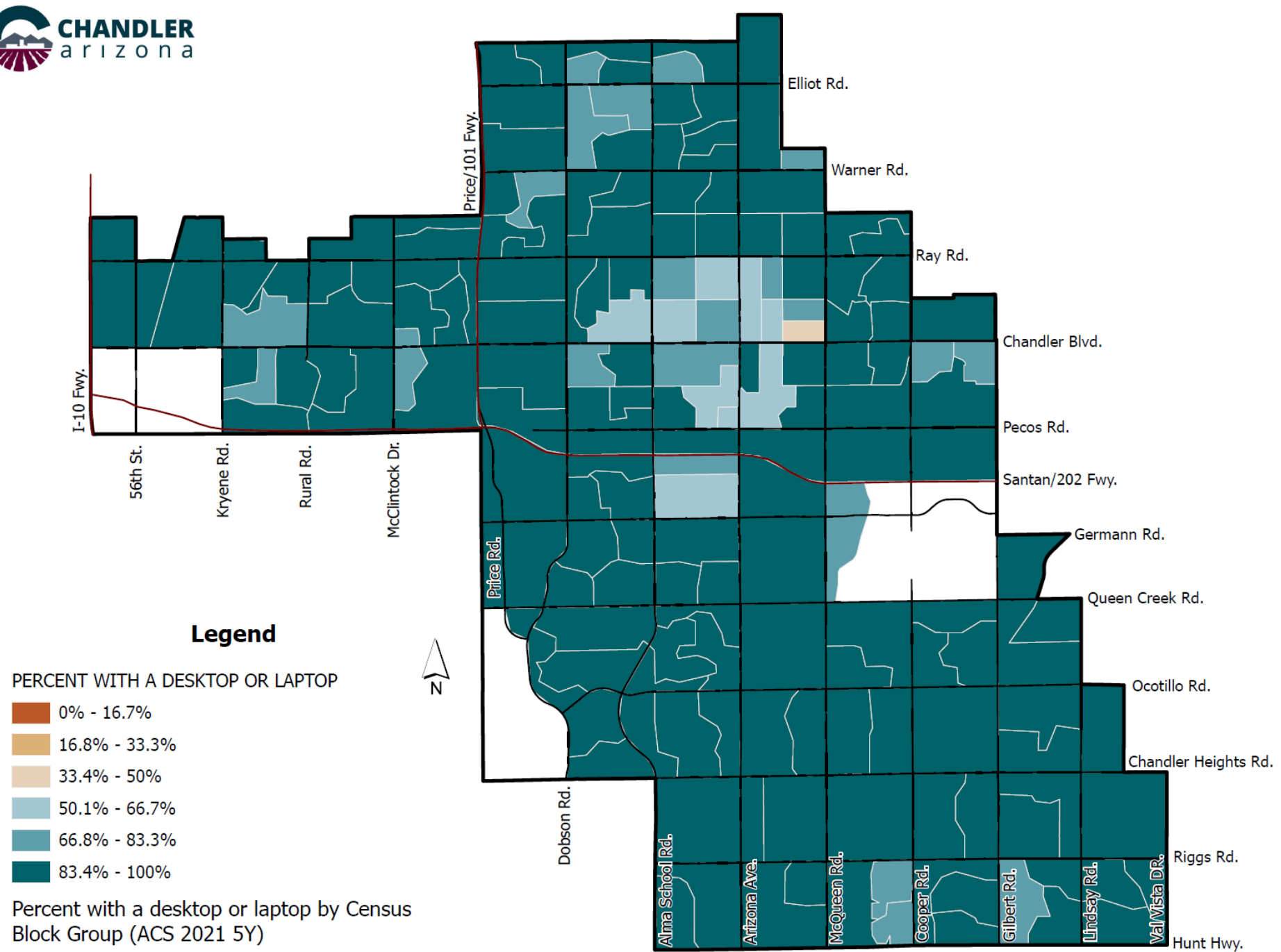


Median Income: \$101,300



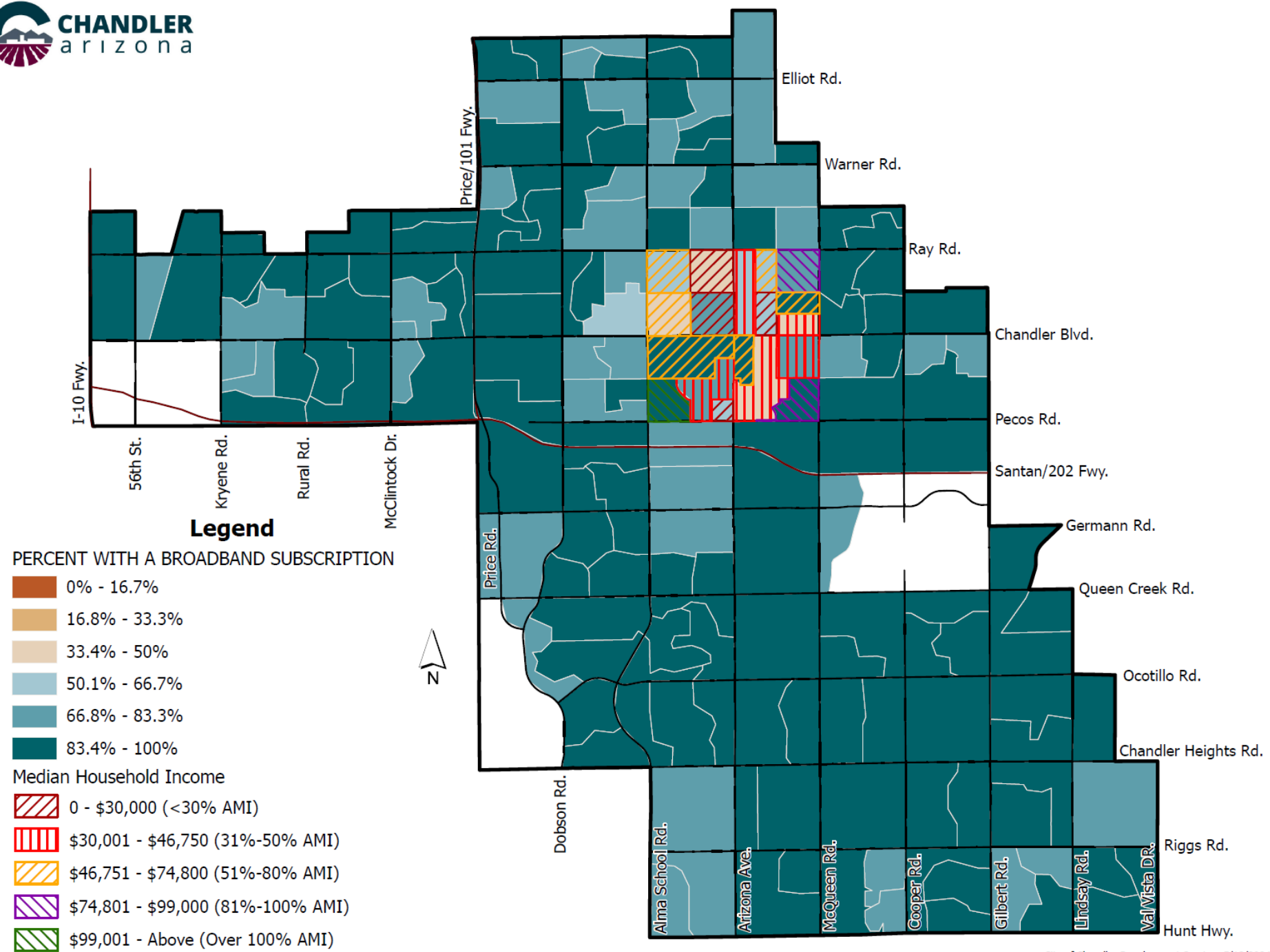
# Percent with Desktop or Laptop

Another sign pointing to affordability as the biggest factor of the digital divide in Chandler.

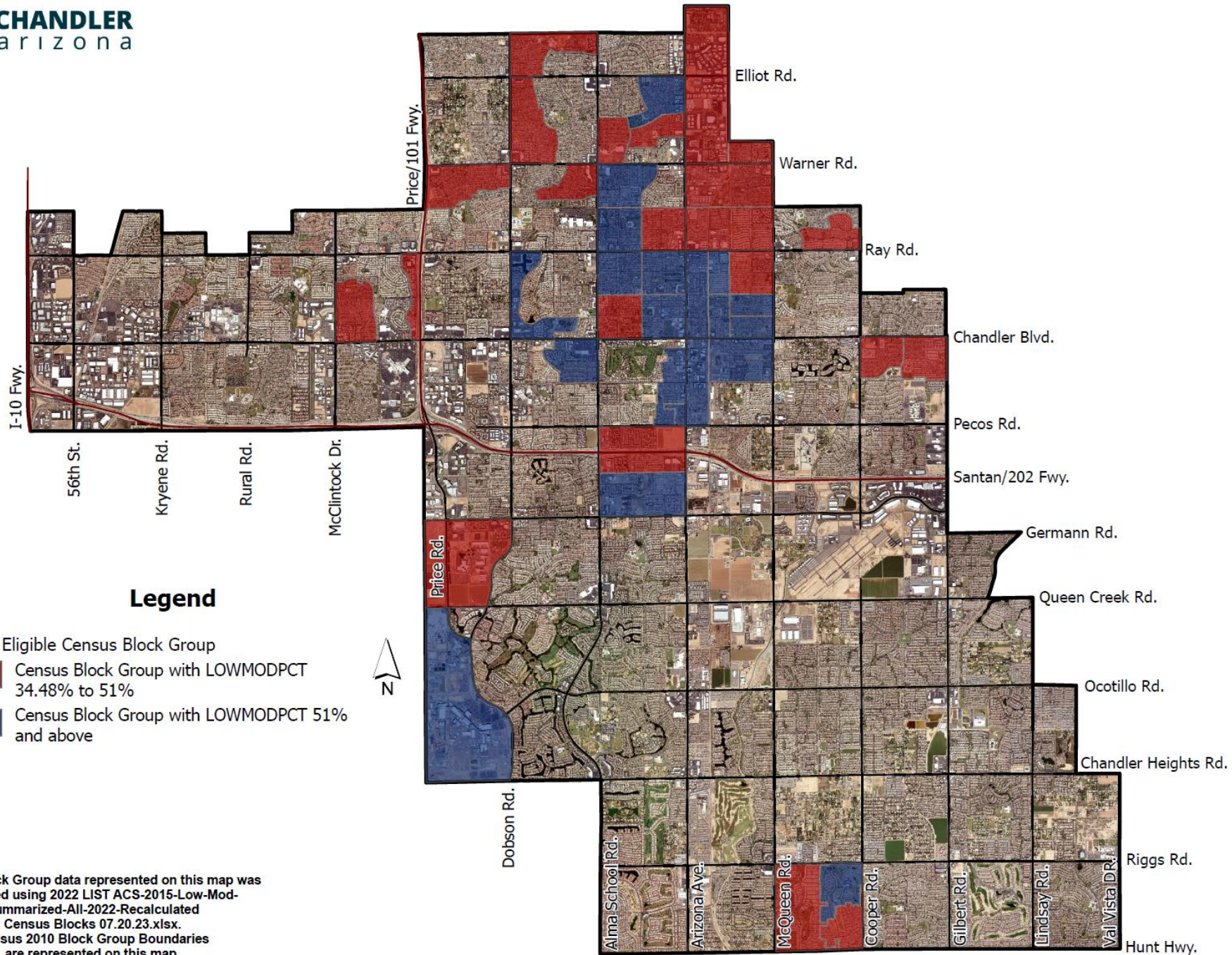




# A correlation between Low Income areas and Low Take Rates.

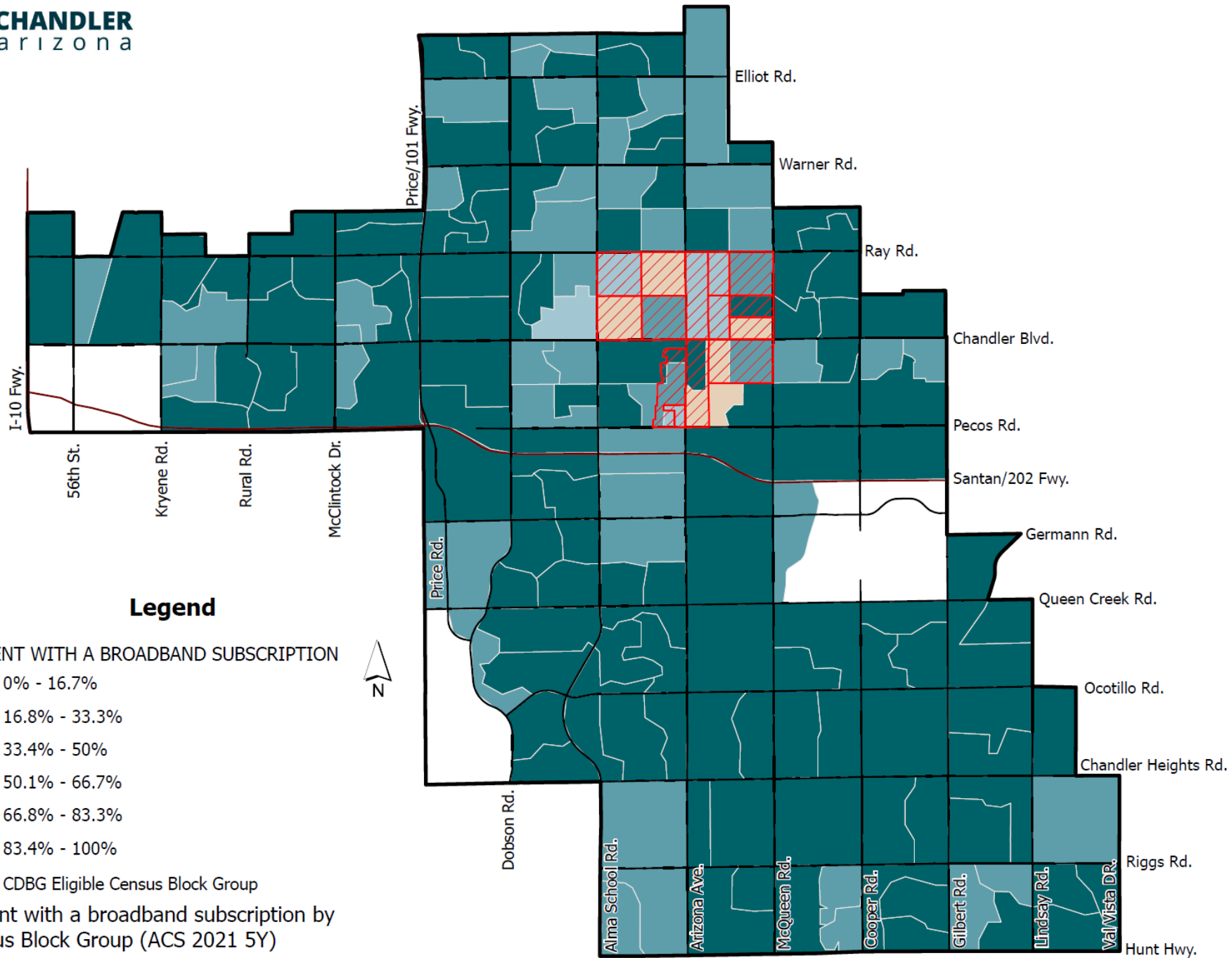


# CDBG Eligible Census Block Group





# A correlation between CDBG eligible areas and Low Take Rates.



## Legend

- PERCENT WITH A BROADBAND SUBSCRIPTION
- 0% - 16.7%
  - 16.8% - 33.3%
  - 33.4% - 50%
  - 50.1% - 66.7%
  - 66.8% - 83.3%
  - 83.4% - 100%
  - CDBG Eligible Census Block Group
- Percent with a broadband subscription by Census Block Group (ACS 2021 5Y)



# Next Steps

What role can the City play in supporting digital equity?

- Supporting initiatives:
  - HIVEs (ASU Digital Equity Institute)
  - School District Initiatives
- Staff ideas:
  - Public Wi-Fi at Public Housing Sites
  - Broadband Digital Equity Resolution



# HIVE by Digital Equity Institute (ASU)

## Where Community Meets Technology

- Support underserved communities to thrive in the digital world.
- Provide tailored assistance from specialized "digital navigators."
- Offer free access to tablets, laptops, and desktops.
- Assist with personal devices: smartphones, tablets, and laptops.
- Conduct Internet Safety workshops teaching digital essentials.
- Introduce new tech like VR goggles and 3D printers.
- Operate six HIVE locations throughout the Valley, including one in Chandler.
- Funded by the ASU Digital Equity Institute (DEI).
- City facilitating CUSD, AZCEND and ASU partnership on future HIVE location in Chandler.



# Public Wi-Fi

Leverage public housing sites to improve underserved areas and take-rates:

Options:

- Service Area 1 (Chandler Blvd. & Hamilton St.)
- Service Area 2 (McQueen & Chandler Blvd.)
- \*Service Area 3 (71 S. Hamilton St.)
- Service Area 4 (Pecos Rd. & Palm Ln.)
- \*\*Villas on McQueen

Build into construction costs while sites are redeveloped.

\*Already served by City of Chandler fiber.

\*\*City fiber exists along the property frontage.








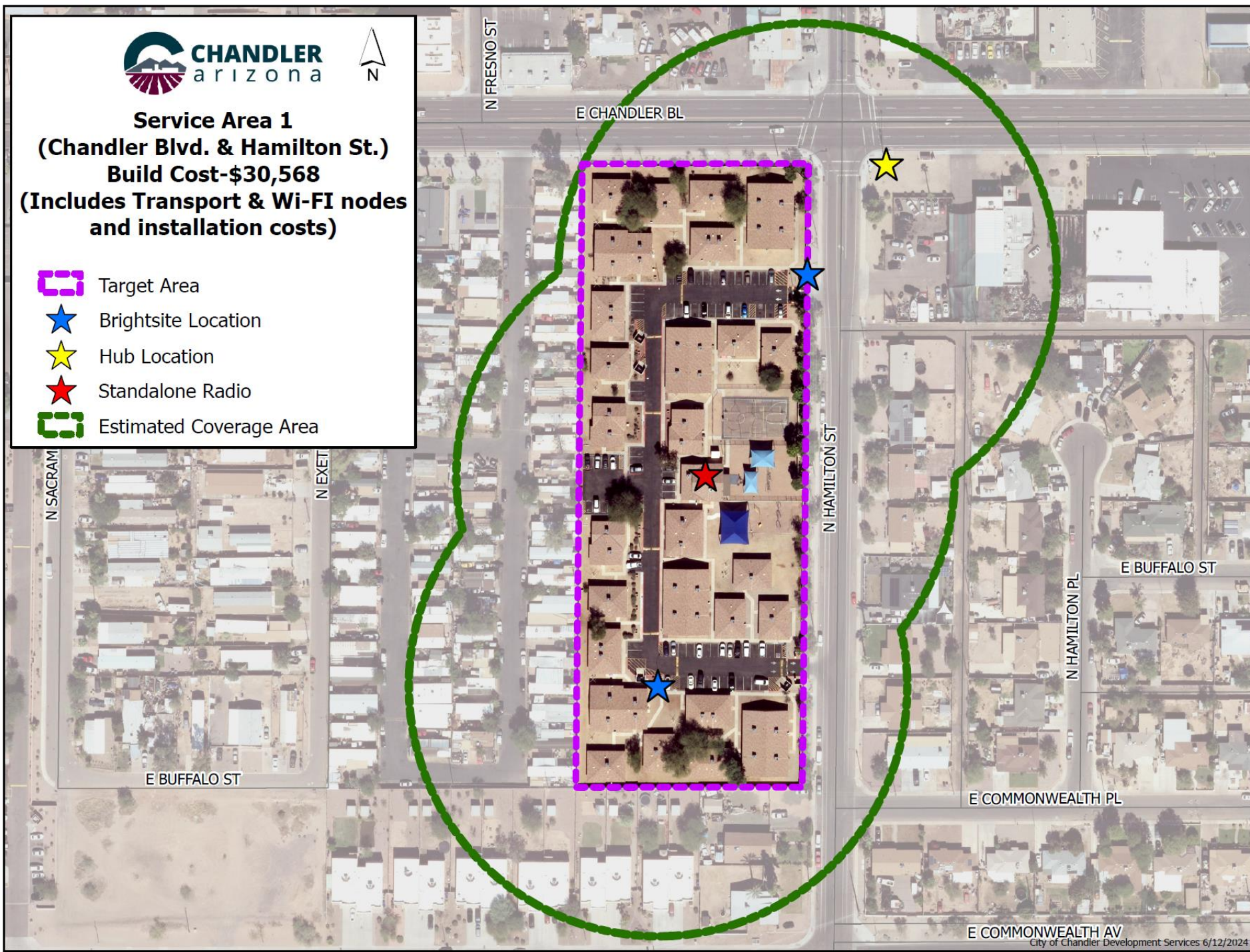
# Service Area 1

Chandler Blvd. &  
Hamilton St.



**Service Area 1**  
**(Chandler Blvd. & Hamilton St.)**  
**Build Cost-\$30,568**  
**(Includes Transport & Wi-Fi nodes and installation costs)**


-  Target Area
-  Brightsite Location
-  Hub Location
-  Standalone Radio
-  Estimated Coverage Area










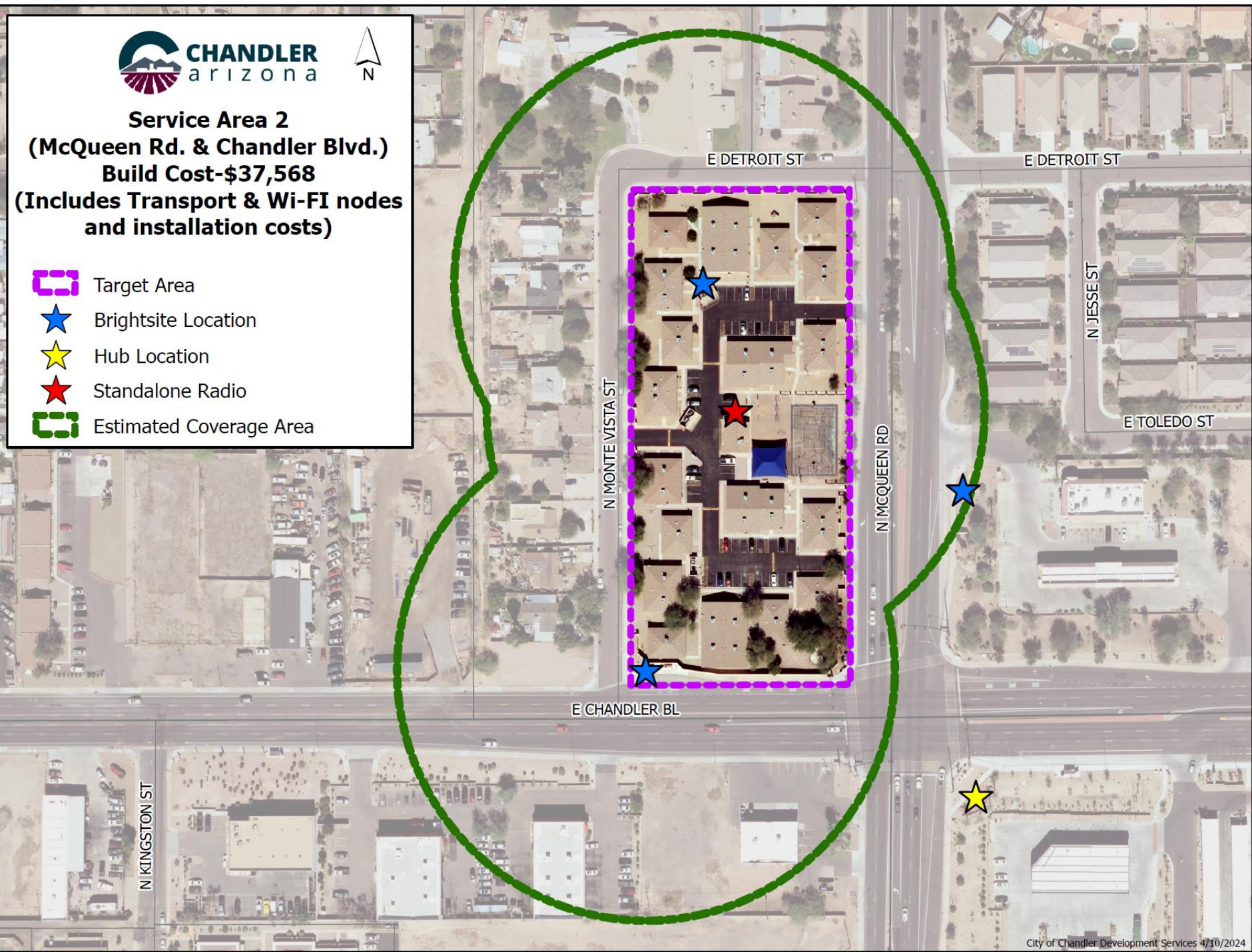
# Service Area 2

McQueen Rd. & Chandler Blvd



**Service Area 2**  
**(McQueen Rd. & Chandler Blvd.)**  
**Build Cost-\$37,568**  
**(Includes Transport & Wi-Fi nodes and installation costs)**

-  Target Area
-  Brightsite Location
-  Hub Location
-  Standalone Radio
-  Estimated Coverage Area





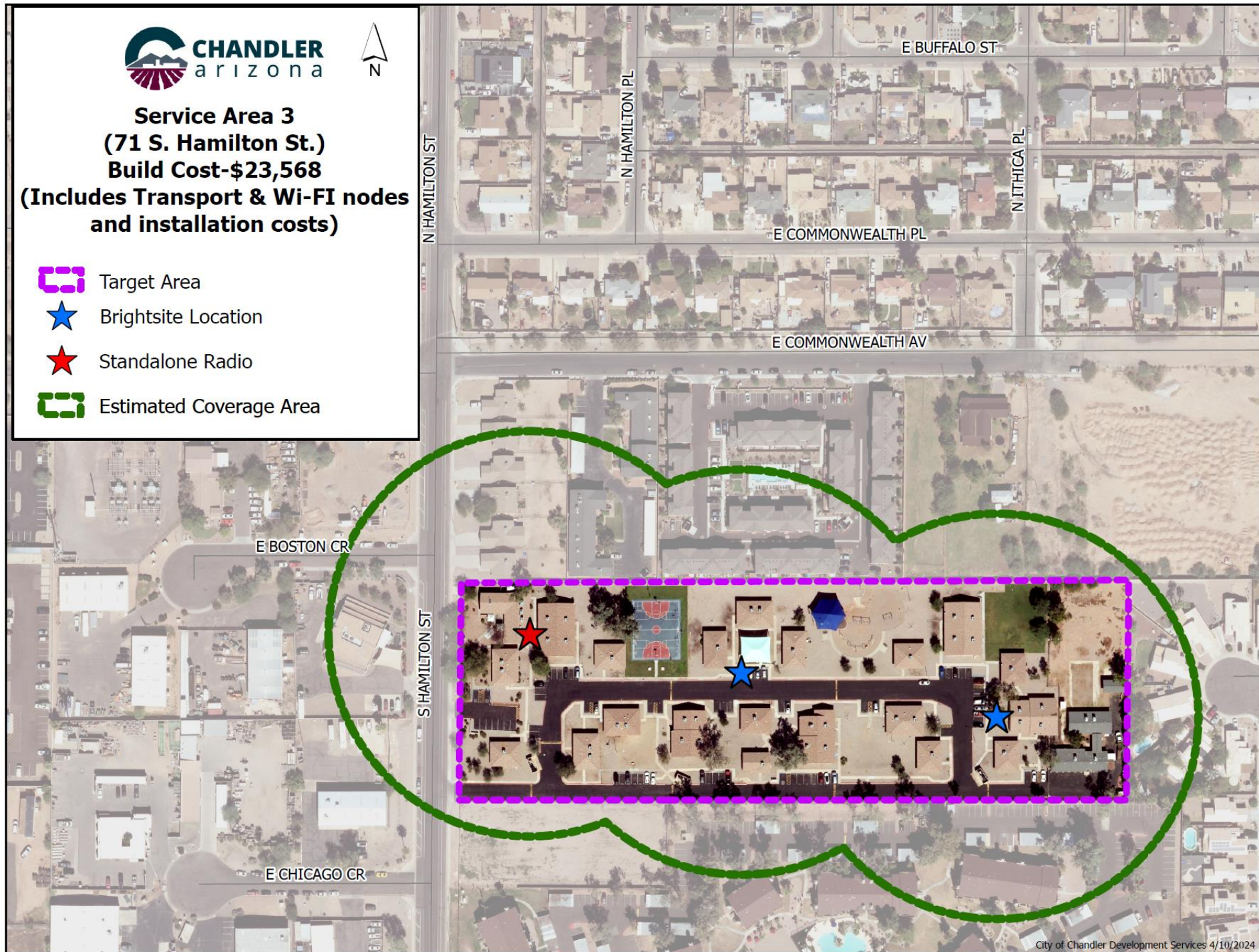
# Service Area 3

71 S. Hamilton St.



**Service Area 3**  
**(71 S. Hamilton St.)**  
**Build Cost-\$23,568**  
**(Includes Transport & Wi-Fi nodes and installation costs)**

-  Target Area
-  Brightsite Location
-  Standalone Radio
-  Estimated Coverage Area





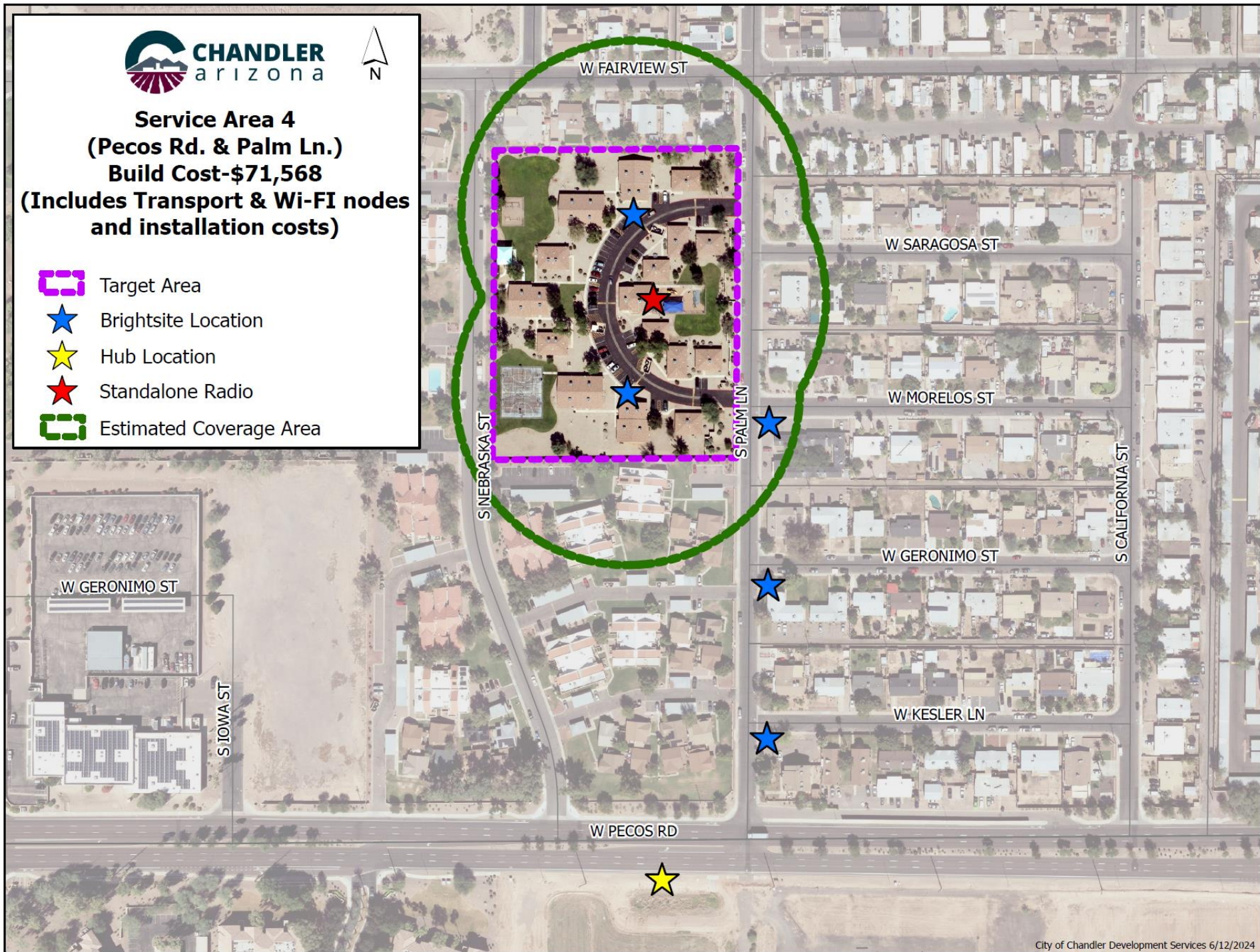
# Service Area 4

## Pecos Rd. & Palm Ln.



**Service Area 4**  
**(Pecos Rd. & Palm Ln.)**  
**Build Cost-\$71,568**  
**(Includes Transport & Wi-Fi nodes and installation costs)**

- Target Area
- Brightsite Location
- Hub Location
- Standalone Radio
- Estimated Coverage Area









# Broadband Digital Equity Resolution

## Purpose:

- The purpose of this Resolution is to reduce the digital divide, foster competition among broadband companies and reduce construction impacts to neighborhoods by reducing the need for companies to overbuild one-another.

## Key Points:

- Set a 1-year moratorium on overbuilt neighborhoods.
- Providers must install within alleys when they are not congested.
- Providers should offer a low-cost Internet Service package for those who qualify.
- Fee transparency.
- Incent participation.
  - Revenue model incentives, microtrenching, expedited plan review for 6 months, etc., for providers that participate.

Formalizes existing practices into cohesive strategy to address digital equity.

## Broadband Facts

<b>Provider Name</b>	
<b>Service Plan Name and/or Speed Tier</b>	
[Fixed or Mobile] Broadband Consumer Disclosure	
<b>Monthly Price</b>	<b>\$00.00</b>
This monthly price is an introductory rate Yes / No	
Time the introductory rate applies	YY months
Monthly price after the introductory rate	\$00.00
Length of contract	YY months
Link to Terms of Contract: <a href="https://www.example.com/terms-of-contract">https://www.example.com/terms-of-contract</a>	
<b>Additional Charges &amp; Terms</b>	
Provider Monthly Fees	
Fee description	\$00.00
Fee description	\$00.00
Fee description	\$00.00
Fee description	\$00.00
One-Time Purchase Fees	
Fee description	\$00.00
Fee description	\$00.00
Early Termination Fee	\$00.00
Government Taxes	Included/Varies by Location/\$00.00
<b>Discounts &amp; Bundles</b>	
Visit the link below for available billing discounts and pricing options for broadband service bundled with other services like video, phone, and wireless service, and use of your own equipment.	
<a href="https://www.example.com/discounts">https://www.example.com/discounts</a>	
<b>Speeds Provided with Plan</b>	
Typical Download Speed	000 Mbps
Typical Upload Speed	000 Mbps
Typical Latency	00 ms
<b>Data Included with Monthly Price</b>	
Charges for Additional Data Usage	000 GB \$/GB
<a href="https://www.example.com/data-usage">https://www.example.com/data-usage</a>	
<b>Network Management Policy</b>	
<a href="https://www.example.com/network-management">https://www.example.com/network-management</a>	
<b>Privacy Policy</b>	
<a href="https://www.example.com/privacy">https://www.example.com/privacy</a>	
<b>Customer Support</b>	
Phone:	(555) 555 5555
Website:	<a href="https://www.example.com">https://www.example.com</a>
Learn about the terms used on this label. Visit the Federal Communications Commission's Consumer Resource Center. <a href="https://www.fcc.gov/consumer">fcc.gov/consumer</a>	
Unique Plan Identifier: F0005937974128ABC456EMC789	



# Summary of Options

- Public Wi-Fi for Public Housing Sites
  - Makes broadband available for free to help close the digital divide in our community.
- Broadband Digital Equity Resolution
  - Helps reduce the impact to city roads.
  - Helps reduce the construction impact to residents.
  - Encourages providers to offer affordable plans.
  - Encourages providers to be transparent about their fees.
  - Encourages providers to be more competitive.

Questions?

