Auraria Cooperative Technology Committee

Comprehensive Plan

- Review the current campus network (as a whole)
- Identify and alleviate current pain-points
- Implement solutions that offer state of the art wired/wireless internet connectivity
- Align with Institutional/CDHE Strategic Plans
- Focused on advancing the Campus' capability for learning delivery and accessibility

CAMPUS WIDE COLLABORATION

The Network Modernization Project

Creates a ubiquitous, robust wireless/wired infrastructure to facilitate postsecondary talent development for 40,000+ Campus Constituents across 36 buildings.

- Assisting students with blended learning
- Full access to educational services while on and off campus
- Increasing the capability for learning delivery and accessibility

A Foundation for the Future

- Robotic Simulations Labs
- Virtual Reality
- Innovative Partnerships

CURRENT SYSTEM LIMITATIONS

- Institutions using disparate systems

- Non-interoperable equipment

- Multiple SSIDs broadcast

- Cannot handle today's wireless demands

- Aging technology - Offers basic internet browsing capability

Wi-Fi Survey Results (2022)
- 83% - 2+ hours/day
- 57% - Poor-Fair
- 60% - 2 or more devices
- 80% - Campus Related Use
- 64% - Connection issues
- 21% - on poor performance

% - Campus Wi-Fi is their primary connectiv

COVERAGE LIMITATIONS: TIVOLI STUDENT UNION

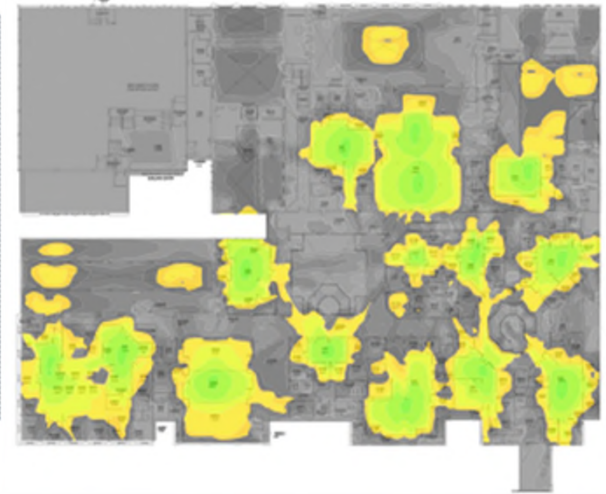Auraria Campus buildings comprise ~3.6 million square feet of space

Professional RF Surveys revealed ~1.8 million square feet have minimal to no wireless coverage. (2022)

Tivoli Student Union – 3rd Floor

Wireless AP

RF Survey Heat Map

Tivoli Student Union named #9 of the 25 best student unions by Best College Reviews

A PICTURE OF SUCCESS: ARTS BUILDING NETWORK MODERNIZATION

- Updated aging technology (switches, routers)
- Wi-Fi Analyzation Survey results optimized AP placement plan.
- Achieving this level of coverage success required doubling the number of APs originally installed.

ARTS 1st Fl - Fall 2021
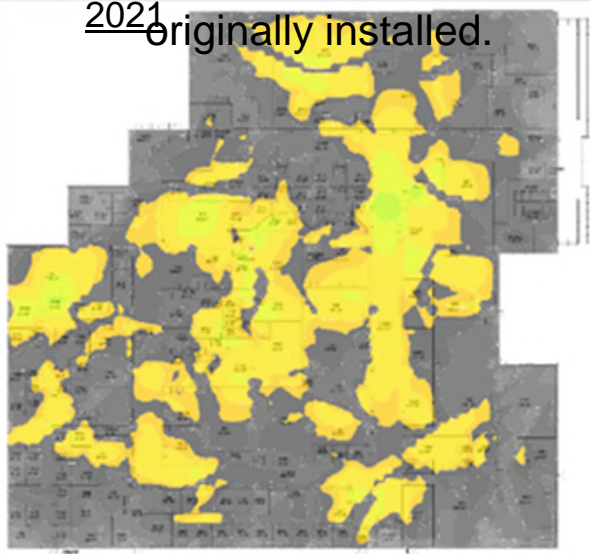
ARTS 1st Fl - Spring 2022
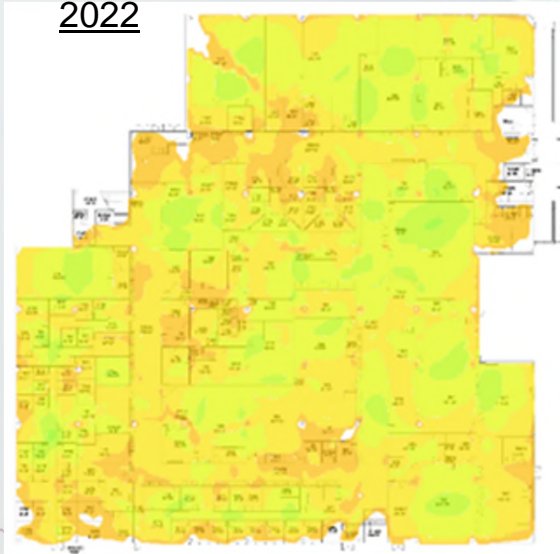
Auraria Campus Wi-Fi
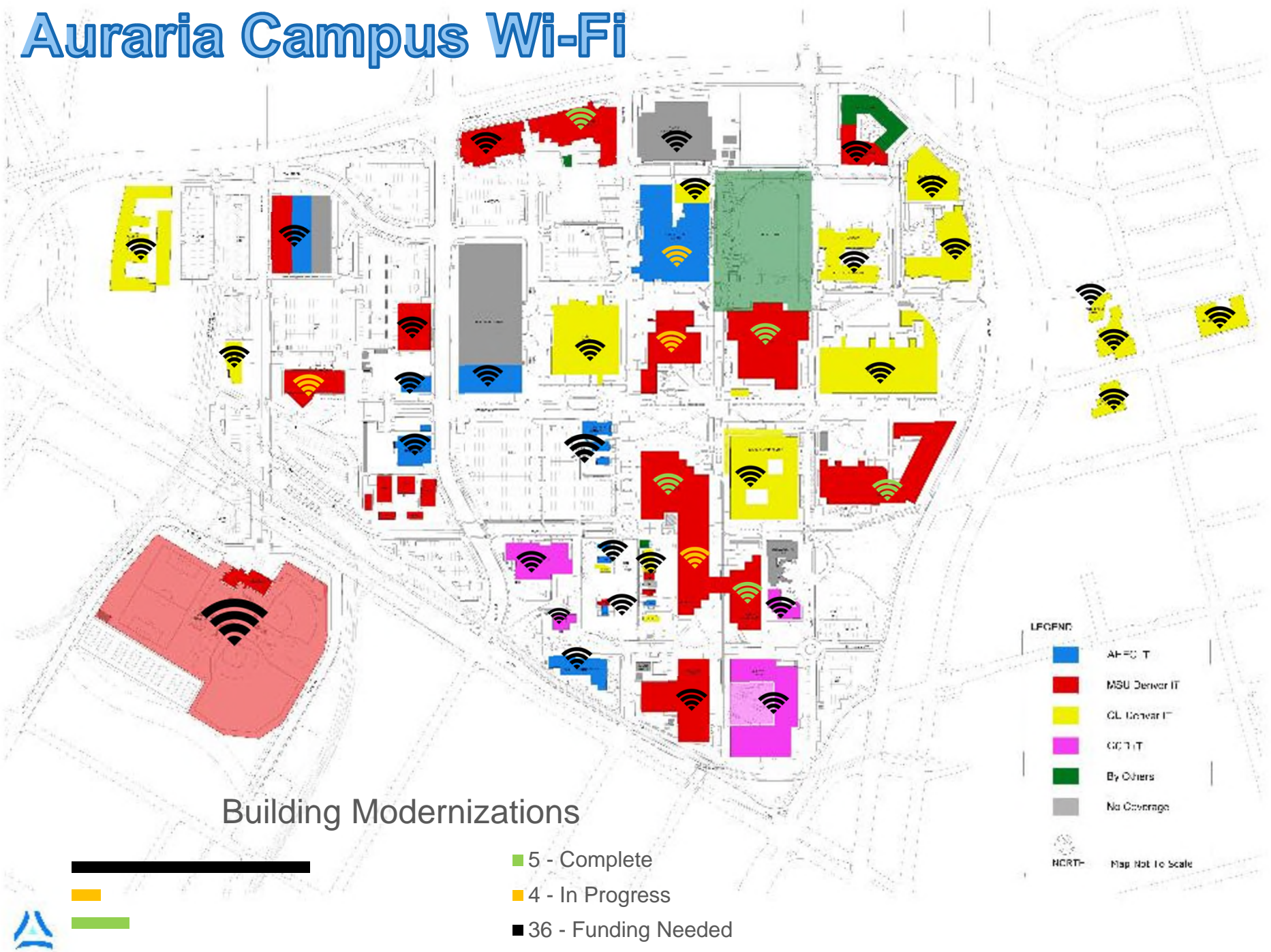
Building Modernizations

LEGEND

- AHEC IT
- MSU Denver IT
- CU Denver IT
- CCD IT
- By Others
- No Coverage

NORTH   Map Not To Scale

- 5 - Complete
- 4 - In Progress
- 36 - Funding Needed
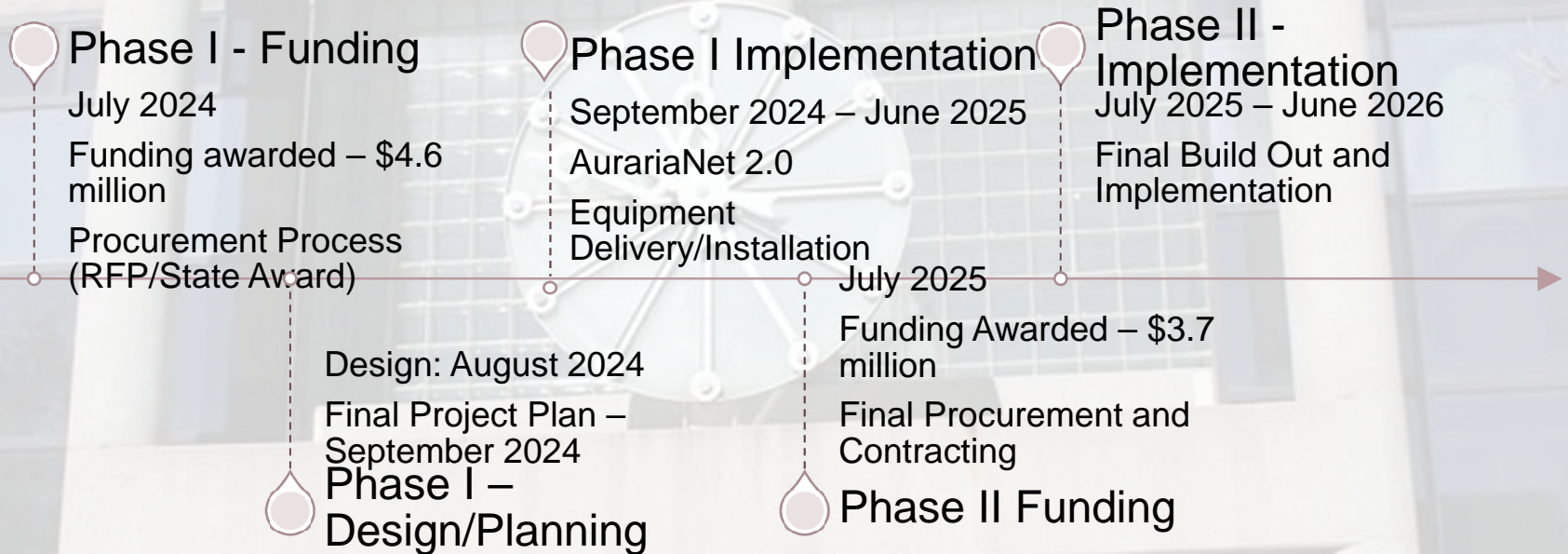
ACTC – RECOMMENDATIONS

REPEAT SUCCESS

Implement the same Network Modernization process that was successful in the Arts building to improve the wired/wireless network functionality across all buildings on campus.

OBJECTIVES

- Floor-by-floor wireless survey of every affected building to ensure proper network design and AP placement to establish complete internal building Wireless Coverage and Roaming. (**Completed Spring 2023**)

- Upgrade of each institution's "back-haul" equipment (switches and routers), where necessary, to provide adequate connectivity and POE power for the large increase in the number of APs in every affected building.

- Campus Institutions adopting a Wi-Fi 6 platform (**Cisco Meraki/MIST**)

- Unified Campus - Network Peering, RADIUS Federation, and vLAN tagging to facilitate the AurariaNet 2.0 Wireless Connection Process

TIMELINE

Phase I - Funding

July 2024

Funding awarded – $4.6 million

Procurement Process (RFP/State Award)

Phase I Implementation

September 2024 – June 2025

AurariaNet 2.0

Equipment Delivery/Installation

Phase II - Implementation

July 2025 – June 2026

Final Build Out and Implementation

Design: August 2024

Final Project Plan – September 2024

Phase I – Design/Planning

July 2025

Funding Awarded – $3.7 million

Final Procurement and Contracting

Phase II Funding

EXPECTED OUTCOMES

- Infrastructure for Strategic Initiatives
- Unified Campus Experience
- Complete Wi-Fi Coverage
- Impact the digital divide
- Future Proofing
- Reduce Total Cost of Ownership

LIFE SAFETY IMPROVEMENTS

- Emergency Notification Delivery
- Camera/Security Monitoring
- ACPD Dispatch/Communications
- Campus Access Control

DISCUSSION

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THANK YOU!