Overview of the RCN Program

Current Projects in the RCN Program

REGIONAL COMMUNITY NETWORK (RCN)

ADOT

Fall 2009

RCN Program Overview

The RCN Program is the term used to encompass the numerous projects and stakeholders involved in creating a defined network of fiber and communications in the Phoenix metropolitan area. The RCN Program has been in existence since 2001 when the initial RCN Feasibility Study was developed. Projects continue to be developed as part of the RCN Program. Two projects are being developed to construct and implement the first phase of the Regional Community Network.

The RCN Program history in timeline format is described below up to the current status of projects being developed. Future projects foreseen as part of the RCN Program will include additional fiber and conduit infrastructure design/construction projects, operations and maintenance of the network, procurement of additional active electronics equipment such as network switches and fiber connectors, and potential studies regarding use of the network.

During the development of the first phase of fiber/conduit infrastructure deployment to connect agencies (RCN Phase 1A PS&E), the Maricopa Association of Governments (MAG) RCN Working Group was established to provide general oversight to the RCN Program activities and manage the future expansion and changes to the network. Changes to the network shall be discussed by the agencies involved in the MAG RCN Working Group. This MAG RCN Working Group is comprised of staff from MAG member agencies to make recommendations for the RCN Program moving forward.

RCN Program History

2001 — The MAGTAG and MAG ITS Committees started an RCN feasibility study which ultimately identified the need to build a regional network.

2002 — Arizona DPS, ADOT, and the City of Phoenix conducted a proof of concept test to demonstrate possibilities of combining various public agencies' resources to solve their network capacity and path diversity problems.

2003 — Maricopa County developed an AZTech™ Telecommunications Overview report which documented the immediate need for the region to establish center-to-center fiber communications links between the various traffic operations centers and public safety agencies.

2004 — ADOT and its AZTech™ partners secured federal funding to develop east and west valley design concept reports and produce Phase 1 design plans. The Phase 1 DCR was completed in November.

2005 — Phase 1 design plans were taken to 95% level. The design concept for Phase 2 deployment of the RCN covering two East Valley Sub-Rings was completed in December. MAG made $1.6M available for construction of the RCN initial deployment.

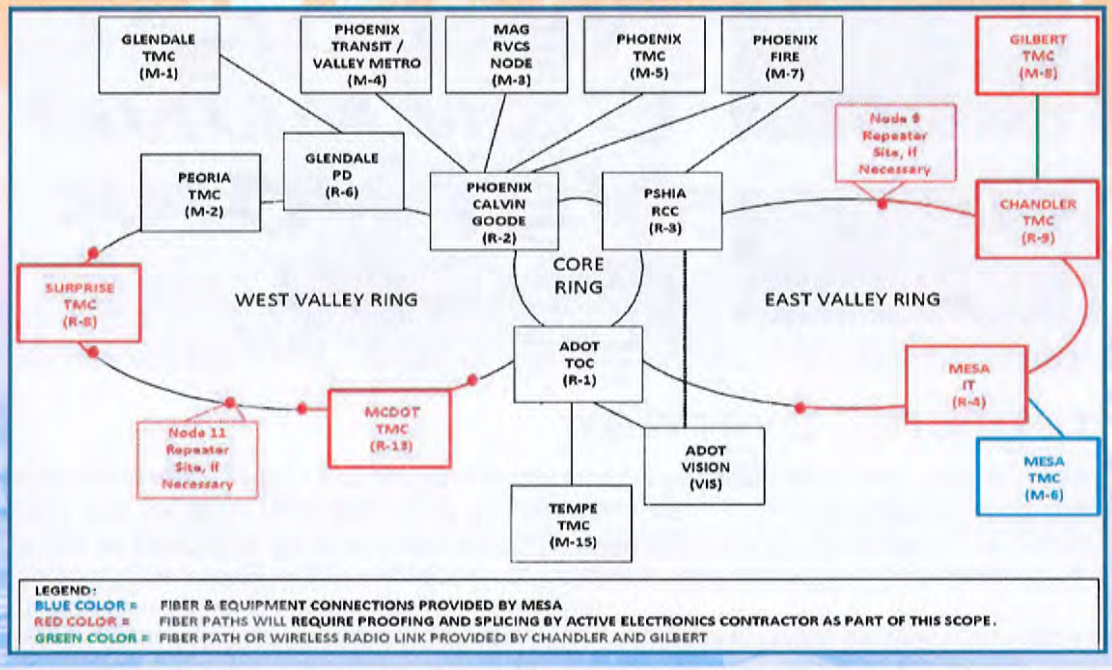
2006 — Phase 1 95% plans were broken into two projects: Phase 1A and Phase 1B. Phase 1A PS&E design was completed to the 100% level. ADOT and MAG developed a Systems Engineering Analysis report.

2007 — Additional federal funding was added to connect additional cities to Phase 1A. Phase 1A was broken into two separate projects: 1) fiber and conduit construction and 2) active electronics installation.

2008 — The first two projects under Phase 1A provide: 1) fiber and conduit construction and 2) active electronics equipment to establish the initial deployment of the RCN defined on page 2.

2009 — Phase 1A fiber and conduit construction was completed on September 8, 2009.

How RCN Phase 1A Agencies Are Connected



RCN Program — Projects and Progress

Phase 1A PS&E

This first project involved ADOT retaining Kimley-Horn and Associates (KHA) to develop construction plans for Phase 1A deployment, with Plans, Specifications, and Estimate (PS&E). Project activities include:

- Paramount Designs Inc. (PDI) was awarded the contract for the RCN Phase 1A Conduit and fiber project.
- PDI proceeded with submitting material submittals and with the project inventory and getting GPS coordinates on existing RCN pullboxes.
- PDI coordinated with all of the local jurisdictions to obtain access to the RCN hub buildings.
- New conduit and innerduct installation began in outside plant project areas and new innerduct, fiber, and associated RCN equipment were installed in the inside project areas.
- Fibers were tested before splicing in Winter 2009 and after splicing in Summer 2009.
- Received Final Acceptance from ADOT on September 8, 2009.

Phase 1A Active Electronics

This second project involved ADOT retaining KHA to work with MAG member agencies to identify the appropriate technology solution for agencies to connect to the RCN. Project activities include:

- KHA prepared scope of work and submitted to ADOT for distribution to on-call statewide contractors in Fall 2008.
- ITS Engineers was awarded the system integrator contract for the Active Electronics portion of Phase 1A. The kickoff meeting was held in Spring 2009.
- ITS Engineers conducted site visits to all stakeholder facilities to gather required information as part of the final design activities.
- RCN Network Configuration Design Workshop was held in Summer 2009 to provide stakeholders with information about how the network is to be configured, request IP addressing information from stakeholders, and to field comments and/or requests.
- Active Electronics equipment for the East Ring of the project has been ordered and received by ITS and was inspected by ADOT. This equipment will be installed at the Rental Car Center (RCC), Chandler, Mesa, and Gilbert facilities. Bench testing is being conducted in lab facilities for this equipment.
- RCN nodes at ADOT and MCDOT have been installed and fiber verification and equipment installation for the West Ring is on-going.

MAG RCN Working Group

The MAG RCN Working Group has developed a draft RCN Roles and Responsibilities document. To subscribe to the MAG RCN Working Group documents, go to:
http://service.govdelivery.com/service/user.html?code=AZMAG

For additional information, please contact:

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