

Radio Projects Status

September 25, 2014

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Westchester County Department of Information Technology
Radio Group

Current Projects

- * Statewide Interoperable Communication Grant Round 3
 - * Microwave Network
 - * Interoperable Radio System
- * Tappan Zee Interop System
- * Guard Hill Refurbish
- * BIT 32 Trunk System Replacement

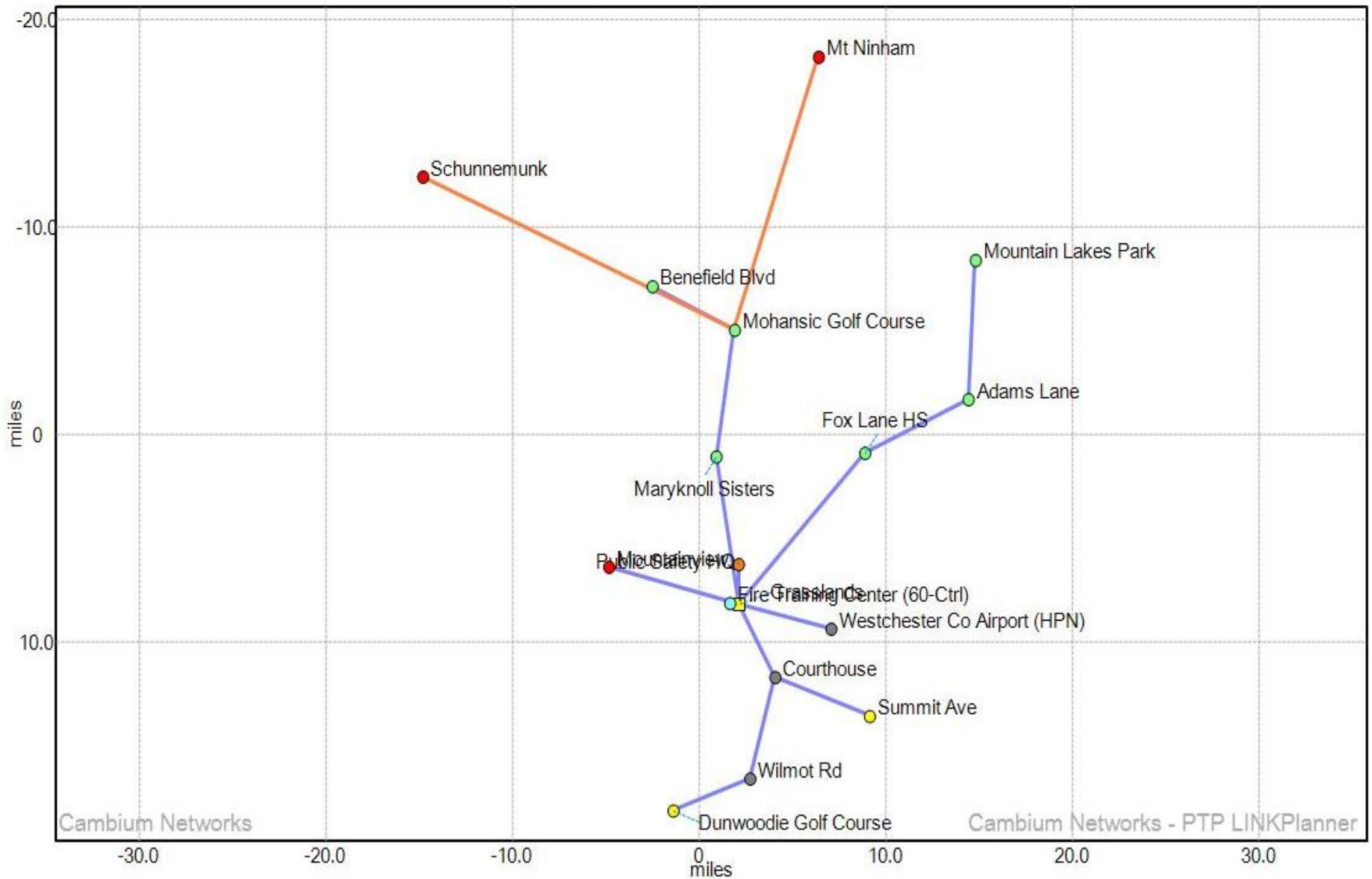
National Interoperability Systems

- FCC Designated Frequencies
 - LFIRE4D
 - 45.88 MHz Simplex (County to County Comms)
 - VTAC
 - 12 Channels Authorized
 - WC building 3 Channel, Countywide System
 - UTAC
 - 4 Channels Authorized
 - WC operating a 3 Channel, Countywide System
 - 7TAC (Digital only)
 - 32 Channels Authorized
 - WC Future Construction
 - 8TAC
 - 8 Channels Authorized
 - No Construction Plans

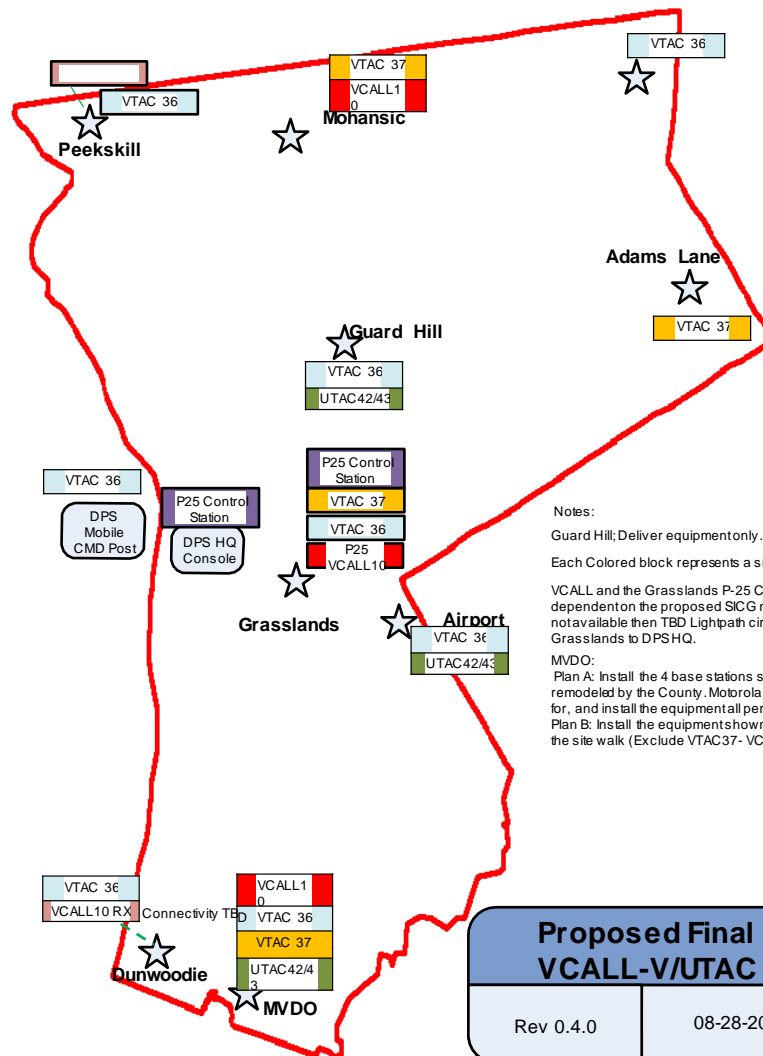
Statewide Interoperable Communications Grant SICG Round 3

- Funding
 - NYS Division of Homeland Security and Emergency Services (DHSES)
 - DES obtained award of \$5,991,125.
 - Completion Required by December 2014, with Extension to December 2015.
- Scope
 - Implement a Microwave Network as backup to Lightpath Fiber Network
 - Implement a First Responder Communication System via the VTAC National Interoperability Channels
 - Establish Connectivity among Westchester, Rockland, Putnam, and Orange Counties
- Status
 - Preliminary Requirements and Budgets Developed in September 2013
 - Microwave Network
 - VTAC System
 - Project Plan Developed to Combine Project Management of SICG and BIT32
 - Established Steering Committee and Project Team
 - Identified Critical Items
 - Working with a Prospective Vendor to Refine the Project's Scope and Cost
 - Revised Proposal due Oct 20, 2014
- Renew and Extend Agreements with Site Owners
 - Adams Lane, Fox Lane, Mt Lakes, Wilmot Road, Maryknoll, Benefield Blvd, Summit Avenue

center = 41:11:56.4N 073:50:50.9W



Stations	VCALL	P25 VCALL	VCALL-RX Only	VTAC36	VTAC37	UTAC 42/43	P-25 Control Station
Airport				X		X	
Adams Lane					X		
Dunwoodie			X	X			
Grasslands		X		X	X	X	X
Guard Hill				X		X	
Mountain Lakes				X			
Mohansic	X				X		
MVDO	X			X	X	X	
Peekskill			X	X			
DPS FC				X			
DPSHQ							X



Notes:

Guard Hill; Deliver equipment only. No installation is required

Each Colored block represents a single channel station

VCALL and the Grasslands P-25 Control station connectivity is dependent on the proposed SICG microwave links or if the links are not available then TBD Lightpath circuits back to Grasslands and Grasslands to DPSHQ.

MVDO:

Plan A: Install the 4 base stations shown here in the room that will be remodeled by the County. Motorola will make the finished room ready for, and install the equipment all per "R-56".

Plan B: Install the equipment shown in the exterior cabinet as planned on the site walk (Exclude VTAC37- VCALL Connectivity TBD)

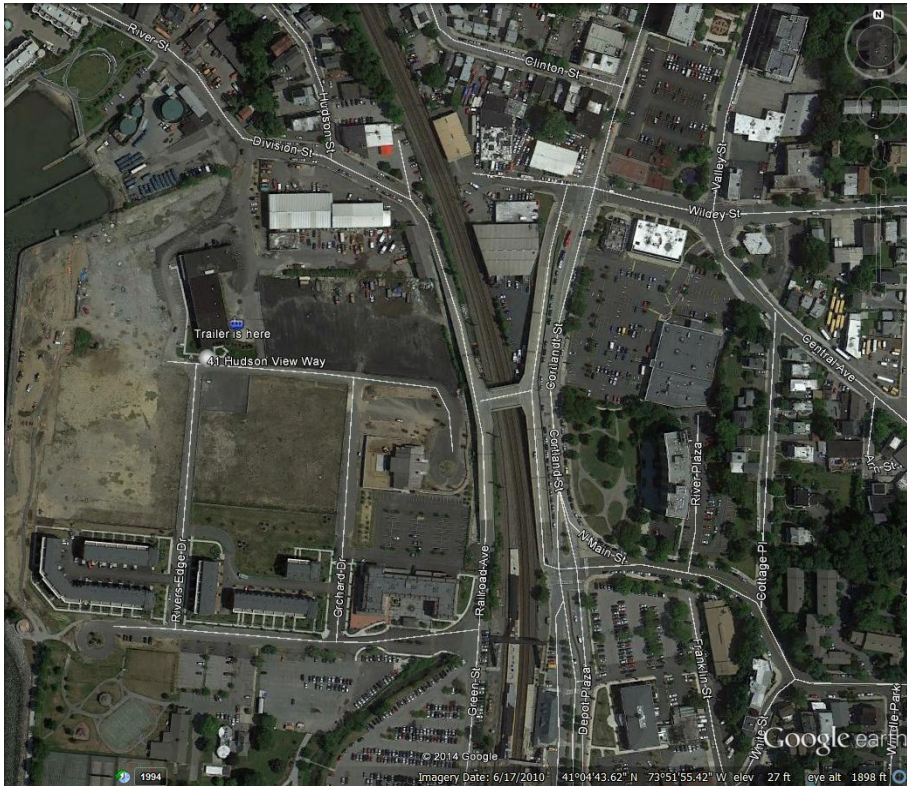
Proposed Final VCALL-V/UTAC System Map

Rev 0.4.0

08-28-2014

Bob Wilson

Tappan Zee Bridge Interop System



- Waiting for Approval from TZ Construction

Guard Hill

- Relocate DES Fire & EMS Radios from NW Hospital
 - Obtain Better Coverage for Fire & EMS
 - Eliminate Tie Line Charges
- DPW Retained Tectonic Engineering for Site Design
- Bedford & County Signed a Short Term Agreement for Site Access
 - Tectonic Engineering
 - County
- Statement of Work
 - Replace Existing Tower
 - Replace Generator
 - Add Automatic Transfer Switch and New Electrical Panels
 - Add Antennas
 - Relocate Radios from Hospital
- Current Status
 - DoIT Completed Project Plan and Procurement Specifications
 - Tectonic Completed Preliminary Drawings
 - Tectonic Agreement Amended to Extend Duration
 - Construction Date Not Set

Near Term Challenges

- * Most Radio Infrastructure Will Reach End of Life DEC 2018
 - * Fire/EMS/DOT UHF Trunk System
 - * 60 Control Dispatch/ Paging System
 - * County Police Dispatch and Interop System (F1/F3)
 - * Transportation CAD/AVL System
- * T-Band Frequencies will be withdrawn in 2023
 - * Current Law Says All Public Safety Must Vacate These Frequencies
 - * 11 Metropolitan Areas
- * Paging System Modernization and Expansion

Fire, EMS, DOT Radio System Replacement (BIT 32)

- * Approved for \$30M Over 5 Years
 - * Fire/EMS/Transportation UHF Trunk System
 - * 60 Control Dispatch/Fire Paging System
 - * County Police Dispatch and Interop System (F1/F3)
 - * Voice Portion of Transportation CAD/AVL System
- * Interdepartmental Management
 - * DES
 - * DPS
 - * DPW&T
 - * Law
 - * Parks
 - * Finance
 - * Planning
 - * DoIT (Project Management)

Replacement System

Technical Considerations

- Public Safety Standard is P25 Digital Radio
 - * Uses Internet Protocol (IP) for Inter-site Connectivity
 - * IP Carried on Lightpath Fiber with Microwave as a Backup
- 700 MHz P25 Trunk Radio System
 - * 20 Frequency Pairs Licensed for County Use (10 North & 10 South)
 - * Two Talk Channels per Pair
 - * 36 Channel Equivalent (Two Channels are Control)
 - * Mobile In-Street Coverage Requires Additional Sites
 - * Handheld In-Building Coverage Requires Many More Sites
- * 470 MHz Trunk UHF (T-Band) P25 Radio System
 - * 12 Frequency Pairs Licensed for County Use (6 North & 6 South)
 - * Two Talk Channels per Pair
 - * 20 Channel Equivalent (Two Channels are Control)
 - * Mobile In-Street Coverage with Existing Sites
 - * Handheld In-Building Coverage Requires Additional Sites
- * Fire Ground Frequencies Remain Unchanged

Replacement System Logistical Considerations

- * **FCC Licensing**

- * 700 MHz May Need Relicensing
- * UHF Expansion (If Congress Reconsiders the Law)

- * **Site Acquisition**

- * Site Selection
- * Public Hearings
- * Site Owner Agreements

- * **Site Construction**

- * Vendor Selection
- * Permitting
- * Environmental

- * **System Implementation**

- * Vendor Selection
- * System Design
- * Installation & Testing
- * User Migration

- * **Current Trunk System Took Over Seven Years to Design & Implement**

Next Steps

- * Steering Committee and Project Team Established
- * Public Safety Consultant To Be Hired
 - * Analyze External Influences
 - * Analyze Current & Future County Radio Needs
 - * Make Recommendations
 - * Prepare Request For Bid
- * Agreements with Site Owners
- * Evolution of Ground Ops Channels & Paging