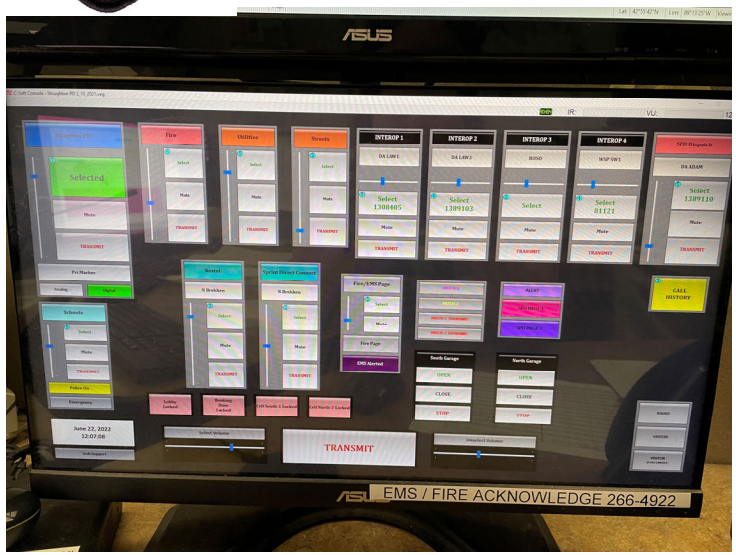
Stoughton Police Department

Capital Budget Request for 2023

Radio System Upgrade

- Current system is built with a series of “base” radios
  - System is stable but some radios have reached their life expectancy
  - Not able to easily talk to other county units
    - Important when other agencies call for mutual aid or we get called to assist in the county
    - Coverage is spotty with having to simulcast the channels between our

Radio System Upgrade



Current Console

Current Stack of Radios to make the system work

Radio System Upgrade
Dane Com History

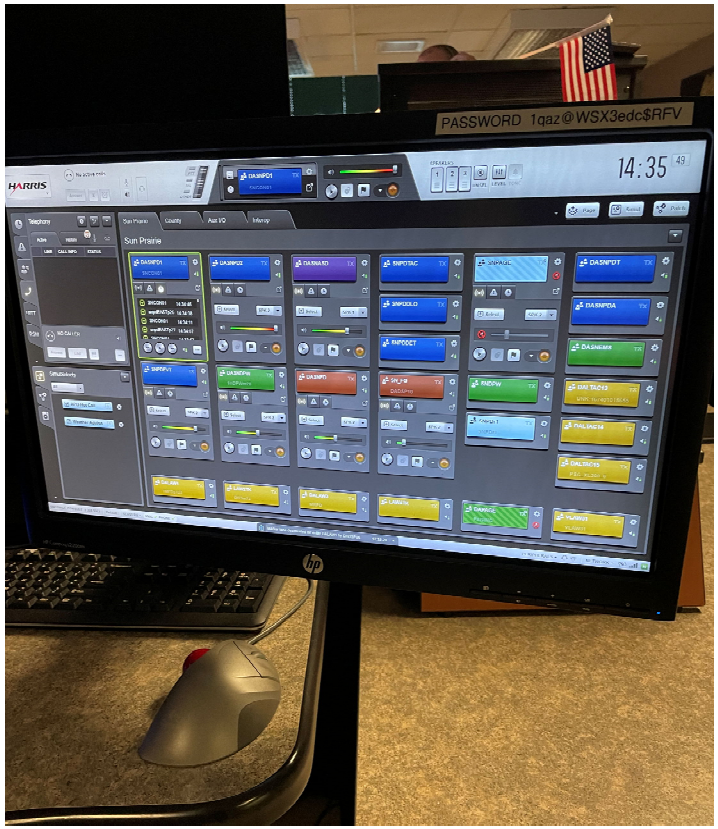
- Dane County launched the $24.6 million dollar system in 2016
- Allows 81 public safety agencies and 61 local governments to communicate with one another more seamlessly.
- Allows us access to a network of mutual aid channels integrated with DaneCom that also include analog channels so emergency responding units from this county can communicate with emergency responders from outside Dane County on larger incidents where responding units cross county lines.
- Reduces maintenance cost of having to maintain our local channel and Dane Com.
- With the addition of 3 microwave hops, ours and the fire departments digital signal does not have to go to Fitchburg and back, greatly reducing signal.
  - The 3 hops with create a triangle around the city thus improving coverage.

Radio System Upgrade

Presented by General Communications, Inc.

- Symphony Dispatch Console System
  - Direct Connection to Danecom
  - Same as Dane County and other agencies in the area
- Repeater Replacement
  - Current repeater is end of life
  - Factory support end 31 January 2023
  - IP Connection Danecom
- Microwave IP Network
- Budgetary Pricing

Radio System Upgrade



HARRIS®

Symphony Dispatch Console

by L3Harris

- 2 Positions – Police and Fire
  - Direct Danecom Interface
  - Priority Calling over squads
  - P25 DFSI Interface
  - Paging
  - Door Control

Symphony Dispatch Console

by L3Harris

- Symphony Consoles in use in Wisconsin
  - Dane County– 42 Positions
  - Fitchburg Police – 3 Positions
  - Sun Prairie Police – 3 Positions
  - Middleton Police – 2 Positions
  - Milwaukee Police – 44 Positions
  - Washington County – 7 Positions
  - West Bend Police – 4 Positions
  - Ozaukee County – 5 Positions
  - Germantown Police – 2 Positions
  - Hartland Police – 2 Positions
  - Cedarburg Police – 1 Position
  - State Patrol – Future
  - Walworth County - Future

P25 Repeaters

- TB9400 Repeaters
  - IP Based System
  - Analog or Digital
  - Phase 2 upgradable
  - Built in Alarms
  - Built in Simulcast
  - Built in Voting – No External Voter Needed

THE WHY?

- At least five of our base radios that make up our stack are at their life expectancy.
- Our Current repeater is also at its end of life and needs to be replaced. This repeater will lose factory support January 31,2023
- Because we need the repeater as a backup with the DaneCom System, now is the time to upgrade this equipment.
- A new repeater will allow us a direct IP connection, for a more reliable consistent connection
  - Factory support on the repeater will end January 31, 2023.
  - This has no immediate impact to service because GenComm has a supply of parts.
  - So many municipalities are in our situation,
    - The parts inventory will dwindle very quickly, and we could be forced into a situation of expending funds for an unplanned replacement at a moments notice. It is preferred, for continuity of operations, that this be a planned replacement and expenditure at the proper time.
    - The base radios currently cost about $13,000.00 each.

What does the upgrade do for Stoughton Police Department?

- Allows for greater coverage area in the City for all Public Safety agencies.
  - Have a direct connection to DaneCom.
  - Reduces “bonks” or “out of range” signals from the current system.
  - Completes a digital system that was started in 2014 by Dane County with the introduction of DaneCom.
  - Allows us access to DaneCom channels at no cost.
  - Dane County has a full time Administrator dedicated solely to Harris and DaneCom which will allow us to get needed upgrades quickly.
  - Current configuration doesn’t provide consistent connections/audio for officers and dispatchers
- Will allow us access to Encrypted channels for tactical situations and officer safety concerns.
- We would have access to a variety of tactical channels along with direct connection to neighboring agencies with ease for larger incidents, or for when we are operating in mutual-aid situations.

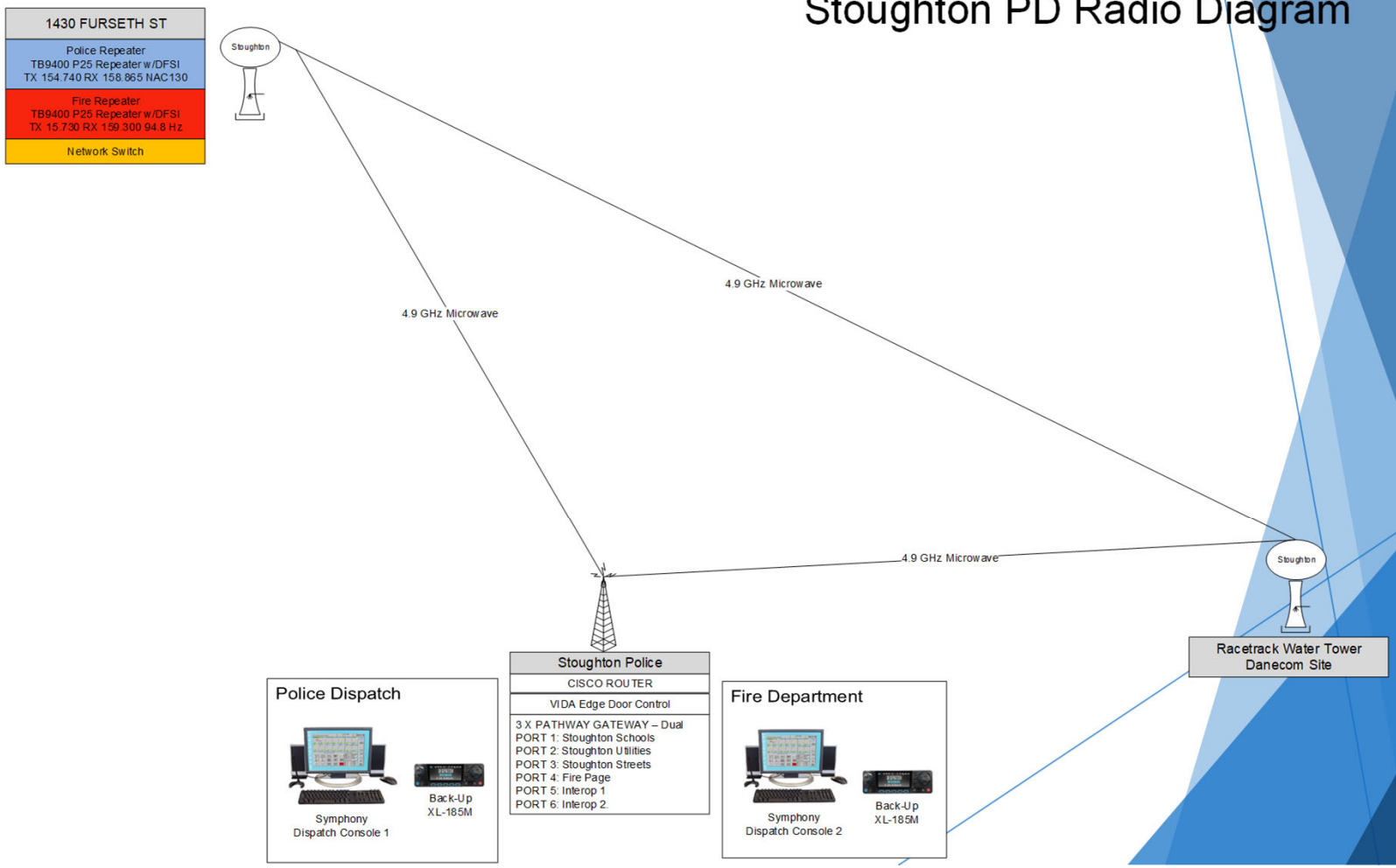
What does the upgrade do for Stoughton Police Department?

- Access to the Danecom system occurs in Fitchburg, where a radio is “listening” to the repeater traffic
  - Connects it to the Danecom version of the channel.
  - Due to the signal having to travel so far, it weakens in quality
  - The microwave configuration provides redundancy in the network for our equipment. Translates to stronger, more consistent signals

What does the upgrade do for Stoughton Police Department?

- With the addition of 3 Microwave Hops we establish a complete triangle or ring around the city. They are located:
  - On the Police Department Rooftop
  - Furseth Water Tower
  - Race Track Road Water Tower
- The microwave hops are separate links (two antennas and base stations) that provide a more consistent link, regardless of using the Danecom Channel or the backup PD repeater.
- The current configuration doesn’t provide consistent connections/audio for officers and dispatchers. Adding the hops will fix this.

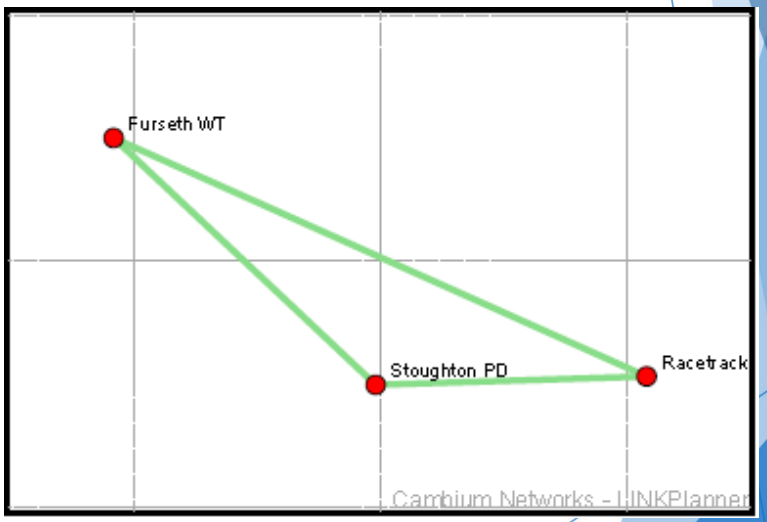
Stoughton PD Radio Diagram



Microwave System

by Cambium

- Ring Network
- Digital Microwave
- IP Cisco Network



Pricing

- Police
  - Symphony Police Console $101,086
  - Backup Radio for Dispatch: $9,835
  - Radio Gateways: $40,301
  - Door Control System: $33,025
  - Control Station Upgrades: $26,269
  - Ring Microwave System: $41,349
  - P25 Repeater: $21,675
    - Police Total: $273,540

Pricing

- Fire
  - Symphony Police Console $101,086
  - Backup Radio for Dispatch: $9,835
  - Fire Repeater Upgrade: $5,132

Fire Total: $116,053

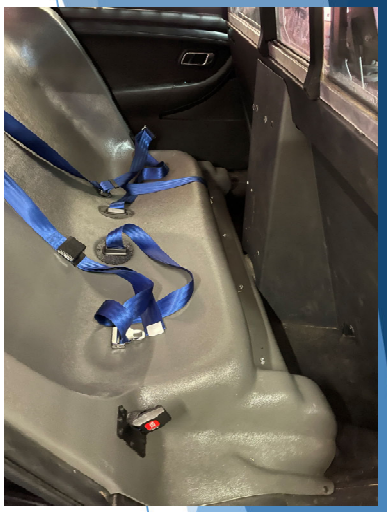
Project Total: $389,593

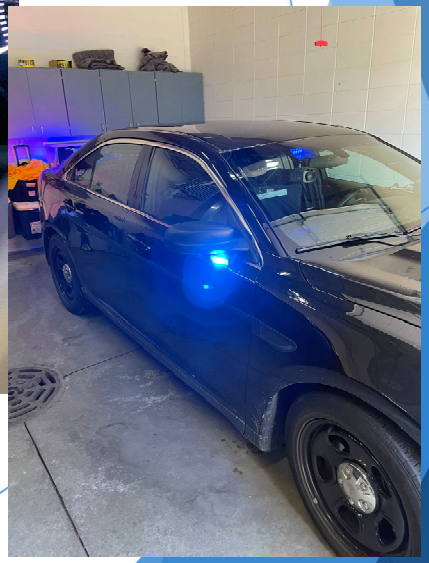
Squad Car Replacement
Squad #270

- 2019 Ford Taurus Interceptor
  - 14,500+ Hours
  - 81,000+ Miles
  - Has had numerous work orders
  - Surface Rust has begun to develop
  - Public Works Scorecard Indicates Priority Replacement

Point Ranges	Condition	Description
0-**20**	Excellent	Do not replace
21-28	Good	Re-evaluate for replacement for next year's budget
29-**35**	**Fair**	Qualifies for replacement this year or if M/R cost exceed 60% of cost
36+	Poor	Needs priority replacement
Total Points:	19.65 / 52.66	**(CURRENT) score via miles / score via hours**
Projected Points:		

Squad Car Replacement
Squad #270



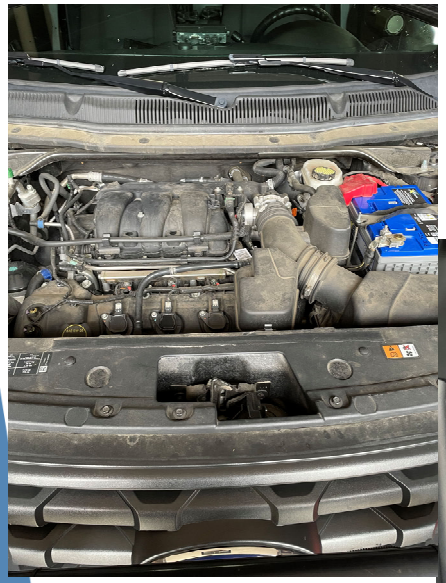


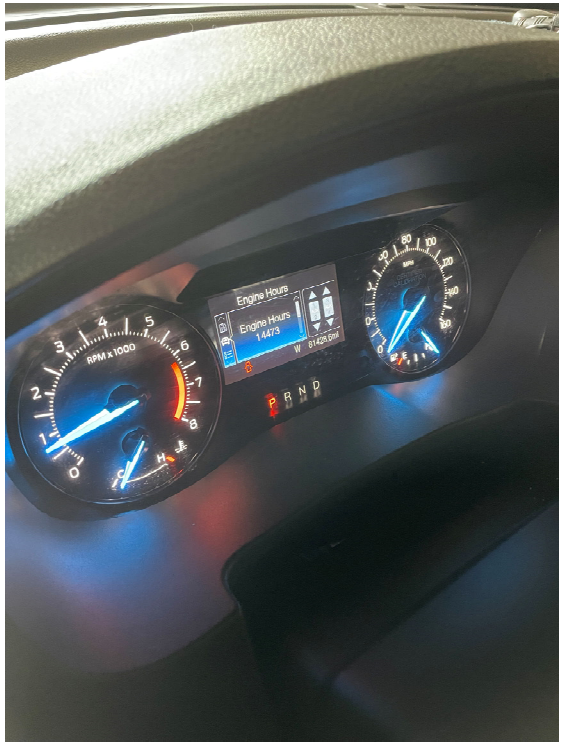
Squad Car Replacement
Squad #276

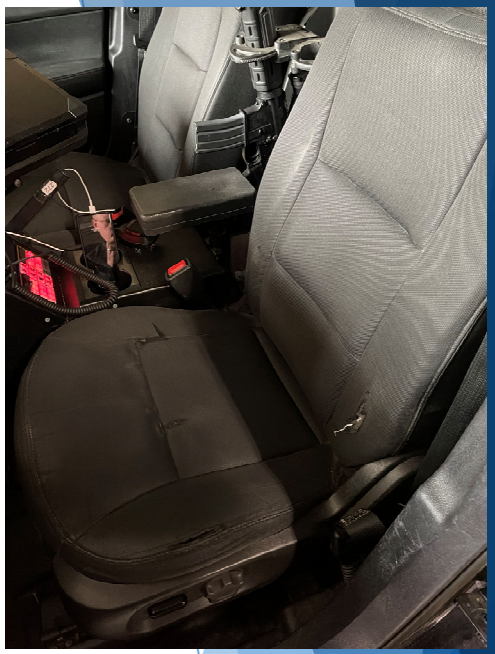
- 2019 Ford Explorer Interceptor
  - 14,500+ Hours
  - 81,000+ Miles
  - Has had numerous work orders
  - Surface Rust has begun to develop
  - Public Works Scorecard Indicates Priority Replacement

Point Ranges	Condition	Description
0-20	Excellent	Do not replace
21-28	Good	Re-evaluate for replacement for next year's budget
29-**35**	**Fair**	Qualifies for replacement this year or if M/R cost exceed 60% of cost
36+	Poor	Needs priority replacement
Total Points:	23.160/70.89	**(CURRENT) points via miles/points via engine hours**
Projected Points:		

Squad Car Replacement
Squad #276







Squad Car Replacement
Squad #270 and 276

- Recommend Safer Vehicle
  - Ford F-150 Interceptor ECOBOOST.
  - Numerous agencies going to a safer, more roomier model patrol vehicle.
  - 4x4 – Higher ground clearance for winter conditions
  - F-150 Has a higher resale value and can be reused by city departments are end of patrol life.

Squad Car Replacement
Squad #270 and 276

- Squad 270
  - 2023 Ford F150 - $48,761.00
  - Current equipment will not changeover to SUV or F150
- Outfitting - $ 11,900.00
- **Squad 270 Total: $ 60,661.00**

- Squad 276
  - 2023 Ford F150 - $48,761.00
  - Most current equipment will not changeover to SUV or F150
- Outfitting - $ 11,473.33
- **Squad 276 Total: $ 60,234.33**

Other Requests

- $6,000.00 New squad MDC's
  - (2) Dell Rugged computers as recommended by IT
- $6,000 – 2 Electric Patrol bikes
- $27,500 – 5 Portable radio replacements
- $5,600 – 4 BolaWrap Less lethal devices
- $5,000 - Community Interface Cameras
- $20,000 - NEV Replacement with a UTV. (for off road incidents etc)
- $5,000 – Digital Forensic Computer Hardware
- $25,000 - ALPR Fixed Camera
- $1,500 – Body Cam Replacement