



Orange County - Fire Service Radio

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Proposed Coverage



- For land mobile radio
 - » Design minimum - Portable held head-high in the street. Industry standard 90 - 95% coverage – 95% of the time
 - » In-building coverage can be enhanced by the use of bi-directional amplifiers
 - » Local UHF input to Fire Com 1
 - » The UHF Fire Ground system would not be changed
- Paging
 - » Existing system with simulcast

Current Vision – Fire Service



- Operational
 - » All fire command on new system
 - Replaces VHF low-band
 - » Portable in the street
 - » Controlled access
 - » Inter and intraoperability
 - » Local dispatch capability preserved
 - » VHF high-band paging preserved
 - » Preserve existing UHF fire ground system
 - » Comply with Federal and NYS guidelines – Nation Emergency Communications Plan, NY Statewide Interoperable Communications Plan, and HVICC

Current Vision – Fire Service



- Technical
 - » P-25 Trunked
 - » 700/800 MHz
 - » Simulcast/voting
 - » Redundant interconnects
 - » Hardened sites
 - » Preserve local UHF input to FIRE COM1

Subscribers



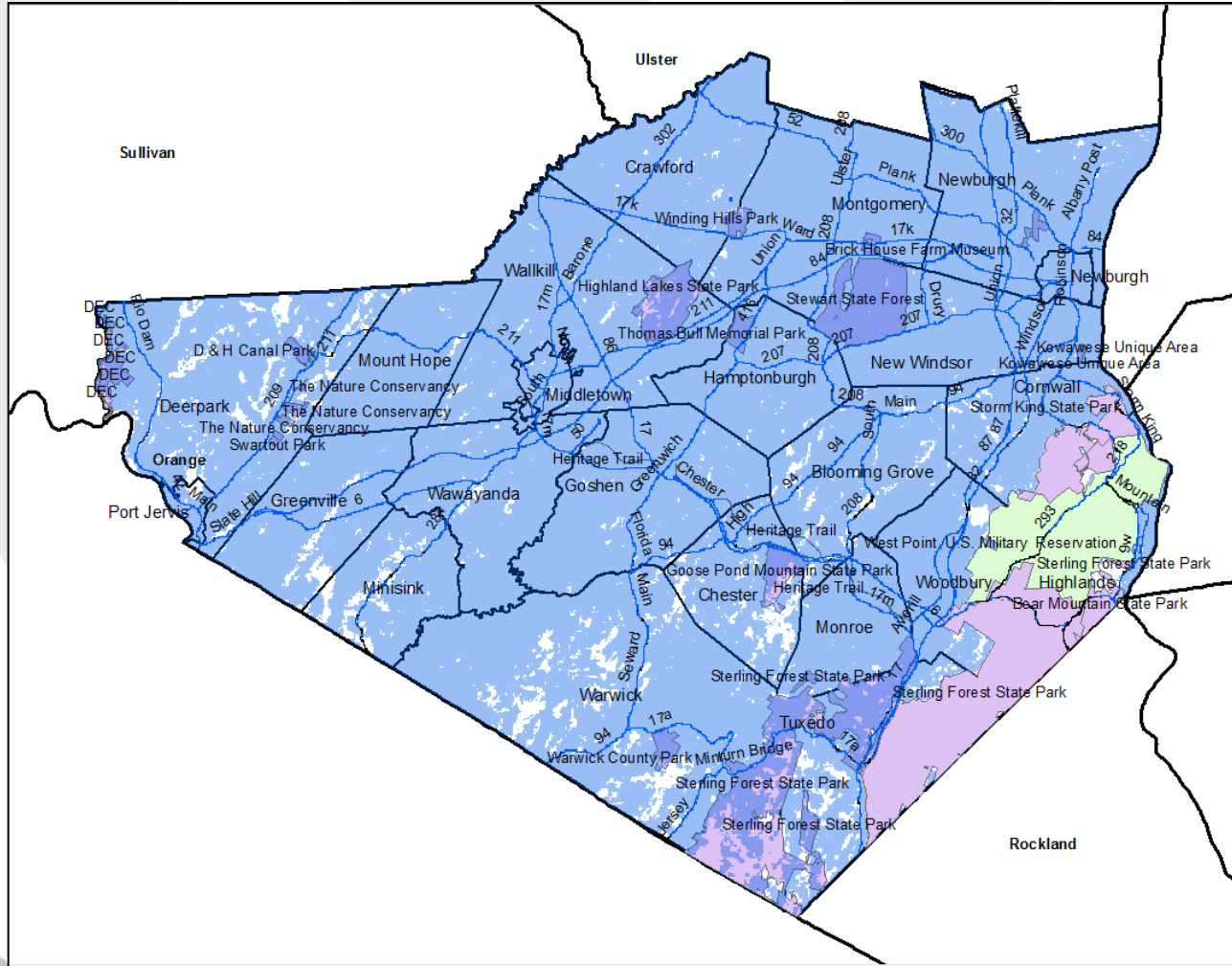
Service	Portable	Mobile	Control Stations
Fire	300	500	51
Law	738	543	32
EMS	1,180	622	NA
DPW	22	97	9
Motor Pool	NA	8	NA
Sub-Totals	2,240	1,770	92
Total Subscribers	4,102		

Coverage

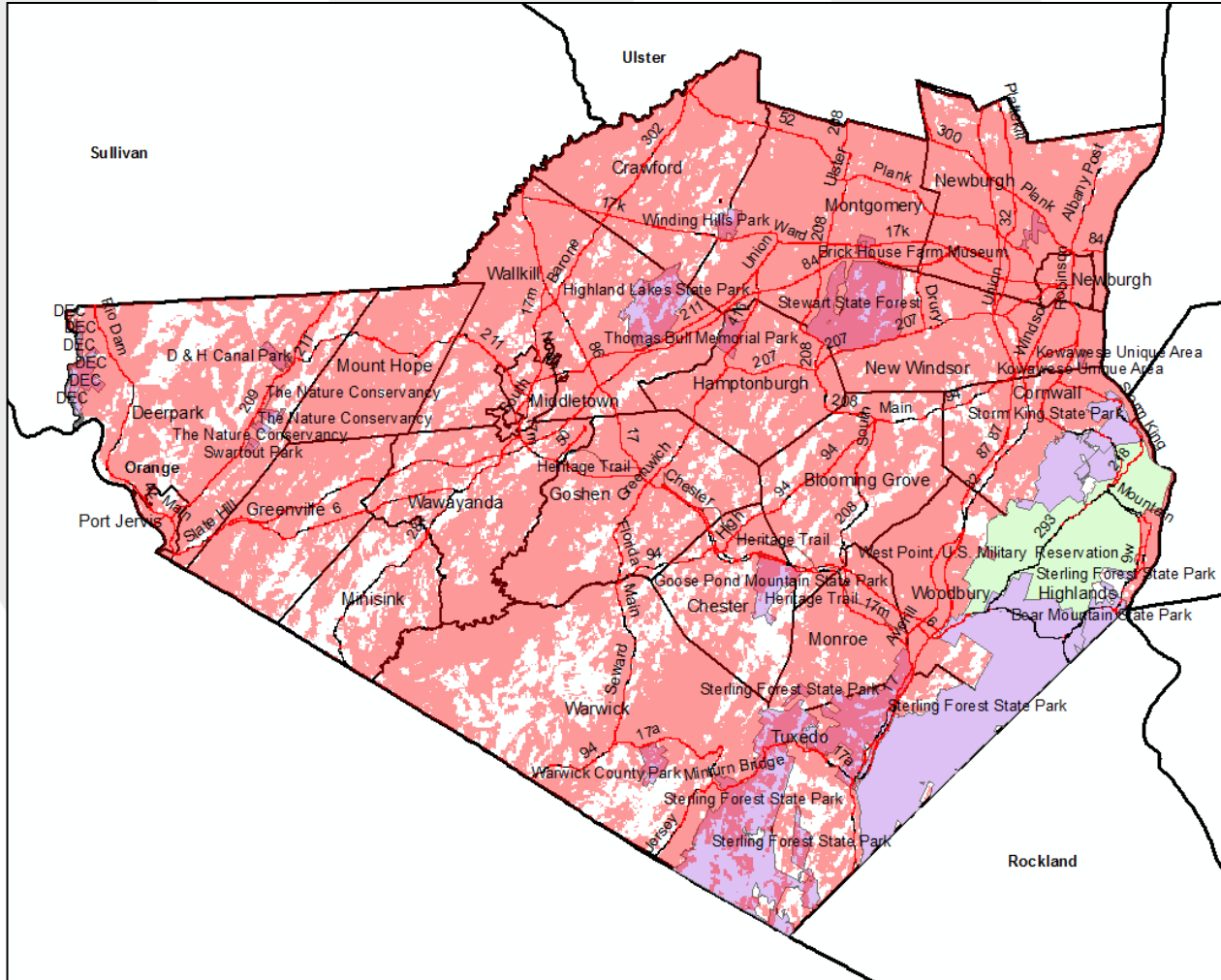


- Developing a preliminary constellation of 14 tower sites:
 - » Arden
 - » Beacon
 - » Graham
 - » Schunnemunk
 - » Goshen
 - » Mt. Peter
 - » Putnam
 - » Wurtsboro
 - » Cronomer Hill
 - » Heater Hill
 - » Sloatsburg
 - » Southfield
 - » Sparrow Bush Estates
 - » Walden Fire Department
- Communications Trailer for on-site support in State Parks and West Point
- Interconnected with microwave

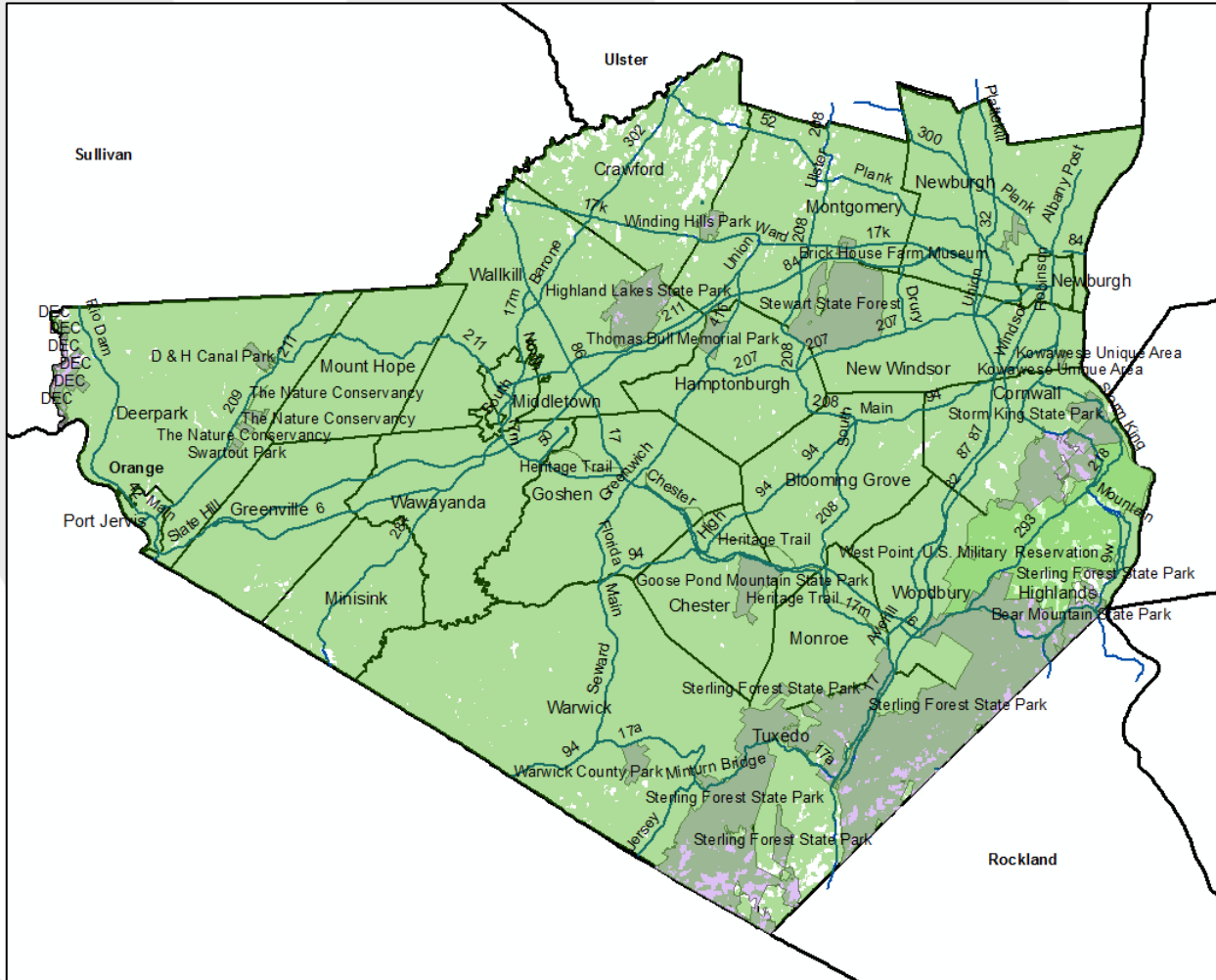
Coverage – Mobile Talk Out



Coverage – Portable Talk In



Coverage – Fire Paging



Conceptual Fire Service Talk Path Plan



- COM-FIRE1 – Similar to existing 36 Control
- COM-FIRE2 – Overflow, special ops
- COM-FIRE3-6 – Talk path unique for departments that are dispatched locally
- TAC30-39 – Talk path unique for battalions and coordinators (Administrative)
- TAC20-29 – Countywide tactical talk groups shared with EMS and EMA for interoperability. On dispatch each event will be assigned a TAC talk path

Conceptual Fire Service Talk Path Plan



- Radio positions 15 and 16 repeat of COM FIRE1 and 2.

Conceptual Fire Service Talk Path Plan



Radio Position	Function	Name	Groups	Frequency (Transmit)	Frequency (Receive)	Type	Area of Operation	Notes
1	Communications	COM-FIRE1	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field
2	Communications	COM-FIRE2	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field
3	Communications	COM-FIRE3-6	LOCAL FIRE	TBD	TBD	Simulcast	Countywide	Lcl dispatch to field
4	Tactical	TAC30-39	BATTALIONS	TBD	TBD	Simulcast	Countywide	TG for each Battalion (Admin)
5	Tactical	TAC20	LE/FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
6	Tactical	TAC21	LE/FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
7	Tactical	TAC22	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
8	Tactical	TAC23	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
9	Tactical	TAC24	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
10	Tactical	TAC25	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
11	Tactical	TAC26	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
12	Tactical	TAC27	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
13	Tactical	TAC28	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
14	Tactical	TAC29	FIRE/EMS/EMA	TBD	TBD	Simulcast	Countywide	Dispatcher assigned
15	Communications	COM-FIRE2	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field
16	Communications	COM-FIRE1	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field

Conceptual Future Fire Ground



- COM FIRE1-6 – Repeat of main page
- GRD60-69 – Reserved for future fire ground. Same as UHF configuration using 700/800 MHz talk paths
- GRD70 – 71 – Shared with EMS, LE and EMA
- GRD72 – Share with EMS and EMA
- Radio position 16 – Repeat of COM FIRE1

Conceptual Future Fire Ground



Radio Position	Function	Name	Groups	Frequency (Transmit)	Frequency (Receive)	Type	Area of Operation	Notes	Questions/Comments
1	Communications	COM-FIRE1	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field	
2	Communications	COM-FIRE2	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field	
3	Communications	COM-FIRE3-6	LOCAL FIRE	TBD	TBD	Simulcast	Countywide	Lcl dispatch to field	
4	Ground	GRD60	FIRE/EMS	TBD	TBD	Simplex	On-scene	Fire Ground A	Analog
5	Ground	GRD61	FIRE/EMS	TBD	TBD	Simplex	On-scene	Emergency	Analog
6	Ground	GRD62	FIRE/EMS	TBD	TBD	Simplex	On-scene	Command A	Analog
7	Ground	GRD63	FIRE/EMS	TBD	TBD	Simplex	On-scene	Fire Police	Analog
8	Ground	GRD64	FIRE/EMS	TBD	TBD	Simplex	On-scene	Water Supply	Analog
9	Ground	GRD65	FIRE/EMS	TBD	TBD	Simplex	On-scene	Special Ops	Analog
10	Ground	GRD66	FIRE/EMS	TBD	TBD	Simplex	On-scene	City Command	Analog
11	Ground	GRD67	FIRE/EMS	TBD	TBD	Simplex	On-scene	City Fire Ground	Analog
12	Ground	GRD68	FIRE/EMS	TBD	TBD	Simplex	On-scene	Command B	Analog
13	Ground	GRD69	FIRE/EMS	TBD	TBD	Simplex	On-scene	Fire Ground B	Analog
14	Ground	GRD70	LE/FIRE/EMS/EMA	TBD	TBD	Simplex	On-scene		
15	Ground	GRD71	LE/FIRE/EMS/EMA	TBD	TBD	Simplex	On-scene		
16	Ground	GRD72	FIRE/EMS/EMA	TBD	TBD	Simplex	On-scene		

Conceptual Fire Service 800 MHz Interop Talk Path Plan



- COM FIRE1-6 – Repeat of main page
- Radio Positions 4-13 – 800 MHz National Interoperability Talk Paths
- Radio Position 14 – Talk path GRD70 – shared services
- Radio Position 15 – Repeat of paging (Maybe)
- Radio Position 16 – FIRE COM1

Conceptual Fire Service 800 MHz Interop Talk Path Plan



Radio Position	Function	Name	Groups	Frequency (Transmit)	Frequency (Receive)	Type	Area of Operation	Notes	Questions/Comments
1	Communications	COM-FIRE1	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field	
2	Communications	COM-FIRE2	FIRE	TBD	TBD	Simulcast	Countywide	Dispatch to field	
3	Communications	COM-FIRE3-6	LOCAL FIRE	TBD	TBD	Simulcast	Countywide	Lcl dispatch to field	
4	8CALL90	8CALL90	LE/FIRE/EMS/DPW/EMA	851.0125	806.0125	Repeater	Single Site		Analog
5	8CALL90D	8CALL90D	LE/FIRE/EMS/DPW/EMA	851.0125	851.0125	Simplex	Single Site		Analog
6	8TAC91	8TAC91	LE/FIRE/EMS/DPW/EMA	851.5125	806.0125	Repeater	On-scene	Dispatch assigned	Analog
7	8TAC91D	8TAC91D	LE/FIRE/EMS/DPW/EMA	851.5125	851.5125	Simplex	On-scene	Dispatch assigned	Analog
8	8TAC92	8TAC92	LE/FIRE/EMS/DPW/EMA	852.0125	807.0125	Repeater	On-scene	Dispatch assigned	Analog
9	8TAC92D	8TAC92D	LE/FIRE/EMS/DPW/EMA	852.0125	852.0125	Simplex	On-scene	Dispatch assigned	Analog
10	8TAC93	8TAC93	LE/FIRE/EMS/DPW/EMA	852.5125	807.0125	Repeater	On-scene	Dispatch assigned	Analog
11	8TAC93D	8TAC93D	LE/FIRE/EMS/DPW/EMA	852.5125	852.5125	Simplex	On-scene	Dispatch assigned	Analog
12	8TAC94	8TAC94	LE/FIRE/EMS/DPW/EMA	853.0125	808.0125	Repeater	On-scene	Dispatch assigned	Analog
13	8TAC94D	8TAC94D	LE/FIRE/EMS/DPW/EMA	853.0125	853.0125	Simplex	On-scene	Dispatch assigned	Analog
14	Ground	GRD70	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Simplex	On-scene	Dispatch assigned	
15	Paging	PAG	FIRE PAGE	TBD	TBD	Simulcast	Countywide	Broadcast of paging	
16	Communications	COM-FIRE1	EMS	TBD	TBD	Simulcast	Countywide	Dispatch to field	

Conceptual Interop – 700 MHz Talk Path Plan



- There are 2 calling and 30 other talk paths designated for: general, EMS, fire, law, mobile data, mobile repeater, and other public service
- Need to coordinate with State and Consortium
- COM Fire1-6 – Repeat of main page
- Radio Positions 4 thru 13 – 700 MHz National Interoperability channels
- Radio Positions 14 and 15 – Spare

Conceptual Interop – 700 MHz Talk Path Plan



Radio Position	Function	Name	Groups	Frequency (Transmit)	Frequency (Receive)	Type	Area of Operation	Notes	Questions/Comments
1	Communications	COM-Fire1	Fire	TBD	TBD	Simulcast	Countywide	Dispatch to field	
2	Communications	COM-Fire2	Fire	TBD	TBD	Simulcast	Countywide	Dispatch to field	
3	Communications	COM-Fire3-6	Fire	TBD	TBD	Simulcast	Countywide	Lcl dispatch to field	
4	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Repeater	Single Site		Digital
5	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Simplex	On-scene		Digital
6	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Repeater	Single Site	Dispatcher assigned	Digital
7	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Simplex	On-scene	Dispatcher assigned	Digital
8	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Repeater	Single Site	Dispatcher assigned	Digital
9	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Simplex	On-scene	Dispatcher assigned	Digital
10	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Repeater	Single Site	Dispatcher assigned	Digital
11	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Simplex	On-scene	Dispatcher assigned	Digital
12	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Repeater	Single Site	Dispatcher assigned	Digital
13	7TBD	TBD	LE/FIRE/EMS/DPW/EMA	TBD	TBD	Simplex	On-scene	Dispatcher assigned	Digital
14	Spare								
15	Spare								
16	Communications	COM-LAW1	LAW	TBD	TBD	Simulcast	Countywide	Dispatch to field	

Discussion



- Coverage
- Talk path plans
 - » Dispatcher assigning TAC
 - » Monitoring TAC
- Interoperability
 - » 800 MHz
 - » 700 MHz
 - » Other