

IMPLEMENTING PLT

WITH MOTOROLA RADIOS



Sarah Byram

CAD Consultant

Halton Regional Police

Ontario, CA

Jeremy Hensley

Communications Manager

Arlington Dispatch Services

Arlington, TX

Halton Region

- City of Burlington
- Town of Oakville
- Town of Milton (fastest growing town in Canada)
- Town of Halton Hills

Safest regional municipality of its size, according to Statistics Canada's Crime Severity Index



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

HALTON REGION

- Land area: 972.83 sq km (375 sq mi)
- Population (2014): 530,994
- Increase in population (2006-2014): 92,102
- Population growth forecast (2011-2021): 131,049 or 26.6%
- Lake Ontario shoreline frontage: 25 km
- Number of hospitals: 4



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

HALTON REGIONAL POLICE SERVICE

- **Annual Police Budget (2013):** \$126.9 million
- **Uniform Strength:** 667
- **Civilian Strength:** 290.5
- **Uniform Strength: Population:** 1:796
- **Calls for Service (2014):** 152,915



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

CITY OF ARLINGTON

Population: 396,394 (2017)

Land Area: 99.5 mi²

Parks: 4,700 ac

Park Trails: 53 mi

Lake Arlington: 1,939 ac

Higher Learning Institutions: 8

School Districts: 5

Hospitals: 3

Calls Taken: 377,489

Calls Dispatched:

- Police: 329,459
- Fire: 47,925
- EMS: 56,154



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

Attractions

- Globe Life Park
- AT&T Stadium
- Texas Live
- Esports Stadium Arlington
- College Park Center
- Six Flags
- Six Flags Hurricane Harbor
- Planetarium Dome Theater
- River Legacy
- Theatre Arlington
- International Bowling Campus

Professional Sports Teams

- Texas Rangers
- Dallas Cowboys
- Dallas Wings

Home of

- American Mensa
- Nuclear Regulatory Commission
- General Motors SUV Plant



The Largest City in Texas that's not the county seat
7th Largest City in Texas
48th Largest City in the U.S.
Largest City in the World w/o public transportation
Two cities within Arlington City Limits



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

MOTOROLA RADIO SYSTEM

- Astro trunked P25 v7.15 (v7.17 Nov 2018) 800 MHz
- 9 channels
 - 1 control channel
 - 1 enhanced data channel
 - 7 voice channels
- 1 zone, 2 sites, 10 simulcast subsites
- DSR core
- Wave server for iOS and Android devices for PTT
- 10 towers for radio and LTE (ask me about PS LTE)



MOTOROLA RADIOS

- 13 radio partners (PS, public works, transit, region)
- 3000 subscribers with 97.9% in-building coverage
- HRPS
 - 800 portables, 300 cars
 - 6 dispatch consoles, 2 supervisor consoles
 - Z400 consoles (soon Z440) MCC7500



Implementing PLT

Sarah.Byram@stsolutionslimited.com

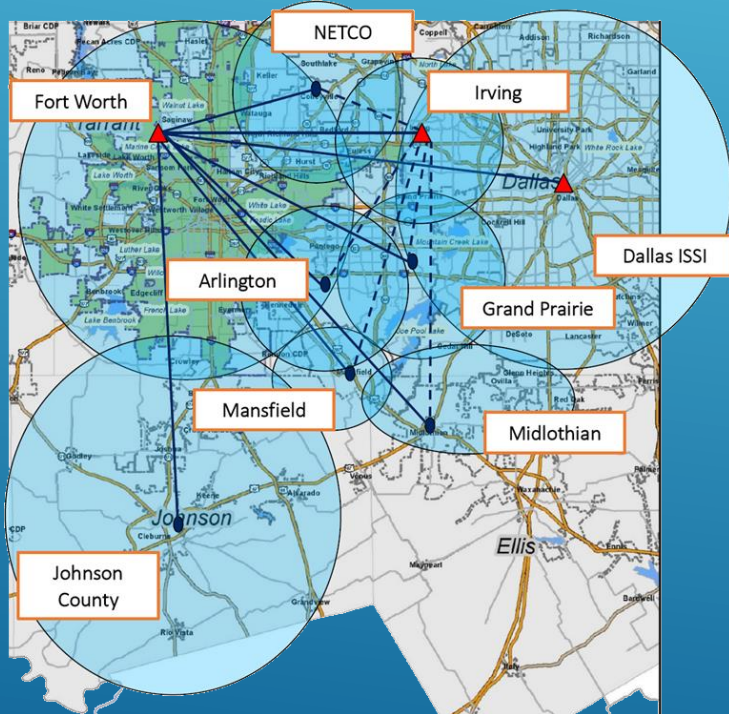
Jeremy.Hensley@arlingtontx.gov

Motorola Astro P25 800Mhz Regional Radio System of Systems

- Version 7.16
- 59 Primary Jurisdictions & Organizations
- 80 Mutual Aid Jurisdictions & Organizations



Arlington



- 3 Towers
- 12 Frequencies
- Dual Dynamic Mode
- 1 Control Channel
- 11 Talk Paths in FDMA
- 22 Talk Paths in TDMA
- 17 MCC7500 Consoles
- 1457 Portable Radios
- 840 Portable Radios w/ Location
- 428 Mobile Radios

Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov



Halton Regional PLT

- CAD 9.3 MR4
- EdgeFrontier
- UNS 4.0.5

Halton GPS for Portables



Arlington PLT

- CAD 9.3 MR6
- EdgeFrontier 6.3
- UNS 5.2.33

Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

MOTOROLA LOCATION SERVICE

- Location servers
 - **IMW 5.x** Replaces UNS. Has many more features to control cadence
 - **UNS 4.x**
- Interfaces
 - Parlay X
 - **REST**
 - **LRRP (only one for UNS 4.x?)**
- Cadence for a single channel
 - 100 radios @ 30 seconds
 - 200 radios @ 60 seconds



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

CONFIGURING PLT



- EdgeFrontier global defines the applicationID (appID) that can be any arbitrary value
- This id needs to be programmed by Motorola. They make a programming/configuration change(s) on the UNS Server to set the appID to match
- EF also needs the socket information for UNS
- Don't forget the firewalls!
- EF sends TAIP sentences to a PLT instance of Tracker which updates CAD

Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

CONFIGURING PLT CONT'D

- Portable radio ids must be trackable and setup in CADDDBM
- Portables can be added to the Personnel record for auto association



Agency ID: [dropdown] Blood Type: [dropdown] Alphanumeric Employee ID: [text: 1887] App: [dropdown]
Phone: [text] E-Mail Address: [text] Sync: [checkbox]
Devices (1)

Primary ...	Trackable	Device ID	Alias	Type	Sub-Type	GPS Protocol	
*	Yes	Arl-P-1887	7212919	HT Radio	HT-Radi...	NMEA	Modify Devices...

Notify: [checkbox]

Device Definition

Device Owner
Agency ID: [text: HRP5]

Devices (758)

Trackable	Device ID	Alias	Type	Sub-Type	GPS Protocol	Description
Yes	10000		HT Radio	Default Sy...	TrimbleTAIP	
Yes	10001		HT Radio	Default Sy...	TrimbleTAIP	
Yes	10002		HT Radio	Default Sy...	TrimbleTAIP	
Yes	10003		HT Radio	Default Sy...	TrimbleTAIP	
Yes	10004		HT Radio	Default Sy...	TrimbleTAIP	
Yes	10005		HT Radio	Default Sy...	TrimbleTAIP	
Yes	10006		HT Radio	Default Sy...	TrimbleTAIP	

Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

CONFIGURING PLT CONT'D

PLT Unit Status monitor added to Monitor Parameters to replace existing Unit Status Monitor



3C2D	AV	AC100497	✓	0:08	4853 THOMAS ALTON BV BUR
		9913 10738	✗		3800 CONSTABLE HENSHAW BV BUR
3C3D	AV	PARSONS, ASHLEY	✓	1:30	923 BRANT ST BUR
		978 9913	✗		3800 CONSTABLE HENSHAW BV BUR

TESTING





- Officers in and out of car
- Officers assigned and available
- In building, under bridges, in woods, etc
- Turning on and off radio
- Emergency activation while assigned and available



TRAINING



30 minutes one-on-one and provided Tips document

-  GPS is being tracked
-  GPS is stale (no signal in 3 minutes)
-  GPS is not reliable (no signal in 30 minutes)
-  GPS is unknown (no trackable GPS device)

CUTOVER



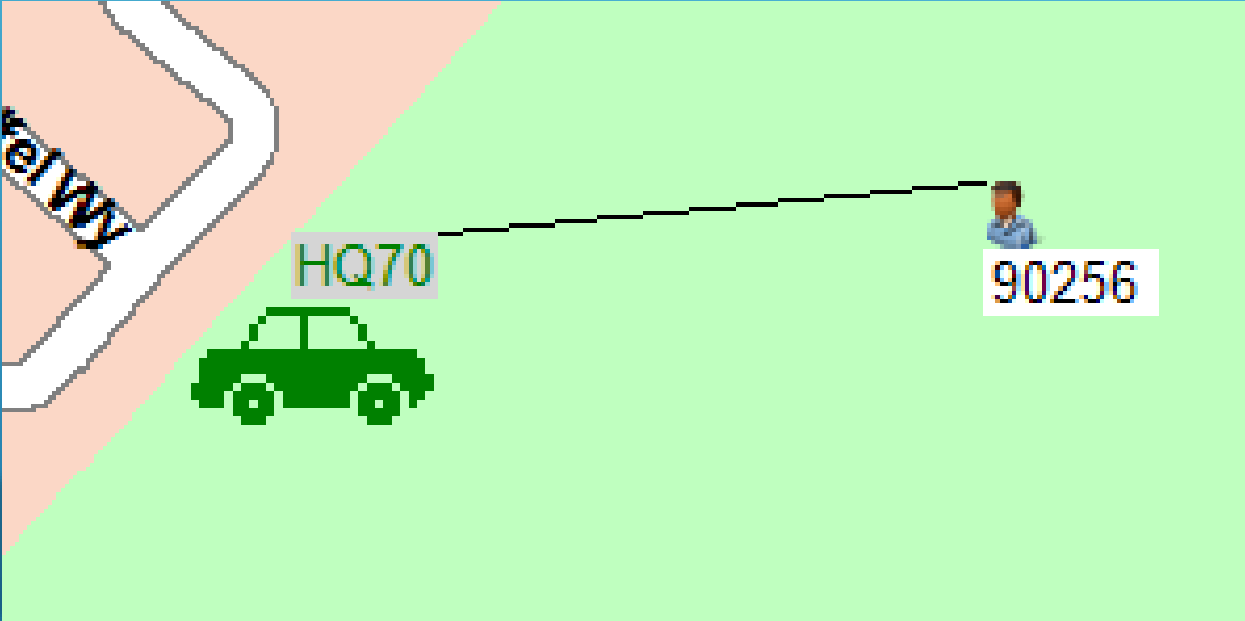
- One week before, we briefly turned on the production PLT system
- Went LIVE with emergency officers at 30 seconds and the rest at 60 seconds
- Quickly realized 60 seconds was too long. No results yet as to how much data is spilling into voice channels

Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

IT'S PRETTY COOL!



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov

NEAR FUTURE



- Implement polling of a radio from CAD
- Minimize PLT monitor selection issues

		K94	AV	AC100479		125:56	2140 WINDING WY BUR
		9425	10134				PROSPECT ST BUR

CHALLENGES

- Tracking an employee effects ALL clients on that Dispatch Group. It is NOT workstation based
- Vehicles and portables have different cadences
- Unable to window map on a tracked employee. Fortunately, windowing upon Unit Emergency works!
- Enable/Disable Employee Tracking is written to the unit history and, if added to an event, are NOT system comments
- Enhanced data is required in order for PLT to be useful
- PLT does not automatically remove a portable that is no longer tracking





Questions?



Implementing PLT

Sarah.Byram@stsolutionslimited.com

Jeremy.Hensley@arlingtontx.gov