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Evolving the Fire Service: An Operational Review

Executive Standing Committee
December 15, 2014

Committee of the Whole
January 27, 2015

February 3, 2015

March 10, 2015

March 25, 2015

March 31, 2015

Operational Review

A strategic planning process to enhance fundamental decision-making regarding the evolution of HRFE.

Initiated in June 2012 with a Realignment of Non-union Staff

- eliminated duplicated management processes and activities
- eliminated one entire senior rank, reducing management (Chief Officers) by 25 per cent
- aligned non-union administrative structure with other Business Units
- provided more role clarity by aligning HRFE operations into six divisions
- strategically put decision making and appropriate responsibility in the field, closer to front-line operations
- reorganized volunteer rank structure to align with career service giving one unified command and control structure across HRM



Overview

The report recommendations:

- lay the groundwork for moving ahead with changes that will allow better decision making;
- address immediate service delivery challenges, both in the core and in the rural context;
- propose no reductions in staff and no reductions in fire coverage; and
- are intended to reallocate existing resources to make lasting improvements to fire services.



Bottom Line

- uses current staff and apparatus more effectively and efficiently to meet current service delivery targets
- aligns staffing model with targets - each apparatus staffed with a crew of 4
- reallocation of staff in the core provides for needed staffed aerals in Dartmouth and Halifax



Background

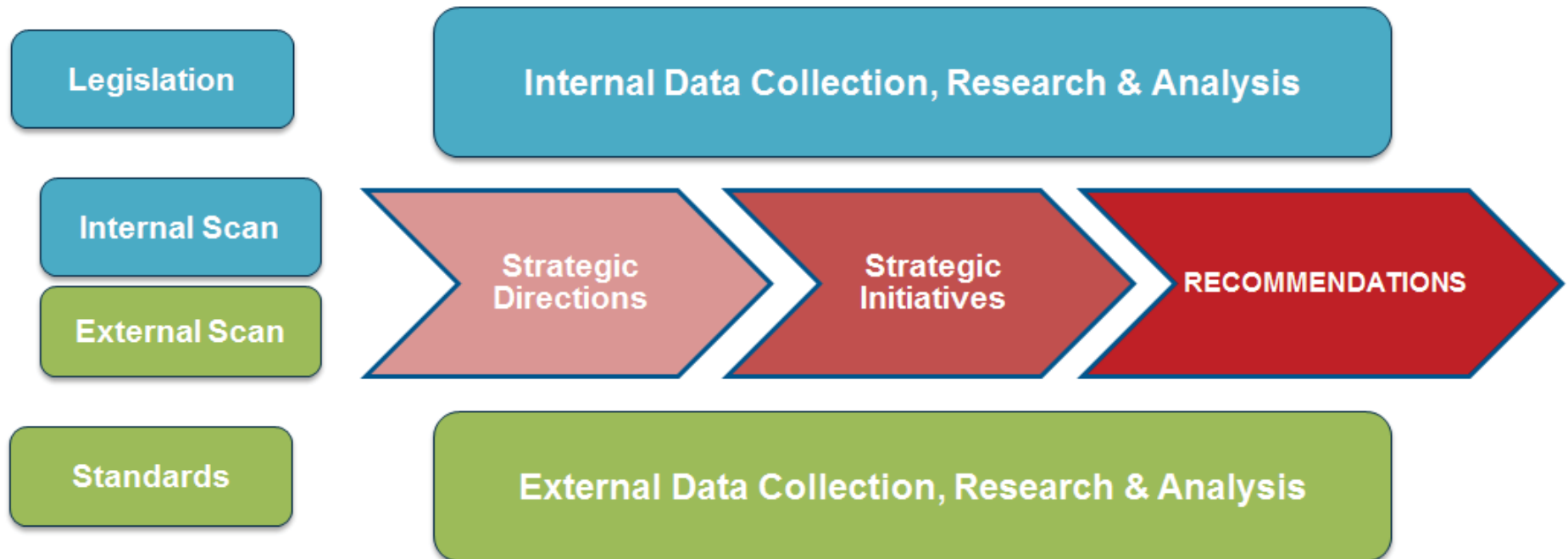


Master Fire Plan – Operational Review

- Steering Committee struck in 2012
- engaged employees, key stakeholders, and subject matter experts
- intended to provide Regional Council with advice on deployment of apparatus, siting of fire stations, and safe, effective staffing levels
- remains a work-in-progress
- work done to date informs the recommendations in this report



Master Fire Plan Development



Studies and Research

Scan	Purpose
Building Condition and Energy Assessment	Provided a comprehensive review of the condition and utilization of fire stations in support of HRM's long term asset management plan.
Technology Roadmap	Defined and prioritized projects to modernize technology in HRFE.
Fire Underwriters Survey (FUS)	Provided information about the strengths and potential weaknesses in fire defenses with recommendations to deal with issues.
Fire Dispatching Operation Review	Reviewed current 9-1-1, fire, and emergency dispatch operations processes and technologies.
Fire Safety Inspection Review	Reviewed the current processes in place to provide legislated fire inspections under the Fire Safety Act and Fire Safety Regulations.
By-Law M-100 Review	Reviewed the current processes in place to provide legislated fire inspections and support M-100.



What We Learned

- technology is lacking and requires significant investment to support better decision-making
- very low completion of legislated inspections
- current staffing model is not aligned with targets
- gaps and overlaps in Fire Service coverage demands rethinking station locations and service delivery targets
- rural areas not well served by current volunteer realities



Strategic Directions

Category	Descriptor
Personnel Administration	Establish consistent, transparent and appropriate processes and programs to select, develop and deploy staff.
Physical Assets	Evaluate and determine fleet, facilities, equipment, and system requirements respective to operational needs.
Policy Rationalization	Review, refine and develop guidelines, policies and procedures that meet organizational needs and legislative requirements.



Recommendations



Technology



Recommendation 1

- Endorse the 5-Year Technology Roadmap objectives in the Discussion section of this report and include the year one objectives (Data Management and Process Review, HRFE Dispatch Project, and HRFE FDM Review and Enhancements) in the 2015/2016 capital budget.



Investment in Technology

- technology gaps have emerged due to a 10-year trend of underinvestment
- technology helps to ensure that firefighters respond to emergencies faster and have the right equipment at their disposal
- current software and communications hardware is not meeting operational and strategic planning needs



Technology Outcomes

- improve incident response times
- provide consistent and reliable data
- enable evidence-driven decision making
- improve on-scene safety
- facilitate timely, coordinated fire inspections
- improve station staffing effectiveness
- enhance the management of fleet and station assets



Technology Roadmap Budget



Staffing and Stations



Current Staffing Model

- 10 career stations (24/7 career firefighter coverage)
- 8 composite stations (24/7 career firefighter coverage augmented by volunteer firefighters)
- 9 E Platoon stations (career firefighters, weekday/daytime coverage | volunteer firefighter evening/weekend/statutory holiday coverage)
- 25 volunteer stations (24/7 volunteer firefighter coverage)



Station and Staff Reconfiguration

- relocate stations to improve service delivery and reduce overlaps
- decommission stations and reallocate resources to improve overall service delivery
- consolidate stations to improve effectiveness and efficiency of service



Reconfiguration Factors

- physical location and capacity to service area (including gaps/overlaps in service coverage).
- availability of personnel (volunteer, career or combination) to staff the station
- availability of apparatus to equip the station
- station state of repair and energy consumption



Mapping Criteria

- response times were modelled using corporate GIS software and maps
- modelling adheres to posted speed limits
- travel times were audited and validated using actual dispatch data and real time driving



Urban Staffing and Stations



Recommendation 2

- Endorse the consolidation of equipment, career personnel and volunteer personnel in the core fire stations, to more effectively deliver fire services, and authorize staff to decommission Stations 4 (Lady Hammond), 11 (Patton Road) and 13 (King Street).

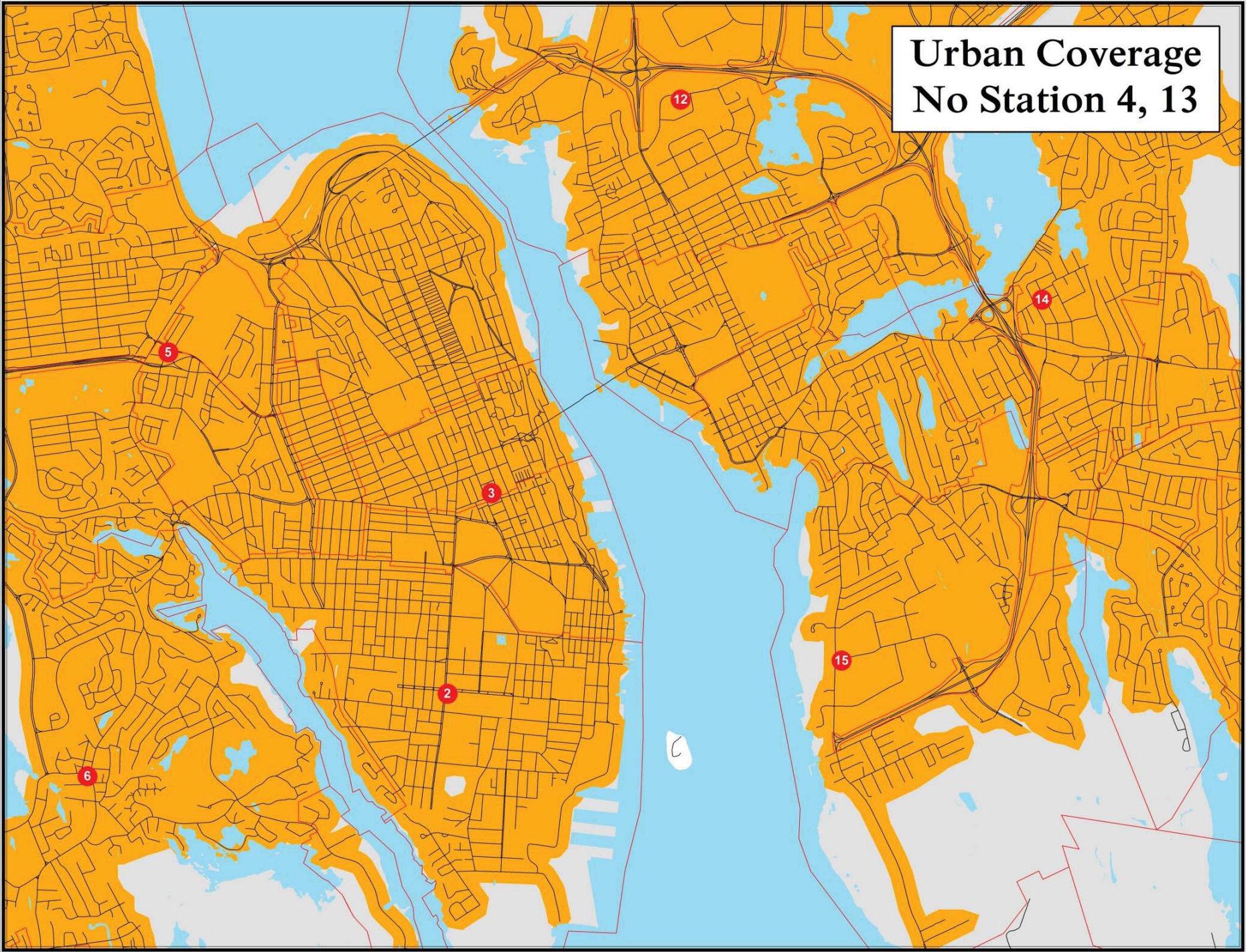


Consolidation & Decommissioning (Stations 4, 11 & 13)

- all fire risks will remain covered
- response times will not be affected
- reassigned personnel will crew two aerial apparatuses (one on each side of the harbour)
- overtime overage costs will be reduced (officer consolidation – 1 captain is needed per station)
- fire protection classifications (insurance underwriter ratings) will remain unchanged
- building operating and capital costs will be avoided

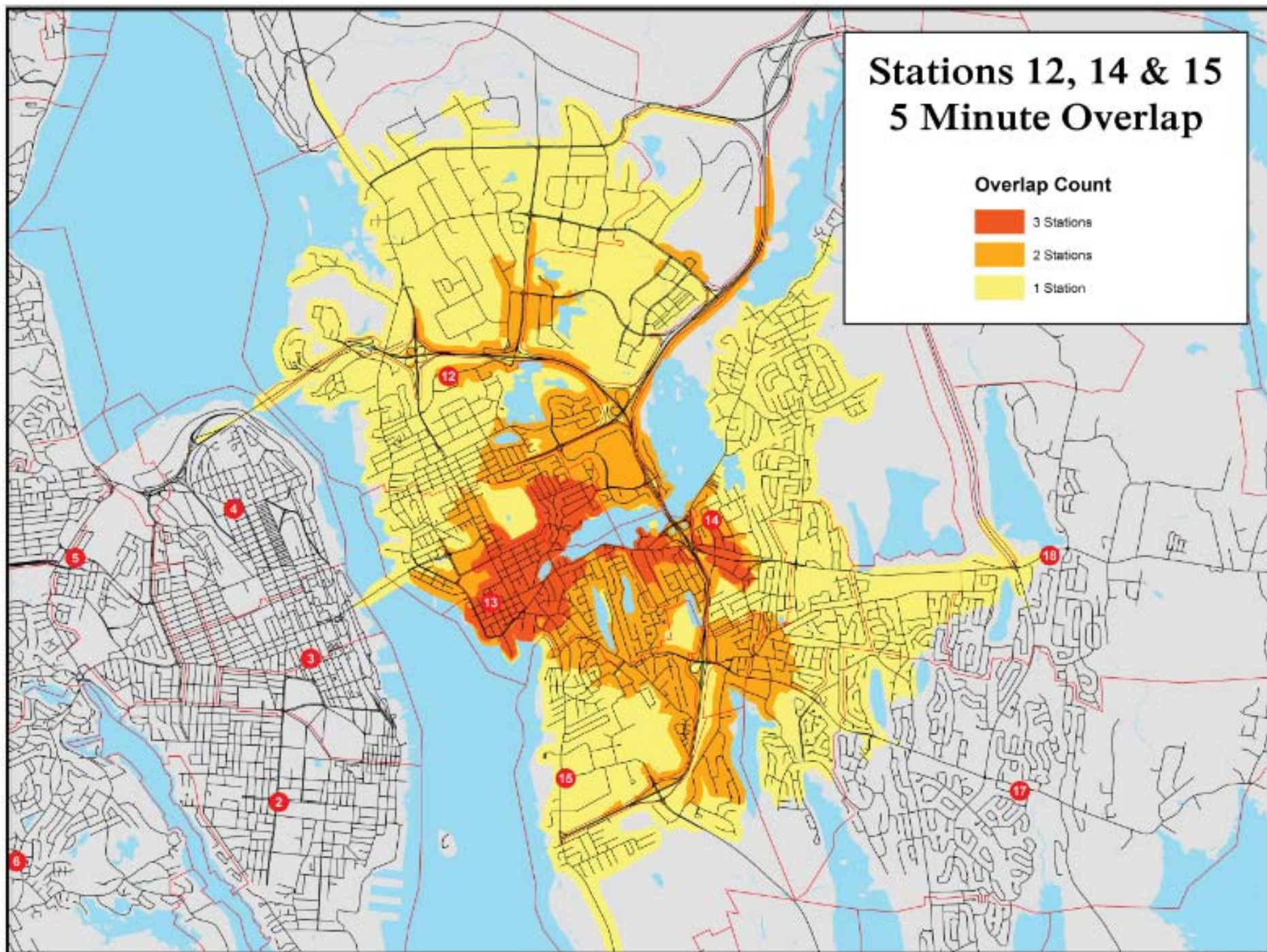


Urban Coverage
No Station 4, 13



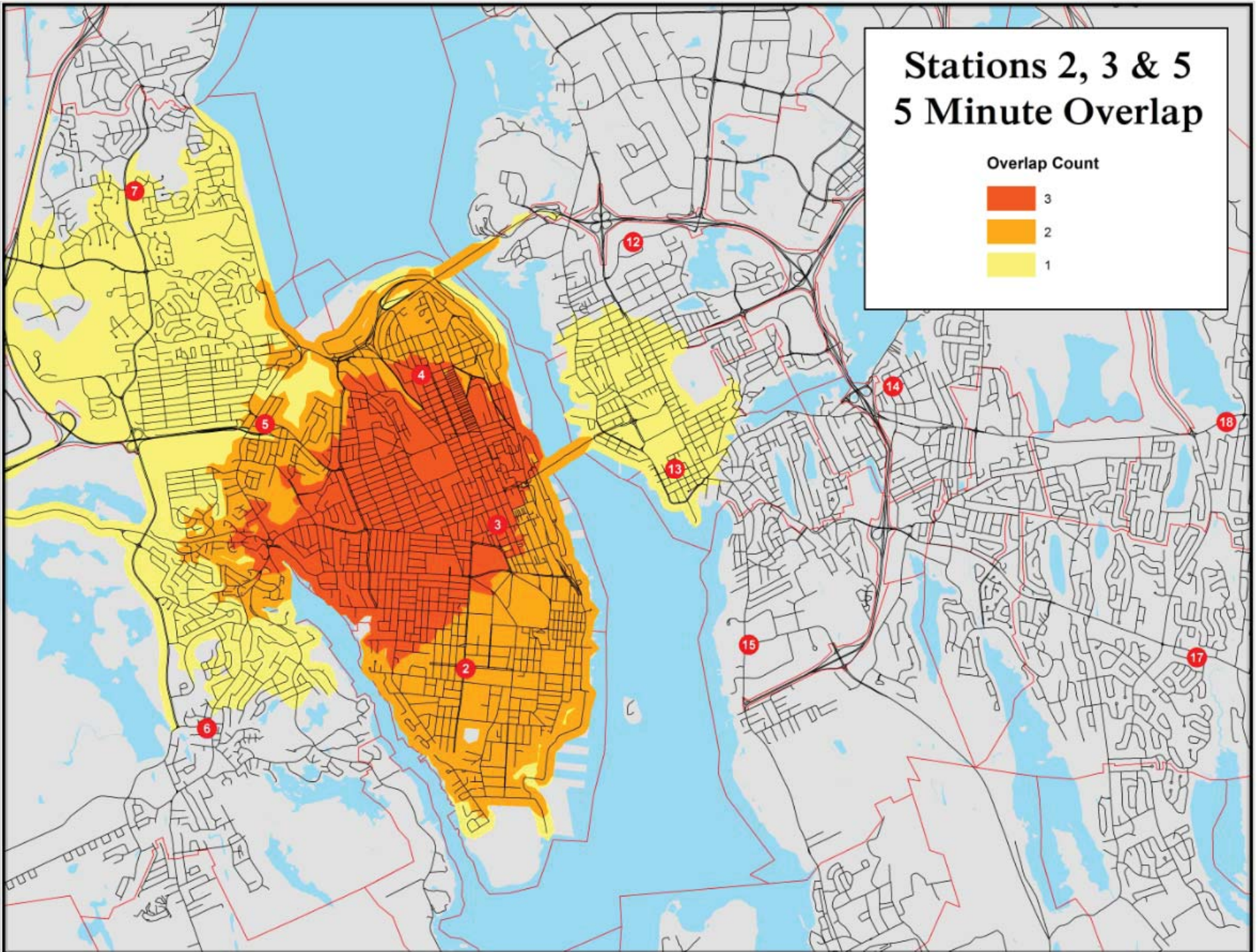
Stations 12, 14 & 15 5 Minute Overlap

Overlap Count

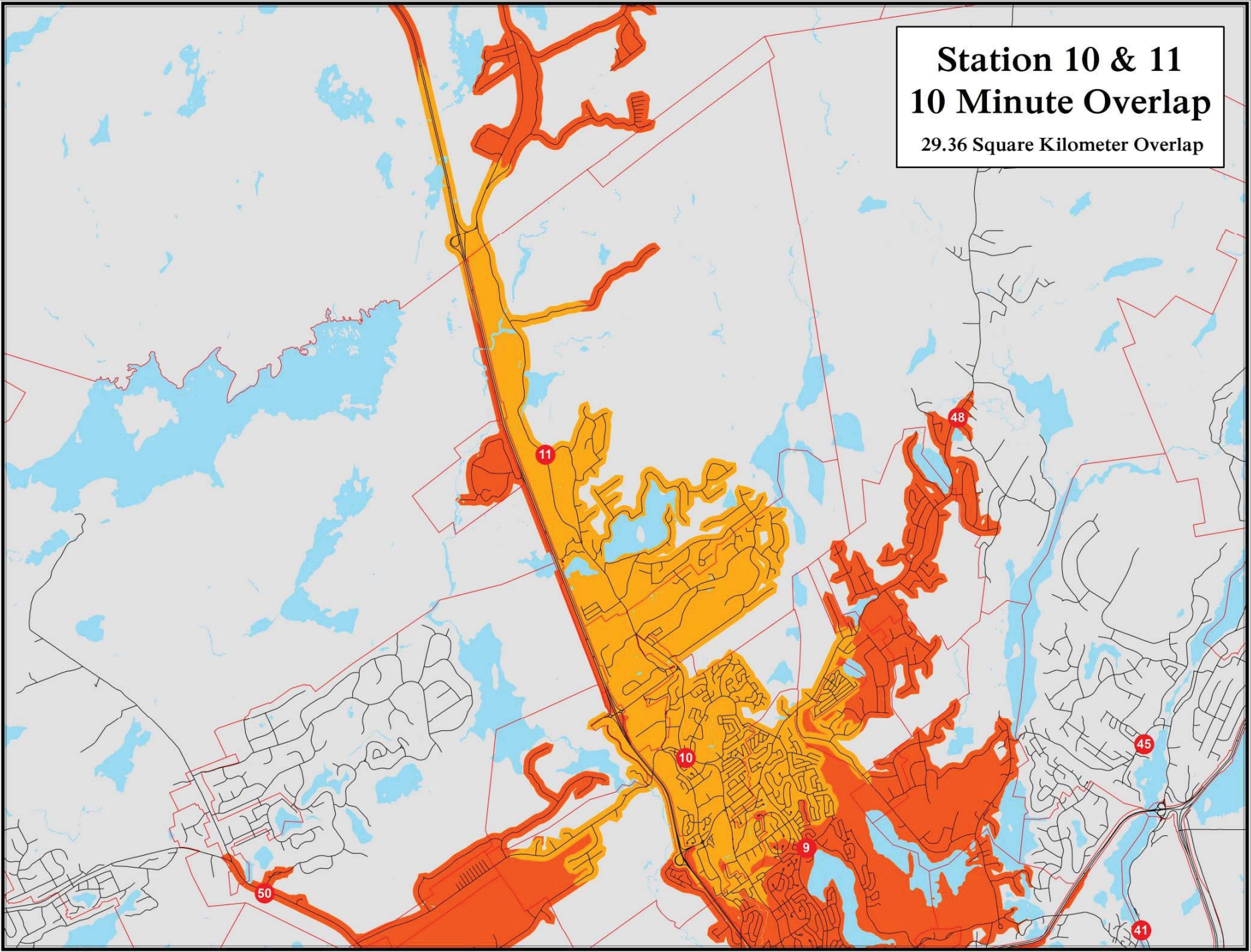


Stations 2, 3 & 5 5 Minute Overlap

Overlap Count



Station 10 & 11
10 Minute Overlap
29.36 Square Kilometer Overlap



Recommendation 3

- Authorize staff to initiate the process to improve coverage by relocating Stations 8 (Bedford) and 9 (Sackville) to increase coverage and eliminate gaps that exist due to the growth of Bedford West/Hammonds Plains.



Relocation & Decommissioning (Stations 8 and 9)

- RP+5 describes Bedford West/Hammonds Plains as a “growth area”
- projected build out capacity, based upon master plan projects, potential large infill projects and potential vacant serviceable lands supports projections of 10,000 to 12,000 new fire risks

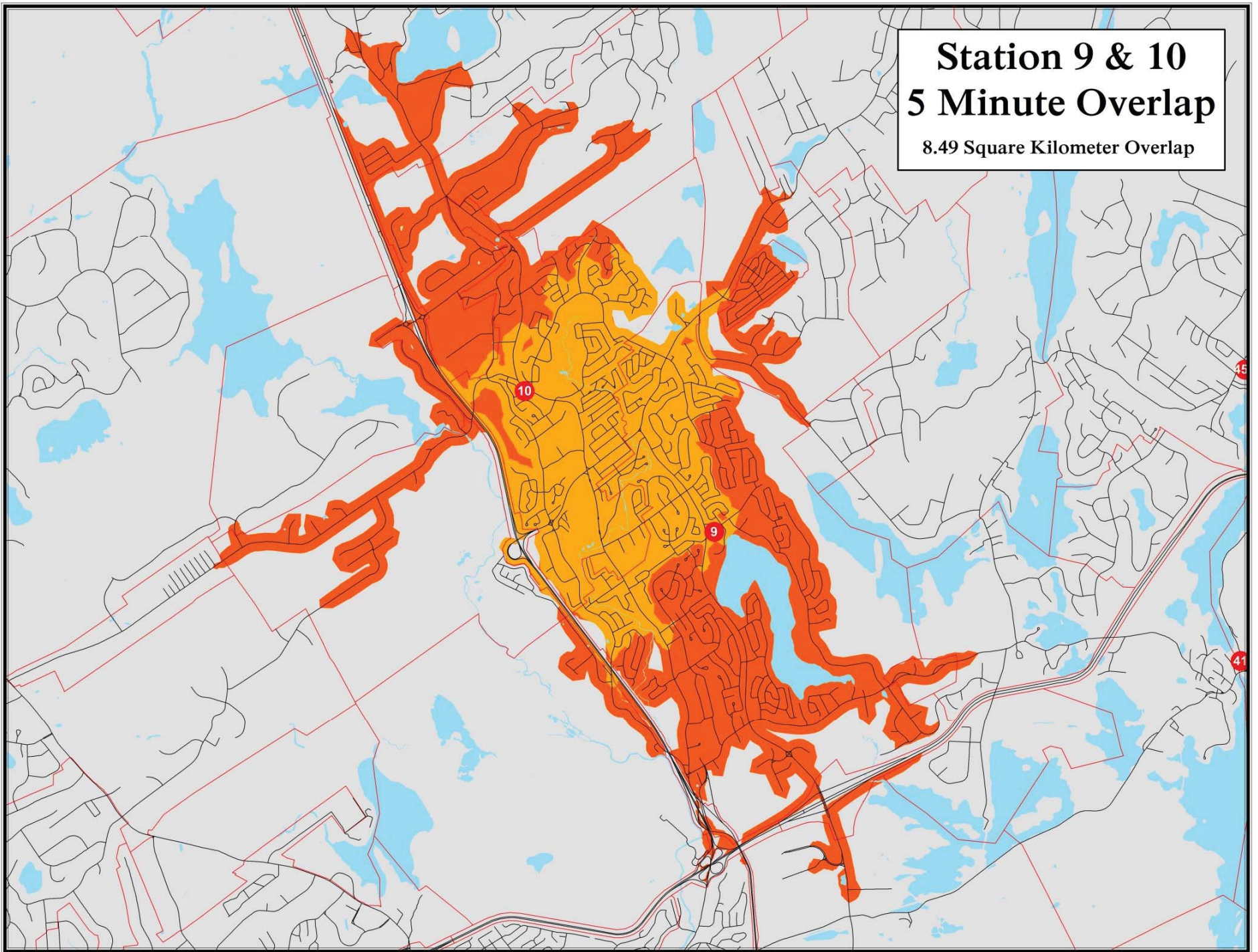


Relocation & Decommissioning (Stations 8 and 9)

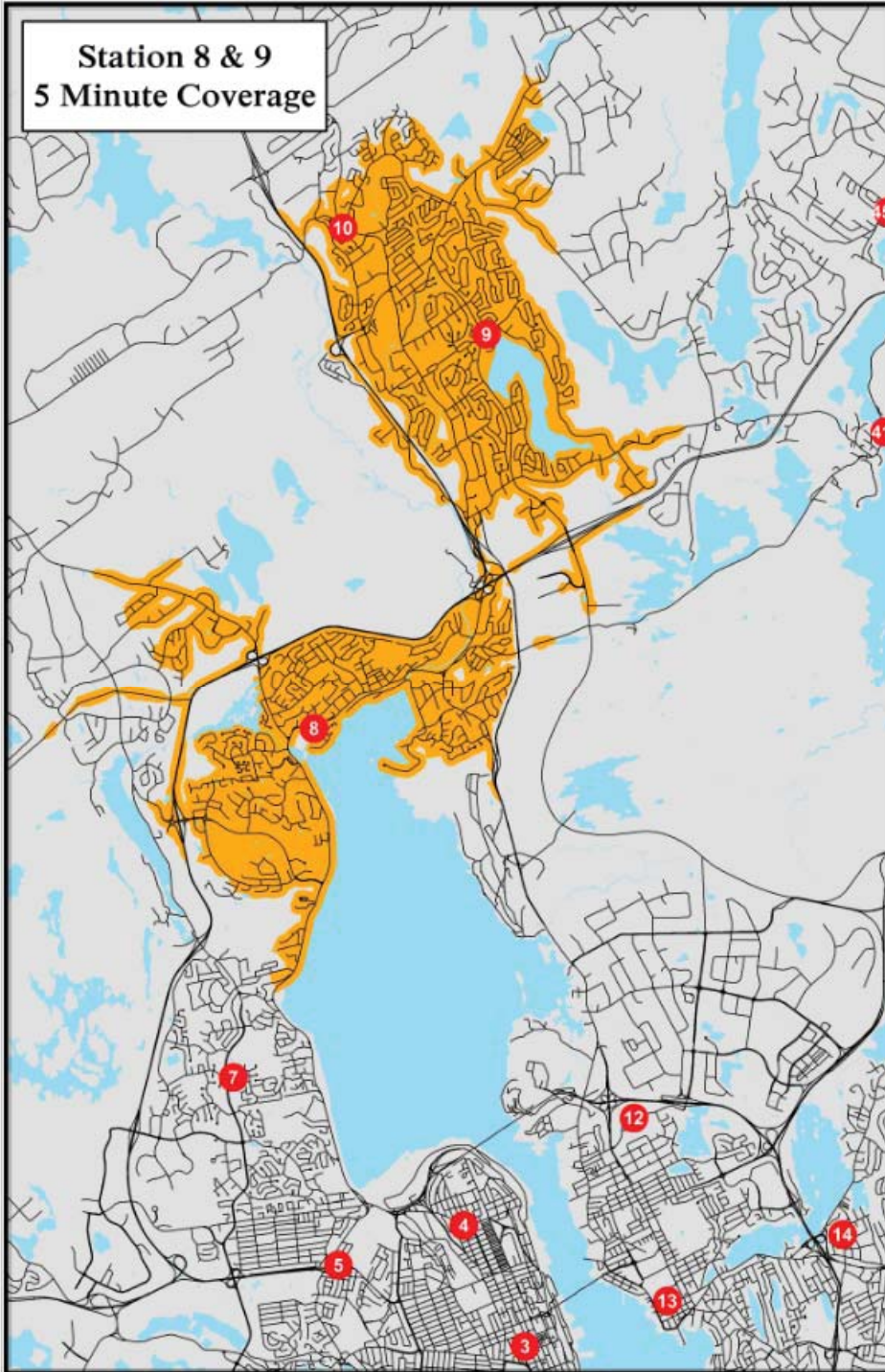
- a large majority of fire risks will remain covered
- virtually all response times will remain unaffected
- current gaps in fire protection will be eliminated (Dartmouth Road)
- projected gaps in fire protection will be eliminated (Bedford West/Hammonds Plains)
- fire protection classifications (insurance underwriter ratings) will remain unchanged or improve
- building operating and capital costs will be avoided



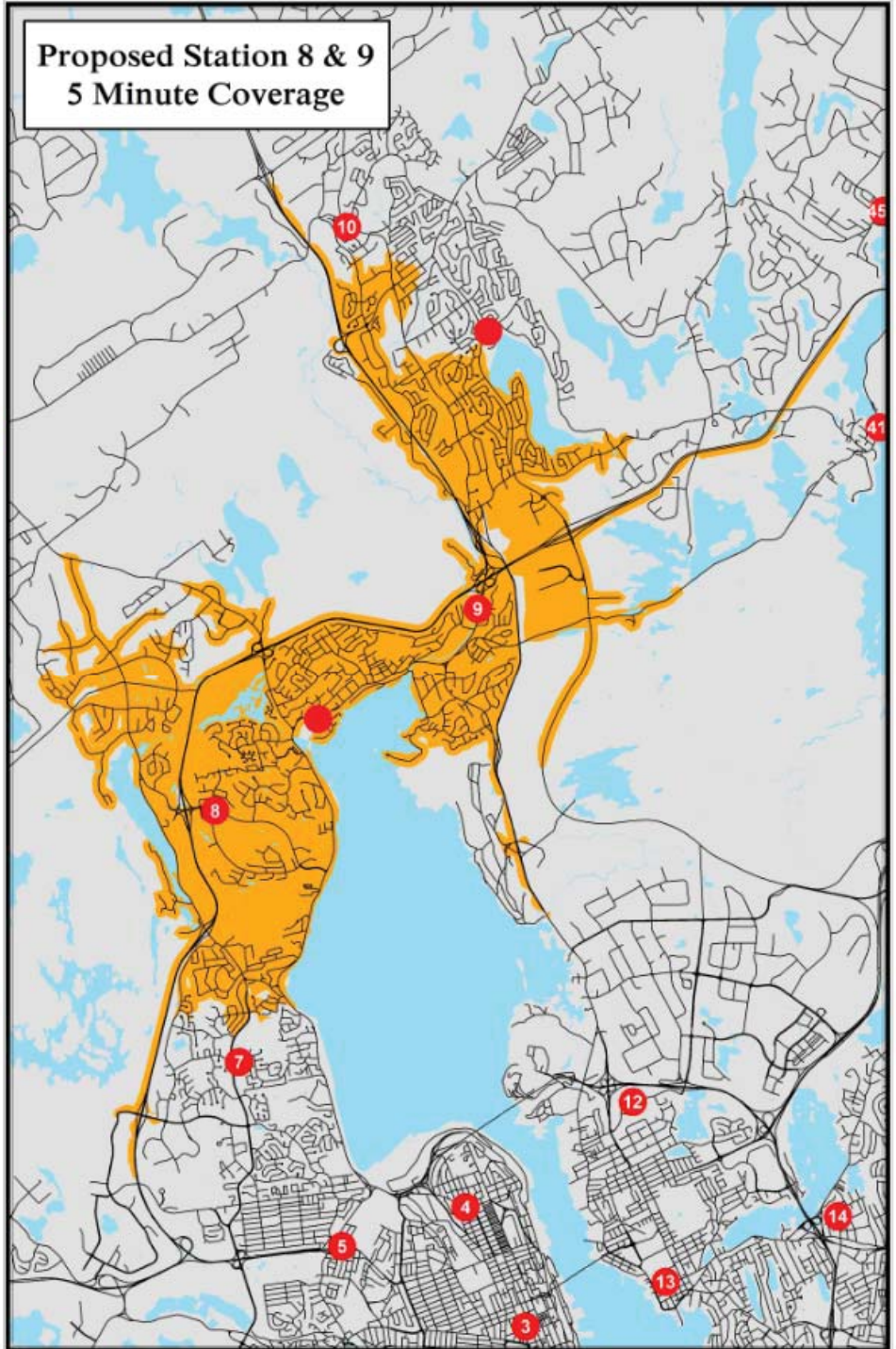
Station 9 & 10
5 Minute Overlap
8.49 Square Kilometer Overlap



**Station 8 & 9
5 Minute Coverage**



**Proposed Station 8 & 9
5 Minute Coverage**



Rural Staffing and Stations



Factors Affecting Rural Resource Allocation

- volunteer pool size (station specific)
- station location (relative to nearby career-staffed and volunteer-staffed stations)
- availability of coverage from neighbouring communities (reciprocal coverage agreements under MOUs)
- assessment of fire risk within the station's catchment area (based on population density, land usage, number of buildings and associated required fire flows, and historic call volumes)



Recommendation 5(a)

- Maintain E Platoon complements, as per the Discussion section of the report and as set out in Attachment 1 (proposed staffing model).



Career Response Coverage

- reduced E Platoon stations from 15 to 9
- low call volumes to former E Platoon stations (as few as 1 day-time call every 6 weeks)
- career firefighters stationed at neighbouring E Platoon stations will now provide support

Volunteer Station	Initial Career Response
20 (Lawrencetown)	23 (Chezzetcook) and 24 (Musquodoboit Harbour)
21 (Lake Echo)	18 (Westphal) and 23 (Chezzetcook)
47 (Goffs)	45 (Lakeview/Fall River/Windsor Junction), supplemented by Enfield Fire Department
55 (Seabright)	54 (Shad Bay) and 65 (Upper Tantallon)
56 (Black Point)	65 (Upper Tantallon)
62 (Harrietsfield-Sambro)	6 (Spryfield) and 63 (Sambro)



E Platoon Reconfiguration

- allows for four career firefighters at every E Platoon station (consolidation of personnel)
- ensures crews are able to initiate search and rescue immediately upon arrival at a fire emergency
- facilitates regular training by E Platoon career staff (at least four personnel required for many training drills)



Recommendation 5(c)

- Decommission volunteer sub-stations 25 (Ostrea Lake-Pleasant Point), 31 (East Ship Harbour), 36 (Meaghers Grant), and 43 (Grand Lake – Oakfield).



Rural Decommissioning (Stations 25, 31, 36 and 43)

- insufficient pool of volunteer firefighters (5 in total)
- low call volumes (between .69 and 1.6 calls per week per station)
- overlapping fire protection coverage available from neighbouring fire stations
- low assessment of fire risk (based on population density, land usage, and number of fire risks)



Rural Decommissioning (Stations 25, 31, 36 and 43)

Station	Calls Per Week	Volunteers	Overlapping Catchment Areas
25 (Ostrea Lake)	0.7	4	Station 24 (Musquodoboit Harbour) and Station 26 (Oyster Pond and Area) overlap the Station 25 (Ostrea Lake – Pleasant Point) catchment area
31 (East Ship Harbour)	0.73	0	Station 30 (Tangier) overlaps the Station 31 (East Ship Harbour) catchment area
36 (Meaghers Grant)	0.69	1	Station 24 (Musquodoboit Harbour) and Station 38 (Middle Musquodoboit) overlap the Station 36 (Meaghers Grant) catchment area
43 (Grand Lake - Oakfield)	1.6	0	Station 42 (Wellington), Station 45 (Lakeview/Fall River/Windsor Junction) and Enfield Fire Department overlap the Station 43 (Grand Lake – Oakfield) catchment area

* Call volumes calculated for 2010-2014 period (27-48% of recorded call outs were medical related).

Rural Decommissioning (Stations 25, 31, 36 and 43)

- ‘pulling back the curtain’ – public transparency
- fire protection classifications (insurance underwriter ratings) will remain unchanged
- building operating and capital costs will be avoided



Service Levels



Service Delivery Levels (2006)

- Regional Council approved service delivery level targets for fire and emergency services in 2006
- approved targets pertain to dispatch time, firefighter turnout time, response time and staff complement
- two different sets of service delivery level targets were approved (<100 persons per km² / >100 persons per km²)



POLULATION DENSITY OF 100+ PERSONS PER SQUARE KM

Type	Particulars
Dispatch	Dispatch time of 60 seconds.
Turnout	Staff turnout time of 60 seconds.
Response	Response time of 5 minutes or less (90% of the time) for single unit responses, or for the first arriving unit of a multiple-unit response. Response time of 8 minutes or less (90% of the time) for subsequent arriving units of a multiple unit response or alarm assignment.
Complement	A full alarm assignment consists of 2 engines, 1 aerial, and 1 tactical unit, for a total of 12 personnel.
Incident Officers	An incident safety officer and a dedicated incident commander <u>be</u> dispatched on full alarm assignments, with no response time criteria.
Subsequent Alarm	A subsequent alarm assignment consists of a minimum of 2 units (configuration acceptable to incident commander) for a total of 8 additional personnel.



POLULATION DENSITY OF LESS THAN 100 PERSONS PER SQUARE KM

Type	Particulars
Dispatch	Dispatch time of 60 seconds.
Turnout	Staff turnout time of 60 seconds. Volunteer turnout time of 6 minutes or less (90% of the time).
Response	Response time of 10 minutes or less (90% of the time) for single unit responses, or for the first arriving unit of a multiple-unit response.



Recommendation 6

- Direct staff to return to Council with a revised Fire Service Delivery Target and Administrative Order 24 no later than March 2016, following further detailed analysis of the 2006 Service Delivery Standard.



Amend Admin Order 24

Amendment of Admin Order 24 is required to take into account the full range of HRFE operations including:

- fire prevention (fire inspections & code enforcement, fire investigations, plans examination, and public fire safety education)
- fire suppression and rescue
- technical rescue (auto extrication, machinery, ice-water, high and low angle rope, trench, and confined space rescue, USAR – urban search & rescue)
- hazardous materials response including CBRNE (chemical, biological, radioactive, nuclear and explosive)
- pre-hospital emergency medical services, and emergency preparedness



Service Level Targets

- need to revisit service delivery level targets
- updated targets need to account for a range of fire tactical priorities, including life safety, incident stabilization, and property conservation
- revised targets should reflect evolving regional, national and international fire protection approaches



Financials



Financial Implications

Cost Savings (2015/2016)

- \$787,000 | Potential overtime overage savings resulting from proposed E platoon realignment and the proposed decommissioning of three urban core career fire stations
- \$214,000 | Building Maintenance savings realized from the proposed decommissioning of four volunteer and three career fire stations.
- \$3,027,100 | Potential capital cost avoidance over the next 10 years identified in relation to proposed decommissioning of four volunteer and three career fire stations and the relocation of two career fire stations.
- \$105,000 | Vehicle Maintenance savings realized from taking seven engines out of service as a result the proposed decommissioning of four volunteer and three career fire stations



Financial Implications

Additional Costs (2016/2017)

- \$252,100 | Additional first year cost of staffing Station 28 (Sheet Harbour) to E platoon level
- \$10-14 million | Additional indicative cost to build two new fire stations. This projected cost is net of the \$1million cost for land acquisition



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HALIFAX

Questions?