



STANDARD OF COVER

APRIL 11, 2024

Fredericton

Standard of Cover

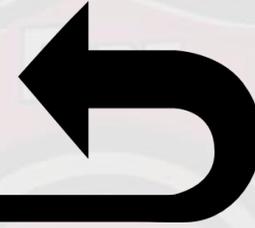
Metrics for Current and Future State

What is a Standard of Cover

Three Lenses to Consider Standard of Cover

Preparing for the Future

Bottom Line



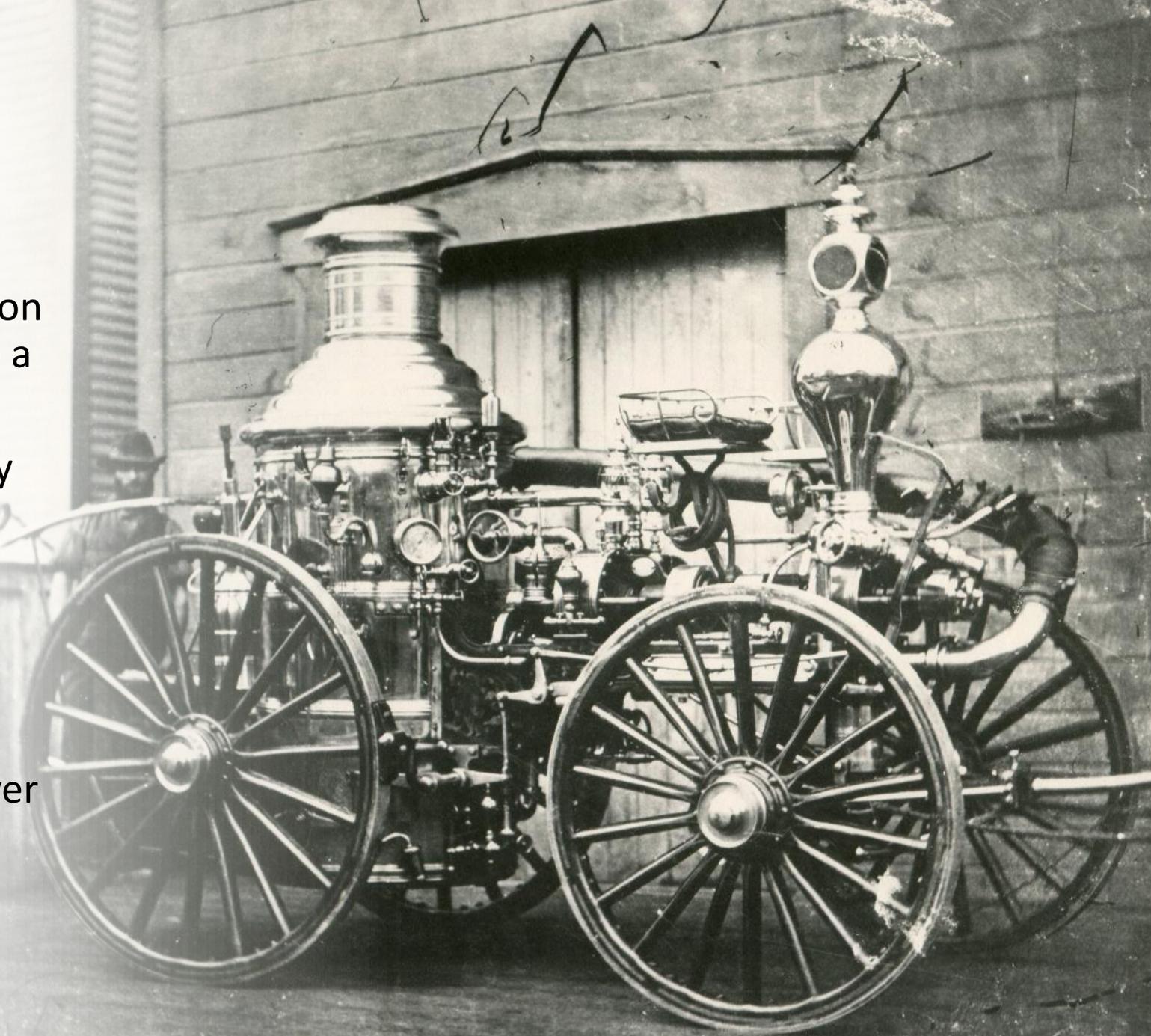
Up Front

1. Fredericton's Standard of Cover defines the level of service provided to our residents, businesses and guests.
2. To provide a responsible level of service now and in the future, the quantity and location of fire stations may need to be adjusted.

From a town to a city:

- For over two hundred years, Fredericton has been growing and developing into a smart and sustainable city.
- All phases of growth in our community were important and came with their unique opportunities and challenges.
- The Fredericton Fire Department has adapted several times to meet the changing needs of the city.
- The last major adaptation occurred over 45 years ago.

The future is bright. Let's be ready.



Today's reality

- Your Fredericton Fire Department protects:
 - Lives of residents (70,000 +), daily population swell (13,000), and guests
 - Property: \$10.15B assessed property, plus other insurable and non-insurable
 - Environment: 208 km² +, including forest and wetlands
- from threats such as:
 - Fires
 - Accidents (workplace, traffic, home & community)
 - Hazardous materials releases
 - Climatic events
 - Intentional incidents



34,000 +



\$10.15B +



208 + km²

Today's reality

- Fires

- 600 + per year (combined)
- 30 + structure fires are the ones that are publicized
- Early delivery of quality service saves homes, property, parks, and forestland



600 +

- Motor vehicle accidents

- The FFD is the primary service provider for MVCs (530 in 2023)
- Attend moderate to major MVCs, not fender-benders
- Services include detanglement, primary medical care, and protection of the environment



**530 in
2023**

What will define the next chapter for your Fredericton Fire Department?

- A fire department's service model must adapt to the risks in their communities.
- While residents and firefighters alike will enjoy innovations in building design and developments in safety technology, both will continue to encounter challenging risks:
 - Lightweight construction
 - Tall/long apartment buildings
 - High-density building arrangements
 - Underground parking
 - Electric vehicles
 - Petroleum-based fabrics and flammable surfaces
- **Densification amplifies these risks.**



Municipal Plan Growth Nodes

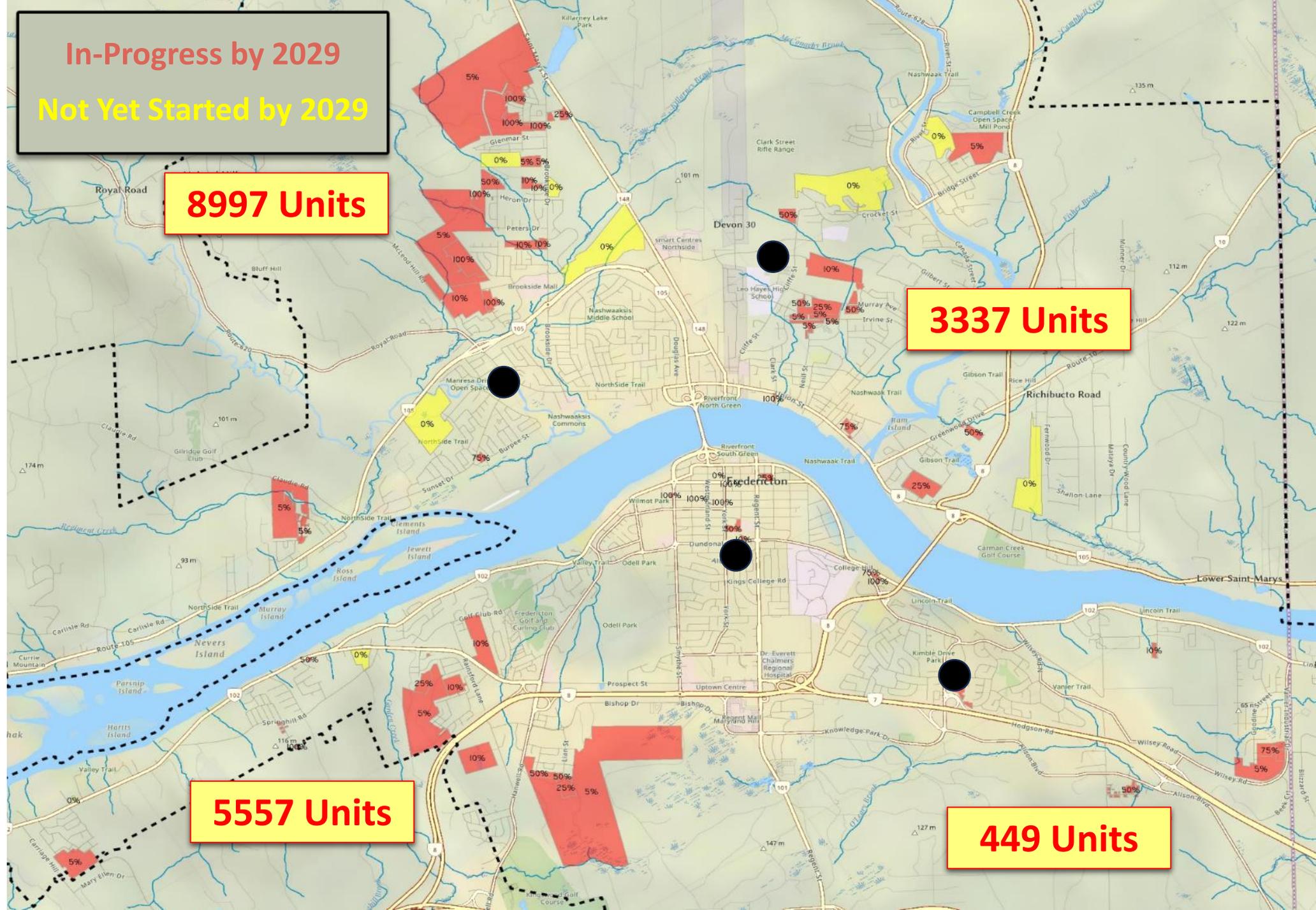
In-Progress by 2029
Not Yet Started by 2029

8997 Units

3337 Units

5557 Units

449 Units



2024 Master Fire Plan Process:

- 
- August 2023: (Met with council) Fire Service Review, Community Risk Assessment

- 
- Early 2024: Reviewing data, drafting framework

- 
- **YOU ARE HERE**

- 
- Late 2024: Completion and Presentation of Proposed Master Fire Plan

Standard of Cover

- Systematic approach to defining service levels and setting expectations
- Directly influences:
 - Quantity and location of fire stations and apparatus
 - Staffing patterns
 - Resource procurement and allocation
 - Strategic planning and policy development



Who are the stakeholders for Fredericton's Standard of Cover?



Council

**Standard
of Cover**

**Delivery
of
Service**



Standard of Cover Through Three Lenses:

Response Times

- Timely interventions by the fire department saves lives, property, and the environment

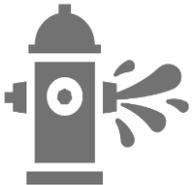
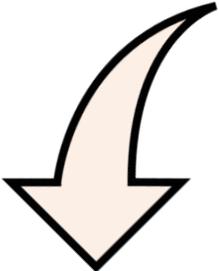
Return On Investment

- A healthy service delivery model strengthens the local economy

Insurance

- Proper fire station arrangements save business and residents money

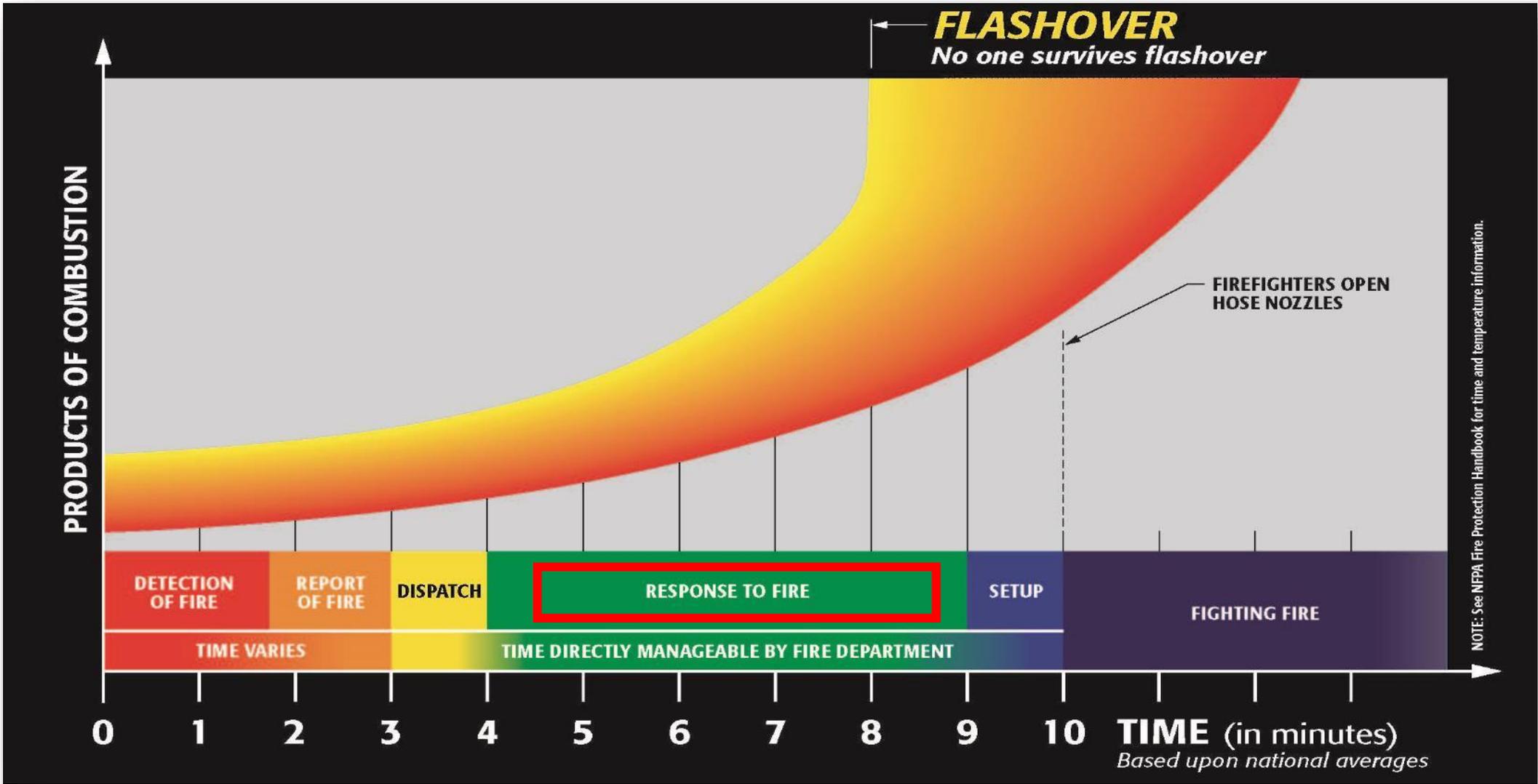
Standards of Cover regularly refer to RESPONSE TIMES



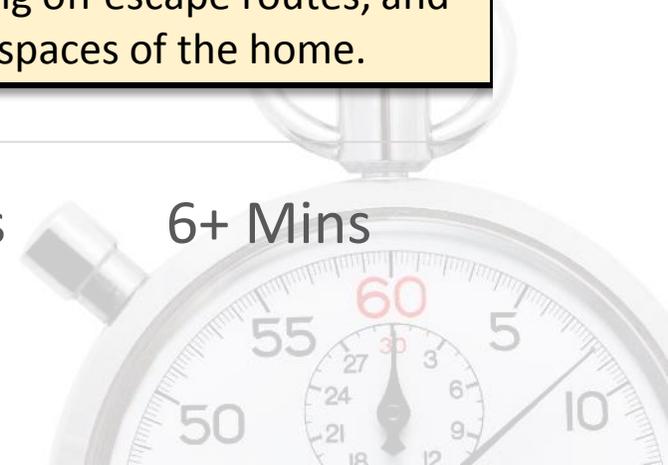
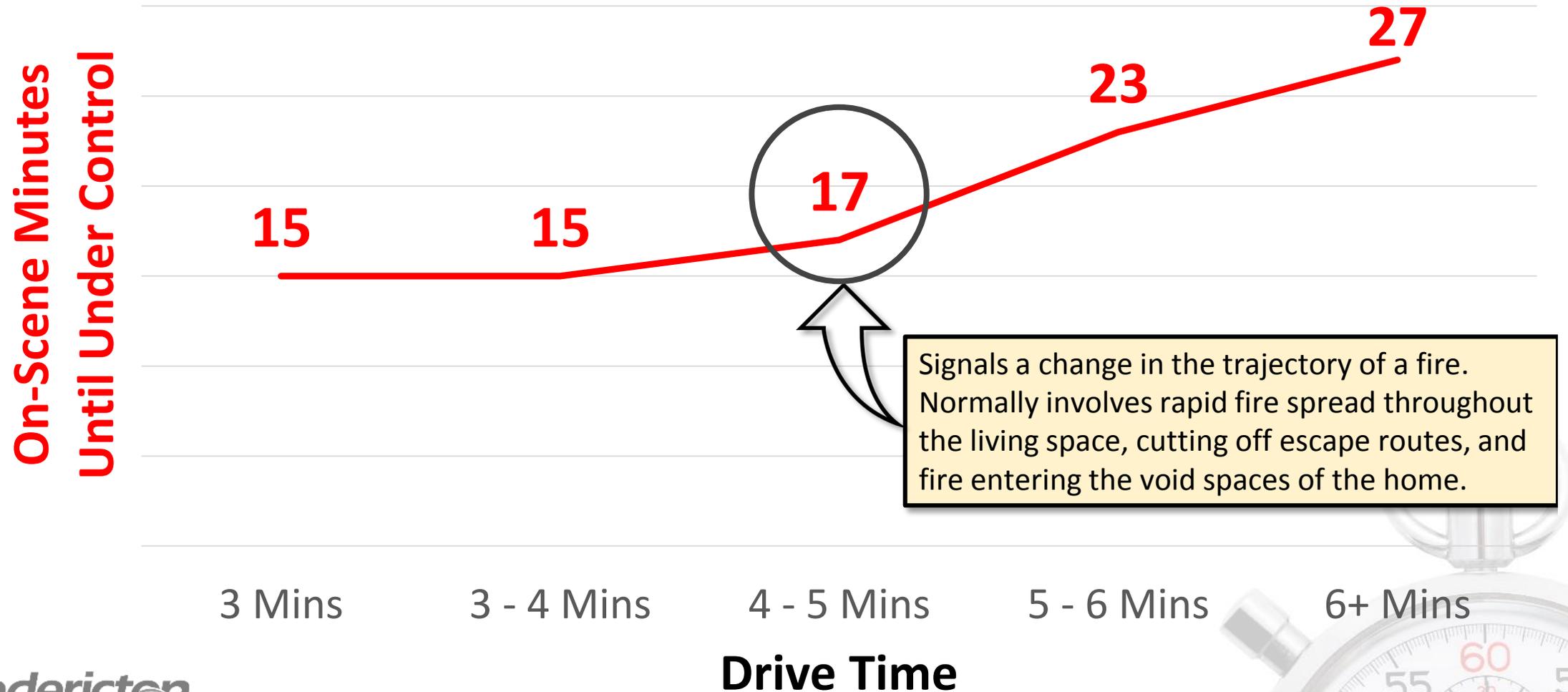
What is the standard for response times?

- NFPA 1710 – Standard for the Organization and Deployment Services by Career Fire Departments:

Benchmarks	Response Objectives
Alarm answer & dispatch	79 seconds 95% of the time
Turnout – Fire	80 seconds
Turnout – EMS	60 seconds
First-due engine	240 seconds 90% of the time (travel time)



Fredericton Fire Department Data:



Why is time a significant factor?

- **Medical Emergencies:**

- Earlier intervention improves patient outcomes
- Chances of patient survival drop as arrival times increase

Minute Zero: **Cardiac Arrest**

Minute 2: **Dispatch**

Minute 3: **Apparatus Responding**

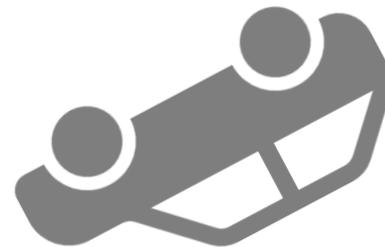
Minute 5: **Irreversible Brain Damage**

Minute 8: **Death Likely to Occur**



Why is time a significant factor?

- **Traumatic Events & Technical Rescue:**
 - Rapid response is critical and directly contributes to “the golden hour”
 - The more quickly the patient can receive medical care, the severity of their long-term impacts may be reduced



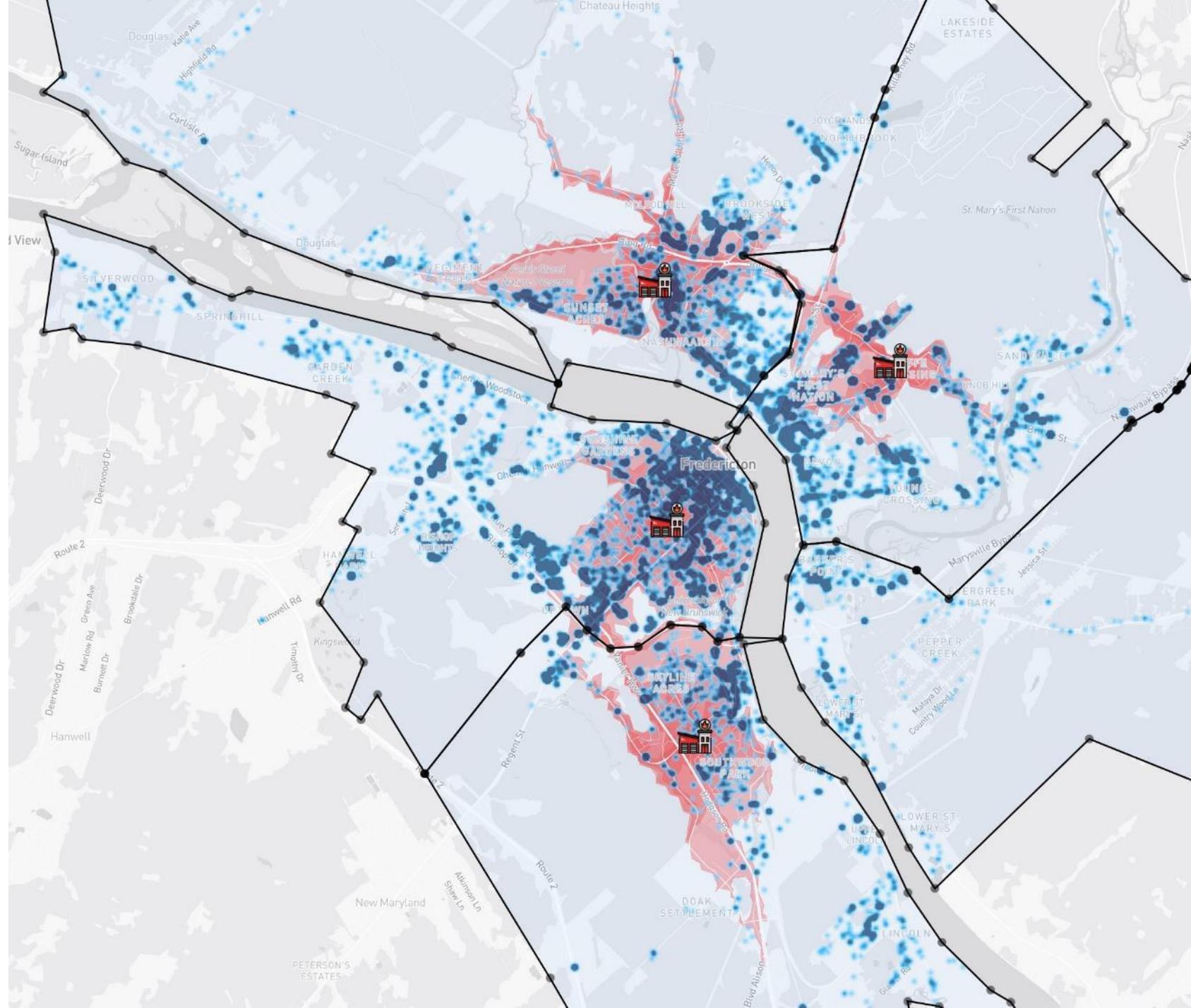
What is the Fredericton Fire Department's Current Standard of Cover?

- **Current Standard of Cover:**
 - *6 minutes, 90% of the time.*
- **Achieving:**
 - *6 minutes, 84% of the time*
- **National Fire Protection Association Standard:**
 - *4 minutes, 90% of the time*



What factors impact travel time?

- Roadway infrastructure
- Roadway conditions
 - Weather
 - Construction
 - Behaviour of motorists
- Time of day (traffic)
- Distance between incidents and fire stations



Call Concurrency & Resource Drawdown

More fire stations that are closer together allows simultaneous incidents to receive a proper response.

Fredericton



Less Incidents



Toronto



More Incidents

NFPA 1710 “effective response force”

- Fire in a 2000 square foot two storey house (low-hazard)
 - First engine company in 4 minutes
 - 17 firefighters on scene by 8 minutes
- Fire in a strip mall or apartment building (medium-hazard)
 - First engine company in 4 minutes
 - 28 firefighters by 8 minutes
- Fire in highrise (high-hazard)
 - First engine company in 4 minutes
 - 43 firefighters on scene by 10:10



Return on Investment

A healthy service delivery model strengthens the local economy by:

- Maintaining business continuity through reduced property loss, allowing businesses to remain open, or reopen sooner
- Protecting adjacent properties from fire losses
- Administering a robust fire prevention program to reduce the number and severity of incidents in the community

INSURANCE

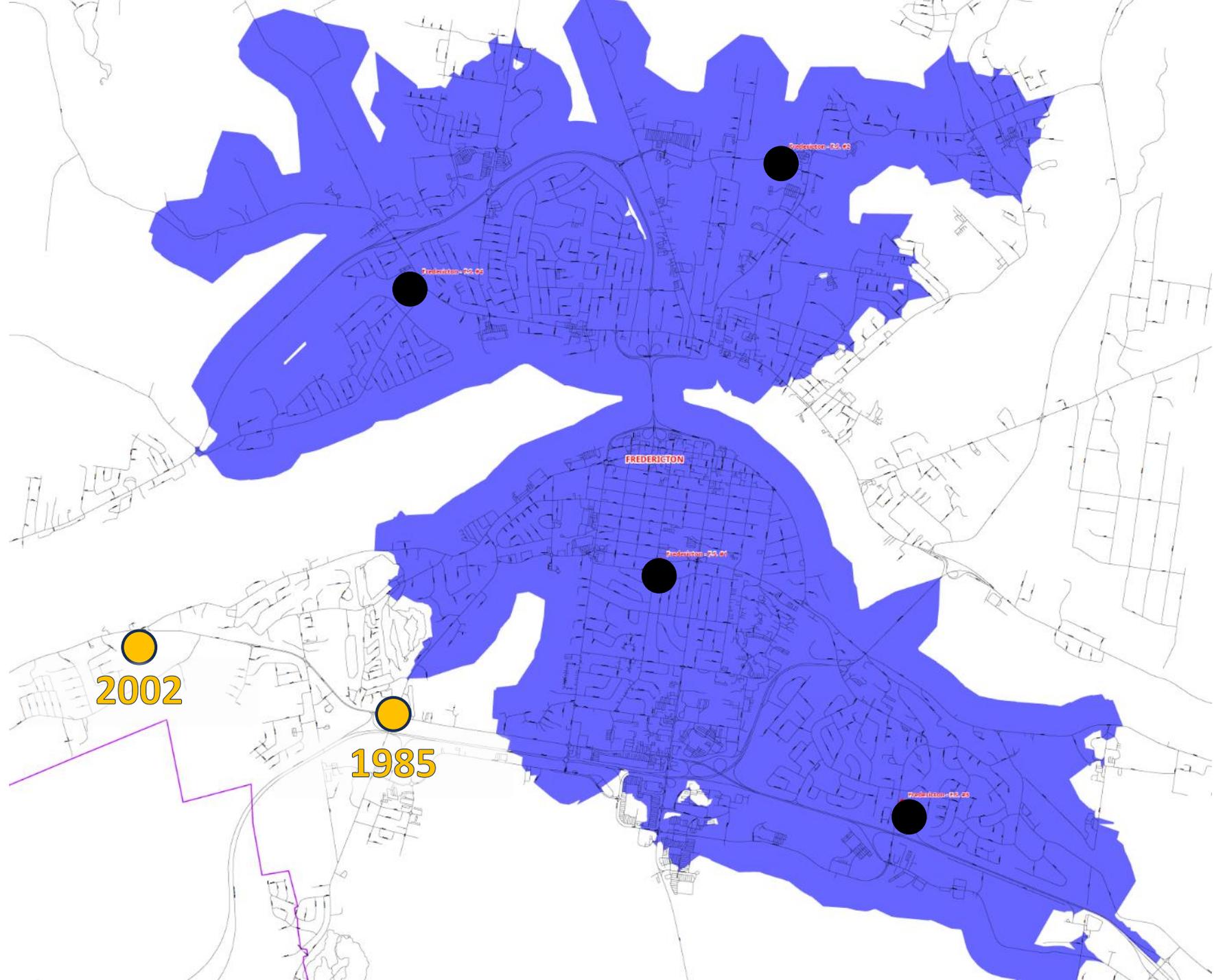
Fire Underwriters Survey



- Commercial Properties
 - Commercial = buildings with 3 or more living units
 - Public Fire Protection Classification 1-9 (9 = Unprotected)
 - Maximum distance recognized = 5 km
- Residential Properties
 - 1 & 2 family dwellings
 - Dwelling Protection Grade 1-5 (5 = Unprotected)
 - Maximum distance recognized = 8 km
- Both consider distance from station, water supply, staffing, apparatus

Fire Underwriter's Survey: Four-Minute Drive Time

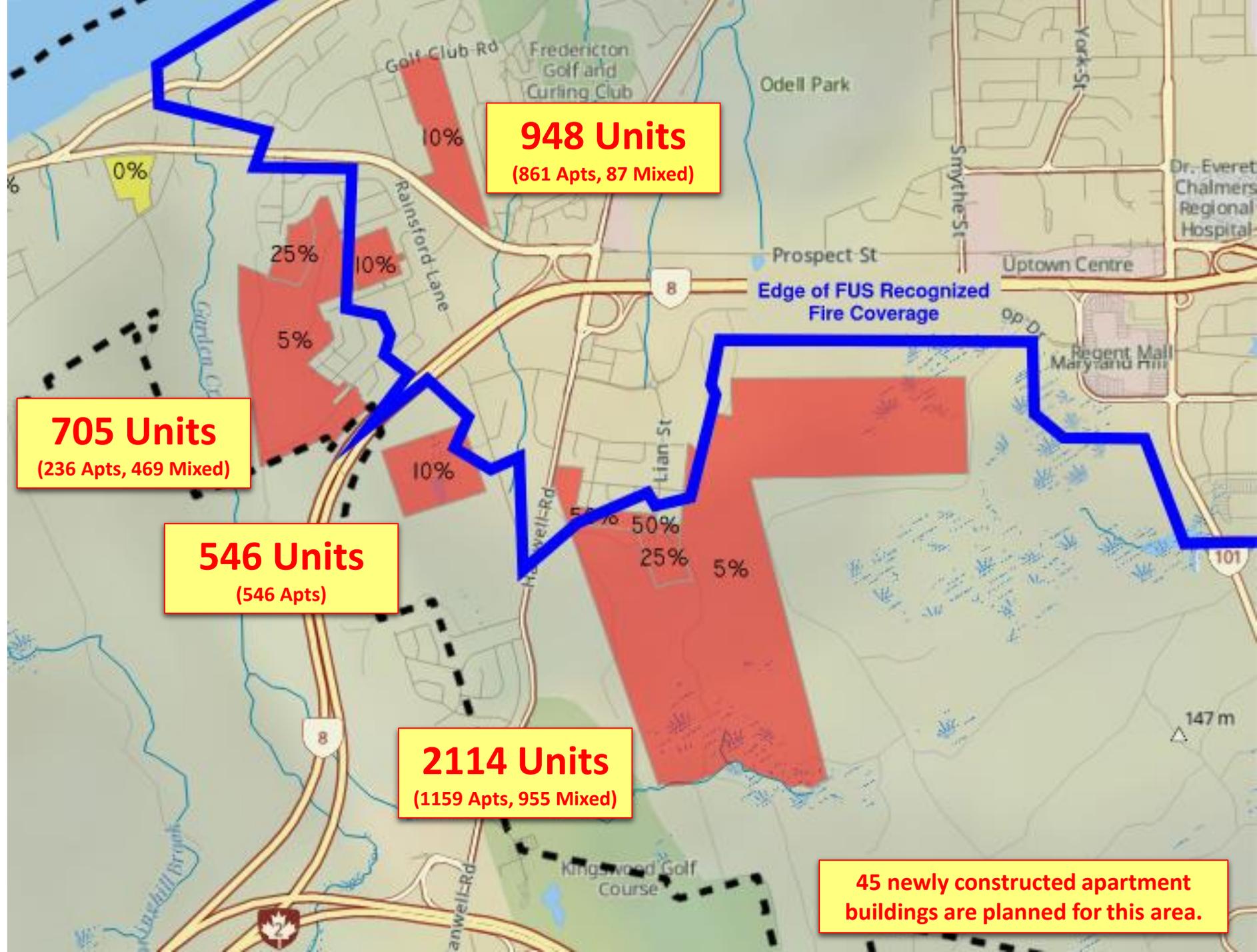
Four-minute drive times are an important benchmark recognized by FUS and NFPA.



Bishop- Hanwell- High Point

“Bishop-Hanwell-High Point has been steadily growing with a mix of housing. Future development will include commercial amenities clustered in a mixed-use node near a community park, and should include an elementary school that students can walk to. Growth of 6,000-7,000 people will be planned for this area.”

Fredericton Growth Strategy



Summary for 1985, 2002, 2023:

DONE

Move:

- College Hill Rd. to Kimble Drive

MODIFIED

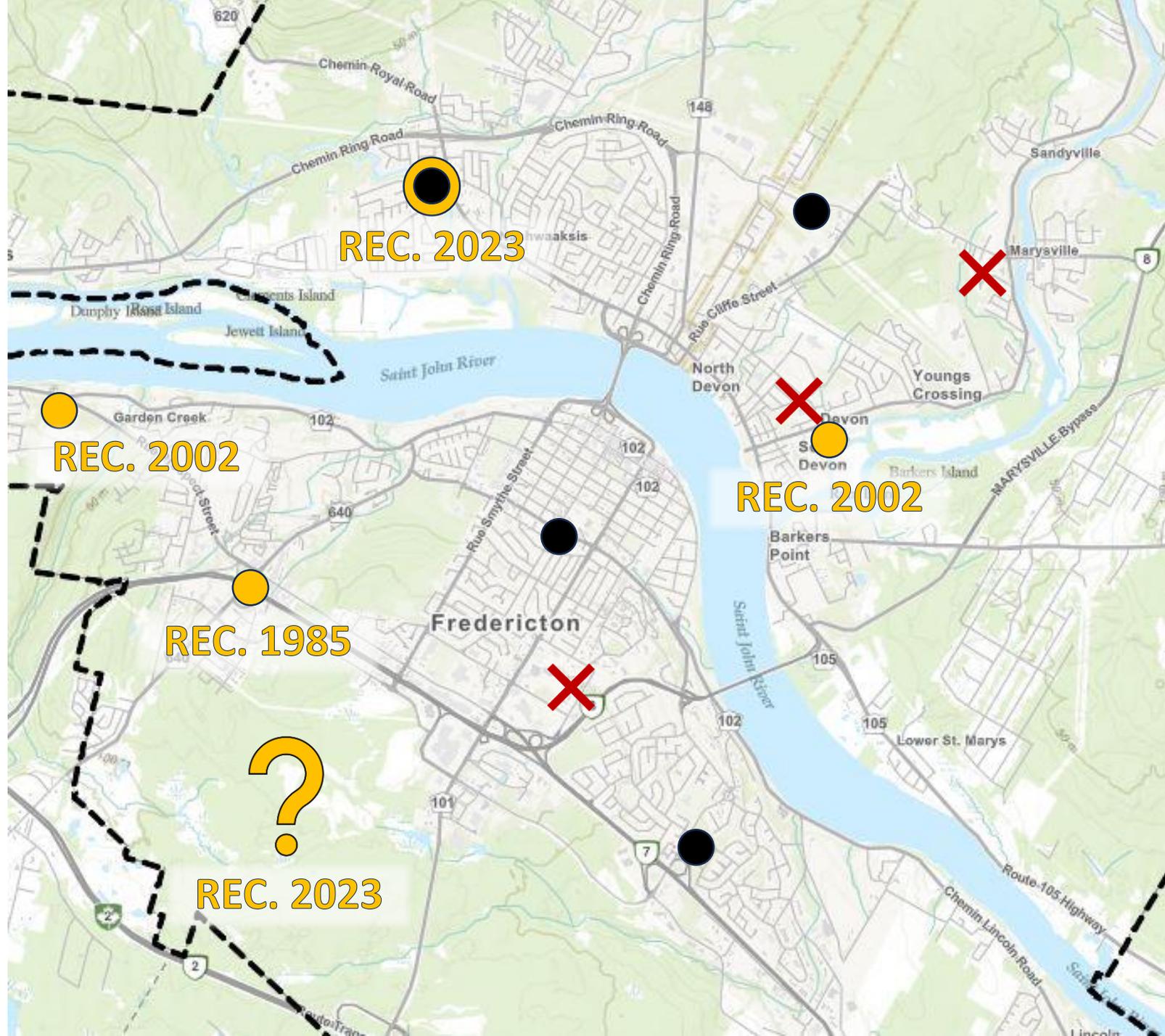
Amalgamate:

- Harrison Ct. & MacLaren Ave. to Gibson St.

NOT DONE

Add

- Southwest near Hanwell Road
- Southwest near Woodstock Road & Prospect Street



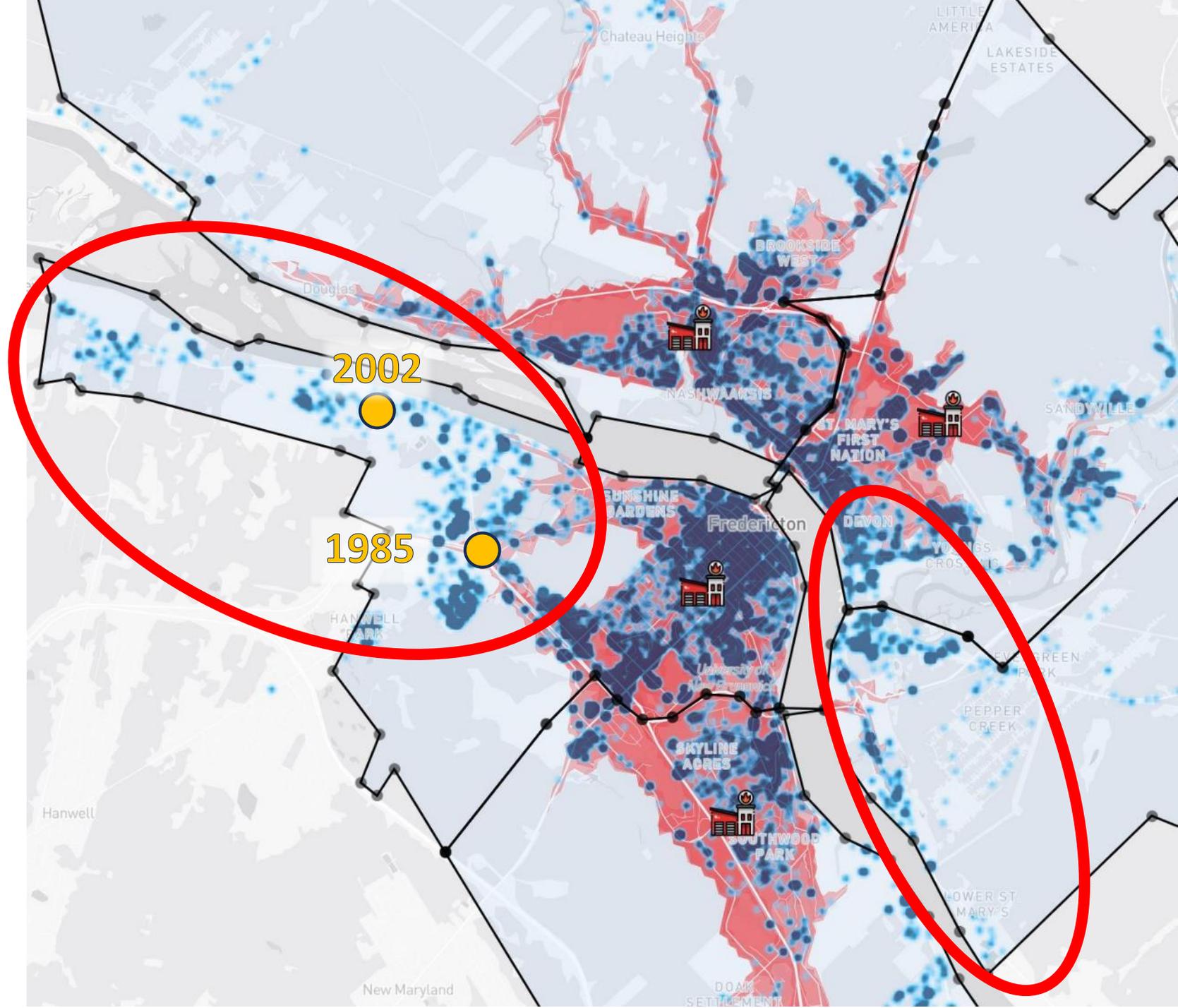
Incidents 2021 – 2023 (inclusive)

- Southwest:

- All Call Types: 1943
- **Fire / Rescue: 677 ↑**
- Medical: 1266 ↓

- Northeast:

- All Call Types: 950
- **Fire / Rescue: 364 ↑**
- Medical: 586 ↓



Summary

- Current standard is 6 minutes, achieving 84% of time
 - Challenged in southwest growth node
- NFPA recommended standard is 4 minutes
- An increase in stations (properly located) would:
 - Have an overall improvement in response times across the city
 - Ensure southwest growth node service level is commensurate with its density and service demands
 - Supports deployment of sufficient firefighters to assemble at medium-hazard fires in numbers aligned with NFPA 1710

Recommended Motion

Acknowledging the Fire Service Review received August 2023, and as an initial step towards developing a Fire Master Plan, mayor and council direct the Fire Chief to work in collaboration with the CAO and Treasurer to develop multiple deployment options, for presentation to this committee, to address the growth experienced in the City of Fredericton, with impacts on risk, finances and staffing.

Questions?