

Medical Priority Dispatch System: Ontario's New Ambulance Dispatch Protocol

Dr. Michael Feldman, Sunnybrook Health Sciences Centre

March 4, 2025

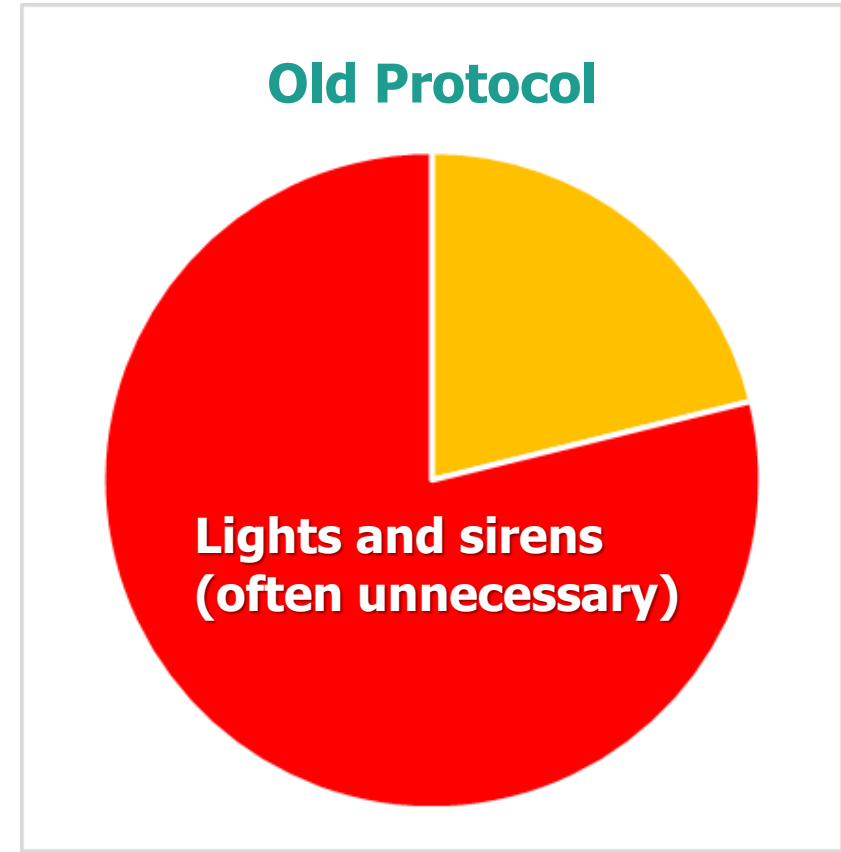


Key Messages

- Ontario uses an **old dispatch protocol** that over-prioritizes calls
- MPDS is a more **accurate way of assessing urgency**
- **Better dispatch** tool for deciding what resources to send
- **Standard of care**
- Will **decrease unnecessary lights and sirens** responses
- Does not limit or remove any resources. More urgent calls may see **improved response times**. Delays possible to low acuity calls.
- Launch **March 27, 2025**

Old Protocol: DPCI-2

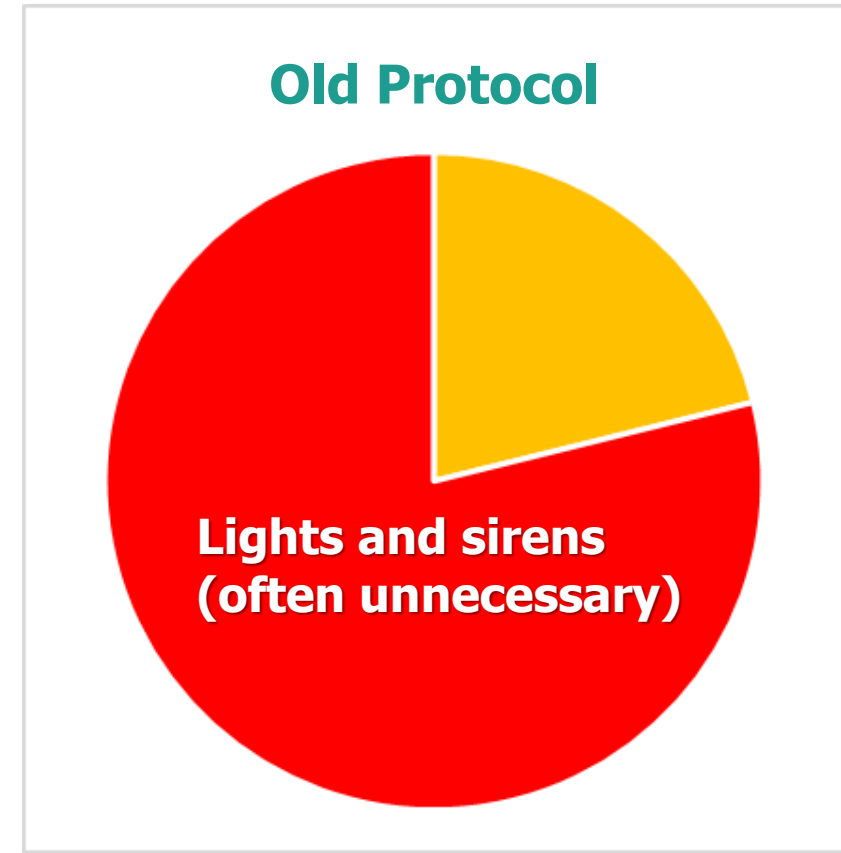
- **70-80%** calls lights and sirens
- **Only 5-10% of calls** are life threatening
- **Depletes** resources and introduces delays



Old Protocol: DPCI-2 in Kawartha Lakes

- **2023** - 9,433 emergency calls but only 905 needed lights and sirens transport
- **2024** – 9,582 emergency calls, 1,008 needed emergency transport
- **Depletes** resources and can introduce delays for some calls

9,433



New Protocol: Medical Priority Dispatch System

- Originally developed by a doctor in the 1970s
- Used in over 5,000 dispatch centres, 46 languages, many countries
- Used in Toronto for decades, all of BC, all of England
- Standard of care
- Enhanced first aid and CPR instructions
- Priority based on patient acuity and medical evidence
- Continually improved

New Protocol: MPDS

- **5 levels** of priority
- **No delay** for Red and Purple
- **Safety** from reduced potential for collision
- **Permissible delay** for lower acuity calls only when no ambulances available
- **Patient call backs and upgrades** when needed

58% Life threatening

2.2% Life threatening

0.4% Life threatening

0.2% Life threatening

0.1% Life threatening

Community Impact

- **Improved response times** to some calls; delays to others
- **Optimized** paramedic resource utilization
- Paramedic services to work with allied agencies to **align tiered response** agreement
- Members of the public will spend **more time on the 9-1-1 call** (while the ambulance is responding) and get **better instructions**
- **Data analysis** built in to allow continuous quality improvement
- **Flexible** on the local level; **community representation** at the provincial level

Paramedic Service Key Performance Indicators (KPIs) 2024

Committee of the Whole

May 4th, 2025

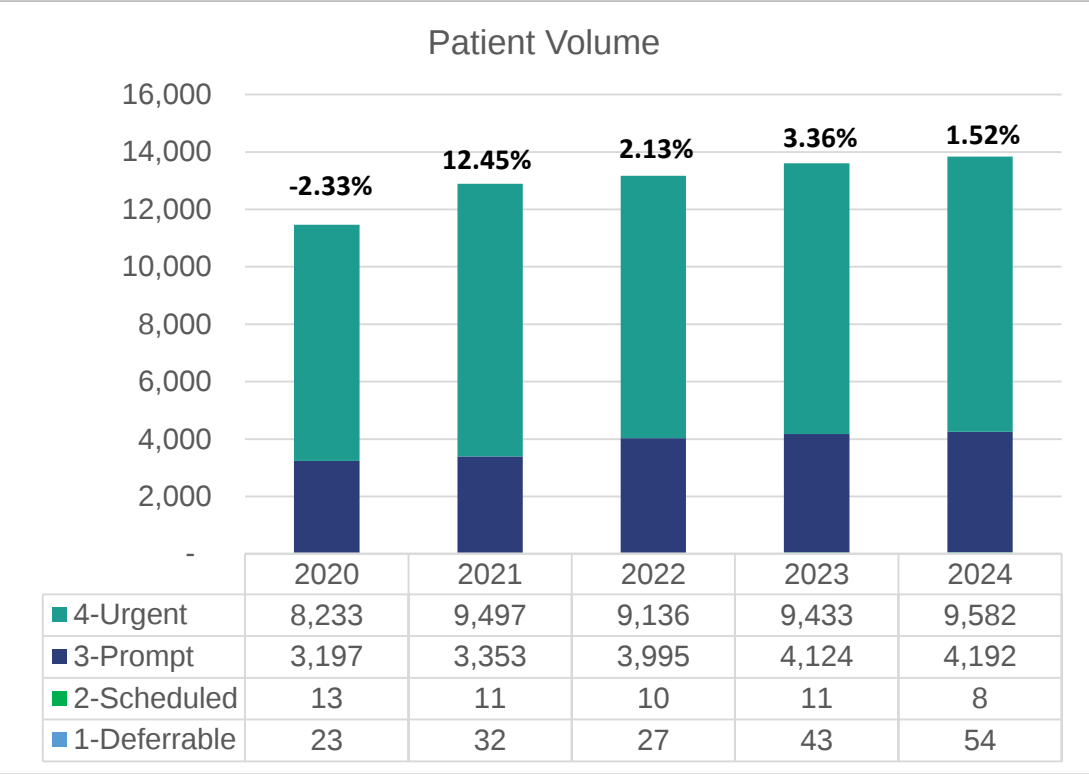


Background

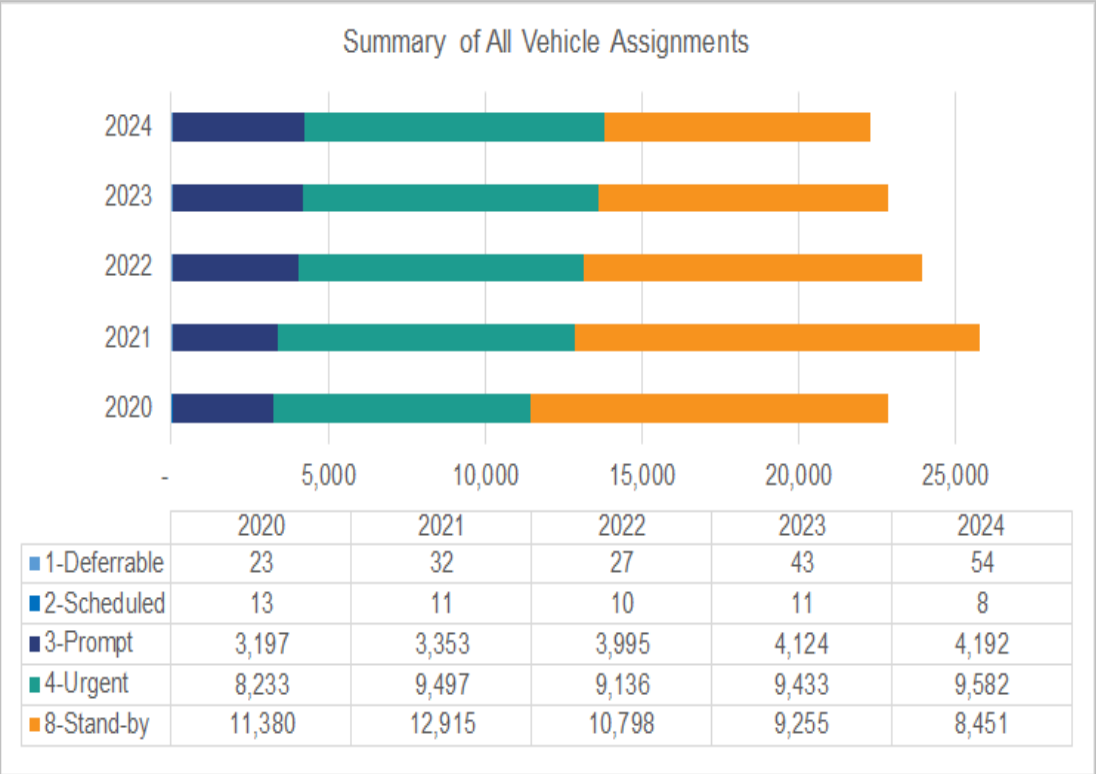
- KPIs track progress, service performance, and inform evidence-based decisions
- Reporting aligns with provincial regulations, strategic, and master plans
- Ontario has limited paramedic benchmarking data
- Municipal Benchmarking Network (MBN) tracks six EMS metrics (last report: 2021); comparators included where applicable

Call Volume & Demand

Patient-Related Calls: Increased by **1.52%** in 2024. The five-year average increase is **3.43%**. (13,836 calls)

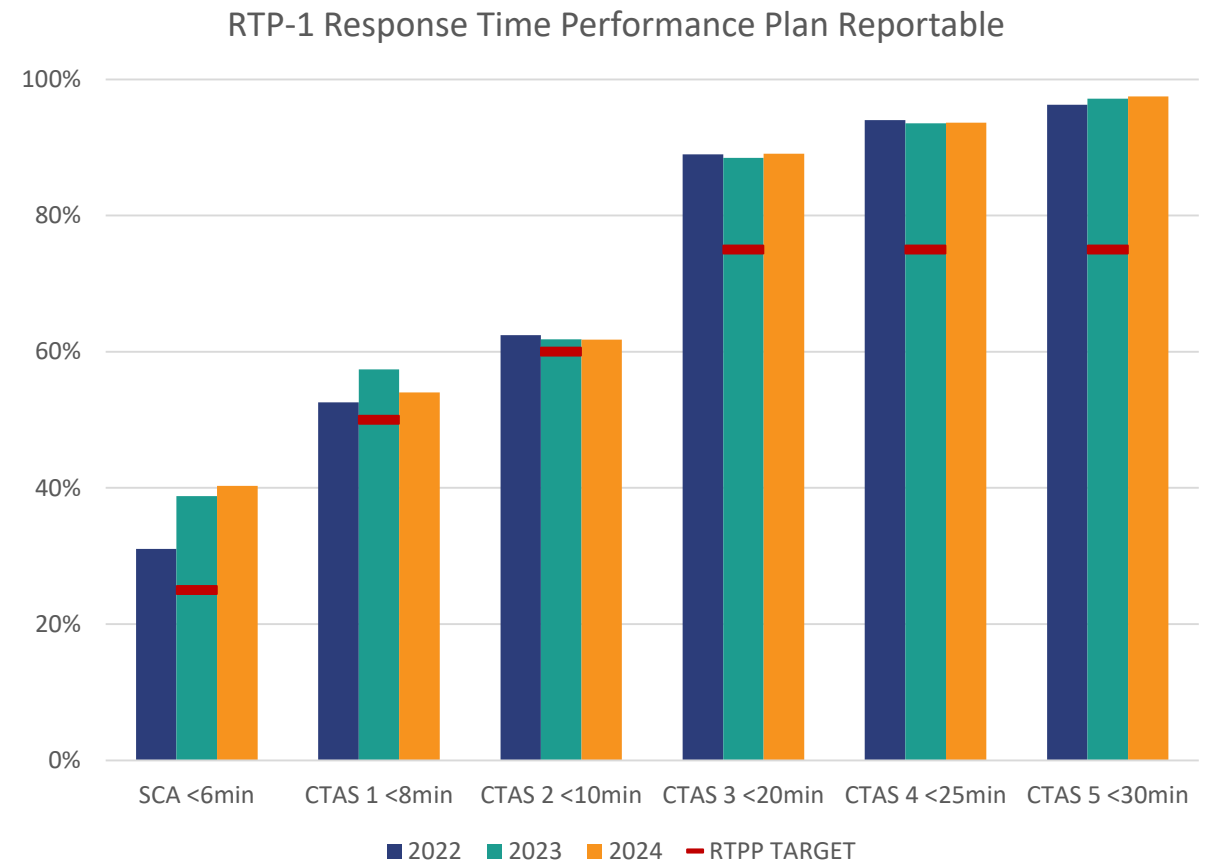


Vehicle Assignments (includes Code 8s): Reduced by **2.65%** due to fewer standbys. (22,866 assignments)



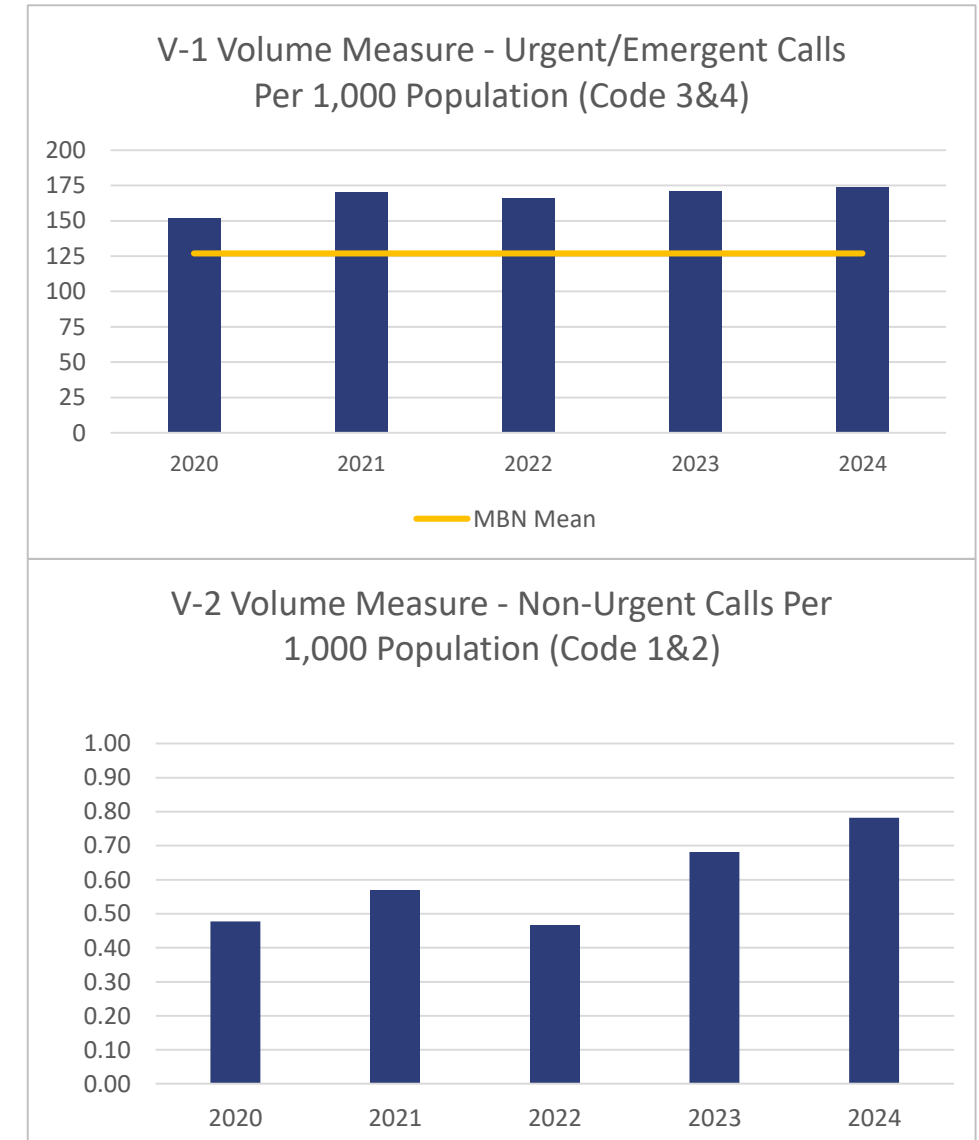
Response Time Performance

- Annual Review and Reporting
- Response Time Targets by CTAS Level
 - Example: CTAS 1 target – Ambulance arrival within 8 minutes, 50% of the time
 - 2024 Performance: Achieved 54% within 8 minutes
- Performance Meets or Exceeds All Targets
- MPDS Implementation Will Change Reporting Requirements



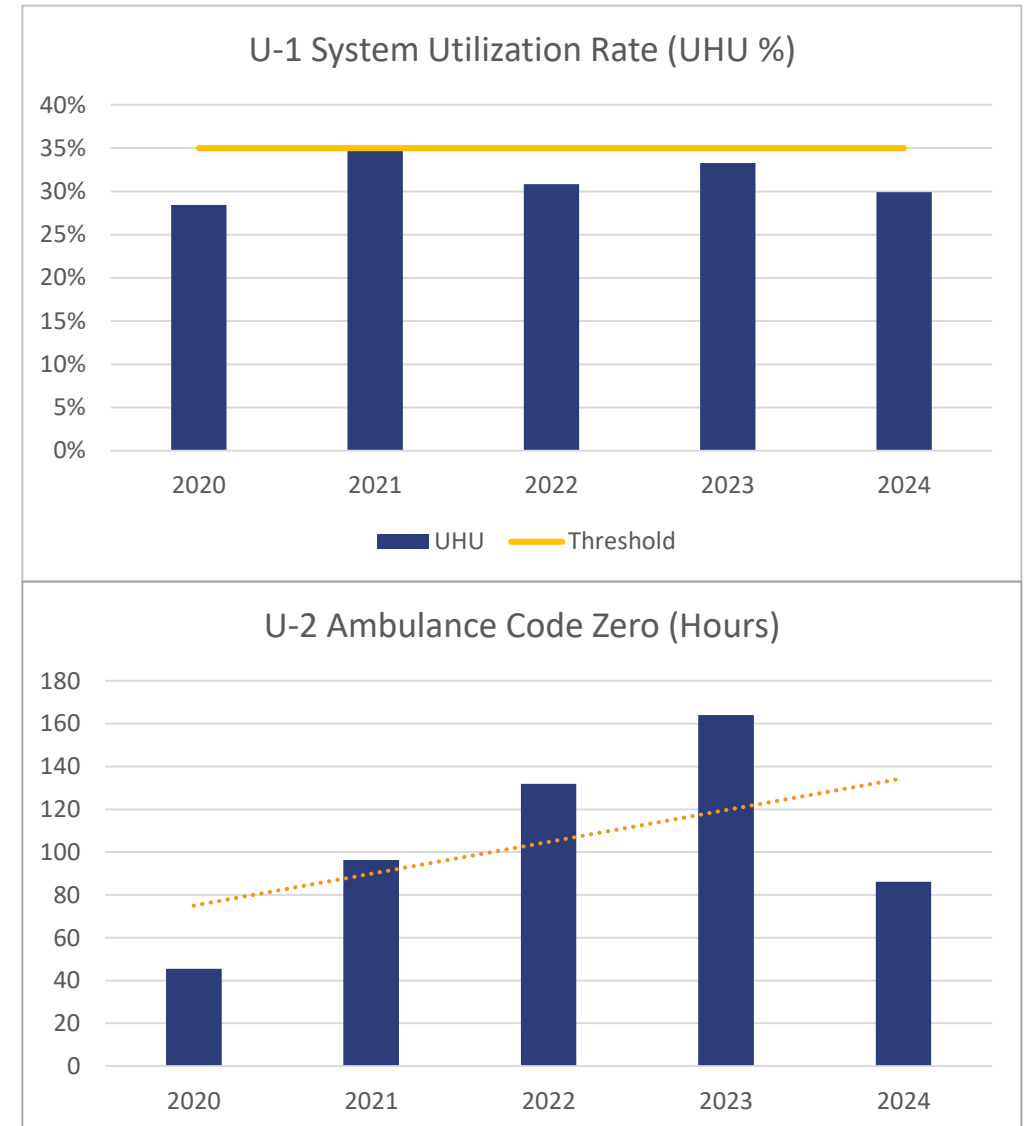
Per Capita Service Demand

- **Emergency Responses: 174 calls per 1,000 residents** (higher than the 2021 MBN Mean of **127 per 1,000**).
- **Non-urgent Calls:** Remain low, ensuring resources focus on urgent needs.



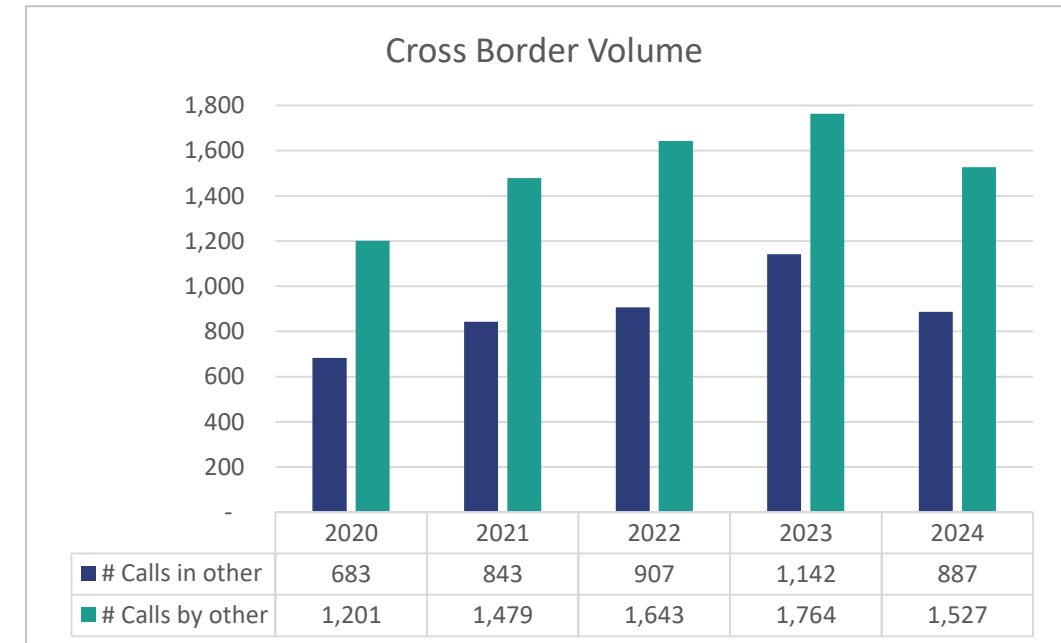
System Utilization

- **Unit Hour Utilization (UHU):** decreased to **29.92%**.
- **Code Zero (Calls exceed resources):** decreased to **86 hours total (about 14min/day).** Decrease of **47.53%** from 2023.
- Code Zero rates expected to decrease with MPDS



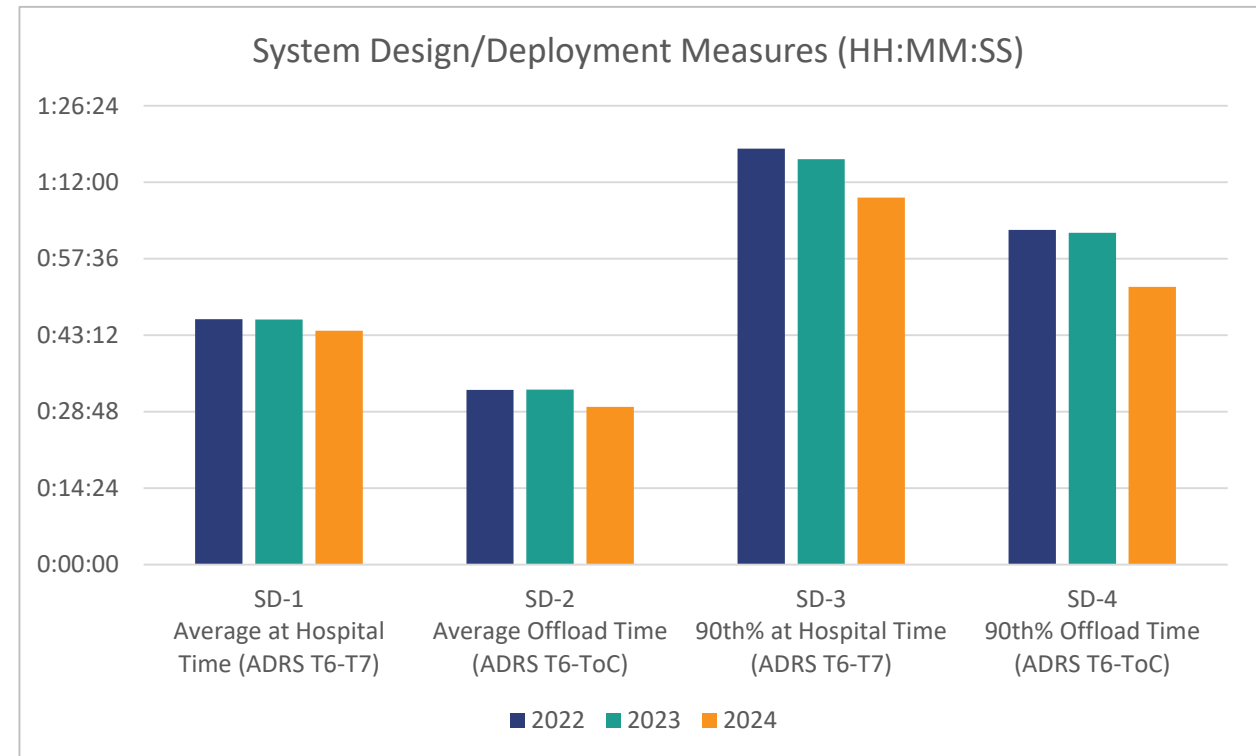
Cross Border Volumes

- Comparison of mutual aid: Incoming vs. outgoing ambulance responses
- Kawartha Lakes relies more on mutual aid than it provides
- With MPDS, services won't respond to low-acuity calls in other areas



System Design – Time spent in hospital (offload)

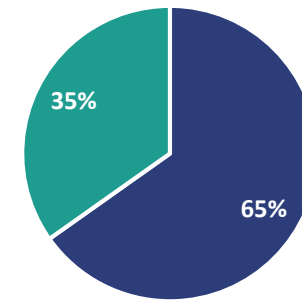
- **Improvement in all areas in 2024:** Delays over 30 minutes decreased by 46%.
- **Total Offload Time Reduction: 1,407 hours saved (about 59 days),** reducing **\$346,474** of idle resources spent on offload.
- Largely due to strong collaboration with hospital – Dedicated Offload Nurse Program and Fit2Sit initiatives



Advanced Care Paramedic Response

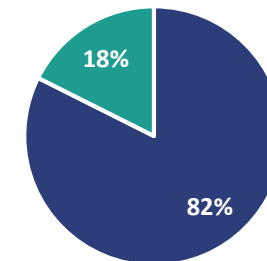
- Percentage of emergency responses that received Advanced Care Paramedic response vs Primary Care Paramedic (PCP).
- 50% ACP to PCP Ratio:** Strategy ensures high-level care, improving patient outcomes.

SD-5 Advanced Care Paramedic Capture Rate
Code 4 (2024)



■ ACP Response ■ PCP Response

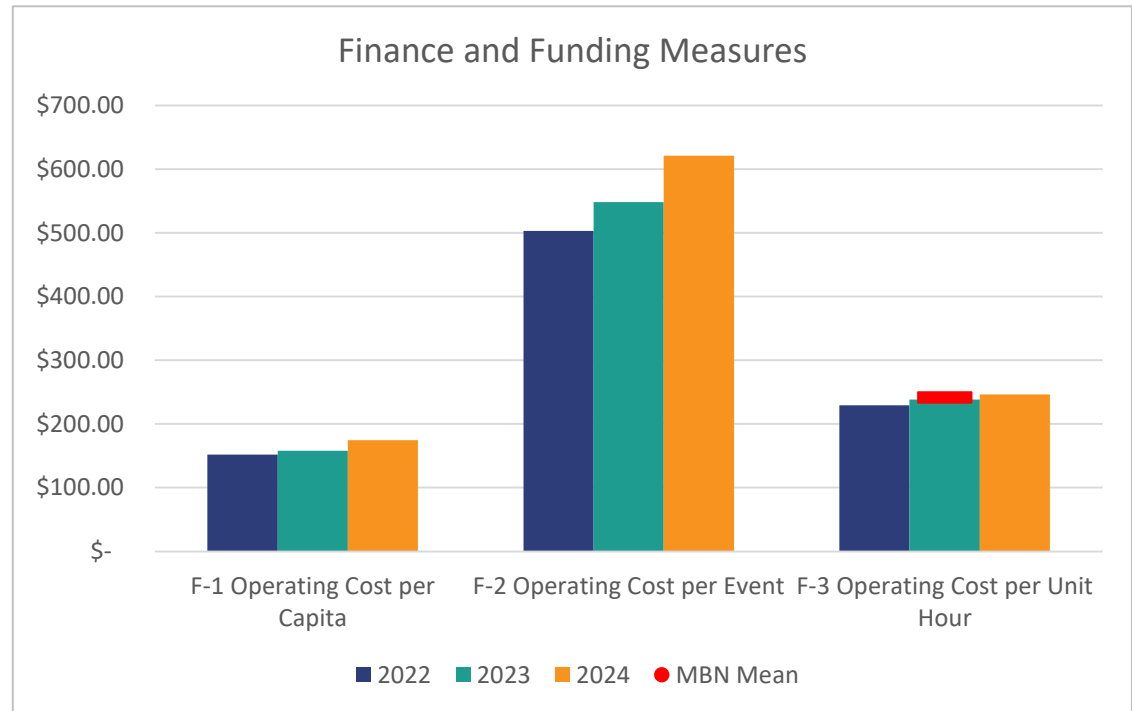
SD-6 Advanced Care Paramedic Capture Rate
CTAS 1 Return (2024)



■ CTAS 1 Trans ACP ■ CTAS 1 Trans PCP

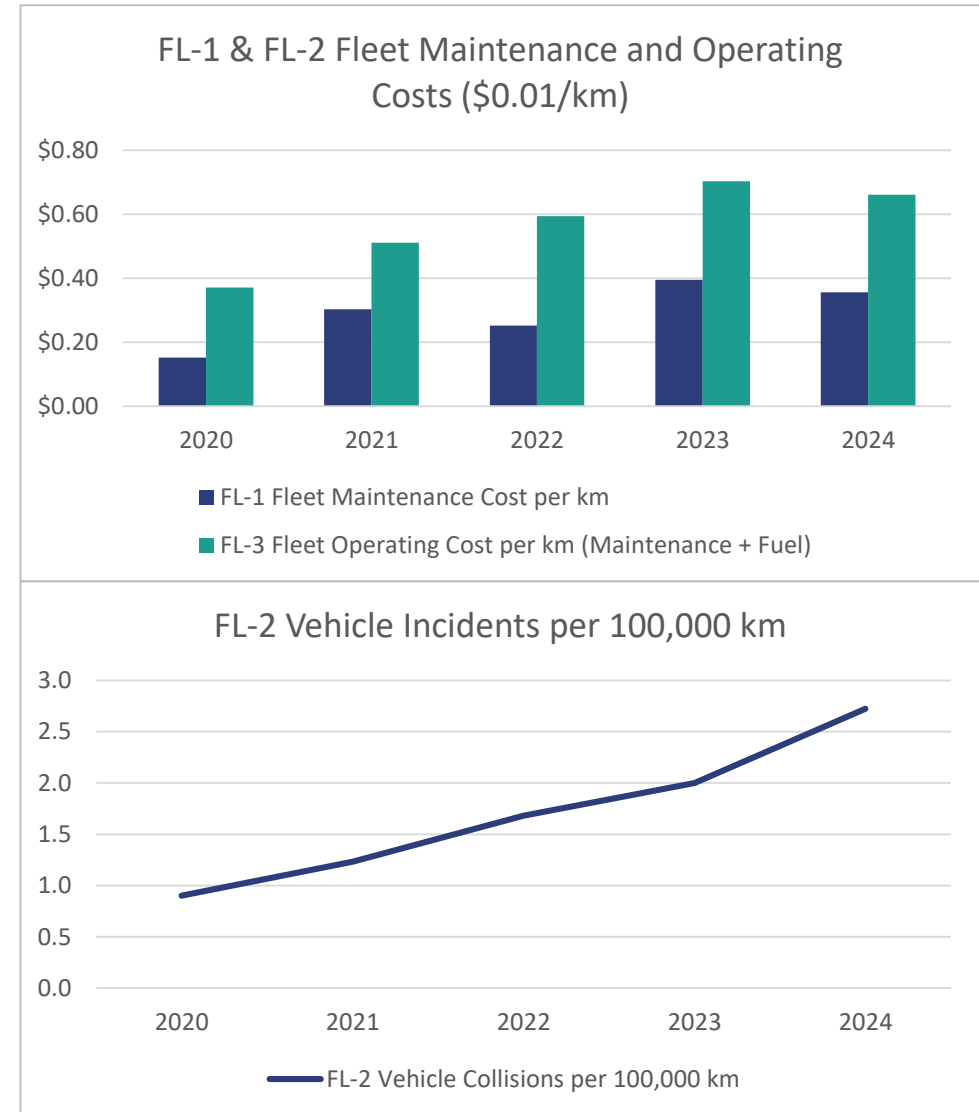
Finance/Funding Measures

- Costs rising due to call volume, staffing, inflation, and expenses
- Higher operating cost per event due to fewer Code 8s
- Unit hour cost increased by \$17.93 over five years
- 2024 operating cost: \$246.25/hour (slightly above 2021 MBN comparator: \$241.00)



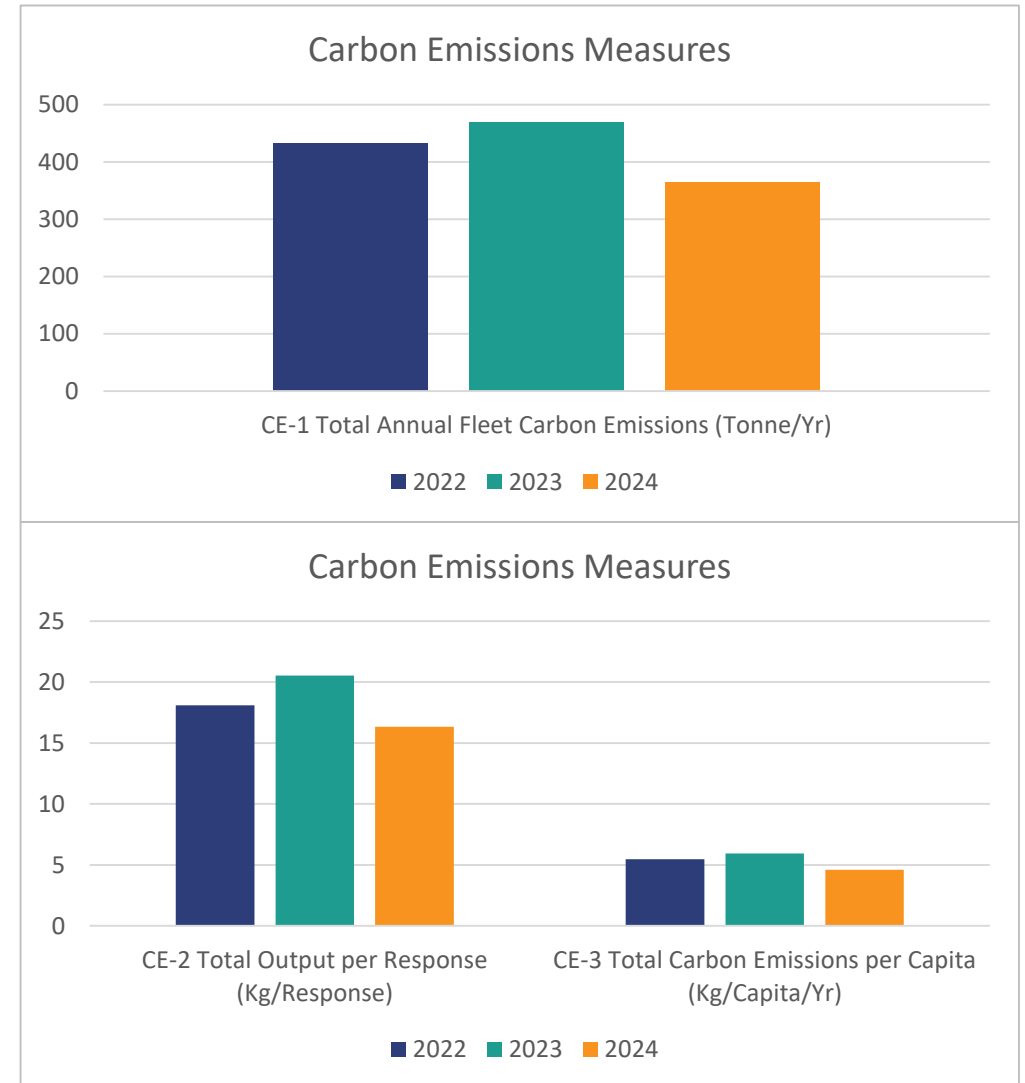
Fleet Measures

- **Operating Cost Per Km:** Decreased from **\$0.70 to \$0.66** due to less significant vehicle repairs and stabilizing fuel costs.
- **Vehicle Incident Rate: 2.73 per 100,000.** Driver training incorporated into new hire and regular training cycles.



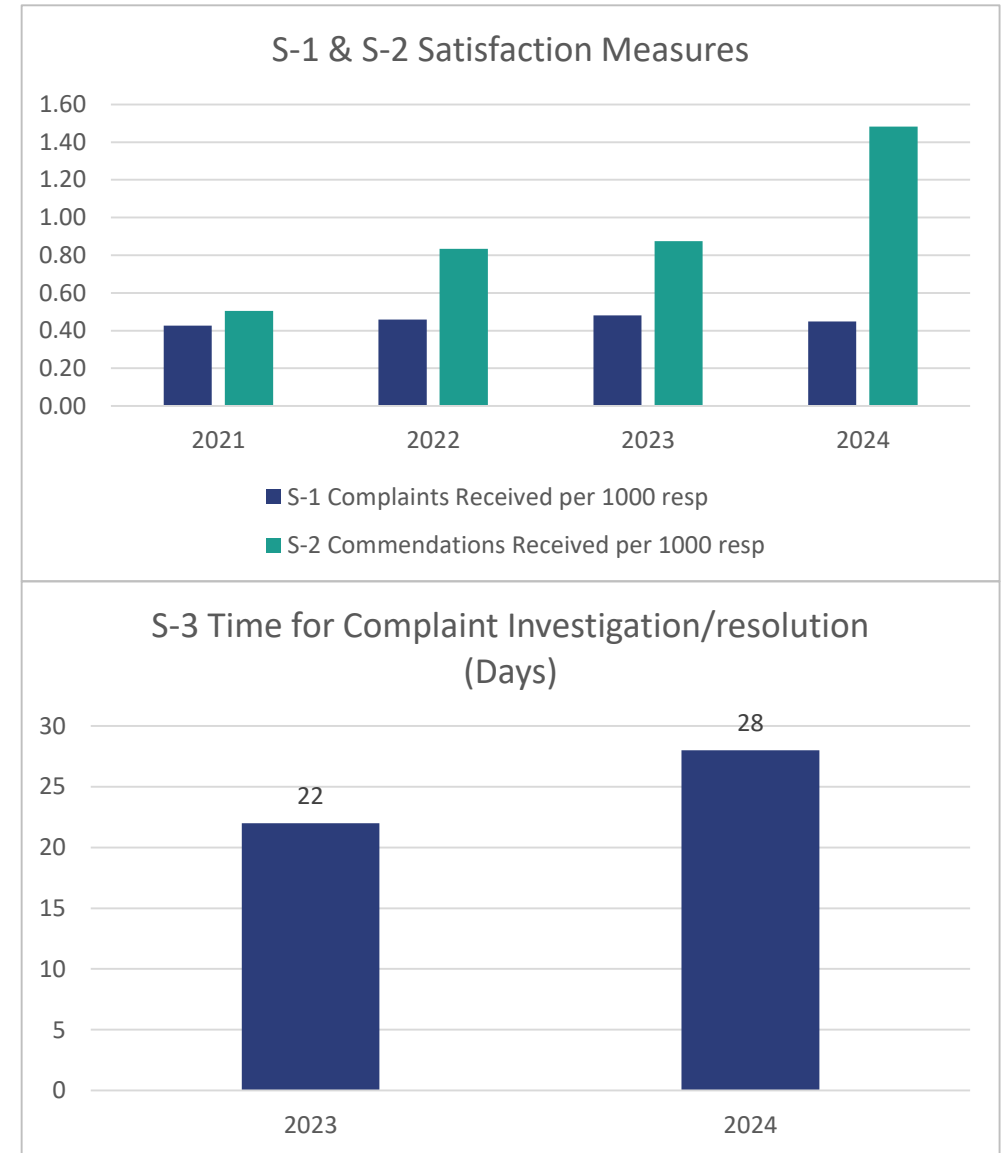
Carbon Emissions Measures

- **Fleet Emissions Decreased:** Due to less standbys (Code 8s) and km travelled.



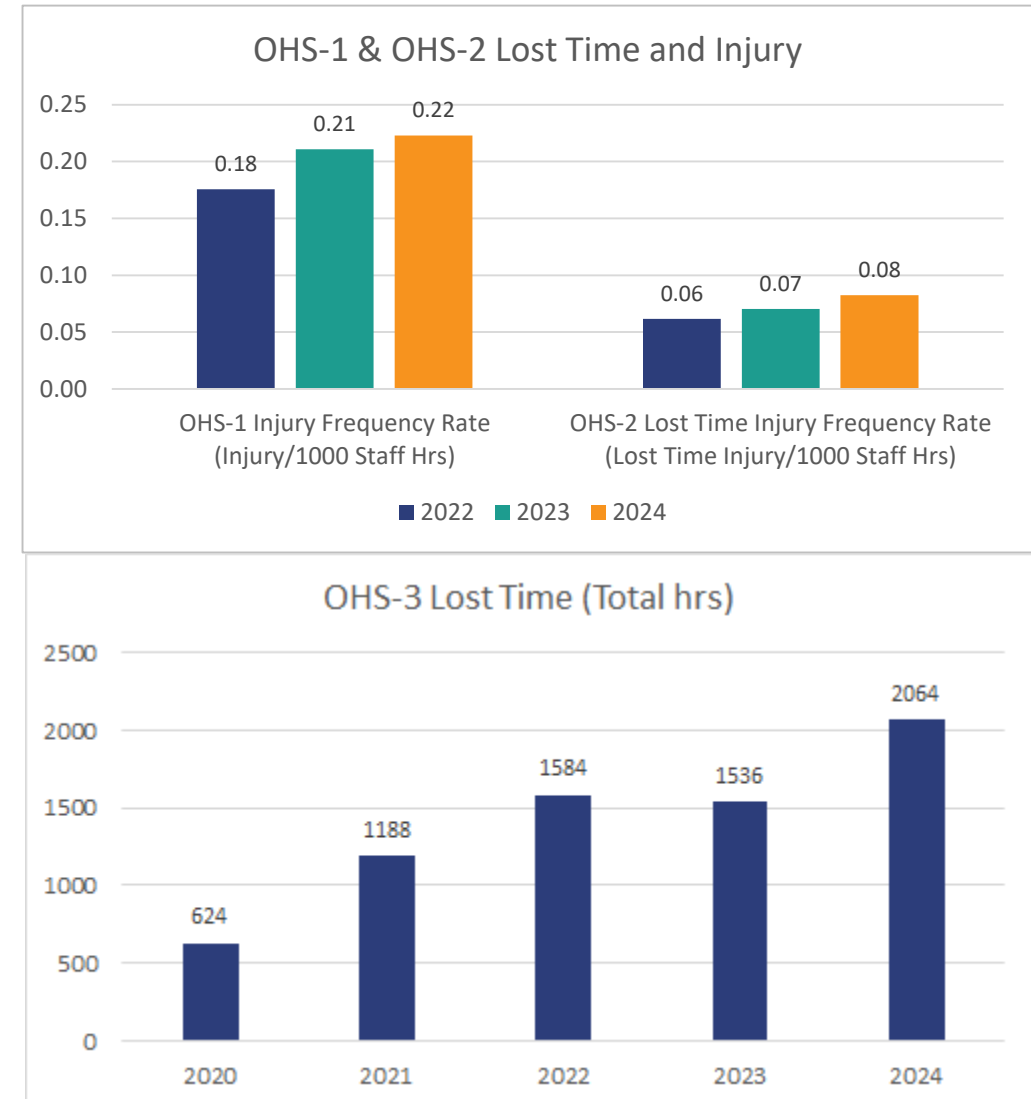
Public Satisfaction

- **Customer Feedback:** Tracking complaints vs. compliments.
- **Patient Experience Survey:** Deployed in 2024. Poor data/uptake, looking for ways to improve survey.



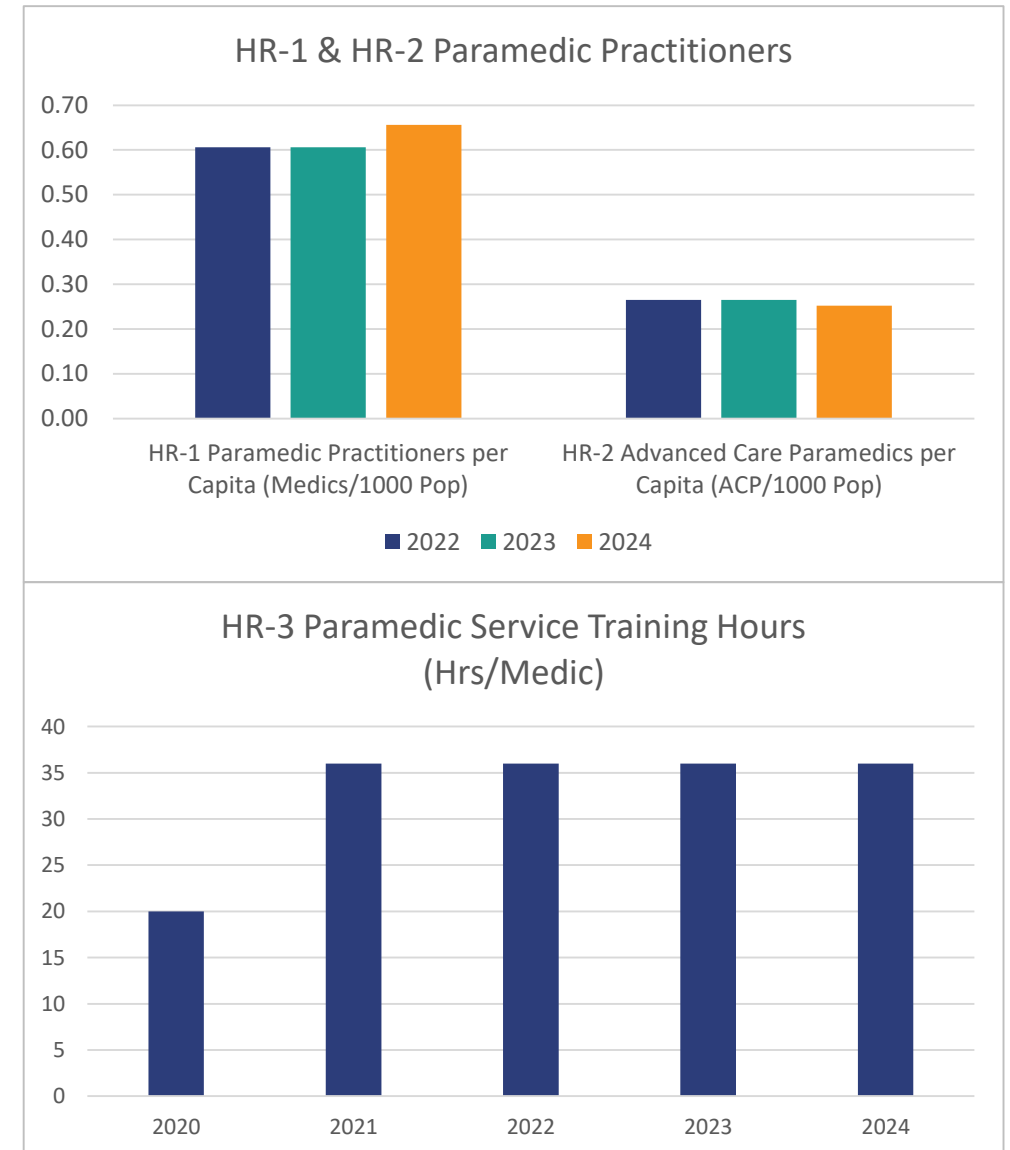
Occupational Health & Safety

- Injury frequency is low, but total lost time is high: **2,064 hours**
- Further analysis needed to identify causes and solutions
- MPDS helps reduce shift overruns and improves meal breaks



Human Resource Measures

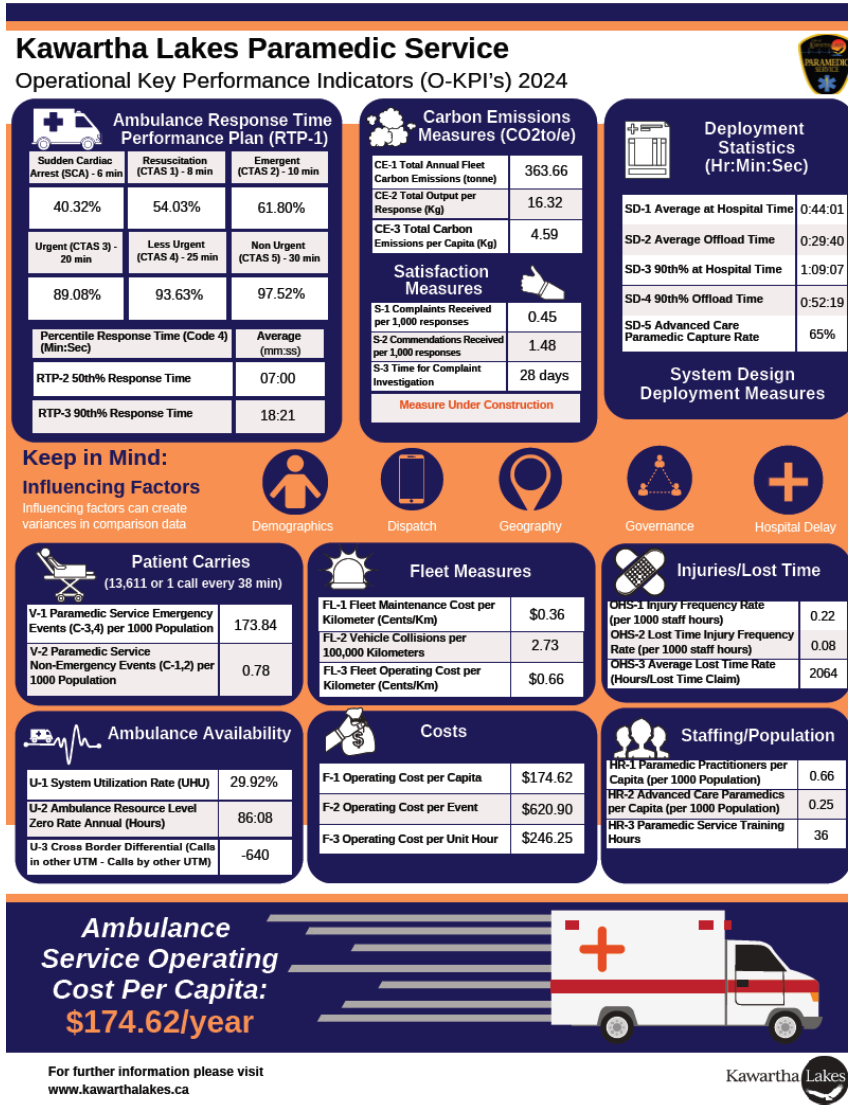
- **Staffing:** Increased by 4 paramedics in early 2024.
- **Training:** Education hours back to pre-pandemic levels.



Key Takeaways

- 1. Service Demand:** Increasing but stable, Code Zero and UHU decreased.
✓ Validates Paramedic Service Master Plan roadmap and recommendations
- 2. Financial Performance:** Costs increasing, but on par with 2021 MBN comparators.
- 3. Staffing & Safety:** Injury rates need attention, high level of care provided to the community.
- 4. Fleet Costs & Emissions:** Budget exceeded due to maintenance and aging fleet.
- 5. Public Feedback:** New survey did not capture high quality data – back under review.

Questions?



- Appendix A O-KPI 2024 Summary Sheet
- Appendix B O-KPI 2024 Infographic

Questions about MPDS?

- ASKMPDS@Ontario.ca
- www.kawarthalakes.ca/MPDS