



Key Findings & System Implications from the Nova Scotia Pilot Program:

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Across Canada, the same story is told in rinks,
boardrooms, and community meetings:

THERE IS NOT ENOUGH ICE.



Introduction

Parents sit on waitlists. Girls' teams travel farther for access. Smaller sports lose key hours. Municipalities debate whether to build more facilities. Established user groups protect what they have. Teams complain. Everyone feels the pressure.

But what if the problem is not actually what we think it is?

When community leaders first brought this concern to the Future of Hockey Lab (FHL), it was dubbed "No More Leftovers." Participation in girls' hockey was skyrocketing, limited only by available ice; it seemed all they could get was the leftovers.

In the FHL, an insight emerged. If we cannot see clearly how the ice is being used, how can we know there's not enough?

In most communities, ice allocation decisions are shaped by outdated systems, fragmented booking tools, and historical practices. Available hours are difficult to find. Cancellations often go unseen. Demographic trends are rarely connected to scheduling decisions. The result is a system operating with invisibility.

Open Ice powered by Bauer was created to change that.

Developed by the FHL, Open Ice is a data platform designed to make ice use visible in real time, showing when ice is used, when it is not, where capacity exists, and where barriers may be emerging. The goal, of course, was not the dashboards themselves; it was to give communities evidence to support better decisions.

The Nova Scotia pilot brought together booking data from rinks and combined it with demographic and participation insights to test a simple but powerful idea:

WHAT WE CAN SEE, WE CAN CHANGE.

The findings in this report suggest that many opportunities exist. Prime-time demand is real. But so is underused non-prime capacity. Access gaps are measurable. Geographic inequities are visible. And many solutions may be found with better coordination, not just more construction. Open Ice is more than a pilot program; it is a validated approach to modernizing how Canada understands and manages ice as a public asset. It provides a scalable foundation for increasing access, supporting national infrastructure planning, and improving decision-making.

1

The Open Ice Data Platform

The Open Ice data platform aggregates booking information from ice rinks into a centralized dashboard showing when ice is used, when it is not, who is using it, and where capacity exists. The platform pulls anonymized booking data through APIs that integrate with rink management systems, then combines it with Statistics Canada census data as well as Hockey Canada membership records.

Open Ice serves three core groups: Hockey Canada and provincial/national ice sports organizations, municipalities and government, and facility managers. The platform makes visible how ice is currently being used. It does not prescribe how ice should be allocated.

In a landscape where many facilities lacked basic digital booking systems and others were anchored in traditional scheduling norms, the FHL successfully onboarded thirty-one ice surfaces across Nova Scotia (mix of urban and rural).

2

The Visibility Problem: What Ice is Available

A Fragmented Booking Landscape

63 of 76 rinks require a phone call to book ice.

ZERO rinks allow direct online booking.

Of the dedicated booking systems, only half (PerfectMind, ACTIVENet, Inosoft, Fusion, Ungerboeck, Univerus Rec) have the technical capability to track member demographics such as age and gender.

Nova Scotia has 76 rinks with 91 ice surfaces. Only 33 of those rinks use a dedicated booking system. These 33 facilities operate on 10 different booking software platforms, each with different data structures and different decision making processes between them.

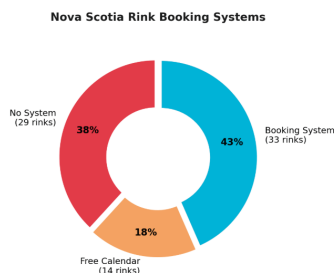


Figure 1. Booking system adoption across Nova Scotia's 76 rinks.

- **29 rinks (38.2%)** have no online booking system at all.
- **14 rinks (18.4%)** use free calendar tools such as Google Calendar or Outlook.
- **33 rinks (43.4%)** use a dedicated booking system, spread across 10 unique platforms.

Manual Booking Limitations

Some accept phone calls or emails and others have an online request form, but in all cases, manager approval is required to reserve ice. For established user groups with existing rink manager relationships, this works. For a newcomer learn-to-skate program, a new women's league, or a school looking for daytime ice, available time slots are effectively invisible.

Historical Lock-In

The vast majority of bookings follow the same pattern year over year. Rinks copy the previous season's schedule forward, and recurring bookings roll over automatically. As one manager described it: "The ice time is yours until you tell me it's not." There is no mechanism for last-minute bookings and no way to "see" cancellations.

3

The Visibility Problem: Who is Using the Ice

47.9% of booking records cannot be matched to a gender.

Open Ice's analysis of 32,254 booking records from 28 ice surfaces during the 2024–2025 season revealed a significant gap in demographic data.

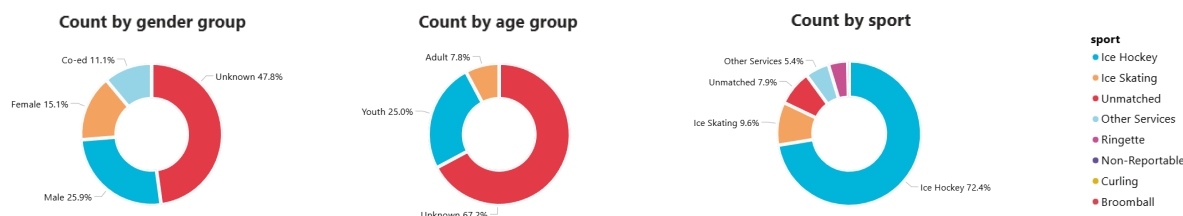
The Demographic Data Gap

Metric	Percentage Unknown or Unmatched
Game vs. practice differentiation	100% (no tracking)
Age group identification	67.2%
Gender identification	47.9%
Sport type identification	7.9%

More than two-thirds of booking records cannot be matched to an age group, and nearly half cannot be matched to a gender. No records differentiate between games and practices. When this much demographic information is missing, it is difficult to assess whether current ice allocation reflects the communities these facilities are intended to serve.

What the Matched Data Reveals

Where matching was possible, ice hockey accounts for 72.4% of all bookings. Of identifiable bookings, males represent 25.9%, females 15.1%, and co-ed programs 11.1%, while **47.8% REMAIN UNKNOWN**. Youth bookings account for 25.0% and adults 7.8%, with **67.2% UNKNOWN**.



Gender and Travel Distance

Female participants travel **15%** farther than males.

Female participants travel an average of 10.37 km to reach their rink, compared to 9.01 km for males, a gap of approximately 15%. Among the quarter of participants who travel the shortest distances, female participants still travel farther, with the gap widening to 26% (3.21 km vs. 2.54 km). This suggests that ice programming for women and girls is less geographically distributed across the province. In other words, even if you live close to a rink, female participants have fewer nearby options than their male counterparts.

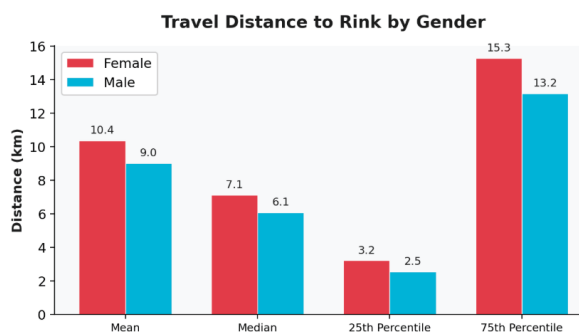


Figure 5. Travel distance to rink by gender.

Where the Opportunity Lives: Utilization Patterns

Of the ice available during prime time, **81.3%** was utilized, whereas of the ice available during non-prime time, only **34.6%** was utilized.

Prime-Time vs. Off-Peak

Prime-time ice in urban centres averaged 86.1% utilization, confirming the experience of user groups who report difficulty finding evening and weekend ice. In contrast, off-peak utilization is significantly lower. Across the province, off-peak ice averaged just 34.6% utilization. This underuse is evident in both urban and rural areas, where 58.1% and 88.1% of non-prime-time ice, respectively, went unused. This represents existing capacity that requires no construction or capital investment to activate.

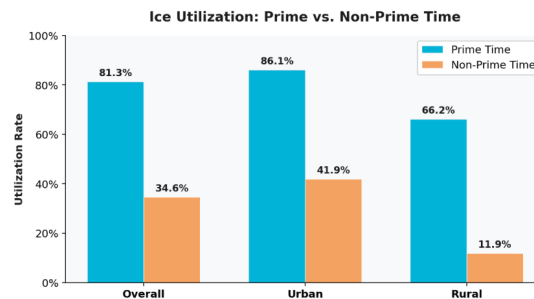


Figure 6. Ice utilization: prime time vs. non-prime time.

	Prime-time Utilization %	Non-Prime-time Utilization %
Overall	81.3%	34.6%
Urban	86.1%	41.9%
Rural	66.2%	11.9%

Weekday vs. Weekend Prime-Time

Weekend prime time runs approximately 10% points below weekday prime time across the board, and nearly 21% lower in rural areas. This raises a practical question about how prime time is currently defined and whether reclassifying certain shoulder hours could increase utilization.

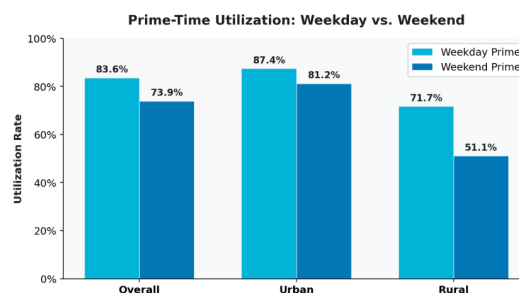
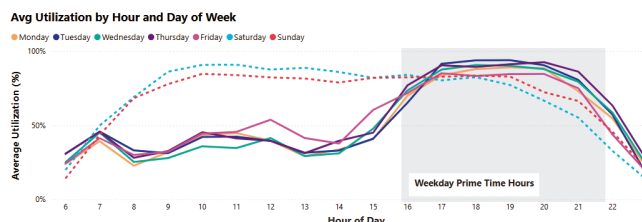


Figure 7. Prime-time utilization: weekday vs. weekend.

	Weekday Prime Utilization %	Weekend Prime Utilization %
Overall	83.6%	73.9%
Urban	87.4%	81.2%
Rural	71.7%	51.1%

Utilization by Day and Hour

The highest utilization is weekday evenings from 5 to 10 pm. Mornings and early afternoons are consistently underutilized across all days.

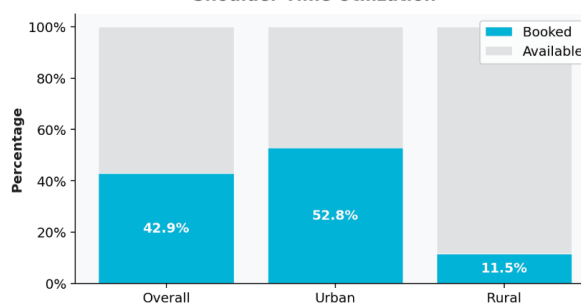


Shoulder Hours

Shoulder hours are booked at 42.9% overall, 52.8% in urban areas, and 11.5% in rural areas. The shoulder hours are the hours on the fringe of a traditional working day, and they require no infrastructure investment to activate.

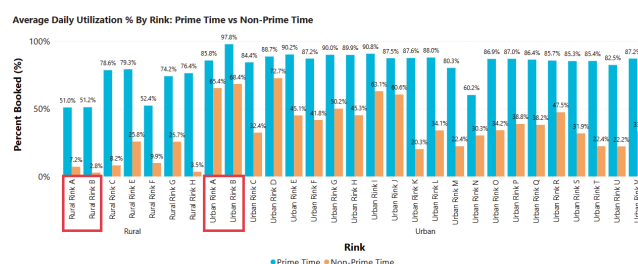
Shoulder hours are defined as 6am-8am for all days, and 4-5pm on weekdays.

Shoulder Time Utilization



Individual Rink Variation

Urban facilities such as urban rinks A & B operate at near capacity (82.0% and 82.3% respectively). Rural facilities such as rural rinks A & B have substantial room for growth (33.6% and 31.4%, respectively). This variation means effective strategies need to be tailored to local communities rather than applied uniformly.



What Drives Utilization: The Evidence

4Global and Open Ice conducted a regression analysis across ice surfaces, examining 17 demographic, geographic, and economic factors to identify which most significantly influence rink utilization. Ten factors were statistically significant.

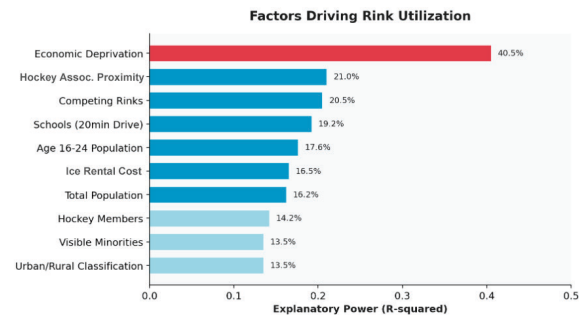


Figure 11. Factors driving rink utilization, ranked by explanatory power.

The significant factors cluster into three groups with distinct practical implications:

1) Affordability

Economic deprivation (lower incomes) is the strongest predictor of rink utilization, explaining over 40% of the variance. For every 10% increase in a rink's catchment classified as "most deprived," utilization drops by 3.1%. Ice rental pricing also matters: every \$30 above the provincial average correlates with approximately 5% lower use.

Lower-income communities are using rinks less due to affordability barriers, not lack of interest. Pricing and subsidy decisions are as important as scheduling in determining access.

2) Programming and Institutions

Proximity to organized ice hockey associations (rank #2), schools within a 20-minute drive (rank #4), and the 16–24 age population (rank #5) are the strongest positive drivers of utilization. Each additional school within a 20-minute drive correlates with approximately 0.2% higher utilization. Notably, the number of hockey members living in a catchment area (rank #8) has less influence than the presence of organized associations, suggesting that institutional connection matters more than proximity alone.

Rinks fill when organized programming connects them to communities. Introductory programs, school partnerships, and community sport hubs are the most evidence-supported path to increasing utilization.

3) Access and Demographics

The percentage of visible minorities in a catchment area (rank #9) correlates with lower utilization, with an 8.5% drop for every 10% of the population flagged as a visible minority, though this is a weaker signal. When combined with economic deprivation and the gender travel distance data from Section 3, a pattern emerges: multiple demographic factors correlate with lower utilization, suggesting access barriers that go beyond scheduling alone. The regression also confirms that urban rinks (rank #10), those in catchments with fewer competing rinks (rank #3), and larger populations (rank #7) tend to have higher utilization.

Taken together, these patterns indicate that lower utilization is often a signal of underlying access barriers, not a lack of demand. Demographic, economic, and geographic factors all shape who is currently able to get on the ice.

6

Opportunities

The findings identify clear, actionable opportunities to improve access and utilization. It became clear that across gender, income, and geography, access to ice is not evenly distributed and current systems lack the visibility required to address it. Each opportunity below connects to a specific insight from the data.

1. Shoulder hours represent untapped capacity.

While overall prime-time utilization remains high, over 57% of shoulder hours remain unused across all rinks, with over 88% unused in rural rinks, and 47% remain unused in urban rinks. (Section 4). These hours require no new infrastructure, yet they remain invisible through current booking channels.

Publishing real-time shoulder-hour availability and offering reduced rates could open access for underserved user groups.

2. Standardized demographic data would enable better planning.

Sixty-seven percent of bookings cannot be matched to an age group, 47.8% of bookings cannot be matched to a gender, while the vast majority of allocation follows historical patterns (Sections 2–3). Without demographic visibility, there is limited basis for evaluating whether public ice allocation reflects community needs.

A common minimum data standard for gender, age group, and sport type across publicly funded arenas could close this gap.

3. Rural facilities would benefit most from digital booking tools.

Rural rinks have the lowest utilization (66.2% prime, 11.9% non-prime) and the highest proportion of facilities with no booking system (Section 2). In other words, the communities with the most available ice are the least equipped to connect it with demand.

Including digital booking adoption as an eligible expense in recreation infrastructure grants could help bridge this gap.

4. School-rink partnerships could activate daytime ice.

Each additional school within a 20-minute drive correlates with 0.2% higher utilization (Section 5), and daytime ice is among the least utilized (Section 4). Further, only five of the Open Ice rinks have a school within 1 km.

Pilot partnerships in a handful of communities targeting learn-to-skate, introductory hockey and ringette, physical education programming and coach training for high school students could demonstrate the model.

5. Allocation data could inform equity conversations.

Urban prime-time is at 86.1% utilization, yet female participants travel 15% farther, skating club waitlists exceed 200 in HRM, and smaller PSOs report losing ice to private hockey groups (Sections 3–5). In a constrained environment, allocation decisions determine who participates.

Mapping Open Ice data against membership demographics and waitlist data at multi-pad facilities could support a more transparent allocation process.

6. Expanding coverage would multiply the platform's value.

The pilot covered 29 of 91 ice surfaces in Nova Scotia and generated actionable findings across every dimension (Sections 2–5). Given that all 29 rinks currently lack a formal booking system to capture data, achieving approximately 50% coverage of the potential market provides a strong foundation for regional analysis. However, the platform's value increases with broader participation.

Expanding Open Ice to all 91 surfaces and establishing a roadmap for other publicly managed recreation assets would significantly strengthen decision-making across the province. There is also a clear opportunity to scale this approach nationally.

Limitations and Future Directions

Coverage: Findings are directionally consistent but may not represent every facility, particularly those without digital booking infrastructure.

Data quality: Demographic matching depends on booking data entered variably by managers. The high unknown percentages (47.8% gender, 67.2% age) are both a finding and a constraint on demographic analysis. There was an attempt to improve data completeness through automated and manual matching. A data tool assigned gender by matching booking records to pre-identified team lists (e.g., known male and female teams in Nova Scotia), with manual matching used where automated matching was not possible.

Cross-sectional design: The regression identifies correlations, not causal relationships. The specific mechanisms behind socioeconomic factors effect on utilization cannot be determined from this data alone. These limitations define the research agenda for the next phase: extend coverage, improve data standardization, add longitudinal tracking, and investigate the mechanisms behind the correlations identified here.

Data Sources and Methodology

This paper draws on data from the 2025–2026 Open Ice pilot (October 1, 2025 to March 21, 2026) covering 29 ice surfaces across Nova Scotia, supplemented by analysis of 32,254 booking records from 28 ice surfaces during the 2024–2025 season. Utilization metrics assume all arenas are open from 6am to midnight. Prime time is defined as 4pm to 10pm on weekdays and 6am to 10pm on weekends. Rinks were classified as urban or rural based on Statistics Canada definitions, where urban rinks are located within population centres defined as continuously built-up areas with a minimum population of 1,000 and a density of at least 400 people per square kilometre and rural rinks are located outside of these areas. Shoulder hours are defined as 6am–8am for all days, and 4–5pm on weekdays. Demographics were matched with Hockey Canada and Hockey Nova Scotia membership records. Census and deprivation data were sourced from Statistics Canada. Regression analysis was performed by 4Global. Qualitative feedback was gathered from provincial sport organizations and municipal leaders through consultation. This analysis also builds on foundational research conducted through the Mitacs Business Internship program, including the Open Ice Project in Nova Scotia report (MacIntosh, 2025), which informed elements of the study design, data interpretation, and contextual framing.

This paper was produced with the assistance of AI tools. All data, findings, and conclusions were reviewed and verified by the Future of Hockey Lab.

Future of Hockey Lab

The Future of Hockey Lab was founded on a simple belief: many of sport's biggest challenges persist not because of a lack of innovative ideas, but because systems are not designed to test them.

Emerging from the Hockey Nova Scotia Diversity & Inclusion Task Force Recommendations in 2020, Canada's first social innovation lab for hockey was built to bring together diverse voices, real-world evidence, and bold experimentation to solve complex challenges facing the game. Its purpose was not to study problems from a distance, but to work in and alongside communities, prototype innovative ideas, and create new models for broader system change.

Open Ice did not happen by accident. It is the type of solution the Future of Hockey Lab was created to build. Seeing old problems differently, building and testing new solutions, and sharing what is learned for others to build upon, is the legacy of the Future of Hockey Lab.

Partners & Acknowledgements

The Future of Hockey Lab extends sincere thanks to the many organizations and individuals whose leadership, collaboration, and belief in innovation made the Open Ice pilot and this report possible.

Partners

We are deeply grateful to Bauer, presenting partner of Open Ice, for its continued leadership and commitment to helping shape a stronger future for the game. We also acknowledge the valued support of partners who invested in the Future of Hockey Lab's broader mission to test and scale bold ideas that improve access, participation, and experience in hockey.



The NHL/NHLPA Industry Growth Fund has been a key strategic partner in the pilot. Hockey Canada has also collaborated by providing access to critical data that will inform strategy and help create more inclusive participation pathways.

Technical & Research Contributors



We thank 4Global for their technical expertise, analytics leadership, and collaboration in the development of the Open Ice platform and the analysis that informed this report. We also recognize the researchers, advisors, and project contributors whose work in data collection, system mapping, stakeholder engagement, and implementation helped bring the pilot to life. This work was supported in part by Mitacs through its research internship program.

Participating Communities & Stakeholders

We are grateful to the municipalities, facility managers, Provincial Sport Organizations, and community leaders everywhere who shared their time, perspectives, and data throughout the pilot. Your openness and practical insight strengthened both the platform and the learnings captured in this report.

Governance & Strategic Leadership

We thank the Future of Hockey Lab Board of Directors for their governance, stewardship, and belief in innovation-led systems change. We also acknowledge the Board of Mentors, whose experience, guidance, and national perspective helped strengthen the FHL's work and broaden its impact.

The Open Ice Team

We gratefully acknowledge the Open Ice team, whose dedication, expertise, and persistence helped move this work from concept to pilot. Their efforts in project leadership, partner coordination, data analysis, communications, and day-to-day problem-solving were instrumental to the success of the initiative and the completion of this report.

Open Ice demonstrates what becomes possible when visibility, data, and collaboration are applied to a long-standing system challenge. The opportunity now is to build on this strong foundation and shape a more accessible and sustainable future for hockey in Canada.