Strategic Renewal for Healthcare Parking Structures

Presented by:

Stephen Plesko, P.Eng. - RJC Engineers
Gurjeet Dosanjh - Lakeridge Health

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

Presentation Agenda

01 Why Parking Is Clinical Access Infrastructure

02 From Reactive Repair To Proactive Planning

03 Lakeridge Health Case Study

04 Living Capital Plan And Mobility-First Phasing

05 Construction Monitoring, Continuity And Outcomes

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

Company Introduction

Read Jones Christoffersen Ltd.

National firm with offices in **16** Canadian cities

650+ Staff, including 300+ Professional Engineers

- Structural Restoration
- Building Science
- Structural
- Envelope
- Parking Planning/ Facility Design
- Reserve Fund Studies/ Capital Planning



Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

Company Introduction

Lakeridge Health

Regional Care Relies On Dependable Access

- Five Ontario hospitals and a Long-Term Care Home across Durham Region
- Regional specialty care (Cancer Care Centre) across the Eastern Greater Toronto Area
- 24/7 emergency, elective and ambulatory services
- Durham Region's largest employer

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

01 Why Parking Is Clinical Access Infrastructure

WHY IT MATTERS

24/7 ACCESS STARTS BEFORE THE HOSPITAL DOOR

PATIENTS + VISITORS

Reliable, intuitive and safe arrival pathways.

STAFF

Predictable access that supports every shift.

OPERATIONS

Continuous flow for a 24/7 care environment.

Renewal decisions are operational decisions, not only structural decisions.

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

02 From Reactive Repair To Proactive Planning

THE CHALLENGE

> How might we shift from *reacting to visible failures* to *proactively assessing conditions and planning capital* to reduce disruption and lifecycle costs while improving forecast certainty?



02 From Reactive Repair To Proactive Planning

THE CHALLENGE

> **How might we shift from *reacting to visible failures* to *proactively assessing conditions and planning capital* to reduce disruption and lifecycle costs while improving forecast certainty?**

BEFORE

Report → Repair

- Point-in-time information
- Reaction to visible needs
- Short funding horizon
- Urgent closures and complaints
- Higher-cost ad hoc repairs

AFTER

Assess → Plan → Implement

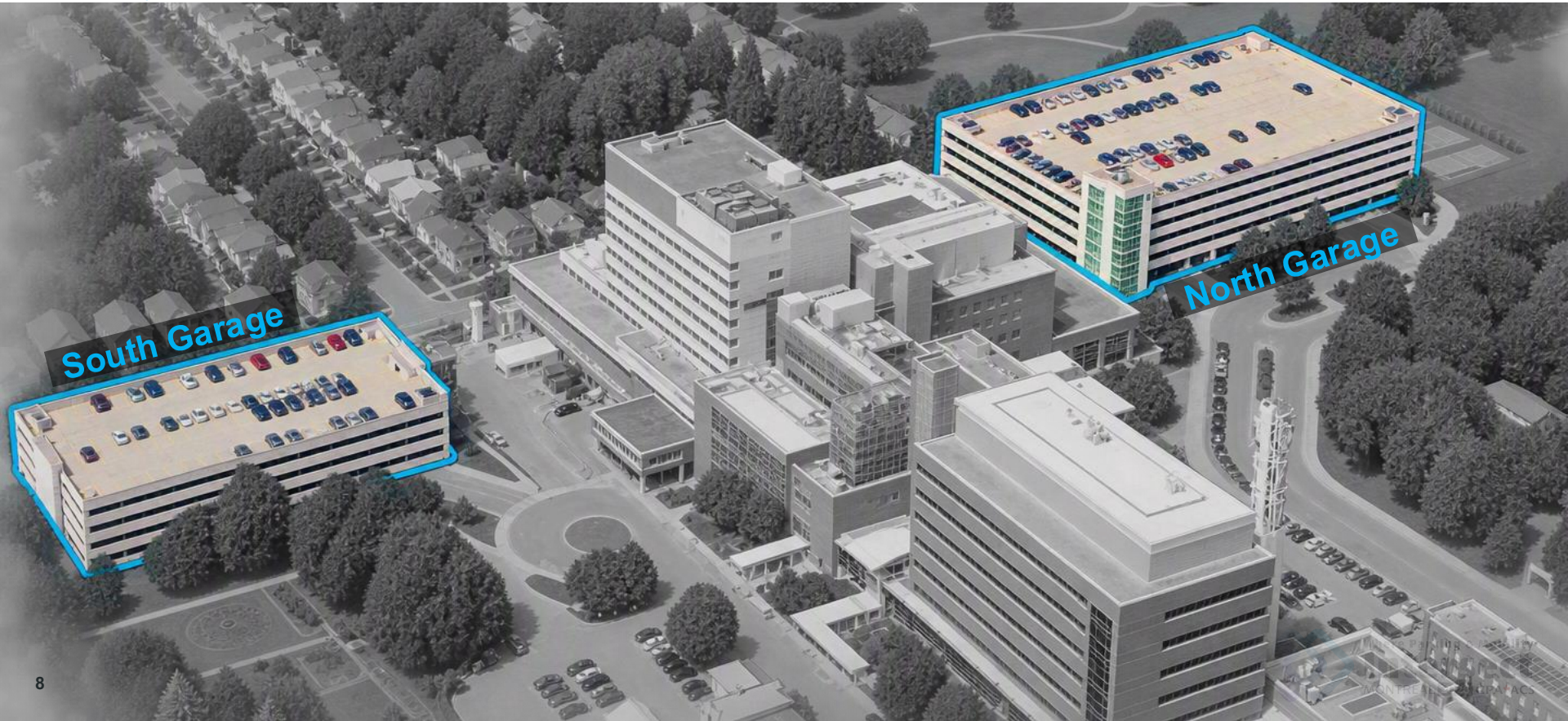
- Whole-asset condition outlook
- Risk- and budget-based prioritization
- Rolling capital horizon
- Logistics planned before implementation
- PARCS analytics inform decisions

Forecast → Coordinate → Preserve Access

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

THE CASE STUDY



03 Lakeridge Health Case Study

ROADMAP

1	2	3	4	5
ON-SITE ASSESSMENT	SYNTHESIZE RESULTS	CAPITAL PLAN DEVELOPMENT	IMPLEMENT PLAN	UPDATE/ REPEAT
See the asset clearly	Turn evidence into priorities	Match priorities to fiscal reality	Implement the plan around the care journey	A repeatable cycle that turns condition data into coordinated action.

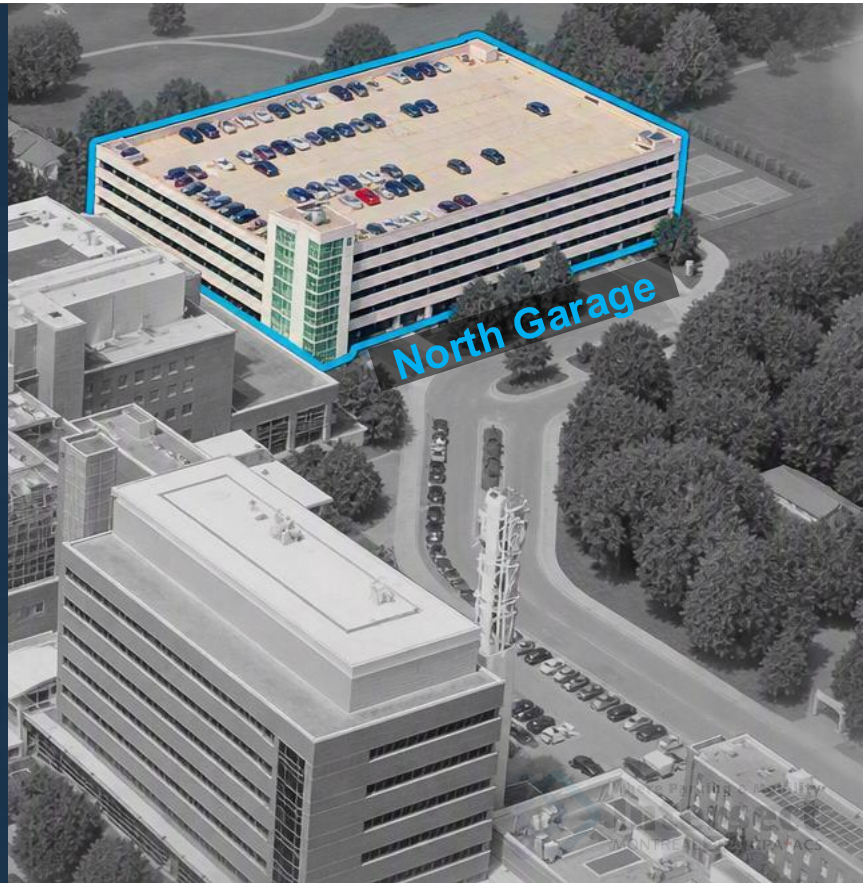
Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

NORTH PARKING GARAGE BACKGROUND

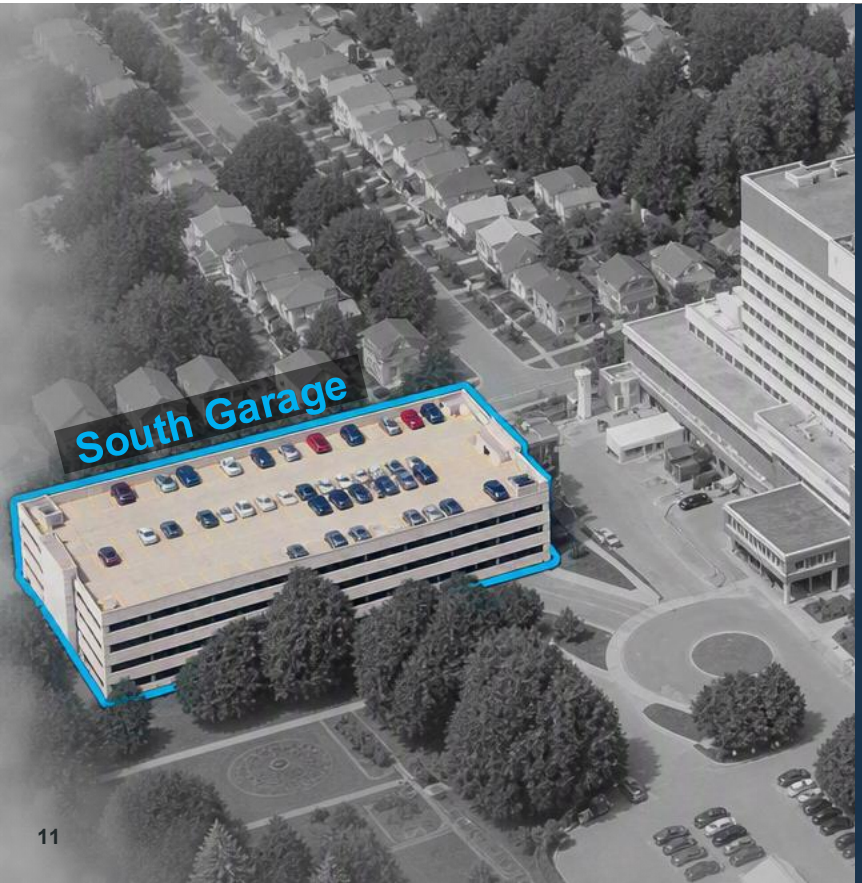


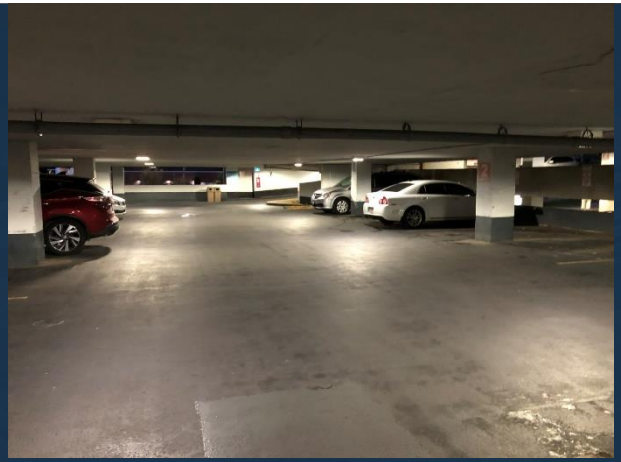
- Constructed 1996, with 3-level expansion in 2007
- 9 levels, 1,328 parking stalls
- 38,800 square metres (418,000 sq. ft.)
- Reinforced cast-in-place concrete
- Asphaltic waterproofing system throughout
- No significant repair programs performed



03 Lakeridge Health Case Study

SOUTH PARKING GARAGE BACKGROUND





- Constructed 1973, with 2-level expansion in 1982
- 6 levels, 586 parking stalls
- 17,000 square metres (184,000 sq. ft.)
- Reinforced cast-in-place concrete
- Thin traffic deck coating waterproofing system typically, with asphaltic waterproofing system on roof level

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT → SYNTHESIZE RESULTS → CAPITAL PLAN DEVELOPMENT → IMPLEMENT PLAN → UPDATE/ REPEAT

Critical First Step: Evidence First.

Visual Assessment	Acoustic Surveys	Material Testing Services
P.Eng. review of visible deterioration, ponding, drainage and system condition.	All concrete elements and slab waterproofing systems. **Intent:** Detect and quantify concrete and waterproofing deterioration	Slab Chloride Ion Content Rapid Chloride Permeability (RCP) Testing for thin waterproofing systems

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | CAPITAL PLAN DEVELOPMENT | IMPLEMENT PLAN | UPDATE/ REPEAT









Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | CAPITAL PLAN DEVELOPMENT | IMPLEMENT PLAN | UPDATE/ REPEAT









Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | **SYNTHESIZE RESULTS** | CAPITAL PLAN DEVELOPMENT | IMPLEMENT PLAN | UPDATE/ REPEAT

Synthesize results → Prioritize

Prioritization

- Review of visual, acoustic sounding, and material testing results as a whole
- Consider the age of the systems (waterproofing systems, expansion joint seals, overall age of structure, etc.)
- Determination of higher risk areas
  - Any immediate concerns? Immediate implementation
  - Worst condition = prioritize first

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | **SYNTHESIZE RESULTS** | CAPITAL PLAN DEVELOPMENT | IMPLEMENT PLAN | UPDATE/ REPEAT



- Waterproofing 20-30 years old
- Structure performing, minimal structural and waterproofing deterioration
- Drainage systems failing
- Localized approach, prioritize top down



- Waterproofing replacement completed on select levels, majority is beyond service life
- Prioritize repairs by level, wholesale waterproofing replacement and structure repair approach

Prioritization Established.

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | **CAPITAL PLAN DEVELOPMENT** | IMPLEMENT PLAN | UPDATE/ REPEAT

Prioritization Established → Assign Costs And Plan

Key Considerations When Planning:

Fiscal Reality

Capital Optimization

Phased repairs to meet annual capital reality. Structure multi-year funding to align high-priority work with annual cash flow targets.

Shutdowns & Phasing

Protecting Critical Access

Phasing increases costs but keeps essential healthcare open. When patient access matters most, phased delivery is worth the investment.

Facility Priorities

Strategic Capital Focus

Interim solutions keep systems running while preserving funds for larger organizational goals. Staging capital allows teams to invest where the impact is greatest.

Timing

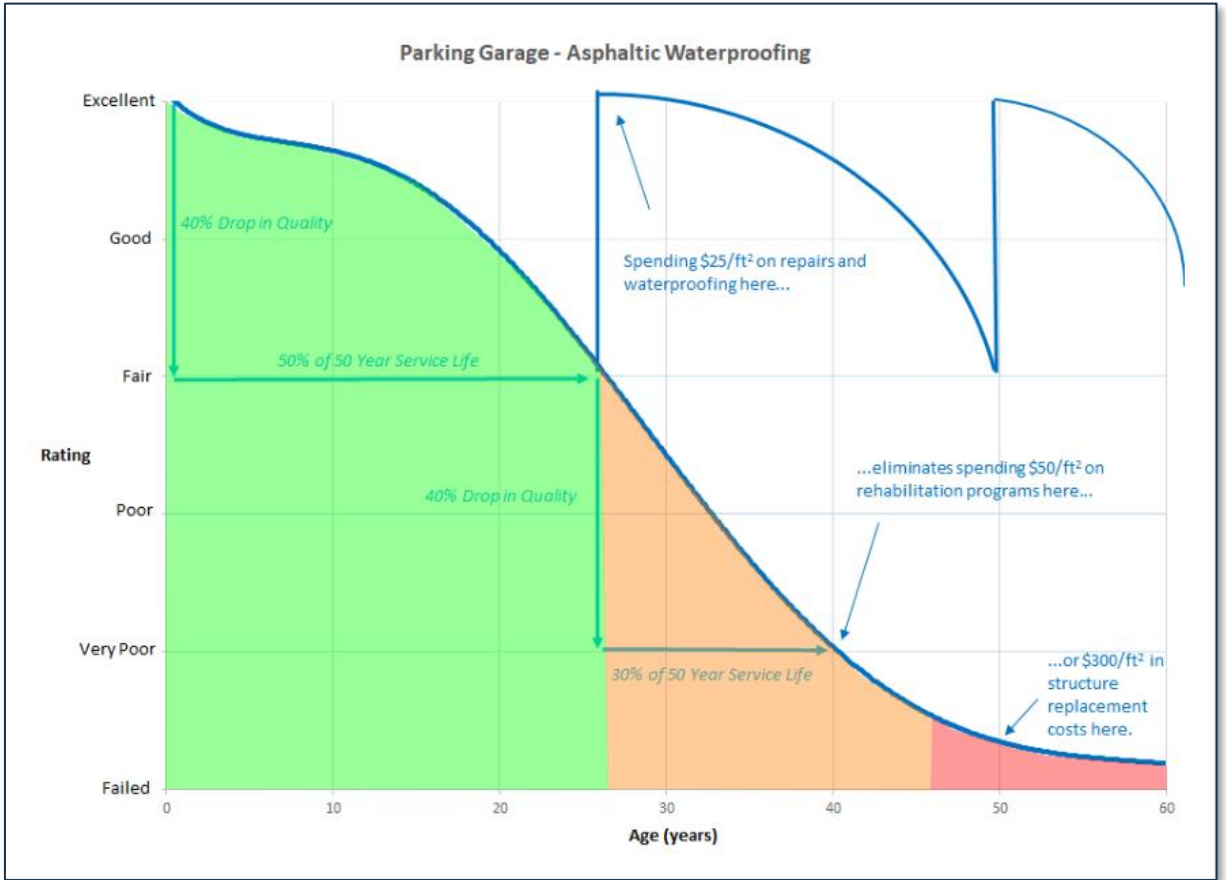
Lifecycle Value Optimization

Real-time tracking of deterioration curves lets teams intervene at the ideal moment. Acting early at $15/ft² restores performance and prevents steep replacement costs.

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | **CAPITAL PLAN DEVELOPMENT** | IMPLEMENT PLAN | UPDATE/ REPEAT

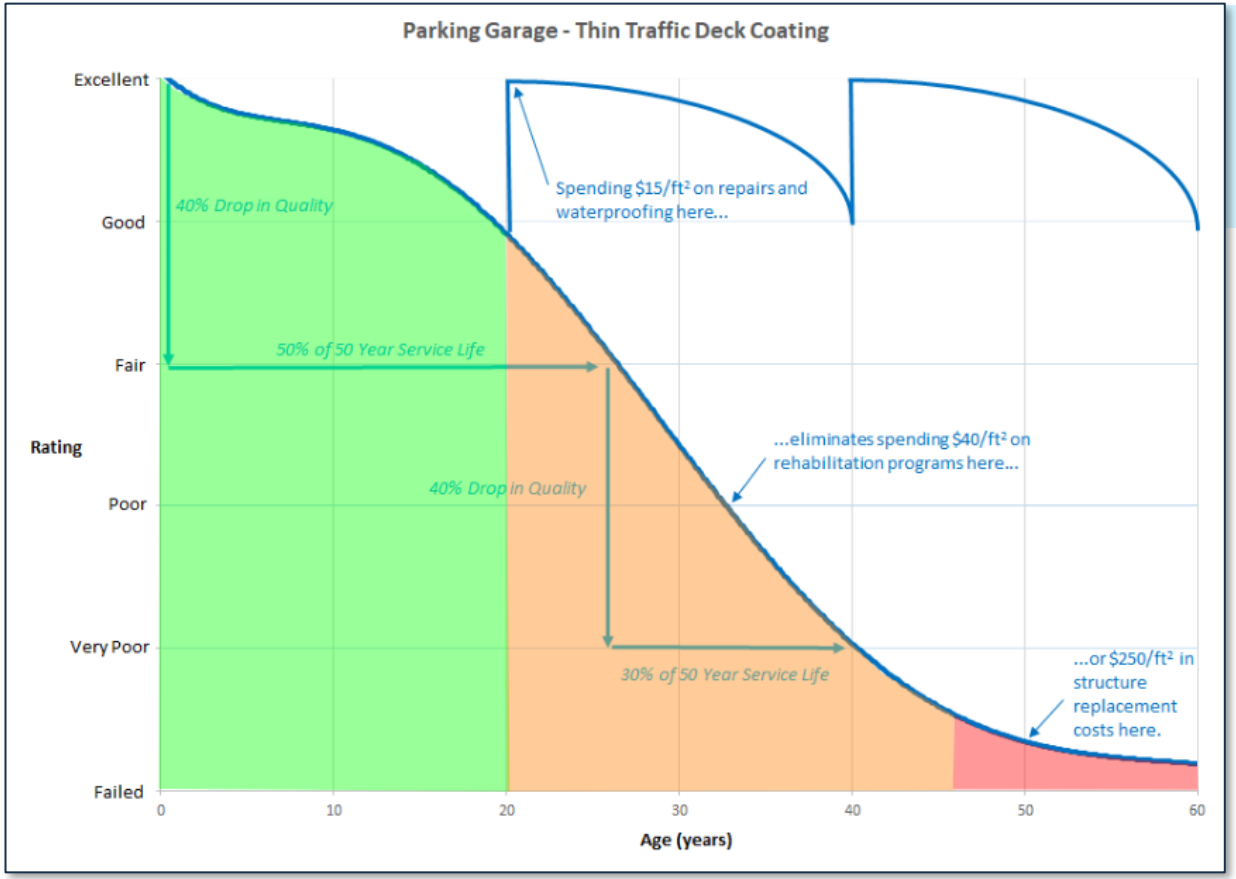


KEY CONSIDERATION | TIMING

Deterioration Curve:
Asphaltic Systems

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | **CAPITAL PLAN DEVELOPMENT** | IMPLEMENT PLAN | UPDATE/ REPEAT



KEY CONSIDERATION | TIMING

Deterioration Curve:
Thin Waterproofing

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

03 Lakeridge Health Case Study

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | **CAPITAL PLAN DEVELOPMENT** | IMPLEMENT PLAN | UPDATE/ REPEAT

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

TWO GARAGES = ONE COORDINATED PLAN

55,800 m²
combined renewal area

2 garages
must remain operational

5 years
rolling planning horizon

1. Developed a “living” capital plan with level-by-level sequencing to preserve capacity
2. Avoid full-garage and full-level closures where circulation above would be affected
3. Prioritize by condition while creating fiscal certainty
4. Refresh the plan as conditions, budgets and operational needs change

03 Lakeridge Health Case Study

PROMISE OF ACCESS DURING CONSTRUCTION

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | CAPITAL PLAN DEVELOPMENT | **IMPLEMENT PLAN** | UPDATE/ REPEAT

DESIGN THE CLOSURE AROUND THE CARE JOURNEY

Protect familiar routes, accessible paths and predictable arrival.

"Keep access reliable while renewal advances."



PROTECT FAMILIARITY
Maintain normal routes wherever possible so users do not have to relearn the garage.



MAINTAIN MOBILITY
Keep accessible paths continuous and reduce patient, staff and physician disruption.



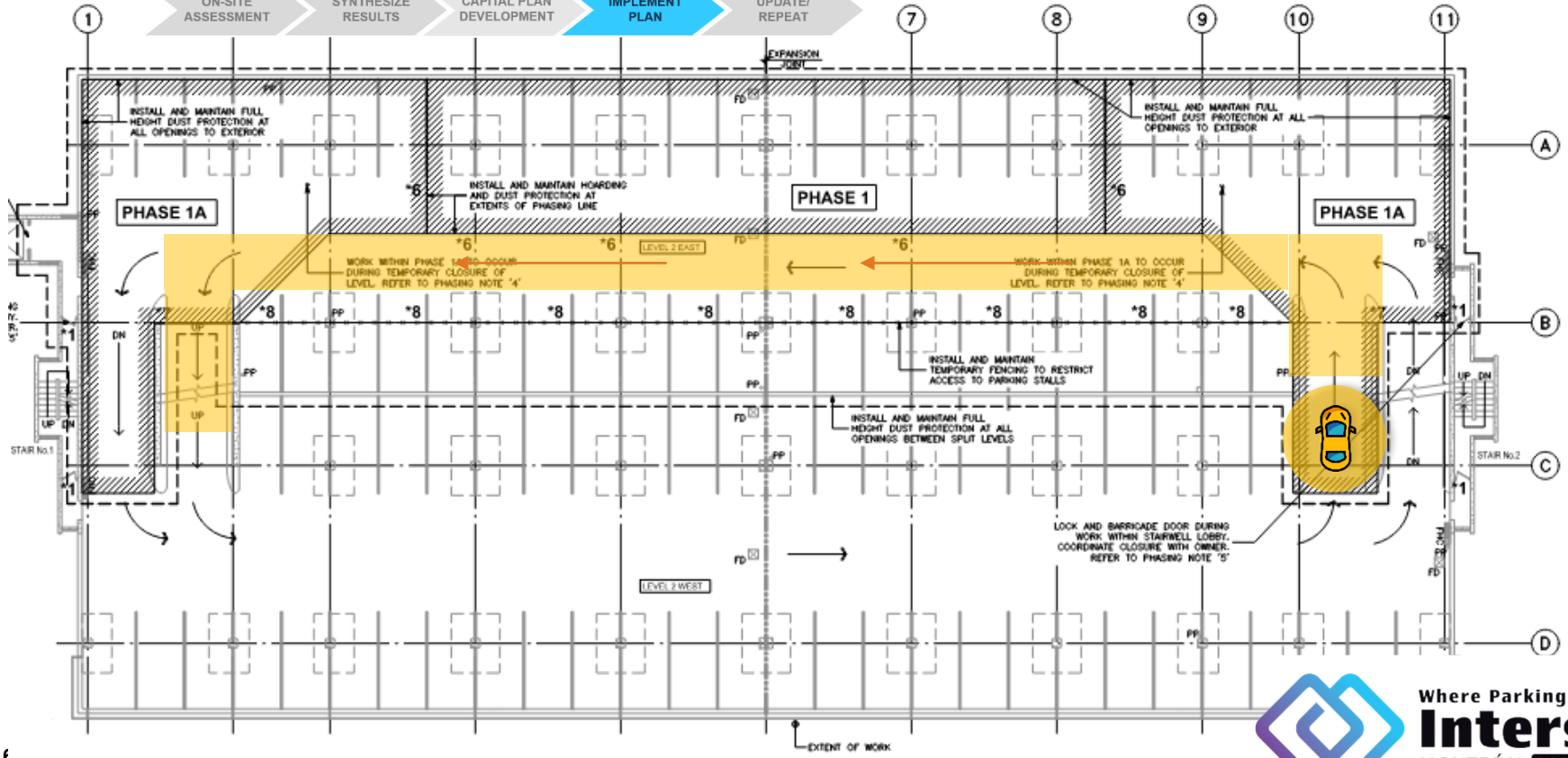
PLAN THE IMPACT
Define detours early and communicate changes before each construction phase.

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

04 Living Capital Plan And Mobility-First Phasing

MOBILITY-FIRST PHASING

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | CAPITAL PLAN DEVELOPMENT | **IMPLEMENT PLAN** | UPDATE/ REPEAT

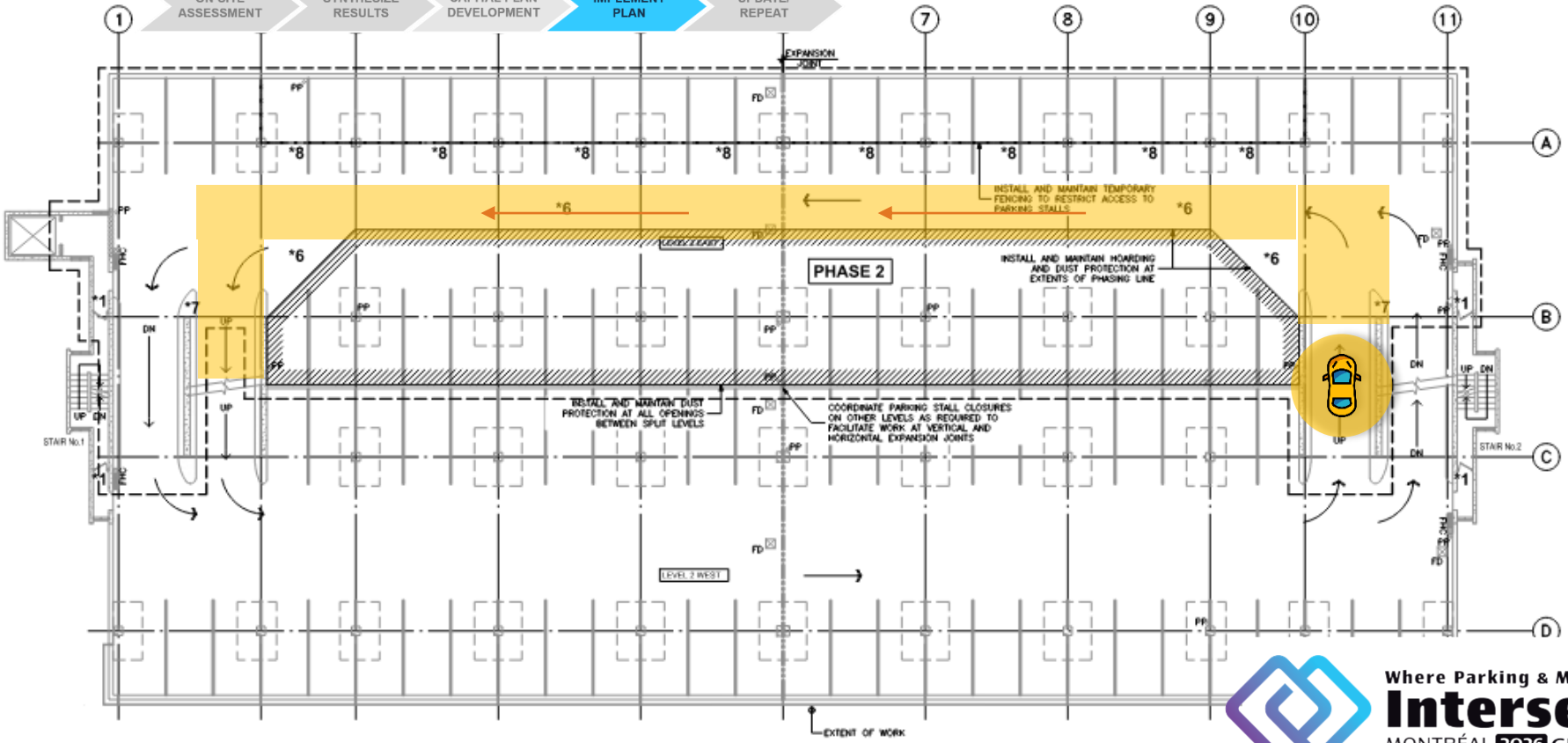


Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

04 Living Capital Plan And Mobility-First Phasing

MOBILITY-FIRST PHASING

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | CAPITAL PLAN DEVELOPMENT | **IMPLEMENT PLAN** | UPDATE/ REPEAT



Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

04 Living Capital Plan And Mobility-First Phasing

MOBILITY-FIRST PHASING

ON-SITE ASSESSMENT → SYNTHESIZE RESULTS → CAPITAL PLAN DEVELOPMENT → **IMPLEMENT PLAN** → UPDATE/ REPEAT





Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

04 Living Capital Plan And Mobility-First Phasing

MOBILITY-FIRST PHASING

ON-SITE ASSESSMENT → SYNTHESIZE RESULTS → CAPITAL PLAN DEVELOPMENT → **IMPLEMENT PLAN** → UPDATE/ REPEAT





Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

04 Living Capital Plan And Mobility-First Phasing

MOBILITY-FIRST PHASING

ON-SITE ASSESSMENT | SYNTHESIZE RESULTS | CAPITAL PLAN DEVELOPMENT | **IMPLEMENT PLAN** | UPDATE/ REPEAT





Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

04 Living Capital Plan And Mobility-First Phasing

DON'T STOP AT DESIGN

Design Stage

1	Map critical routes
2	Confirm peak demands
3	Identify constraints

During Construction

BEFORE EACH PHASE		DURING THE WORK	
1	On-Site validation of closures	1	Monitor access
2	Test detours	2	Resolve conflicts quickly
3	Align communications	3	Feed lessons forward

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

05 Construction Monitoring, Continuity & Outcomes

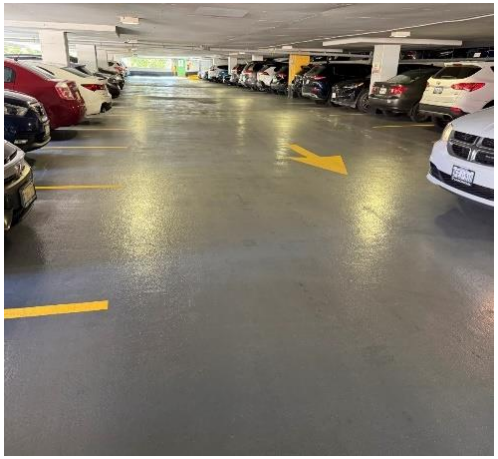
CONTINUITY

ON-SITE ASSESSMENT → SYNTHESIZE RESULTS → CAPITAL PLAN DEVELOPMENT → IMPLEMENT PLAN → UPDATE/ REPEAT

Continuity Preserves Knowledge

Institutional Memory, Fewer Gaps, Faster Decisions

- Retains knowledge of past and future capital work
- Avoids re-learning operational needs
- Reduces hand-off gaps
- Enables faster course correction
- Strengthens accountability across project phases





Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

05 Construction Monitoring, Continuity & Outcomes

OUTCOMES

Benefits Of A Living Five-year Plan:

Asset Management
Ongoing renewal roadmap grounded in condition, risk and timing.

Warrant Advocacy
Continuity supports dependable follow-through with contractors across years.

Stakeholder Alignment
Consistent collaboration among Lakeridge Health, Impark and RJC.

Forecast Certainty
A rolling horizon strengthens budget decisions and reduces surprises.

Parc Analytics
Operational data from Schiedt & Bachmann Entrevo helps optimize patient and staff flow during closures.

Where Parking & Mobility Intersect MONTRÉAL 2026 CPA ACS

CLOSING

Healthcare Parking Structures

Keeping 24/7 clinical access reliable while infrastructure renewal advances

Presented By:
Stephen Plesko, P.Eng. | RJC
Gurjeet Dosanjh | Lakeridge Health

SAFE MOBILITY IS THE OUTCOME.

Strategic renewal is the process that enables it.

- **Proactive Capital Planning**
- **Risk-Based Prioritization**
- **Mobility-First Sequencing**
- **Consistent Support**

Where Parking & Mobility Intersect MONTREAL 2026 CPA ACS

Thank You

Questions & Discussions

Stephen Plesko, P.Eng. | RJC

Gurjeet Dosanjh | Lakeridge Health

Where Parking & Mobility Intersect MONTREAL 2026 CPA ACS