



**City of Kingston
Information Report to Council
Report Number 17-162**

To: Mayor and Members of Council
From: Jim Keech, President and CEO, Utilities Kingston
Resource Staff: Mark Van Buren, Director of Engineering and Deputy Commissioner
Date of Meeting: May 16, 2017
Subject: LaSalle Causeway (LSC) Closures

Executive Summary:

The purpose of this report is to provide some background information with respect to the LaSalle Causeway (LSC) together with a summary of recent closures of the LSC and upcoming closures based on information provided by Public Services and Procurement Canada (PSPC). The Federal Government owns the LSC and is responsible for all costs related to the maintenance, repair and operations of the Causeway.

The future of the LaSalle Causeway is of great concern to the City of Kingston and its regional partners, including the region's business sector, health care providers, community organizations and municipalities. The LaSalle Causeway is a key component of the City's overall transportation network. Based on recent traffic counts, up to 28,000 vehicles a day cross the Causeway to access medical care, essential government services, employment opportunities, tourist attractions, the downtown core and other services necessary to meet daily needs. Therefore, a safe and reliable LaSalle Causeway is vital. The next closest crossing of the Great Cataraqui River (Rideau Canal) is approximately 6 km to the north (Highway 401).

The Bascule Bridge was originally constructed in 1916 and remains largely unchanged to the present day. Given the age of the Bascule Bridge, its steel and concrete construction, and the associated electrical and mechanical systems, planned closures of the Causeway are to be expected for annual inspections, routine maintenance and more substantive structural repairs on an as needed basis. During these closures, the Causeway may be closed to all traffic for the duration or opened periodically for limited access. For example, during the most recent closures (April 21-26, 2017) the Causeway was closed to all vehicle and marine traffic but cyclists and pedestrians were allowed periodic access. As a result, when the Causeway is closed, emergency response times, daily commute times, transit service and

May 16, 2017

Page 2 of 8

active transportation options (walking and cycling) are significantly impacted. While the impacts may be mitigated to some degree through contingency planning, maintaining the same level of service as exists when the Causeway is open is extremely difficult, if not impossible.

Over the past couple of years the need for longer closures has become necessary in order to undertake required structural repairs to keep the bridge safe and operational (e.g. the most recent closure extended over five days). It must also be recognized that with any piece of aging machinery or infrastructure, there is also the potential for failure of one or more components leading to an unplanned shut down or service interruption.

The Federal Government recognizes its responsibility to maintain the LaSalle Causeway and keep its operation safe and functional. Regular condition assessments are undertaken to identify required repairs to the LaSalle Causeway and to assist with budget allocations to undertake those repairs. At this time, PSPC is anticipating that future closures of the LSC will be required in order to undertake a number of required repair projects during the winter of 2017 and throughout the year in 2018. These closures may last from a few hours to 24 - 48 hours and occur over periods of three (3) days to fifteen (15) days. However, it must be recognized that this information is preliminary only as the logistics for the projects are still under development. PSPC has advised that they will provide more information as it becomes available and will make every effort to minimize impacts to marine traffic, vehicles, pedestrians and cyclists. No information has been provided at this time with respect to planned closures beyond 2018.

Recommendation:

There is no recommendation as this report is for information purposes only.

May 16, 2017

Page 3 of 8

Authorizing Signatures:

ORIGINAL SIGNED BY PRESIDENT & CEO, UTILITIES KINGSTON

**Jim Keech, President and CEO,
Utilities Kingston**

ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER

Gerard Hunt, Chief Administrative Officer

Consultation with the following Members of the Corporate Management Team:

Lanie Hurdle, Community Services	Not required
Denis Leger, Corporate & Emergency Services	Not required
Desiree Kennedy, Chief Financial Officer & City Treasurer	Not required

May 16, 2017

Page 4 of 8

Options/Discussion:**Purpose**

The purpose of this report is to:

- provide background information respecting the LaSalle Causeway (LSC); and
- provide information with respect to past and future closings of the LSC.

Background**General Description of the LaSalle Causeway**

The following is a general description of the LaSalle Causeway:

- Built in 1917, the LaSalle Causeway replaced the 1829 “Penny Bridge”, a wooden toll bridge with a swing section to allow passage of marine vessels;
- The LaSalle Causeway is approximately 490 metres long and 40 metres wide;
- It consists of seven interconnecting engineered structures: two fixed bridges at each end of the Causeway; the centre bascule lift-bridge; two mid-river “wharfs” or artificial islands as well as two approaches connecting the Causeway to the shoreline. The Causeway is not actually connected to the riverbed’s bedrock beneath it. It stays in place due to an antiquated form of friction posts sunk into the riverbed;
- The original fixed truss bridges have been replaced with reinforced concrete beam bridges – the East Bridge in 1969 and the West Bridge in 1993;
- The Bascule Bridge is the only part of the crossing completed in 1917 to survive largely unchanged to the present day. It is a single leaf trunnion bascule bridge that is lifted by rotating about a main trunnion (axle). A large concrete counter weight is used to balance the weight of the structure allowing it to open and close hourly during boating season;
- The Bascule Bridge has a vertical clearance above the water of 0.6 m when closed and unrestricted when open and a channel width of 49.1 m;
- In 2009/2010 the Bascule Bridge underwent a major rehabilitation (structural repairs and repainting);
- In 2011/12, the East Wharf was substantially rehabilitated;
- The lift bridge operates during the boating season from May to November. It operates by request during the off season, weather and maintenance permitting;
- The next closest crossing of the Great Cataraqui River (Rideau Canal) is approximately 6 km to the north (Highway 401).

The LaSalle Causeway requires ongoing mechanical, electrical and structural maintenance and repairs to continue operating and is a more complicated bridge structure than is operated elsewhere within the City of Kingston. Based on information provided by PSPC, the average operating costs for the Causeway over the last 5 years is approximately \$550,000 per year and the estimated capital expenditures over the next three years will be approximately \$5 Million. It is noted that these estimated expenditures would be contingent on the results of further studies yet to be undertaken.

May 16, 2017

Page 5 of 8

Regional Context of the LaSalle Causeway

The LaSalle Causeway is the main east-west traffic artery connecting downtown Kingston with Kingston East. It is the only crossing of lower Kingston Harbour and one of only three road crossings of the lower Cataraqui River/Rideau Canal. The next nearest crossing is 6 km to the north at Highway 401.

Based on recent traffic counts, up to 28,000 vehicles from throughout Eastern Ontario cross the Causeway in both directions on a daily basis to access medical care, schools, essential government services, shopping facilities and employment opportunities. As well, commercial trucks and other vehicles conducting daily business rely on the LaSalle Causeway. The Causeway provides access for residents living on the east side of the Cataraqui River/Rideau Canal to the largest concentration of employment, including downtown Kingston, Queen's University and two of the area's hospitals as well as to shopping facilities located west of the Causeway.

The Kingston Region is served by two hospitals located in close proximity to the LaSalle Causeway - Kingston General Hospital and Hotel Dieu Hospital, recently renamed Kingston Health Sciences Centre. These hospitals serve both the emergency and broader medical needs of a large area east to Brockville. As a tertiary care centre, the geographic territory is from east of Brockville to west of Trenton and north of Bancroft. Due to the proximity of the hospitals to the Causeway, the Causeway provides both a shorter and faster route to many of these areas rather than a routing via Highway 401.

In terms of emergency response for fire, Kingston Fire & Rescue operates three fire stations on the east side of the Cataraqui River/Rideau Canal. If the Causeway were to become unpassable, the operational flexibility of Kingston Fire & Rescue to move equipment between the east and west sides of the River if needed for a larger or multiple simultaneous events would be diminished by the longer distance required to use Highway 401.

Three important federal institutions are located in Eastern Ontario: Canadian Forces Base Kingston (the City's largest employer); the Royal Military College of Canada; and, Fort Henry National Historic Site (one of the region's premier tourist attractions). Each of these facilities benefits from and is dependent upon safe and reliable access across the LaSalle Causeway to downtown Kingston. The Causeway provides the most direct access for the employees, students, faculty and visitors of these facilities. It is also the most direct access from these large facilities to two of the area hospitals.

The LaSalle Causeway is the southerly gateway to the Rideau Canal, a UNESCO World Heritage Site, National Historic Site and Canadian Heritage River. The Canal extends from Kingston to Ottawa over a distance of 202 km and provides access to a number of interconnected lakes thereby providing for numerous boating and recreational opportunities and contributing to the City's tourism economy. Vessels higher than 4.3 metres are required to enter/exit the Canal through the Bascule Bridge when open. If the Bascule Bridge was rendered inoperable, taller vessels would not be able to access or exit the southern end of the Rideau Canal.

May 16, 2017

Page 6 of 8

Finally, a national fibre and telecommunication line runs along and under the south side of the Causeway providing voice and data communications across Ontario and Quebec. Bell Canada has indicated that this is a major communication cable for Canada. While the communications cable is not dependent on the operation of the Bascule Bridge, it could potentially be affected by required maintenance on or deterioration of the Causeway structures. Disruption of the cable could affect critical voice and data communications in Eastern Ontario and beyond.

LaSalle Causeway Closures

Information with respect to past LaSalle Causeway closures has been compiled based on records in the City's Engineering Department, data provided by PSPC, and/or public notices respecting LaSalle Causeway closures. This information is presented in Exhibit A to this report.

The last major rehabilitation of the Bascule Bridge occurred between November 1, 2009 and May 21, 2010. The rehabilitation works included painting, addressing corrosion and section loss and reinforcing/strengthening components of the steel structure. While the rehabilitation works were underway, the lift bridge was not operational for marine traffic and there were lane restrictions and some road closures affecting vehicles, cyclists and pedestrians. According to the PSPC website, "that extensive rehabilitation of the lift structure will ensure service well into the middle of the twenty first century".

However, based on a review of the LaSalle Causeway closures since the last major rehabilitation in 2010, the need for longer closures is becoming necessary in order to undertake required structural repairs to keep the bridge safe and operational. During the years 2011 – 2014, closures and/or lane restrictions on the Causeway were generally required for annual inspections, testing, bridge calibrations and/or measurements and maintenance. In August, 2015, the Causeway was closed for 48 hours to allow for the completion of required structural repairs. At that time, it was understood that further 48 hour closures would be required to undertake similar required repairs on other sections of the Bascule Bridge. The need for further closures has been reiterated during recent discussions with PSPC and the first of those additional closures occurred from April 21-25, 2017.

During the past closures, access across the LSC has been restricted to varying degrees. This has included:

- Lane restrictions and occasional road closures during the major rehabilitation in 2009/2010;
- Closing the Causeway for extended periods (48 hours plus) to all traffic for the duration of the closure;
- Overnight closures (e.g. 9:00 p.m. to 6:00 a.m.) to all traffic;
- Overnight closures with periodic work stoppages to allow pedestrians to cross;
- Random closures (5 minutes) during specified periods for test lifts; and
- Lane restrictions only.

During the Causeway closures, emergency response times, daily commute times, transit service

May 16, 2017

Page 7 of 8

and active transportation options (walking and cycling) are significantly impacted. While the impacts may be mitigated to some degree through contingency planning, maintaining the same level of service as exists when the Causeway is open is extremely difficult, if not impossible.

Longer planned closures are likely to become more frequent in order for PSPC to fulfill its mandate to keep the Causeway safe and operational. At the same time, it must also be recognized that with any piece of aging machinery or infrastructure, there is also the potential for failure of one or more components leading to an unplanned shut down or service interruption. As such, a reliable, safe and functional LaSalle Causeway is vital for the City's and surrounding Region's residents, businesses and public institutions.

Future LaSalle Causeway Closures

Based on the most recent information provided by PSPC, it is anticipated that future closures of the LaSalle Causeway will be required in order to undertake the following projects:

- North Guide Assembly Repair approx. 3 days (early winter 2017 shut down);
- Motor Controls approx. 5 to 10 days (late winter 2017 shutdown);
- Grating Repair approx. 3 days (summer 2018);
- Grating Replacement approx. 10-15 days (early winter 2018 shut down); and
- Structural Repairs approx. 3 days (summer/autumn 2018).

As these projects are still in the planning stages, the duration of the closures will depend on the advice received from the project engineers and consultants. These closures could involve overnight or daytime closures or longer closures of 24 – 48 hours over periods of three (3) days to fifteen (15) days. However, it must be recognized that this information is preliminary only as the project planning is still under review and the logistics will need to be finalized before more definitive timelines can be established. PSPC has advised that they will provide more information as it becomes available and will make every effort to minimize impacts to marine traffic, vehicles, pedestrians and cyclists. PSPC has not provided any information at this time with respect to planned closures beyond 2018.

Next Steps

The City of Kingston is concerned about the future of the LaSalle Causeway and the potential risks for residents, businesses and institutions that rely on a safe and reliable transportation system to make planning decisions to invest, create jobs or locate in the City. The City is prepared to play a meaningful role in the future of the LaSalle Causeway and will continue discussions with PSPC in order to determine a sustainable plan for the ongoing operations of the LaSalle Causeway. The City also recognizes that closures of the LaSalle Causeway can significantly impact emergency response times, daily commute times, transit service and active transportation options (walking and cycling) across the Great Cataraqui River and is in the process of reviewing emergency response plans and developing contingency plans in order to mitigate as much as possible the service disruptions created by planned or unplanned closures.

May 16, 2017

Page 8 of 8

Existing Policy/By-Law:

None

Notice Provisions:

There are no required Notice Provisions.

Accessibility Considerations:

None

Financial Considerations:

None

Contacts:

Mark Van Buren, Director of Engineering & Deputy Commissioner, Ext. 3218

Other City of Kingston Staff Consulted:

George Wallace, Senior Special Projects Manager, Ext. 1864

Alan McLeod, Senior Legal Counsel, Ext. 1237

Exhibits Attached:

Exhibit A LaSalle Causeway Closures

Exhibit A to Council Report 17-162

The following has been compiled based on information from the City's Engineering Department and/or PSPC and public notices respecting LaSalle Causeway closures.

LaSalle Causeway Closures

2009 2010	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	From November 1, 2009 to May 21, 2010				Structural repairs and repainting (last major rehabilitation of Bascule Bridge) – overnight lane restrictions and occasional road closures – lift bridge not operational for marine traffic
	Dec 8/09	9:00 p.m.	6:00 a.m.	9	Closed to all traffic for repairs and repainting
	Dec 9/09	9:00 p.m.	6:00 a.m.	9	Closed to all traffic for repairs and repainting
	May 17/2010	9:00 p.m.	6:00 a.m.	9	Closed to all traffic for structural repairs
	May 18/2010	9:00 p.m.	6:00 a.m.	9	Closed to all traffic for structural repairs
	May 19/2010	9:00 p.m.	6:00 a.m.	9	Closed to all traffic for structural repairs
	May 20/2010	9:00 p.m.	6:00 a.m.	9	Closed to all traffic for structural repairs

2011	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	March 27	8:00 a.m.	6:00 p.m.	10	Maintenance – lane restrictions only
	November 28	9:00 p.m.	6:00 a.m.	9	Maintenance – lane restrictions only
	November 29	9:00 p.m.	6:00 a.m.	9	Maintenance – lane restrictions only
	November 30	9:00 p.m.	6:00 a.m.	9	Maintenance – lane restrictions only
	December 1	9:00 p.m.	6:00 a.m.	9	Maintenance – lane restrictions only
	December 6	9:00 p.m.	6:00 a.m.	9	Maintenance – closed to vehicles and pedestrians

2011	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	December 7	9:00 p.m.	6:00 a.m.	9	Maintenance – closed to vehicles and pedestrians
	December 8	9:00 p.m.	6:00 a.m.	9	Maintenance – closed to vehicles and pedestrians
	November 15 To May 1/12				Maintenance and mechanical repair work. Closed to marine traffic.

2012	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	April 30	9:00 p.m.	6:00 a.m.	9	Closed to all road traffic for maintenance and annual testing
	May 1	9:00 p.m.	6:00 a.m.	9	Closed to all road traffic for maintenance and annual testing
	May 2*	10:30 p.m.	6:00 a.m.	7.5	Maintenance and annual testing
	May 3*	9:00 p.m.	6:00 a.m.	9	Maintenance and annual testing
	May 4*	9:00 p.m.	6:00 a.m.	9	Maintenance and annual testing
	May 5*	9:00 p.m.	6:00 a.m.	9	Maintenance and annual testing

Notes for 2012

*Causeway closed to all traffic. Water taxi service provided for pedestrians at no cost.

2013	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	April 5	9:00 p.m.	7:00 a.m.	10	Test & calibrate new lift operation control systems
	April 6	9:00 p.m.	7:00 a.m.	10	Test & calibrate new lift operation control systems
	May 2	12:15 p.m.	3:30 p.m.	3.15	Magnetic particle testing
	May 9	11:30 p.m.	4:00 a.m.	4.5	Commissioning of traffic lights
	September 3*	12:01 a.m.	5:00 a.m.	5	Bridge Measurements

2013	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	September 4	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	September 5*	12:01 a.m.	6:00 a.m.	6	Bridge Measurements
	September 6*	12:01 a.m.	6:00 a.m.	6	Bridge Measurements
	September 9*	12:01 a.m.	6:00 a.m.	6	Bridge Measurements
	September 10	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	September 11*	12:01 a.m.	6:00 a.m.	6	Bridge Measurements
	September 12	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	September 13	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	September 16*	12:01 a.m.	6:18 a.m.	6.3	Bridge Measurements
	September 17*	12:01 a.m.	1:45 a.m.	1.75	Bridge Measurements
	September 18	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	September 19	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	September 20	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	September 29*	12:01 a.m.	6:00 a.m.	6	Bridge Measurements
	September 30*	12:01 a.m.	6:00 a.m.	6	Bridge Measurements
	October 1	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	October 2*	12:01 a.m.	5:20 a.m.	5.3	Bridge Measurements
	October 3	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	October 4	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	November 4*	12:01 a.m.	5:20 a.m.	5.3	Bridge Measurements
	November 5 to November 8	12:01 a.m.	6:00 a.m.		Closings rescheduled due to high winds
	November 12, 13 and 14	12:01 a.m.	6:00 a.m.	6	Bridge Measurements - Cancelled
	November 20*	12:01 a.m.	5:46 a.m.	5.75	Bridge Measurements

Notes for 2013

*Bridge closures to accommodate precise measurements of the lift bridge in various positions. Causeway remained open to emergency vehicles and marine traffic was not affected on all dates. Causeway closed to pedestrians from September 9 – 20.

2014	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	January 18	9:00 a.m.	12:00 p.m.	3	Measurements of Lift Bridge – Closed to all traffic.
	February 11	9:00 a.m.	11:00 a.m.		Test lifts for inspection / measurements - 5 min closures at random times (Inspections)
	February 12	9:00 a.m.	11:00 a.m.		Test lifts for inspection / measurements - 5 min closures at random times (Inspections)
	March 8	7:00 a.m.	9:00 a.m.	2	Closure cancelled
	March 8	9:00 a.m.	12:00 p.m.		Span lock Inspections
	March 9**	12:05 a.m.	5:30 a.m.	5.5	Closed to all traffic for trunnion measurements
	March 10	12:00 a.m.	6:00 a.m.	6	Closure cancelled
	April 13	10:00 a.m.	6:00 a.m.	8	Closure cancelled
	April 14/15*	10:00 p.m.	3:30 a.m.	5.5	Bridge washing (lane closures)
	April 26*	8:43 a.m.	10:58 a.m.		8 test lifts – Spanlock and Cord Inspections
	April 27*	12:01 a.m.	3:45 a.m.	3.75	Shim installations
	May 2				4 lifts for trunnion measurements
	May 7	10:00 p.m.	3:30 a.m.	5.5	Magnetic testing
	May 22	12:01 a.m.	6:00 a.m.	6	Closure cancelled
	May 27**	12:01 a.m.	4:00 a.m.	4	Full bridge closure for welding repair
	June 24*	7:00 p.m.	12:00 a.m.	5	Maintenance work (lane closures)

Notes for 2014

*Emergency vehicles and pedestrians not affected by closures

** Emergency vehicles not affected by closure

2015	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	May 10	7:35 p.m.	Dusk	1	Annual inspections
	May 14	7:00 p.m.	Dusk		Annual inspections
	August 25**	12:01 a.m.	12:00 a.m.	24	Structural Repairs
	August 26**	12:01 a.m.	11:59 p.m.	24	Structural Repairs
	August 27**	12:01 a.m.	7.25 a.m.	7.5	Structural Repairs
	November 5	2:00 a.m.	3:10 a.m.	3.2	Installation of shims

Notes for 2015

*No restrictions during peak hours – marine traffic not affected.

**Closed to all traffic. Complimentary taxi shuttle provided to drive pedestrians to either side of the bridge via Highway 401.

2016	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	March 14*	7:15 p.m.	4:30 a.m.	9.25	Guide rail installations - Lane restrictions
	March 16*	7:15 p.m.	4:15 a.m.	9	Guide rail installations - Lane restrictions
	March 21	7:10 p.m.	3:20 a.m.	8.5	Buffer removal
	March 25	1:00 a.m.	5:00 a.m.	4	Closure cancelled
	March 29	10:20 a.m.	12:55 p.m.	2.5	Fencing installation – lane closures
	April 6**	12:01 a.m.	5:10 a.m.	5.2	Buffer installation
	April 21	12:20 a.m.	5:30 a.m.	5.2	Bridge washing – lane closures
	April 23	7:00 p.m.	6:00 a.m.	11	Annual Maintenance
	April 26	12:15 a.m.	5:00 a.m.	5	Balancing bridge
	April 27	12:15 a.m.	5:00 a.m.	5	Balancing bridge
	September 20			7	Annual inspections with lane closures
	September 21			8.2	Annual inspections with lane closures
	September 22	3:15 p.m.	6:45 p.m.	3.5	Annual inspections with lane closures

2016 Notes

*Lane restrictions to complete guardrail and railing installations – pedestrian and marine traffic not affected.

**Closed to vehicle traffic but work to cease periodically to allow pedestrians to cross – timely access for emergency vehicles.

2017	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	February 27	11:29 a.m.	11:39 a.m.	.2	Grating Repair
	March 6**	9:30 p.m.	5:15 a.m.	7.75	Install mechanical equipment and replace structural components
	March 7	9:30 p.m.	6:00 a.m.	8.5	Closure cancelled
	March 8*	9:30 p.m.	5:00 a.m.	7.5	Buffer installation and grate inspection
	April 11	12:55 p.m.	1:05 p.m.	.2	Grating repair

2017	Date	Start Time	Finish Time	Duration (Hrs.)	Notes
	April 21**	9:30 p.m.	12:00 a.m.	2.5	Install mechanical equipment and replace structural components
	April 22**	12:00 a.m.	12:00 a.m.	24	Install mechanical equipment and replace structural components
	April 23**	12:00 a.m.	12:00 a.m.	24	Install mechanical equipment and replace structural components
	April 24**	12:00 a.m.	6:00 a.m.	6	Install mechanical equipment and replace structural components
	April 24/25***	9:30 p.m.	6:00 a.m.	8.5	Install mechanical equipment and replace structural components
	April 25/26***	9:30 p.m.	5:20 a.m.	7.3	Washed bridge – lane closure only

2017 Notes:

*Closed for vehicles and pedestrians – alternate transportation provided for pedestrian crossing – rush hour and marine traffic not affected.

**Closed for vehicles and marine traffic only – periodic access for pedestrians and cyclists.

***Closed for vehicles and marine traffic only – access for pedestrians and cyclists.