FIBRE INFRASTRUCTURE STRATEGY ANNUAL UPDATE

EXECUTIVE SUMMARY

This report serves as the first annual update on the implementation of The City of Calgary's Fibre Infrastructure Strategy.

The City has made progress on all areas of the strategy, including:
- connecting more City facilities and assets;
- building more fibre within the downtown core, reaching more traffic controllers;
- collaborating with Real Estate & Development Services (REDS) for future installation of City dark fibre for business parks and transit-oriented developments;
- planning for City services in greenfield developments which is dependent on the City becoming part of the Four Party Shallow Utility Consortium;
- licensing out City fibre to external agencies;
- building relationships, educating and collaborating with many internal and external agencies; and
- continuing to participate in Canadian Radio-television and Telecommunications Commission's policies and reviews.

ADMINISTRATION RECOMMENDATION(S)

That Gas, Power & Telecommunications Committee:
1. Receive for information the Fibre Infrastructure Strategy Annual Update (Attachment 1)
2. Direct that the Fibre Infrastructure Strategy Updated Risk Assessment (Attachment 2) remain confidential pursuant to Section 24(1)(a) and (b) of the Freedom of Information and Protection of Privacy Act for a period of 15 years.

PREVIOUS COUNCIL DIRECTION / POLICY

In 2015 September, Council approved the Fibre Infrastructure Strategy (GP2015-0485) with an annual update.

BACKGROUND

For the last 16 years, The City of Calgary Information Technology (IT) business unit has been leveraging capital works projects to take advantage of economies of scale to deploy fibre optic to support City services. The Fibre Cable Duct and Wireless (FCDW) Steering Committee was established in 2002 to provide governance for The City's fibre infrastructure. Membership of the FCDW committee includes the Directors of Transit, Roads, Water Services, Transportation Infrastructure and IT. This has enabled over 450 kilometres of fibre optic to be deployed throughout Calgary.

The primary focus is to connect City buildings, facilities and assets. The excess capacity in City fibre optic has been licensed to civic partners, universities, school boards, businesses and carriers. All revenue is transferred to the Information Technology Reserve for future fibre builds for City services and to support operating costs.

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INVESTIGATION: ALTERNATIVES AND ANALYSIS

Fibre Infrastructure Strategy Annual Report
To provide an annual update on the fibre strategy with key elements including:
- the program description for the Capital fund to recognize the Council-approved Fibre Infrastructure Strategy (Attachment 1).
- the rate structure for licensing City fibre, which was developed by comparing rate models from other municipalities and service providers in combination with the current Calgary environment. As The City is one of the first dark fibre providers in Calgary, there is a period where the market needs to be tested and assessed. Metrics such as revenue, uptake, retention and value add will play a role in future adjustments to the rate model (Attachment 1).
- Calgary's local Internet Exchange (IX). IX's are found in the most prominent business centres in Canada such as Toronto and Vancouver. An IX supports fast, affordable internet and enables new business capabilities. The Calgary Internet Exchange (YYCIX) began in 2012 and is a non-profit organization run by volunteers (Attachment 1).
- an updated risk assessment (Attachment 2).

Strategic Alignment

The Fibre Infrastructure Strategy is aligned with Council Priorities, the Corporate Services 2015-2018 Action Plan and IT's 2015-2018 Business Plan.

Alignment with Sustainability Direction 2020
The Fibre Infrastructure Strategy is fully aligned with the goals and objectives set out in the 2020 Sustainability Direction.

Prosperous Economy
Objective: A city that attracts, develops and retains

Sustainable Environment
Objective: Existing developments (Existing development remediation and redevelopment support efficient land use and environmental protection in Calgary)

Smart Growth and Mobility Choice
Objective: Provide safe, reliable and affordable public infrastructure

Financial Capacity
Objective: Cost efficiency & risk management

Sustainable Corporation
Objective: Efficiency, infrastructure management, effective service delivery

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Social, Environmental, Economic (External)

Social: City business units rely on connectivity to deliver services to the citizens. Fibre optic is the path that information takes to reach the desired end point, whether that is a building, like the Emergency Operations Centre, or a server for analytics. City services play an important role in the social well-being of the community.

Environmental: City fibre optic has a positive effect on the environment through a number of channels. Through smart infrastructure and highly connected devices, The City can better manage assets and increase the performance of services like intelligent traffic systems. By licensing dark fibre, companies have an option to obtain fibre services without building their own – reducing disruptive construction activities. Many utilities and organizations require fibre optic infrastructure to deliver enhanced services to manage efficiency, like smart grids or intelligent building management systems. All of these contribute to a better environment.

Economic: The digital economy is emerging and is dependent on fibre optic as the fundamental infrastructure to support it. This enablement allows the community to prosper through equal access and inclusion. The City of Calgary's Fibre Infrastructure Strategy focuses on providing fibre for City services and leasing excess capacity to other organizations.

Financial Capacity

Current and Future Operating Budget:

Current
The 2016 annual net operating budget for the City Fibre Team is $1.7M.

Future
Future additional operating costs are estimated to be approximately two per cent of construction costs. These costs are expected to be partially offset by revenues. Future operating funding, combined with an offsetting revenue budget, will be assessed and requested as part of the 2019-2022 Action Plan.

Current and Future Capital Budget:

Current
Total capital budget approved for 2015-2018 is $19.1 million. These funds are committed for new fibre projects, such as intelligent intersections, stranded City facilities, greenfield developments for City services and next-generation City infrastructure.

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Future
As part of the 2015 Accelerating Capital for Economic Resilience (ACER) program, a total of $3.5M was transferred to 2016 from 2018. Administration is working to identify alternate funding for 2018, including using the IT Technology Reserve.

Risk Assessment
Through the Integrated Risk Management (IRM) process, risks were identified along with mitigating strategies. See Attachment 2 - Fibre Infrastructure Strategy Risk Assessment.

REASON(S) FOR RECOMMENDATION(S):
The telecommunications environment is constantly evolving and the annual report serves to keep the Gas, Power & Telecommunications Committee apprised of the progress, challenges and future strategic directions regarding the City's fibre infrastructure.

ATTACHMENT(S)

1. Fibre Infrastructure Strategy Annual Update
2. Fibre Infrastructure Strategy Updated Risk Assessment