

Fibre Infrastructure Strategy Annual Update

EXECUTIVE SUMMARY

This report serves as the second 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, avoiding costs from third-party entities;
- building more fibre within the downtown core, while reaching more traffic controllers;
- collaborating with Real Estate & Development Services (REDS) to install City dark fibre for business parks;
- implementing in greenfield developments for future City services as part of the Four-Party Shallow Utility Consortium;
- licensing out City fibre to external agencies;
- building relationships, education and collaboration with many internal and external agencies; and
- continuing to participate in Canadian Radio-Television and Telecommunications Commission's policies and reviews.

ADMINISTRATION RECOMMENDATION:

That Gas, Power and 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 kms of fibre optic to be deployed throughout Calgary.

The primary focus is to connect all 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

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To provide an annual update on the elements of the fibre strategy with key elements including:

- Monitoring and participating in regulatory and/or policy related events. The top concern is the federal announcement of The Modernization of the Telecommunications and Broadcasting Act. Changes to the Telecom and Broadcasting Act can impose restrictions on how municipalities govern their rights-of-way and assets, such as poles and facilities and these sweeping changes could last for decades.
- The general progress of connecting City assets to the fibre network and the estimated cost avoidance achieved.
- The City operates as a fibre-optic provider and City IT licenses out excess fibre-optic capacity to other public-sector organizations, businesses or carriers. Revenues are transferred to the IT Reserve - Fibre Optic Program #751 to fund fibre deployments for City services and cover operating costs of the fibre plant.
- Supporting our local Internet Exchange (IX). IXs are found in the most prominent business centers 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. It is growing and gaining momentum and The City has been supporting the YYCIX by providing fibre and hosting equipment in one of The City's communication rooms.
- An updated risk assessment and mitigating strategies.

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 Operation Center (EOC), 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 connectivity to deliver enhanced services to manage efficiency, like smart grids or intelligent building management systems. All these contribute to a better environment.

Economic: The digital economy is dependent on connectivity infrastructure like 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:

The 2017 annual net operating budget for the City Fibre Team is \$1.9M.

Future additional operating costs are estimated to be approximately two per cent of construction costs. These costs are expected to be offset by revenue generated and are included in the long range financial model. Future operating impact 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:

Total capital budget approved for 2016-2018 is \$19.1M. With accelerated fibre builds in 2017, it is forecasted that \$4.15M will remain for 2018. These funds are committed for new fibre projects, such as intelligent intersections, stranded facilities and next-generation City infrastructure.

Administration continues to identify future funding sources to meet forecasted capital requirements including using the IT Technology reserve (see Appendix 2 – Project Cost & Funding Sources).

Risk Assessment

Through the Integrated Risk Management (IRM) process, additional 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 Council apprised of the progress, challenges and future strategic directions regarding The City's fibre infrastructure.

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ATTACHMENT(S)

1. Attachment 1 – Fibre Infrastructure Strategy Annual Update
2. Attachment 2 – Fibre Infrastructure Strategy Updated Risk Assessment (Confidential)