

Date: June 13, 2022	Originator's files:
To: Chair and Members of General Committee	
From: Shari Lichterman, CPA, CMA, Commissioner of Corporate Services and Chief Financial Officer	Meeting date: June 29, 2022

Subject

2022 Public Sector Network Update and Budget

Recommendation

That the Public Sector Network (PSN) 2022 Operating Budget attached as Appendix 2 to the report from the Chief Financial Officer and Commissioner of Corporate Services, dated June 13, 2022, and entitled, "Public Sector Network Update and Budget", be received as information in accordance with the PSN Partnership Agreement.

Executive Summary

- Under the Public Sector Network (PSN) Partnership Agreement, an annual PSN Budget is required to be submitted to the respective Municipal Councils of the PSN Partners.
- The Public Sector Network (PSN) 2022 Operating budget was passed at Regional Council on May 26, 2022 under Resolution number 2022-476.
- The 2022 PSN Proposed Budget has no impact on the overall City of Mississauga Budget.
- In accordance with the PSN Partnership Agreement, subscriber revenues are applied to offset shared costs for operation and support of the network, thereby reducing partners cost of ownership.
- Metrolinx/Mobilinx have expressed interest in accessing PSN as a subscriber to facilitate operation of the Hurontario LRT.
- PSN has partnered with Sheridan College to access Internet and cloud services hubs located in downtown Toronto.

Background

The fibre optic network, named the Public Sector Network, involves the effort of the four municipal agencies operating within the Region of Peel (City of Mississauga, City of Brampton, Town of Caledon and the Region of Peel). Established in 1996, the network is designed to meet the need to

provide high speed telecommunications between municipal facilities across the Cities of Mississauga and Brampton and the Town of Caledon. In addition to providing operational connectivity between facilities of its owners (Peel Region and local municipalities), PSN provides connectivity for other public sector agencies operating within Peel.

Comments

a) PSN Budget

Under the PSN Owners' Agreement, the PSN Steering Committee is required to submit an annual proposed budget and a statement of actual revenues and expenditures to their respective municipal councils for approval. The PSN Steering Committee consists of staff representatives from the PSN Owners: Region of Peel and the three local municipalities in Peel.

Appendix 1 of the subject report provides a Revenue and Expenditure statement for the year ending December 31, 2021 with commentary on budget variances.

Appendix 2 of the subject report provides the PSN Proposed Budget detailing the proposed allocation of revenues in 2022. In accordance with the PSN Owners' Agreement, revenues received from PSN Subscribers are used to offset shared costs incurred for operation and support of the network, thereby reducing the partners' cost of ownership.

Included in the proposed budget is a withdrawal of \$65,000 from the accumulated PSN reserve to fund two projects scheduled for 2022:

- \$15,000 to complete the link from Sheridan Brampton Campus to connect with third party network infrastructure at the Peel-Toronto border to complete a fully redundant loop connecting Sheridan's Brampton and Mississauga campuses with downtown Toronto Internet and cloud services hubs.
- \$50,000 to undertake a design to address a key area of the PSN original 96-strand backbone along Derry Road and Airport Road, where all 96 existing strands are in use or allocated for use in the near future. Options include an additional cable or replacing the existing cable with higher capacity/strand count.

The Reserve fund balance at the end of 2021 was \$858,352. Even with these withdrawals, PSN is anticipated to end the year with a reserve fund balance of \$822,533.

b) PSN Activity

Despite the impact of COVID-19, which limited some PSN activity, PSN continued to expand during 2021:

- 7 kilometers of new fibre optic cables were installed, representing over 700 new strand-kilometers.
- 16 partner connections were added – 7 sites (locations with staff) and 9 nodes (traffic controllers, bus stops, SCADA sites, etc.);

- 9 City of Mississauga connections were added, including Churchill Meadows Community Centre and eight traffic controllers.

At the end of 2021, PSN consisted of 842 kilometers of fibre (almost 50,000 strand-kilometers), connecting 1,054 partner and subscriber facilities:

Partner Connections (1,039):

- Region of Peel (212)
- Peel Regional Police (25)
- City of Mississauga (406)
- City of Brampton (377)
- Town of Caledon (19)

Subscriber Connections (15)

PSN provides highly reliable service. During 2021, there were only 5 incidents where links were lost. All five incidents involved damage to aerial fibre: four appeared to be caused by fibre being chewed by squirrels and the fifth was caused by a vehicle snagging overhead fibre. Incidents are generally repaired within a few hours. However, since most critical facilities have redundant connections, most incidents result in no loss of service to connected facilities. Overall, PSN maintains availability exceeding 99.99% for connected sites.

c) Hurontario LRT/Metrolinx/Mobilinx

With construction of the Hurontario LRT underway in 2021, much PSN activity has involved working with Metrolinx/Mobilinx and their contractors on plans to relocate PSN fibre located in the Hurontario corridor and areas of construction. Despite best efforts, a significant outage occurred in February 2022, when a PSN cable was severed during attempts to move it. Fortunately, the availability of bypasses created in 2020-2021 minimized downtime for affected sites, although three of four links were lost between Trillium and Credit Valley Hospitals. Subsequent efforts have significantly improved link diversity between these two sites, such that no future single break will affect more than two of the four links.

As part of the discussions, Metrolinx/Mobilinx, have indicated an interest in using PSN to connect their Maintenance and Operation Facilities to the LRT stations and to Peel VCom sites (since they expect to become a VCom user). While discussions are in the early stages, in terms of specific needs, PSN has an established process, including standard Access Agreement and rate structure, under which access to PSN is made available to public sector organizations operating within Peel. Metrolinx, as a public sector organization, is clearly eligible to become a PSN Subscriber. Agreement with Mobilinx (private sector consortium contracted to build and operate the LRT) would fall under a clause in the PSN Owners' Agreement which allows "any person or corporation whose principal purpose is to provide publicly funded services" to become a PSN Subscriber. This clause was specifically written to allow access by organizations contracted to provide services that would otherwise be provided by the public sector.

d) Sheridan College Partnership

Since approximately 2015, the PSN partners have been discussing with Sheridan College an initiative which would allow both Sheridan College and the partners to gain access to Internet and cloud services hubs in downtown Toronto. Because of its key involvement with the Canadian film industry, Sheridan College has a long-standing requirement for very high-capacity video transmissions between the College and the film industry and has been making investments in equipment and connectivity to support this need.

To address this need, PSN provides dark fibre from Sheridan College to the Peel-Toronto border, where PSN fibre is interconnected with fibre from a third-party provider into downtown Toronto. While Sheridan encountered a number of unanticipated issues in implementing the proposed service, these have now been addressed and the service is ready for use.

Once this service was fully operational, it was understood that Sheridan would make capacity on these links available to PSN Owners and Subscribers under mutually beneficial arrangements in which Sheridan would develop a relatively standard fee structure, based on a menu of potential service offerings. This would allow each owner to contract with Sheridan for the specific services that it needs. At the same time, PSN would continue to charge Sheridan for the PSN fibre that it uses, including fibre used to support this new service. (The alternative of waiving fees on both sides was considered. However, since not all PSN owners may wish to use the service and each may have different requirements, it was considered simpler and fairer to all parties to maintain fees in both directions.)

In terms of pricing, Sheridan has stated that its goal is simply to recover an appropriate portion of its significant investment. This should result in pricing for PSN owners that is significantly below commercial rates for comparable services. PSN Owners can verify that proposed pricing is, indeed, favourable, since at least two of the owners currently contract for comparable services from private sector providers.

The terms of any proposed contract would allow any PSN owner to discontinue the service at any time, should it no longer be required or if a more favourable option was available.

On this basis, it is recommended that the City of Mississauga be authorized to enter into agreements to acquire Internet and/or cloud services from Sheridan College by single source, subject to confirmation that pricing is as good as or better than comparable commercial services.

Finally, once the service has been fully tested by the PSN owners, it can be made available to both existing PSN Subscribers and to other public sector organizations within Peel who are not current PSN subscribers. Access to such services by a PSN Subscriber would require additional links from the subscriber's location to a Sheridan-provisioned hub site on the PSN network, generating additional revenue for PSN for use of the fibre, in addition to

revenue to Sheridan College for the Service. At the same time, potential public sector users within Peel would gain access to valuable Internet and cloud services at prices below commercial rates.

In summary, the partnership with Sheridan College is consistent with the PSN goal of reducing the cost of providing public services within Peel and represents a significant new offering that can contribute to this goal.

Financial Impact

The recommendations in this report have no direct financial impact on the City of Mississauga. Revenues received from PSN subscribers are used to offset PSN shared operating costs, which would otherwise be borne by PSN partners. Surplus funds are deposited to the PSN Reserve Fund and applied as determined by the PSN Steering Committee in accordance with established partnership agreements.

The Internet and Cloud services costs will be funded through the Information Technology Maintenance Operating Budget (cost element 715206 and cost centre 22373). In 2023, Internet and Cloud services costs will increase by \$150k and is currently in process for Council approval.

Conclusion

Public Sector Network remains an outstanding example of technological innovation and of the benefits derived through co-operation and partnership among Peel municipalities and with the broader public sector in Peel. Access fees from subscribers to the network continue to fund many shared costs associated with network operations, while providing a small surplus for future network operations or replacement costs.

Attachments

Appendix 1: Public Sector Network, Revenue and Expenditure Statement for 2021

Appendix 2: Public Sector Network, Proposed 2022 Operating Budget



Shari Lichterman, CPA, CMA, Commissioner of Corporate Services and Chief Financial Officer

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