

PART 1 - Internet Service: Middle Mile Strategy

(As part of its program to rectify unserved or underserved areas with respect to internet services, the province engaged a study by Brightstar, Markham, Ontario. The firm submitted two reports in March 2018. In this issue, we are providing the executive summary of the 50 page Middle Mile Strategy report. Next month we will focus on "Last Mile Strategy".)

Internet service improvements are being handled by Develop Nova Scotia (formerly Water Front Development Corporation). Develop NS is currently administering a pre-qualification of ISP companies, who will be permitted to submit construction and implementation plans starting later this year. Pre-qualification deadline is mid-March 2019.

Executive Summary

Significant parts of rural Nova Scotia are either unserved or underserved with respect to high-speed Internet services. This means businesses, citizens, health and education providers lack the benefits of utilizing the Internet for work or pleasure. The Province of Nova Scotia recognizes access to the Internet is essential to the province's economic and social well-being. Enhancing a connected Nova Scotia, especially in the unserved and underserved communities, will help bring sustainable services to all parts of the province and help grow the local and provincial economies.

Part of the vision for a connected Nova Scotia includes the development of a middle mile strategy that will support current and future high-speed Internet infrastructure across the province. The middle mile infrastructure is the segment of a telecommunications network that links the core to local last mile facilities. It is also known as backbone infrastructure and includes fibre and fibre access locations, which are commonly referred to as POPs (points of presence).

After consulting with public sector stakeholders and Internet service providers in the province, the Brightstar consulting team has arrived at speed, coverage, and timeline goals for the middle mile strategy. The middle mile infrastructure that is developed should enable last mile Internet service speeds of up to 50 Mbps download for wireline last mile services and up to 10 Mbps download for wireless last mile services. The 50 Mbps target is consistent with recent Canadian Radio-television and Telecommunications Commission (CRTC) goals for connectivity in Canada. A 10 Mbps download service is appropriate for Internet browsing and video streaming purposes for a typical user. The 50 Mbps target is appropriate for heavier use and can support multiple connected devices simultaneously within a household or business. These speed targets are tabulated below:

Minimum Download Speed (Mbps) Wireline (e.g., Fibre and Hybrid Fibre-Coax) 50 Mbps; Fixed Wireless Service 10 Mbps. In terms of coverage, the public sector stakeholder feedback in rural areas suggested that high-speed Internet services should be available to everyone and that no one be left behind. Through discussion with the private sector, it was determined that implementation of this goal may not be possible, but, the middle mile infrastructure should enable coverage for the vast majority of rural residents, and likely in excess of 95 per cent of populated rural property locations. The majority of the balance of populated rural property locations could then be serviced through satellite technologies, which do not rely on middle mile infrastructure. Satellite speeds of up to 25 Mbps download will be possible with the launch of new satellite services.

Due to the initial expense for expanding the middle mile infrastructure, the timeline for its usefulness must extend several years. Furthermore, it is understood that what is built today needs to work for the future as well. Regarding middle mile infrastructure, the team is recommending a time horizon of 10 years for middle mile electronics. Deployed fibre must have a much longer time horizon because of deployment expense and the expected longevity of the technology. The implication of these time horizon targets is that the middle mile electronics should have the ultimate capacity to meet 10-year demand projections. To save cost and allow for scalability, the initial electronics deployment should be sufficient to meet 5-year demand projections and be scalable up to its ultimate capacity over 10 years.



The expanded middle mile infrastructure can be implemented within two to four years of contracts being awarded.

The Brightstar team has developed reference designs for the expanded middle mile infrastructure that can meet the infrastructure performance goals. The reference designs were developed so as to estimate the cost of the expanded infrastructure and to serve as a reference for evaluation of potential applications for funding from the service providers. The reference design for the middle mile infrastructure may not be the actual design implemented by service providers.

The reference designs are based on Internet demand maps generated from Property Valuation Services Corporation (PVSC) data and consider existing middle mile infrastructure supply, using confidential service provider inputs. Using 5-year demand projections derived from the PVSC property locations and published Internet usage forecasts, the reference design shows a need for an additional 174 POP locations, and 1,079 km of fibre. Using 10-year demand projections, an additional 37 POP locations will be needed, along with 561 km of additional fibre, beyond the 5-year design requirements.

The estimated total infrastructure cost to implement the 5-year middle mile reference design is \$75-85 million. The annual operating costs for the service provider are estimated to be \$6-8 million. As the network continues to grow over a total 10-year time frame, the estimated capital costs are \$100-115 million, with operating costs of \$7-10 million.

The revenue earned from just middle mile infrastructure does not surpass operating costs—meaning there is no business case for industry to build just the middle mile. The province would be required to fund the full capital costs and support operating costs. In order to create a business case for industry to proceed, last mile infrastructure should be included, so that the revenue generated can create a positive return.

Expanding the last mile infrastructure as well as the middle mile will increase the support required. Based on what has been experienced in other jurisdictions in North America, Nova Scotia's public subsidies could potentially reach \$300 million to \$500 million. A last mile analysis and design study is required to properly estimate total infrastructure costs and public funding requirements.

In conclusion, Brightstar makes the following recommendations to the Province of Nova Scotia with respect to middle mile high-speed Internet infrastructure for rural Nova Scotia: Middle mile infrastructure should enable the following speed targets by service type: Wired service (i.e., fibre, cable) - 50 Mbps download/10 Mbps upload and Wireless service (i.e., fixed wireless, satellite) - 10 Mbps download/2 Mbps upload.

Coverage Targets: Middle mile infrastructure should enable greater than 95% coverage for areas outside of urban Halifax and urban Sydney.

Financial Contribution: Potential contribution from government and partners is as follows: Middle mile alone: \$100-\$115 million and Middle mile and last mile: \$300-\$500 million (A last mile design is required to refine the potential contribution.)

Timelines: The infrastructure build would likely take two to four years after contracts are signed. Next steps for the Province of Nova Scotia to undertake: Commence implementation of the middle mile strategy and Complete the development of the last mile strategy and then implement.

(United Church Women) you will find out that we have loads of fun while doing our best to take care of our community.

The Masstown Community Association will hold their next meeting on Tuesday February 12th, 7pm, in the restaurant part of the Masstown Market. Among other things, we'll be discussing purchasing another picnic table, if we need to sell tickets on a Mother's Day Basket and the cost of insurance for our Community Park. Everyone is welcome to attend this meeting.

February 14th, Valentine's Day, is just around the corner! Many give roses to their loved ones on Valentine's Day. This information on roses might interest you. Bridal Rose - Happy Love, Burgundy Rose - Unconscious Beauty, Cabbage Rose - Ambassador of Love, China Rose - Beauty Always New, Christmas Rose - Relive my Anxiety, Hundred Leaved Rose - Grace, Japan Rose - Beauty is your only Attraction, La France Rose - Meet me by Moonlight, Maiden Blush Rose - If you love me you will find it Out, Musk Rose - Capricious Beauty, Nephites Rose - Infatuation, Red Rose - Love, Single Rose - Simplicity, White Rose - Spiritual love, Purity, and Yellow Rose - Decrease of Love, Infidelity. May you enjoy whatever roses you are given!

Condolences this month go out to Pat Guilderson and family on the death of his brother.

Three Pre-Schools Serve West Colchester

By Joann Michelini

Welcome to the first of many, I hope submissions from some of the Early Childhood Centers in your area. My name is Joann and I am the Teacher/Director of the Lower Onslow Preschool. The motivation for this piece was to provide families with an insight on the Early Learning Centers in our communities.

The early years are so important and each parent wants to provide their child with a quality experience giving their child the tools they'll need to succeed at the next level. Early Childhood Centers are more than simply places that take care of your child while you're at work or at school.

The Early Childhood sector in this province has gone through a lot of growth in the last three years. They have initiated many changes to protocols and training to increase the quality of child care in Nova Scotia. Parents may define high quality child care as an environment in which their child is happy, makes friends, has interesting and positive experiences and learns about a wide variety of things.

We are very fortunate to have three such centers serving our communities from North River through to Economy. Between us we have been operating for over 70 years and have seen many children go through our programs. In this article I want to introduce you to these cen-

ters. In follow up articles I hope to acquaint parents with the various options so they can make an informed decision for their child.

The Love, Laughter and Learning Center is located in Masstown. It is licensed for children ages 18 months to 5 years and offers a before and after school program. Contact numbers are: 902-662-3210, or 902-324-3210.

The Debert Child Development Center is located in the Debert Legion. It offers a licensed part time Preschool program and the contact number 902-662-2225. The Lower Onslow Preschool is located in Lower Onslow. It is a licensed part time center for ages 30 months to 5 years. Their contact number is 902-662-2495.

Each of these centers has a Facebook page. Check them all out and call if you would like more information.

I would also invite you to email me if you have a question on Early Childhood development. I certainly don't claim to be an expert, but will do my best to offer an answer. You never know, there might be many parents with that same question/concern. Contact me at: loweronslowp@gmail.com

"The goal of early childhood education should be to activate the child's own natural desire to learn." ~ Maria Montessori



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Masstown Community News

By Chris Urquhart

Winter is upon us and with all the storms and such we need to be careful when out walking or driving. Accidents do happen so please try not to be one! Winter is also a time of hardship for the birds and other woodland creatures. Be sure to put out suet along with the seeds in your feeders for the birds. They also like crumbs. I often save my bacon fat and pour it over stale bread, then break it up into small pieces. The birds really love that! Don't destroy areas that could be a hide away for small animals, or big ones for that matter! When hiking or skiing in the woods, always try to leave things better than when you came. In other words, don't litter! Also, try not to break down small tree root structures. I can't seem to find the right words for those little "spots" you can come across in the woods - as a small child I would pretend that fairies lived there! I have out grown the "fairy" idea but mice or rabbits could be living there so let's leave it lie.

The Cobequid Men's Club will hold their breakfast meeting on Saturday February 1st at 8am at the Double C Restaurant in Lower Debert. All men welcome. Masstown UCW will meet on Thursday February 7, at 7 pm, at the home of Gail Hines on G. Porter Road. All ladies welcome! If you have never come to a UCW meeting

(United Church Women) you will find out that we have loads of fun while doing our best to take care of our community.

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5692, Hwy 2 - Bass River NS - B0M 1B0

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