



Southern Alberta Connectivity

A Municipal / PEP / CRP Collaboration

May 4, 2017



Fred Monk

- Context
- Zayo Proposal
- Next Steps
- Project Update
- Concept Document
- Discussion

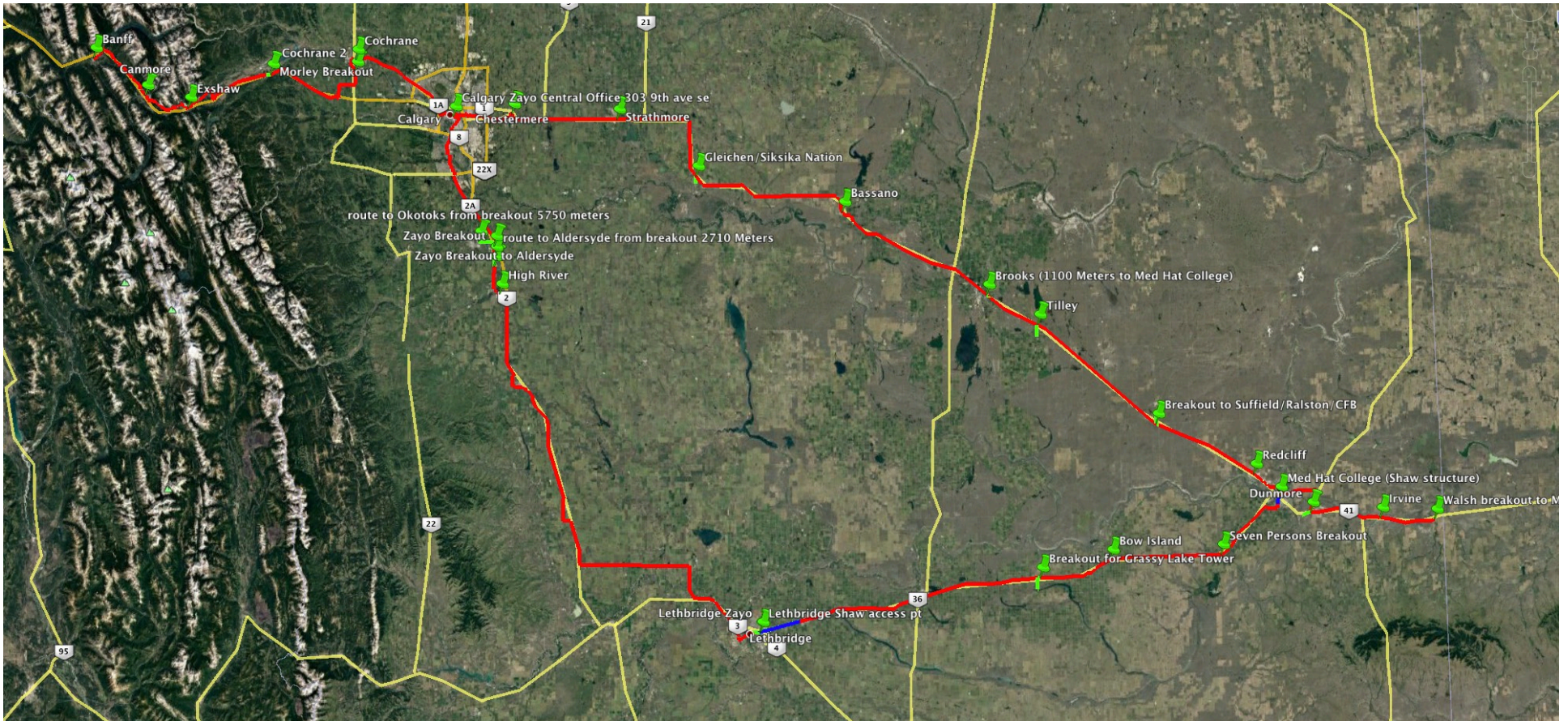


- The acquisition of Electric Lightwave (ELW) by the Zayo Group is complete.
 - Preparation of the Dark Fibre proposal we requested is now being managed out of Zayo's Calgary Office.
 - Zayo is committed to the project and is working to have a budgetary proposal to us in early May.
- Key changes from the ELW arrangements are:
 - The availability of dark fibre down Hwy 2 through High River and on to Lethbridge
 - This route is preferred as it offers some possibilities to Alberta SW
 - The addition of connectivity from Cochrane to YYCIX
 - A build from Coaldale to Lethbridge to complete the ring
 - The option for a longer term IRU, say 35 years
 - The option to provide the opto-electronics in addition to the fibre
 - The option to outsource ongoing management of the network to them
 - Their proposal will include options to build into Okotoks, Aldersyde and Siksika
- A draft concept document has been completed and is being reviewed prior to distribution.
 - The key aspects of this document are presented below



Zayo Proposal

- The breakout points Zayo will be including in their proposal are shown below





- That interested communities along the:
 - TransCanada Highway 1 corridor from Banff through Calgary to Medicine Hat to Walsh on the Saskatchewan border,
 - Crowsnest Highway 3 corridor from Lethbridge to Medicine Hat, and the
 - Hwy 2 corridor from near Okotoks to Lethbridge
- as shown on the previous map, arrange to:
- acquire a long term (twenty or thirty-five year) indefeasible right of use (IRU) on two dark fibres along each of these routes,
 - access and light the fibre,
 - operate the network and supply inexpensive wavelength-based backhaul services from each community to YYCIX at DataHive in Calgary, and
 - establish an entity to finance, govern, and operate the network.
- Ownership and governance structure must accommodate growth
 - Simplicity is key
 - Wavelength services only and all home on YYCIX
 - Financials and associated terms will be cost based



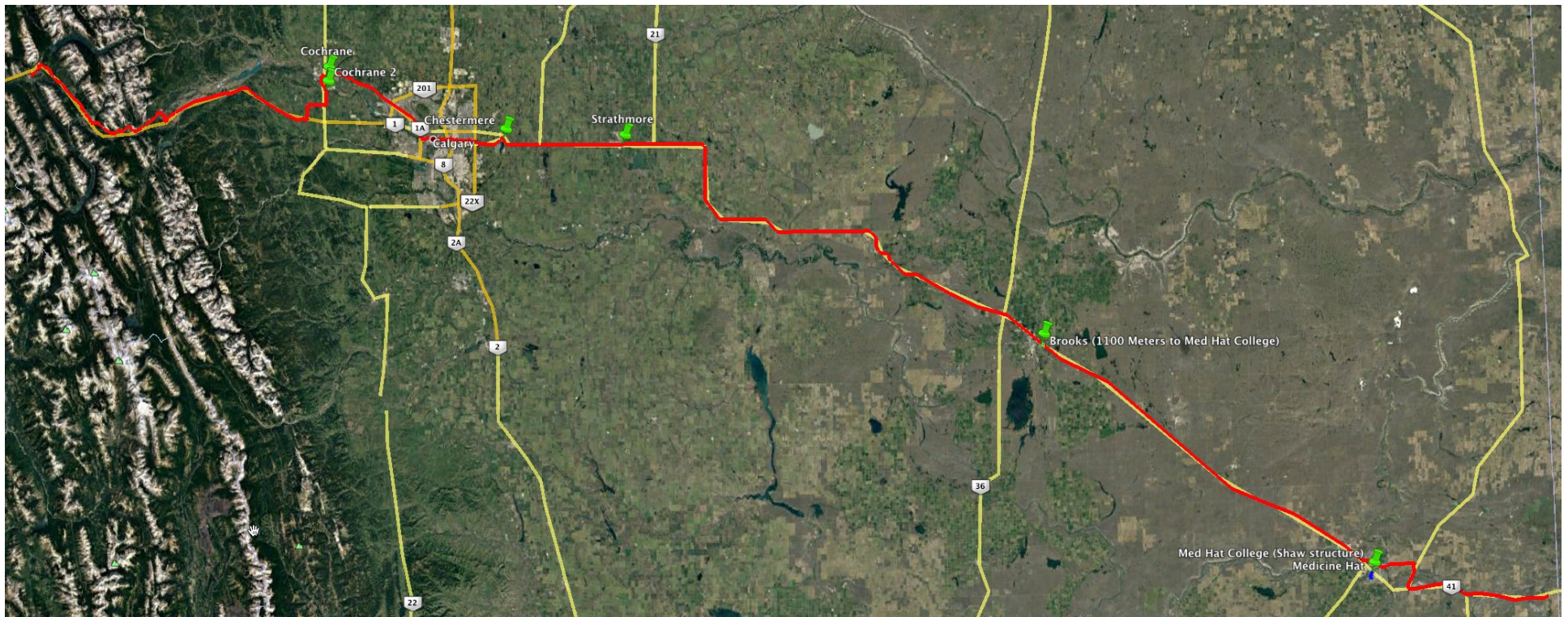
Principles

- For-profit company to recognize, and reward for, the risks being taken by municipalities putting in the required capital
- Owned by municipalities, and possibly REDAs (e.g., CRP, PEP) and public institutions (e.g., Medicine Hat College), for municipalities, public institutions, and their "partners" (e.g., EIDnet in Newell).
 - While ISPs and other private interests may come in as clients, they cannot become owners.
 - Control of the signal distribution from any breakout point will be up to the municipality to which the signal is provided
 - Support or access should not be granted to ISPs or entities that wish to compete with any utility-based network offerings supported by the municipalities
- Each community must pay their own way. Contributed equity will be based on required IRU and deployment capital.
- Communities entering later must pick up the entire cost of entry, so those already in will not be required to ante-up additional funds.
- All proceeds will be fairly distributed based on the share structure established.
- Service pricing will be cost-based and operations and service sets will be kept as simple as possible.
- All services are carrier-grade and quality-of-service must at least equal industry norms.
- Only wavelength-based services are offered.



Evolution – Phase 1

- Phase 1 – (2017) Immediate Requirements
 - Acquire two strands of dark fibre from Banff – Walsh
 - Establish operations
 - Provide service to Cochrane, Chestermere, Strathmore, and Brooks



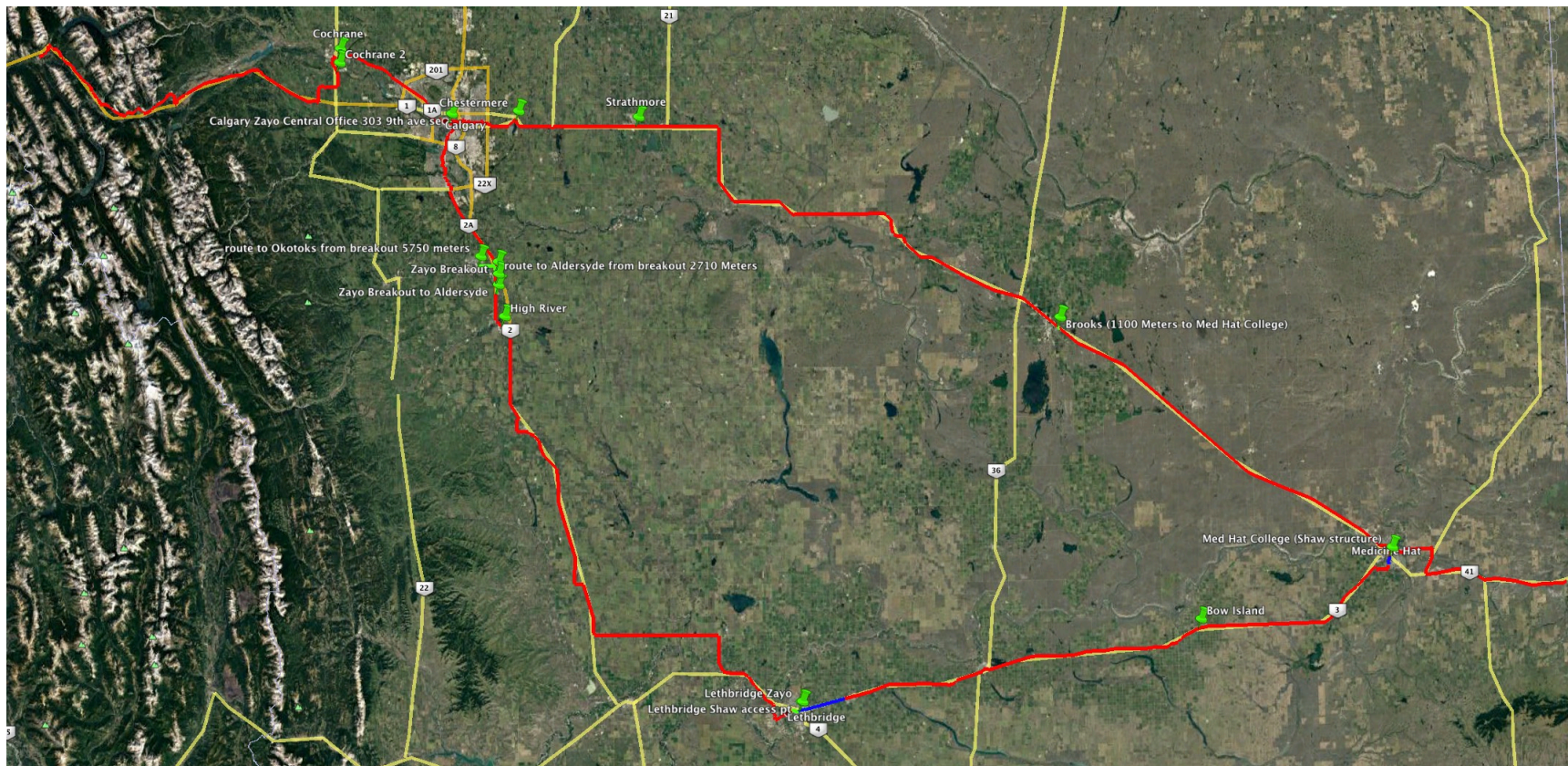


Phase 1 Details

- Cochrane would finance the YYCIX to Banff component. The other communities would finance the YYCIX to Walsh component.
- Though none of the eastern communities require the Medicine Hat to Walsh leg, that fibre would otherwise be stranded so the incremental cost of including it is likely minimal.
- All communities on the eastern leg would contribute equally, even though their routes back to Calgary vary. The rationale for this is that the entire YYCIX – Medicine Hat route will be required for redundancy to protect all communities on the (eventual) triangle.
- Access points would be provided for only those communities participating.
- As this route is not redundant, no additional breakout points can be placed until the ring has been established.
- Communities participating are strongly urged to keep current services for redundancy



- Phase 2 – (2018) Redundancy
 - Acquire the Medicine Hat – Lethbridge – Calgary fibre for redundancy (this excludes Cochrane)



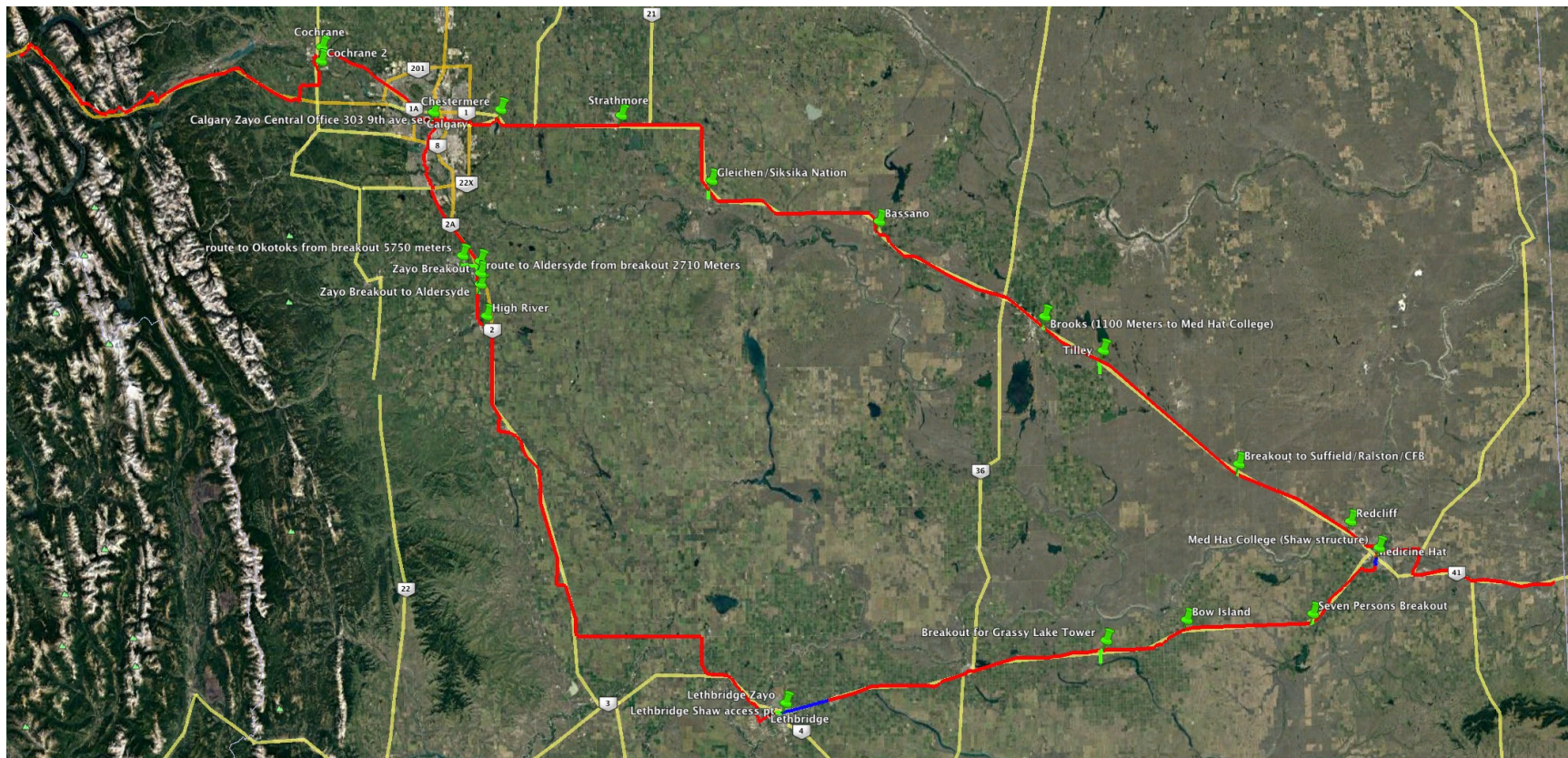


Phase 2, cont.

- Initial access points will be provided in Bow Island, Lethbridge, High River, Aldersyde, and east of Okotoks
- Once operational, the legacy systems being used for redundancy could be discontinued
- The cost effectiveness of this approach will need to be reviewed once the quote from Zayo has been received.



- Phase 3 – (2020) Second Window to Join
 - Other communities along the route may now join
 - Available breakout points appear below





- **Extension 1:**

- Though the Calgary-Banff leg was acquired as part of Phase 1, only Cochrane participated.
- Should Banff, Canmore, Exshaw, and Morley be interested, breakouts could be deployed and equipment added when these communities elect to move ahead.
- It may also be worth adding a breakout near Hwy #22 going south to Redwood Meadows/Bragg Creek
 - This would enable a second ring to be created





- **Extension 2**

- Though the Medicine Hat–Walsh leg was acquired as part of Phase 1, nothing east of Medicine Hat College in Medicine Hat was built or lit.
- Should breakouts at Dunmore, Irvine, and Walsh, be needed, as with Extension 1, they could be added when the communities are ready





Ownership Structure

- Ownership would be recognized by issuing shares in proportion to the amount of capital required for each municipality, REDA, or public institution to establish service.
 - While ISPs and other private interests may come in as clients, they cannot become owners.
- Initial members would presumably be issued Class A common shares and each municipality would get one seat on the board.
 - Communities coming in later could be issued different classes of shares which may be voting or not.
 - Presumably the voting structure would be established to ensure that the initial members do not lose control of the Board.
- With the support of the local municipality responsible for distributing the signal from the associated breakout point, an ISP could be provided service to connect a tower or other facility
- Share classes could be established for the initial members, other communities, outside or local investors, etc.
- Examples share classes include
 - Class A – \$1000, common, voting 1 vote
 - Class B – \$1000, common, voting 5 votes
 - Class D – \$500, common, non-voting, 0 votes...
 - Class G – preferred, voting, \$600, 5 votes
 - Etc.



Business Model

- The operation will provide each owner/member community with a wavelength service to/from YYCIX and a local breakout point.
 - Control of the signal distribution from any breakout point will be up to the municipality to which the signal is provided
 - Support or access will not be granted to ISPs or entities that wish to compete with any utility-based network offerings supported by the sponsoring municipalities
- Service pricing will be cost-based plus a margin percentage.
- Costs will be inclusive of operations, principal payments, and debt servicing.
- If a community takes two wavelengths, then they pay for two services.
- Margin on costs for services to private or non-owner/member entities will be higher.



- **Sequence**
 - Step 1
 - Concept document released for discussion
 - Zayo budgetary proposal received
 - Material will be circulated
 - Meeting to review concept document and proposal
 - Step 2
 - Cost estimates / business case numbers will be updated to reflect the new quotation
 - Discussions/negotiations with Zayo
 - Meeting to review business case
 - Recommendations to councils developed
 - Step 3
 - Report to councils to consider financial commitments
 - Go/No-Go decisions
- **Next Steps**
 - Concept document and Zayo proposal and terms review
 - Cost and business case analyses
 - Due diligence process developed



Thank You!



Questions & Further Discussion

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