A brief explanation on the cost sharing model used for the south sub-regional transit pilot project

Cost Sharing is a decision based on values. The CRP sub-regional service cost sharing methodology is based on the following three principles:

1. **Equal:** Implementing the service together is more beneficial than implementing service individually.
2. **Population/ridership:** Communities should be responsible for the portion of service used by the people from each community.
3. **Service hours/distance:** Communities should be responsible for the amount of service received and relative costs.

These three methods for dividing cost were agreed upon as important. The next questions were:

How do we measure each item? And what is the relative weight or importance of each item?

Measurements:

1. **Equal:** Five participating communities, means that the cost is divided by 5. Community A pays 20%, B pays 20%, C pays 20%, etc.
2. **Population/ridership:** Each community pays for their proportion of the total population, as a measure of usage. In the future, when ridership is known, actual usage of the service can replace population. For example, total population of all five communities is 500, and community A has 50 people. Community A would pay for 10% of this category.
3. **Service hours/distance:** Measuring the amount of service received could be done by using distance (kilometres) or time, service hours. Time was chosen because the major cost driver is the cost of the operator. Kilometres is deceiving, since driving 15km between towns on highways would take one-third of the time it takes to drive 15km in town.

   Because this is a regional service, agreement on how to pay for the time when the bus travels between communities had to be negotiated (it was easily agreed that each community pays for the time the bus is within municipal boundaries).

   Potential to use the service was the key factor to deciding how to share this cost in between municipalities. Referring to the diagram below, when the bus leaves town A, heading to town B, only people from town A can be on the bus, therefore only town A will be responsible for that time. When it leaves town B and heads to town C, people from both A and B could be on the bus. The time it takes to travel between B and C is shared between towns A and B. Finally, once the bus leaves town C, people from all three towns could be on the bus. Therefore, the time is divided by all three towns.
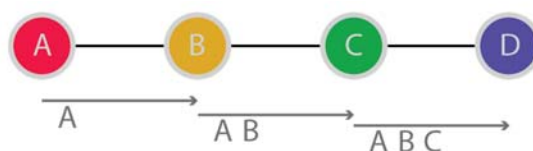
The result is that the town at the end of the line, town A, ends up paying for all or a portion of each segment because their residents can travel the full length of the trip.

The participating communities agreed to divide the time in between each municipality by population. For example, if it takes 30 minutes to travel between B and C, and community A has 50 people, and community B has 100 people, Community A would pay for 1/3 (50/150) of 30 minutes, or ten minutes, and B would pay for 2/3 (100/150) of 30 minutes, or 20 minutes. Thus, town A pays 100% of the time between towns A and B, 33% of the time between B and C, and 14% of the time between C and D (for example).

Weighting of each category:

Population and cost to provide the service were deemed the most important, and would thus account for the greatest percentage of cost. The participating communities agreed that somewhere between 10 – 20% of total cost would be shared equally. After running a few scenarios, the group agreed to allocate 40% to the population/ridership bucket, 40% to service hours, and 20% to the equal category.

For example, if the service cost $100,000 to operate, 40,000 would be allocated to the population bucket and would be divided by the methodology shown above. In that example, Community A has 10% of the total population, and there for would be responsible for 10% of $40,000, or $4,000. Community A would also be responsible for it's portion of the equal bucket (20% of $100,000 = 20,000)

Equal	Ridership	Service Hours	Total
20% $20,000	40% $40,000	40% $40,000	100% $100,000
Town A = $4,000	Town A = $4,000	Town A = $13,000	Town A = $21,000
Town B = $4,000	Town B = $8,000	Town B = $10,000	Town B = $22,000
Town C = $4,000	Town C = $12,000	Town C = $10,000	Town C = $26,000
Town D = $4,000	Town D = $9,000	Town D = $4,000	Town D = $17,000
Town E = $4,000	Town E = $7,000	Town E = $3,000	Town E = $14,000