What benefits do trees provide the community?

Abbotsford's urban and natural forests perform functions that provide valuable services to the people that live, work and recreate in the City, and they attract and retain business and workers. For every $1 spent on them, trees give back $2-$5 in benefits to the community[1]. Below is a summary of the benefits that trees provide to the City:

- **Mitigates Climate Change**. Trees store and sequester carbon. Large healthy trees (over 75 cm diameter) sequester 90 times more carbon annually than small trees (less than 10 cm diameter)[1]. Urban trees sequester up to 4 times more carbon than a forest tree[2].
- **Increase property values**. Trees increase the value of homes by 3–6% (or more)[1]. Commercial real estate values increase with high quality treed landscaping, with rental rates about 7% higher[1].
- **Good for business**. Shoppers will visit more often, linger longer, are willing to pay higher prices for goods (7–12% more), and spend more money overall on streets with trees[1,2].
- **Reduce energy bills**. Trees placed as windbreaks can reduce winter heating costs by up to 50%[1,2]. Shade trees reduce the demand for summer air conditioning and can decrease cooling costs by 30%[2].
- **Create livable communities.** Surveys show that trees are extremely important to residents' quality of life and sense of civic pride. Trees improve the sense of connectivity and community. There is less violence and crime in areas with high levels of greenery[2].
- **Improves public health.** People living in green neighbourhoods have lower body mass index and reduced asthma. Exposure to green views and green play areas improves attention span and lowers stress.
- **Reduce stormwater costs.** Trees reduce stormwater leaving a site via interception and subsequent evaporation, as well as through uptake. For every 5% of canopy cover, stormwater is reduced by 2%. A mature tree can store 200 to 400 liters of water during large storms[2].
- **Calms traffic and reduces accidents.** The presence of trees reduces driving speeds by an average of 6kms/hr[2]. Drivers with views of natural roadsides display higher frustration tolerance.

- **Prolong the life of pavement.** Shade trees reduce summer surface temperatures, decreasing pavement fatigue, cracking, rutting and other distress, which increases pavement life by 10–25 years for roads and parking lots[1].
- **Reduce the heat island effect.** On hot days, downtown areas can be up to five degrees Celsius hotter than surrounding forests1. Trees provide shade and cool the air through evapotranspiration.
- **Reduce noise.** Leaves, twigs and branches buffer and reduce sounds. Noise buffers composed of trees and shrubs can reduce noise by 50%[2].
- **Support biodiversity**, providing food and shelter for a variety of birds and other wildlife.
- **Support ecosystem functions.** Trees play a fundamental role in the circulation of important chemical elements (such as nitrogen, carbon, oxygen and water) within an ecosystem.
- **Help to control erosion and sedimentation.** Tree roots bind the soil, an especially important role on steep slopes and riparian areas.
- **Provide air to breathe.** A single mature tree can provide enough oxygen for two people for a year.
- **Improve air quality.** Shade trees reduce temperatures, slowing the formation of smog. Tree leaves absorb airborne pollutants such as sulphur dioxide, as well as filtering particulate matter from the air. A mature tree absorbs 54–110 kg of small particles and gases of air pollution each year[1]. A large tree absorbs 60-70 times more pollution than a small tree[2].
- **Improve water quality.** Tree roots take up potentially harmful chemicals such as nitrates, phosphorus and cadmium that would otherwise enter groundwater and streams.
- **Provide recreational and educational opportunities.** Treed parks provide great places to go for a walk, teach kids how to recognize different trees and birds and maybe even climb a tree or two.

[1] Judith Cullington, et al., Planting our Future: A Tree Toolkit for Communities (Union of British Columbia Municipalities and BC Ministry of Community Development 2008) 40.
[2]Alliance for Community Trees. Benefits of Trees and Urban Forests: A Research List. August 2011.http://www.actrees.org/files/Research/benefits_of_trees.pdf