Archived: Thursday, March 3, 2022 2:43:35 PM
From: Boni Biery
Sent: Thursday, March 3, 2022 2:14:14 PM
To: Betsy Robertson; Chris Roberts; Doris McConnell; Eben Pobee; John Ramsdell; Keith Scully; Laura Mork; City Council
Subject: [EXTERNAL] Need for a Stand Alone Volunteer Urban Forestry Advisory Panel
Sensitivity: Normal
Attachments:
22 March. 3 Need for Stand Alone UFAP.pdf 1 Oct - Kava Vales Comparative Analysis.docx

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CAUTION: This email originated from outside of the City of Shoreline. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please thoughtfully review the attached information in advance of tomorrow's special council meeting.

Always,
Boni Biery

March, 3, 2022

Regarding: Need for a Stand Alone Urban Forestry Advisory Panel

Dear Council members:

I am writing regarding the Urban Forest Strategic Plan - update. Please don't let this be need be minimized or pushed aside. Updating it will provide additional granting opportunities, especially when the forces of climate change are pressing in on all of us.

We need to be able to breathe and stay cool, and to hear birdsong. For far too long the city has avoided its responsibility to properly tend to the most effective and tools for helping us sequester carbon, shade our sidewalks and hosts the birds – our trees in a manner they would any other equally valuable asset. Updating the Urban Forest Strategic Plan is needed now more than ever, while properly cataloguing publicly owned tree assets and adding their value to the city's balance sheet will provide increased granting opportunities right when infrastructure and climate change monies will be coming available.

As for a stand-alone Urban Forestry Advisory Panel (UFAP) which has been proposed recently and, in the past, there is no better or more important time to get this panel established. When this work was originally added to the PRCS Board's responsibilities (I was a member of it at the time) there was really no intention by the city to do anything to protect our trees even though citizens weigh-in with many requests to do so. At the time, it was done simply so the city could claim Tree City USA status. This certification is 'purchased" from a group that exists only to collect money for handing out a title and sell other items including many invasive tree species.

I would like to point out that David Francis has been a .5fte employee for the city for 7 years and while I love public art and he does a great job, the value of the public art in Shoreline is likely not more than say $500K overall. And yet the city is expanding the services provided to that collective asset a fulltime employee and the staff required to support its own board for oversight.

Meanwhile the *publicly owned trees in our parks and ROWs are valued in the hundreds of millions and are not yet accurately documented* in spite of years of pleas to

the City Council and PRCS/Tree Board from every neighborhood. The city spent thousands on the Urban Forestry Assessment in 2011 by AMEC Earth & Environmental, Inc. which recommended on page 2:

> ***"Establish a baseline urban forest canopy city-wide. This baseline would provide the context for the Council to make a policy decision … about a long-range City target for desired tree canopy. The target could be no-net loss of a city-wide percentage of canopy, or an increase or decrease of some magnitude, keyed to specific schedules. With such a baseline and target in place, the City could then monitor the overall City canopy, say every 5 years, to assess its health and identify any further programs or code amendments as needed."***

A November 2011 Applied Analysis, Kava Vale, (copy attached) valued the publicly owned canopy of Shoreline to be worth $167, 518, 608, in 2011 dollars. We have far less canopy today. We may or may not have more trees, but not all trees are created equal.

The city continues to tout the number of trees which it has planted, however, most are street trees that typically live only a few years and represent an ongoing expense for care and replacement. On the other hand, our large native trees require very little maintenance and if left to their own, unimpeded devices will outlive all of us while enriching our lives and helping us grow older too.

The city has failed both the canopy itself and the tax-paying citizens who own this asset in implementing the is well documented and expensive advice provided by AMEC Earth & Environmental, Inc. or over a decade now. We have lost hundreds (or more) of our publicly owned trees with few of the losses having been properly documented. And still the City Council says it will cost too to fund the staff time needed to support the UFAP. Does this really make any sense?

While I enjoy public art, it can, in most cases, be replaced. Our 100-year-old native conifers once cut are gone forever. Please take this golden opportunity while the Urban Forest Strategic Plan is being updated to get the UFAP established and to protect our silent, but most powerful infrastructure in maintaining the character of our of city, and the physical, emotional and mental health or our citizens.

Every single day we lose more of the publicly owned trees in Shoreline - you can make the difference for the next seven generations. Will you?

always,

Boni Biery

November 7, 2011

To:
City Manager: Julie Underwood
City Council: Chris Eggen, Doris McConnell, Keith McGlahasan, Will Hall, Chris Roberts, Terry Scott, Shari Winstead

cc:
Dick Deal, PRCS Director
Mark Relph, Public Works Director
Joe Tovar, PDS Director
Patti Radar, Finance

Subject: Tree Study Comparative Analysis – City of Shoreline

I have prepared this study as a recent graduate from UW in Urban Forestry with the hope that it will benefit the City of Shoreline where I am a resident. I feel it is of critical importance that the City to more fully understand the true value of both the annual tree function services and the asset value of their trees.

INTRODUCTION

This analysis makes use of the information provided by both the 2003 Right of Way (ROW) Street Tree Inventory and the 2011 Canopy Study to extrapolate data-based approximations about the total asset and ecosystem service values of Shoreline's public tree population. This analysis provides a picture in time of the resource's structure, function and value, while also serving to align the 2003 ACRT, Inc. "Street Tree Inventory" data with the current "2011 Canopy Study" completed by AMEC Earth & Environmental, Inc.

I-STREET TREES REPORT

The 2003 data for this analysis is from The partial street tree inventory of 13,621, which was contracted by the city to. ACRT, Inc, February to October 2003; the trees in city parks and median strips were not counted.

The asset replacement & ecosystems service values of the tree resource was estimated using i-Tree Streets software, a modeling approach designed by the United States Forest Service (USFS) Center for Urban Forest Research. The i-Tree brand software relies on a combination of the tree species, diameter-at-breast-height (dbh), and zipcode to calculate and valuate the ecosystem services and other benefits of trees, including aesthetic value. The results of the following i-Street Tree analysis are therefore unique to the ROW trees as they existed in 2003 when the original inventory was undertaken. The replacement of the trees today with specimens of similar size, stature and condition to the 2003 Street Tree Inventory population is calculated to cost approximately $45,618,301. This does not include the increased value that would have occurred in the 8 years between 2003 and 2011, assuming that the tree resource received proper care and investment since the 2003 inventory was established.

i-Tree Calculation of 2003 Street Tree Inventory

	DBH Class(in)											
Zone	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Std Error	% of Total
RICHMOND HIGHLANDS	129,733	375,934	989,650	1,851,539	1,856,167	1,775,805	1,520,841	643,389	172,961	9,316,021	(±0)	20.42
NORTH CITY	74,982	229,302	947,705	1,305,090	1,479,020	1,303,421	806,357	418,445	118,357	6,682,678	(±0)	14.65
RIDGECREST	21,609	89,784	505,829	1,214,603	1,471,153	915,484	551,258	296,553	263,618	5,329,891	(±0)	11.68
ECHO LAKE	45,530	187,284	591,414	864,767	867,479	1,367,963	673,211	223,782	172,166	4,993,596	(±0)	10.95
MERIDIAN PARK	51,067	162,444	398,797	1,129,822	1,006,530	879,822	739,363	203,713	200,402	4,771,959	(±0)	10.46
HILLWOOD	84,701	184,260	456,128	766,427	776,504	865,853	709,244	245,916	279,525	4,368,559	(±0)	9.58
PARKWOOD	9,859	31,864	113,436	459,027	773,854	503,996	628,893	595,595	227,169	3,343,694	(±0)	7.33
RICHMOND BEACH	31,929	103,359	269,542	532,564	545,664	693,891	525,474	111,228	302,591	3,116,243	(±0)	6.83
BALLINGER	27,306	35,465	190,776	356,700	619,756	343,944	255,927	125,090	35,256	1,990,219	(±0)	4.36
BRIARCREST	1,496	18,594	165,013	237,476	177,170	177,542	217,617	121,536	35,256	1,151,700	(±0)	2.52
CRISTA MINISTRIES	710	2,004	7,458	39,366	196,392	78,982	93,172	-	-	418,084	(±0)	0.92
UNKNOWN	1,301	1,833	11,710	15,844	19,164	15,796	23,565	30,473	-	119,686	(±0)	0.26
INNIS ARDEN	819	12,776	-	-	-	-	-	-	-	13,595	(±0)	0.03
FIRCREST	1,880	497	-	-	-	-	-	-	-	2,376	(±0)	0.01
Citywide total	482,923	1,435,400	4,647,457	8,773,226	9,788,853	8,922,500	6,744,922	3,015,719	1,807,302	$ 45,618,301.16	(±0)	100.00

ANALYSIS

The following calculations "normalize" the three sets of data from 2003, 2011, i-tree by establishing common percentages for the patchwork of information provided by each to create a more complete picture. The outcome is a conservative estimate of the total replacement value of the City owned trees in the ROW and Parks which consider the Park trees under the i-Tree "Street Tree" application which does not take into account the added siaze and stormwater benefits provided by Park trees. Nor does this "normalization" adjust the 2003 dollar values to reflect 2011 dollars.

1. Total Annual Tree Services Benefit Value

The total annual benefit produced by Shoreline's 2003 inventory of 13,621 ROW trees was calculated by i-Street Tree as $942,861. Because the City of Shoreline does not currently track expenses relating to city-owned trees discretely, the net quantifiable benefits of the trees could not be calculated. However, in 2003 ACRT, Inc. estimated that $468,250 would be an appropriate annual budget to properly care for the public trees. In other words, the estimated net annual benefit of the public trees outweighed their management costs by approximately $474,611. As the City of Shoreline prepares to become a "Tree City USA", certified by the National Arbor Day Foundation, it is critical to establish and maintain an accurate and complete inventory of all publically owned trees, including their quantity, size, value and maintenance costs; the same as is required for any other major city asset. To do this requires funding for periodic assessment (recommended every 5 years).

Normalization of the 2003 Values to the 2011 Canopy Study				
		2011 AMEC	**i-Street Tree**	**2003ACRT, Inc**
Annual Service Benefits				
	Gross Annual Service Function Benefits (5% of 2011 ROW)		$942,861	
	ACRT, Inc Estimated Annual Maintenance Budget			$486,250
	Net Annual Service Benefits - $942,861 - 486,250		$456,611	
	ROW as % of Total Canopy Cover	10%	5.00%	
	Parks as % of Total Canopy Cover	10%		
	Total Annual ROW tree Benefit Value ($942.861 x 2)		$1,885,722	
	Total Annual Parks tree Benefit Value ($942.861 x 2)		$1,885,722	
	Total Combined ROW & Parks Benefit Value		**$3,771,444**	

2. Canopy Coverage

The 2003 inventory lacked specific areas of data; consequently, some of the i-Street Tree results don't match up exactly with the more recent 2011 Canopy Study. Specifically, the total number of trees present in the ROW in 2003 is unknown, since the trees in the medians where not counted. As well, the exact surface area of the city's ROW was not established in terms of defined sidewalk and street widths, which influenced the overall street and sidewalk area results.

According to the 2011 Canopy Study completed, under city funded contract, by AMEC Earth & Environmental, Inc., the city's total canopy was estimated at 30.6% of land surface coverage, including gray infrastructure, or 2,264 acres. This is then further parsed into categories of 10% ROW trees, or 3.06% (226 acres) of the city's total (7,412 acres) land area.

According to the i-Street Tree canopy cover analysis of the 2003 data, the ROW trees covered 121.5 acres out of the city's total land area (7,488 acres), or 1.62% of the entire city; roughly half of the total acres determined by the 2011 study. It is possible that either the 2003 inventory was significantly less accurate than the 2011 study; or that in the 8 years following the initial inventory, the ROW trees have nearly doubled in number; or some combination of the two. It seems likely that the difference is the combined effect of the median trees which were excluded from the 2003 inventory, but included in the 2011 study and that probability that the 2011 citywide study data was significantly more precise.

Normalization of the 2003 Values to the 2011 Canopy Study

	2011 AMEC	i-Street Tree	2003ACRT, Inc
Canopy Coverage			
City of Shoreline acreage	7,412	7,488	
City of Shoreline Total Canopy as % of acreage	30.6%		
ROW Total Canopy Coverge acreage	226.81	121.5	
ROW Coverage as % of Shoreline total acreage (roughly half of 2011 Study value)	3.06%	1.62%	

3. Asset Replacement Value

Therefore, based on the assumption that the 2011 data of 10% ROW tree coverage is the more accurate and that the 2003 percent of acreage data is roughly half of that amount, or approximately 5% of the total canopy estimated by AMEC then, at an annual value of $942,861 the value of the additional 10% City owned park trees can be estimated allowing for the following assumptions:

- All trees are classified as "street trees"
- The remaining 10% is composed of tree populations that are more or less identical to the 5% population used in this analysis

Normalization of the 2003 Values to the 2011 Canopy Study				
		2011 AMEC	**i-Street Tree**	**2003ACRT, Inc**
Asset Replacement Value				
	Total 2003 Asset Replacement Value		$45,618,301	
	ROW as % of Total Canopy Cover	10.00%	5%	
	Parks as % of Total Canopy Cover	10.00%		
	Total ROW tree Replacement Value ($45,618,301 x 2)		$91,236,602	$45,618,301
	Total Parks tree replacement value ($45,618,301 x 2)		$91,236,602	
	Total Conservative Estimate of Replacement value of all City owned trees (ROW + Parks)		**$182,473,204**	

Following these parameters, the estimated asset replacement value of Shoreline's ROW tree resource is $91,236,602. While the Park tree resource equals the same percentage of the canopy as the RPW resource it has been treated as equal to the i-Street Tree value which understates the value due to the typically increased tree diameters at breast height and the associated stormwater retention value of park trees. Therefore, using this conservative estimation of Park trees the replacement cost of all public trees would be in the vicinity of $182.5 million US dollars.

CONCLUSIONS

The city owns approximately $182.5M asset in the combination of ROW and Park trees. If these assets were included on the City's balance sheet it would increase the City's net worth by the same amount. In turn, with an increased net worth the City could qualify for more grants and/or grants of higher sums. To do this correctly requires that a complete inventory be done and then

maintained over time with periodic re-calculation of the values. I encourage the City Council to establish an Urban Forestry Board with this in mind.

Normalization of the 2003 Values to the 2011 Canopy Study

	2011 AMEC	i-Street Tree	2003ACRT, Inc
Population 53,007		53,007	
Annual Service Benefits			
Gross Annual Service Function Benefits (5% of 2011 ROW)		$942,861	
ACRT, Inc Estimated Annual Maintenance Budget			$486,250
Net Annual Service Benefits - $942,861 - 486,250		$456,611	
ROW as % of Total Canopy Cover	10%	5.00%	
Parks as % of Total Canopy Cover	10%		
Total Annual ROW tree Benefit Value ($942.861 x 2)		$1,885,722	
Total Annual Parks tree Benefit Value ($942.861 x 2)		$1,885,722	
Total Combined ROW & Parks Benefit Value		**$3,771,444**	
Canopy Coverage			
City of Shoreline acreage	7,412	7,488	
City of Shoreline Total Canopy as % of acreage	30.6%		
ROW Total Canopy Coverge acreage	226.81	121.5	
ROW Coverage as % of Shoreline total acreage (roughly half of 2011 Study value)	3.06%	1.62%	
Asset Replacement Value			
Total 2003 Asset Replacement Value		$45,618,301	
ROW as % of Total Canopy Cover	10.00%	5%	
Parks as % of Total Canopy Cover	10.00%		
Total ROW tree Replacement Value ($45,618,301 x 2)		$91,236,602	$45,618,301
Total Parks tree replacement value ($45,618,301 x 2)		$91,236,602	
Total Conservative Estimate of Replacement value of all City owned trees (ROW + Parks)		**$182,473,204**	