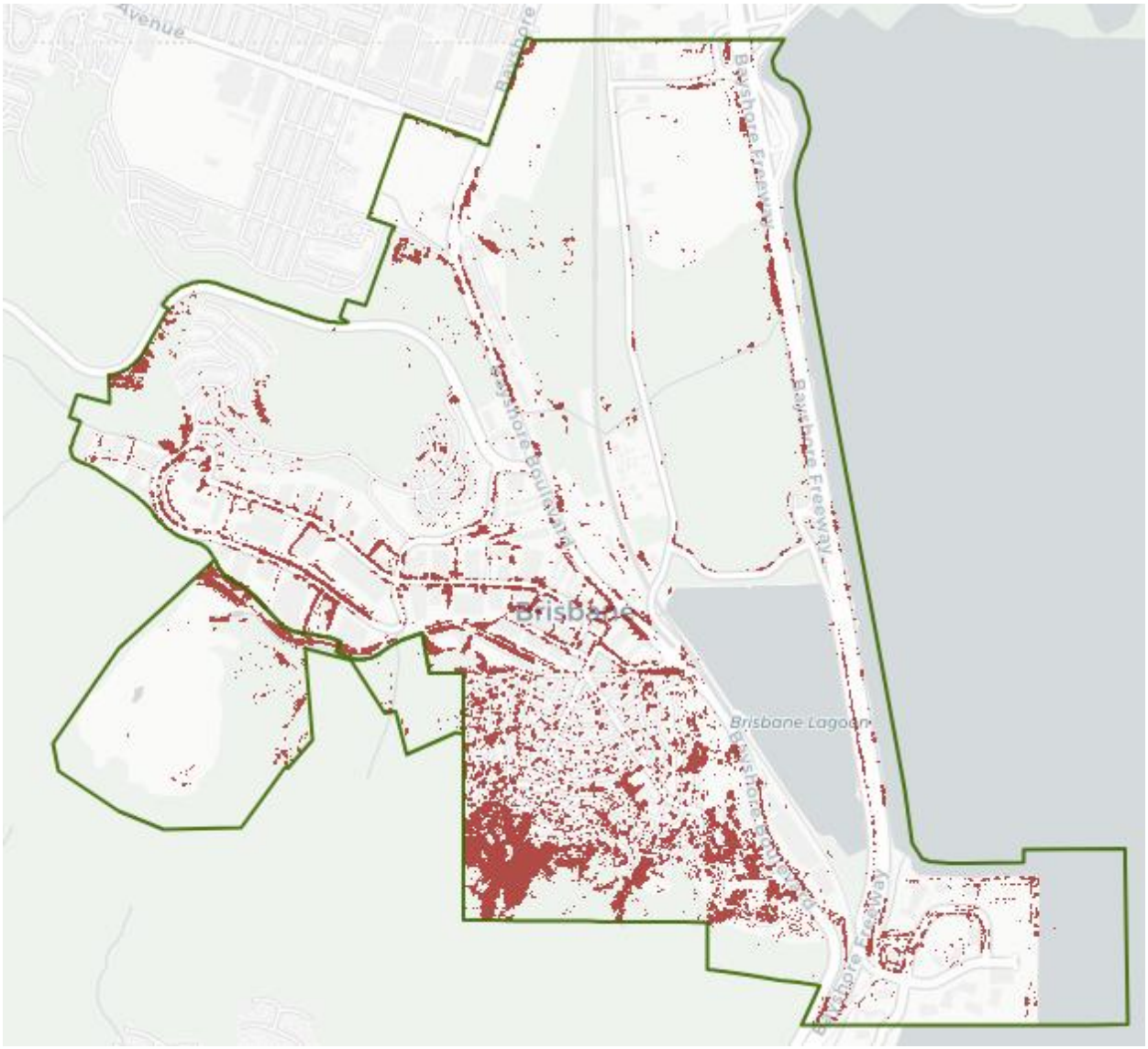
Citywide Tree Canopy

PlanIT Geo's Canopy services utilize satellite data to approximate tree cover and show the differences between 2010 and 2022. The data is available at pg-cloud.com/BrisbaneCA/ until August 2025, after which the City must renew the license at the current cost of $5,750/year.

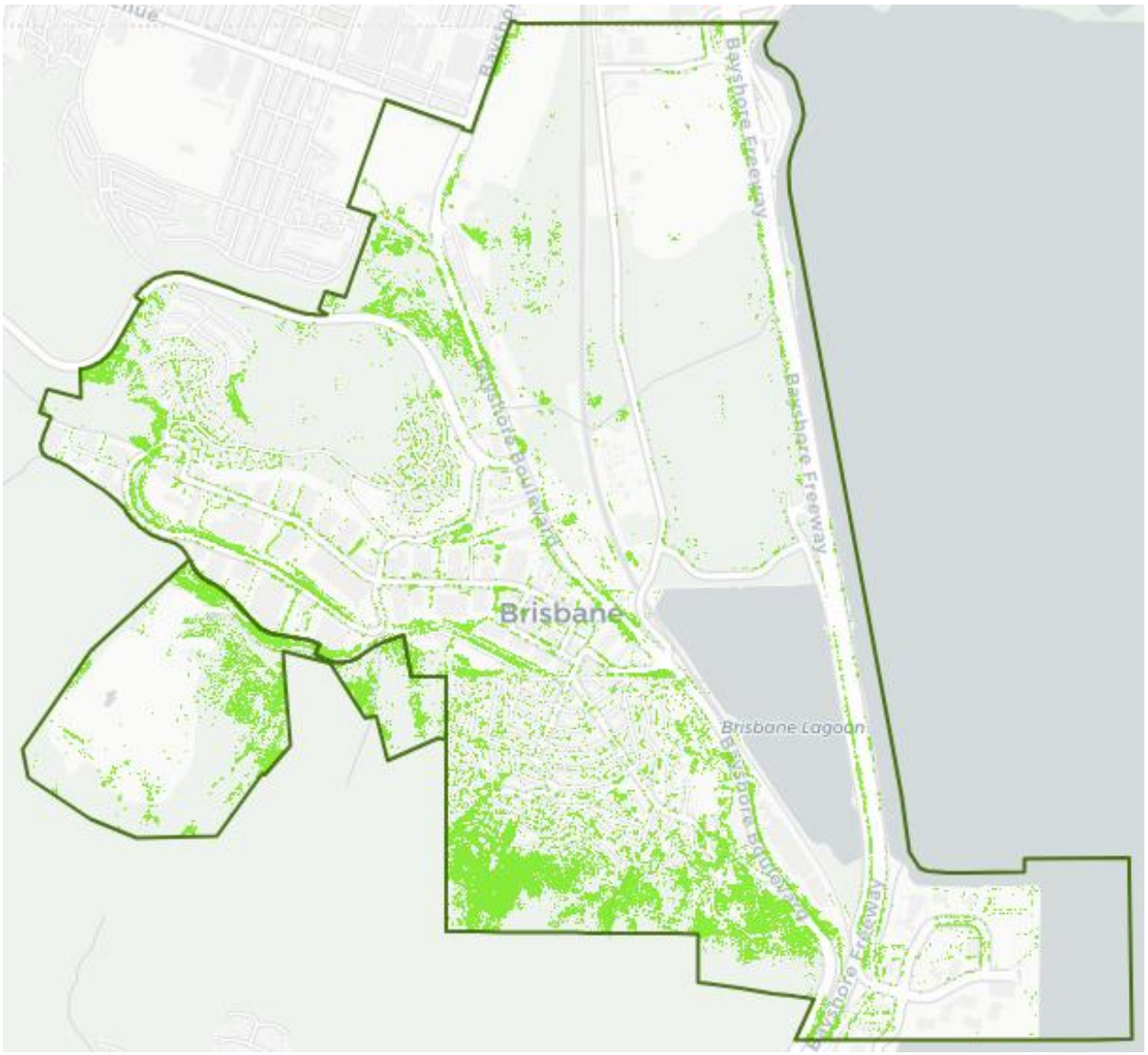
2010 Tree Canopy



The average tree canopy across the jurisdiction in 2010 was 9%.

Tree canopy percentages by census block were incorporated into the Brisbane Tree HubSite and range from 0 (Lagoon) or 2% (Baylands) to 70% in an area of central Brisbane's upper streets.

2022 Tree Canopy



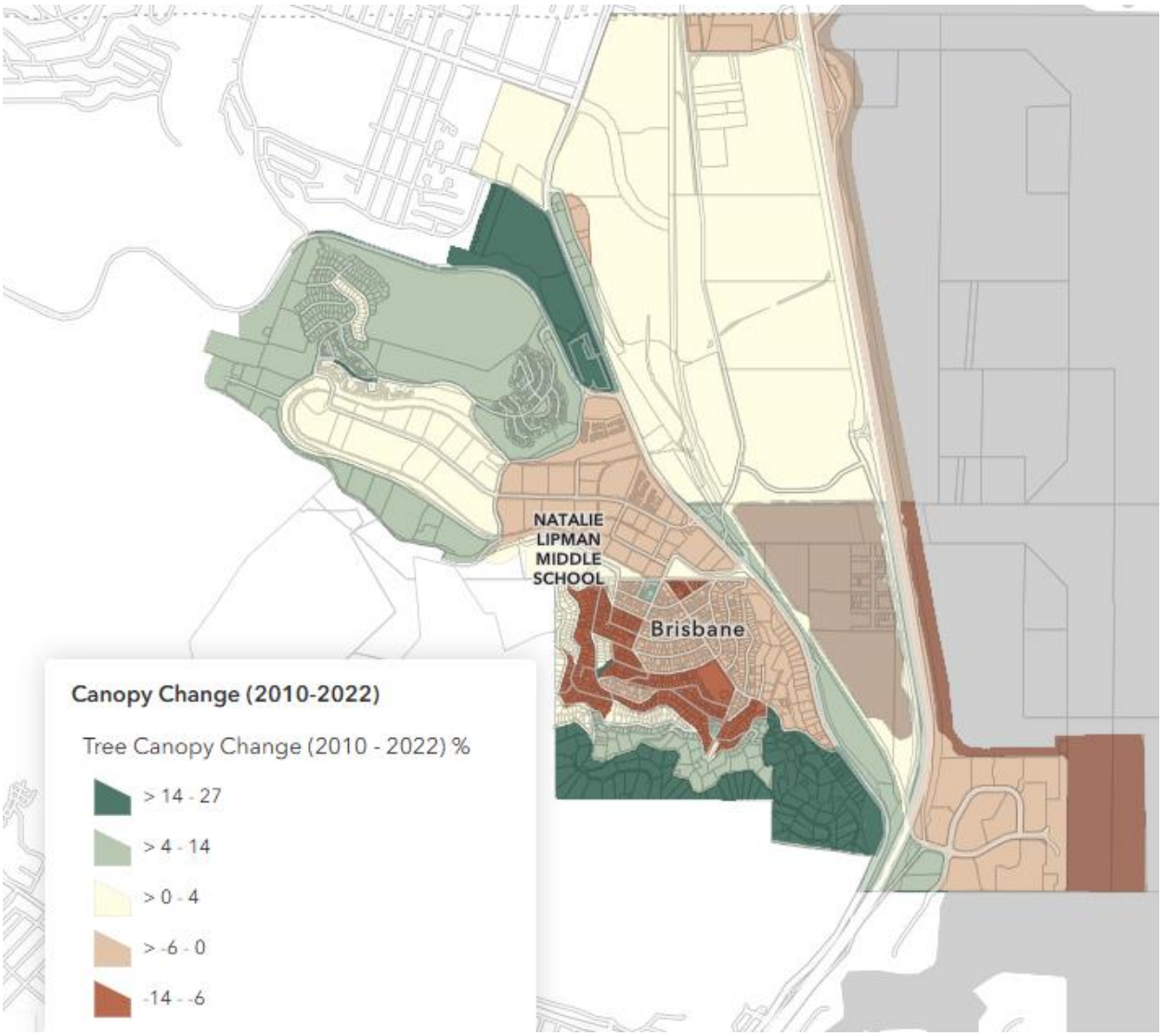
The average tree canopy across the jurisdiction in 2022 was 13%.

Again the tree canopy percentages by census block, available in both PlanIT Geo and the Brisbane Tree HubSite, range from 0 (Lagoon) or 2% (Baylands) to 60% in the uppermost reaches of Central Brisbane.

2010-22 Tree Canopy Change

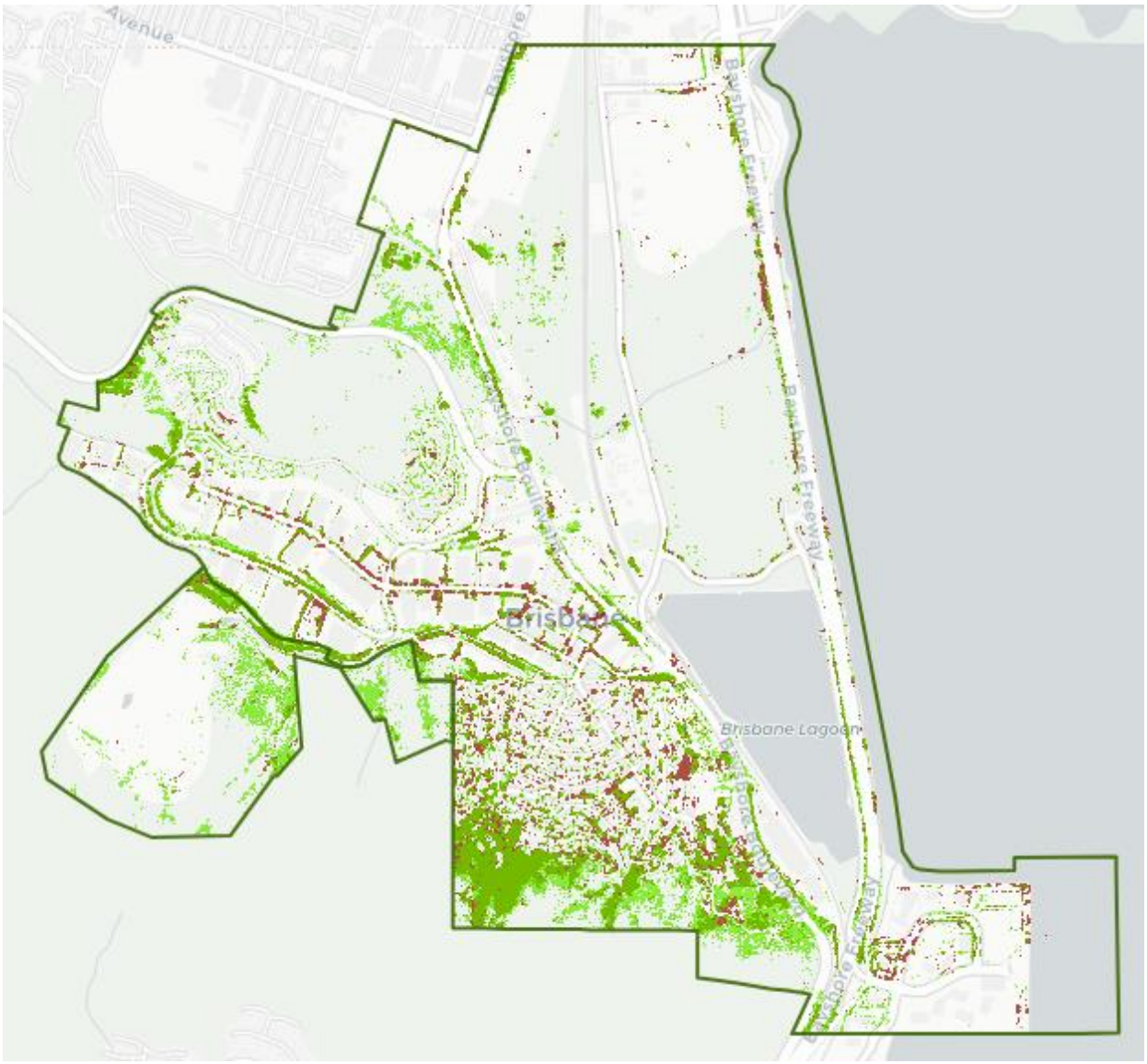
Overall, Brisbane's tree canopy grew 3% from 2010 to 2022.

However, the average masks significant differences by geographic area. Some census blocks saw their canopy increase up to 20% while other areas saw a loss of up to 13% tree coverage.



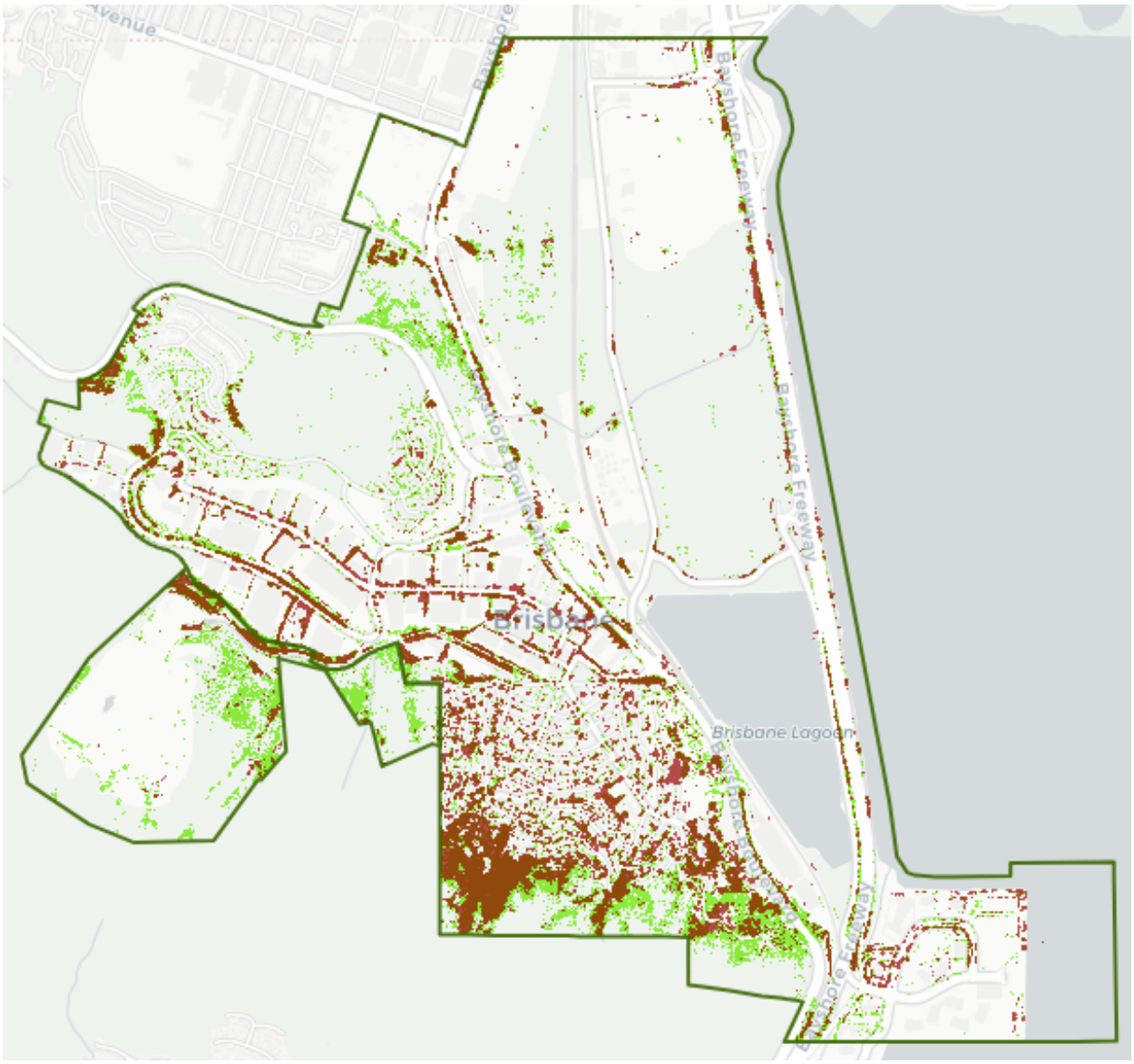
Canopy Loss

Layering the two years of satellite imagery in PlanIT Geo can show areas with tree growth or loss. In this first image, 2022 (green) is layered over the 2010 data (red). **Where red is visible trees have been lost.**



Canopy Gain

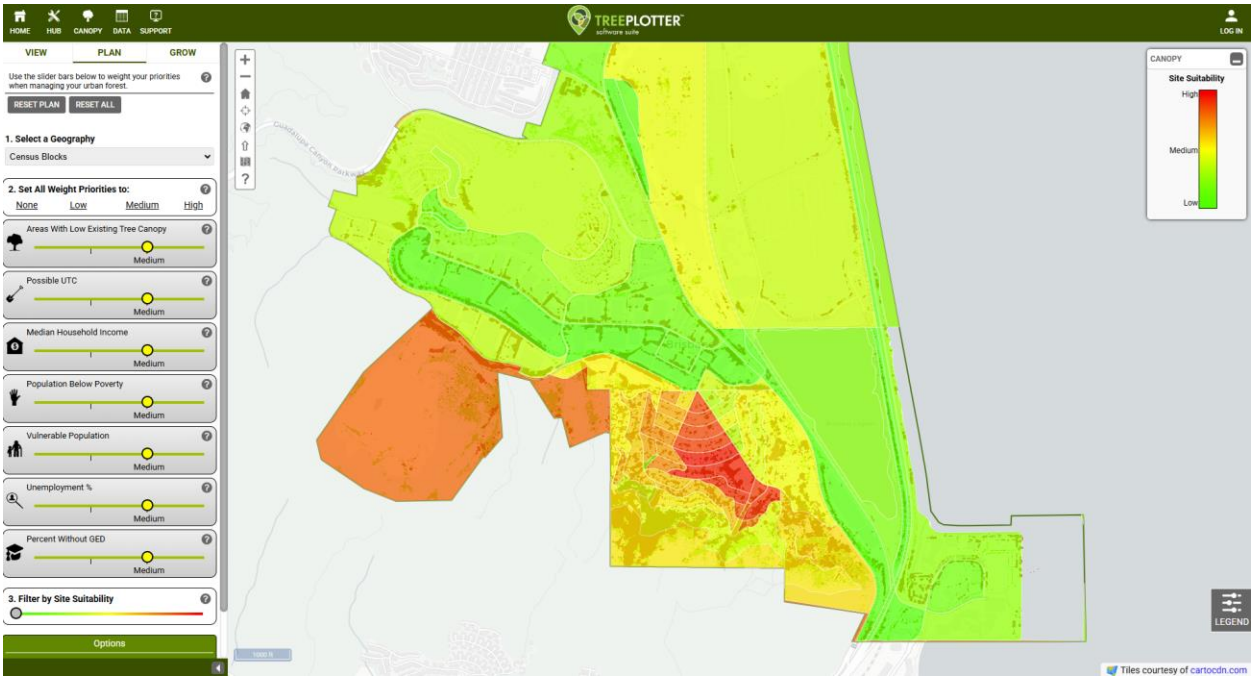
Conversely, in the following image 2010 (red) is layered over 2022 (green). **Here the visible green areas are where tree canopy has increased.**



Planning and Growth

PlanIT Geo's Canopy data also incorporates social and economic data, allowing for tree planting efforts that prioritize planting in areas with low existing tree canopy, or in areas with low-income or vulnerable populations.

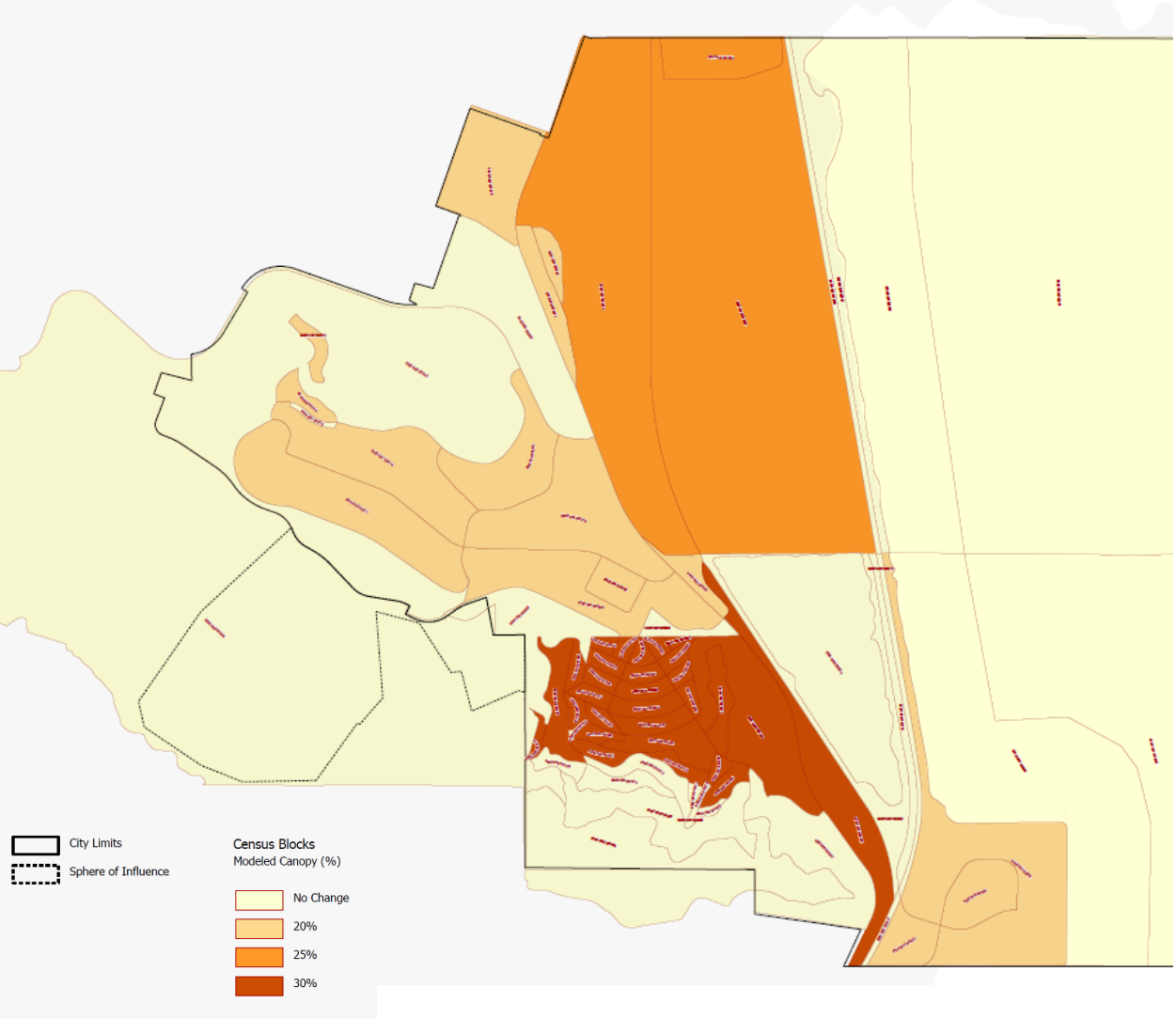
The following screenshot shows the available prioritization criteria (left side) and results with all criteria equally weighted to medium priority.



PlanIT Geo's Grow tool is designed to help evaluate potential urban tree canopy goals and the number of trees to reach the goal. With just three inputs - canopy %, mortality rate of newly planted trees, and average tree size at maturity - the tool outputs how many trees are needed, what the overall impact is on canopy cover, and the impact on ecosystem service benefits from your urban forest.

2040 Canopy Goal Recommendation

As shown in the map below, areas with existing canopy above 30%, as well as the Lagoon, waterfront, Quarry and Callippe Hill regions were left unaltered (lightest yellow). Other areas of central Brisbane were modeled with a 30% canopy, commercial areas with a 20% canopy, and the Baylands with a 25% canopy. The result is a 23% citywide canopy, or 10% increase over 2022 levels, recommended by 2040.



Reaching this goal would require planting 13,033 trees with an average tree crown diameter of 30 feet and a mortality rate of 5%. Of those trees, 8,813 are in the Baylands, leaving 4,220 trees to be planted across public and private (residential and commercial) sites throughout the rest of the city over 15 years, or around 280 trees per year. The table on page 9 includes scenario details for each census block.

In addition, the tool models Ecosystem Benefits of such an increase in tree canopy, with the results shown below for the scenario described.

Number of Trees to Plant

Plant 13,033 Trees

MODELED ECOSYSTEM BENEFITS

OVERALL

Current	Modeled	Net
Overall Monetary Benefit $44,877	Overall Monetary Benefit $76,416	Overall Monetary Benefit $31,539

AIR QUALITY

Current		Modeled		Net	
Pollutants Removed (lb) 7,119	Air Quality Monetary Benefit $37,276	Pollutants Removed (lb) 12,122	Air Quality Monetary Benefit $63,472	Pollutants Removed (lb) 5,003	Air Quality Monetary Benefit $26,196

CARBON

Current		Modeled		Net	
Carbon Monetary Benefit $169	Carbon Sequestered (lb) 7,393	Carbon Monetary Benefit $287	Carbon Sequestered (lb) 12,588	Carbon Monetary Benefit $119	Carbon Sequestered (lb) 5,196

STORMWATER

Current		Modeled		Net	
Stormwater Monetary Benefit $7,433	Runoff Prevention (Gallons) 862,499	Stormwater Monetary Benefit $12,656	Runoff Prevention (Gallons) 1,468,641	Stormwater Monetary Benefit $5,224	Runoff Prevention (Gallons) 606,142

Area Name or ID	Existing Canopy (%)	Modeled Canopy (%)	Net Change Canopy (%)	No. Trees to Reach Goal	Avg Tree Size (ft.)	Mortality Rate (%)	Annual Added Eco-Benefits ($)
060816001001008	12	30	18	31	30	5	78
060816001004002	10	30	20	62	30	5	158
060816001001003	18	30	12	24	30	5	61
060816001004005	20	30	10	78	30	5	198
060816001004006	16	30	14	19	30	5	48
060816001002004	4	25	21	304	30	5	774
060816001004011	16	30	14	36	30	5	92
060816001005006	3	30	27	35	30	5	88
060816001005003	8	30	22	41	30	5	106
060816001001006	20	30	10	16	30	5	41
060816001005005	12	30	18	96	30	5	244
060816001001005	29	30	1	12	30	5	30
060816001001007	16	30	14	29	30	5	75
060816001001000	13	30	17	23	30	5	59
060816001002006	4	20	16	54	30	5	138
060816001002003	2	25	23	5,947	30	5	15,150
060816001002015	20	20	0	0	30	5	0
060816023002003	29	20	-9	-2	30	5	-5
060816001002016	10	20	10	354	30	5	902
060816001005001	1	30	29	37	30	5	93
060816001002030	16	20	4	122	30	5	311
060816001002025	16	20	4	35	30	5	89
060816001004004	14	30	16	67	30	5	171
060816001001009	11	30	19	38	30	5	96
060816001002014	1	20	19	57	30	5	145
060816001002017	19	20	1	21	30	5	52
060816001001001	8	30	22	26	30	5	65
060816001005004	22	30	8	260	30	5	664
060816001002019	11	20	9	347	30	5	885
060816001004000	10	30	20	29	30	5	75
060816001001015	28	30	2	3	30	5	7
060816001002007	18	20	2	16	30	5	42
060816001001011	25	30	5	14	30	5	36
060816001002020	20	20	0	1	30	5	3
060816001004003	11	30	19	75	30	5	192
060816001001002	9	30	21	45	30	5	115
060816001002012	11	20	9	197	30	5	502
060816001002029	11	20	9	52	30	5	131
060816001002008	4	20	16	422	30	5	1,074
060816001004001	10	30	20	44	30	5	111
060816001005007	16	30	14	22	30	5	57
060816001002005	6	25	19	2,562	30	5	6,526
060816001002027	9	20	11	135	30	5	343
060816001002026	6	20	14	807	30	5	2,056
060816001004007	24	30	6	17	30	5	44
060816001001004	19	30	11	23	30	5	57
060816001002024	15	30	15	386	30	5	985
060816001005002	10	30	20	14	30	5	35