Tree New Mexico - ABQ NeighborWoods

Final Report Wellspark

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Author:

Betta Eisenberg

Program Manager, Tree New Mexico

Contents

I. Background

The Trees and Health Study performed in 2013 [1] reported that Albuquerque lost more tree canopy than cities that had experienced natural disasters like flood and tornado. In order to start replacing this lost tree canopy, the ABQ NeigborWoods Program was founded. Driven by Albuquerque City Councilor Isaac Benton, a team was formed which included other city and state partners such as ALSA members Amy Bell and Robert Loftis, New Mexico State Urban Forester Jennifer Dann, Albuquerque City Forester Joran Viers, and Tree New Mexico (TNM). The team felt it was imperative to engage homeowners particularly, as close to 85% of the City's trees were located on private property. Councilor Benton used a portion of his discretionary budget to fund the program.

Briefly, the ABQ NeighborWoods grant included 100 free street trees planted in a single day by volunteers, and 100 free small giveaway trees that homeowners could plant anywhere on their property themselves. The street tree planting criteria for city egress was limited to within 20 ft of the street. The homeowners adopting the street trees were required to sign an agreement with the City promising to water and care for the trees. The grant also included an arborist audit for 3 years with feedback to the homeowners if any issues were found. Pertinent training on various tree topics – pruning, tree plotter, and some inventory training was also included.

Wellspark was the first ABQ NeighborWoods Grant recipient. Creating shade corridors was encouraged so neighbors would want to get outside and walk more. Studies have shown direct correlations between trees and an improvement in health and crime. The 100 small trees were given away on April 8, 2017, and the 100 street trees were planted in a big volunteer event on April 22, 2017.

The ABQ NeighborWoods Program has since expanded across all the Albuquerque City Councilor's districts. Fourteen ABQ NeighborWoods plantings have been held over the past three years, with approximately 1400 street trees planted and 1400 additional small trees given away.

[1] Trees and Health App http://map.treesandhealth.org/

II. Tree Planting and Survivability

The Tree Canopy Percentage in Wellspark was well below the Albuquerque city average, according to the Trees and Health Study. [2] (figure 1)

Fortunately, the neighborhood had large planting strips that would accommodate shade trees easily. Planting trees in these planting strips would provide the best canopy cover for the sidewalks. (figure 2)

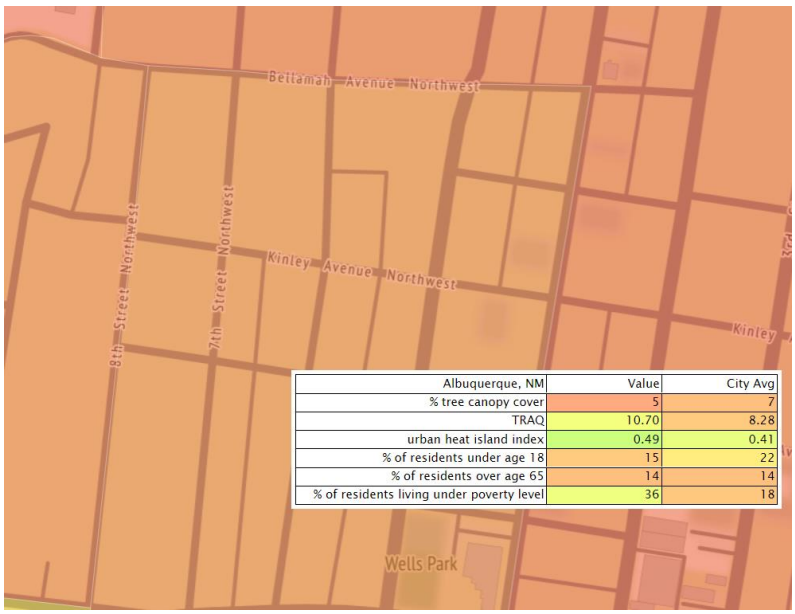

Figure 1

Heat map of Wellspark neighborhood – http://map.treesandhealth.org/

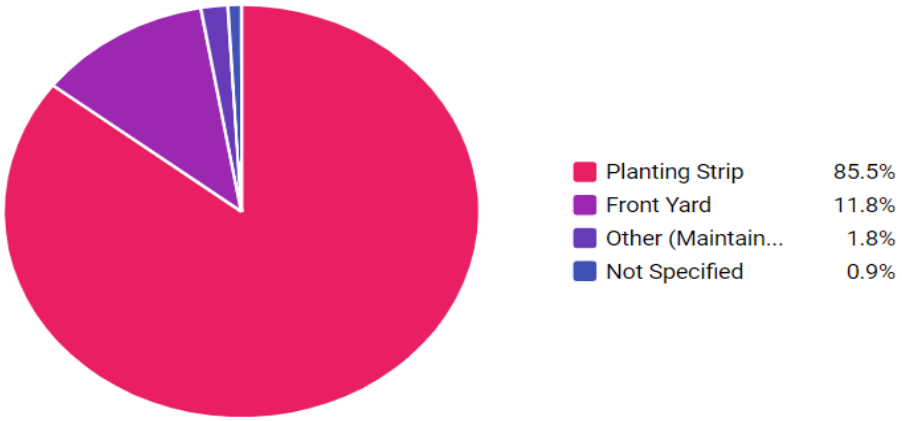

Figure 2

Growing Space - Tree Plotter App https://pg-cloud.com/TreeNM/

[2] http://map.treesandhealth.org/

The neighborhood leaders identified Los Tomases Street as the primary concentration point. They agreed to pursue adjacent streets as well.

They then split up the territory into parts and each neighborhood leader helped to canvass.

The neighborhood leaders were successful in getting all the tree adopters needed to place the 100 trees, and in fact, the actual total was 109. (figure 3)

Figure 3

Planting Map – Tree Plotter - https://pg-cloud.com/TreeNM/

The survivability goal was purposely set to a challenging 85% over three years of tracking. Wellspark fell a little short at 80.9%. (figure 4)
However, some of the homeowners replaced their trees when they died, and this was considered an excellent result.

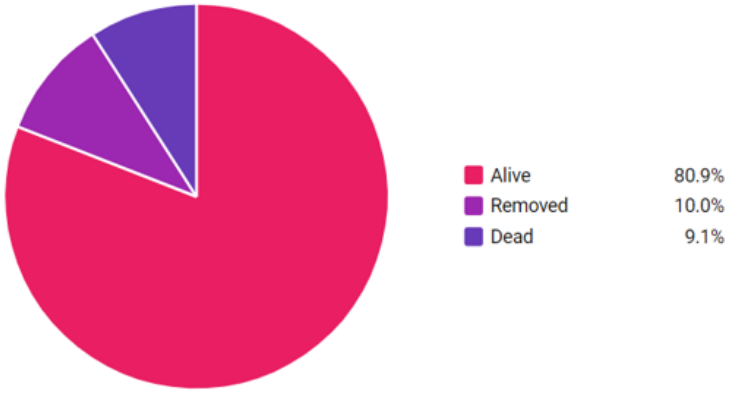

Figure 4
Overall Survivability - Tree Plotter App https://pg-cloud.com/TreeNM/

Mortality rate varied by species. The Texas Red Oak had the worst rate. Although the trees were watered during staging the day before the planting, it was hit and miss for watering during the planting itself. Since then, our process and volunteer training has been standardized and includes watering throughout the entire planting activity.
The Eastern Redbud had 5 incidences of canker over the tree year audit period. Oklahoma or Western Redbud will now be used for future plantings.

The main contributor to mortality and ill health over the three-year study other than the issues covered above, was the lack of consistent deep watering. (figure 5)

Species With Most Mortality	
	Count
Texas Red Oak	8
Raywood Ash	3
Alee Elm	1
Chinese Pistache	1
Eastern Redbud	1
Frontier Elm	1

Figure 5 Species Survivability - Tree Plotter App https://pg-cloud.com/TreeNM/

III. Eco Benefits

A tree inventory was completed between April 22,2020 and May 16,2020 to see how the street trees had grown. The most marked growth occurred in the Frontier and Alee Elms that got consistent watering. In some cases, the DBH increased from 1 inch to close to 3 inches and the height went from 8 feet to +/- 20 feet.

Using the Tree Plotter data base, the current Eco benefits were calculated. (figure 7)

Total Eco Benefits	
Overall Monetary Benefit ($):	199
Stormwater Monetary Benefit ($):	6
Runoff Prevention (Gallons):	1,188
Property Value Total ($):	156
Energy Savings ($):	17
Energy Saved (kWh):	222
Natural Gas Savings ($):	13
Heat Prevention (Therms):	12
Air Quality Monetary Benefit ($):	4
Pollutants removed (lb):	5
Carbon Monetary Benefit ($):	3
Carbon Sequestered (lb):	435
Carbon Avoided (lb):	515

Figure 7

Eco Benefits - Tree Plotter App (Using iTree Algorithms) https://pg-cloud.com/TreeNM/

Using iTree, a general benefits forecast for 200 trees after 20 years was calculated (figure 8).
This calculation is used to help educate neighbors on the environmental benefits of planting trees today for the future.

My Tree Benefits Wells Park	200 Trees After 20 Years
Carbon Dioxide (CO2 Sequestered)	$520.00
CO2 Absorbed Each Year (lbs)	51,860
Storm Water	$260.00
Rainfall Intercepted Each Year (gal)	40,000
Air Pollution Removed Each Year	$160.00
Ozone (oz)	940
Other Particulates (oz)	440
Energy Usage Each Year	$9,640.00
Electricy Savings A/C (kWh)	77,800
Avoided Emissions	
Carbon Dioxide (lbs)	164,300
Other Particulate Matter (oz)	2,420

IV. Learnings

- Rental properties are often challenging for consistent watering. Continues to be a challenge.

- Proper watering and planting training during the planting event is crucial.

- TNM had never planted this many trees of this size with volunteers. New ways to recruit volunteers through One ABQ and Encore were set up. We now have a new volunteer coordinator as well. Tree sizes are varied to allow a broader range of volunteers to plant.

- Only had 5 experienced planting team leaders. Now, ten more planting team leaders have been trained. Planting day is made up of at least ten teams planting ten trees each to help with quality control and work balance.

- Did not have enough tools or equipment. Now have enough tools and equipment for all the teams.

- The tree giveaway was conducted before the planting event. The small tree giveaway is now held after the big planting event as many neighbors expressed interest in getting trees after seeing trees being planted in their neighborhood during the big event.

- An old tree adopter agreement was used. There was no email or phone number on the form making it hard to communicate with the tree recipients. The City has allowed TNM to update the old agreement to include phone and email address.

- Tree Plotter was not online until two weeks before planting. Tree Plotter is now the standard database software. We have generated training material and hold classes with the neighborhood leaders. They are doing most of the canvasing and the tree plotting themselves. Maps are generated with plenty of time for the excavator and utility lines identification.

- Trees were marked with colored tape to match the Tree Plotter maps for ease of delivery and planting for volunteers.

- Neighbors continue to help each other water trees that are in need.