



Dallas Park & Recreation

# Park Maintenance and Operations Green Initiatives Briefing 2019

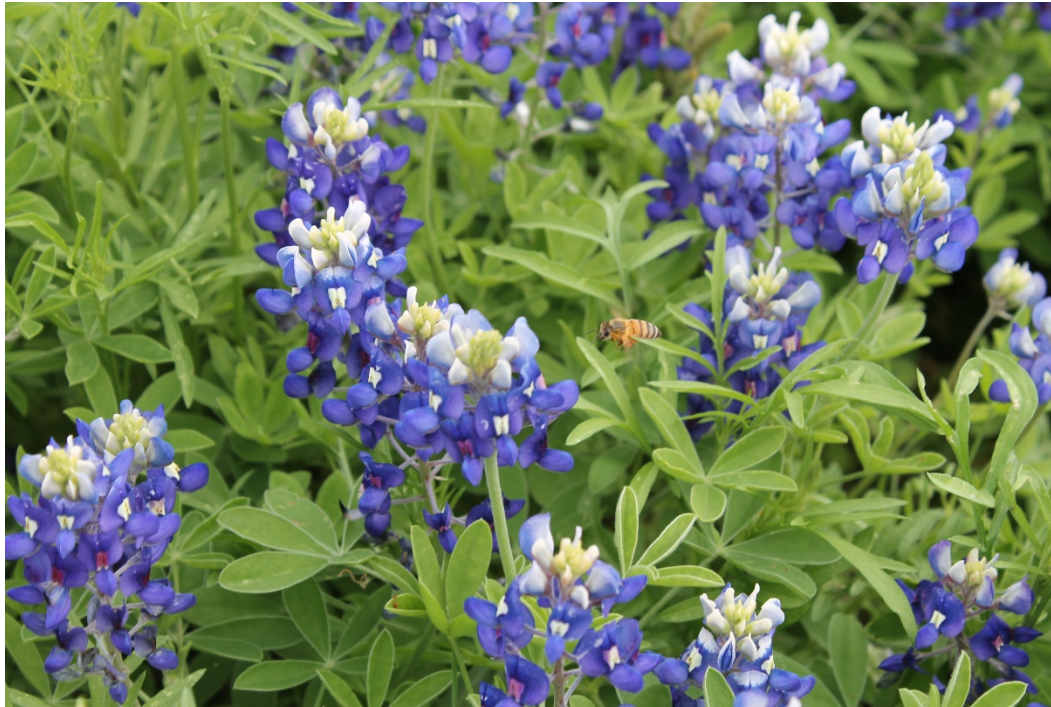


Park and Recreation Board

June 20, 2019

# Purpose

- To provide an update to the Park and Recreation Board on greener management practices and innovations adopted for park maintenance that will help reduce the carbon footprint in Dallas.



# Recycling Program

- Current program includes
  - Athletic Fields
  - Trailheads
- Program expanding in 2019 to include special event recycling
  - Special Event Trailers in each Service Area stocked with units to service large events
  - Recyclables captured and recorded in pounds



# In-house Mulch and Compost Generation

- Goal 1: Divert 100% of materials generated by Forestry Services from Landfill (Waste Diversion)
- Goal 2: Recycling 100% of materials generated by Forestry Services to be used in parks
- Goal 3: Generate savings from program to be used to further advance program and cover costs of capital equipment needs



# In-House Mulch and Compost Generation

- 100% Green Waste Diversion
- Stage all materials generated from Forestry at Mountain Creek Service Center instead of taking to landfill
  - 5-crew operation: estimated 4,500 cubic yards generated annually X 600 lbs./cubic yard = 2,700,000 lbs. = 1,350 tons
  - Realize savings based on current tipping fees of \$13.38/ton
    - \$18,063 saved annually
  - *Does not include savings from mulch/compost generated against capital equipment required*



# In-House Mulch and Compost Generation

- Current Program
  - Unscreened chips out of chipper (mulch/compost)
  - Green material introduced to mulch to compost
  - Turned monthly for 9 to 12 months (until fully “cooked”)
- Phase 2 – Purchase Screener (80/20 mulch: compost): High up-front costs; **savings over 5 years**
- Phase 3 – Purchase Grinder (half time – 50/50 mulch to compost): High up front costs; greatest savings over 5 years
- Priorities of use for compost
  - Athletic fields and ornamental beds
  - Benefits include building healthier soils for plants/turf as well as making turf safer (top dressing)

# Robotic Mowers

- Husqvarna Automower Pilot Locations
  - Turner Plaza – 1 mower for 1 acre
  - Kiest Park Athletic Complex – 3 mowers for 2 soccer fields
- Initial Points of Interest
  - Electric – no fuel required, no emissions and quiet
  - Self-operating and smart programming
  - Plant health and quality benefits



# Robotic Mowers

- Pilot program will monitor
  - Security concerns
  - Operational Efficiency
    - User friendliness
    - Troubleshooting and programming requirements
    - Performance vs. conventional mowing
  - Cost vs. Conventional Mowing
  - Limitations
    - Power access
    - Interaction with public
    - No constant supervision during operation hours
    - Obstruction to other maintenance activities





# Robotic Field Marker

- Turf Tank Pilot Locations  
Crawford Park Athletic Fields
- Initial Points of Interest
  - Electric – no fuel required, no emissions and quiet
  - Self-operating and smart programming
  - Time efficiency and consistency
- Pilot program will monitor same data as robot mower pilot



# Green Teams

- 2 Pilot Crews: Downtown and White Rock Lake (east side)
- Use of exclusively electric (lithium battery-powered) hand-held landscaping equipment (not including push mower since commercial self-propelled technology is not available)
  - Backpack blowers
  - Hedge trimmers
  - Small chainsaws
  - Line Trimmers
- Benefits: quiet and cleaner
- Pilot will track:
  - Costs vs. gas-powered equipment (materials and performance)
  - Unforeseen obstacles and opportunities for improvement



# Smart Irrigation

- Applied for grant and approved to fund installation of more systems
- Eight current locations (three parks and five golf courses)
- Cellular weather station
- Flow sensor – leak detection
- Remotely managed via app on smart phone



# Year 3 of Organic Pilot Program

- Celebration of Life Plaza (1-acre downtown park)
- Exclusive use organic pesticides
- 3-year program that began in 2017
- Tracking of data including costs and products used by the month to be contrasted with comparable synthetic program



# Certifiable Landscapes

- Currently eight Certified Monarch Waystations in the Dallas parks system
- Applying for an *additional* eight certifications in 2019 which will include a combination of the following
  - Bird City USA—1 applying in the Fall 19 (citywide program)
  - Monarch Waystation—6
  - Bee City—1 Citywide Program





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