DRAFT PRESENTATION

Sunnyvale

Council Priority Project ESD 17-01

Eliminate the use of Chemical Pesticides on City Owned or Leased Property

Emma Hinojosa

Sustainability Commission - June 15, 2026

Agenda

Study Issue Background

Pesticide Policies and Regulations

City's Current Pesticide Use and Application

Alternatives to Synthetic Pesticides

Benchmarking other cities

Findings and Draft Recommendations

ESD 17-01 Background

Eliminate the use of Chemical Pesticides on City Owned or Leased Property:

- Evaluation of the City's current pesticide use practices and the feasibility of eliminating chemical pesticides.
- Proposed by the Sustainability Commission
- Elevated to a Study issue in 2017, ranked above the line by the City Manager and initiated in 2025
- $100,000 budgeted for 2-year study
- Joint effort by led by ESD with support from DPW staff

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Pesticide Regulations

Pesticides in California are regulated by multiple agencies

- Federal EPA
- California EPA
  - *Department of Pesticide Regulation (CADPR)*
- San Francisco Regional Water Quality Control Board
  - *NPDES Municipal Regional Permit*
- California Prop 65

Risk Assessment: Chemical Label Explainer

Signal Word	Toxicity	Category
DANGER	high	I
WARNING	moderate	II
CAUTION	low	III
N/A	Not toxic	IV

Source: National Pesticide Information Center

Pesticide Type Overview

Pre-emergent **vs** Post-emergent

WHEN

Selective **vs** Non-selective

WHAT

Systemic **vs** Contact

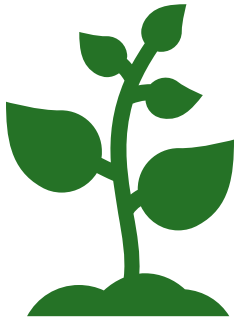
HOW

Pesticide Type Overview

Synthetic

Chemically manufactured compounds

Examples:
Glyphosate, pyrethroids



Organic

Derived from natural sources

Examples:
Plant Oils, Copper Sulfate, Pyrethrin

Pesticide Training

Annual Parks Staff Trainings

Department of Pesticide Regulation (DPR)	Pesticide SDS sheets
	Prepares staff for applicator licenses
Internal	City's IPM Policy
	Water pollution prevention education

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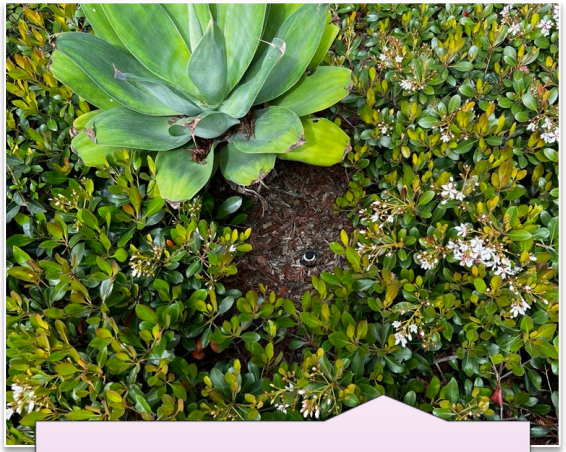
How and Where Pesticides are Used



Herbicides

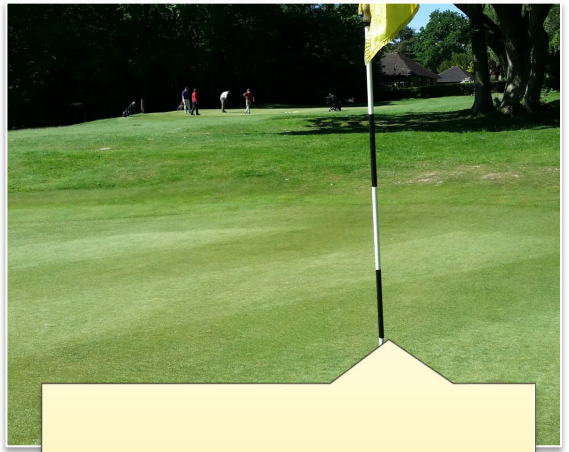
in parks and landscape to remove weeds

Pesticides

to protect trees from pests and diseases

Insecticides

to deter and remove pests from buildings



Fungicides

used on golf courses protect greens & reducing slips and falls on pavers

Examples used in Sunnyvale:

Roundup	Safari	Ant Bait Stations	Syngenta
Non-Selective, Post-emergent Caution	Selective, Post-emergent Warning	Selective Caution	Non-selective, Pre-emergent Caution

Parks Application Process

- City’s IPM policy
- Carry safety data sheets (SDS)
- Backpack, truck & hand spraying
- Restricted-entry interval
- Signage and mailings
- Staff follows DPR’s Healthy Schools Act

Example: Hackberry Application

The problem:

Hackberry aphids

Old solution:

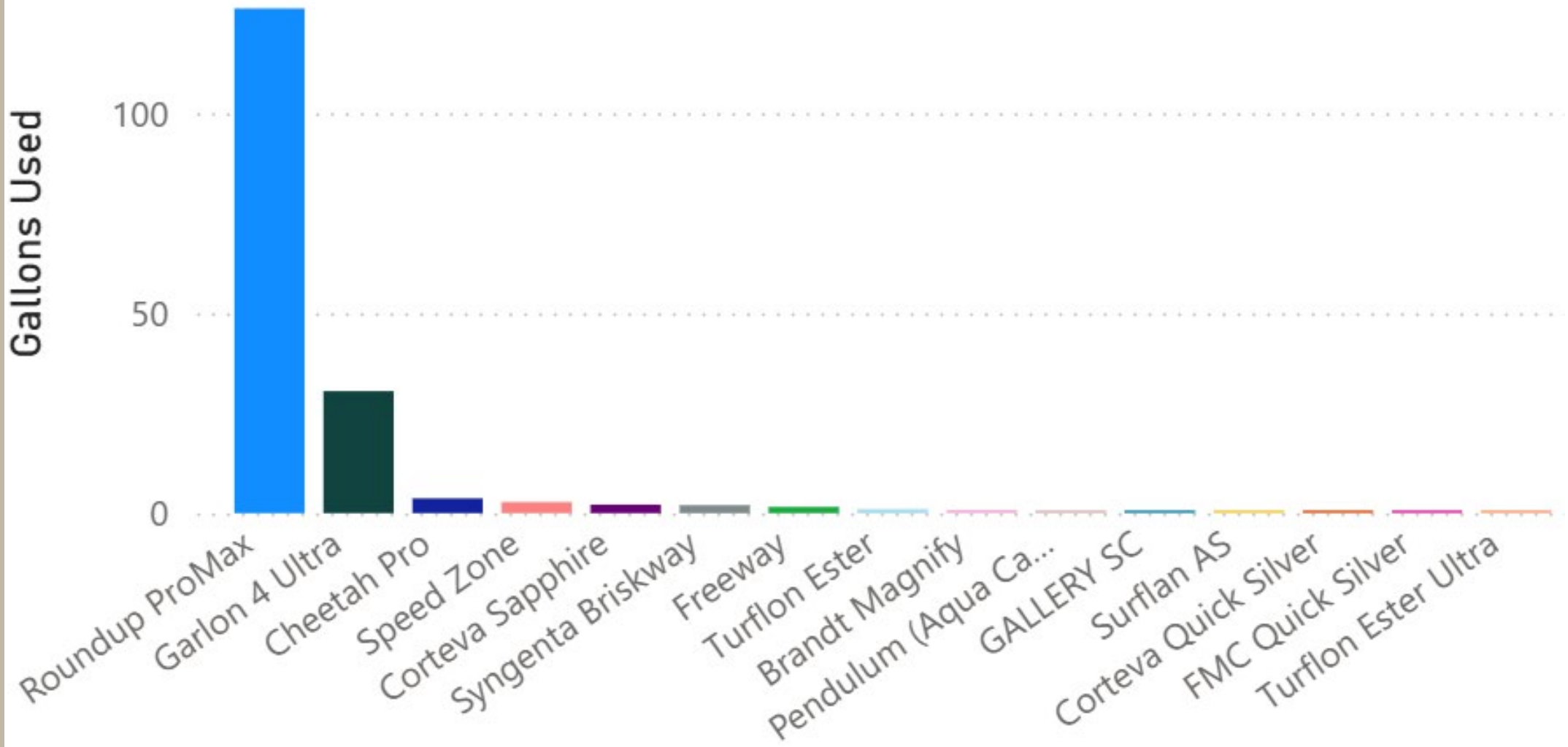
Freeway and Safari pesticides (pesticide of concern)

New technique:

Soil fertilizing and aeration

Annual Pesticide Use by Type

2025



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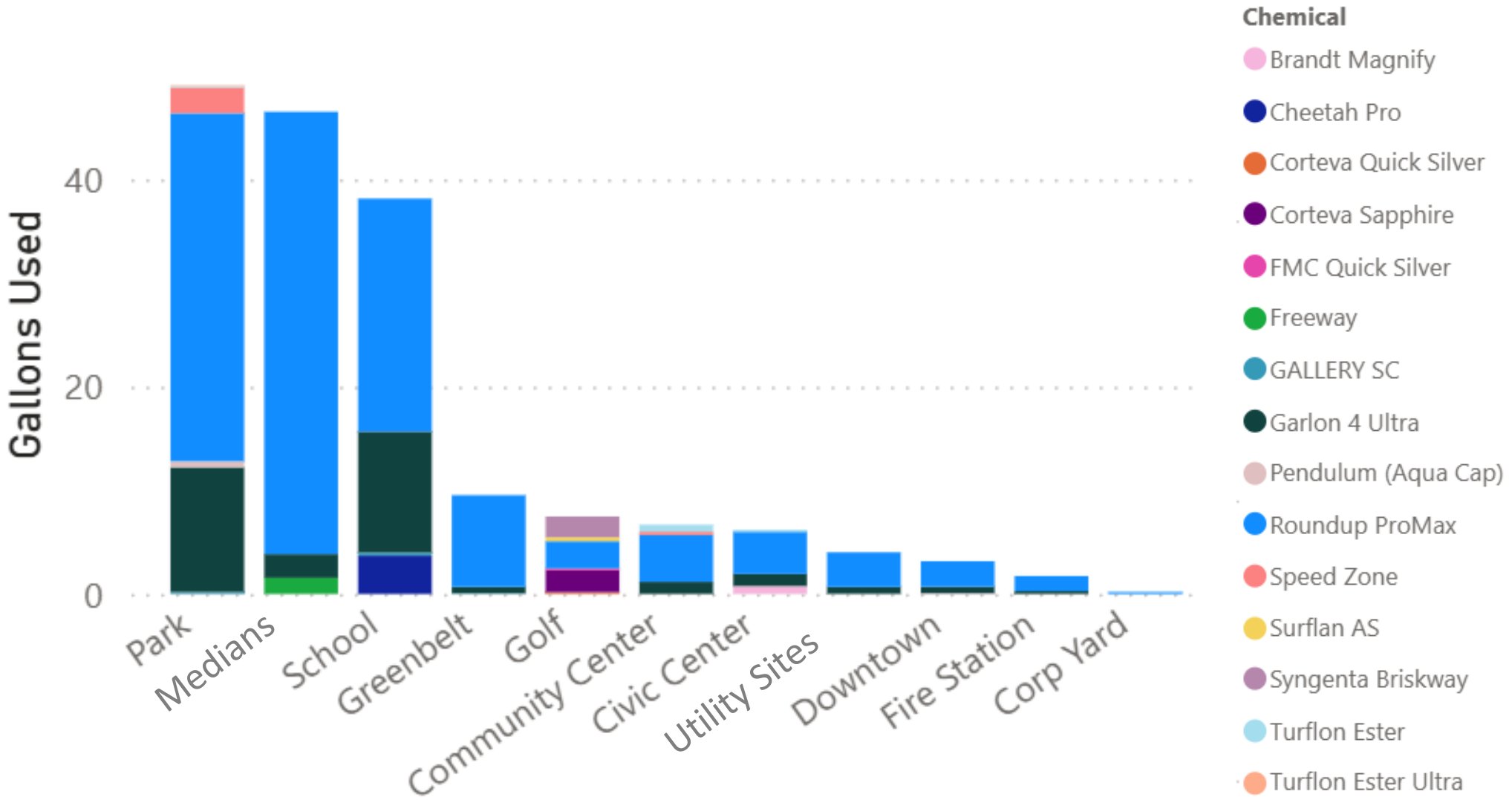
Study Issue Power BI Desktop
Data as of 4/20/26, 2:16 PM
Filtered by **Year** (is 2025)

Annual Pesticide Use By Location Type



2025

Open in Power BI

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Data as of 4/20/26, 2:16 PM
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Annual Pesticide Use in Gallons per Acre

2025

Location	Total Acres	Gallons per Acre Used
Parks	260	0.18
Schools	87	0.43
Medians	57	0.81
Greenbelt	48	0.19
Community Center	21	0.32
Fire Stations	10	0.17
Utility Sites	8.5	0.47
Downtown	7	0.45

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Research on Organic Pesticides

Organic Herbicides for Weed Control in Urban Landscapes

University of California Agriculture and Natural Resources (UC ANR)

2023 Study

DAT: Days after treatment

- Can effectively control weeds for about 14 days
- Work best during warm weather and full sun applications
- Require increased applications, lower dilution rates, and higher application volumes compared to glyphosate-containing products

Windbiel-Rojas, K. (2023, March 26). *Organic Herbicides for Weed Control in Urban Landscapes*. UC Weed Science – Weed Control, Management, Ecology, and Minutia. University of California Agriculture and Natural Resources (UC ANR). https://ucanr.edu/blog/uc-weed-science-weed-control-management-ecology-and-minutia/article/organic-herbicides-weed

Mechanical Alternatives

Manual Removal

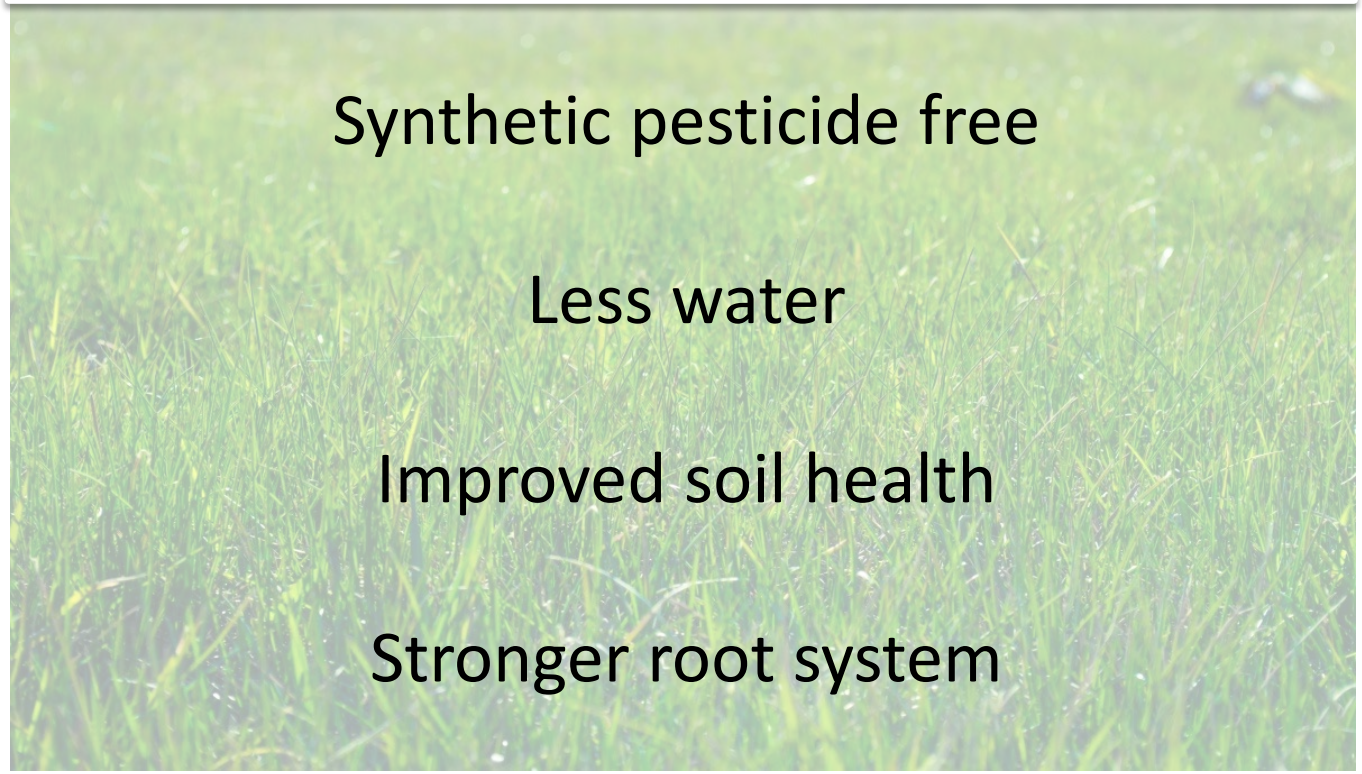
Flame, steam, or hot-foam weeding

Mulch

Alternative Turf Approach

1. Soil health baseline through soil testing
2. Change in soil aeration
3. Application of organic fertilizers 4 times/year
4. Continued testing and monitoring

GOALS



Synthetic pesticide free

Less water

Improved soil health

Stronger root system

*Note: Potential need to renovate annually with field closures up to three months

Benefits

Potential reduced health risks to City employees and the public

Protects pollinators (although we already work to avoid this)

Reduces potential runoff contamination into waterways

Actions that Support Alternative Methods

Targeted and efficient irrigation

Adjusting plant palettes

Soil regeneration

Resetting expectations and educating public

Other Considerations

Considerations with alternative methods both mechanical and organic

Equipment

Line Trimmers
(most practical mechanical alternative)

- High volume
- Disperse debris & dust
- Additional safety and nuisance concerns
- Replacement frequency

Applications

- 2x-4x increase in labor hours depending on site
- More frequent applications
- Changes application times/periods
  - Organic chemicals: work best in full sun and warm temperatures
  - Trimmers: cannot be used during early morning hours

Changes

- Fundamental shift away from weed removal
- Risk of deteriorating aesthetics and increasing public comment

Cost Analysis

Estimated Costs associated with further reducing and eliminating all pesticide use on City Property

Average Annual Total Cost of Applying Pesticides:

$716,000

Estimated Annual Cost of Removing Glyposate

$1,230,000

+ $514,000 ↑ 76%

Estimated Annual Cost of Removing Pesticides

$ 1,623,000

+ $907,000 ↑ 135%

Enhanced Public Outreach Costs

Existing

Internal

- Advertisements (Bay Area New Group advertisements, Utility Bills, employee emails, newsletters, social media)
- Tabling events (Farmers markets, National Night Out, Earth Day)
- Workshops (Sunnyvale Senior Center Workshop)
- Elementary school presentations
- **Estimated cost of materials: ~$1000**
- **Estimated staff time: 100 hrs/year**

External

- Countywide Program/Watershed Watch
- Our Water Our World (statewide)

Expanded Options

- Increased posting pre/post applications
- Potential survey of residents and businesses to identify level of awareness and concern on pesticides

Pilot Park Study

Proposed work with a consultant on pilot park at Panama Park

Study Objectives:

- **Evaluate:**
  - Labor requirements
  - Weed control effectiveness
  - Turf quality
  - Environmental benefits
  - Resident satisfaction
  - Cost impacts
- **Duration:** 2 Years
- **Potential Deliverables:** Final report to City Council with recommendations

Estimated Cost
$50,000 /yr

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Benchmarking Summary

City	Approach	Results Summary
TOWN OF WINDSOR	Immediate ban	Operational challenges and infrastructure impacts
CITY OF MENLO PARK	Gradual transition	50% increase in costs; utilize contractor support
CITY OF RIVERSIDE	Glyphosate moratorium	400% increase in costs; moratorium ended

Benchmarking Summary

A pesticide ban cannot be successful without more funding, more staffing, and better planning on alternatives

Overall significant increase in costs and reliant on support from contractors to achieve implementation

Cities with near or total bans are not comparable in size

Agencies of comparable size are continuing to use synthetic pesticides

Aesthetics and infrastructure issues

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Study Findings Summary

City is using pesticides in a measured manner only where necessary

Pesticide free options have community benefits

Other Cities have found mixed results using alternatives to pesticides

Pesticide free management will have lower aesthetics

Pesticide free methods will cost more in terms of labor and equipment

- + $ 335,000 One-time costs
- + $900,000 Ongoing operating cost (+ 4 FTE)

Pilot study has merit; will potentially cost around $50,000 per year

Potential Transition Impacts and Effects

Substantially higher costs to the City

Will take time to implement

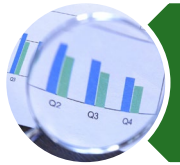
Deteriorating aesthetics

Unknown or unintended consequences

Draft Recommendations

Do not recommend eliminating all chemical pesticides from City use

Complete a pesticide free pilot park study



Improve transparency by improving data collection and reporting on chemical usage

Post signage when necessary for safety

Direct Staff to maintain City’s existing IPM Program

Sunnyvale

Questions?