A Human-Centered Design Approach to Illegal Dumping

SAN RAFAEL
THE CITY WITH A MISSION

Agenda

1. About Us: San Rafael
2. Together San Rafael Program
3. Human Centered Design v 1.0
4. Iterations and v 2.0
5. Five Key Interventions
6. Portfolio of Interventions: Looking Forward
7. Q&A & Request

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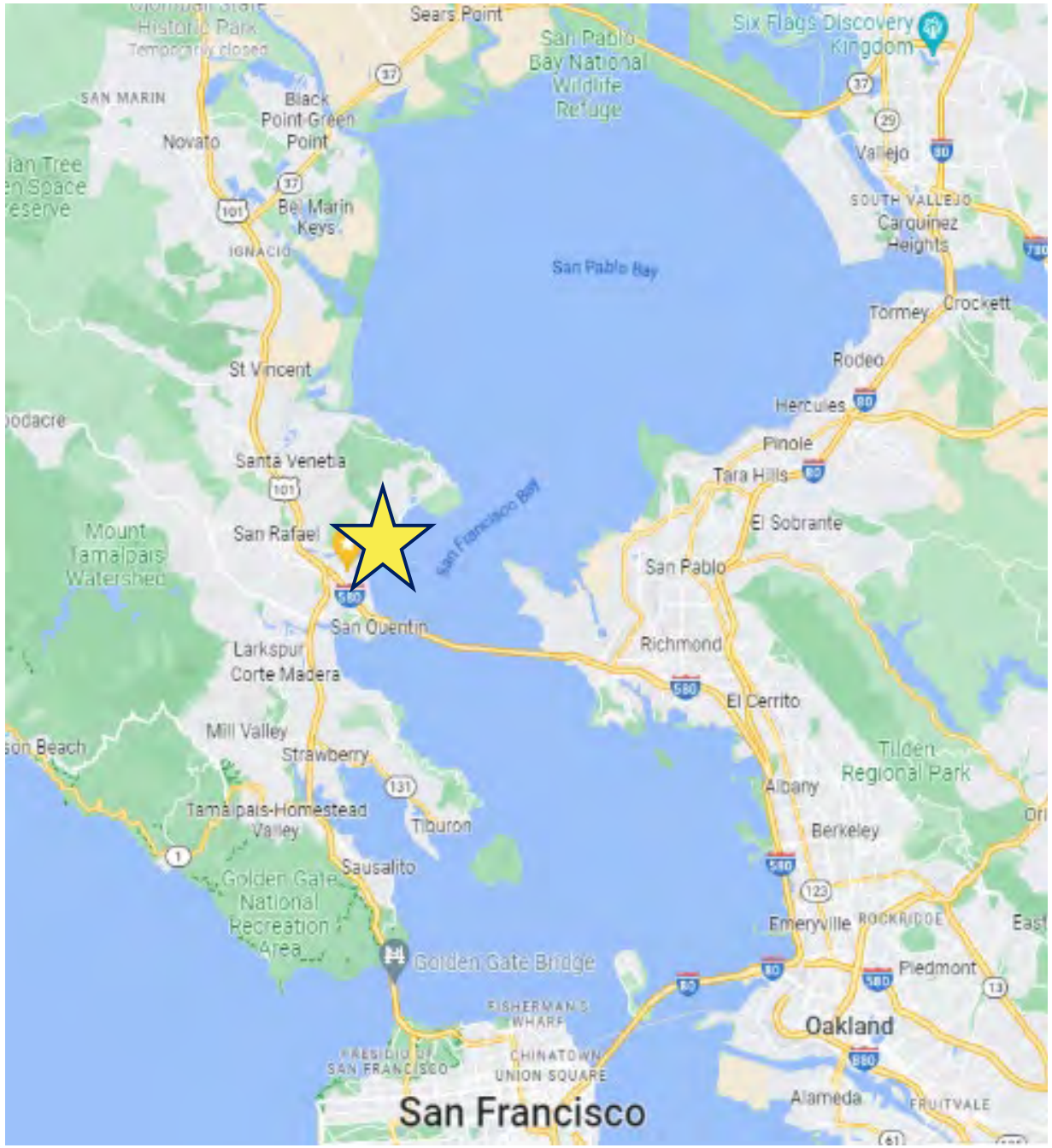
THE CITY WITH A MISSION

About San Rafael

- Population 60,000
- One waste hauler
- County seat
- Business and industry center
- Diverse neighborhoods and income



The Issue

- 500+ complaints a year
- 25% of all service requests
- Councilmembers & Mayor
- $300,000+ direct costs per year
- Many add’l costs
- Mostly reactive

Together San Rafael

Together San Rafael

0UR MISSION

…how do we get there

Bring together all City employees to create, implement, and celebrate solutions to organizational and community challenges.

Code for America

EXPLORE THE PRINCIPLES OF HUMAN-CENTERED GOVERNMENT

Build equitable systems

Government services should lead to outcomes that are just and equitable

Learn more →

Put people first

Government must be accessible, available, simple, interactive, and human

Learn more →

Empower for action

Government workers need modern tools, decision-making power, trust, and collaboration

Learn more →

Inform with evidence

Government workers should have actionable data and evidence about the services they deliver

Learn more →

Improve continuously

Products, services, and policies should start small and improve iteratively

Learn more →

What is Human-Centered Design?

Human Centered Design

HCD is:

- Empathy – it starts with people
- Defining the root problem
- Starting with small solutions
- Rapid prototyping through iteration & feedback loops

Phases of the human-centered design process

Phase 1: Inspiration

- Who are we designing for?
- What do they perceive?

Phase 2: Ideation

- Define the problem
- Develop and prototype

Phase 3: Implementation

- Try out the ideas
- Iterate and improve

Examples

1. Children's Toothbrushes

MINNESOTA

Apply for benefits easily online.

Finish an application in 20 minutes or less.

Already have a case with the county? Upload documents here.

Apply now →

2. Navigating Public Benefits

Human-Centered Design in Illegal Dumping v. 1.0 Internal Interventions

civic makers

Illegal Dumping Team

- Formed in 2019
- Police Dept
- Sustainability Dept

Challenge Statement

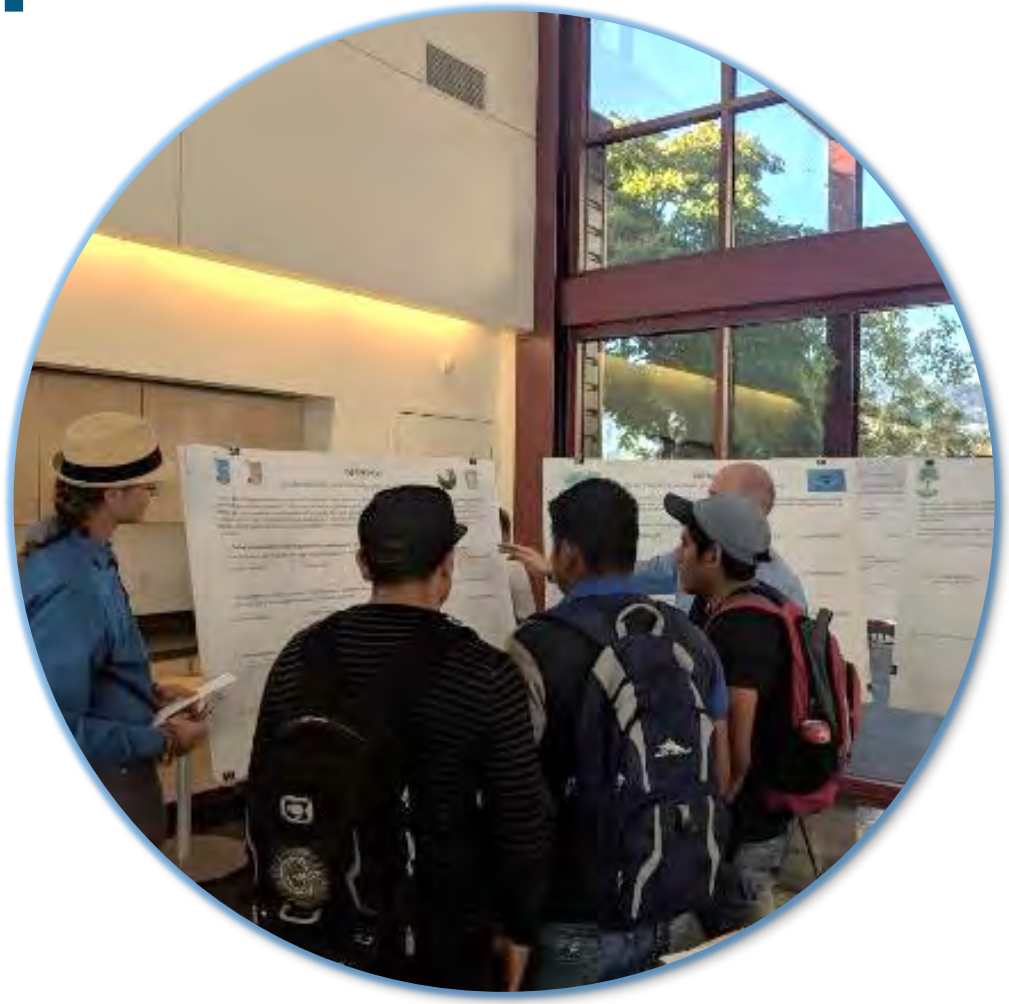
“Increased illegal dumping in commercial areas is affecting the economic vitality and quality of life for people who work in San Rafael and is causing an excessive allocation of City & business owner resources.”

How can we reduce the burden?

Clarifying the problem

Research:

- Interviewed Business Owners
- Focus groups with community members
- Staff observations & interviews
- Community surveys
- Brainstormed prototype solutions



Internal Research Findings

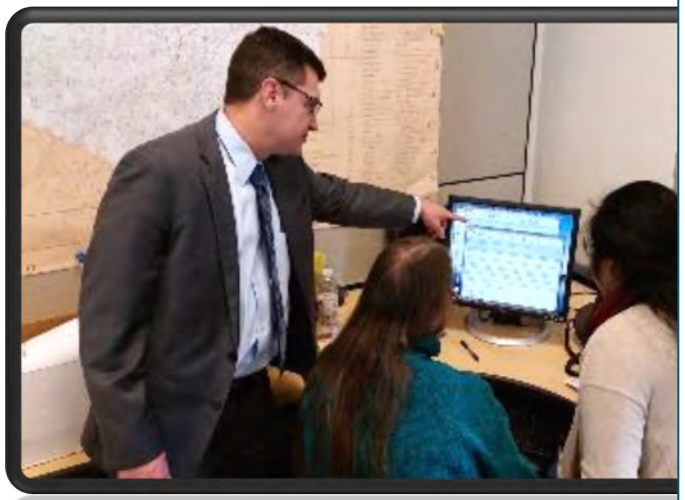
- No central reporting or understanding between departments
- Laws and ordinance confusion
- Evidence requirements
- Report fatigue

Internal Research Findings (Continued)

- Private dumping vs. public dumping
- Businesses: “We used to report but nothing got done”
- Variety of opinions as to the source of dumping

Getting our house in order

Initial Pilots and Interventions



Prevent Crime!

A few simple changes will make your business more secure and stop illegal dumping.

Visibility

- Have bright LED lights.
- Use motion sensor lighting.
- Maintain landscape to reduce hiding places.

Security

- Keep dumpsters out of sight or behind enclosures.
- Use fencing, chains, etc.

Video

- Use motion detection cameras in areas with frequent dumping.
- Register cameras with San Rafael Police Department.
- Footage can be used as evidence.

Signs

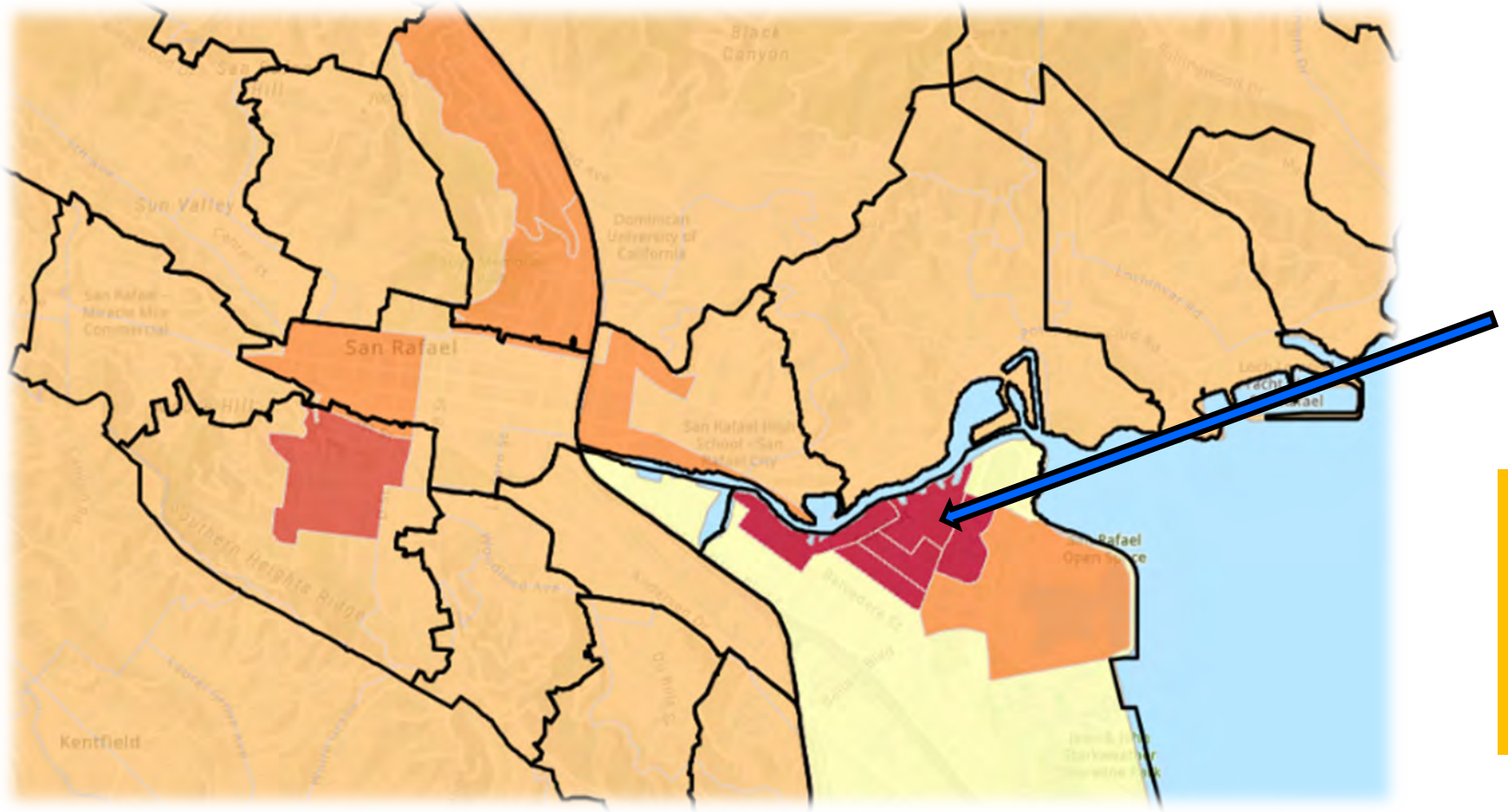
- Should be visible from the street.
- State that surveillance cameras are in use.
- Cite the legal codes (Penal Code 374.3a-c and N

Illegal Dumping: Laws & Penalties

August 26, 2015

Human-Centered Design v. 2.0 Community Interventions

The Canal Neighborhood



43,149 – 74,220
people per
square mile

How does that compare to other cities?

Expanding our Team

Cross-departmental Team

- Public Works
- Police
- Code Enforcement
- Sustainability
- Digital Services

Support Agencies

- Marin Sanitary Service
- Consultants (R3 & GIS)
- **Conservation Corps North Bay**

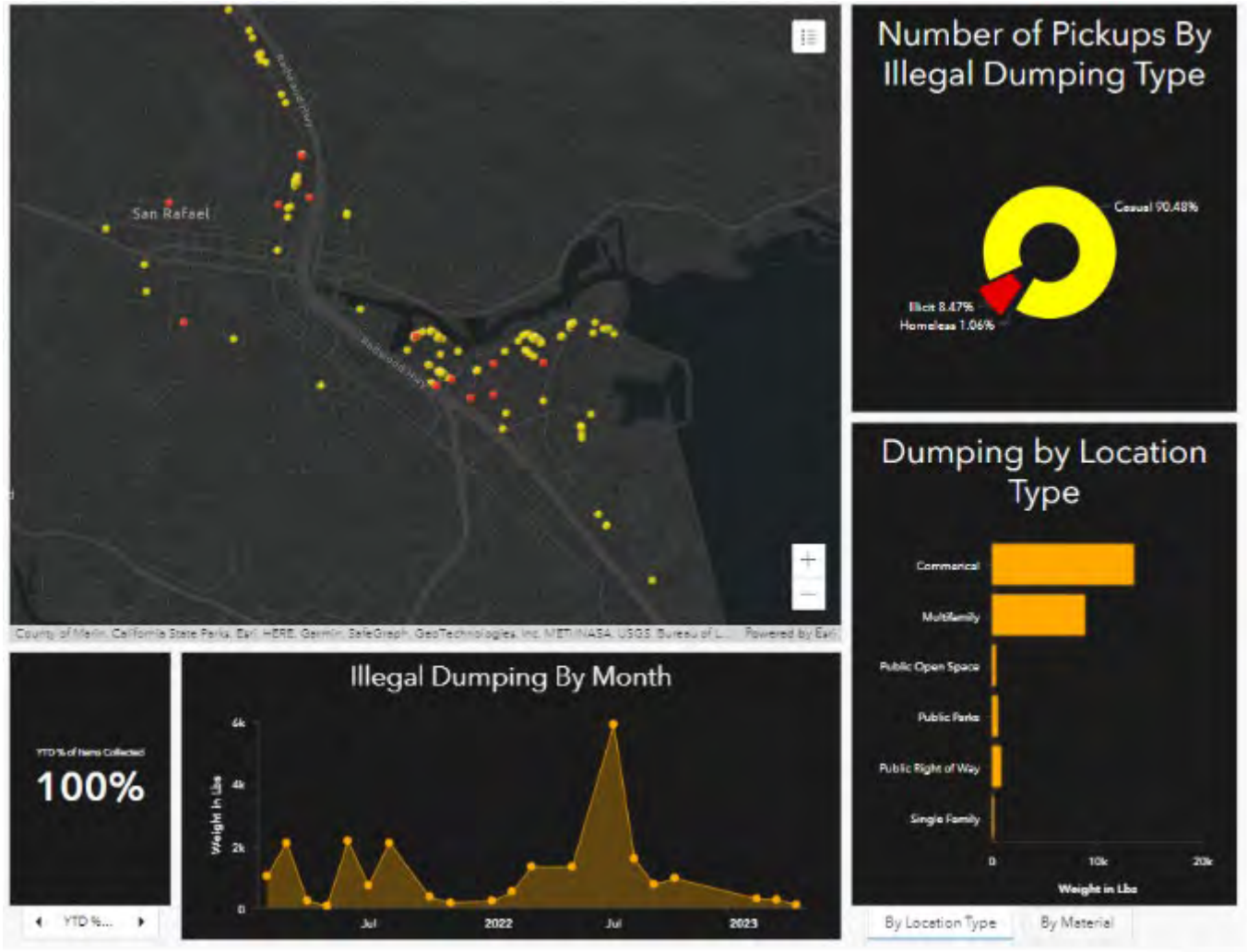
Developing the Project

HC Design Elements

- Dumper profiles
- Motivations
- Obstacles to doing the right thing

Community Input

- Data gathering and ground-truthing
- Mapping
- Outreach
- Surveys
- Focus groups



Public Research Findings

- People dump illegally because:
  - Cost to dump
  - Lack of access to transportation
  - Norms and community knowledge
  - Overcrowding
  - Lack of access to City Services
- Areas that attract illegal dumping:
  - Low visibility
  - Weak enforcement of law
  - It's the norm

Typologies: Two Types of Offenders

1. The Illicit Dumper

- Transports to another location
- Hired hand
- Knows it’s illegal

<u>Intervention types:</u>

- Enforcement
- Prevention

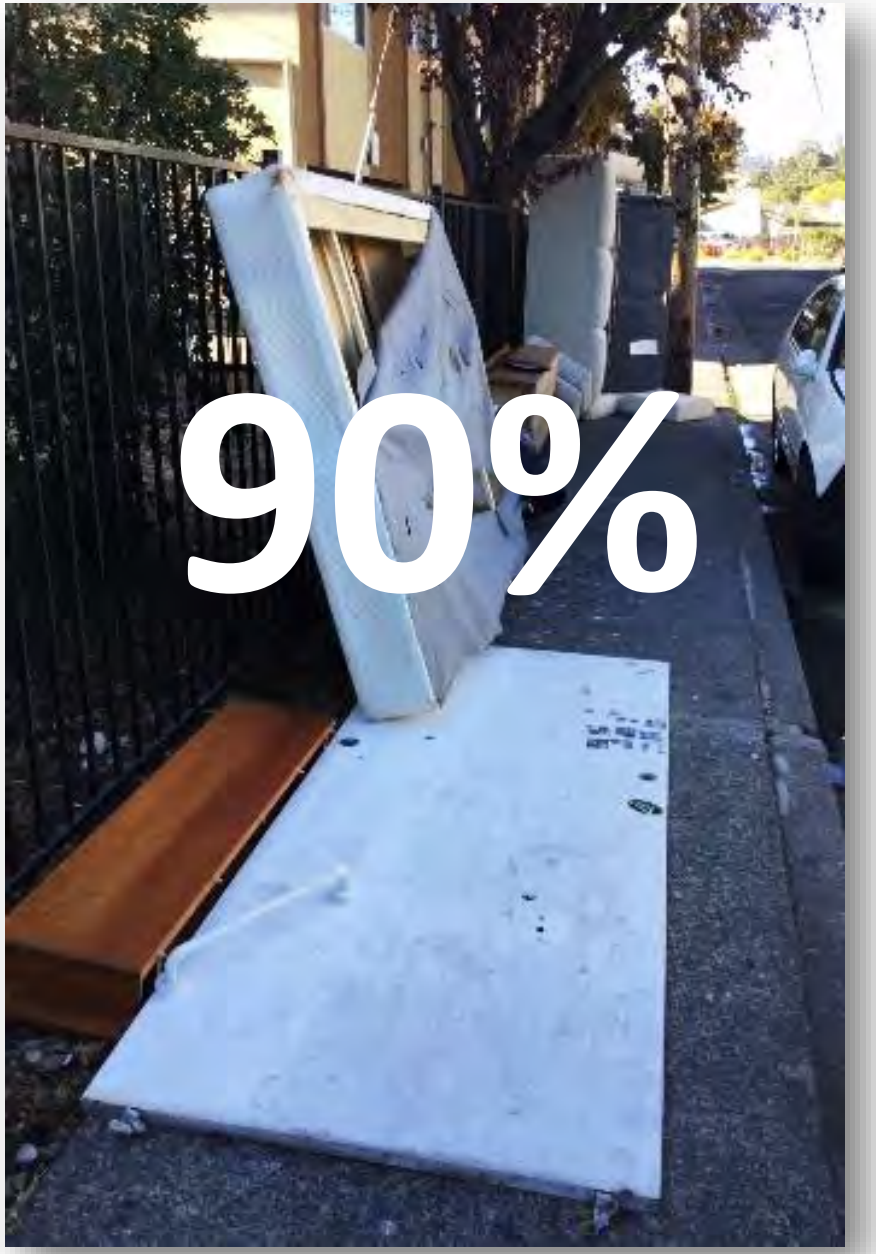
Typologies

2. The Casual Dumper

- “Free” signs on items
- Lack of transportation
- The norm in the neighborhood

<u>Intervention types:</u>

- Accessible Options
- Knowledge



Who is the Casual Dumper?

- **Renters on the lease**

  More connected to the community

- **Subletters**

  Mostly single men, here for short time frames, not as connected

- **Apartment managers**

  Often move bulky items onto City ROW

How do we get to these different types of potential dumper?

Setting our B.H.A.G.

50% Reduction
By 2025

5 Key Interventions

WALTER GONZALEZ, MANAGEMENT ANALYST

Developing Interventions

Interventions should directly address the user's needs

- Is the intervention needed?
- Is the intervention possible?
- Is the intervention sustainable long-term?

Interventions Must Address

Equitable Access

Active Engagement

Visible Enforcement

ACCESS: Main barriers to proper disposal

- Norms and community knowledge
- Cost of dumping
- Transportation
- Overcrowding

ENGAGEMENT: User-centered content

- Multifamily services
- Renters on lease
- Subletters
- Apartment Managers

ENFORCEMENT: Making it visible

- Prevent / deter
- Partner with managers
- Combine with what to do instead

5 Key Interventions

1. Ongoing Outreach and Engagement
2. Bulky Waste Drop-off Events
3. Bulky Waste Pick-up Pilot
4. Hot Spot Campaigns
5. Mini-Grants for cameras, fencing, lighting, etc.

What causes illegal dumping in the Canal?

- Resident hardships:
  - Cost to dump
  - Lack of access to transportation
  - Norms and community knowledge
  - Overcrowding
  - Lack of access to City Services

- Areas that attract illegal dumping:
  - Low visibility
  - Weak enforcement of law

1. Bilingual Outreach and Engagement

- Targets Casual Dumpers primarily
- Bilingual presentations to community members and stakeholders
- Bilingual community surveys
- Participate in community events

1. Bilingual Outreach and Engagement

2. Bulky Waste Days

2. Bulky Waste Days

Current program

- Free service
- Central location to the neighborhood
- Advertised via mailers, local CBOs, and community groups
- Monthly service

2. Bulky Waste Days

- Targets Casual dumpers
- Addresses:
  - Cost to dump
  - Transportation needs
  - Educates on proper disposal

3. Bulky Waste Pickup Pilot

- Bi-weekly free pick up of bulky items
- Property manager oversees and promotes the program
- Collaboration with waste hauler

3. Bulky Waste Pickup Pilot

- Lessons learned
  - On-call service is preferred
  - Management needs to participate
  - Multiple interventions are required for success
  - Need for free services

- Incorporate the lessons learned to implement the program city-wide

3. Bulky Waste Pickup Pilot

Targets Casual dumpers

- Addresses:
  - Cost to dump
  - Transportation needs
  - Educates on proper disposal
- Engages property managers

4. Hot Spot Campaigns

Targets Casual & Illicit Dumpers

- Cross-departmental coordination
- Baseline data collection
- Stakeholder engagement
- Mailers, posters, information distribution
- Police presence and surveillance cameras

4. Hot Spot Campaigns

- Show marked reductions
- Demonstrate need for multiple interventions
- Engage and inspire community
- Provide needed data sets
- Further our understanding for program development

5. Mini-Grants

- Supports business
- Targets Illicit Dumpers
- $1,000 each
- Crime Prevention Through Environmental Design

Portfolio of Interventions: Looking Forward

HOLLY LAWRENCE, CLIMATE FELLOW

Policy Proposals

enforce minimum
& overages

item disposal at

agreement

Enforcement

- Rotating surveillance camera locations
- Focused police presence
- Court-appointed community service program: "fix-it ticket"

Sunday Pickup Service

- Public trash cans currently serviced Monday - Saturday
- Add Sunday pickups public trash cans

New public garbage cans

- Locked – Discourages bagged trash
- Rain cover
- Neighborhood beautification

Dedicated Staffing

- Coordinate cross-departmental team
- Conduct code enforcement
- Administer court appointed community service program
- Coordinate volunteer efforts and community engagement
- Oversee other waste management activities

Biggest Challenges

- Multiple interventions are needed
- Location type affects the success of interventions
- Data collection is tough
- Budget for dedicated staff
- Capacity to support ongoing efforts is limited

What's next...

- Present to stakeholders
- Finalize cost analysis
- Develop cost and program scenarios
- August 2024: Council study session

Council Recommendations

1. Expand Bulky Waste Days
2. Continue Hot Spot Campaigns
3. Fund and Promote the Mini Grants
4. Conduct Consistent Outreach and Engagement
5. Require Bulky waste disposal and education for Multifamily
6. Institute Bulky Waste Collection for Multifamily
7. Institute a Court Mandated Cleanup Program
8. Create Waste Management Coordinator Position
9. Begin Sunday Collection Service

We'd Like Your Help

- ✓Best ways to get the right data?
- ✓Any other data-related insights?
- ✓Do you have a system of bulky item collection for multifamily that:
  - Works well
  - Decreases illegal dumping?
- ✓Any insights into enforcement?
- ✓Anything else missing from our analysis?

Contact us

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Thank you!

Questions & Feedback