



Public Works
LOS ANGELES COUNTY



Solid Waste Incident Tracking (SWIT) and
Trash Monitoring Program (TMP)

Overview

- A web-based program developed to replace paper monitoring forms
- Allows field staff to report incidents of illegal dumping and bulky items and verify their collection through ArcGIS Field Maps
- Allows office staff to review reports from field staff in WebApp Builder application and through the Solid Waste Incident Tracking (SWIT) site
- Daily illegal dumping and bulky item reports are sent to the waste haulers through the Solid Waste Incident Tracking (SWIT) site

Paper Monitoring Forms

Solid Waste Collection Daily Monitoring Form County of Los Angeles Department of Public Works

Name of Area:		Incident Code: _____	Time: _____
Pick-up Day:		Location: _____	
Monitor's Name: Cathy Castro		Description: _____	<input type="checkbox"/> Photos
Report Submitted to:			
Date:			
Time In Area:		Time Out Area:	
Directions: If incident is observed, provide a full description in column to the right.			
Incident		<input type="checkbox"/> Photos	
1	Missed collection of bin or cart		
2	Customer stopped CM to complain		
3	Graffiti observed on bin/cart/receptacle		
4	Vehicle used not on submitted vehicle list		
5	Failed to return cart upright and/or to collection site		
6	Failed to clean up litter, including area around receptacles		
7	Failed to use non-collection tags		
8	CM tagged carts/bins for failure to timely remove container		
9	Collection during unauthorized hours or not completed by 5:00 (5:00 for Franchise.)		
10	Incorrect or missing truck/container signage		
11	Collection of unpermitted waste		
12	Commingling (includes mixing waste from other areas/cities)		
13	Vehicle fluid leakage/spill		
14	Excessive pollution/noise		
15	Damage to private property		
16	Damaged public receptacles observed (Task 2)		
17	Scavenging observed		
18	Failed to sweep alley (Task 2)		
19	Failed to collect from public receptacle (Task 2)		
20			
21			
22			
Additional Comments:			

Version: 8/6/14

Illegal Dumping/Bulky Items, Alleys, Graffiti, and Public Receptacle Monitoring

CM Initials: _____

Area: 1/2/3/4/5 Area Name: _____

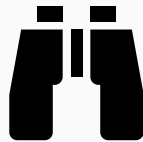
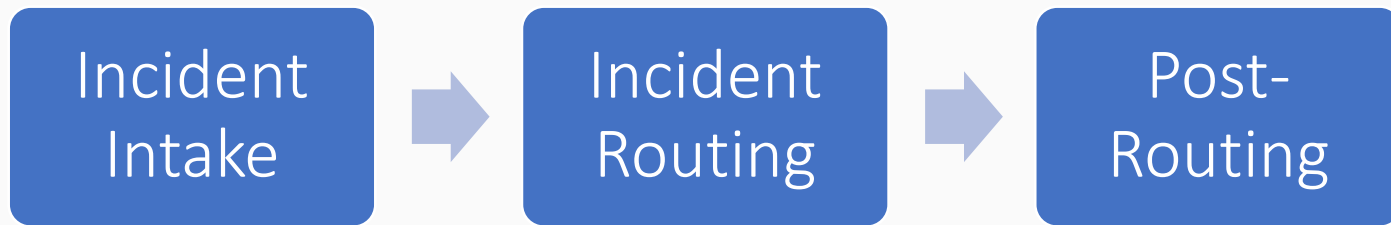
1st Visit Date: _____

Follow-Up Date: _____

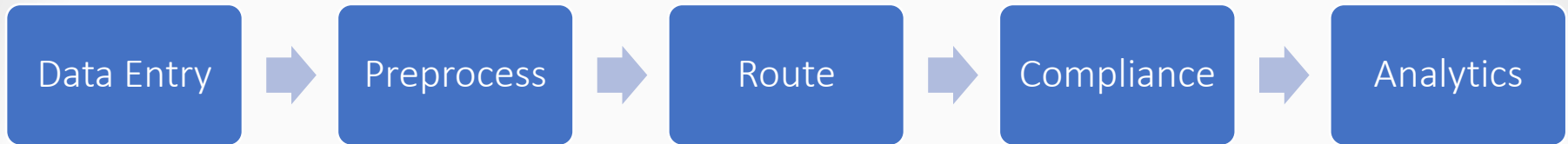
Area	Address	Property Type	Items	Notes
Illegal Dumping/Bulky Items		<input type="checkbox"/> Single <input type="checkbox"/> Multi <input type="checkbox"/> Other	Bed Frame Cabinet Carpet Chair Door GW Bandbox TV Lumber Mattress Pallet Sink Sofa Table Tins Toilets	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Single <input type="checkbox"/> Multi <input type="checkbox"/> Other	Bed Frame Cabinet Carpet Chair Door GW Bandbox TV Lumber Mattress Pallet Sink Sofa Table Tins Toilets	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Single <input type="checkbox"/> Multi <input type="checkbox"/> Other	Bed Frame Cabinet Carpet Chair Door GW Bandbox TV Lumber Mattress Pallet Sink Sofa Table Tins Toilets	<input type="checkbox"/> Yes <input type="checkbox"/> No
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		<input type="checkbox"/> Single <input type="checkbox"/> Multi <input type="checkbox"/> Other	Bed Frame Cabinet Carpet Chair Door GW Bandbox TV Lumber Mattress Pallet Sink Sofa Table Tins Toilets	<input type="checkbox"/> Yes <input type="checkbox"/> No
Alleys	N/S (S) W of Street Between Streets		Bed Frame Cabinet Carpet Chair Door GW Bandbox TV Lumber Mattress Pallet Sink Sofa Table Tins Toilets	<input type="checkbox"/> Yes <input type="checkbox"/> No
	N/S (S) W of Street Between Streets		Bed Frame Cabinet Carpet Chair Door GW Bandbox TV Lumber Mattress Pallet Sink Sofa Table Tins Toilets	<input type="checkbox"/> Yes <input type="checkbox"/> No
	N/S (S) W of Street Between Streets		Bed Frame Cabinet Carpet Chair Door GW Bandbox TV Lumber Mattress Pallet Sink Sofa Table Tins Toilets	<input type="checkbox"/> Yes <input type="checkbox"/> No
Graffiti		<input type="checkbox"/> Single <input type="checkbox"/> Multi <input type="checkbox"/> Other	Container: Cart Content: Trash Location: Backdoor Lot Dumper Recycle Green Waste Household	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Single <input type="checkbox"/> Multi <input type="checkbox"/> Other	Container: Cart Content: Trash Location: Backdoor Lot Dumper Recycle Green Waste Household	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Single <input type="checkbox"/> Multi <input type="checkbox"/> Other	Container: Cart Content: Trash Location: Backdoor Lot Dumper Recycle Green Waste Household	<input type="checkbox"/> Yes <input type="checkbox"/> No
Receptacles	Count Address		Initial Visit: Almost Empty 1/4 Full 1/2 Full 3/4 Full Full Follow up: Almost Empty 1/4 Full 1/2 Full 3/4 Full Full	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Count Address		Initial Visit: Almost Empty 1/4 Full 1/2 Full 3/4 Full Full Follow up: Almost Empty 1/4 Full 1/2 Full 3/4 Full Full	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Count Address		Initial Visit: Almost Empty 1/4 Full 1/2 Full 3/4 Full Full Follow up: Almost Empty 1/4 Full 1/2 Full 3/4 Full Full	<input type="checkbox"/> Yes <input type="checkbox"/> No

Version: 1/10/11

Business Workflow

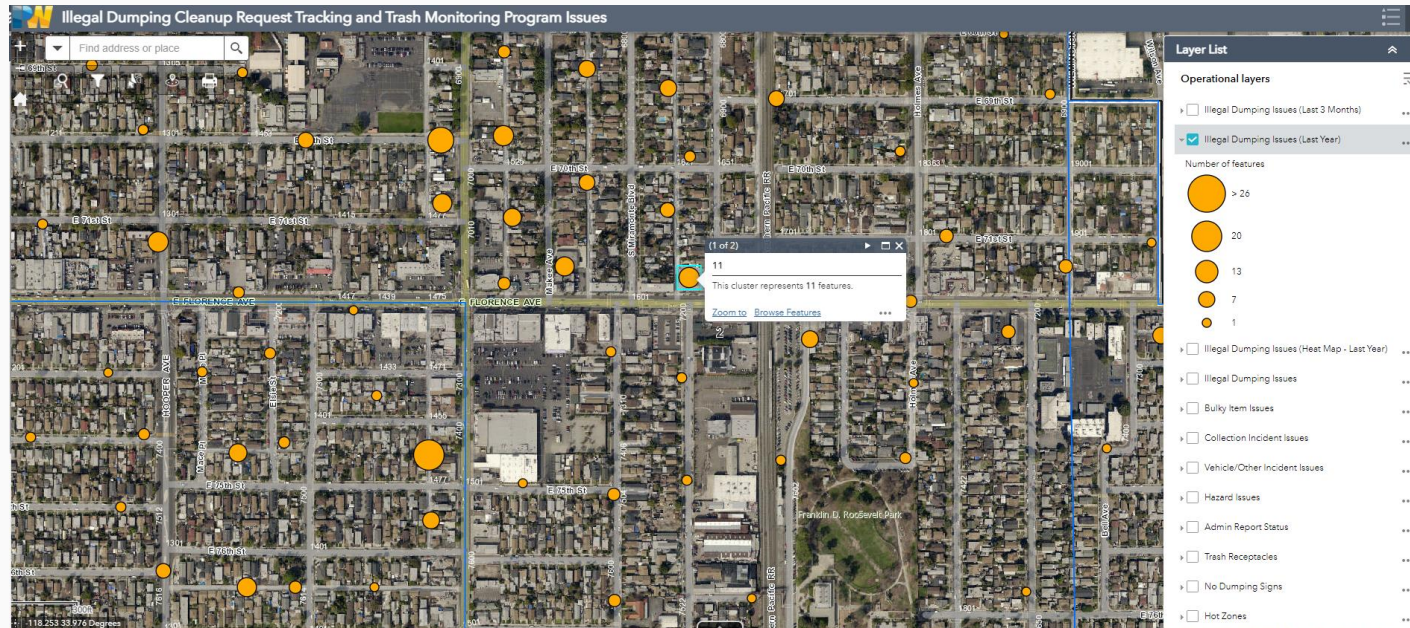


Solid Waste Incident Tracking (SWIT) Internal Application Integration



- Incidents enter the system via desktop (SWIT) or mobile (TMP)
- Data is preprocessed for useful metadata
- Routing is handled using these preprocessed values
- Compliance reports are sent to agencies with open incidents
- Staff analyze data with the use of the query tools and reference layers
- Total monthly incidents can be verified with monthly invoicing fees

Mapping Capabilities



- Ability to query and filter layers by case type and location
- Includes reference layers like illegal dumping “hot zones”

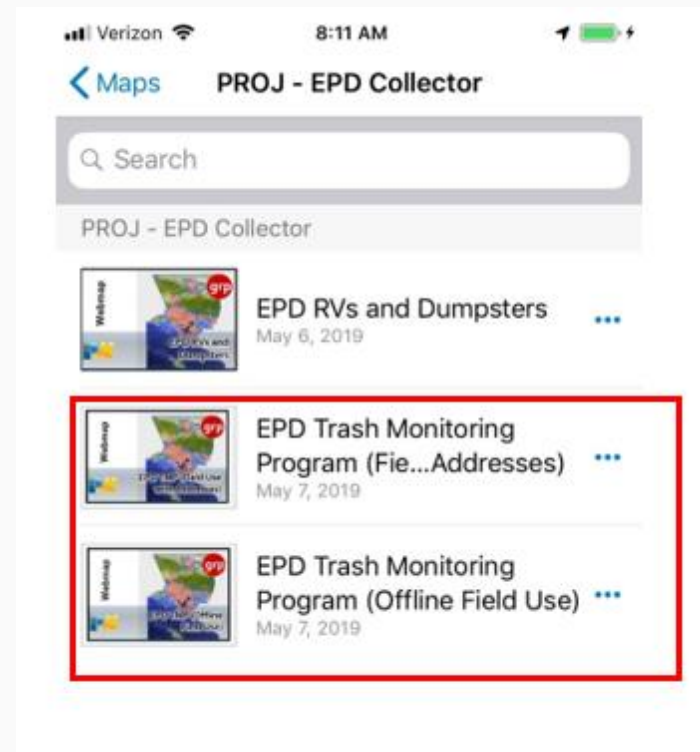
Mapping Capabilities



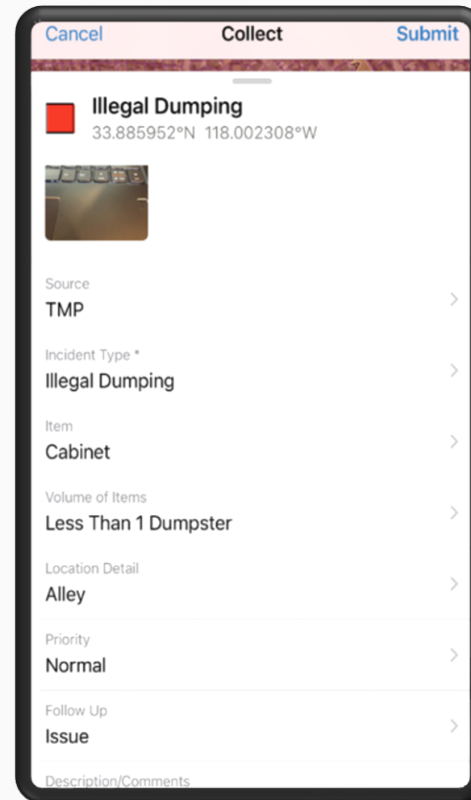
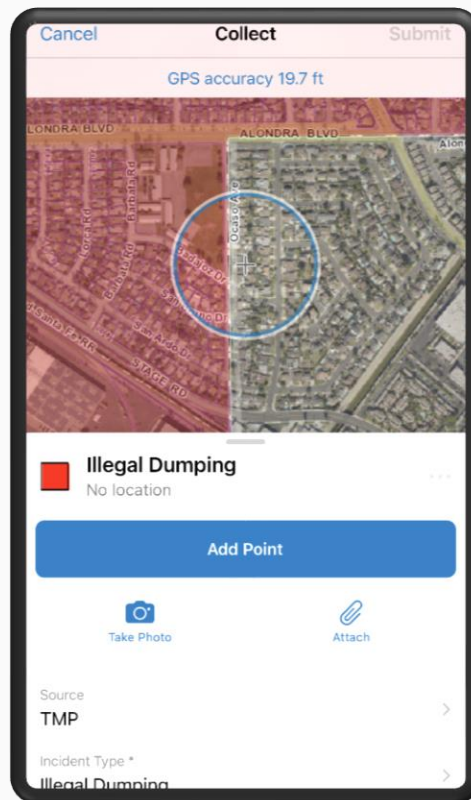
- Ability to review heat maps and identify hot spots for illegal dumping

ArcGIS Field Maps Mobile App

- Trash Monitoring Program (TMP) Field map has reference to additional layers that are not currently offline-enabled (i.e. parcels)
- Offline Map has only reporting layers to download for offline use
- Multiple trainings provided along with PDF guide



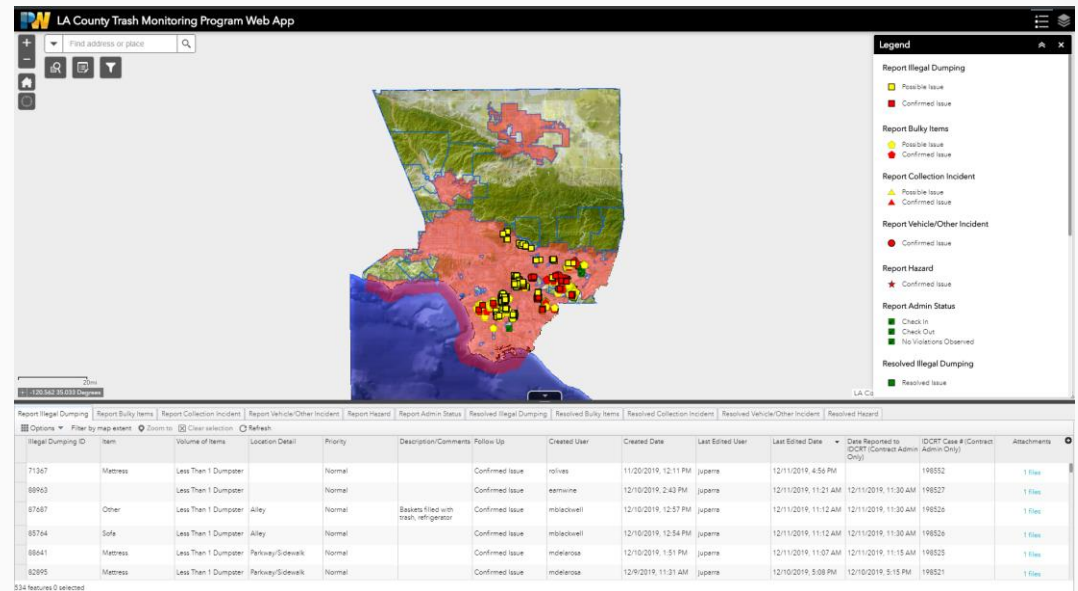
ArcGIS Field Maps Mobile App Reporting



Trash Monitoring Program (TMP) Desktop Web App

WebApp Builder

- Allows staff to review issues as they are reported
- Includes Query and Filter tools to facilitate searching



Challenges and Learning Moments

- Initial resistance from field users and extensive training for staff
- Disconnect with internal reporting application and providing intermediate solutions prior to the integration with the Solid Waste Incident Tracking (SWIT) application
- Growing use by field staff and accommodating for performance and enhancements

Future of Application

- Communicating with waste haulers on a version of the app dedicated to their operations with LA County Public Works
- All solid waste collection contracts include requirements for waste haulers to utilize this program
- Waste haulers will use the application to take pictures to validate the removal of items and streamline the closure of illegal dumping cases
- Access to the application will allow haulers to review cases and allocate proper resources and equipment to address any items
- Started testing with Republic Services

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