TPW Mobile Application User Guide



Michael Weaver and Tony Hale
San Francisco Estuary Institute

Shelly Moore
Moore Institute for Plastic Pollution Research

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TPW Mobile Application User Guide

1. Introduction

The Tobacco Product Waste (TPW) Mobile Application was developed to translate the standardized, field-tested TPW monitoring method created for the California Department of Public Health (CDPH) into an accessible, easy-to-use digital tool. This app enables CDPH-affiliated staff, volunteers, community scientists, researchers, and environmental advocates to conduct consistent, comparable assessments of tobacco product waste across diverse locations and time periods. The mobile workflow is grounded directly in the monitoring approach, terminology, and data requirements established in the California Trash Monitoring Playbook (https://sfei.org/trash-playbook).

1.1 Purpose of TPW Monitoring

Tobacco product waste—particularly cigarette butts, wrappers, filters, and components of electronic cigarettes—are among the most common forms of environmental litter. Although many of these items conform to the 5 mm threshold for capture within stormwater systems, they nevertheless frequently escape into the environment and pose risks to water quality, wildlife, and public spaces. As the protocol notes, trash has become a growing focus of water quality management efforts, yet TPW often remains under-measured despite its ubiquity in places where people gather, such as streets, parks, transit corridors, schools, and beaches.

High-quality data on TPW is essential for answering management questions such as:

- How much TPW is present in a given neighborhood, school, or city?
- How do levels compare across regions or over time?
- Are particular products, types, or brands contributing disproportionately to waste?
- Are cleanup efforts or policy interventions reducing levels of TPW?

Accurate, precise, and repeatable monitoring provides the foundation for answering these questions and informing effective decision-making.

1.2 Why a Standardized Method Matters

The protocol emphasizes three pillars required for meaningful TPW monitoring: accuracy, precision, and repeatability. Without these elements, comparisons across sites, seasons, or communities become unreliable. The method also underscores the importance of normalizing results to area, reporting TPW

density (items per square foot) rather than raw counts, to support scientific comparability across space and time.
The mobile application incorporates these methodological requirements by guiding users step-by-step through:

- setting up an assessment area
- recording basic site characteristics
- counting TPW by type or brand
- entering area measurements
- storing structured data that can be exported, summarized, and visualized

This digital workflow maintains the scientific integrity of the protocol while reducing user burden, minimizing errors, and ensuring consistent reporting.

1.3 From Protocol to App: Modernizing Field Data Collection

The protocol was designed to be flexible—allowing for counts of objects regardless of type (Tier 1) , counts based on type (Tier 2), or brand-specific (Tier 3) data collection depending on time, resources, and monitoring objectives. The mobile app preserves this flexibility by allowing users to choose the level of detail appropriate for their assessment while still ensuring that required fields, area measurements, and data structures remain consistent with the standardized approach.

Additionally, the app replaces manual tally counters, paper datasheets, and spreadsheet transcription with a streamlined digital interface. This reduces time, errors, and data loss, while enabling easier data storage, visualization, and consistent formatting.

1.4 Who This Guide Is For

This user guide is intended for:

- TPW monitoring practitioners trained under the protocol
- CDPH partners and grantees
- Municipal stormwater staff
- Tribal environmental staff
- Nonprofit organizations and volunteers conducting litter assessments
- Community scientists expanding local monitoring efforts
- Students and researchers studying TPW patterns
- Volunteers participating in TPW clean-up events

Whether you are conducting a one-time assessment or building a long-term dataset, this guide explains how to use the mobile application to carry out each step of the protocol accurately and efficiently.

1.5 How to Use This Guide

The TPW Mobile Application is a Microsoft Power Apps–based tool designed to help users collect, map, and report TPW data consistently across California. Users can define assessment areas, capture field photos, document TPW item counts, and review past assessments. Data is automatically synchronized to the cloud (when connected) and made available through integrated Power BI dashboards.

This user guide explains how to:

- Install and sign in to the TPW mobile app
- Define assessment areas
- Conduct TPW assessments
- Work in offline mode
- View and edit your data
- Use the map and geospatial drawing tools
- Understand and resolve validation messages
- Access TPW data in Power BI

The sections that follow walk users through each component of the application. Each feature aligns with the methodological steps in the published protocol and is illustrated with screenshots to support clear, practical field use.

2. Getting Started

This section introduces the basic steps needed to access and begin using the Tobacco Product Waste (TPW) Monitoring App. It outlines the technical requirements for running the app, explains how to install it on a supported mobile device, and describes how to launch the app for the first time. Together, these steps ensure users, whether working online or offline, are properly set up to collect data efficiently in the field and are ready to move into creating campaigns and conducting TPW assessments.

2.1 System Requirements

This section outlines the minimum technical specifications needed to run the TPW Monitoring App successfully. Ensuring that your device meets these requirements before installation will help prevent setup issues and support smooth app performance during both initial configuration and field data collection.

- **Device type:** iOS or Android smartphone or tablet
- **App dependency:** *Microsoft Power Apps* mobile app
- **Connectivity:** Internet connection required for initial setup; offline mode available for field use
- **Permissions:** Camera access, optional location services

2.2 Installing the TPW App

This section provides step-by-step guidance for accessing and setting up the TPW Monitoring App on your mobile device. These steps ensure that your Microsoft account is properly activated, the required Power Apps platform is installed, and the TPW App is successfully opened and ready for use.

1. **Accept the CDPH organization invitation** to activate your Microsoft account.
2. **Open the TPW App invitation email**, which includes a QR code.
3. **Download Microsoft Power Apps** from the App Store or Google Play.
4. **Scan the QR code** using your mobile device camera to open the TPW App link.
5. **Sign in** using your email associated with CDPH.

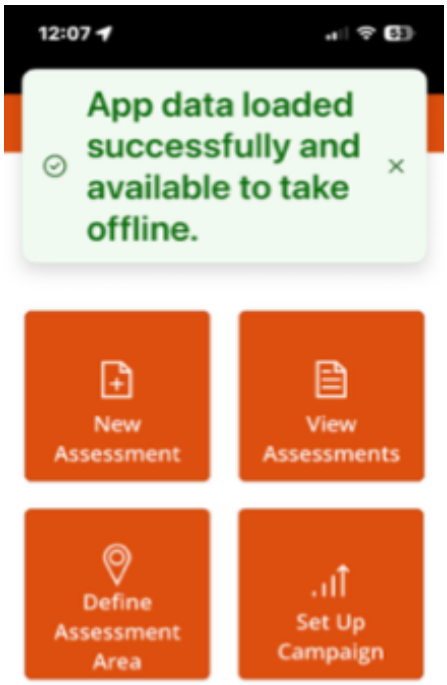


Power Apps

2.3 Running the TPW App

To run the TPW App you can click on the Power Apps icon on your phone or table screen.

The TPW mobile application home screen will open and confirm that the app has loaded successfully and is ready for use. From this screen, users can quickly access the main functions of the app, including creating new assessments, defining assessment areas, setting up campaigns, and viewing existing assessments. This screen also indicates when the app is available for offline data collection, allowing users to confidently proceed with fieldwork even when internet connectivity is limited or absent.



3. Planning Your Assessments

This workflow outlines a recommended approach for planning, implementing, and using a Tobacco Product Waste (TPW) monitoring program. The process begins with planning out the program, where monitoring goals, geographic scope, and the details about data collection are defined. From there, users create a campaign to organize monitoring efforts around a shared purpose, timeframe, or location. As part of this planning stage, assessment areas can be predefined to establish consistent geographic boundaries, supporting repeatable and comparable monitoring across multiple site visits.

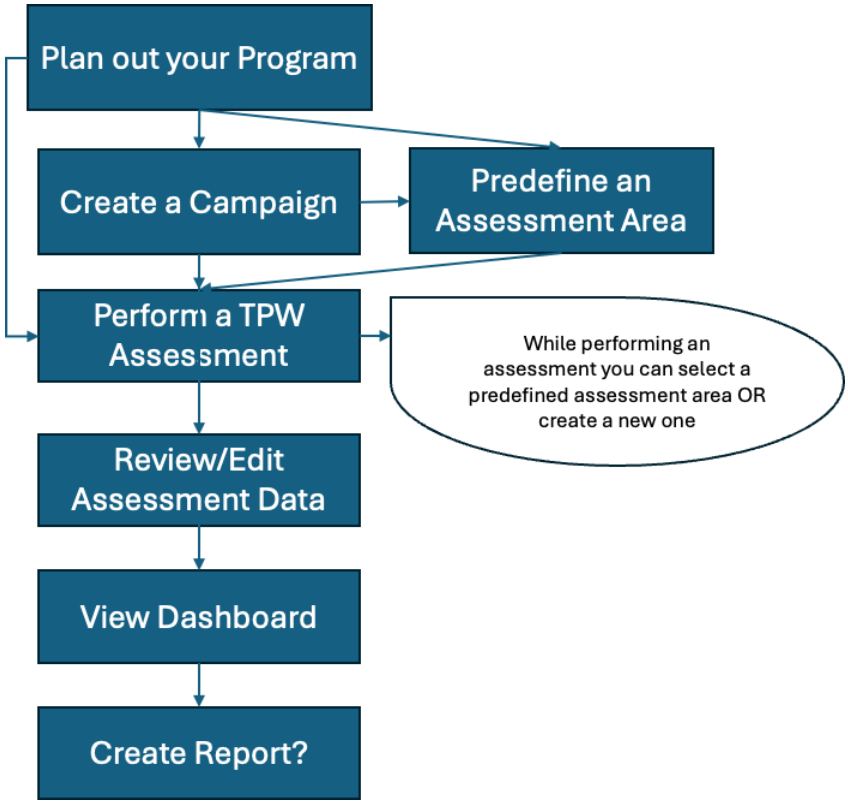


Figure 1. Model for planning your assessments in the TPW Assessment Mobile App.

Once planning elements are in place, users perform TPW assessments in the field by collecting site information, documenting conditions, and counting TPW items within the defined assessment areas. After completing an assessment, data can be reviewed and edited to ensure accuracy before being finalized. Submitted assessments populate the dashboard, where individual results can be explored, compared, and interpreted across sites or campaigns. This workflow supports the option to create reports, allowing users to summarize findings for program evaluation, decision-making, outreach, or reporting needs.

4. App Layout and Navigation

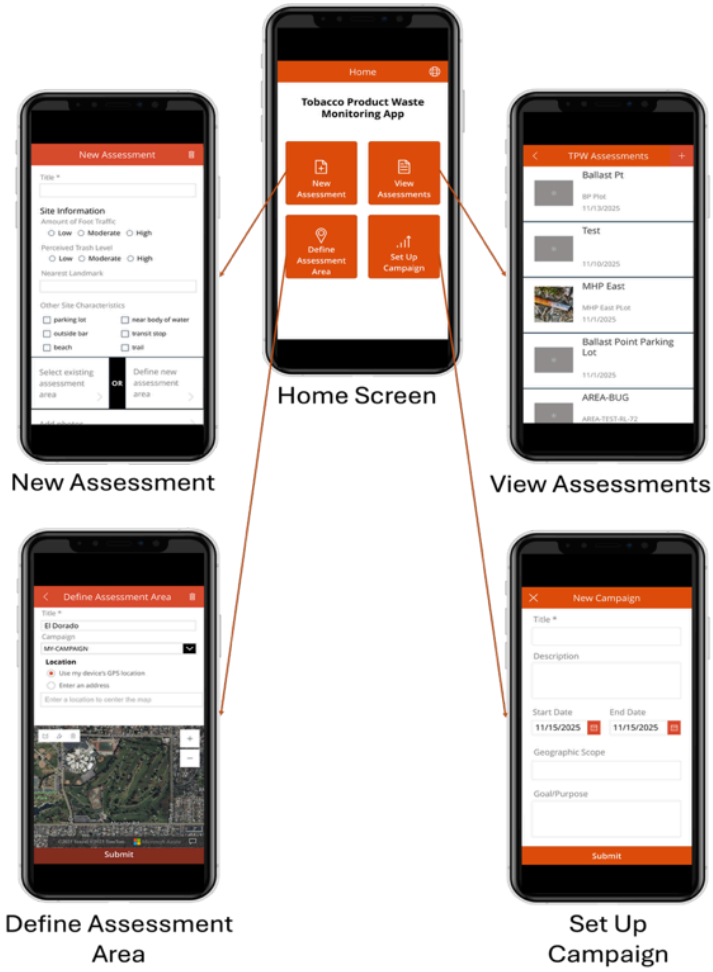
This section describes the layout and navigation of the TPW Assessment Mobile App, which is designed to provide users with a clear, intuitive starting point for all monitoring activities. Upon opening the app, users are presented with a simple home screen that highlights the four primary actions that drive the assessment workflow. These core functions guide users from defining monitoring locations and organizing campaigns to conducting assessments and reviewing collected data. Together, they create a structured yet flexible navigation framework that supports consistent data collection, efficient project management, and easy access to past assessments throughout the TPW monitoring process.

The TPW mobile app opens to a simple home screen with the following main actions:

- **New Assessment**
  This tool enables users to create or edit the geographic boundaries of a monitoring location. You can draw an assessment area on a map or use the devise GPS or an address, ensuring consistent site boundaries for future assessments.

- **Define Assessment Area**
  This tool enables users to create or edit the geographic boundaries of a monitoring location. You can draw a new assessment area on a map or predefine it using GPS or an address, ensuring consistent site boundaries for future assessments.

- **Set Up Campaign**
  This function allows users to create a structured monitoring effort that spans multiple assessments. Campaigns include details like start/end dates, goals, geographic scope, and purpose, helping organize assessments into coordinated projects.



- **View Assessments**
  This section lets users browse all previously completed assessments. Users can open, review, edit, or delete individual assessments and view associated data, photos, and assessment area information.

Each workflow leads to structured screens for completing different components of TPW monitoring.

5. Defining A Campaign (LLA Administrators)

A Campaign is an organizational framework within the TPW Mobile Application that groups together multiple assessments conducted for a shared purpose, timeframe, or project objective. Campaigns function as containers that hold related assessment areas, site visits, and monitoring data, allowing users to categorize and analyze TPW findings in a structured and meaningful way.

In practice, a campaign may be tied to:

- a specific community outreach initiative,
- a school- or neighborhood-level TPW reduction project,
- a policy or ordinance evaluation,
- a cleanup event,
- a targeted assessment near tobacco retailers,
- a research project, or
- a grant reporting requirement (e.g., CTCP contracts).

Why Campaigns Are Useful

1. Support Consistent Monitoring Over Time

Campaigns allow the user to conduct multiple TPW assessments at different times but under a unified tracking structure. For example, a city might monitor the same park monthly to understand how TPW levels change seasonally or in response to new interventions. By grouping these assessments within a single campaign, comparisons become more accurate and easier to manage.

2. Enable Filtering and Comparison across Areas

Because each campaign contains its own list of associated assessment areas, users can filter the dataset to see only the results relevant to a particular project or region. This helps analysts compare:

- high- vs. low-density sites,
- different neighborhoods or school campuses,
- areas near tobacco retailers vs. parks or transit corridors, or
- pre- vs. post-intervention conditions.

This filtering capability reflects the protocol's emphasis on generating comparable data within and across communities.

3. Enhance Program Evaluation and Reporting

For grantees, public health agencies, or researchers, campaigns help track progress toward TPW reduction goals. Because each campaign corresponds to a discrete program year, project, or initiative, staff can easily compile summary statistics, identify patterns, and report results to funders or partners. This aligns with the protocol's intent to produce data that inform "management decisions, performance tracking, and program improvement" (Protocol, p. 1).

4. Organize Assessments Across Multiple Teams

In larger organizations, multiple staff or volunteers may collect data simultaneously. Campaigns ensure that all relevant assessments fall under one umbrella, improving coordination, reducing confusion, and allowing better oversight. Administrators can review contributions, spot inconsistencies, and ensure the monitoring method is being followed correctly.

5. Facilitate Spatial Planning Through Predefined Assessment Areas

Campaigns also contain predefined assessment areas, allowing teams to establish standard locations in advance. This is especially helpful when teams are monitoring:

- school zones,
- tobacco retail corridors,
- transit hubs,
- beaches or parks, or
- priority census tracts.

Using predefined areas supports accurate density calculations and reduces variability—two core components of the protocol's focus on **accuracy, precision, and repeatability**.

6. Improve Data Quality and Reduce User Error

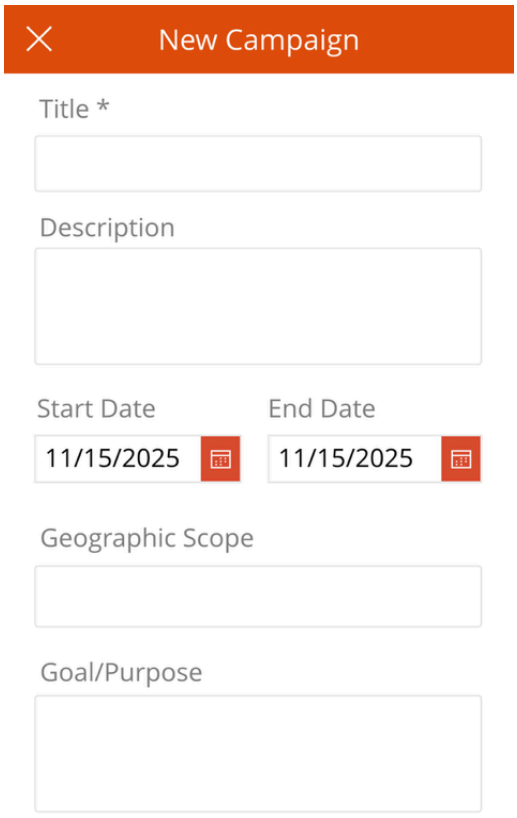
Campaigns minimize confusion by presenting users with only the relevant assessment areas for their project. This prevents misclassification, accidental duplication, or inconsistent boundaries. By guiding users to select or define assessment areas within the proper campaign, the app helps maintain the methodological rigor emphasized in the protocol.

How to Create a Campaign

Creating a campaign is a foundational step in organizing Tobacco Product Waste (TPW) monitoring activities within the mobile application. A campaign groups related assessments under a shared purpose, such as evaluating TPW levels in a specific community, tracking changes over time, or supporting a policy or outreach initiative. By defining a campaign's title, description, timeframe, geographic scope, and goals, users create a clear structure that helps ensure consistency across assessment areas and field data collection.

Campaigns make it easier to manage multiple assessments, compare results across locations or dates, and clearly communicate the intent and outcomes of monitoring efforts to partners, stakeholders, and decision-makers. Below are the instructions for creating a campaign.

1. Enter a Campaign Title (Required)



- Tap on the **Title** field.
- Type a clear, descriptive name for your campaign (e.g., *"2025 School Zone TPW Study"* or *"Neighborhood Retail Corridor Assessment"*).
- This title will be shown in campaign lists and used to filter assessment areas.

Tip: Use a meaningful title so other users can easily recognize your campaign.

2. Add a Description (Optional but Helpful)

- Enter a brief summary explaining the purpose or focus of the campaign.
- Useful examples include:
  - "Monitoring TPW around local schools to support youth prevention efforts"
  - "Assessing TPW density before and after new policy implementation"
  - "Documenting TPW hotspots in transit corridors"

This information helps provide context to collaborators and future reviewers.

3. Select a Start Date

- Tap the date field under Start Date.
- Use the calendar tool to select the first day the campaign begins.

This determines when assessments included in the campaign "count" toward your project.

4. Select an End Date

- Tap the End Date field and choose the date your campaign will finish.
- This is useful for fixed-duration projects, grants, interventions, or pre/post-policy studies.

5. Define the Geographic Scope

- Enter the primary area where your assessments will take place.
- Examples:
    - “Central Long Beach”
    - “Five-block radius around Roosevelt Elementary”
    - “City of Sacramento”

This field helps track the spatial focus of the campaign and aids in later analysis or reporting.

6. Enter the Goal or Purpose of the Campaign

- Use this field to describe what your campaign is trying to achieve.
- Example purposes may include:
    - “Measuring TPW levels near schools”
    - “Evaluating the impact of tobacco retail density”
    - “Monitoring TPW levels before and after a cleanup event”
    - “Establishing baseline data for future comparison”

The goal/purpose provides clarity and ensures the campaign is aligned with monitoring priorities.

7. Submit the Campaign

- Once all required fields (Title, Start Date, End Date) and any optional fields are complete, tap the Submit button at the bottom of the screen.
- Your campaign will now appear in the list of available campaigns when defining assessment areas or filtering results.

After submitting, your new campaign becomes available to all authorized users. Assessment areas created afterward can be associated with this campaign, ensuring that all monitoring conducted under this project is organized, traceable, and easily analyzed later.

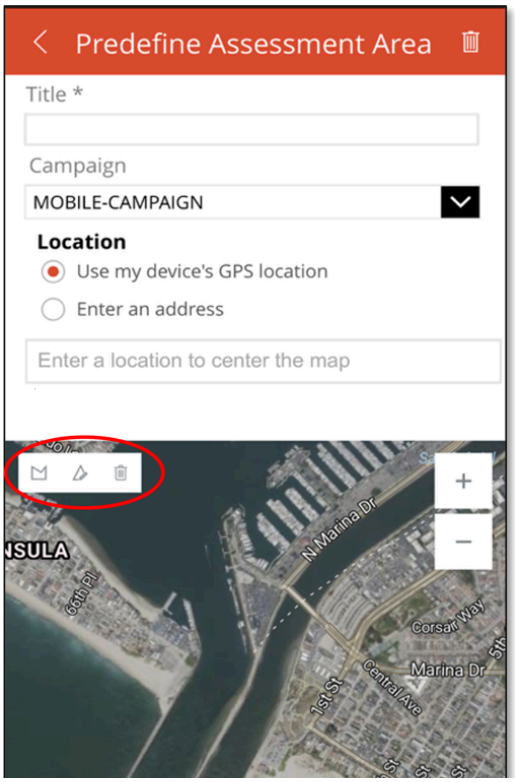
6. Defining Assessment Areas

LLA Administrators and assessors may predefine assessment areas for themselves and their team. These areas can be selected during assessments to ensure consistency in monitoring sites.

6.1 Creating a New Predefined Assessment Area

1. Select Define Assessment Area on the home screen.
2. Enter a Title (required).
3. Select a Campaign from the dropdown (not required).
4. Choose a map centering option:
    - Enter an address (search box)
    - Use device GPS

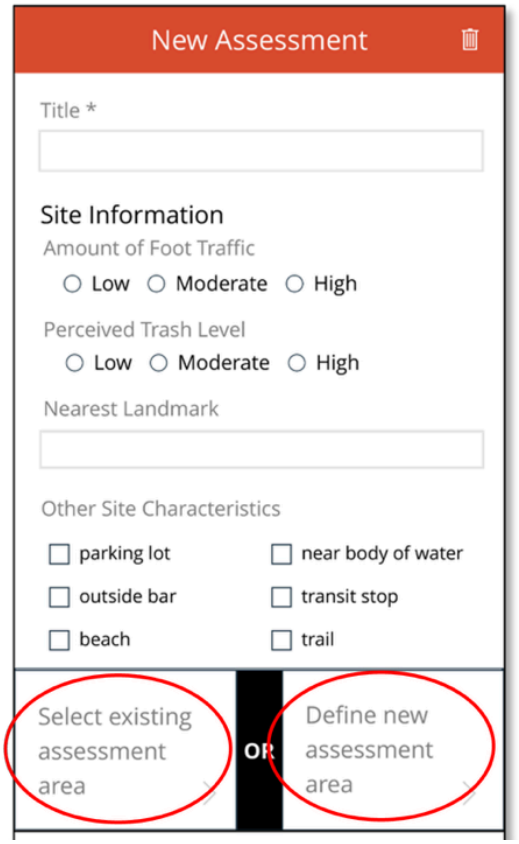
5. Use the Draw Polygon tool to outline the assessment area (required). The red oval on the screen shot highlights the draw polygon tools in red. Tap the first icon on the left to draw the polygon. Then you can use your fingernail or tablet pencil or other pointed object to draw the assessment area. The middle icon is for modifying the polygon. Tap the middle icon and select the polygon and you can make fine adjustments by dragging the dots. The icon on the right is for deleting the polygon. Select the polygon and tap the icon on the far right.
6. Tap Submit to save. Alternatively, if you decide you do not want to keep the predefined assessment area, you can tap the trash can icon in the upper right corner of the screen and another screen will appear, asking if you would like to delete the assessment.



Once submitted, this assessment area will now be available to all users during data collection.

6.2 Choosing a Predefined Assessment Area

From the New Assessment screen, users have two options for defining where their TPW monitoring will take place: selecting an existing assessment area or creating a new assessment area. To use an existing assessment area, tap the “Select existing assessment area” button on the left side of the screen. This opens a list of predefined areas that were created previously—often as part of a campaign or ongoing monitoring project. Existing assessment areas are especially useful when multiple users are monitoring the same sites over time, ensuring that all assessments share identical boundaries and allowing for accurate comparison of TPW density across days, months, or years. After selecting an area from the list, it will automatically populate in your



assessment, linking your site visit to a standardized location.

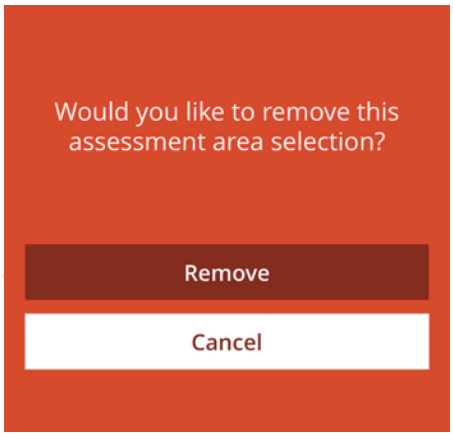
6.3 Creating an Assessment Area While Performing an Assessment

If no suitable existing assessment area already exists, you can choose the option on the right: “Define new assessment area.” This allows you to create a new monitoring boundary tailored to your current site. When selected, the app will guide you to a map-based drawing tool where you can use your device’s GPS location or manually navigate to the site to create your area. You can draw a polygon around the physical space you are surveying, ensuring that the area is accurate and clearly defined so that TPW density can be calculated correctly. Once saved, this new assessment area can be reused for future assessments or added to a campaign, helping build a consistent monitoring record over time. It should be noted, this functionality is not available in offline mode.

6.4 Deleting an Assessment Area

An assessment area can be deleted in two ways within the TPW Assessment Mobile App:

1. From the Assessment Area Creation Screen
   While viewing or editing an assessment area, tap the trash can icon located in the upper right corner of the screen. This action will prompt a confirmation message to ensure the assessment area is intentionally being deleted. Confirm the action to permanently remove the assessment area.
2. From the View Assessments Screen
   Navigate to View Assessments from the home screen and select the assessment associated with the assessment area you wish to remove. Once the assessment is open, tap the trash can icon in the upper right corner of the screen. Confirm the action to permanently remove the assessment area.



In both cases, deleting an assessment area permanently removes its associated boundary information and cannot be undone.

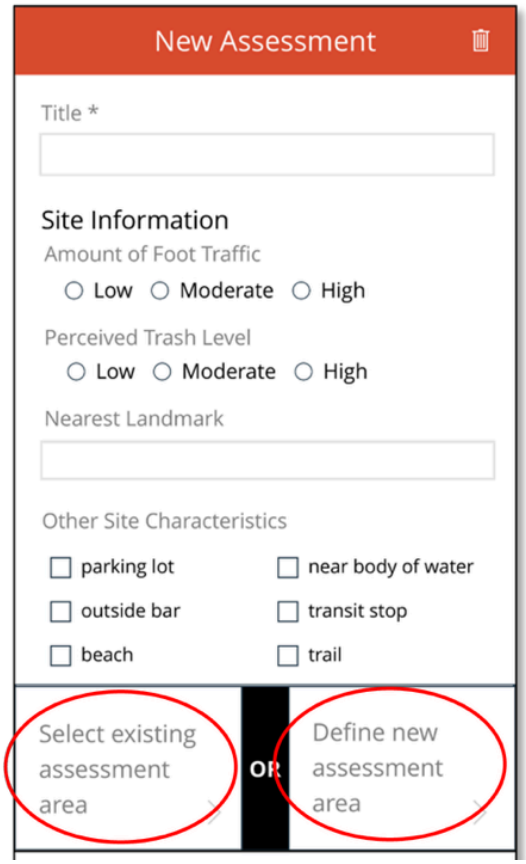
7. Conducting TPW Assessments

This section describes how to conduct TPW assessments using the TPW Assessment Mobile App, guiding users through each stage of the assessment workflow. All users can complete assessments at either previously established assessment areas or at newly defined locations, providing flexibility while maintaining consistency in data collection. The steps outlined in this section

explain how to enter site information, select or create assessment areas, document conditions with photos, and record TPW item counts.
In addition, this section introduces the TPW item counting screen and explains how users can review and classify items before submitting an assessment. It also highlights the app's data validation rules, which help prevent incomplete or invalid submissions by requiring key information such as titles, assessment areas, and campaign details. Together, these procedures ensure that TPW assessments are standardized, accurate, and ready for analysis across all monitoring sites.

All users can conduct TPW assessments at either existing or newly defined assessment areas.

7.1 Recording an Assessment at an Existing Assessment Area



This section explains how to complete a TPW assessment using a previously defined monitoring location. This option is ideal for repeat monitoring, as it ensures that assessments are conducted within consistent boundaries, allowing results to be compared accurately over time.

1. Tap *New Assessment*
   From the home screen, select New Assessment to begin a new TPW data collection entry.
2. Enter the Assessment Title and Site Characteristics
   - Enter a clear, descriptive Title for the assessment (required).
   - Select the appropriate Amount of Foot Traffic (Low, Moderate, or High).
   - Select the Perceived Trash Level at the site (Low, Moderate, or High).
   - Enter the Nearest Landmark to help identify the location.
   - Select any applicable Other Site Characteristics (e.g., parking lot, beach, trail, transit stop, near body of water).
3. Choose "Select existing assessment area".
4. After selecting an existing assessment area, return to the assessment.
5. Add photos
6. Record TPW and Submit the Assessment (see Section 7.3 for more details)
   - Select Assess TPW to open the counting screen.

- Record Item Type and Item Brand (if applicable).
- Tap Count Item + for each TPW item observed.
- Continue to toggle between Item Type and Item Brand and Tap Count Item for each TPW item until done.
- When finished, tap Done, review the assessment for accuracy, and tap Submit to finalize.

7.2 Recording a TPW Assessment and Creating a New Assessment Area

This section describes how to complete a TPW assessment when no predefined monitoring location is available. This process allows users to establish a new assessment area directly within the app by defining clear geographic boundaries before collecting TPW data. The steps below guide users through creating the new assessment area, documenting site conditions, recording TPW counts, and submitting the assessment, ensuring that newly monitored locations can be reused for future assessments.

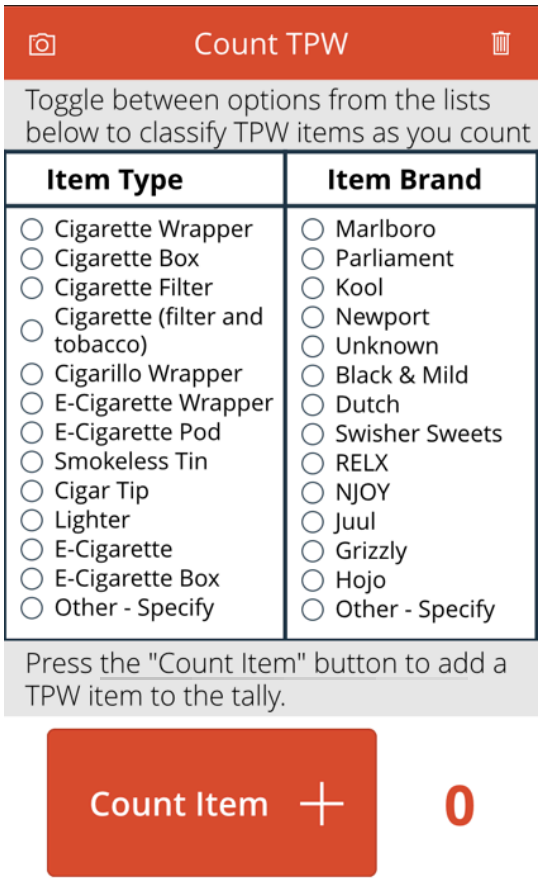
If no predefined area exists:

1. Tap *New Assessment*
   From the home screen, select New Assessment to begin a new TPW data collection entry.
2. Enter the Assessment Title and Site Characteristics
   - Enter a clear, descriptive Title for the assessment (required).
   - Select the appropriate Amount of Foot Traffic (Low, Moderate, or High).
   - Select the Perceived Trash Level at the site (Low, Moderate, or High).
   - Enter the Nearest Landmark to help identify the location.
   - Select any applicable Other Site Characteristics (e.g., parking lot, beach, trail, transit stop, near body of water).
3. Choose “Define new assessment area” to create a new monitoring boundary for this location.
4. Enter an Assessment Area Title and Select a Campaign
   - Provide a clear Assessment Area Title that reflects the location (e.g., “Main Entrance Sidewalk – City Park”).
   - Select the appropriate Campaign to associate the new assessment area with an existing monitoring effort.
5. Center the Map on the Location
   - Use the search bar to find the address or location, or
   - Use your device’s GPS to center the map on your current position. Ensure the full area you plan to monitor is visible on the screen.
6. Draw the Assessment Area Polygon
   - Use the drawing tool to outline the physical boundaries of the area being assessed.
   - Carefully trace sidewalks, paths, lots, or other features that define where TPW will be counted.
   - Ensure the polygon accurately reflects the space you intend to survey.

7. Submit the Assessment Area and Continue the Assessment
    - Save and submit the new assessment area.
    - After submission, return to the assessment.
8. Add photos
9. Record TPW and Submit the Assessment (see Section 7.3 for more details)
    - Select Assess TPW to open the counting screen.
    - Record Item Type and Item Brand (if applicable).
    - Tap Count Item + for each TPW item observed.
    - Continue to toggle between Item Type and Item Brand and Tap Count Item for each TPW item until done.
    - When finished, tap Done, review the assessment for accuracy, and tap Submit to finalize.

7.3 TPW Item Counting Screen

The TPW Item Counting Screen is where all observed tobacco product waste items are recorded during an assessment. This screen is designed to support accurate, consistent counting while allowing users to capture additional detail when appropriate. By using standardized item types and optional brand classifications, the app ensures that TPW data are comparable across sites, users, and time periods.



Using the TPW Item Counting Screen

1. Select Item Type (Optional but recommended)
    - Choose the appropriate Item Type that best describes the TPW item being counted (e.g., cigarette butt, cigar wrapper, e-cigarette component).
    - If the Item Type is not listed or not visible, you can select Other – Specify and you will be prompted to enter an Item Type.
2. Select Item Brand (Optional)
    - If the Item Brand name is visible on the TPW item, select the corresponding Item Brand from the list.
    - If the Item Brand is not listed or not visible, you can select Other – Specify and you will be prompted to enter an Item Brand.
3. Record an Item Count
    - Tap Count Item + to add one TPW item to the tally.

- Each tap increments the count by one.
- Continue tapping Count Item + for each TPW item observed within the assessment area.

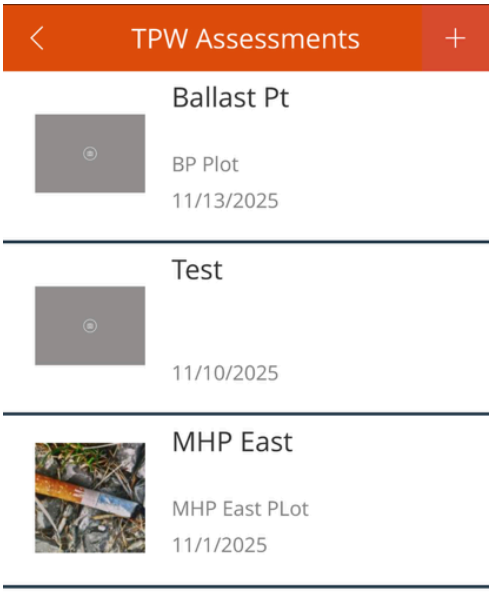
4. Repeat steps 1-3 for each item in the assessment.
   - After an Item Type has been counted, you can toggle to another Item Type and Item Brand and count those.
5. Review the Running Tally
   - The current total count is displayed on the screen and updates automatically as items are added.
   - Users can pause at any time to verify that counts and classifications are accurate.
6. Finalize the Count
   - When all items have been counted, tap Done to exit the counting screen.
   - You will return to the assessment summary, where counts can be reviewed before final submission.

Why This Step Matters

Using the TPW Item Counting Screen consistently ensures that TPW data are recorded using the same structure across all assessments. This standardized approach supports accurate density calculations, enables meaningful comparisons across locations and time periods, and strengthens the reliability of TPW monitoring results.

8. Viewing and Editing Your Data

8.1 Viewing Assessments



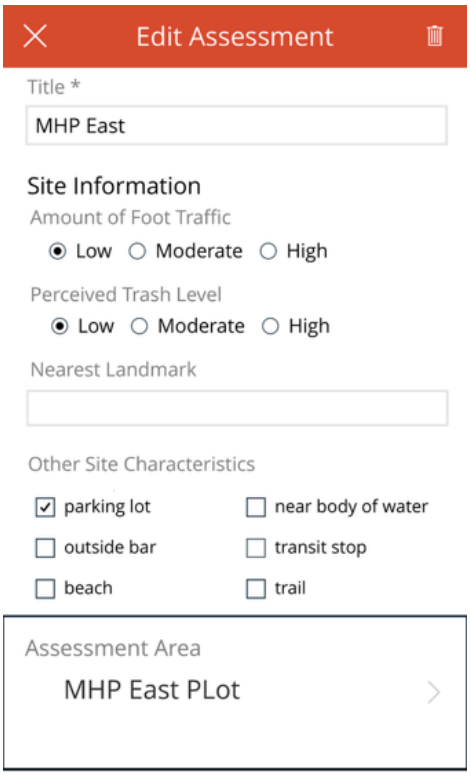
The View Assessments feature allows users to review all TPW assessments that have been created and submitted through the app. This screen provides access to completed assessments, enabling users to verify entries, review site information, examine associated photos, and confirm TPW counts. Viewing assessments is useful for quality control, follow-up monitoring, and preparing for reporting or dashboard review.

To view assessments, navigate to the app's home screen and tap View Assessments. A list of assessments will appear, typically organized by date or title. Tap on an assessment to open its details. From this screen, users can review the assessment title, site characteristics, associated assessment area, TPW counts, and

photos. This view-only mode allows users to confirm that information was entered correctly before or after submission (see *Assessment Detail* screen).

8.2 Editing an Assessment

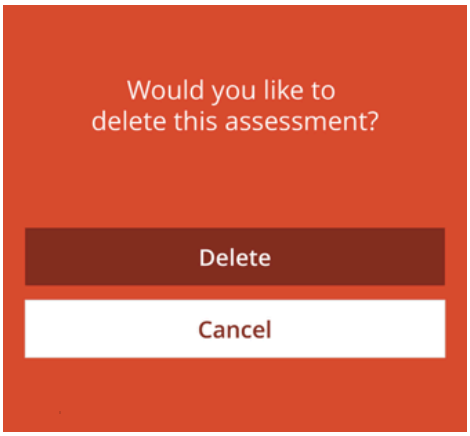
Editing an assessment allows users to correct or update information after an assessment has been created. This may include updating site characteristics, modifying the assessment title, adding or removing photos, or correcting TPW counts. Editing helps ensure accuracy and completeness of the dataset before analysis or reporting.



To edit an assessment, first open View Assessments and select the assessment you wish to update. On the assessment detail screen, tap the pencil (edit) icon in the upper right corner. This opens the Edit Assessment screen, where fields such as site information, site characteristics, and photos can be modified. Make any necessary changes, then tap Done or Submit to save the updates. All edits are reflected in the assessment record and will update the dashboard accordingly.

8.3 Deleting an Assessment

The Delete Assessment function allows users to permanently remove an assessment that was created in error or should no longer be included in the dataset. Because deletion removes the assessment and its associated data from the system, this action should be used carefully.



To delete an assessment, open View Assessments and select the assessment you wish to remove. From the assessment detail or edit screen, tap the trash can icon in the upper right corner. A confirmation prompt will appear to prevent accidental deletion. Confirm the deletion to permanently remove the assessment from the app and the dashboard. Once deleted, the assessment cannot be recovered.

9. Using the App in Offline Mode

The TPW Mobile Application is designed to support data collection in areas with limited or no internet connectivity. Offline mode allows users to continue conducting assessments in the field without interruption. When operating offline, assessment data are stored securely on the device and automatically synchronized with the system once connectivity is restored. This ensures that TPW monitoring can proceed reliably in remote locations, parks, beaches, trails, or areas with poor cell coverage.

Important: Before going into the field, open the TPW app while online so your device can cache campaigns, assessment areas, and item lists. A notification banner on the home screen confirms when the app is available for offline use, indicating that the app has successfully loaded and cached required data.

9.1 Creating a New Assessment Fully Offline

Users can create and complete a TPW assessment entirely offline, provided the app was opened while an internet connection was available prior to entering the field. This allows all core assessment functions—including site information entry, photo capture, and TPW item counting—to be completed without connectivity.

To create a new assessment offline:

1. Open the TPW App and confirm that the app indicates it is available for offline use.
2. Tap New Assessment from the home screen.
3. Enter the Assessment Title and complete the Site Information, including foot traffic, perceived trash level, nearest landmark, and site characteristics.
4. Select an existing assessment area or define a new assessment area using the map interface. Previously loaded map tiles and GPS location may be used while offline.
5. Add photos using the Add Photos option. Photos are stored locally on the device until synchronization.
6. Select Assess TPW and record TPW items using the Count Item + button.
7. Tap Done and then Submit to save the assessment locally.

The assessment will be marked as pending synchronization and will upload automatically when internet connectivity is restored.

9.2 Creating an Assessment After Losing Connectivity Mid-Session

If internet connectivity is lost during an assessment, the app will continue functioning without data loss. This ensures that assessments can be completed even if connectivity changes unexpectedly while in the field.

When connectivity is lost mid-session:

- Continue entering site information, adding photos, and counting TPW items as normal.
- The app stores all inputs locally and does not require the user to restart the assessment.
- Once the assessment is completed, tap Done and Submit as usual.

When the device reconnects to the internet:

- The app automatically synchronizes all locally saved assessments with the system.
- Submitted assessments then become visible in View Assessments and in the TPW Data Dashboard.
- No additional action is required by the user unless a synchronization error message appears.

9.3 Best Practices for Offline Use

- Open the TPW App before entering the field to ensure required data and maps are cached.
- Confirm the offline availability message on the home screen before starting assessments.
- Avoid closing the app until assessments are submitted.
- Once connectivity is restored, allow time for data to sync before logging out.

10. Using the Data Dashboard

10.1 Introduction to the TPW Data Dashboard

The Tobacco Product Waste (TPW) Dashboard is an interactive analytical tool designed to visualize and evaluate environmental assessment data collected across California. Developed with extensive input from the Community of Practice and Local Lead Agencies (LLAs), the dashboard serves as a central hub for monitoring the concentration, distribution, and characteristics of tobacco-related waste.

Key Capabilities and Features

The dashboard (Figure 2) provides a multi-faceted view of field data through several integrated components:

- Geospatial Analysis: An interactive ArcGIS-powered map allows users to view assessments geographically. The map features dynamic "extents" that automatically zoom to filtered data and supports specialized layers—including school zones, tribal lands, and socioeconomic indicators—to provide environmental and social context.
- Real-Time Data Slicing: Users can filter the entire report by Site Characteristics (e.g., trails, schools, or parks), specific Local Lead Agencies, or custom Date Ranges. This allows for granular comparisons between different regions or site types.
- Trend Visualization: The dashboard tracks TPW items per acre by date, enabling agencies to monitor fluctuations in waste density over time.
- Composition Breakdowns: Visualizations like pie charts provide an immediate understanding of the Brand and Type (e.g., cigarette filters, e-cigarette wrappers) of waste being recovered, which is vital for identifying primary local pollutants.
- Intervention Monitoring: A dedicated "Before and After" comparison feature allows users to use a date slider to measure the effectiveness of specific interventions or policy changes by comparing data from two different time periods side-by-side.

Designed for transparency and ease of use, the dashboard contains no personally identifiable information (PII), ensuring that data can be shared across agencies to understand statewide trends and support data-driven environmental health initiatives.

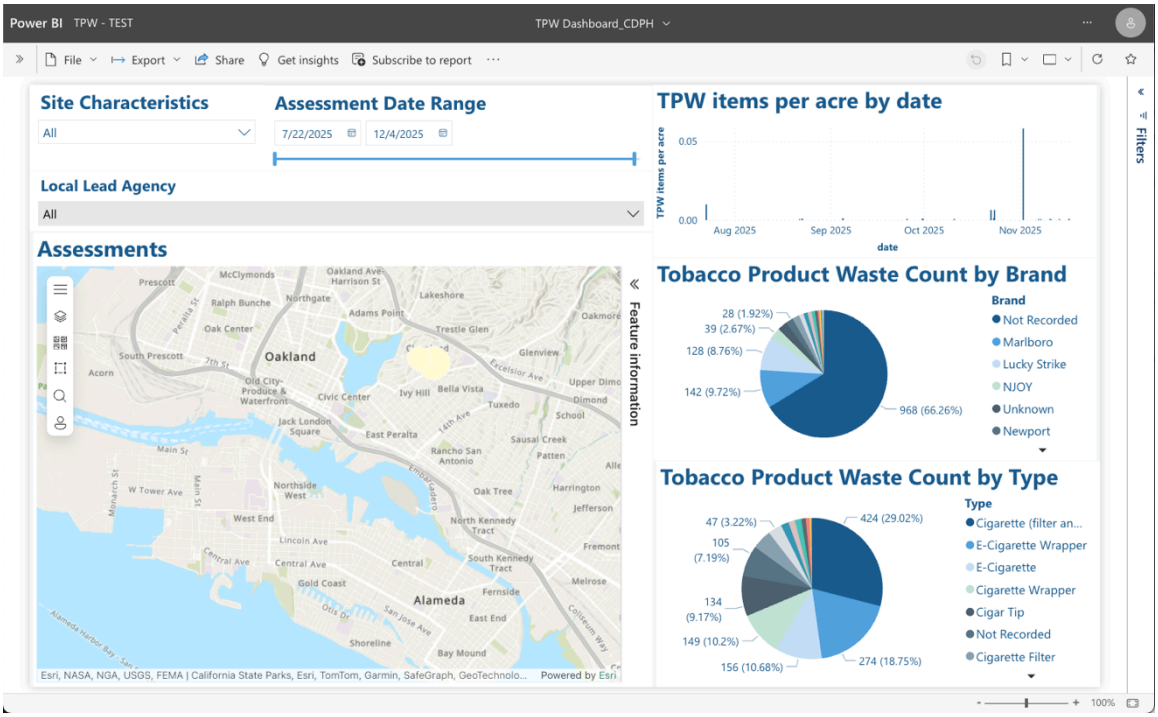


Figure 2. The TPW Data Dashboard.

10.2 Dashboard Data & Geospatial Layers

The dashboard is simple to use and includes four ways to change the data. You can select Site Characteristics, Assessment Date Ranges, Lead Local Agencies (one or many), and customizable filters (accessed in the upper right corner of the tool under the menu where it is listed as Filters). Below are some descriptions of all four.

1. Site Characteristics Filter

Located in the top-left corner, this multi-value filter allows you to narrow assessments based on the physical environment of the survey:

- Target Specific Locations: You can select a single site type (e.g., "Trails") to see how waste concentrations there compare to the regional average.
- Identify High-Risk Areas: Filters can be set to identify assessments performed in high-priority zones like Schools or Parks.
- Dynamic Response: When a characteristic is selected, all visualizations—including the map and pie charts—automatically update to reflect only that subset of data.

2. Assessment Date Range Control

You can choose dates for the data visualization in a few different ways:

- Date Slider: Use the interactive bar to visually select a window of time.
- Manual Entry: For exact comparisons, click the calendar icons next to the start and end dates (e.g., 7/22/2025 to 12/4/2025) to input precise timeframes.
- Comparison Functionality: You can also use the date tool in the “Before and After” tool (this tool is on a separate page and can be accessed through the >> in the upper left corner of the dashboard). By shifting the dates, you can monitor how interventions (like new local policies) impacted waste density between two specific points in time.

3. Local Lead Agency (LLA) Selection

This filter is essential for regional reporting and peer comparison:

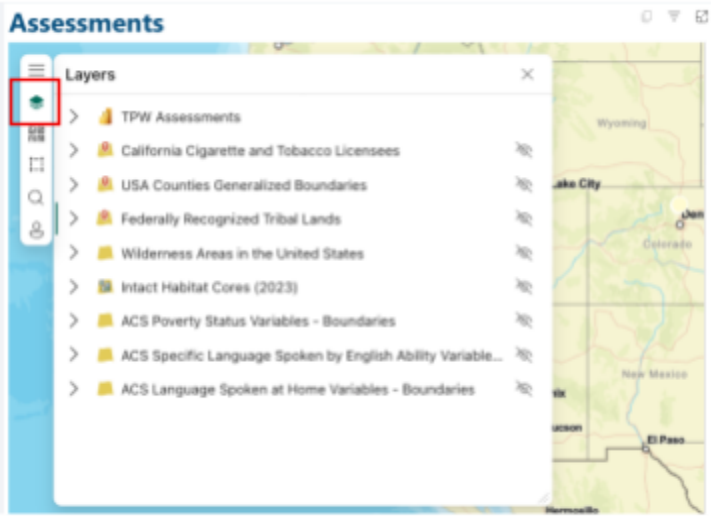
- Agency Isolation: Individual LLAs can select their own name from the dropdown to view a dashboard containing only their specific field data.
- Regional Context: Users can switch between different agencies to understand how tobacco waste patterns vary across different jurisdictions in the state.

4. Advanced Filters and Feature Information

The dashboard synthesizes two types of data: self-reported assessment data (collected in the field) and pre-existing geospatial layers (sourced from public ArcGIS databases).
Additional controls are available for deep-dive analysis:

- Upper Right Menu: Standard filters are housed here, allowing for even more specific data refinements. Click on a dashboard item (e.g. map, pie chart, data slider, etc.) to view the applicable filters.
- Interactive Layers/Legend: On the map, you can toggle additional layers (e.g., tobacco vendors, wilderness areas, or tribal lands) to see how these external factors correlate with waste hotspots.
- Feature Information Sidebar: Clicking on a specific assessment point on the map will open a "Feature Information" pane on the right, providing the raw details for that specific data entry.

Additional Tools for the Map Layers



The map in the Tobacco Product Waste (TPW) Dashboard includes a variety of interactive layers that combine field-collected data with external socioeconomic and geographic information. These layers are designed to help agencies identify correlations between tobacco waste and specific community or environmental factors.

Field Data & Operational Layers

- TPW Assessments: This primary layer displays the results of field surveys. The markers are dynamic: their size reflects the total amount of waste collected, while their color indicates the concentration of waste in that specific area.
- California Cigarette and Tobacco Licensees: An overlay of licensed tobacco retail locations. This allows users to see if high concentrations of waste correlate with proximity to retail outlets.

Geographic & Protected Area Layers

- Federally Recognized Tribal Lands: Displays boundaries for tribal territories. These are included because state tobacco regulations may apply differently on sovereign lands, making it important to track environmental impact in these areas.

- Wilderness Areas in the United States: Shows protected natural lands. This layer helps assess the impact of tobacco waste on sensitive ecosystems and wildlife.
- USA Counties Generalized Boundaries: Provides a standard political boundary layer for regional filtering and reporting.
- Intact Habitat Cores (2023): A specialized environmental layer used to monitor waste in critical biological zones.

Socioeconomic & Demographic Layers

The dashboard integrates data from the American Community Survey (ACS) to provide social context for the waste data:

- ACS Poverty Status Variables: Displays census tract-level data on populations living below the federal poverty line.
- ACS Specific Language Spoken by English Ability: Identifies areas with high linguistic diversity or limited English proficiency.
- ACS Language Spoken at Home: Further refines demographic context to help agencies tailor their educational outreach to the specific languages spoken in high-waste areas.

Selecting and Deselecting Layers

The dashboard uses an "eyeball" icon system to manage layer visibility:

- Layer Not Selected (Hidden): If you see an eyeball icon with a line through it, the layer is currently inactive and hidden from the map. To select it, click directly on this icon.
- Layer Selected (Visible): Once clicked, the line will disappear, leaving a clear eyeball icon. This indicates the layer is selected and its data is now visible on the map.
- Toggling Visibility: You can click the icon again at any time to deselect the layer and hide the information from your current view.

Basemaps

The Basemap functions as the foundational canvas for your data, providing the essential background imagery and geographical reference points—such as roads, boundaries, and terrain—needed to interpret your field assessments.

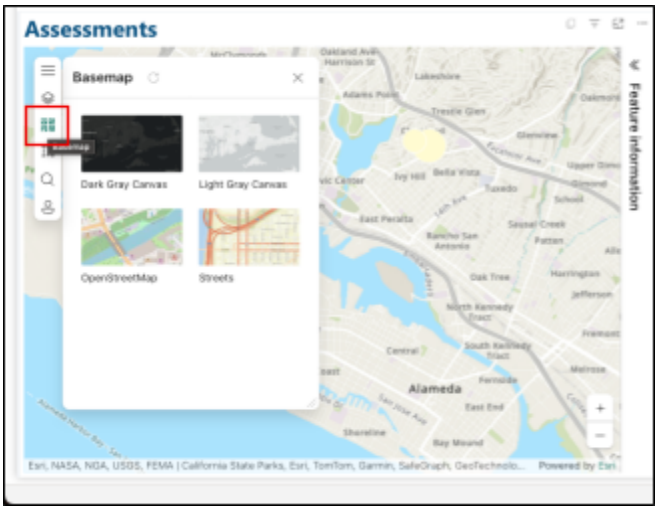
Available Basemaps
As shown in the dashboard's basemap gallery, there are four standard options (Table 1) you can select based on your analytical needs:

Table 1. Available Basemaps for the map in the Dashboard tool.

Basemap	Visual Style	Best Use Case
Dark Gray Canvas	Minimalist dark background with high-contrast labels.	Best for making brightly colored assessment points "pop" and reducing visual clutter during

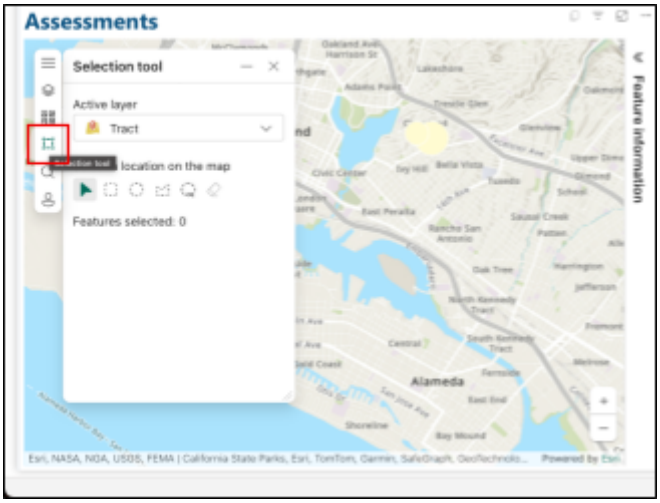
Basemap	Visual Style	Best Use Case
		nighttime-themed or high-contrast analysis.
Light Gray Canvas	Minimalist light background with subtle geographic features.	Ideal for general reporting where you want the focus to remain entirely on the thematic data without background distraction.
OpenStreetMap	Detailed community-driven map showing specific buildings, parks, and local landmarks.	Useful when you need detailed local context, such as identifying the specific side of a street or a particular park entrance where waste was found.
Streets	A traditional road-centric map showing highways, major intersections, and administrative boundaries.	Best for geocoding and routing applications, or for orienting users to well-known transportation networks.

How to Change the Basemap



1. Expand Map Tools: Click the Map tools button (the three lines) on the left side of the map to expand the menu.
2. Open the Gallery: Select the Basemap icon (represented by a four-square grid) to open the selection gallery.
3. Select a Style: Click on any of the four thumbnails (e.g., Dark Gray Canvas) to instantly update the map's background.
4. Revert Changes: If you want to return to the original view, you can click on the thumbnail for the original view.

Selection Tool



The Selection Tool allows you to use various drawing methods—including rectangles, circles, polygons, or freehand lassos—to highlight and isolate up to 250 features at once. You can further refine your selection by holding the CTRL key to add or remove individual items from your current set.

The Selection tool allows you to isolate and analyze specific features directly on the map:

- Select TPW Assessments as the Active Layer: Use the dropdown menu to choose which data layer you want to select features from ("TPW Assessments").
- Choose a Selection Method: Use the various icons to select by point, circle, rectangle, or custom polygon.
- Track Your Selection: The tool displays the total number of features currently selected, allowing for precise data isolation.

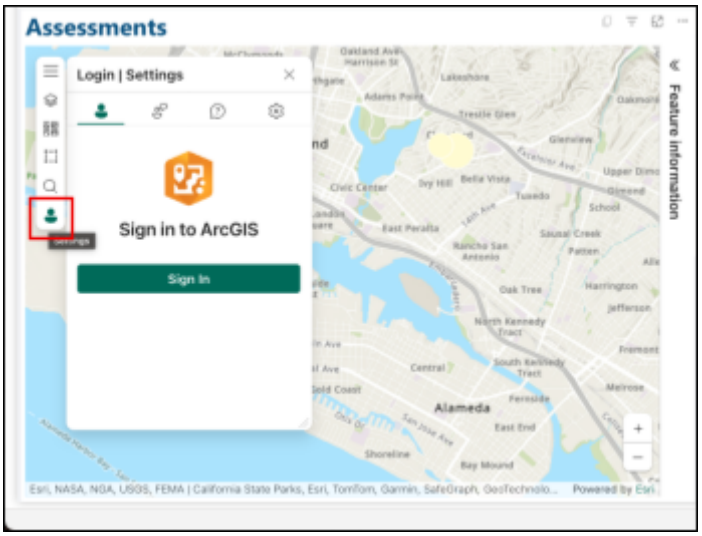
Find Address or Place



The Find Address or Place tool utilizes the ArcGIS World Geocoding Service to provide intelligent address suggestions and candidate matches as you type into the search bar. Once a location is selected, the map centers on that point and provides a dockable pop-up containing specific location details and coordinates.
Use the Search tool to quickly navigate to a specific geographic location:

- Enter Search Terms: Click the magnifying glass icon and type a specific address, city, or landmark into the "Find address or place" text box.
- Navigate Quickly: Pressing enter will center the map and adjust the zoom level to your specified location, making it easier to view local assessment data.

Settings and Login

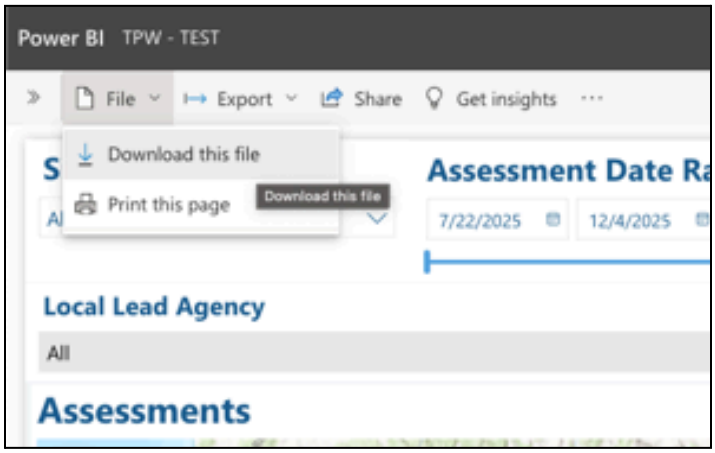


The Settings and Login menu serves as the primary portal for signing in with an ArcGIS organizational account, which unlocks advanced capabilities and access to private data layers. This pane also allows users to view the current software version, manage account preferences, and toggle participation in the Esri User Experience Improvement program.

The Settings menu provides administrative and account-level options:

- Sign In: Click the person icon to access the "Sign in to ArcGIS" screen.
- Access Preferences: Use the tabs at the top of the pane to toggle between user account settings, general dashboard settings, help resources, and advanced configuration options.

File Menu

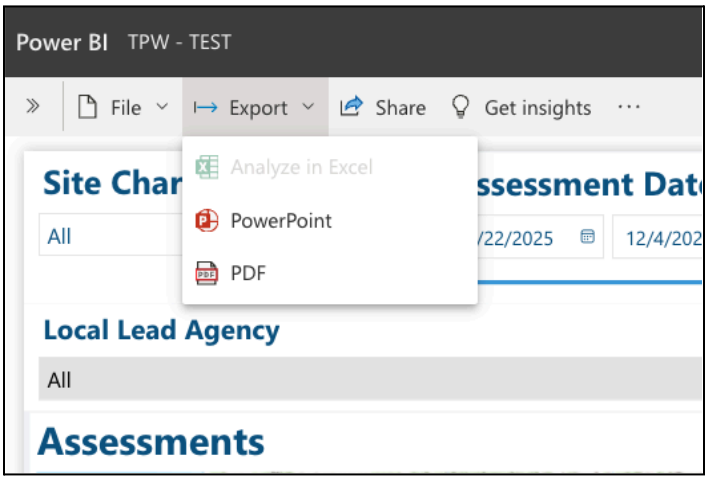


The File menu, located in the top-left corner of the TPW Dashboard, provides essential commands for managing, printing, and sharing the report. It serves as the primary portal for administrative actions and physical document generation.

Key Functions & Instructions

- Download this file: This command allows users with sufficient permissions (typically at least a "Contributor" role) to download the report as a .pbix file for use in Power BI Desktop. If this option is grayed out or not visible, it may be due to organizational security restrictions or limitations regarding the original data source.
- Print this page: This option opens your browser's standard print dialogue box. To ensure the best quality, apply any desired filters or slicers (such as specific date ranges or site characteristics) before selecting this option, as it only captures what is currently visible on the active report area.

Export Menu



The Export menu, located in the top navigation bar of the TPW Dashboard, allows you to generate static or live versions of the report for presentations and distribution.

Key Export Options

- PowerPoint: Converts report pages into a slide deck where each page is a high-resolution image.
- PDF: Generates a document where each report page becomes a separate PDF

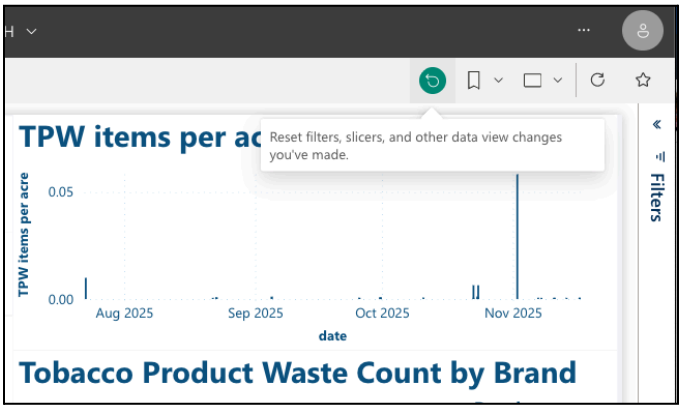
page, ideal for easy printing or third-party sharing.

- Analyze in Excel: (If enabled) Allows for a live connection to the report's data within Excel for further calculation.

Instructions for Use

1. Select Export Type: Click the Export dropdown and choose your desired format, such as PowerPoint or PDF.
2. Configure Settings: A pop-up will appear with the following common choices:
    - Current Values: Captures the report with your active filters and slicer settings applied (e.g., specific date ranges or lead agencies).
    - Default Values: Captures the report in its original state as first shared by the author.
    - Only export current page: Check this box if you only need the visual currently on your screen rather than the entire multi-page report.
3. Process and Download: Click the Export button to begin the process. A notification banner will track the progress, and the file will automatically download to your computer once complete.

Reset Option



The Reset tool is used to instantly clear all active filters and return the Tobacco Product Waste (TPW) Dashboard to its original, unfiltered state. This provides a "clean slate," allowing users to shift from one analysis to another without having to manually deselect every previously chosen site characteristic, date range, or lead agency.

Instructions for Resetting the Dashboard

1. Locate the Reset Button: Look for the circular arrow icon in the top-right menu bar of the dashboard.
2. Activate the Reset: Click the icon to remove all applied filters, slicers, and map zoom levels.
3. Confirm the Default State: The dashboard will automatically revert to the "Default View" saved by the report author, restoring all



visualizations to their original baseline data.

More Options Tools

The More Options menu, accessible by clicking the three dots (**...**) in the upper-right corner of any individual visualization, provides specialized tools for interacting with and extracting specific data from that chart. These options allow you to move beyond the visual summary to perform deeper analysis of the raw numbers behind the graphs.

Key Features and Instructions

- Export data: This tool allows you to download the specific data points used to create the selected chart. Once selected, you can save the information as an .xlsx (Excel 150,000-row max) file for further manipulation in a spreadsheet.
- Show as a table: This command toggles the view of the visualization, expanding it to show the raw data values in a tabular format alongside the original chart. This is useful for seeing exact figures that might be difficult to read in a pie or bar chart.
- Spotlight: Selecting this option dims all other elements on the dashboard, drawing immediate focus to that single visualization. This is ideal for presentations when you want to highlight a specific trend, such as "Waste Count by Brand," without visual distraction.
- Get insights: This automated tool runs a quick analysis on the chart's data to identify significant trends, outliers, or patterns that may not be immediately obvious.
- Sort axis: This allows you to change how data is organized within the chart, such as sorting categories alphabetically or by descending waste count.

10.3 Performing a "Before and After" Analysis

The dashboard is designed to help you determine if an intervention—such as installing new waste receptacles or launching a public awareness campaign—actually reduced tobacco product waste (TPW). The "Before and After" page uses the General dashboard filters and can be accessed through the >> in the upper left corner of the dashboard. To toggle between the General and Before and After screens use the menu on the left (Figure 3).

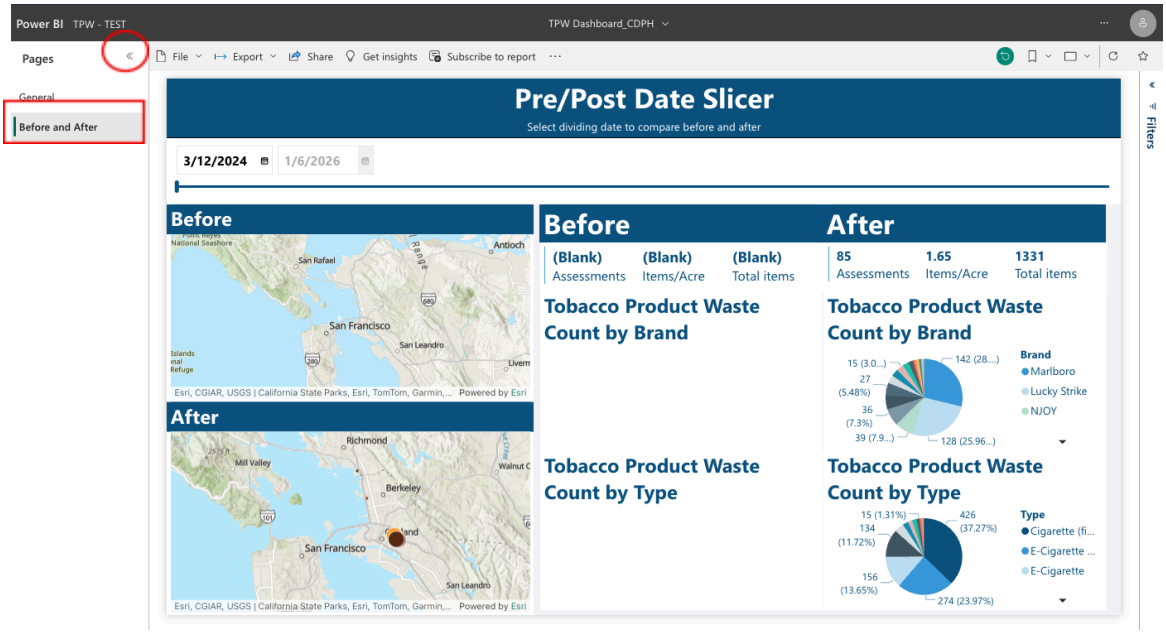


Figure 3. The Before and After screen is accessible through the panel on the left (click on >> in the upper left to open the panel).

Step 1: Set the Geographic Scope

Before looking at dates, define where you want to look.

- Use the Local Lead Agency slicer to select your specific region.
- Use the Site Characteristics filter if you only want to see data for specific locations, such as "Schools" or "Parks."

Step 2: Define the Intervention Date

Identify the exact date your intervention was implemented.

- Locate the Assessment Date Range slider at the top of the dashboard.
- Move the left handle to your start date and the right handle to the date of the intervention to see your "Baseline" data.

Step 3: Analyze the "Before" Data

Take note of the Tobacco Product Waste Count by Type and the TPW items per acre chart.

- This represents the environmental state before your program began.
- Look at the map to see "hotspots" indicated by larger, darker circles.

Step 4: Shift the Slider for the "After" Analysis

Drag the date slider to cover the period *after* the intervention date.

- The visualizations will automatically update.

- Compare the Concentration: Check the "TPW items per acre by date" bar chart. A successful intervention should show a downward trend in the bars following your implementation date.
- Check the Composition: Did the *type* of waste change? For example, did cigarette filters decrease while e-cigarette waste remained the same?

Step 5: Utilize the Side-by-Side Comparison

As mentioned in the transcript, the dashboard allows for side-by-side viewing.

- Toggle the comparison view to see the "Before" and "After" maps simultaneously. The Before and After tool is on a separate page from the General dashboard page and can be accessed through the >> in the upper left corner of the dashboard
- Observe if the circles on the map have shrunk in size or changed color (representing lower concentration).

10.4 Understanding the Impact: Intervention Comparisons

One of the most valuable features for policymakers is the "Before and After" analysis. By using the date slicer, users can see a side-by-side comparison of waste concentrations.

- Pre-Intervention: Data showing waste levels before a specific action (like a "No Smoking" sign installation or a cleanup event).
- Post-Intervention: Data showing the change in waste density following the action.
- Dynamic Scaling: The map automatically adjusts its scale to the area being analyzed, whether it's a single park or an entire county.

The dashboard's primary goal is to move beyond simple data collection and into evaluative science. By layering temporal (time-based) and spatial (location-based) data, agencies can prove—rather than just assume—the effectiveness of their programs.

1. Temporal Trends: Measuring "The Delta"

The dashboard calculates the "delta," or the change in waste density over time.

- Concentration Metrics: By looking at the TPW items per acre chart, users can identify if the rate of littering is slowing down.
- Seasonal Normalization: Because the dashboard allows for multi-year viewing, agencies can distinguish between a successful intervention and a natural seasonal dip (e.g., fewer people in parks during winter months).

2. Spatial Correlation: Hotspot Migration

The interactive map doesn't just show where waste is; it shows where it **isn't**.

- The "Halo" Effect: When a policy is implemented in one area (like a smoke-free beach), the map helps track if the waste simply "migrated" to the nearest unregulated parking lot or street corner.

- Proximity Analysis: By toggling the Tobacco Vendors layer, users can see if waste concentration correlates with the density of retail outlets, helping to argue for retail-based policy changes.

3. Composition Shifts: Target-Specific Impact

Impact isn't always measured in total volume; sometimes it's measured in the *type* of waste.

- Product-Specific Success: If a city bans flavored tobacco, the Tobacco Product Waste Count by Brand pie chart should show a disappearance of specific brands associated with those products.
- Material Shifts: If a program targets "vape recycling," users can monitor the Tobacco Product Waste Count by Type to see if e-cigarette components (which are hazardous waste) are being diverted from the environment.

A key feature of the dashboard is its ability to overlay socioeconomic information.

- Environmental Justice: This allows LLAs to ensure that interventions are having an equal impact across all neighborhoods, identifying if underserved communities are seeing the same reduction in toxic waste as more affluent areas.

There are many examples of impact assessment analyses. Table 2 lists a few of them.

Table 3. Example of impact assessment analysis for different data results and potential recommended actions.

If you see...	**It likely means...**	**Recommended Action**
Decreased count, same concentration	The area surveyed was smaller, but the density of litter remains high.	Increase frequency of cleanups or signage in that specific "hotspot."
Shift in "Brand" diversity	Local consumption habits are changing, or a specific brand is being marketed heavily nearby.	Tailor education outreach to the demographics of that brand's users.
Map circles shrinking near schools	The "School Zone" buffer policies are effectively reducing waste in protected areas.	Use this data to advocate for expanding the buffer zones to other site types.

11. Appendices

A. Definition of Key Terms

Assessment
A single instance of TPW data collection at a defined location. An assessment includes site characteristics, area boundaries, photographs, TPW counts, and any associated notes.

Assessment Area
A geographic area where TPW monitoring occurs. The protocol requires measuring the area, so that TPW density (items per square foot) can be calculated. In the mobile app, the assessment area may be selected from a predefined list or drawn manually using the map tool.

Campaign
A grouping of assessments conducted around a common theme, timeframe, event, or monitoring purpose. Campaigns help organize data and allow users to filter assessment areas and results.

Tobacco Product Waste (TPW)
Any waste item that originates from tobacco use or tobacco products. Examples include cigarette butts, filters, cigar tips, wrappers, packaging, e-cigarette components, pods, cartridges, vape devices, and related materials. TPW items often exceed 5 mm in size and can be transported into waterways and the environment.

TPW Density
A standardized measure of TPW expressed as **items per square foot**. Density normalizes counts across locations of different sizes, allowing reliable comparisons across space or time. It is calculated by dividing the number of TPW items by the total assessment area.

Site Characteristics
Environmental or contextual features of the assessment area that may influence TPW accumulation. Examples include foot traffic, trash level, proximity to schools or tobacco retailers, transit stops, beaches, or parks.

Foot Traffic
A qualitative indicator of how many people frequent the area. Defined in the protocol as Low, Moderate, or High, based on visual observation.

Perceived Trash Level
A qualitative estimate of general litter or trash accumulation at the site (Low, Moderate, High). This is not limited to TPW but helps contextualize monitoring results.

Nearest Landmark
The most prominent or helpful landmark near the assessment area (e.g., building, intersection, park feature). Landmark information increases clarity when reviewing or comparing assessments.

Observation Area / Survey Area
The measurable, physical space within which TPW items are counted. This area must be clearly defined to ensure accurate density metrics.

Polygon (Geospatial)
A digital shape drawn on the map to outline the boundaries of an assessment area. The app uses polygons to determine the area in square feet and ensure accurate density calculations.

Offline Mode
A feature of the mobile app that allows users to perform assessments without cellular or Wi-Fi connectivity. Data collected offline are stored locally and sync automatically when the device reconnects.

TPW Item Type
A classification category for TPW used in monitoring. Examples include:

- Cigarette butt
- Cigar tip
- E-cigarette/vape cartridge
- E-liquid pod
- Tobacco packaging

Brand Identification
A Tier 3 data requirement that documents the commercial brand printed on TPW items (e.g., Marlboro, Swisher Sweets, Juul).

Photo Documentation
Images taken during an assessment to record TPW conditions, verify location, and provide visual support for counts and site characteristics.

Data Submission
The step in the mobile app where the assessment is finalized and uploaded to the cloud database. Submitted assessments can be viewed, reviewed, and exported for analysis.

Accuracy
The degree to which monitoring results represent the true amount of TPW in the assessment area. The protocol stresses clear boundaries, measured areas, and complete counts to maintain accuracy.

Precision
The repeatability of results under the same conditions. Consistent counting practices, trained observers, and standardized methods help maintain precision.

Repeatability
The ability of different users or teams to conduct assessments in the same location using the same method and obtain comparable results.

B. Troubleshooting Tips

This appendix provides solutions for common technical issues encountered while using the TPW Mobile Application and Data Dashboard.

1. Sign-In and Access Issues

- **Why can't I sign in to the app?**
  - **Organizational Activation:** Ensure you have accepted the initial CDPH organization invitation email to activate your Microsoft account.
  - **Credentials:** Confirm you are using the specific email associated with your CDPH partnership.
  - **Cache/Auth Loop:** If you are repeatedly prompted to log in, try clearing your device's browser cache or reinstalling the Power Apps mobile player.

2. Mapping and GPS Issues

- **Why is my GPS not locating my position?**
  - **Permissions:** Check your device settings to ensure that both the Microsoft Power Apps app and your mobile browser have "Location Services" enabled.
  - **Accuracy Settings:** For best results, use "High Accuracy" mode in your device's location settings.
  - **Signal Obstructions:** Large buildings or being indoors can interfere with satellite signals; try moving to an open area with a clear view of the sky.

3. Offline Mode and Data Syncing

- **How do I know if my data is saved while I am offline?**
  - **Sync Banner:** Check the home screen for a notification banner confirming "App data loaded successfully and available to take offline."
  - **Local Storage:** When you submit an assessment without connectivity, it is marked as "pending synchronization" and stored securely on your device.

- **Why aren't my assessments syncing once I'm back online?**
    - **Connection Quality:** Ensure you have a strong, stable internet connection.
    - **App Status:** Keep the app open until the synchronization process completes.
    - **Manual Refresh:** If syncing does not start automatically, try returning to the home screen to trigger the refresh.

4. Photo and Data Submission

- **Why are my photos failing to upload?**
    - **Connectivity: Photos require higher bandwidth to sync; if you are in a low-service area, wait until you are on Wi-Fi.**
    - **Device Permissions:** Ensure you have granted the app permission to access your device's camera and photo gallery.
- **Why can't I submit my assessment?**
    - **Validation Rules:** The app requires certain fields (Title, Assessment Area, Campaign) to be completed.
    - **Area Definition:** Ensure you have either selected an existing area or successfully drawn and submitted a new polygon before hitting final submission.

5. Data Dashboard (Power BI)

- **Why is my recently submitted data not showing on the dashboard?**
    - **Sync Lag:** Data must first successfully sync from your mobile device to the cloud.
    - **Filters:** Check the "Assessment Date Range" and "Local Lead Agency" filters to ensure they aren't excluding your new data.
- **Can I download the raw data from the dashboard?**
    - **More Options:** Click the three dots (...) on any chart and select "Export data" to save the information as an .xlsx (Excel 150,000-row max) file.