



We welcome you to our 8th quarterly Newsletter! Thank you for your ongoing support and feedback on ORURISA's previous Newsletter editions. Through your valuable feedback, we received overwhelming support and some great ideas. We have incorporated your feedback into our 8th edition. We aim to explore, expand, and reshape the content of forthcoming Newsletters together, to meet the needs and add value to ORURISA membership.

We hope that you will find great value in its content and that it will aid you in your own goals to grow and thrive.

### 2023 GIS in Action Annual Conference

We need **volunteers** for the upcoming 2023 GIS in Action Conference. We have few conference committee roles open.

Please send an email at: [communications@orurisa.org](mailto:communications@orurisa.org) to express your interest.

### GIS Case Study

*Permission to share this case study in October 2022 Newsletter was obtained from John Ruffing - Esri and Kristine Judy - City of Hillsboro, Oregon.*

### Keeping Local Waterways Clean Begins in the Streets

**The City of Hillsboro, Oregon, Public Works Operations Division partnered with the Information Services GIS team to demonstrate MS4 compliance and track sweeper vehicle location data in real time.**

In Hillsboro, Oregon, street sweeping is provided by the city's Public Works Operations Division, which is responsible for cleaning over 460 curb miles of paved streets. Its primary objective is reducing the amount of particulate matter, leaves, and debris that enters the stormwater system and local waterways such as the nearby Tualatin River.



One of the City of Hillsboro's street sweepers.

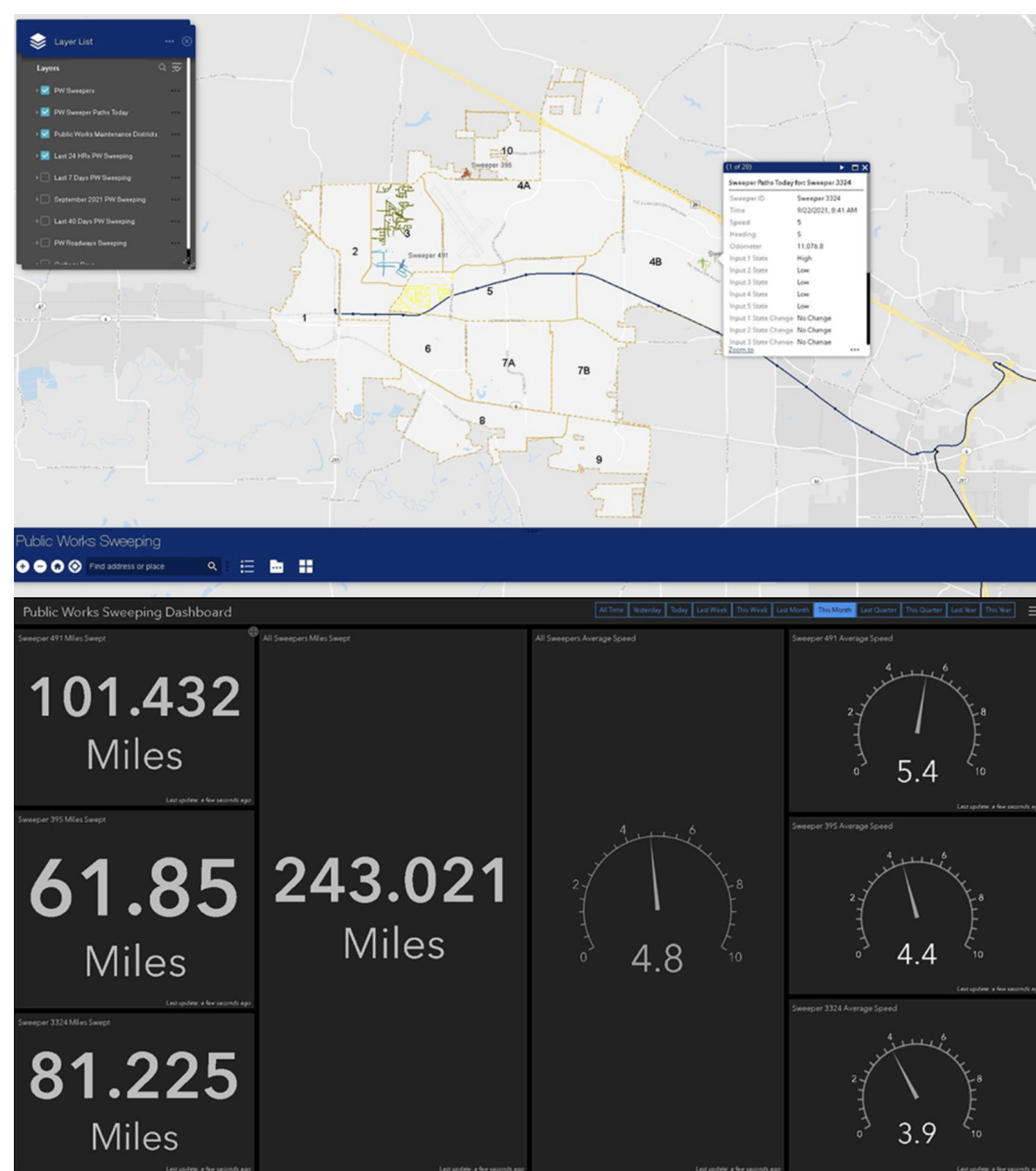
To safely discharge water runoff into surrounding environments, the city must maintain Municipal Separate Storm Sewer System (MS4) compliance, which includes sweeping all roads at least 12 times a year. To fulfill this requirement, the city had to export vehicle path data from each street sweeper's automatic vehicle location (AVL) system, a computer-based vehicle location tracking system. However, visualizing this data from a disparate system and turning it into a static PDF was a time-consuming manual process.

In addition, staff could not instantly know which streets or areas had not been cleaned. If a community member had questions related to sweeping or if drivers wanted to retrace their steps, staff couldn't immediately address those concerns.

The Information Services GIS team used ArcGIS GeoEvent Server, a capability within ArcGIS that captures real-time data streams, to pull vehicle data directly from the AVL system into the city's ArcGIS Enterprise portal as a data layer for future use.

The Information Services GIS team also ensured that every time it receives data, it includes other critical vehicle path details besides location, such as speed, the orientation of the vehicle, mileage, and whether the vehicle was sweeping at that exact moment.

Once the data was hosted on the city's portal site using ArcGIS GeoEvent Server, Layne LeBleu, a GIS and asset management technician for the Public Works Operations Division, developed user-friendly web apps. Using ArcGIS Web AppBuilder, a web app building tool, LeBleu published live AVL data to the Public Works Sweeping app and the Public Works Sweeping Dashboard to meet stakeholder needs.



The real-time sweeping app and dashboard make it easy for staff to visualize progress and street sweeping metrics.

"Gone are the days where I have to spend five hours at a time to extract information for staff and reporting purposes," said LeBleu. "Now I just make changes to the apps as needed. Staff can look at the app and instantly know where to sweep next."

The street sweeping workflow is also a 24/7 MS4 compliance reporting system. Operations are archived to track street sweeping information over any custom time frame. The Public Works Sweeping Dashboard complements this aspect, since the Public Works Operations Division can filter down to specific areas, routes, and dates and determine if the city is in compliance.

Out of this effort, staff also created a winter weather application that uses the same methodology for the city's snowplowing and deicing efforts in the winter months.

"As we [the City of Hillsboro's Information Services GIS and Public Works GIS teams] integrate the AVL data into GIS, the public works team [members] can begin to see where else they can use this workflow," said Kristin Judy, Information Services GIS analyst. "We're now waiting for the first major snow event to arrive this year to test our winter weather applications."

[Original Source of this case study](#)

### Share Your GIS Story

If you have a story to share, project to present, success to celebrate, comments or feedback please email Tara Kaur, Communications Director - ORURISA at: [communications@orurisa.org](mailto:communications@orurisa.org).

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