



Steve Wray serves as Pittsburgh's Director of Economic Development, advancing business growth and the city's innovation economy. He previously led CMU's Block Center for Technology and Society, built Econsult Solutions' "Future of Cities" practice, and headed the Economy League of Greater Philadelphia. He holds degrees from Carnegie Mellon and Duke.

Using Technology & Sensors in City Government

Steve Wray

Director of Economic Development

Office of the Mayor

6/2/2026



Using Technology & Sensors in City Government

- **Pittsburgh's approach:** Prepare, not block, when adopting emerging tech.
- **Values:** enhance workers, build capability, ensure transparency.
- Sensors + data improve **service delivery, safety, and planning.**



Challenges in Sensor Deployment

- Need **standards & governance** before scaling.
- **Data privacy + integration** challenges.
- Community expectations on **transparency**.
- **Infrastructure fragmentation, cybersecurity**.



AI Benefits & Challenges in City Government

- **Benefits:** productivity, analysis, early detection, improved operations.
- **Challenges:** governance, human oversight, privacy protection.
- Avoid dependence on opaque systems.



Example 1: Geohazard & Landslide Sensing

- Fiber-optic acoustic sensing with CMU/PSU.
- Landslides are major risk: 2018 derailment cleanup ~\$12M.
- Early detection saves costs and improves safety.



Example 2: Surveillance Tech Transparency

- Working to build citywide inventory.
- Response to April 7 resolution on surveillance tech.
- Goal: governance, transparency, public trust.



Opportunities for Innovation

- Using **acoustic sensing** to monitor bridges and landslide-prone areas
- Using **drones or LiDAR** on City Vehicles to capture asset data or road conditions
- Applying a “**Dig Once**” approach to better coordinate utilities and capital projects
- **Satellite-based multimodal flood/ landslide sensing** to detect/ provide early warning
- Air quality monitoring via **smart street light controllers**



Thanks!

steve.wray@pittsburghpa.gov

