

Citizen Toolkit

Public Algorithms

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Local, state, and federal governments are increasingly turning to data to make decisions. To do so, they are often aided by algorithmic systems.

Government use of algorithms can improve decision-making and bring important efficiencies. However, these systems also have the potential to harm residents. Evidence shows that some algorithmic systems can lock in and exacerbate bias and harm, especially along racial and gender lines.

To better understand how the City of Pittsburgh and Allegheny County currently use public algorithmic systems, we formed the Pittsburgh Task Force on Public Algorithms.

The Task Force found that like localities across the country, our region's governments are using algorithms in multiple contexts.

Examples of Public Algorithms in Our Region

- The Allegheny County Department of Human Services (DHS) uses the Allegheny Family Screening Tool (AFST), a predictive risk model, to help decide if they should start an investigation when they receive a complaint of child abuse or neglect to a child protection hotline. The tool looks to predict if a child might later experience abuse, a foster care placement, or other child welfare concerns. The tool relies on data—such as child welfare, juvenile probation, jail, and behavioral health records—on each person who lives with the child.
- The City of Pittsburgh Bureau of Police has suspended use of a “hot spot” tool, which had the goal of predicting where crime might occur in the future. The Bureau could then send patrols to those areas. The tool relied on data from 911 calls and criminal incidents within the past five years.
- Allegheny County judges can use algorithmic systems with the aim of helping to predict the likelihood that someone arrested and charged will commit another crime or fail to appear in court while awaiting trial. Judges can use the tools to assist their bail decisions. The tools rely on data such as criminal history, court appearance, history, age, and driving record.
- Other examples of algorithms in use in our region include systems to manage traffic lights, detect and locate gunshots, predict risk of fires at commercial properties, and more.

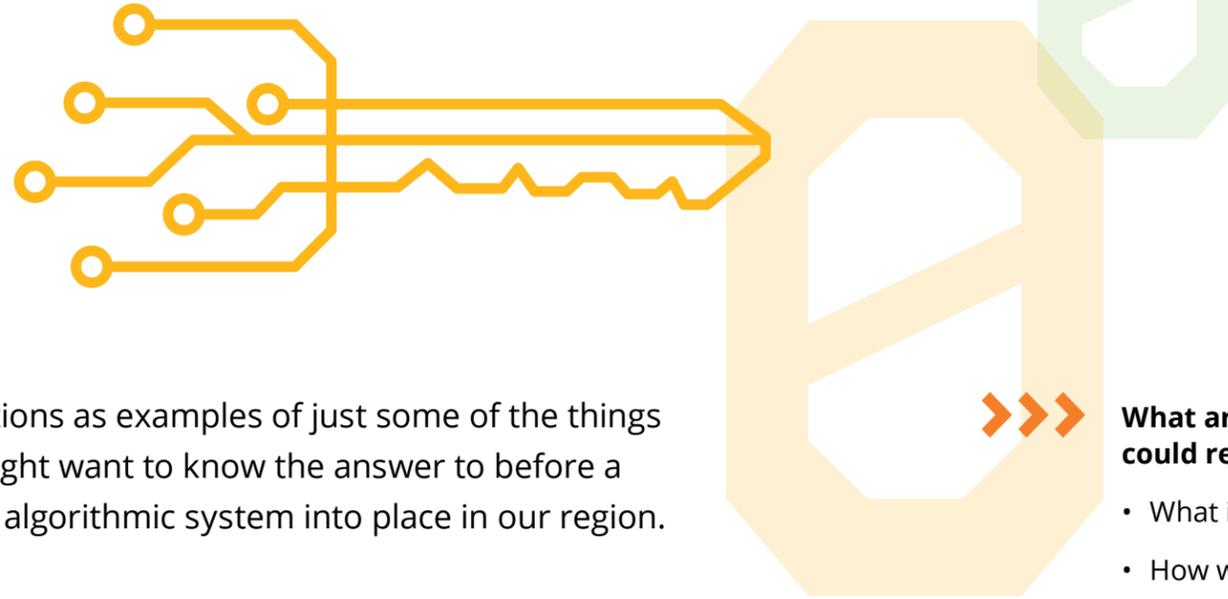
Our Algorithmic Accountability Going Forward

We found a mixed track record of deploying algorithmic systems in our region. Some agencies have done so with an eye toward transparency and equity. Others have not.

With this history in mind, and informed by discussions with residents, government leaders, and experts, the Task Force developed recommendations to help build transparency and accountability in our local governments' use of algorithmic systems.

We believe the public should know more about the use of public algorithms: their goals, how they work, and how they are used. We believe that it is critical that residents be involved in shaping the use of public algorithms in our region so that we ensure they are used for the good of all residents.





Key Questions

We offer the following questions as examples of just some of the things you and your community might want to know the answer to before a government agency puts an algorithmic system into place in our region.

➤➤➤ What is the government agency trying to achieve with this system?

- What is the policy goal?
- Does this goal reflect the values and desires of our community?
- Is an algorithmic system the most effective way to achieve this policy goal?
- Were alternatives considered and what were they?
- Is this system better than the current process or system in place?

➤➤➤ How will community input be sought and used throughout conception, procurement, deployment, and ongoing use of the system?

How will the agency meaningfully engage people from the communities impacted by this algorithm in:

- Deciding whether or not to create or use an algorithm;
- Designing and refining the algorithm; and
- Continuing to use the algorithm

➤➤➤ What are the potential social, racial, economic, and privacy harms that could result?

- What is the worst possible harm that could result from this system?
- How will potential risks and harms be mitigated?

➤➤➤ Who will design the system?

- Is the team diverse?
- How are they seeking community input?

➤➤➤ What data sources are being used in the system?

- How will they mitigate biased data and other common issues with data that exacerbate bias in algorithmic systems?

➤➤➤ Who is using the system?

- What training will they receive to understand the system—and the system's limitations?



Key Questions *(continued)*

➤➤➤ What oversight and scrutiny is there?

- Who is responsible for oversight of the system?
- How will the agency ensure that the system and its data will be used only for its intended purpose?
- Is the system auditable?
- Is there continued evaluation throughout the lifecycle of the system?
- How and when will the public know the results of those evaluations?
- Do any other agencies or entities have any rights to the data or outputs of the system?

➤➤➤ Do people know when and how the algorithm is applied to them?

- Can an individual challenge the result? And how?

These questions require decisions by humans. An algorithm cannot make these value judgments on its own, and the humans who make these decisions or use these systems should not point to technical neutrality offered by an algorithm to gloss over the import of their actions. Human judgments are encoded at nearly every stage of developing an algorithm. Weighing and resolving these competing values is the kind of government action that demands public input and direction.

For more information, visit
cyber.pitt.edu/algorithms





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