Responding to the "Completion" of Predictive Policing in Pittsburgh
by The Coalition Against Predictive Policing, Pittsburgh (CAPP PGH)

*"If you stick a knife in my back nine inches and pull it out six inches, there's no progress. If you pull it all the way out that's not progress. **Progress is healing the wound that the blow made.** And they haven't even pulled the knife out, much less heal the wound. **They won't even admit the knife is there**."*

- *Malcolm X*

In 1995, during a traffic stop, five Whitehall, Brentwood, and Baldwin Police officers piled up on 31-year old Black businessman Jonny Gammage, brutally beating and suffocating him to death after seven minutes of pressure to the neck and chest. This followed a pattern of false arrest and abuse of Black Pittsburgh area residents and led to the City of Pittsburgh's unfortunate distinction of receiving one of the [first equity-based policing consent decrees in the country](). The brutal murder of George Floyd this May under similar circumstances has sparked rage, grief, and demands for action across the country.

As institutions respond, they seem to repeatedly forget that they are not being asked to pay lip service to diversity and inclusion. Institutions are being asked to recognize and repair their role in the murders of Black people - murders caused by institutionally enforced systems of racism in policing, the prison-industrial complex, and the larger carceral state of the criminal justice system in the U.S. In Pittsburgh, Carnegie Mellon University (CMU)'s Metro21: Smart Cities Institute (Metro21) has amplified this system by [funding research]() into so-called "[predictive policing]()" algorithms that have been demonstrated in other cities to [reproduce and amplify racist policing practices](), often without [transparency, oversight or accountability](). Through this academic deployment, CMU, as well as City and County governments, used technology to legitimize racist policing data, used technology deployment to bypass public accountability, and are complicit in upholding a system where Black residents are subject to 65% of warrantless search and seizures, and where 60% of the Allegheny County Jail black in a county that's only 13% black. In the Pittsburgh area, over 3,000 people have recently signed [a petition]() asking CMU to divest from law enforcement and discontinue research into developing tools that will augment lethal force and harm on Black and other marginalized communities. In the wider academic community, 1,400 researchers have signed onto a [letter]() urging the Mathematics community to boycott collaboration with police, specifically naming the role that such work plays in furthering and justifying oppression. On June 23, Santa Cruz became the first municipality to [pass a ban on predictive policing]() for "foster[ing] the exact type of overbearing and racially discriminatory policing that people are protesting against.".

On June 20, [Metro21 issued a statement]() saying that the predictive policing project had been "completed," following [open calls to halt the program]()and thousands of signatures on a student-drafted petition ["CMU: Confront Racist Policing in Our Community."]() Additionally, on June 22, the [City of Pittsburgh announced]() a "halt on any predictive policing programs" in

response to the [Pittsburgh Black Activist and Organizer Collective's](#) demand to ["End the Criminalization of Black People."](#)

This letter addresses the claims made about the project in Metro21's statement, and outlines needed action to prevent the continued abuse of technology against marginalized communities from CMU, the City of Pittsburgh, and Allegheny County.

Responding to Metro21 on Predictive Policing

Metro21 issued their statement in response to a movement they describe as asking for "real and lasting change to address systemic racism, police brutality and longstanding biases." Disappointingly, no such real or lasting changes are detailed in their statement, nor does their statement acknowledge the role of predictive policing technology in upholding systemic racism. In particular, Metro21's response demonstrates that the institute continues to lack an understanding of (a) how race and racism are encoded into and amplified by algorithms in general, and by policing algorithms in particular, and (b) how a lack of transparency and community involvement in algorithmic research jeopardizes the entire stated mission of Metro21 and undermines their efforts to "improve the quality of life for all residents."

Predictive Policing: In Their Own Words

From [Hot-Spot-Based Predictive Policing in Pittsburgh: A Controlled Field Experiment (2018):](#)

Rollout: "We divided all six police zones in Pittsburgh into two halves of equal area and roughly equal counts of historical violent crimes... Beginning on February 20, 2017, we began a pilot period in which we initiated hot spot selection for one of the six police zones in Pittsburgh [Homewood]... The experimental phase of the field study has been running for 16 months (May 1, 2017 through August 31, 2018) and is ongoing."

Operation: "Hot spots from both prediction models were selected every week for each of the six police zones in Pittsburgh, and hot spots were targeted with additional patrols (on foot and in patrol cars) throughout the day and night. P1V crimes were selected as the target crime type for prediction."

Theory of Crime Reduction: "There are several mechanisms through which sending police to high-crime communities can affect the prevalence and distribution of crime. Physical interventions such as stops, searches, and arrests can prevent crime by directly incapacitating potential offenders...Police presence also provides a general deterrence by removing opportunities to commit crime."

From the Researchers' [Original Grant Request:](#)

Broken Windows Theory of Crime: "It is well established that signals of urban disorder (e.g. "broken windows") can lead to or attract criminal behavior that hardens over time... We would like to understand whether a 'cleaner' neighborhood implies a 'safer' neighborhood, both in the predictive sense (a 'dirty' neighborhood may be an indicator of underlying community health and thus may predict future violence) as well as the causal sense (will interventions to make a neighborhood 'cleaner,' such as graffiti removal, reduce crime?)"

Data: "Our approach will integrate information from call data (911, 311, 211, and DHS calls), police data (crime-offense reports, arrests, and gang information), and human services data (including data from the criminal justice system, mental health and substance abuse, and data on high-risk subpopulations such as youths, the homeless, and persons living in public housing)."

Lack of Understanding of Technology's Role in Upholding Systemic Racism:
Metro21's statement and original greenlighting of the predictive policing project demonstrates a fundamental lack of understanding of how [racism is encoded into algorithmic systems](#), such as, for instance, through (a) the data used to train the algorithmic model, as well as (b) the larger systemic biases in the policing system that uses such models (among other potential sources of [bias](#)).

Metro21 claims lack of wrongdoing because their predictive policing model "specifically did not use racial, demographic or socioeconomic data;" however, even if characteristics such as race are not explicitly considered, algorithms can still find "[proxies](#)" for these characteristics within the data they are given (a [problem](#) that is [well-recognized](#) by the algorithmic fairness research community [within](#) and [outside](#) CMU). In Pittsburgh, the city's racist [history of segregation, gentrification, redlining](#), and policing makes it impossible to separate the location and arrest data that predictive policing relies on from information about race. Merely excluding data on individual persons does not remedy the disparate impact such racial bias has on individuals in affected communities. Moreover, predictive policing is grounded in the [discredited broken-windows policing theory](#) and relies on past crime data to attempt to predict future crimes. However, given the [racist roots of policing](#) and [the propensity of Pittsburgh police to disproportionately arrest people of color](#), assigning additional police patrols with the expectation for violent crime puts people of color in the crosshairs of police right where they live, shop and walk.

Even beyond bias from the data itself, policing algorithms make it "[too easy to create a 'scientific' veneer for racism](#)." In part, [the lack of standard operating procedures for its use](#) leads to the possibility that officers can selectively use the technology, allowing for biased officers to heed its recommendations when it confirms their prejudice and ignoring it otherwise — [as was shown to occur with the use of predictive policing technology in Los Angeles.](#) It is thus dangerously naive to expect that the use of machine learning, which reproduces past patterns in data, will avoid the problems of systemic racism in policing. Any approach that does not acknowledge and work to address this racist history, or takes the [dangerously race-blind](#) algorithmic approach advocated by Metro21, is complicit with

the problem of systemic racism in policing and will invariably exacerbate existing inequities, as has been seen in other cities.

Exclusion of the Community Metro21 Purports to Serve:
Metro21's statement reflects an elitist view that researchers at the university know better about what the city needs than its own residents do. In spite of decades of public policy arguing for meaningful community engagement in civic decision-making, Metro21 has consistently blocked members of the greater Pittsburgh community from providing meaningful input into its policing research.

Metro21 failed to provide opportunities for public input despite the fact that this project directly affects the public, and despite selecting a predominantly Black neighborhood in Pittsburgh (Homewood) as a testbed for piloting their predictive policing research in their original work plan in 2016. Then, when the research was rolled out city-wide, it was done so without public announcement or a period for public commentary. In fall 2019, after the algorithm had been in use by Pittsburgh police for nearly 4 years, Metro21 scheduled its first known public event to discuss predictive policing (aside from a committee presentation of work).However, the event, originally open to everyone, was later closed off, with emails sent to community members that they were no longer invited. Shortly afterwards, the event was canceled "due to low attendance." Felicity Williams, a Hill District Consensus Group representative who was one of many Pittsburgh residents "un-invited" from this event, published her exchange with Metro21:

> *"There is no opportunity to hear from those who are most impacted by the uses of this technology, nor any opportunity for the community to learn and receive information about this tool... Shame on CMU for perpetuating systemic inequalities in access to information and education. Shame on CMU for accepting RSVPs only to then turn around and deny them attendance... This is a missed opportunity and failure on the part of the university to be a good community member. I guess the lesson we can all take away from this is that "Smart Cities" are more inequitable cities."*

On June 26, Metro21 is finally holding an information session about its predictive policing technology, but this empty gesture is too little, too late. The event is again only explicitly for CMU students, staff, and faculty members, shutting out members of the communities most likely to be affected by this technology. Without significant change to Metro21's operations, they cannot be trusted to be an engaged partner with the communities their research will impact.

Evasion of Accountability and Lack of Transparency:
To date, there has been no third-party audit of the disparate impact of Metro21's predictive policing technology, despite multiple requests for such audits from members of the CMU community. Without releasing the methodology and data to the public, which Metro21 has continued to refused to do, and without a third-party audit of the impact that this predictive policing algorithm has already had on Pittsburgh's Black communities, the mere

cessation of research funding and an empty promise to "no longer shar[e] data with the police" is inadequate at best and disingenuous at worst. Metro21 claims it ended the predictive policing project in 2019 and terminated its relationship with the Pittsburgh Police Department, yet this program appears on the Pittsburgh Municipal budget for the 2020 Fiscal year, and Peduto's recent response to the Black Activist/Organizer Collective's demands stated that the city is 'halting' predictive policing programs. Without transparency from either side, there is no understanding of how the predictive policing program was used by the Pittsburgh Bureau of Police, whether subjectively as with LAPD, inconsistently (throwing into question the results of the research), nor how that program will be used in the future if a "halt" were to cease.

Metro21 claims that their work 'complied with all university research protocols. This illustrates that university protocols are not developed to ensure public involvement and accountability in research. The predictive policing research was exempted from the university's Institutional Review Board review, as it was not proposed or evaluated as "human subjects research". However, humans *were* impacted by the research, and there needs to be meaningful engagement with community members beyond viewing them as research "subjects" in a laboratory. Metro21 has the opportunity to demonstrate leadership by acknowledging the importance of community involvement in research that impacts communities and working with impacted community members and researchers in the space of algorithmic fairness and justice, such as Data 4 Black Lives, the Algorithmic Justice League, among others. Instead of leadership, they have taken every opportunity to hide behind research protocols that were never designed for predictive modeling research, and at every turn have refused to engage in public audits and public engagement.

Harmful Technology in City and County Government

Lack of Due Public Process from City Government
Despite monthly meetings between City of Pittsburgh Chief of Staff and the Executive Director of Metro21, the existence of predictive policing bypassed any public procurement request (typical for using software such as predictive policing), council approval, or approval from the Citizens Police Review Board, which typically reviews changes to operating policies to the Pittsburgh Bureau of Police. This type of closed-door use of technology is a dangerous side-stepping of democratic and transparent processes, meant to give residents an avenue for accountability. Such academic partnerships should not function as closed-door, secret deployments of technology especially when faced with possible resident backlash. Beyond the technologies themselves at times being harmful, these projects have all been created and implemented behind closed doors, without giving any power, or even information, to the communities affected by them. Such behavior has continued with closed-door discussions of the development of the Mon-Oakland connector, another project that has drawn fierce criticism from residents, as well as closed-door discussions of projects such as Amazon HQ2. The Economic Justice Circle of Pittsburgh in last year's budget hearing said in a release that residents are "excluded from setting budget

priorities" - which is exemplified in the current refusal to meet Black organizer demands to defund the police and ["create a community lead benefits agreement to implement racial equity in Allegheny County to include housing, transportation, health care, and employment from resources from defunding the police."](#) As Pittsburgh continues to [gentrify and displace](#) its Black residents, as well as [perpetuate the worst living conditions for Black women](#) in the country, the City needs to do more than convene task forces. Real power and voice must be given to residents, and a community-lead benefits agreement would be one step in empowering communities to make their own decisions to ensure their well-being and safety, rather than enforced top-down.

Harmful Technologies at the City and County Level

As stated before, the [Black Activist Organizer Activist demands](#) of the City and County includes the demand to End the Criminalization of Black People:
- Stop surveillance, facial recognition collection, and targeting of Black organizers, activists and community members
- End Predictive Policing, stop location monitoring, disclose all bids on surveillance and probation surveillance. Disclose current and past surveillance initiatives

Despite [facial recognition bans](#), [surveillance oversight bills](#), and the [first ban on predictive policing](#) in other municipalities, the City of Pittsburgh and Allegheny County is left with a legacy of harmful technology without check. An [extensive camera network](#) deployed by Allegheny County District Attorney's Office has drawn worry and criticism about [civil liberty, privacy, and cybersecurity concerns](#). Pennsylvania drivers are left vulnerable to [facial recognition searches,](#) and [Baldwin Borough and Castle Shannon](#) actively have police partnerships with Amazon Ring Doorbell. Activism in Pittsburgh has [long been the target](#) of surveillance and the use of technology without transparency or oversight exacerbates potential abuse of power in responses to free speech.

Needed Changes from Metro21:
It is unacceptable that this project was only "completed" after the high profile, horrific murders of Black people. Such injustices are a part of the long legacy of policing in Pittsburgh, and predictive policing has invited further violence into those communities. Needed changes to repair broken trust with the Pittsburgh community would include at minimum:

1. Revoke PDP's access to predictive policing algorithm, models, and other tools derived from the research (i.e., not simply the "data"), and if not possible, publicly request that they cease and desist the use of all algorithms, models, products, and policies derived from that research project.
2. Fund and organize an independent, third-party audit to evaluate the impact of predictive policing on Pittsburgh's communities, particularly its Black communities.

a. Such an audit might follow the recommendations of Metro21's own parent organization, MetroLab, on how to "First, Do No Harm", or the AI Now Institute's recommendations for an "Algorithmic Impact Assessment". Neither of these guidelines---which should have been known to Metro21 and the AI researchers involved---appear to have been followed with the predictive policing research.

3. Reform Metro21's operation to ensure that it meaningfully upholds its relationship to the community. This may include:
   a. Create requirements, as a condition of funding research that ensures that researchers meaningfully engage with members of potentially impacted communities as equal partners in the research throughout the research lifecycle---including the ability to refuse that a given research project not be continued.
   b. Graduate student researchers have called for universities to develop and adopt requirements for community-engaged research in AI, as the medical research community has begun to adopt. The IRB was designed to protect research subjects, and has not evolved to grapple with second-order harms to impacted communities from data-driven technology research (as evidenced by their approval of this research).

4. Implement a proposal for how CMU might create such community-engagement requirements, designed by student organizations. This action is both imperative and feasible.

5. Require a separate project charter for each research project, rather than allowing a single Memorandum of Understanding (MoU) created between Metro21 and the City of Pittsburgh to cover all future partnerships with City agencies.

Needed Changes from the City of Pittsburgh and Allegheny County to address harmful technology development:

These changes are not the only policy changes needed - the Black activist organizer collective has already laid out such demands. We lay these specifics out with the understanding that technology as policy implementation is often used to side-step public accountability after civil liberties are won.

1. A city- and county-wide ban on the use of predictive policing technologies.
2. A city- and county-wide ban on the use of facial recognition technologies.
3. A mandatory public process for approval of technologies used in the public sphere, taking place during conception and before any development or deployment. This process should in particular center the voices of those most affected by the relevant technologies — e.g., in policing technologies, the voices of Black and Brown members of Pittsburgh communities. This would adapt the Seattle Surveillance Ordinance for all community-impact technologies.
4. Mandatory transparency and oversight of tech-based decision-making systems used by public agencies during development and deployment, with transparency and

public data release, and continuous evaluation, again centering voices and input of the most affected communities, referencing [AI Now's Algorithmic Accountability Toolkit](#).

5. [Follow Black organizer demands to "create a community lead benefits agreement to implement racial equity in Allegheny County to include housing, transportation, health care, and employment from resources from defunding the police."](#)

6. Implement a more transparent public process with required online notice a week in advance of public meetings, with no limit on public comment period as a part of a revised, more transparent Open Meetings Act. Currently, the Sunshine Act only requires public notice through publication in print, and public comment periods are restricted at will.