Democratizing Air Quality Data

WHY

Ambient air pollution causes **4.2 million deaths per year**.

Every **20 seconds** at peak hour, an airplane lands directly over East Boston and Winthrop, releasing **harmful ultra fine particles**, putting the communities at high risk with **increased asthma rates**.

Winthrop

East Boston

Logan Airport

Nearest air quality monitoring station

Air Pollution Sources (Landing Strips and Roadways)

The nearest air quality monitors are at least **5 miles away** and are very **sparse**. While their data is very accurate, it is hard to access and is gathered too far to provide insight into East Boston's local air.

NOW

Existing stations are:

Large
About 1/4 of a football field

Expensive
>$500,000 to install and maintain

Existing data is:

Hard to Access
AQI metric is most easily accessible, but obscures exposure relevant data
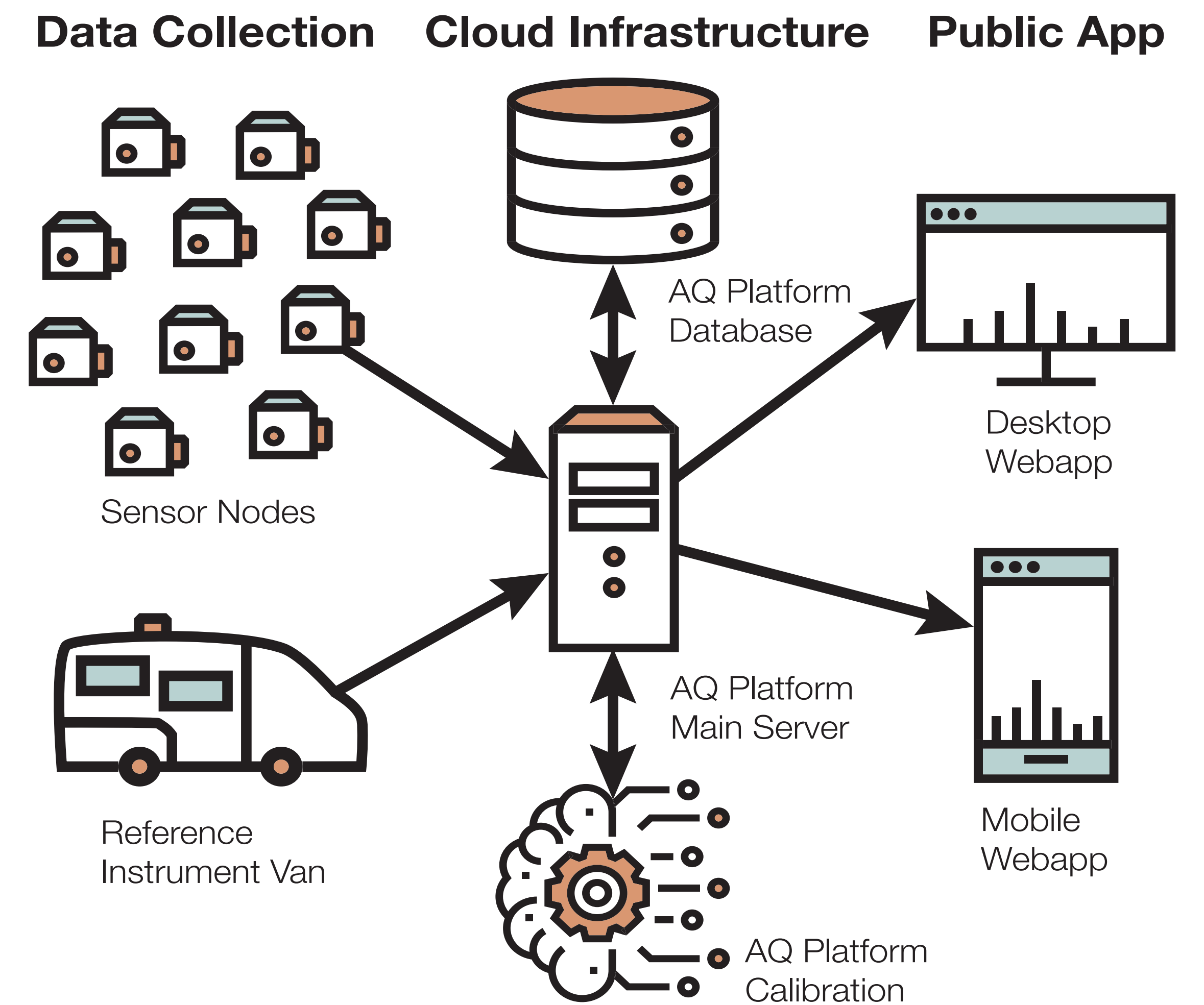
Not Actionable
Not enough time and spatial resolution for real-time decisions

no data available

WHAT

To empower citizens to make real-time health decisions about the air they breathe, we need to collect and analyze data with **more time and spatial resolution.**

We built a dense **pilot network** with Aerodyne's small, low-cost air quality sensors and an Olin reference van.

Data Collection

Sensor Nodes

Reference Instrument Van

Cloud Infrastructure

AQ Platform Database

AQ Platform Main Server

AQ Platform Calibration

Public App

Desktop Webapp

Mobile Webapp

NEXT

The data is publicly available through an accessible, real-time interface. Citizens can stay **informed** and **act** on data. Researchers can **manage their own sensor networks.**

Air Inc. will leverage the app to engage and activate the community

QuantAQ, a startup, will continue the platform's development and increase its capabilities

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