



LoSIMS

Local-scale Stormwater Infrastructure Monitoring System

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Problem with existing systems

Negligence

Flood warnings are routinely ignored due to historical inaccuracy

Low granularity

Existing river-level, rain-intensity, and storm drain monitoring systems are too broad to inform localized flooding



Roadmap



Product
design



Prototype
demo



Project
siting



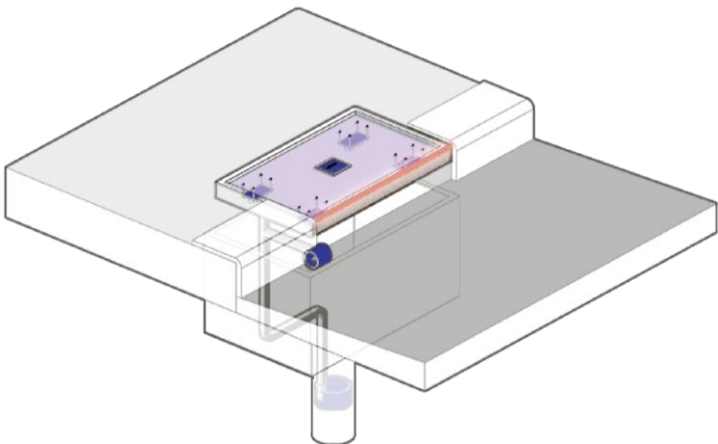
City-community
interface



Future
considerations



Product design



Chip + battery

Cellular transmitter

Integrated smart cover

LED light strip

Ultrasonic sensors

Sidewalk

Shoulder

1st flow meter
+ turbine generator

Wire connections

Drain basin

Pipeline

2nd flow meter
+ turbine generator





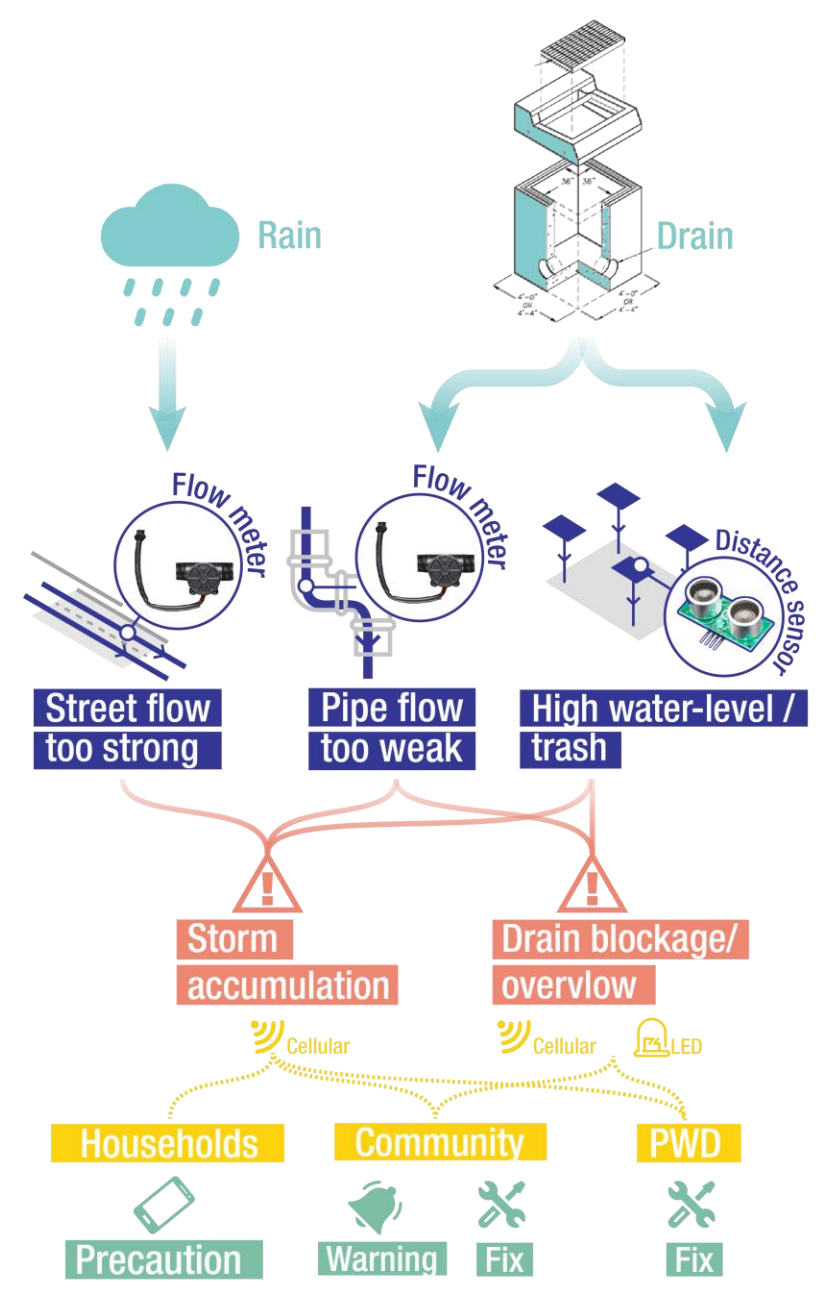
What to sense

Sensors

Results

Notification

Action





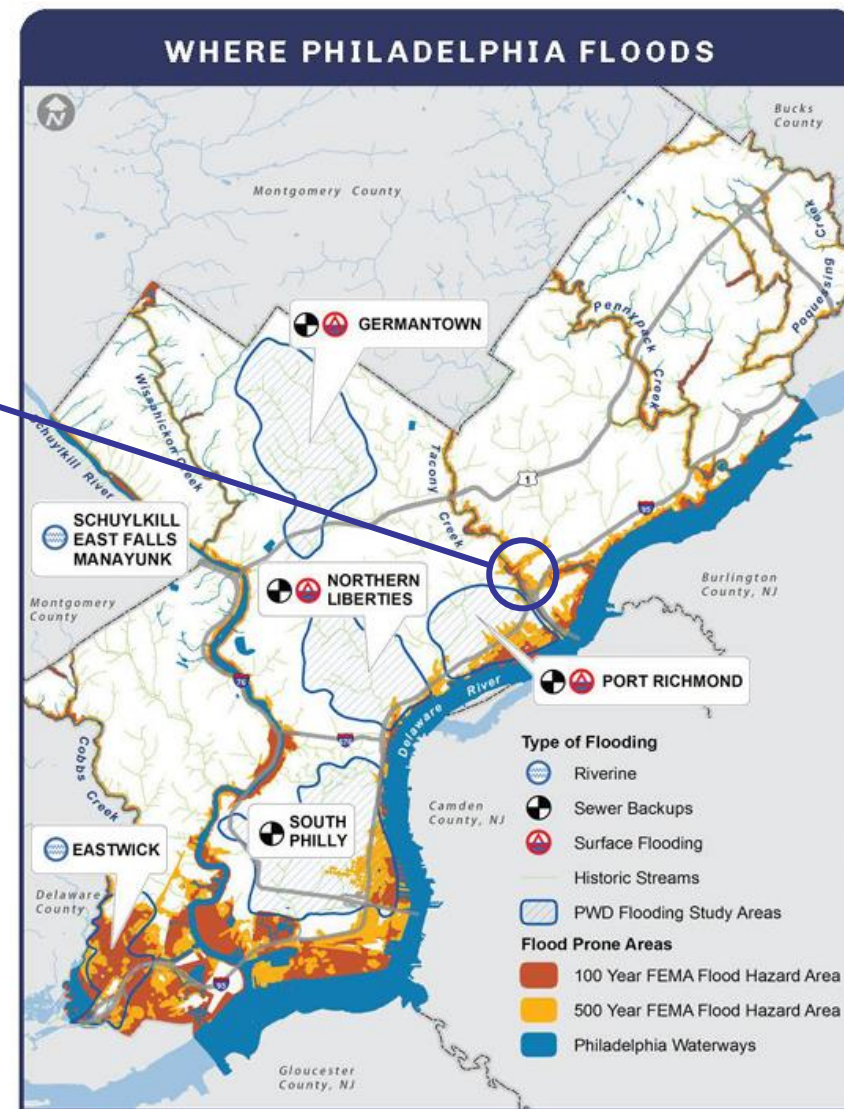
Project siting

Where to put LoSIMS

XXX

Pilot program

XXX





City/Community Interface



LoSIMS

Search drain

Home

Dashboard

Problems

Tasks

Dispatched

Report

Community

Talk to site

E. Hunting Park St #3

Blockage awaiting cleaning

Storm accumulating

Type A

1200 E. Hunting Park Ave

Frequently blocked last 3 months

Timeline

Assign task

Flow meters

Flow discrepancy

Surface mapper

Task dispatching

Communication

Task List

E. Hunting Park St #3

22nd & South #14

2nd & Spring Garden #10

Caster & N. Delaware #2

Falls Bridge #5

Admiral Peary Way #21

Penn's Landing #20

34th & Grays Ferry #19



Future considerations

Oversight

- What are the realistic operational constraints for active municipal management and maintenance?

Community

- What might engagement/education with local community groups look like?
- How will residents interact/respond to a smart-drain system on their block?