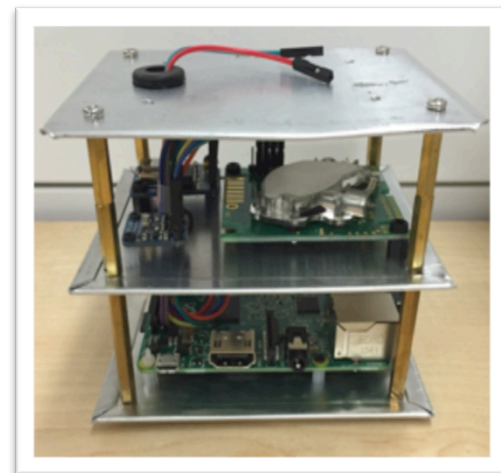# Common Sense Metro DC

PROJECT OVERVIEW

GW, DOEE & OCTO Partnering for a Smarter, more Sustainable DC

COMMON SENSE METRO DC

- Scalable, low cost sensors provide real-time, neighborhood level monitoring

- Avanss & Luftsinn Sensors monitor CO, CH4, NO_2, Ozone, CO_2, temp & pressure at 1 & 8 hour intervals

- Goal is to deploy over 500 sensors across 200 Environmental Sensor Hubs (EHS), city wide

- Data stitching analyzed by GWU's Multi Service eXchange (MSX) open source infrastructure platform

- That data is shared w/ other academic institutions to identify best practices for data/security & mgmt

Luftsinn sensor core deployed in the Bonanza Creek Experimental Forest, *June 2016*

OPPORTUNITIES

Implications for environmental sensors at the neighborhood scale

SUSTAINABLE = DC

In just one generation—20 years—the District of Columbia will be the healthiest, greenest, and most livable city in the United States.

SUSTAINABLE DC TARGETS

TRANSPORTATION

GOALS	TARGETS
Improve connectivity and accessibility through efficient, integrated, and affordable transit systems.	Increase use of public transit to 50% of all commuter trips.
Expand provision of safe, secure infrastructure for cyclists and pedestrians.	Increase biking and walking to 25% of all commuter trips.
Reduce traffic congestion to improve mobility.	Reduce commuter trips made by car or taxi to 25%.
Improve air quality along major transportation routes.	Eliminate all "unhealthy" air quality index days, including "unhealthy for sensitive groups."

CLIMATE & ENVIRONMENT

GOALS	TARGETS
Minimize the generation of greenhouse gas emissions from all sources.	Reduce greenhouse gas emissions by 50%.
Advance physical adaptation and human preparedness to increase the District's resilience to future climate change.	Require all new building and major infrastructure projects to undergo climate change impact assessment as part of the regulatory planning process.

Opportunities

AIR QUALITY

- Better estimation of air quality from neighborhood scale activities (construction, demolition, events)

- More efficient deployment of air quality staff for idle vehicle citations

- Neighborhood scale analysis of bad air quality days

CLIMATE

- Impact of emissions from neighborhood scale activities

- Better understanding of air quality and temperature impacts on carbon emissions

- Neighborhood level calculations for urban heat island monitoring

DEMONSTRATION

Environmental Sensing Hubs & the Luftsinn Sensors

THANK YOU

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