COOL NEIGHBORHOODS NYC:
Protecting NYC from the Impacts of Extreme Heat

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STORMS ARE NOT THE ONLY CLIMATE HAZARD WE MUST PREPARE FOR

TEMPERATURE

# of days above 90°F TRIPLE by 2050s

NYC SUMMERS LIKE BIRMINGHAM, ALABAMA
Indoor temperatures can be 20°F higher than outdoor temperatures without AC.

NYC heat-mortality rates are associated with poverty and poor housing quality.

Residential AC prevalence in NYC is unequally distributed.

On average, each summer in NYC there are:
- 110 direct and indirect deaths on heat wave days
- 350 over the entire warm season (May-Sept)
Evaluated the best available science and identified best practices for heat mitigation and adaptation.

Two committees focused on:
- Evaluating heat impacts in NYC
- Evaluating the best strategies, investments, policies and programs to adapt NYC and benefit its most at-risk residents

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Heat risk varies by neighborhood. 3.4 million people live in high heat vulnerability census tracks. Many don’t have access to air conditioning.

### June 2017 Launch of Cool Neighborhoods NYC

- **Targeted tree planting in high HVI areas**
- **Indoor and outdoor temperature monitoring**
- **Legislation requiring white roofs and green roofs**
- **Climate risk training for trusted messengers**
- **Targeted cool roof implementation in high HVI areas**
- **Advocacy on energy assistance programs**
INVESTMENT IN TARGETED TREE PLANTING IN KEY NEIGHBORHOODS

**Street Tree Planting**
- Corner of Post Avenue and Academy in Manhattan, 2008
- The same corner post-planting in 2009
- The same corner in 2016, five years after planting

**Forest Restoration**
- Willow Lake before restoration contract
- Willow Lake after restoration contract

**Park Trees**
- Herbert Von King Park Picnic Area - no shade
- Brookville Park picnic area shaded by park trees
STRATEGIC IMPLEMENTATION OF NYC COOL ROOFS SUPPORTS PUBLIC HEALTH

- Over 10 million sq.ft. of white roofs to date
- Reduce building energy use and waste-heat from AC
- Reduce local temperature via clusters of light-colored surfaces
STRATEGIC IMPLEMENTATION OF NYC COOL ROOFS

NYCHA – Albany Houses, Crown Heights, Brooklyn - 2016

NYCHA – Albany Houses after roof coating in 2018
LOCAL LAWS 92 & 94 REQUIRE BUILDINGS TO ADDRESS HEAT HAZARDS

- Require all new buildings and those undergoing major roof renovations to be covered with solar panels, green roofs, or both

- Expand the cool roof requirement of LL21 to cover sloped roofs as well as flat roofs

- Expect over 1M tons of GHG emissions reductions by 2030 and up to 1M additional gallons of stormwater managed per year
AIR TEMPERATURE MONITORING

~500 temperature monitors in 14 neighborhoods

Collect baseline data to evaluate policy interventions

Produce block level estimates of temperature variation across the city

Explore temperature differences between and within boroughs.
INDOOR TEMPERATURE MONITORING

- Assess the relationship between outdoor and indoor air temperature
- Measurements at 67 residential apartments and 8 public libraries (cooling centers) in medium and high HVI neighborhoods
HEAT VULNERABILITY AND INEQUITY

In NYC, most victims of heat-related deaths are exposed indoors

- From 2008-2011, none of decedents had a working AC

Cost is a barrier to AC ownership and use

Fans alone may not be safe

- From 2008-2011, 17% of decedents used fans

About 50% of “vulnerable” people prefer to stay home, even when they cannot stay cool there

Health and weather reporters and media images emphasize outdoor risk
Conducting outreach and training for home health aides, community health workers, “Buddy” volunteers and the clergy

- Enlist and fund partners in building heat resilience.
- Prepare New Yorkers to identify and address early signs of heat illness.
- Populations served:
  - Aging clients (65+ years, 11% of the population, 40% increase expected)
  - The homebound and those with physical and mental health issues
KEY CHALLENGES

- Perception of heat risk as a nuisance and future threat rather than a significant and current public health issue
- Perception of air conditioning access as a “luxury”
- Funding constraints
- Political shifts: priorities and focus
- Lack of support or momentum for regulatory/policy approaches
- Develop data-driven plans, policies & programs that use climate science, environmental and social indicators, & health outcomes data.

- ID opportunities to put budgets to work in service of vulnerable people, first.

- Reassess existing programs to derive more social value from priority investments.

  Basic rights (clean environment, quality housing) are NOT the same as “amenities.”

- Engage people in preparedness efforts. An emergency is not the time to train people. Enlisting “Buddies” as we face chronic events, will lead to more resilient communities.