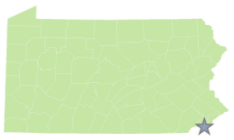
Adapting to Climate Change

ECONOMIC DEVELOPMENT AND CLIMATE ADAPTATION PLANNING



CHESTER, PENNSYLVANIA, EPA REGION 3

Chester, Pennsylvania, is no stranger to damage caused by inadequate protection from coastal hazards. On September 5, 1971, more than 11 inches of rain fell on Montgomery and Delaware counties, leading to at least 12 deaths. In Chester, flooding swept across Eyre Park destroying nearly a hundred homes and forcing 300 residents to relocate at an estimated cost of $17.6 million (1978 dollars). Eventually, the city built a levee to protect parts of the city, but in 1999, flooding from Hurricane Floyd breached the levee causing over $1 million of damage to the nearby school.

Figure 6: Homes located in Chester, Pennsylvania.

Numerous vacant, abandoned and/or contaminated properties along the Delaware River remain vulnerable to flooding, especially as climate change presents new threats. The Chester waterfront area presents an opportunity to explore options other than traditional industrial or commercial development. Opportunities could include redevelopment or non-development that may increase the city's resiliency to sea-level rise and increased precipitation events.

EPA's Land Revitalization Team is providing technical assistance to Chester to evaluate real estate market conditions and collect examples of land use strategies that can promote economic development, increase green infrastructure and reduce vulnerability to climate change. The project was initiated in December 2013 and was completed in September 2014.

In May 2014, EPA conducted a site visit to meet with local stakeholders and planning staff and to tour the areas that may be vulnerable to climate change and where redevelopment could improve climate resilience. EPA's technical assistance team has developed a report that provides national examples of (a) relevant regulatory standards, incentives and guidelines that Chester may consider as it updates its zoning and subdivision regulations, and (b) national examples of non-regulatory projects, programs and approaches that may be helpful to the city.

The report focuses on examples drawn from areas outside the Pennsylvania, New Jersey and Delaware region, as the approaches used here are already familiar to local stakeholders. However, it also includes some very recent examples from the New York region based on intensive research on improving climate resilience following Super Storm Sandy. The report includes examples: from distressed cities with significant inventories of public lands; that are relevant to the types of redevelopment opportunities available in Chester; of different levels of flood risk mitigation required by new construction; that allow for a climate sensitive use of the lower floors of buildings on vulnerable lands (e.g., parking); that are related to repurposing land for flood absorption; and that can be graphically illustrated to improve public understanding.

For more information, please contact Dave Campbell, EPA Region 3, campbell.dave@epa.gov.

LESSONS LEARNED

- Regulatory approaches to improve resilience to increased creek and coastal flooding often involve tax rebates, storm water fee reductions or grant funding to offset added development costs related to installation of site or building-based resiliency features, including porous pavers and asphalt, bioretention and vegetated swales.
- Significant opportunities may exist to reduce stream flooding risk through redesign of upstream parks, similar to projects implemented in Fargo, Tulsa, New York, and New Orleans.

PLANNED POST-TECHNICAL ASSISTANCE ACTIVITIES

- Revision of flood plain regulations to better align with the Federal Emergency Management Agency (FEMA) Community Rating System (CRS) criteria.
- Evaluation of best practices in home and land swaps to remove population from flood risk areas.