

RECOMMENDATIONS

REGIONAL ACTIONS



RAISING EDGES/SHORELINES: LEVEEES & FLOOD BARRIERS

Study the feasibility of both a continuous levee and a neighborhood-specific levee to protect against future flooding.

A levee from the late 20th century was built to protect Chester from Chester Creek after the floods of 1971. However, that levee has easily been breached by other flood events, including an event in 1999 from Hurricane Floyd. Since then, no future plans have been made for permanent levees or berms along the Delaware River or along the creeks, which are also susceptible to flooding. Studies should be conducted to evaluate the efficacy of a levee along the Delaware River, which would ideally connect downstream with any studies for Marcus Hook and Trainer. A levee along the Delaware River would be instrumental in protecting industrial facilities from flooding, which are typically located along the waterfront in Chester. Shoreline hardening and levees are costly, so strategically locating them will be critical in any first step and ensuring they have adaptive capacity will be key as climate projections change over time.

Meanwhile, more local barriers should be studied along Chester Creek, where flood models show flooding of some residential areas and into some existing open spaces like Deshong Park. Smaller levees or berms that account for current flood predictions may be easier to implement; however, careful study will be needed to evaluate the benefits against any incidental risks downstream.

» See: *City of Chester Vision 2020 Climate Adaptation Planning Elements*

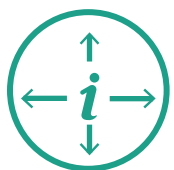


RAISING INFRASTRUCTURE

Identify strategic areas for raising infrastructure.

Costs to raise infrastructure can be prohibitive. The City should strategically identify a few key sites, infrastructure, and facilities vulnerable to flooding for raised protection, alongside sites that may be designed in their current condition to accommodate floods (like Subaru Park or other open spaces along the waterfront).

Special consideration should be given to the low-lying, local CSX rail lines as freight trains often store hazardous chemicals. Raising portions of the transportation infrastructure that are flood-vulnerable can also begin to work in tandem as a localized levee/berm. Further consideration is also needed for specific facilities and equipment, which need to be elevated or otherwise protected. See the policy page on page 178 for further detail on industrial recommendations.



CENTRALIZATION OF CLIMATE RISK INFORMATION

Establish a public, centralized platform to integrate information across City agencies and industry.

A designated clearinghouse that collects all climate-related information and tracking, including emergency management and evacuation responses, from all City agencies would allow Chester to monitor flood risks and ensure a coordinated response in the face of an emergency. Information from industrial facilities should also be integrated, as they have more up-to-date information on pollution levels, accidents, and any other relevant information. Hosting this information on a public website allows residents to access accurate, real-time information before, during, and after any incident.





NATURE-BASED SOLUTIONS

Consider existing parks and vacant open spaces for retrofitting and implementing larger interventions.

While there are no current or proposed nature-based solutions (NBS) in Chester, there are both existing assets and currently vacant spaces that would be suitable for larger interventions. The Chester Riverfront and waterfront Subaru Park have the potential to be designed to accommodate flooding and stormwater, while vacant land adjacent to the flood-susceptible Chester Creek can be considered for land conservation or transformation into a wetland. Other sites previously identified for interventions include tidal wetlands at the mouth of Crum Creek.

Meanwhile, at a more local scale, NBS also include interventions such as green stormwater infrastructure installations like rain gardens, depaving, and tree planting. A comprehensive evaluation of appropriate NBS at the local and regional scale can begin to address current and future flood risks.

» See: *A Natural Heritage Inventory for Delaware County Pennsylvania (2011)*, *City of Chester Vision 2020 - Climate Adaptation Planning Elements*



IMPROVED CONNECTIVITY

Continue implementing previously identified trail connections and support the expansion of multimodal connectivity.

Continuing to develop, maintain, and improve connectivity of the East Coast Greenway (ECG) is key to linking Chester to a larger regional network and to its neighbors, Marcus Hook and Trainer. Improvements and future ECG trails should consider additional tree planting to create a comfortable, shaded experience as well as green stormwater infrastructure projects to help mitigate flooding. The Chester Creek Trail-ECG Connector is another priority, as this north-south connector links the ECG north up to the Chester Creek trail system. This connector runs downstream along Chester Creek from Incinerator Road into Crozer Park and across the creek into Deshong Park, before terminating at the ECG. Alongside this trail connection, improvements should simultaneously be made at Crozer and Deshong Parks to create a connected system of trails and open spaces.

Other improvements could include safe crossings over Route 291 (3rd Street) to better connect Ethel Waters Park and the ECG, and revitalizing the Concord Road bridge and underpass. Overall, a better and more connected multimodal system with inter-neighborhood trails and greenway systems can provide access to recreation, improve neighborhood social interaction, and create opportunities for green stormwater infrastructure programs. Flooding and damage to streets can also make emergency access and evacuation difficult; enhancing street connections can also help reduce risk by adding redundancy.

» See: *Delaware County 2035 Open Space, Recreation, and Greenway Plan (2015)*