The torrential rain in Houston would have caused bad flooding no matter what. There’s no question about that. But it’s also true that Houston’s flood control efforts have been badly managed. Houston failed to learn a key lesson from Katrina: the most important disaster response is done years in advance through risk mitigation. Not only did Houston fail to plan for anything as bad as Hurricane Harvey; it hasn’t taken seriously the lessons of its own repeated floods within the past thirty years.

Flooding is no surprise in Houston. For instance, two floods in 2015 and 2016 killed a total of 16 people and caused a combined $1 billion in damage. Houston’s geography — flat and only fifty feet or so above sea level — makes it flood-prone to begin with. But bad urban planning has made things worse, as the Texas Tribune explained in a story last year,

> “Scientists, other experts and federal officials say Houston’s explosive growth is largely to blame. As millions have flocked to the metropolitan area in recent decades, local officials have largely snubbed stricter building regulations, allowing developers to pave over crucial acres of prairie land that once absorbed huge amounts of rainwater. That has led to an excess of floodwater during storms that chokes the city’s vast bayou network, drainage systems and two huge federally owned reservoirs.”

For instance, the “Katy Prairie northwest of Houston was once about 600,000 acres of flood-absorbing land; recent development has reduced it to a quarter of that capacity.”

As development has destroyed those natural flood protections, the city has added vast amounts of impervious surfaces in the form of roads, buildings, and parking lots. Those surfaces immediately add to the gush of water in the city. Local flood control officials pooh-poohed the importance of this kind of flood protection and concerns about impervious surfaces. The city did try banning development in floodways, but retreated in the face of lawsuits.

As is often the case, flood planning has been based on some idea of the “normal” flood, with eyes closed to the reality of more serious events. The Houston Chronicle reported a year ago:

> “Until the 1980s, engineers designed pipes and roadside ditches to capture a ‘three-year flood,’ a relatively modest storm, said Andres Salazar, managing director of water resources at Walter P. Moore and Associates, an engineering firm that designs drainage projects for the city.”
>
> “Today, engineers design for the 100-year flood – about 13 inches of rain over 24 hours on any spot in Harris County – which they calculated by running statistical analysis on about 150 years of rainfall data.”
>
> “But once-in-a-century storms have hit eight times in the last 27 years. Rainfall in the northwest part of the county on Tax Day 2016 qualified as a once-in-a-millennium storm, according to statistical models.”

You have to wonder a bit about a place where the longtime head of the flood control district says things like this: “I’ve heard the members of the public say they never want their streets to flood, and they don’t want their houses to flood. That’s just unrealistic.”

Whether for that reason or not, the state has failed to fund other types of flood control infrastructure like reservoirs, and the feds have shown no interest in filling the gap. Infrastructure efforts creep along, as they did in New Orleans before Katrina. From the *Houston Chronicle* again:

> “Five projects were authorized between 1986 and 1990 with plans to widen some 60 miles of bayou and build on their banks 11 new basins, covering about 1,500 acres. One project, Sims Bayou, was finished in 2015. It’s the only one. A project on Greens bayou is 5 percent complete.”

The flooding in Houston is terrible, and I’m sure it would have been a serious problem no matter what. But Houston apparently failed to learn a key lesson from Katrina or even its own past experience: Plan ahead, because soon or later the worst will happen.