Questions and Answers from the Sept. 2, 2021 CTP Webinar: Risk Issues with Highway Sound Barriers

Do any states have regulations to require flood consideration in erecting sound walls, or do these structures live in their own isolated DOT worlds?

I have never seen sounds walls and flood regulations combined at a state level. There may be a local jurisdiction building code that incorporates this issue, but nothing I am aware of.

Do you believe we've got used to designing to handle small-medium storms, but without respecting larger storms and their conveyance/waterways?

Definitely, just looking at the impact of Hurricane Ida last week, it is evident our existing infrastructure lacks capacity. The problem will only get worse as development and environmental conditions continue to change.

How does someone determine what 2 feet of freeboard above 500-year floodplain is?

Great question because it relies on a good understanding of the 500-year floodplain inundation depth. Harris county is redoing their mapping, which will help. But, other localities?

Lessons learned are so important. What similarities exist between Bolivar and Grand Isle that was significantly impacted by Ida. Curious about Dr. Brody's thoughts on that example specifically.

The comparison demonstrates the importance of coastal protection strategies, especially along the Gulf coast. New Orleans built a very successful structure-based flood risk reduction system that leave Grand Isle out. The USACE is contemplating a coastal storm surge barrier for Galveston (has been since 2008) to protect not only the island, but the entire region including Houston. If we don’t think regionally and systematically on flooding, we will inevitably come up with the wrong answer.

How did you communicate to manage expectations? e.g., cleaning catch basin/intakes won't necessarily protect them in large storms.

I like the idea of using data analytics to estimate cost savings of different mitigation strategies. Doing this for keeping debris out of drains may show a lot of benefit for small-medium storms and maybe less for large ones. The savings in all cases would far exceed the effort or costs, but would modulate expectations for extreme events.

How do you reasonably project a 10,000-year storm? Seems unrealistic of the Netherlands.

Very good question. See: Ten Brinke, W. B. M., Bannink, B. A., & Ligtvoet, W. (2008, August). The evaluation of flood risk policy in the Netherlands. In Proceedings of the Institution of Civil Engineers-Water Management (Vol. 161, No. 4, pp. 181-188). Thomas Telford Ltd.

Are there any plans to use the buyer beware date in future flood map revisions?

None as of now. FEMA flood maps will remain an H&H endeavor that will not bake in statistical losses.