RMS was commissioned to develop a Risk and Resilience Framework for DelDOT. The purpose: to provide an objective process to help enable DelDOT's leadership team to identify, quantify and manage the risks to its network within the context of its overarching priorities and goals. The framework addresses the iterative and continuous nature of the process of building resilience. It explains how the risks must be quantified by a range of means, and ultimately measured against a well-defined set of tolerances, or resilience targets, on an ongoing basis.

The efficacy of the Risk and Resilience Framework has been illustrated with a specific case study. That case study applies the risk quantification methodology to the risk presented to Delaware's State Route 9 from hurricane induced storm surge damage.

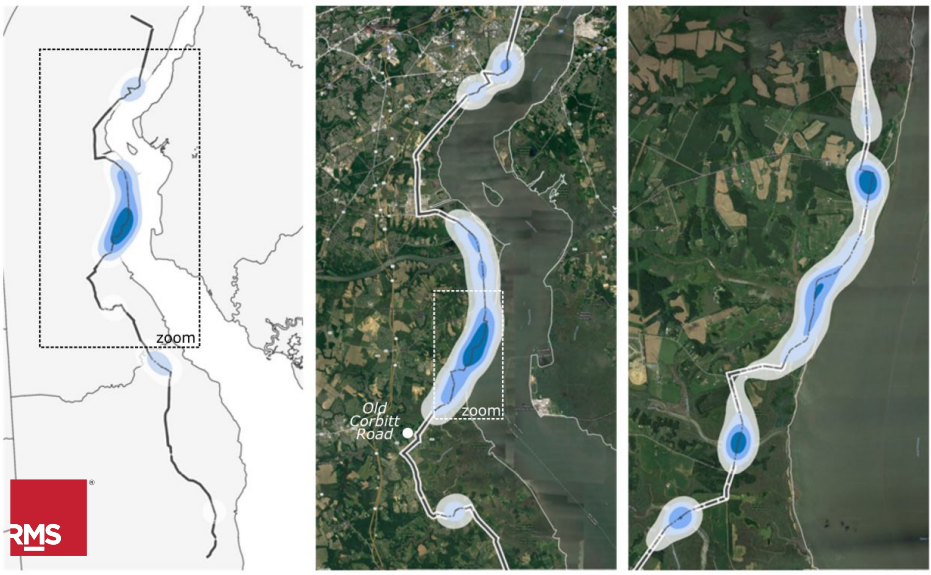

FIGURE 1 STORM SURGE MAP OF AVERAGE ANNUAL LOSS (AAL) FOR SR9

In this technical case study example, a range of outputs from RMS probabilistic storm surge models are used to quantify and communicate the potential for damage to SR9. Outputs include probabilistic Exceedance Probability curves, which describe the potential for damage across the full range of frequency and severity, as well as deterministic scenario analyses, and relative risk maps of the road.

Figure 1 illustrates one of these maps, showing three progressive zooms of the relative Annual Average Loss (in USD) to DelDOT infrastructure in the area around Old Corbitt Road. Figure 2 shows an example exceedance probability curve. It shows how much of SR9 will be damaged at various probabilities. Insightful risk metrics such as these help to support cost-benefit decisions for resilience-building investments – under both present and future sea level rise scenarios.

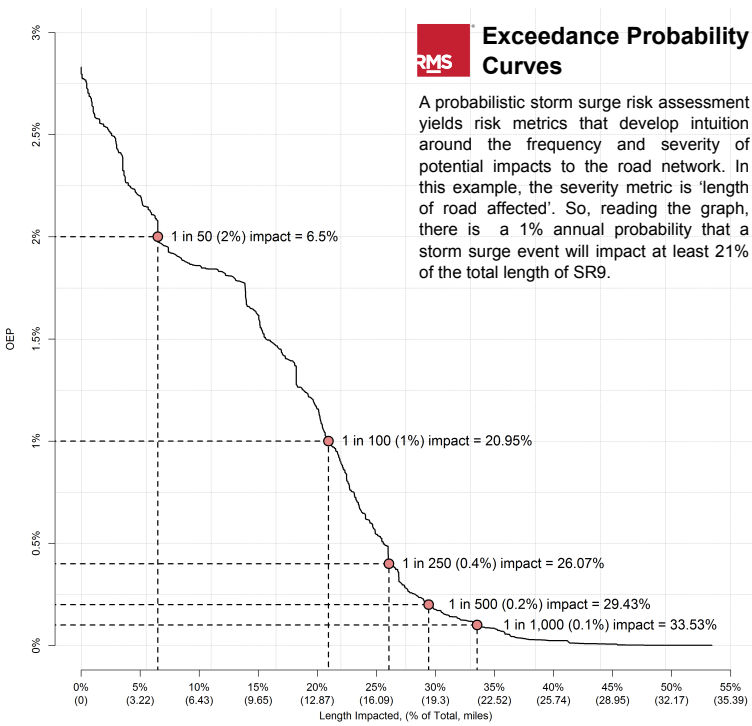

FIGURE 2 EXCEEDANCE PROBABILITY CURVE FOR IMPACT TO ROAD NETWORK FROM STORM SURGE