

# Flooded Road Safety

Motorists often underestimate how deep water is and how quickly it can rise.



## SOLUTION BENEFITS

- Detect and monitor real-time rainfall and rising water conditions around the clock
- Activate flashing beacons and warning message signs
- Stop vehicles driving through flood with automatic road barrier gates
- Send automatic alerts and detailed notifications to key personnel and emergency responders
- Publicly display real-time road hazard and closure data on the Web

## Improve public safety with automated flooded roadway warning systems

Flooding is the leading cause of severe weather-related deaths, and over half of all flood-related drownings occur when a vehicle is driven into hazardous flood water. Ironically, many drivers rescued from flood waters report that they were in a hurry to get home, to safety, as the reason for attempting to drive through a flooded roadway.

**6 INCHES**

of fast-moving water can knock over and carry away an adult



**12 INCHES**

of fast-moving water can float and carry away a small car



**18 INCHES**

of fast-moving water can carry away most large vehicles



## HIGH WATER DETECTION SYSTEMS

A well-designed system not only improves public safety but can also help a region conserve emergency management, rescue, and road department resources, and help in the overall response to flooding events.

**High Water Detection Systems (HWDS)** are the state-of-the-art in public safety for warning the public to stay out of flooded roadways. Advance warning stations can advise motorists of a weather-impaired or flooded roadways by activating flashing beacons, message signs, or automatic road barrier gates. Typical problem sites include low water crossings, underpasses, and areas that are prone to coastal flooding. Conditions are monitored 24x7 by software that can issue alarms to key personnel and feed information to a public or intra-agency website.

Road and Public Works departments often manually deploy barriers and warning signs when roadways flood. But, with no way to know a street is flooded without driving out to the site, lengthy delays occur which put lives and property at risk. High Water Detection Systems at problematic sites provide agencies with the opportunity to deter or prevent motorists from entering flooded areas, potentially saving lives and property.

# High Water Detection Systems for flooded road safety

## STORMLINK® RWIS LITE HWDS

Ideal for local installations at low-volume and arterial roadways where nuisance flooding occurs. System is customer installable, low maintenance, and requires cellular coverage.

## STORMLINK® RWIS PRO HWDS

Advanced features and options make this suitable for life-threatening flood-prone streets and high-volume principal roadways where additional sensors, cameras, and two-way barrier gates may be employed.

FEATURES	KEY BENEFITS	STORMLINK RWIS LITE HWDS	STORMLINK RWIS PRO HWDS
Warn drivers of water over the road	Reduce accidents by warning drivers to turn around and avoid water over the road.	✓	✓
Water level measurement with Pressure Transducer*	Increase situational awareness by knowing the depth of water over the roadway and deploy resources accordingly.	✓	✓
Integrated cellular communication sends system data and status to software	Remotely collect data from anywhere there is a cellular signal. Requires a cellular connection for data collection.	✓	Optional
No outside communication needed to activate system	Improve driver safety by letting the traveling public know of weather hazards when they happen.	✓	✓
Solar Powered	Get the system up and running quickly with simple installation.	✓	✓
Two-way communications	Reduce trips to the site with the ability to override the system beacons remotely from software.	✓	✓
Email and text alerts of system status	Address weather issues quickly and increase public safety with notifications of system status directly to any device.	✓	✓
Remotely trigger barrier gates to close road when water is present over the road	Increase public safety by automatically closing the road with a barrier gate when water is over the road.		✓
High resolution of water level	The pressure transducer sensor has a higher resolution for fine measurement of water level.		✓
Advanced measurement configurations	Increase the robustness of the HWDS by providing backup or redundant sensors with sensor voting.		✓
ALERT2 open communications protocol	Easily expand the system with any compatible systems and software suites.		✓
Long range wireless communications	Flexible installation using VHF communications that allow for long range communications even without direct line of sight.		✓
Centralized communication system	Secure data transmissions with radios that provide an encrypted, closed loop communication system from end to end.		✓
Local data logging	Past system data can be downloaded locally if communication failed.		✓
Measure flashing beacon current	Know that the system beacons are flashing from a direct current measurement.		✓

\* Pressure transducer needs to be submerged in water source for continuous reading of water level