



# Nondestructive Testing for Concrete Bridge Decks (R06A)

## *Tool Selection Matrix*



U.S. Department of Transportation  
Federal Highway Administration



# Nondestructive Testing Techniques Versus Bridge Sounding

NDT Technique	Mode of Deterioration Detected	System	Resolution	Lane Closure
IE	1) Deeper cracks - top and bottom rebar mat 2) Shallow delamination 3) Concrete degradation - ASR/DEF - Freeze thaw	1) Scanning 2) Point by Point	High Grid size	Yes Yes
GPR	1) Corrosion 2) Cracks (if filled with deicing salt) 3) Concrete degradation	1) Air coupled 2) Ground coupled	Lower High	No Yes
IR	Shallow delamination - Top and bottom	1) Truck mounted 2) Handheld	High High	No Yes
Resistivity	Corrosion	Point by Point	Grid size	Yes
Half Cell/GP	Corrosion	Point by Point	Grid size	Yes
Slab IR	Cracks	Point by Point	Grid size	Yes
SASW	1) Vertical cracks 2) Concrete degradation	1) Scanning 2) Point by point	High Grid size	Yes Yes
Sounding	Only shallow delamination	Manual		Yes

**Vs.**

# Program vs Project NDT

