

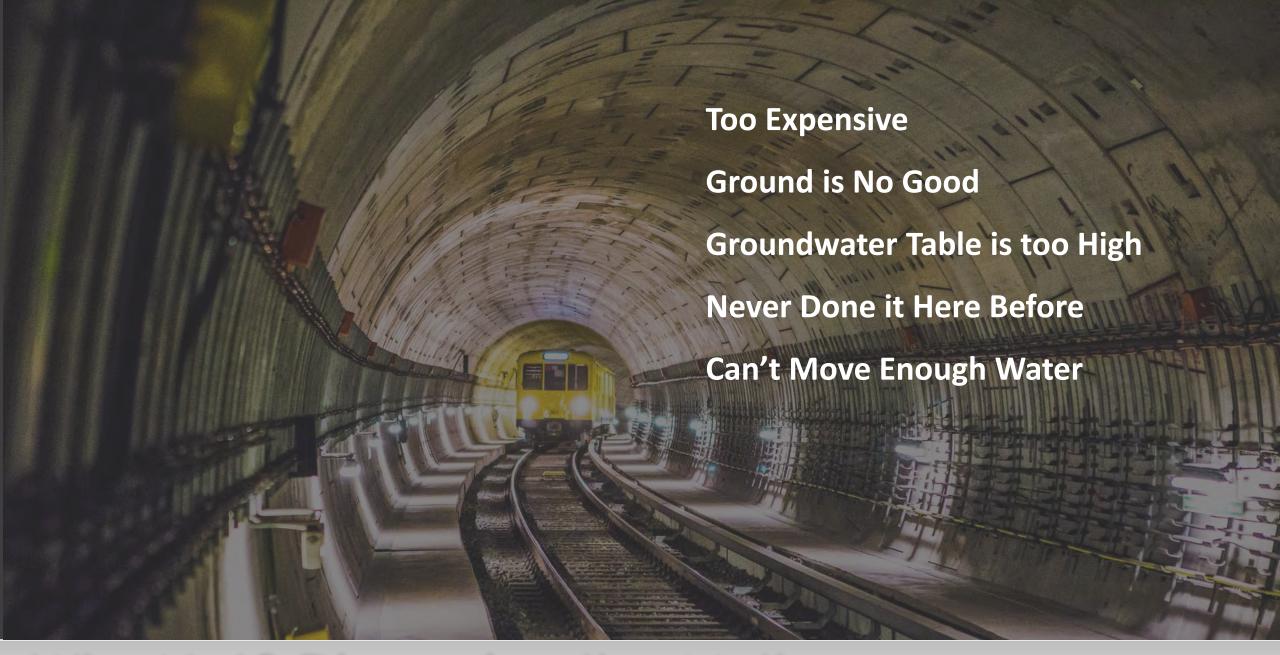
USACE Houston Flood Control Plan ~ 1940















Inlet:

Barker Reservoir

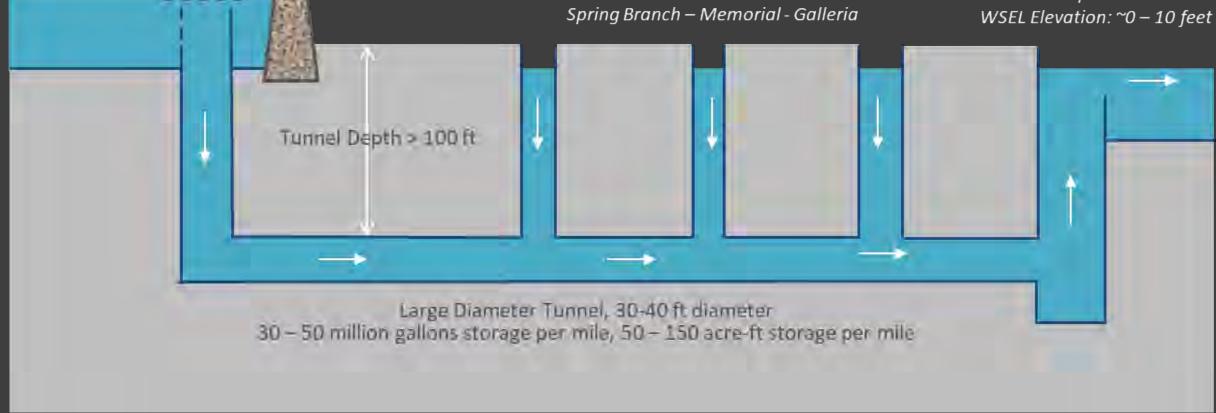
Elevation: 95.5 feet (1% Pool) Max 104 feet

Reliable Gravity Flow

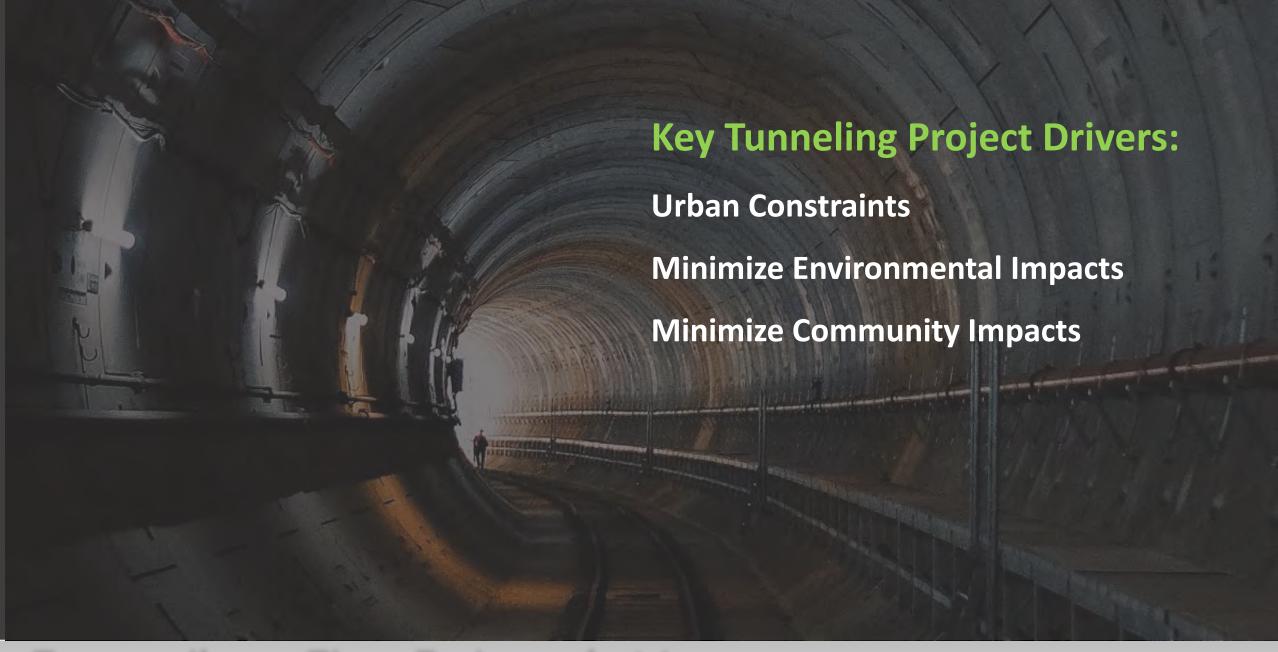
Additional Potential Inlet Locations Spring Branch – Memorial - Galleria

Outlet:

Houston Ship Channel

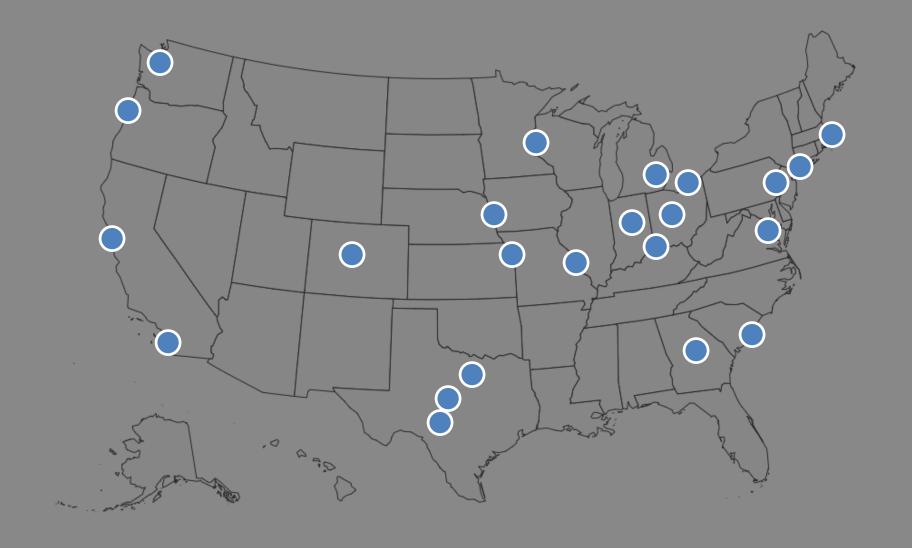




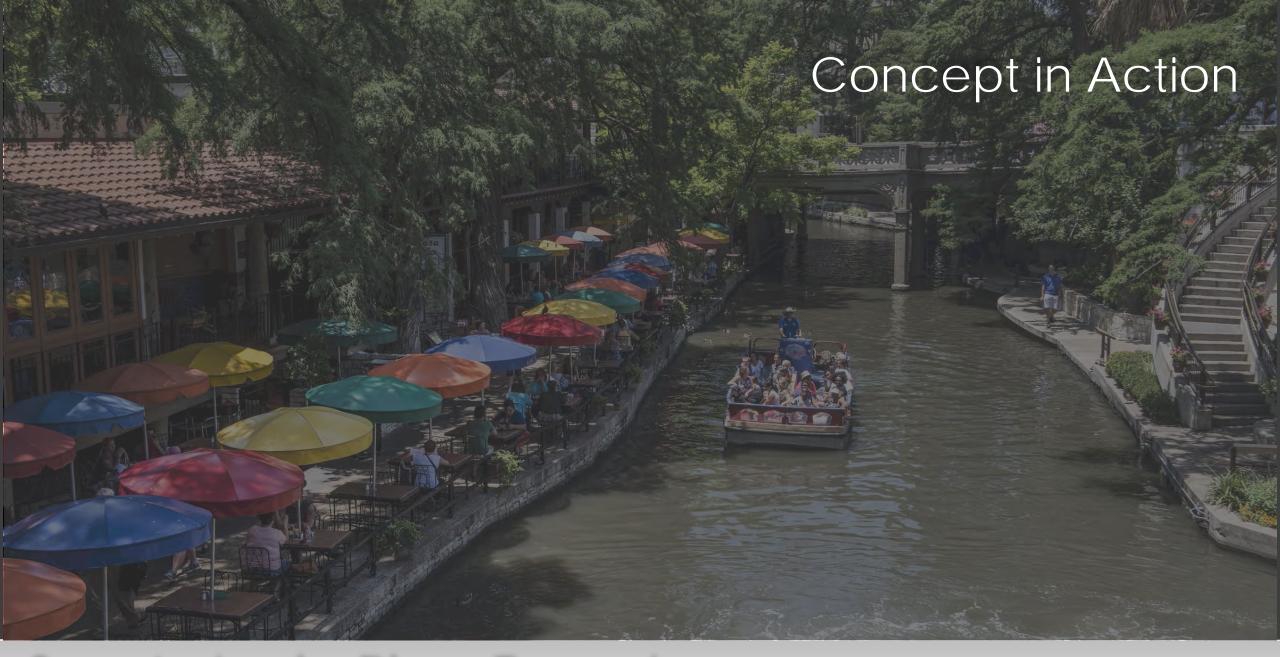






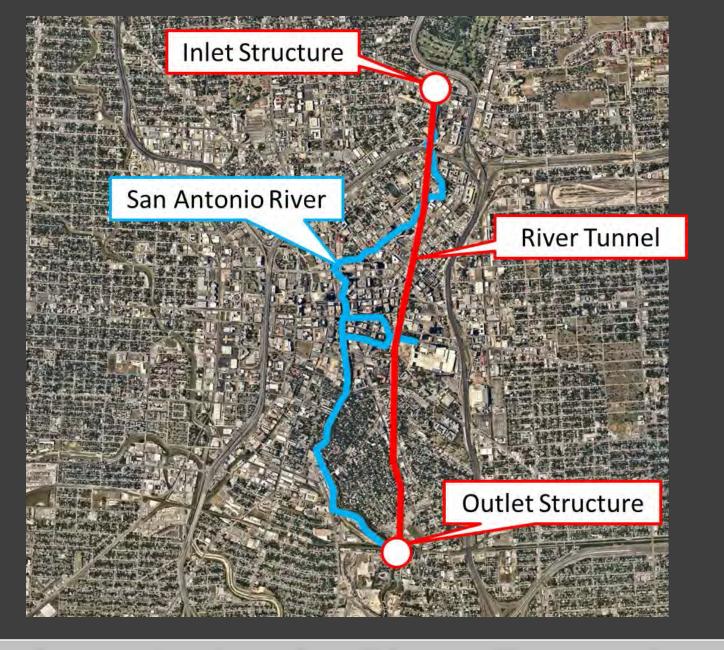


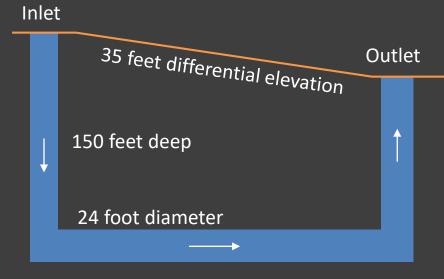




San Antonio River Tunnel







3 miles long

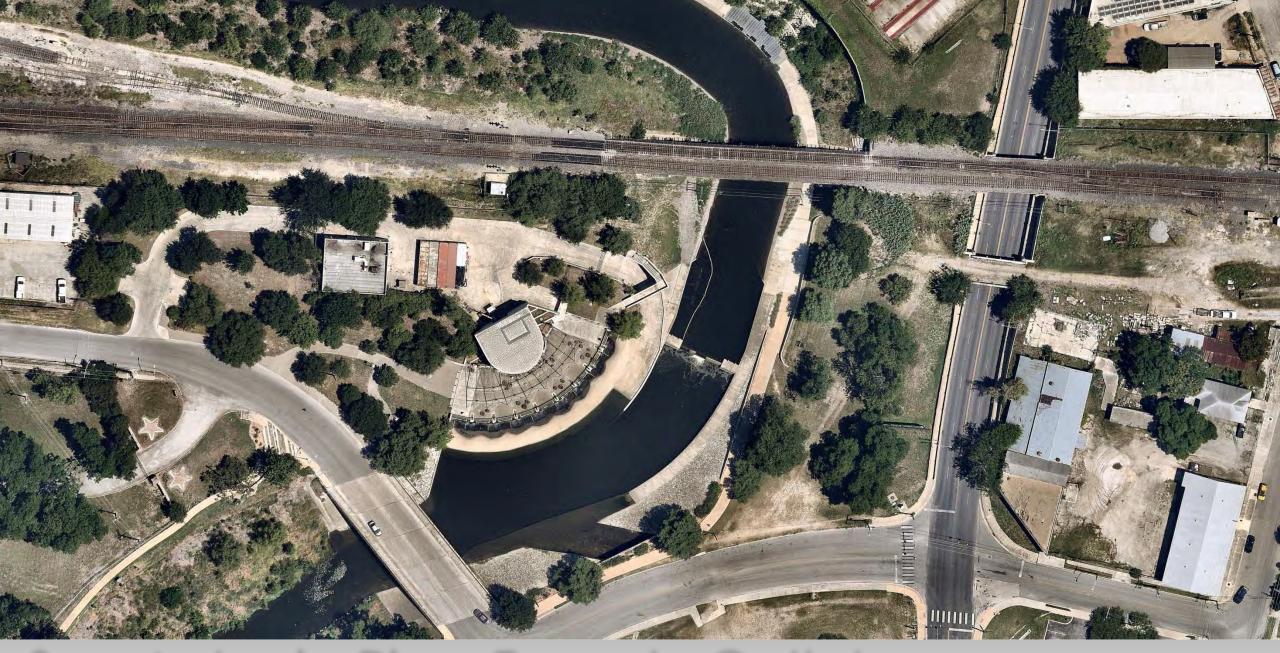
- Built by SARA and USACE in 1997
- 6,700 cfs flow rate





San Antonio River Tunnel - Inlet





San Antonio River Tunnel - Outlet

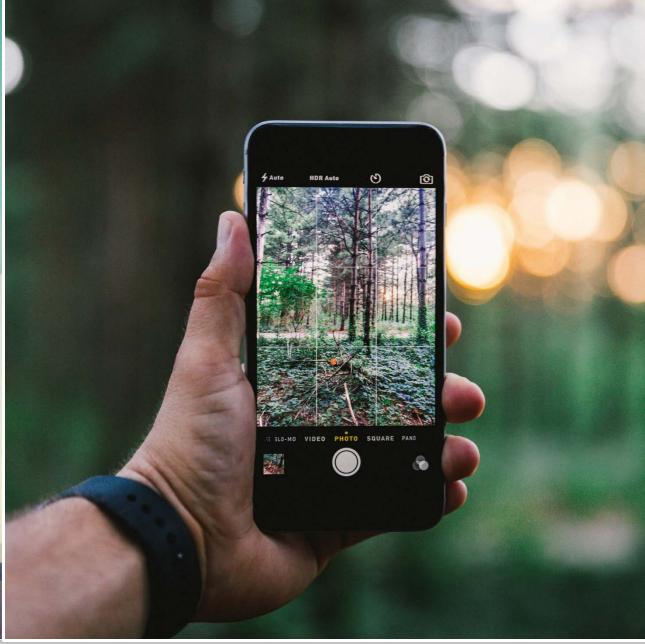




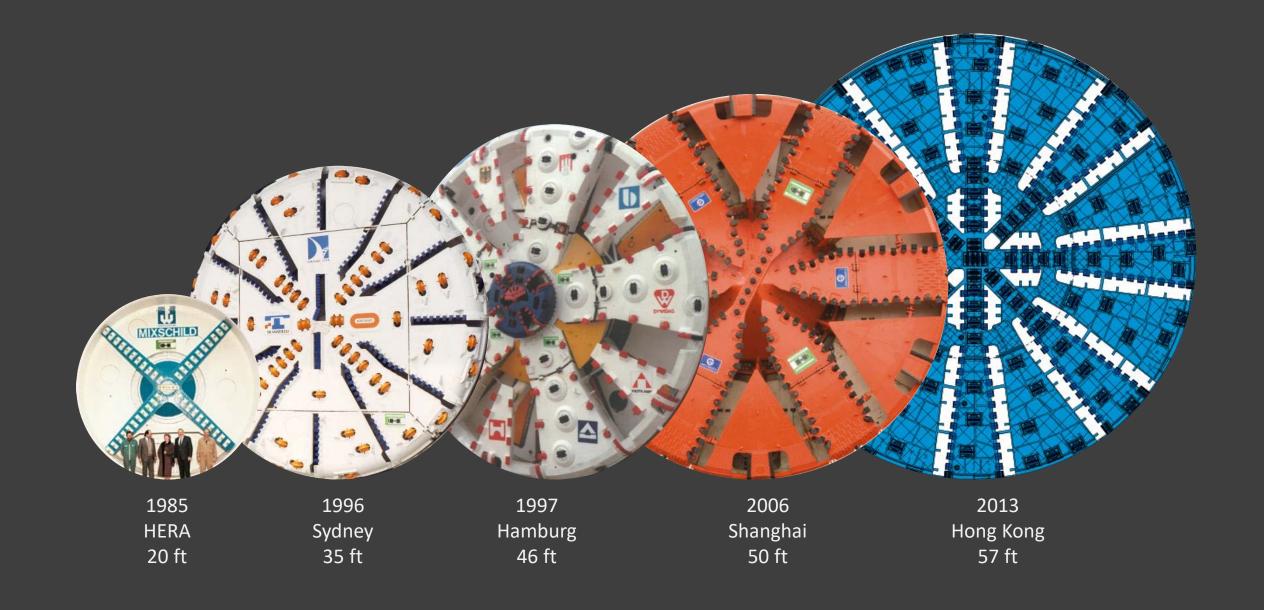
How is it built?







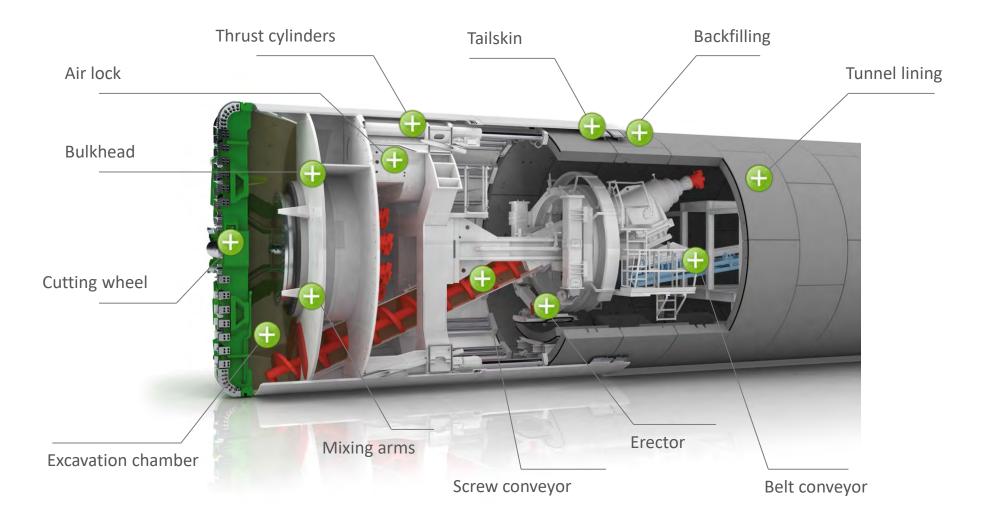




Significant Technological Advances



State-of-the-Art Excavation Methods







Typical Tunnel Shaft





Mill Creek Tunnel

5 miles long 35 foot diameter \$206 million



San Antonio River Tunnel

3 miles long 24 foot diameter \$230 million (2018\$)

San Pedro Creek Tunnel

1 mile long 24 foot diameter \$110 million (2018\$)



Waller Creek Tunnel

1.1 miles long20-26 foot diameter\$163 million

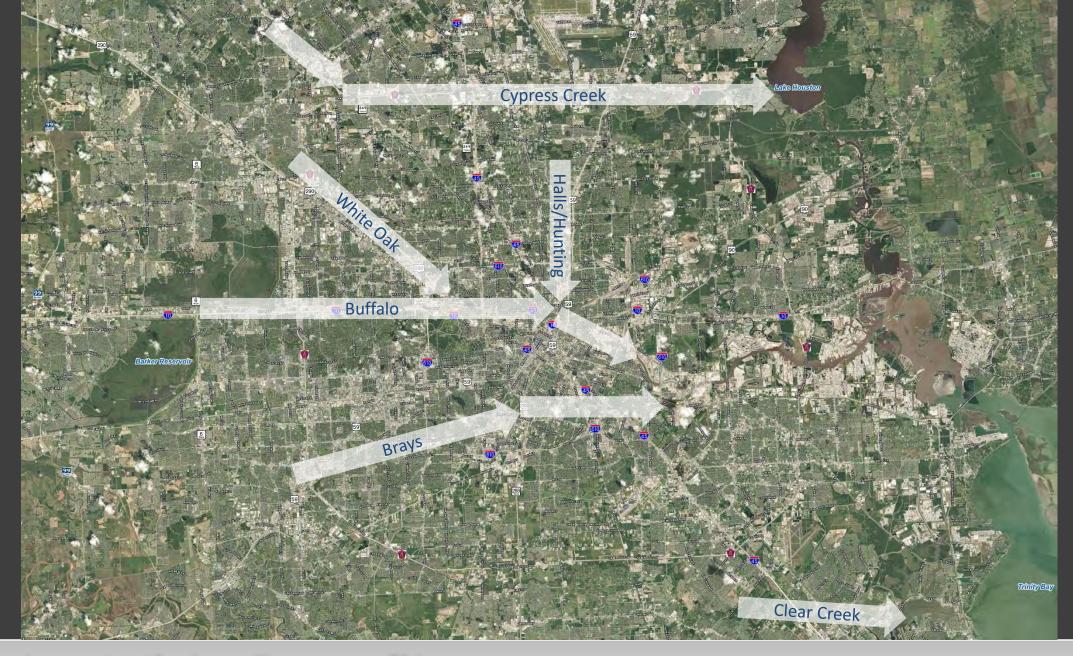




Tunnel Length: 23 miles
Tunnel Diameter - >30 feet
Flow Rate - 10,000-15,000 cfs

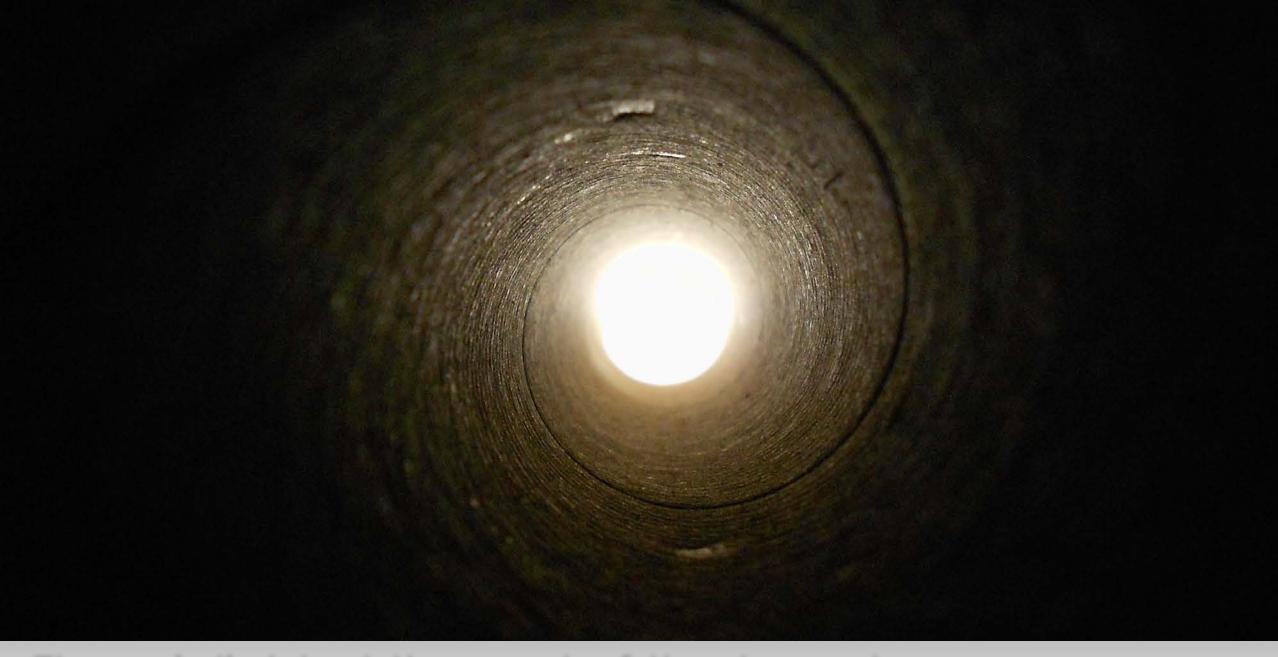












There is light at the end of the tunnel





