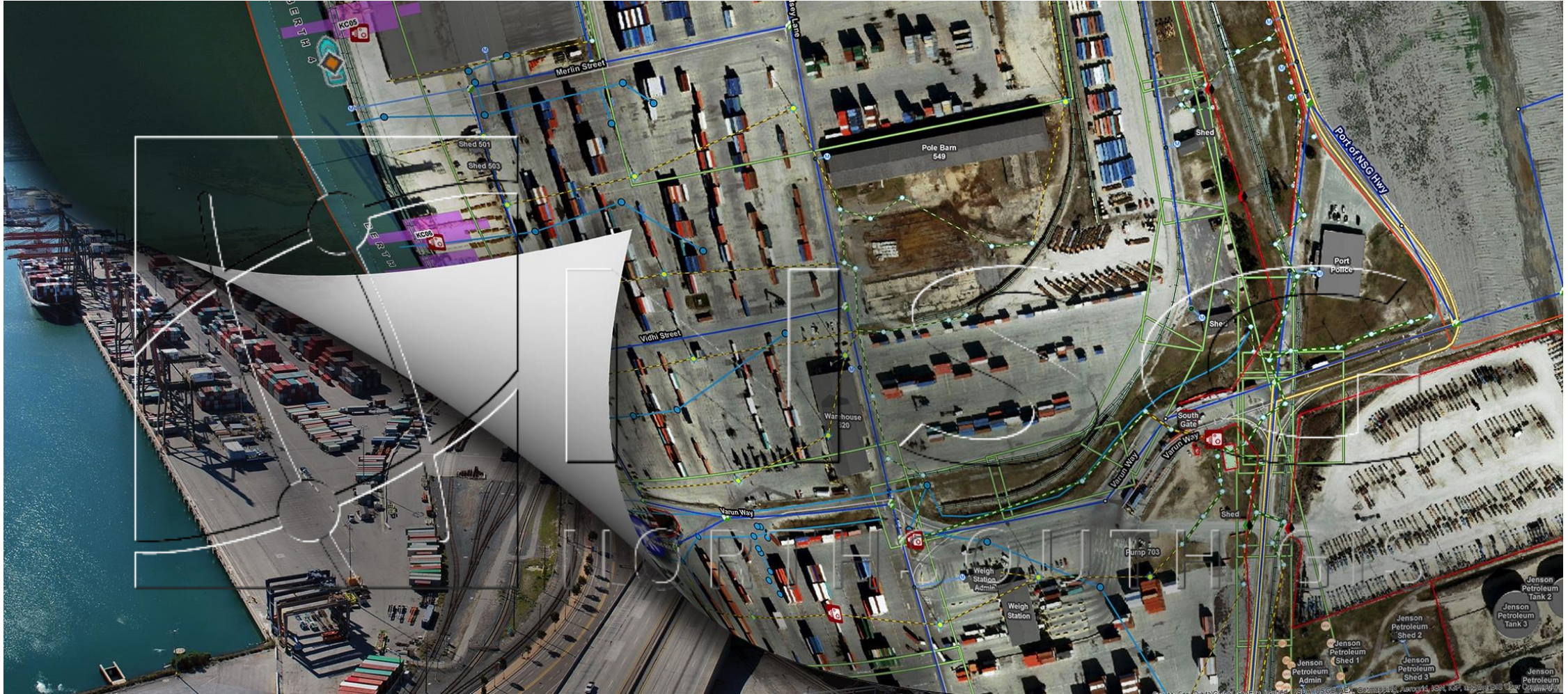


Mobile Access to Port and Maritime Data

Daniel Elroi
NorthSouth GIS LLC

AAPA Security & IT Conference
Arlington, VA, July 21, 2016

NorthSouth GIS LLC



The GIS Experts in Ports

Company

- Founded in 2005
- Headquarters in Los Angeles
- An integral member of the Ports industry



Ecosystem

- Esri Gold Partner since 2010, Esri's leading partner in ports
- Genetec, PureActiv, AssetWorks, Maintstar, Lenel, NICE, Milestone
- Esri, Latitude Geographics, Mariner Group, ROK Technologies



NORTH SOUTH GIS

NSG US Ports 2008 - 2016

- Los Angeles – 2008



- Long Beach – 2014



- Stockton – 2011



- Hueneme – 2015



- Oakland – 2012



- San Diego – 2015



- Tacoma – 2013



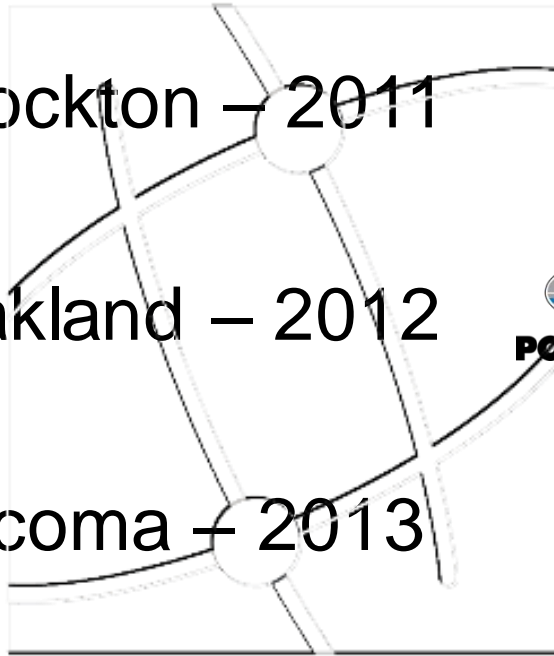
- Houston – 2016



- Tampa - 2014



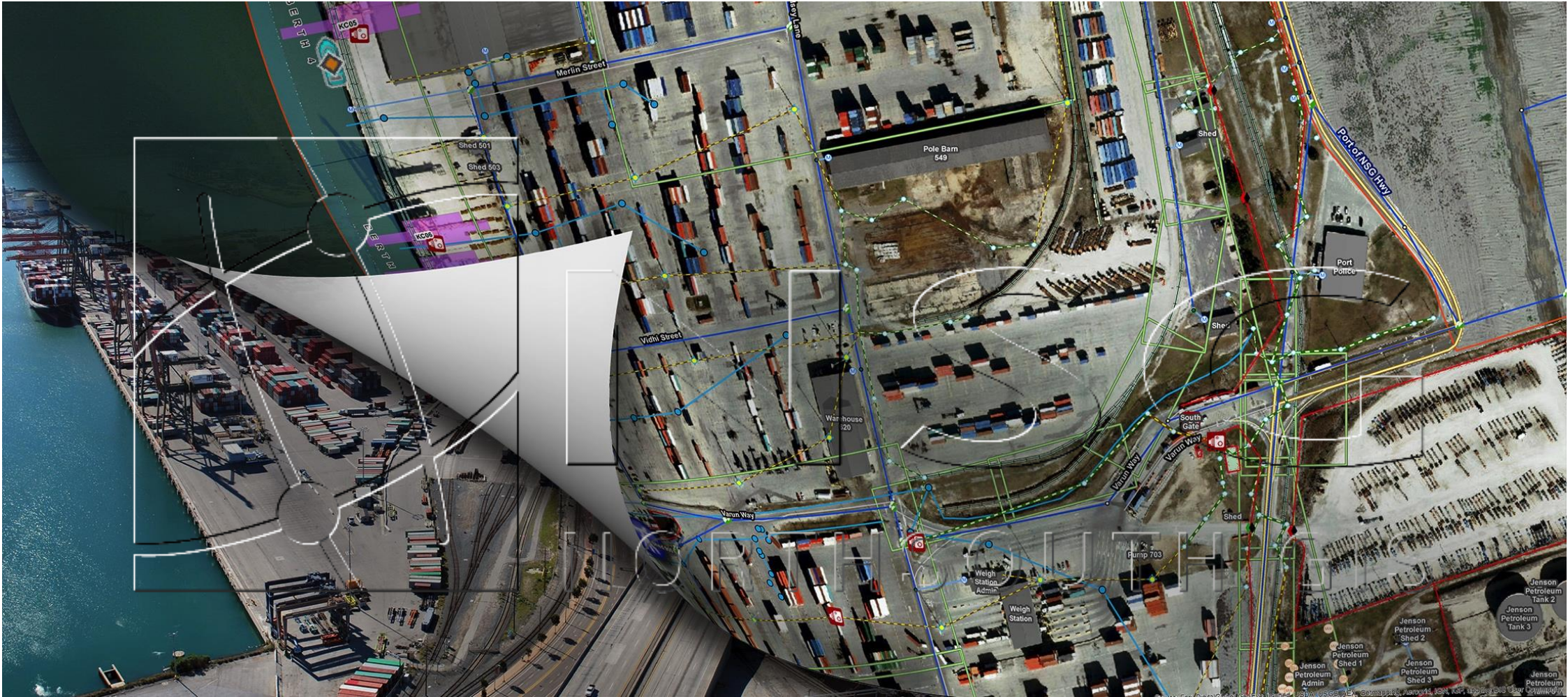
- Charleston – 2016



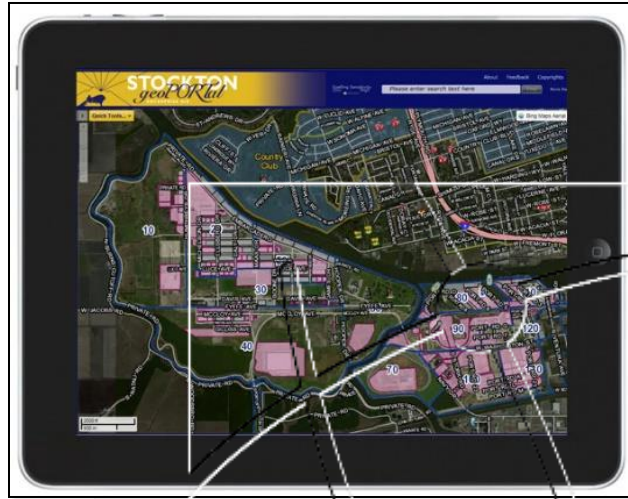
200+ Tasks, 50,000+ Hours in Ports to Date



Mobile Access to Data



Ports Want Their Data Like This



NORTHSOUTH GIS

Instead of Like This



So That When These Things Happen



Image courtesy of WPTV.com

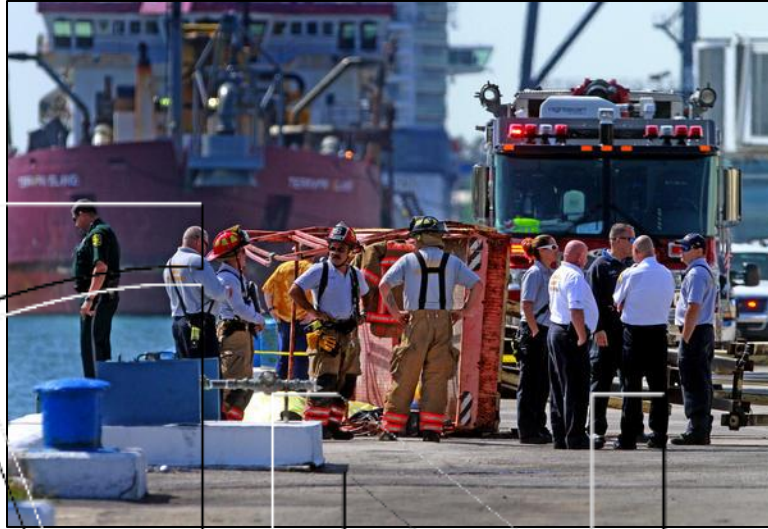


Image courtesy of Sun-Sentinel



Image courtesy of CBS Los Angeles



© Copyright NorthSouth

They Can Do This

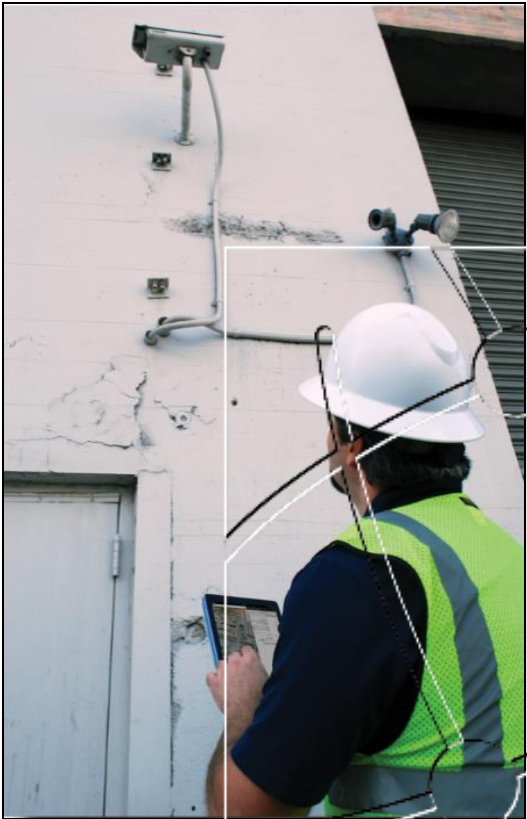


Image courtesy of theage.com



Image courtesy of Esri Inc.

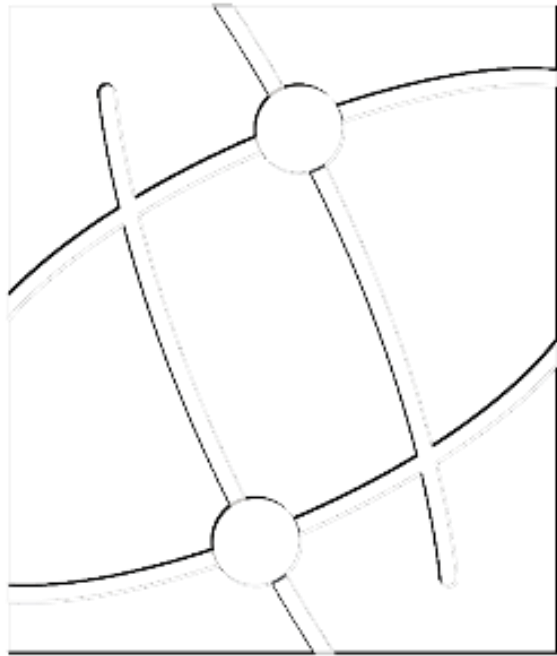


Instead of This



Photo credit: Nnette Stark, Washington Department of Fish and Wildlife

This Means...

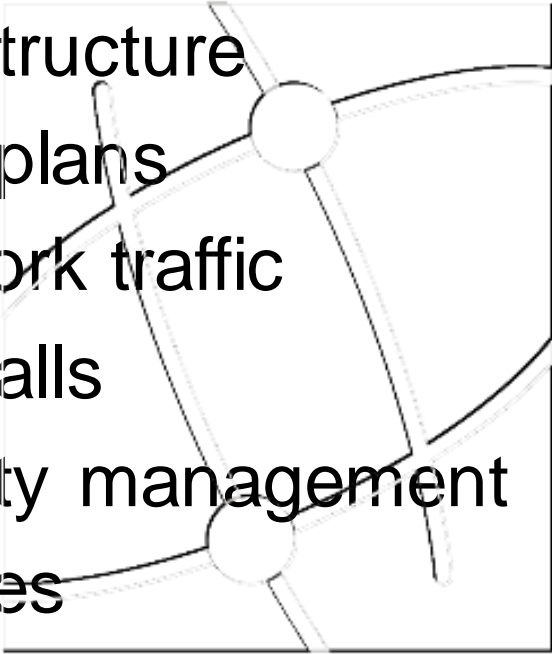


Mobile Access

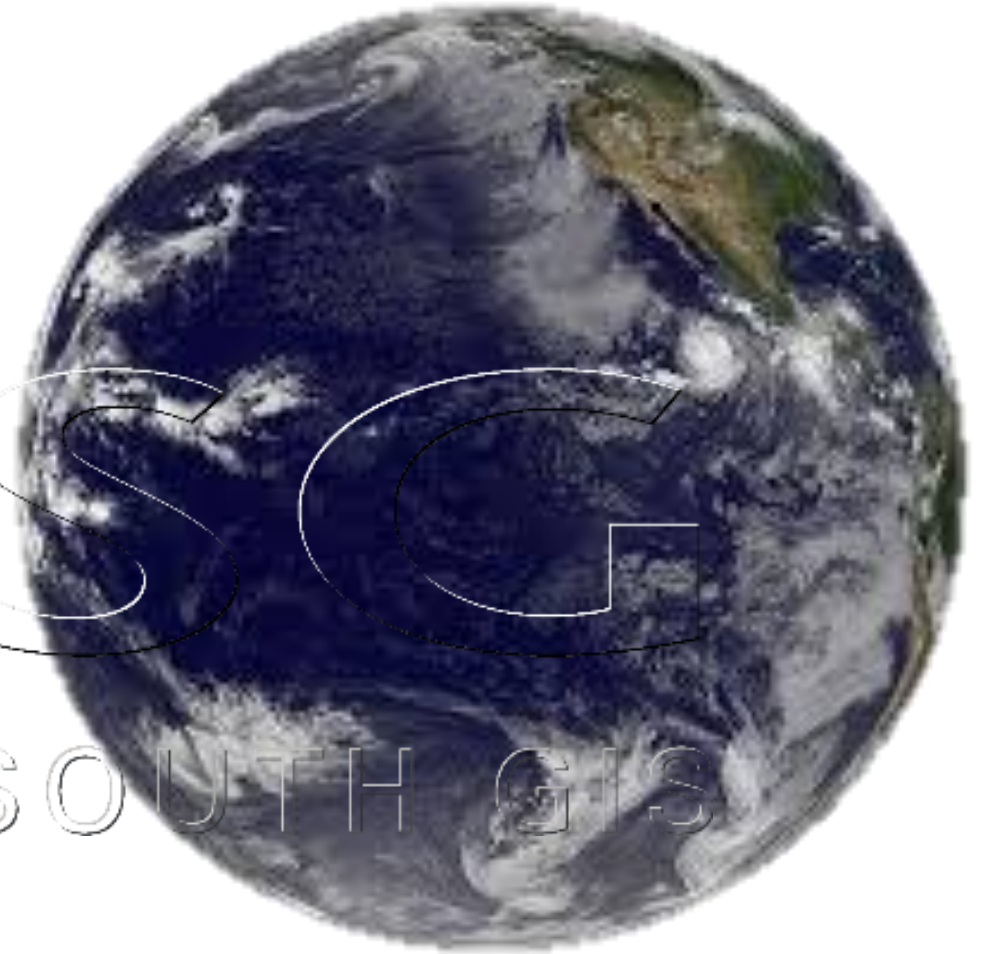
NSG
NORTHSOUTH GIS

But... But... But...

- Security sensitive information
- Cybersecurity
- Infrastructure
- Data plans
- Network traffic
- Firewalls
- Identity management
- Policies
- Distractions



NSG
NORTHSOUTH GIS



Once Again...



Photo credit: Nnette Stark, Washington Department of Fish and Wildlife

Case Studies

- Los Angeles



- Long Beach



- Stockton



- Hueneme



- Oakland



- San Diego



- Tacoma



- Houston



- Tampa



- Charleston



NORTH SOUTH GIS

Case Studies

- Los Angeles



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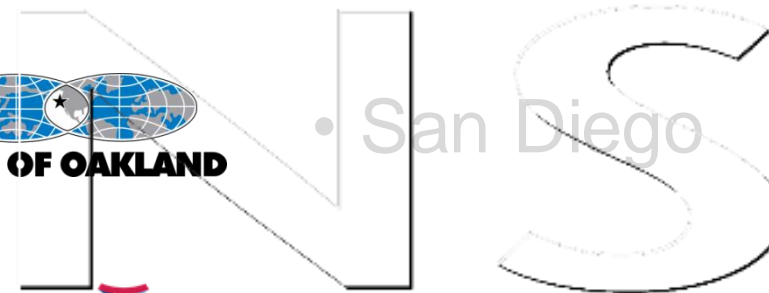
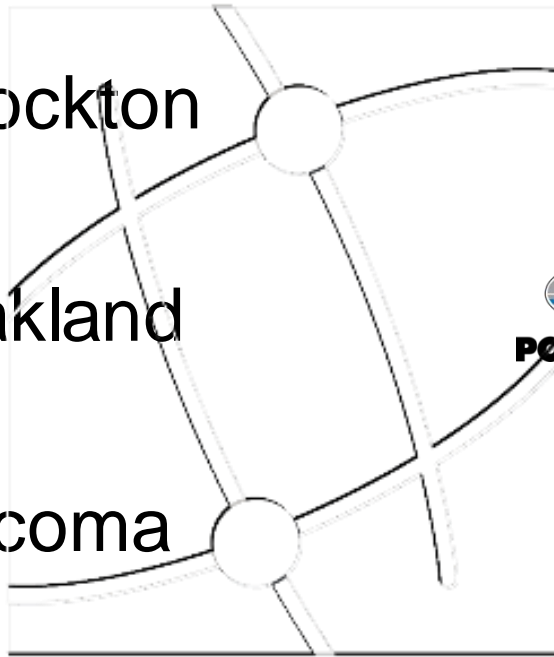
- Houston



- Tampa



- Charleston



Port of Stockton

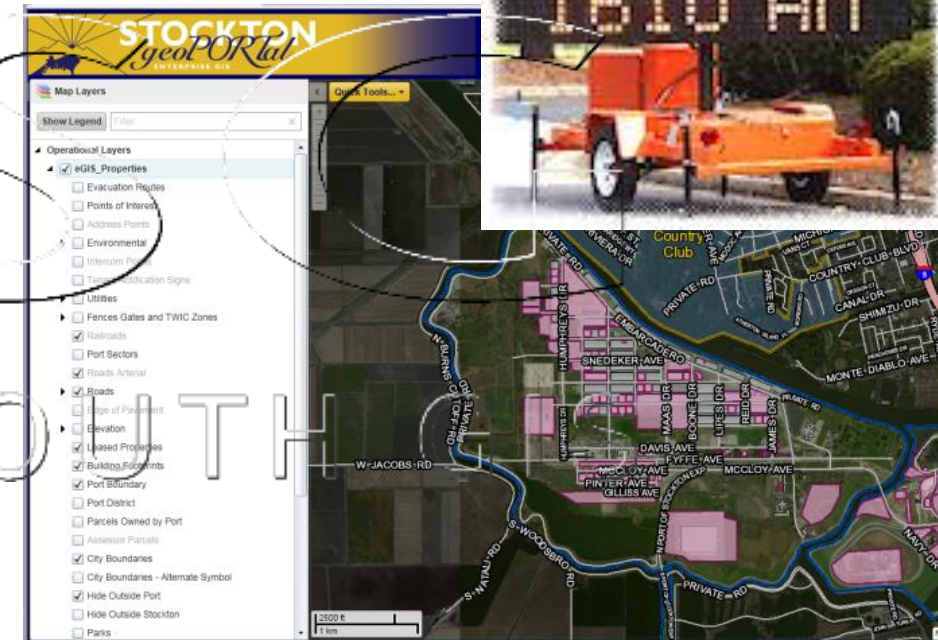
- Catalysts for GIS
 - Security
 - Property Management
- Stance towards cloud
 - Very cautious



NSG
NORTHSOUTH GIS

GIS Architecture

- Esri-based Enterprise GIS infrastructure
- NSG Port Solution implementation
- Widely-used GIS map viewer (*geoPORTal*)
- Integration of GIS with:
 - USCG AIS
 - Mariner's CommandBridge
 - Saab's KleinPort
 - Radio and sign alerting systems
 - HipLink mass notification



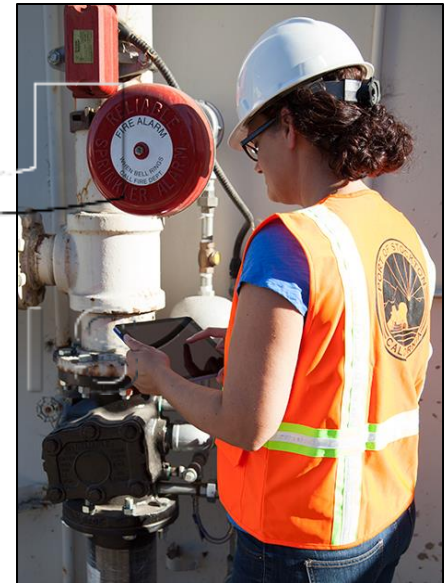
Approach 1: Wireless WAN

- Wireless mesh network for Port Police use
- Users are part of the security LAN, so all network security is internal to port
- Access CommandBridge and GIS from cars
- Transmit in-dash cameras to office and other cars



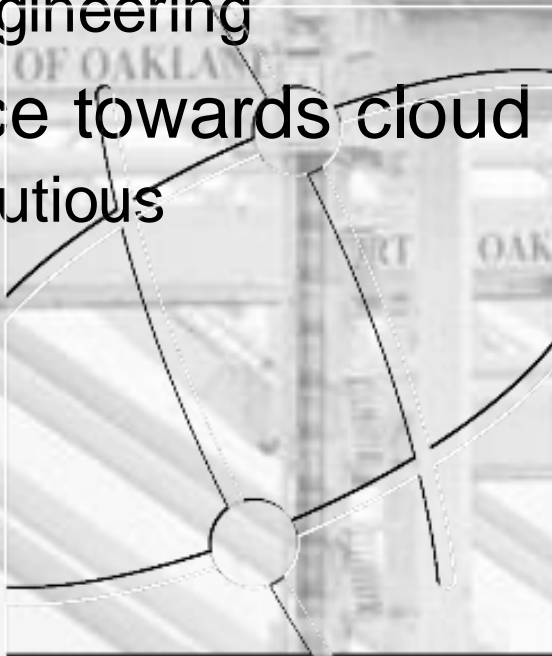
Approach 2: Public Internet, Internal Security

- Public internet via cellular data for non-security users
- Reverse proxy to isolate internal resources
- Active Directory for identity management
- Tablet access to GIS in field
- Asset inspections contained to LAN
- Real time updates from field



Port of Oakland

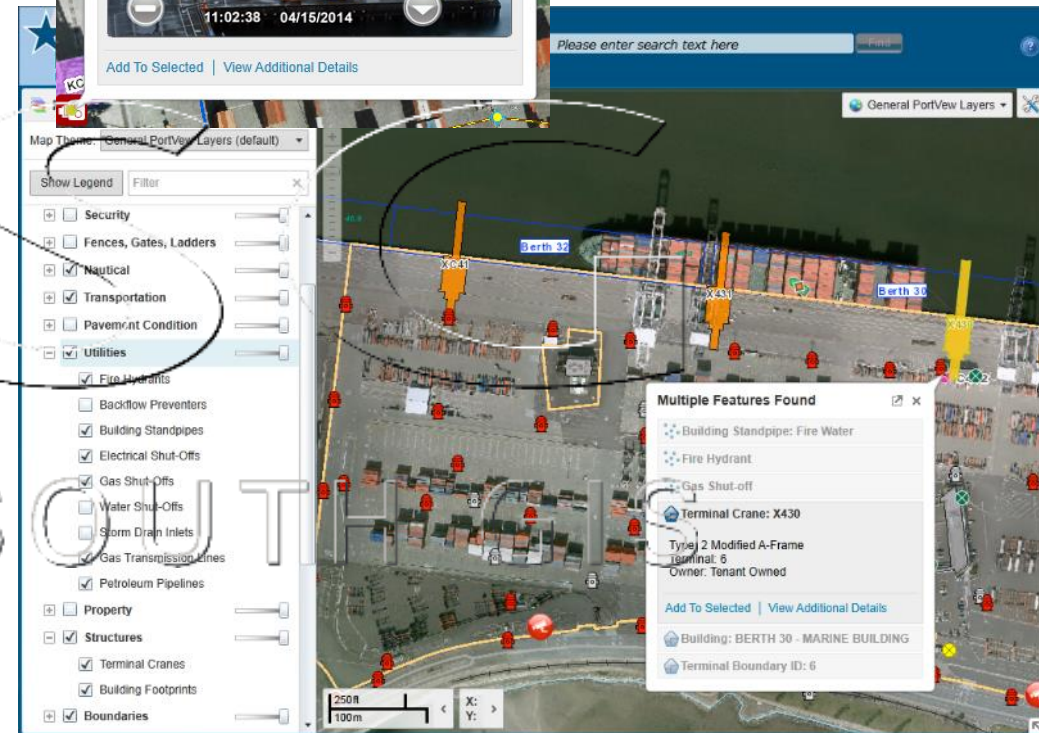
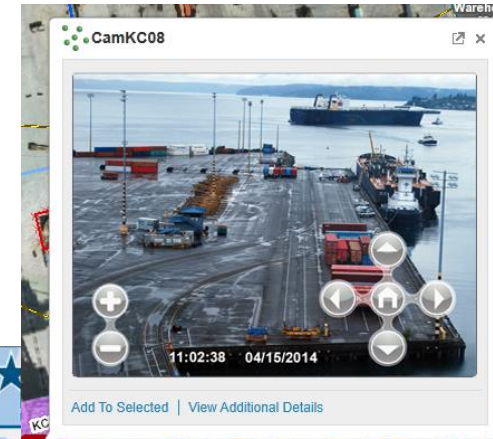
- Catalysts for GIS
 - Security
 - Engineering
- Stance towards cloud
 - Cautious



INSOC
NORTHSOUTH GIS

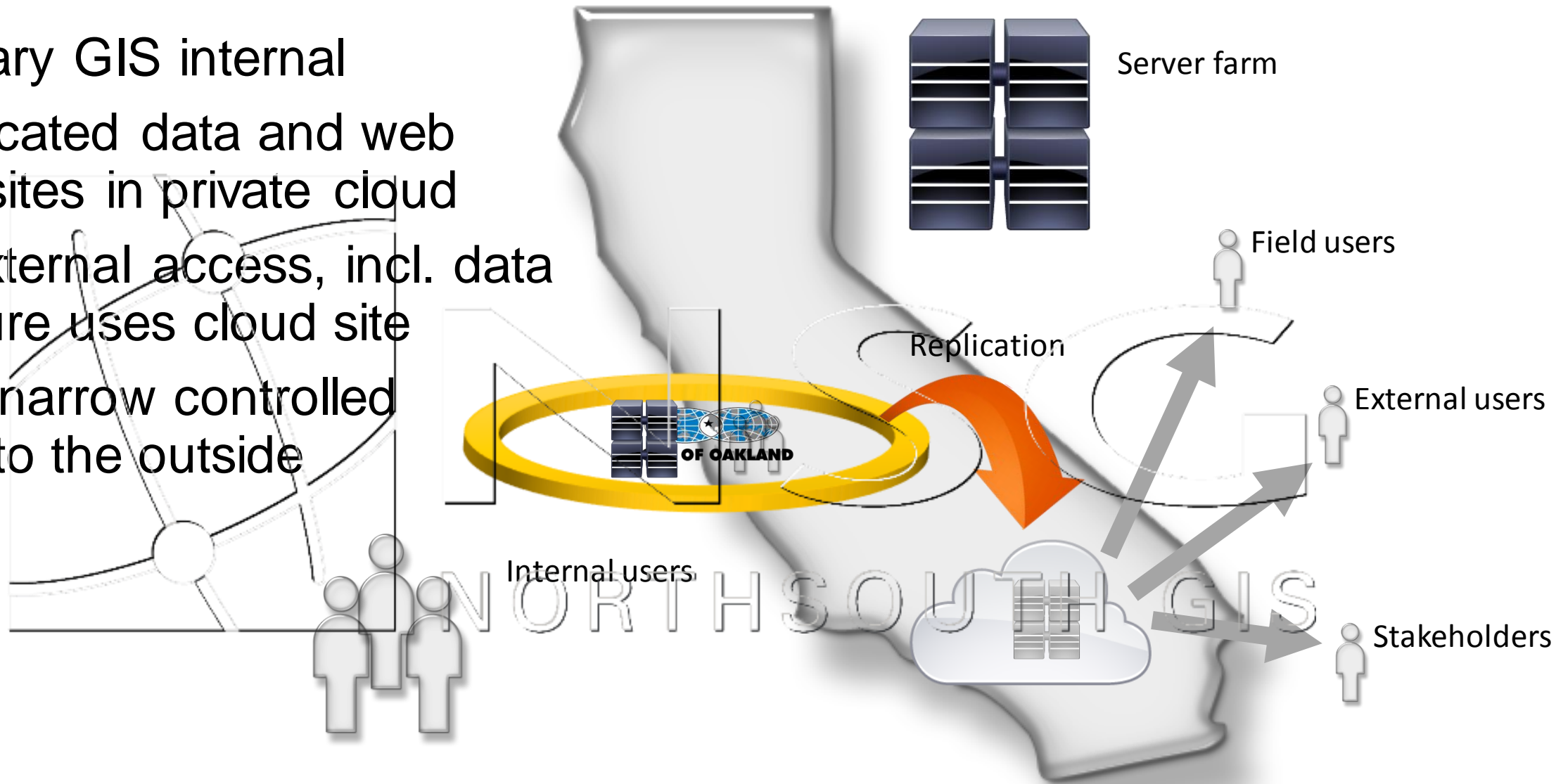
GIS Architecture

- Esri-based Enterprise GIS infrastructure
- NSG Port Solution implementation
- Widely-used GIS map viewer (*PortView*)
- Integration of GIS with:
 - Marine Exchange AIS
 - SendWordNow Mass Notification
 - Genetec Video Management System
- Special modules
 - Incident reporting and management
 - Asset inspection



Approach: Build Resiliency, Buffer the Risk

- Primary GIS internal
- Replicated data and web GIS sites in private cloud
- All external access, incl. data capture uses cloud site
- Very narrow controlled pipe to the outside



Port of Tacoma / Northwest Seaport Alliance

- Catalysts for GIS
 - Security
 - Property Management
 - Asset Management
- Stance towards cloud
 - Careful but open

NISG
NORTHSOUTH GIS

GIS Architecture

- Esri-based Enterprise GIS infrastructure
- NSG Port Solution implementation
- Widely-used GIS map viewer (*PortView*)
- Integration of GIS with:
 - Marine Exchange AIS
 - PureActiv Video Management System
- Possible future integrations
 - Yardi lease management
 - Maximo

Port of Tacoma **Port view** **Tenant Emergency Contacts**

Tenant
VisiCorp, LLC 2331 Ross Way
VSI Law Group 3600 Port of Tacoma Rd Suites 301
Washington Arbitration & Med 3600 Port of Tacoma Rd Suite 304
Washington United Terminals 1721 Thorne Rd
Washington United Terminals
Washington United Terminals 3600 Port of Tacoma Rd Suite 502
Washington United Terminals 1755 Thorne Rd
Youth Marine Foundation 820 & 806 ED St

Property for Lease

An excellent opportunity to be located in the Port of Tacoma

FOR MORE INFORMATION PLEASE CONTACT

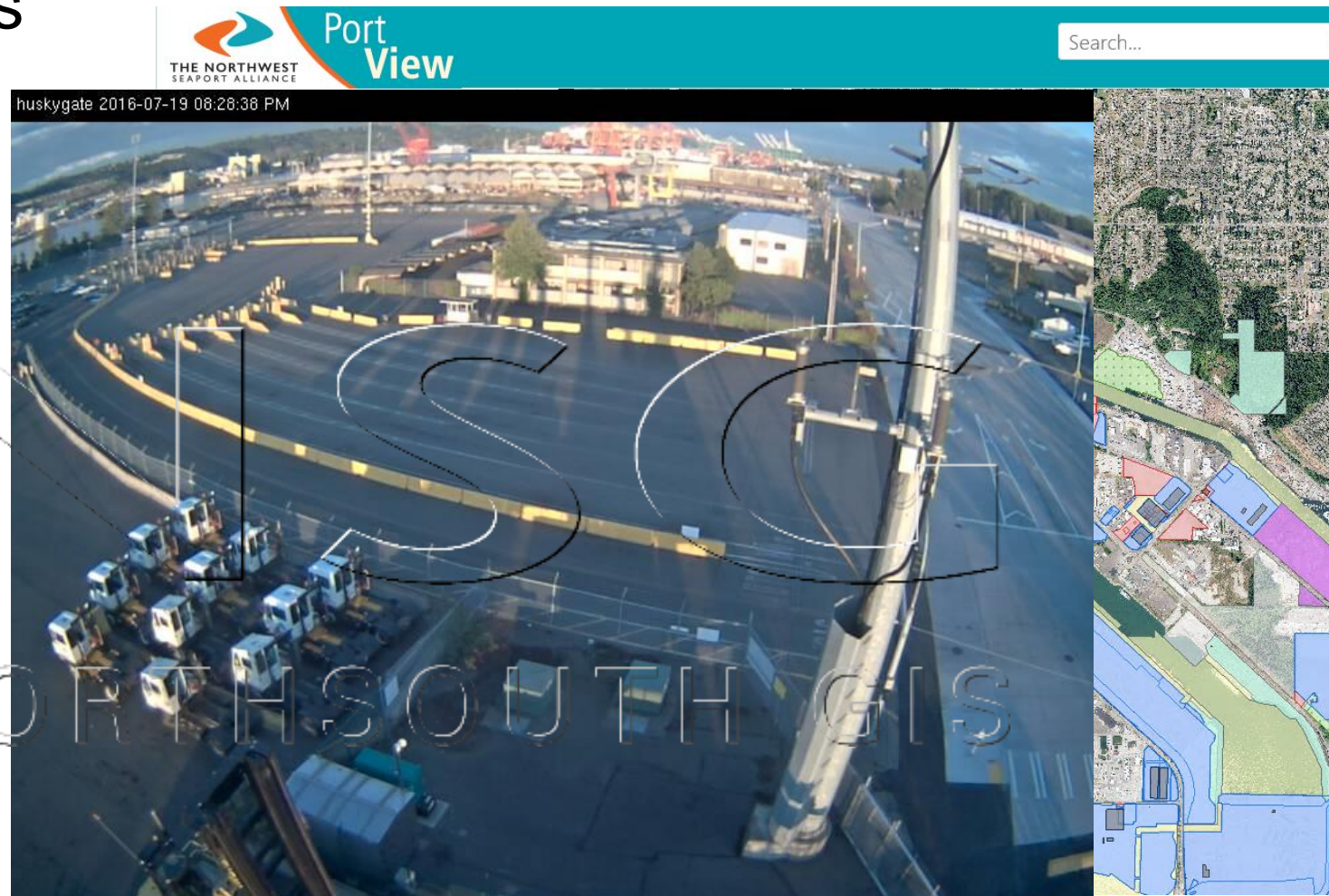
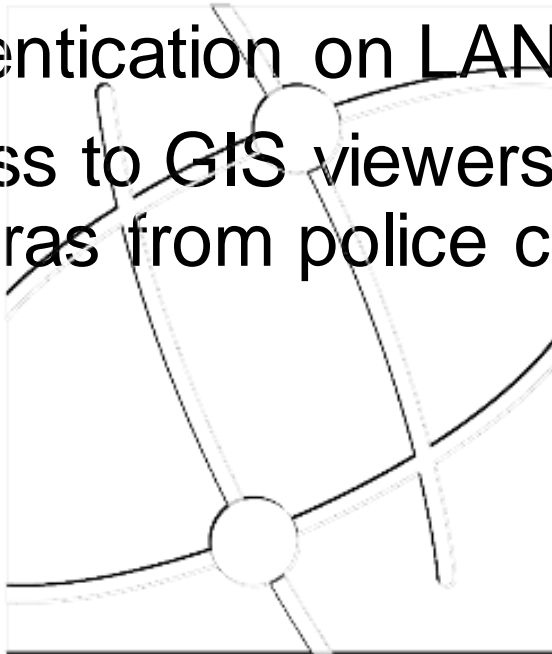
Annika Dean
Real Estate Specialist
253.830.5402
adean@portoftacoma.com

Scott Francis
Director, Real Estate
253.383.9407
sfrancis@portoftacoma.com

Square Footage: 875,069.0
Acreage: 20.1
Zoning: PMI, S10
Accessible to waterway
Not directly accessible to railroad

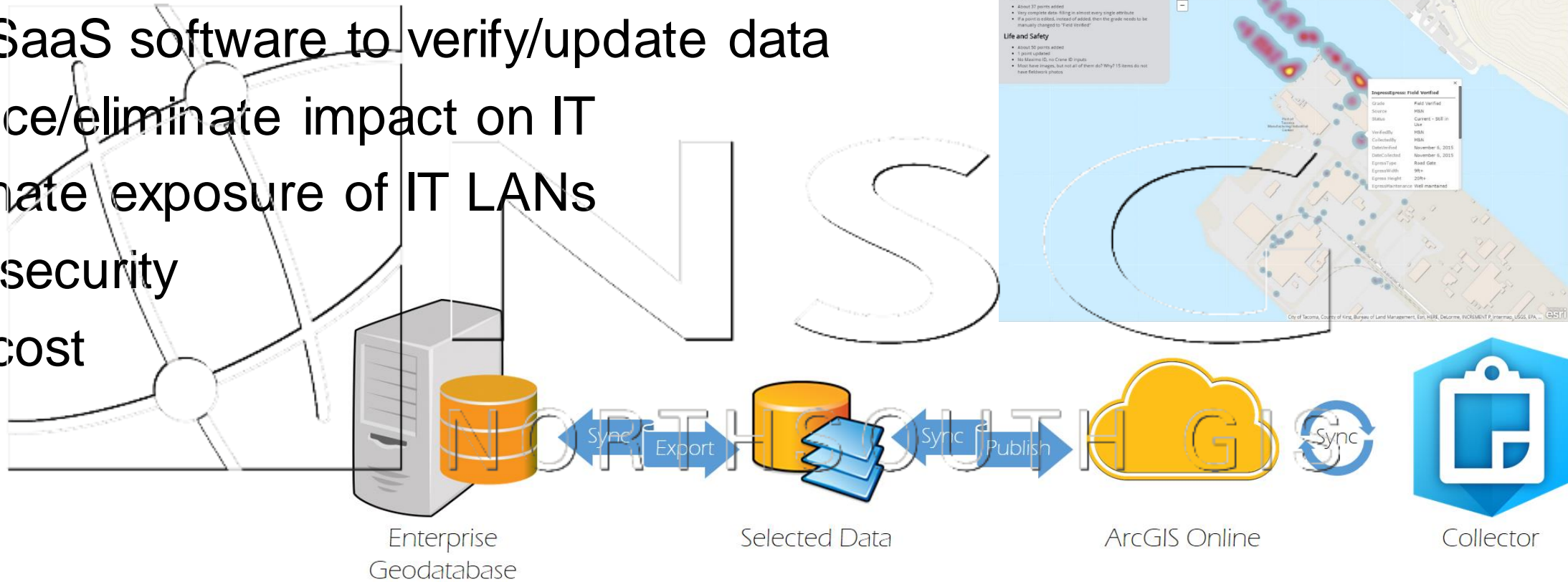
Approach 1: Public Network, Private LAN

- Public Safety internet access
- VPN into intranet
- Authentication on LAN
- Access to GIS viewers, cameras from police cars



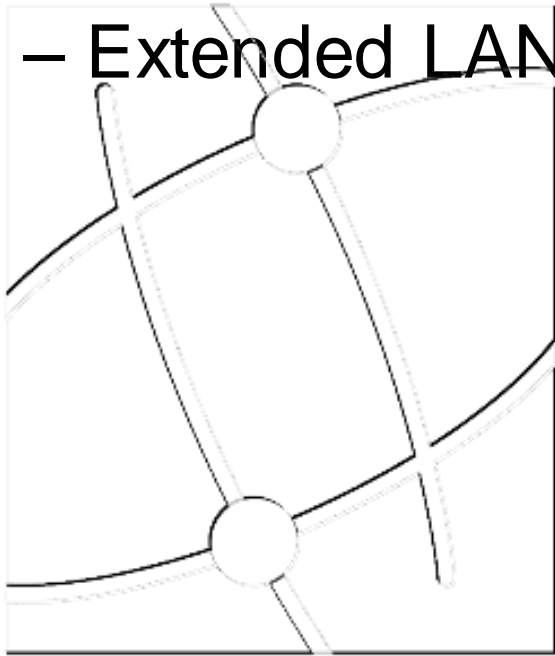
Approach 2: Use Public Cloud to Map Assets

- Place copies of port data in secure location on Esri's public cloud
- Share information with contractors, field crews
- Use SaaS software to verify/update data
- Reduce/eliminate impact on IT
- Eliminate exposure of IT LANs
- High security
- Low cost



Recap

- No cloud – Private cloud – Public cloud
- Intranet – Extranet – Internet
- LANs – Extended LANs – VPN LANs



N S G
NORTHSOUTH GIS

What are *your* thoughts?

