

# Aligning GIS with Port Strategy at the Port of Long Beach



**Port of  
Long Beach**

**Strategic  
Alignment**

**Past  
5 Years**

**Next  
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# Aligning GIS with Port Strategy at the Port of Long Beach



**Integrations**

**Port of  
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# Aligning GIS with Port Strategy at the Port of Long Beach





# Aligning GIS with Port Strategy at the Port of Long Beach





# Aligning GIS with Port Strategy at the Port of Long Beach



**Access**

**Port of  
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**Strategic  
Alignment**

**Past  
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# Aligning GIS with Port Strategy at the Port of Long Beach



**Automation**

**Port of  
Long Beach**

**Strategic  
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**Past  
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# Aligning GIS with Port Strategy at the Port of Long Beach



**Integrations**

**Port of  
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**Strategic  
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**Past  
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# Aligning GIS with Port Strategy at the Port of Long Beach



**Automation**

**Port of  
Long Beach**

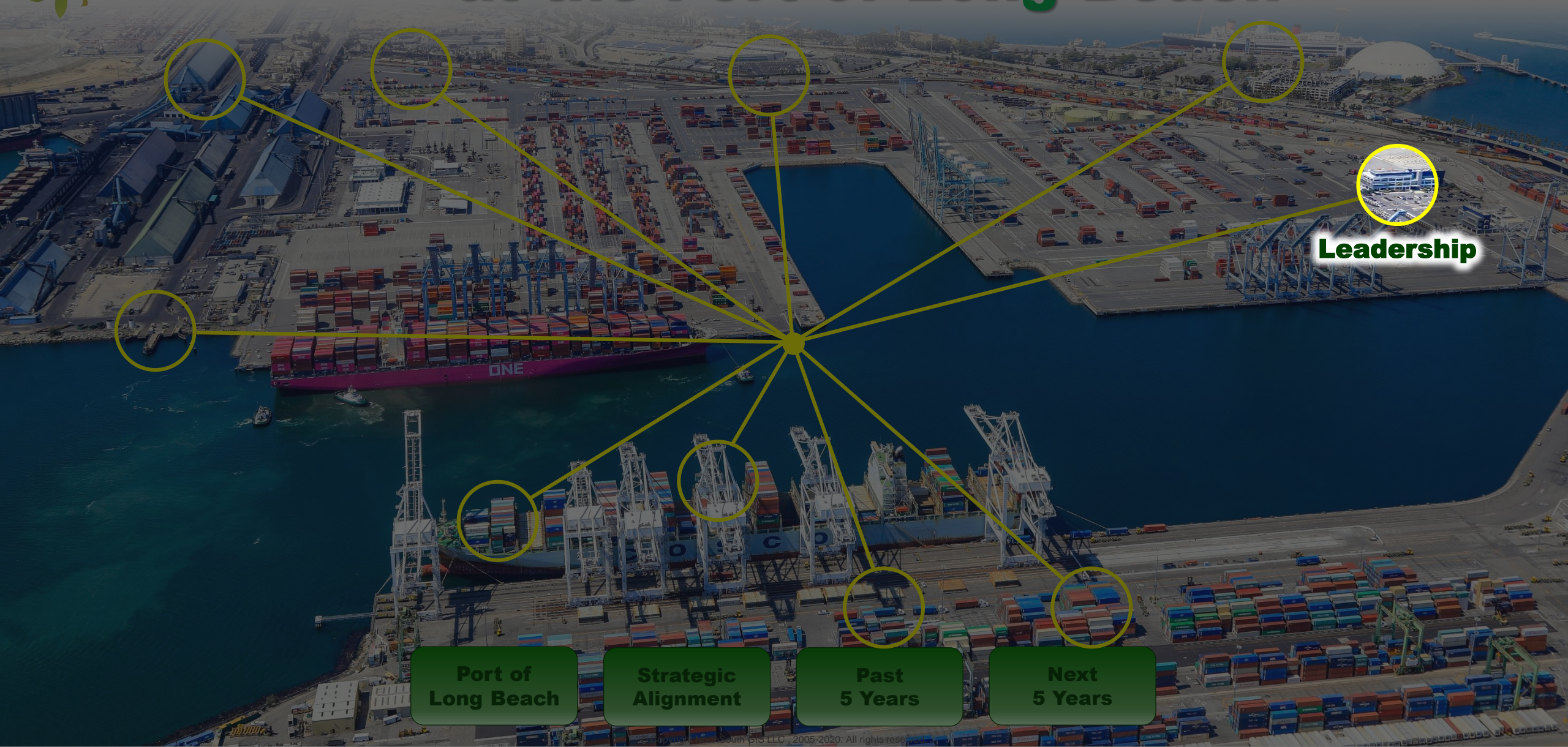
**Strategic  
Alignment**

**Past  
5 Years**

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# Aligning GIS with Port Strategy at the Port of Long Beach



**Leadership**

**Port of  
Long Beach**

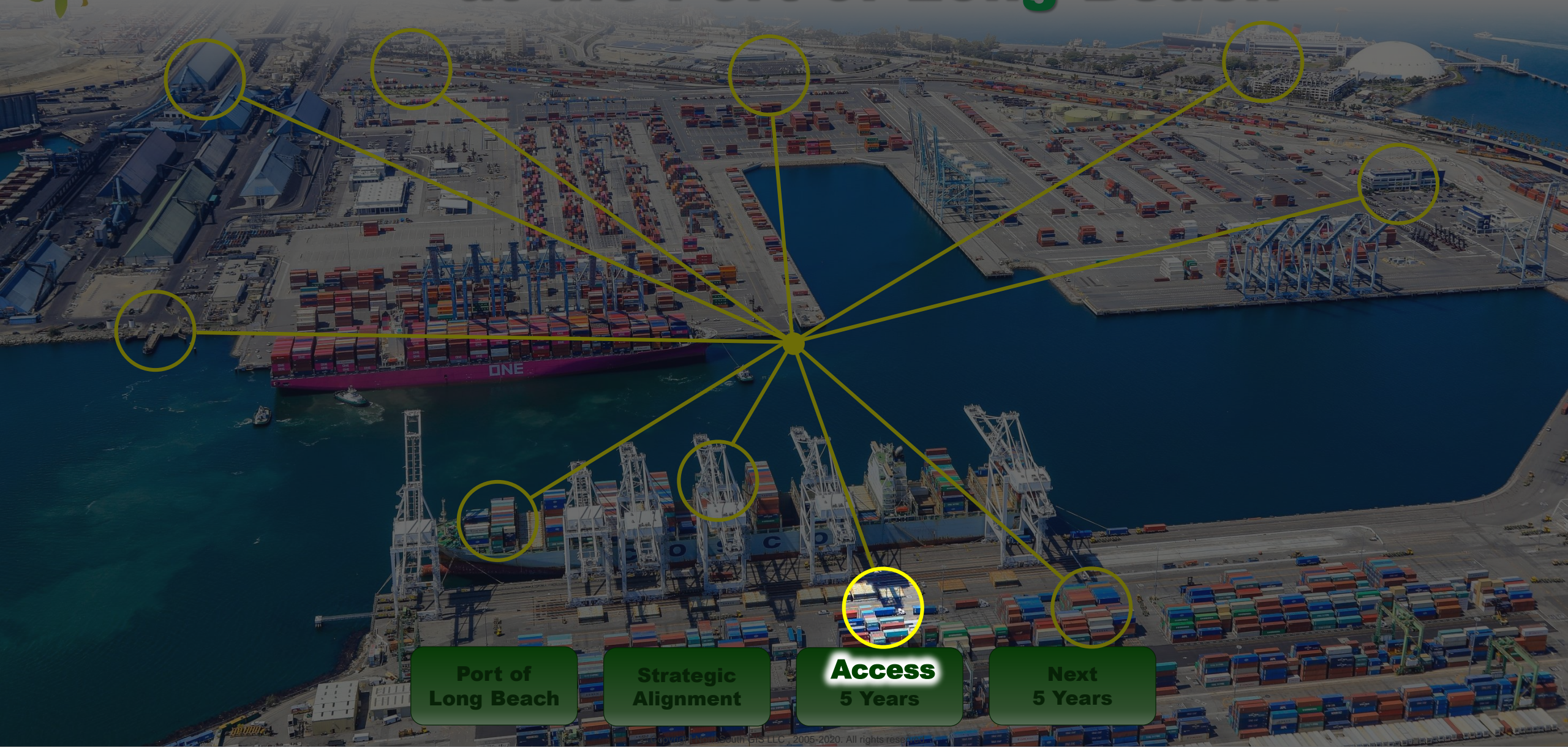
**Strategic  
Alignment**

**Past  
5 Years**

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# Aligning GIS with Port Strategy at the Port of Long Beach



**Port of  
Long Beach**

**Strategic  
Alignment**

**Access  
5 Years**

**Next  
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# Aligning GIS with Port Strategy at the Port of Long Beach



**Port of  
Long Beach**

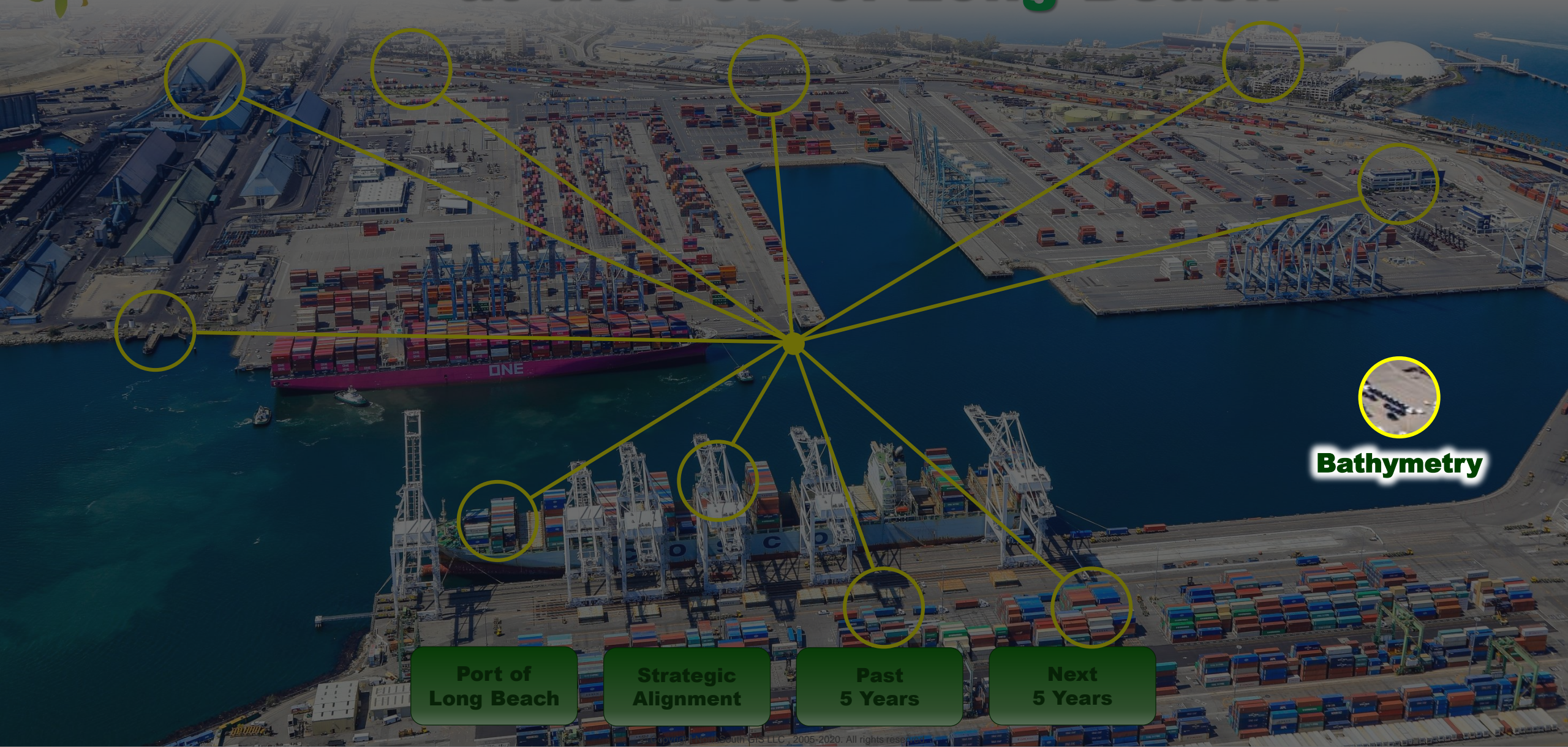
**Strategic  
Alignment**

**Past  
5 Years**

**Enterprise  
5 Years**



# Aligning GIS with Port Strategy at the Port of Long Beach



**Bathymetry**

**Port of  
Long Beach**

**Strategic  
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North American ports  
Ports with known GIS activities  
The Port of Long Beach  
*The leading port in GIS utilization*



**Port of  
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# The Port of Long Beach

[www.polb.com](http://www.polb.com)

- *How long has POLB been using GIS?*
  - *Desktop GIS since 2000.*
- *How many employees does it have?*
  - *580 staff*
- *How many desktop power users does it have?*
  - *8 power users mostly engineering, survey, and planning*
- *How many web GIS power users does it have?*
  - *25 – 50 / month*
- *How many casual users does it have?*
  - *200 – 300 / month averaging 600 sessions in 2019*
- *How many outsiders use POLB systems?*
  - *Virtual Port – xxx*
  - *Port Atlas – 14 (2019) 70+ (2020) with Gerald Desmond Bridge & Pier B On Dock Rail*
- *How many servers are used for geospatial technologies?*
  - *10*

**Port of  
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# Main Participants

- **Currently**
  - **Information Management Division**
  - **Engineering Design Division**
  - **Security Services Division**
  - **Transportation Planning Division**
  - **Real Estate Division**
  - **Tenant Services and Operations Division**
- **Up and coming**
  - **Survey Division**
  - **Maintenance Division**
  - **Program Management Division**
  - **External Partners**

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**Strategic  
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# Data

- Underground infrastructure
- Survey control
- Dig alert representation
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)

**Port of  
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**Strategic  
Alignment**

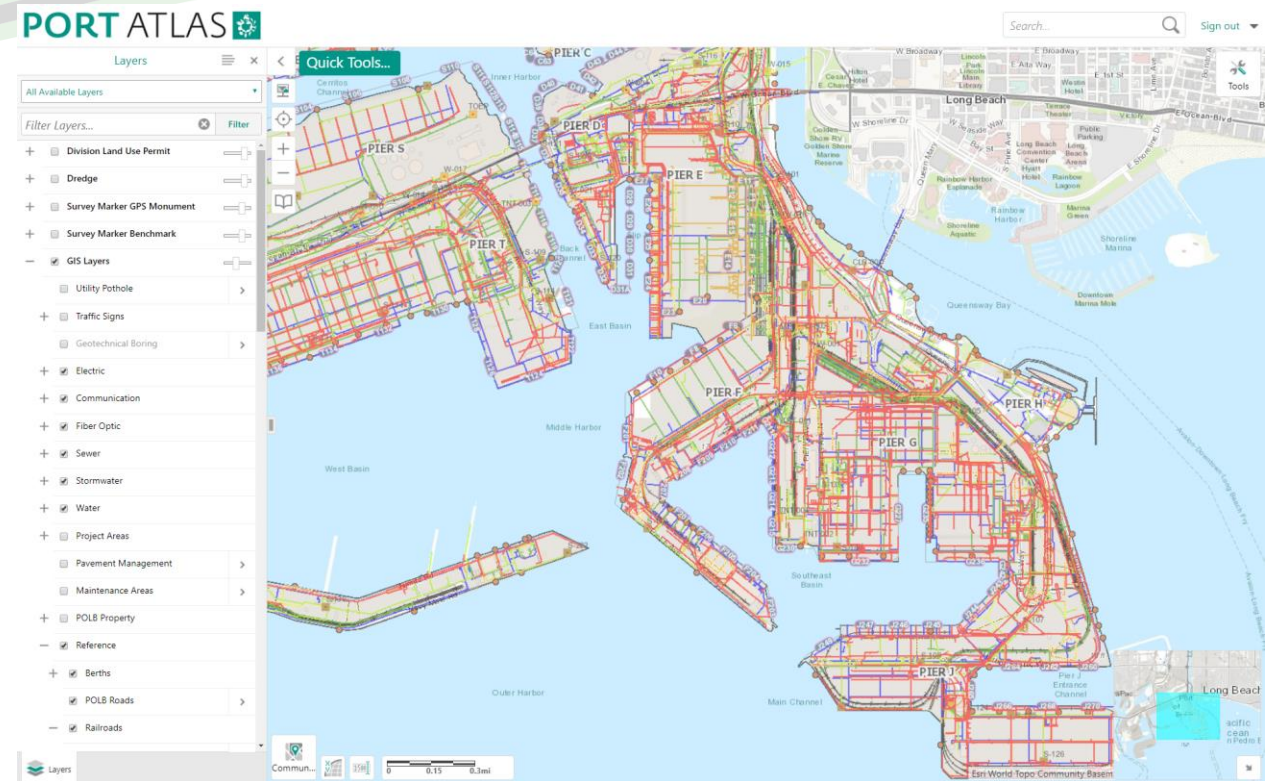
**Past  
5 Years**

**Next  
5 Years**



# Data

- **Underground infrastructure**
  - Electric, communications, sewer, water, storm water, fiber
- Survey control
- Dig alert representation
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)



**Port of  
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**Strategic  
Alignment**

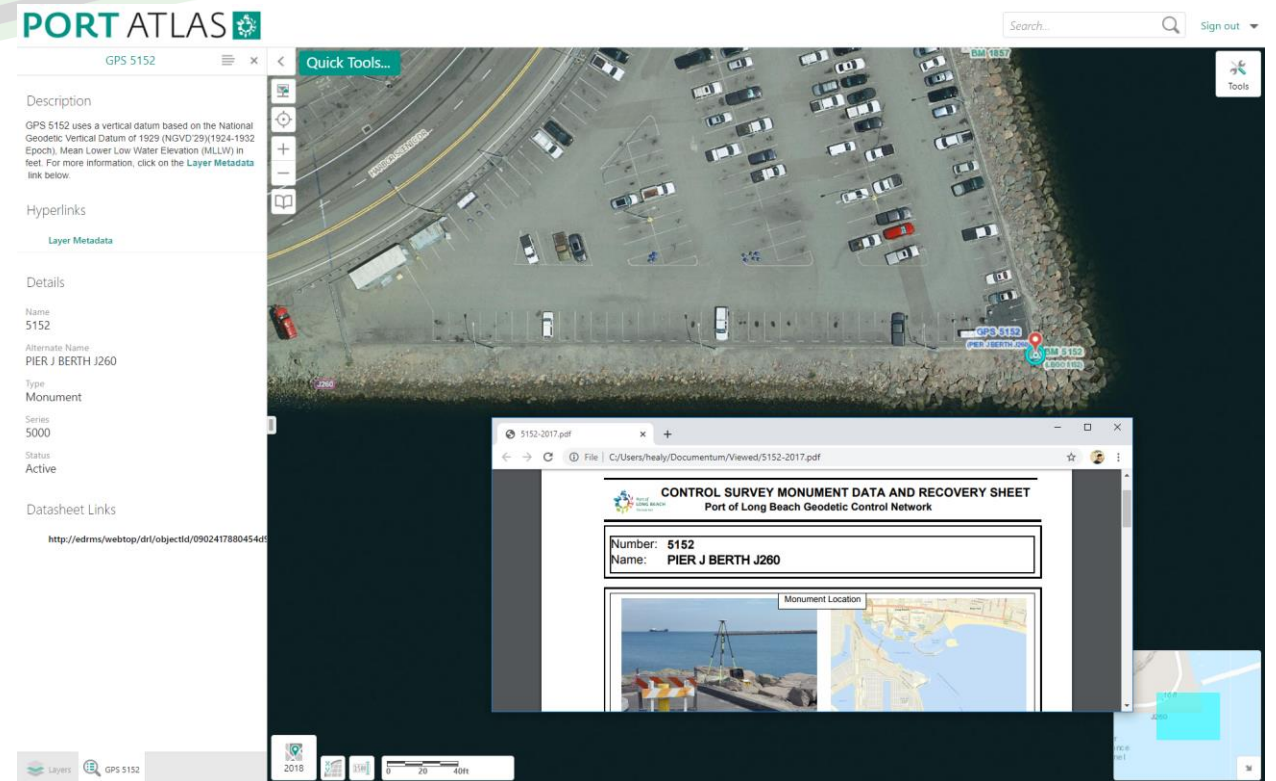
**Past  
5 Years**

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# Data

- Underground infrastructure
- **Survey control**
  - GPS monuments and benchmarks
- Dig alert representation
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)



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**Strategic  
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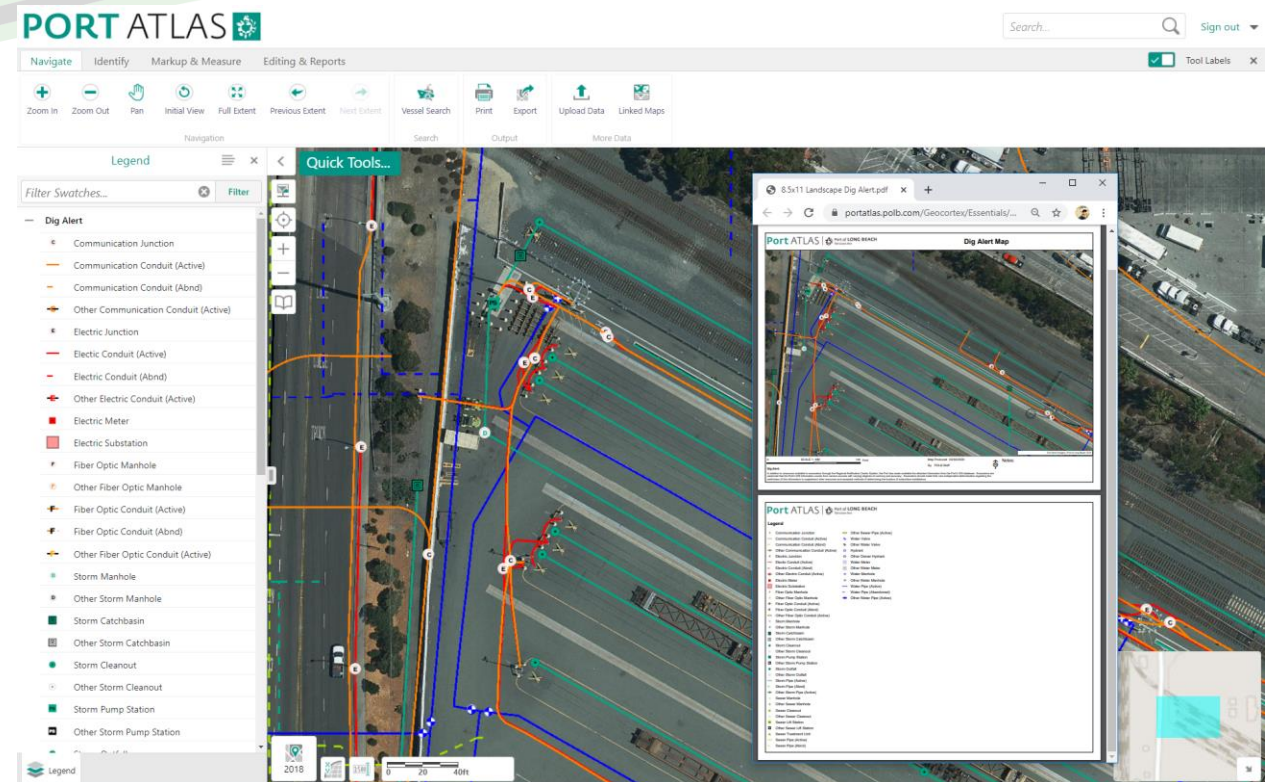
**Past  
5 Years**

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# Data

- Underground infrastructure
- Survey control
- **Dig alert representation**
  - Specialized symbolization for Underground Service Alert
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)



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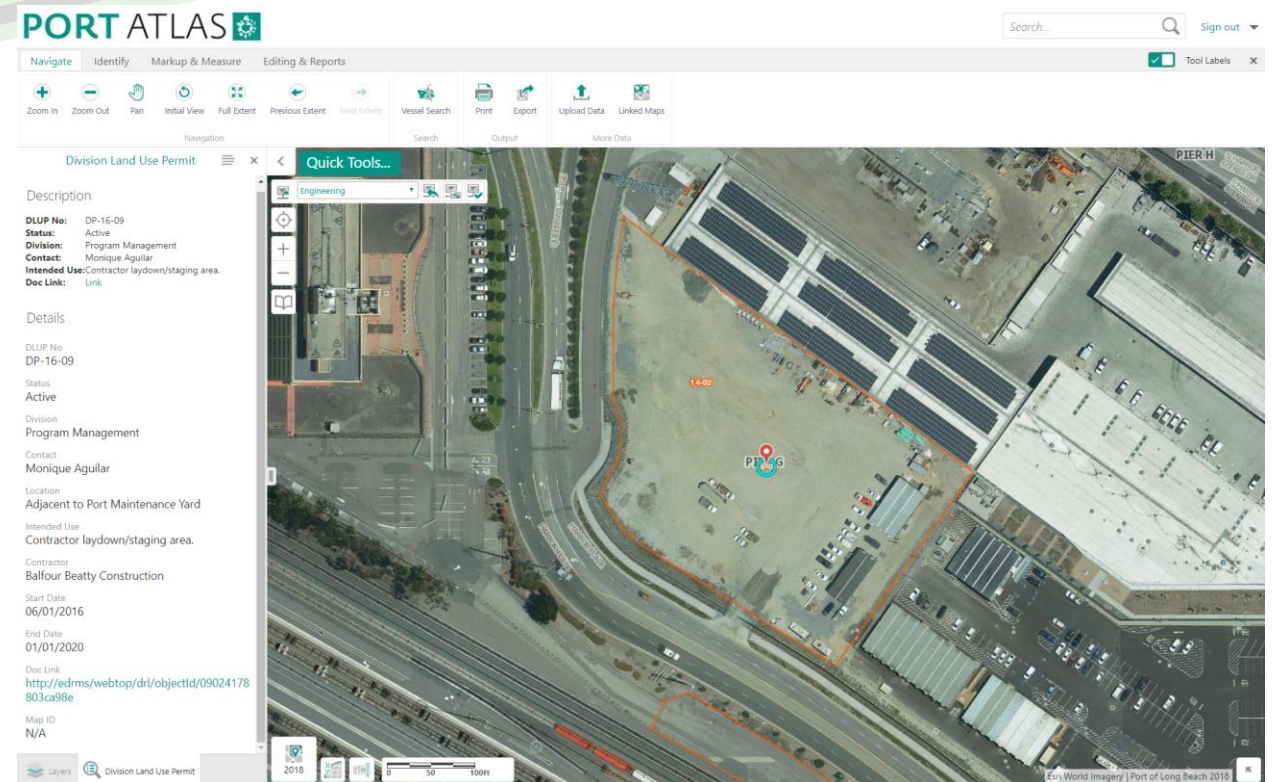
**Past  
5 Years**

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# Data

- Underground infrastructure
- Survey control
- Dig alert representation
- **Permit locations**
  - Internal permits for laydown yards, buildings, water
- Leases
- Inspection compliance (e.g. catch basins)



**Port of  
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**Strategic  
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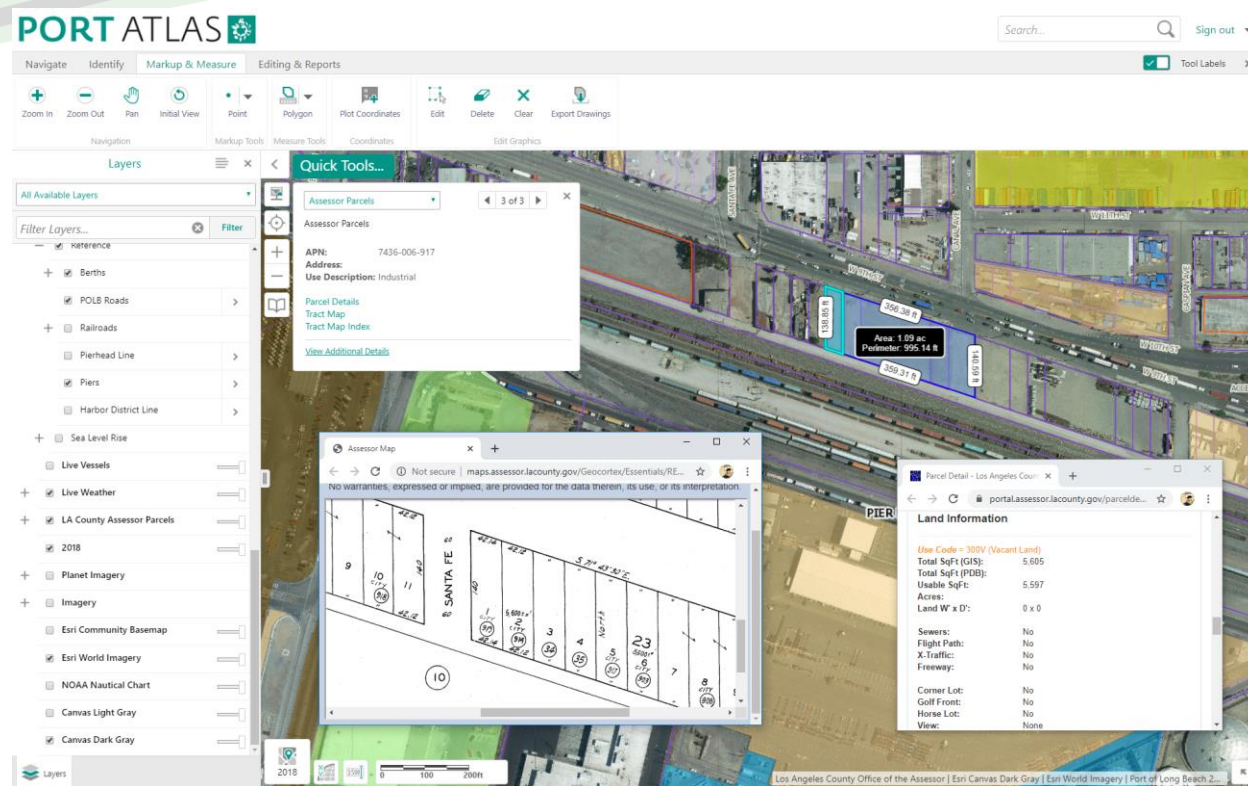
**Past  
5 Years**

**Next  
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# Data

- Underground infrastructure
- Survey control
- Dig alert representation
- Permit locations
- **Leases**
  - Tenant leases, oil set-asides and operation areas, deed restrictions, property ownership, rights of way
- Inspection compliance (e.g. catch basins)



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# Data

- Underground infrastructure
- Survey control
- Dig alert representation
- Permit locations
- Leases
- **Inspection compliance (e.g. catch basins)**
  - In-field data collection with photos

1:03 PM Mon Feb 3

Cancel Collect Submit

01/09/2020 01:02 PM

Take Photo Attach

CLEANOUT\_DATE  
1/9/2020, 1:02 PM Today

Mon Jan 6	10	59	
Tue Jan 7	11	00	
Wed Jan 8	12	01	AM
Thu Jan 9	1	02	PM
Fri Jan 10	2	03	
Sat Jan 11	3	04	
Sun Jan 12	4	05	

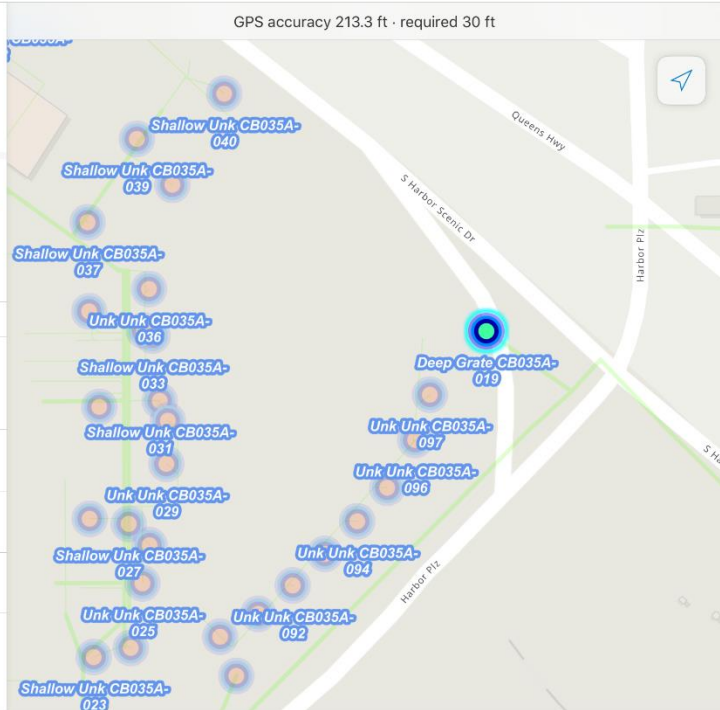
SEDIMENTBUILDUP \*  
0 - 6 (in) >

FLOWDESCRIPTION \*  
Trickling >

REMARKS

\* Indicates required field

GPS accuracy 213.3 ft · required 30 ft



**Port of  
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# Automation

- Berth assignment
- Internal permitting
- Work order reports

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**Strategic  
Alignment**

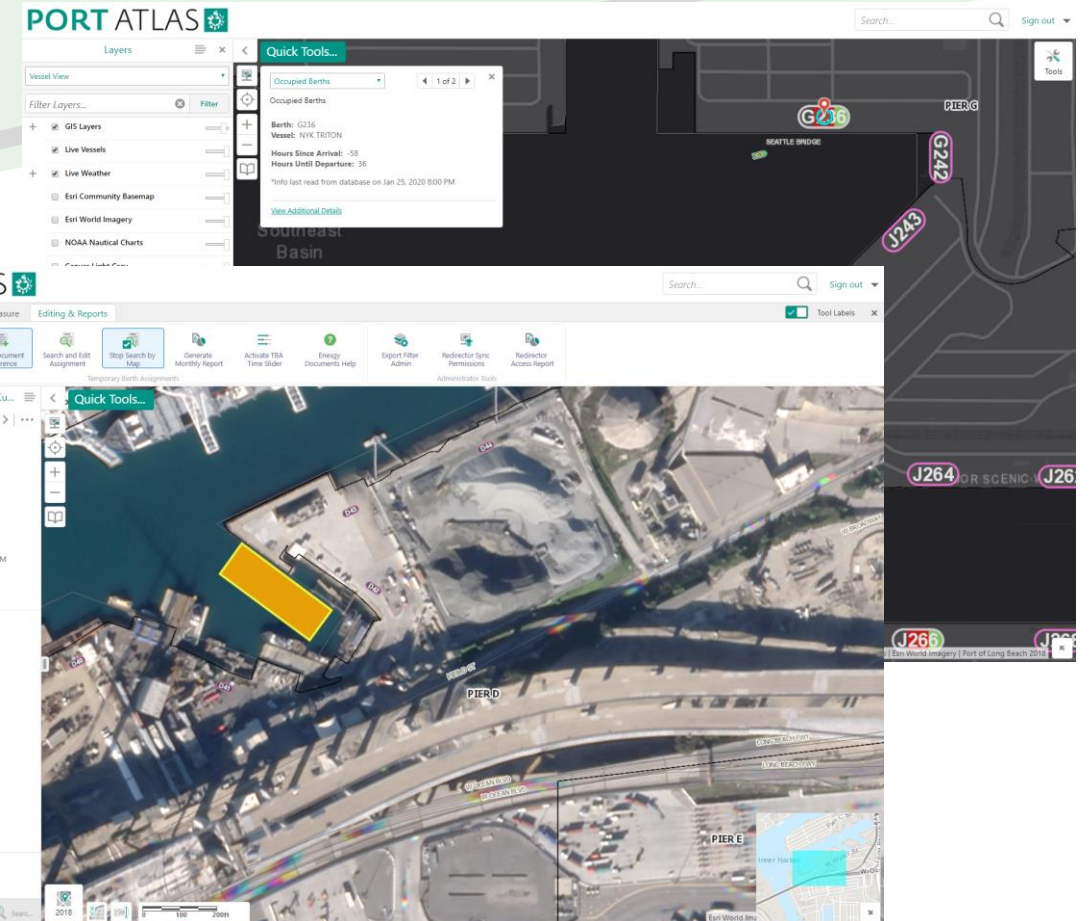
**Past  
5 Years**

**Next  
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# Automation

- **Berth assignment**
  - Allocation and rental of non-tenant berths
- Internal permitting
- Work order reports



**Port of  
Long Beach**

**Strategic  
Alignment**

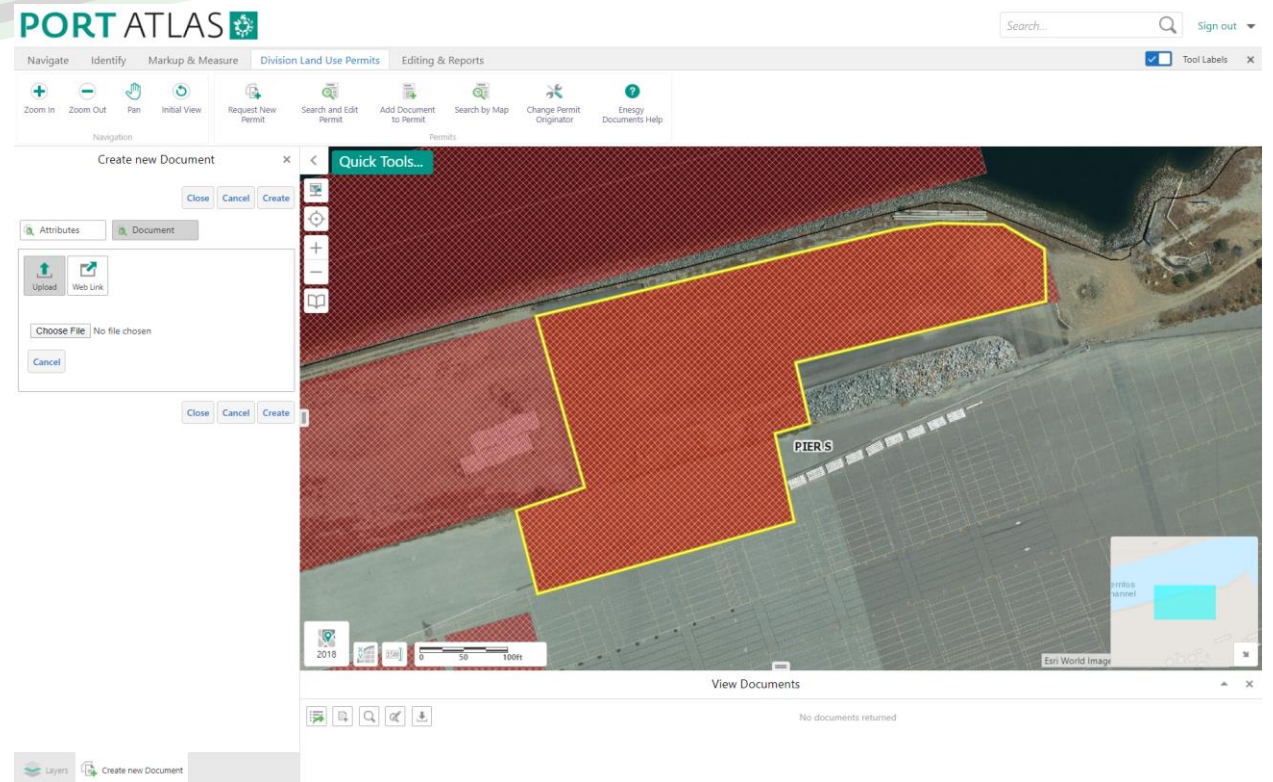
**Past  
5 Years**

**Next  
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# Automation

- Berth assignment
- **Internal permitting**
  - Inter-departmental coordination of space usage (maintenance, construction, environmental cleanup, etc.)
- Work order reports



**Port of  
Long Beach**

**Strategic  
Alignment**

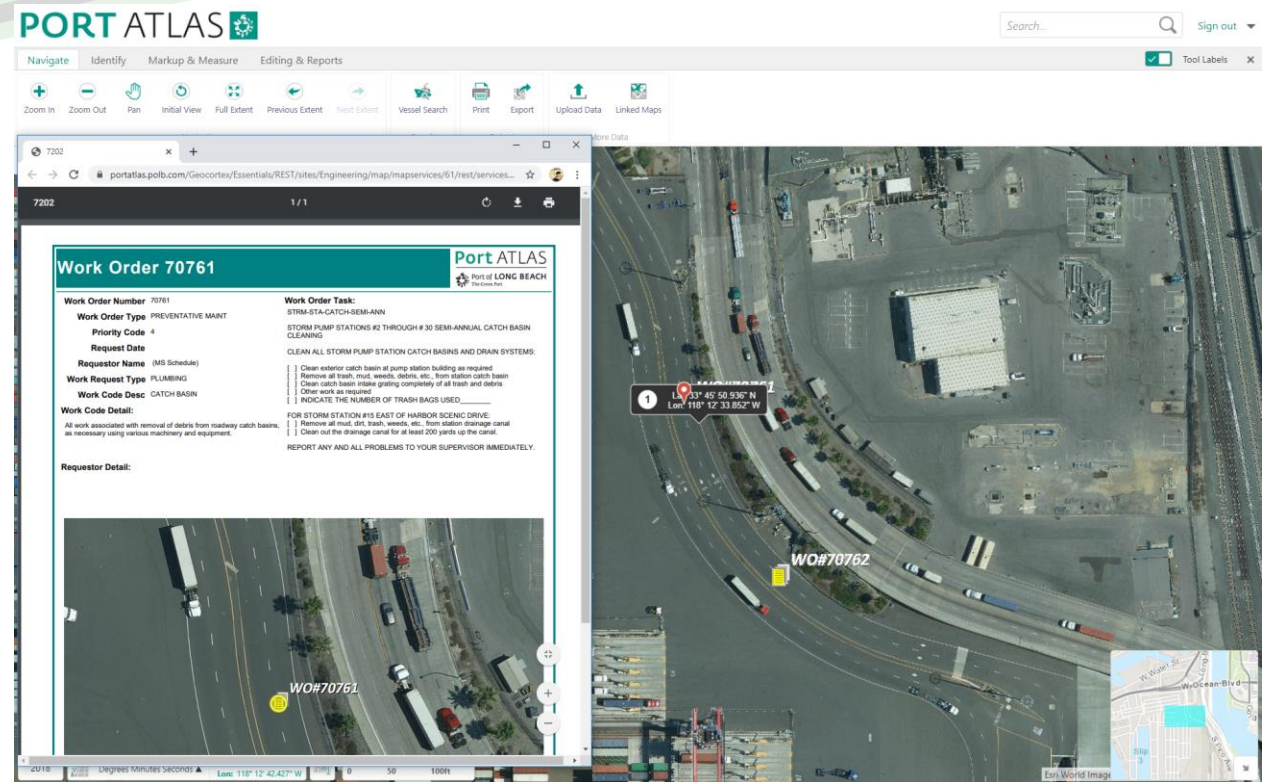
**Past  
5 Years**

**Next  
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# Automation

- Berth assignment
- Internal permitting
- **Work order reports**
  - Adding mapping to an old non-spatial work order system



**Port of  
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**Strategic  
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**Past  
5 Years**

**Next  
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# Access

- Port Atlas™
- Individualized experience
- External access

**Port** ATLAS



Port of **LONG BEACH**  
*The Green Port*

*in collaboration with*



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Essentials technology for the Esri® ArcGIS  
platform. All rights reserved.

**Port of  
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**Strategic  
Alignment**

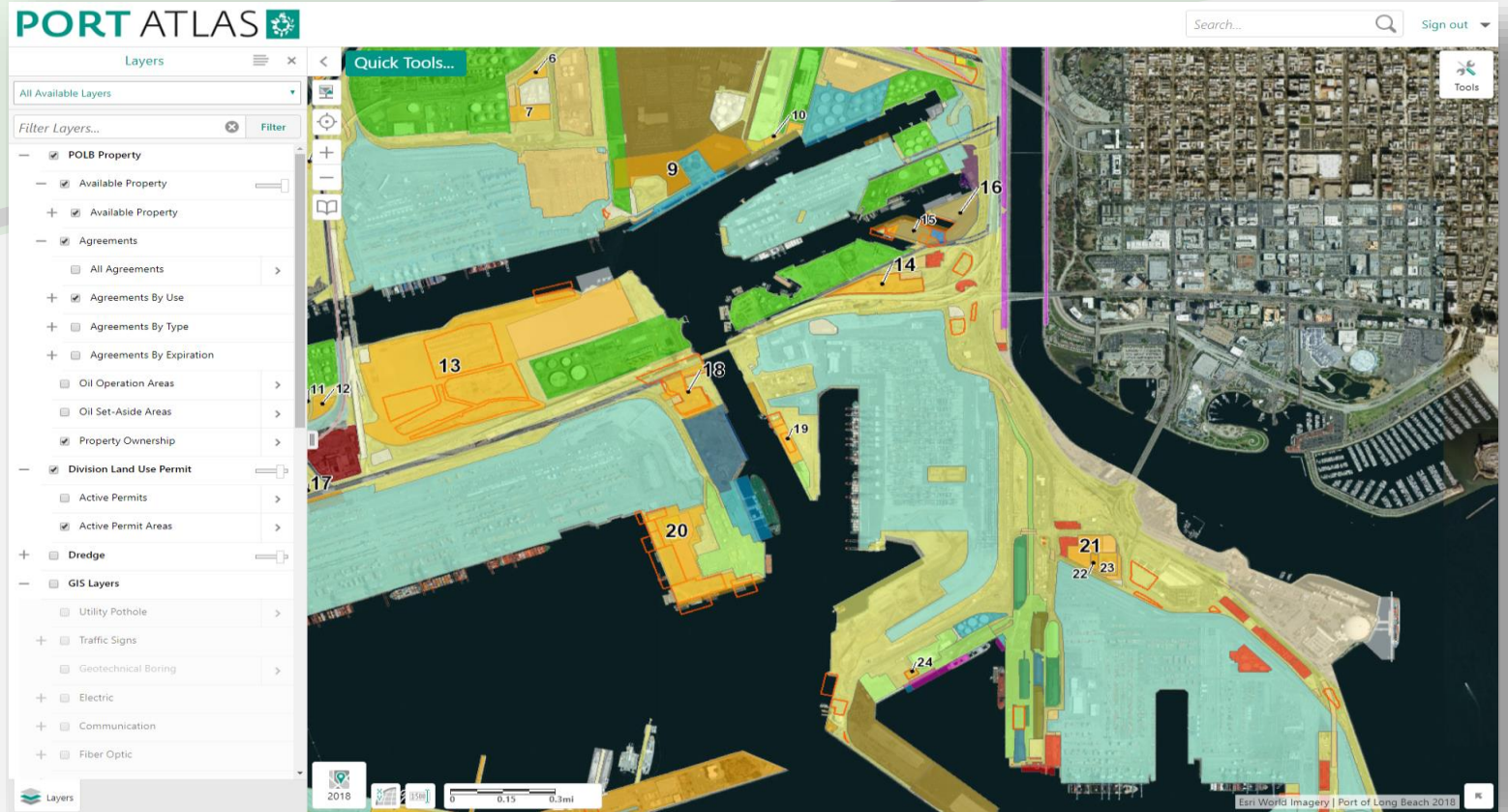
**Past  
5 Years**

**Next  
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# Access

- **Port Atlas™**
  - Enterprise-wide
  - Centralized configuration
  - Device agnostic
- Individualized experience
- External access



**Port of  
Long Beach**

**Strategic  
Alignment**

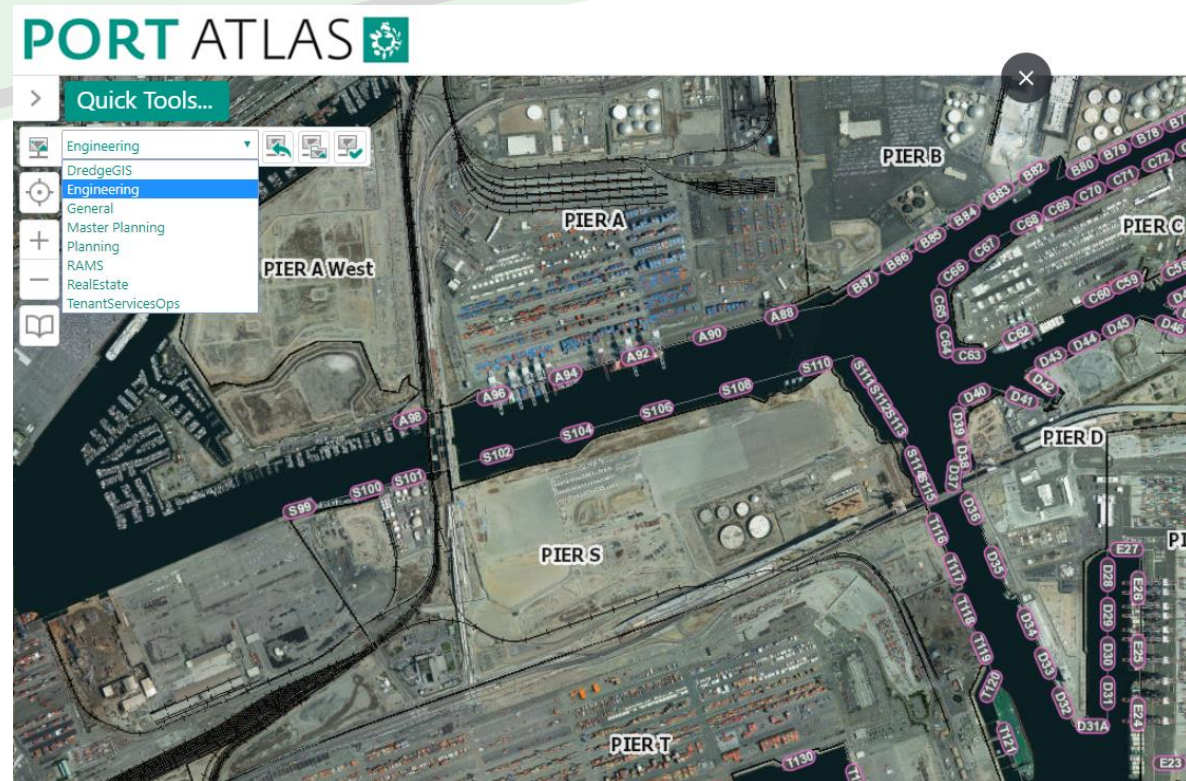
**Past  
5 Years**

**Next  
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# Access

- Port Atlas™
- **Individualized experience**
  - General
  - Engineering
  - Real Estate
  - Planning & Environmental
  - Tenant Services
- External access



**Port of  
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**Strategic  
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**Past  
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# Access

- Port Atlas™
- Individualized experience
- **External access**
  - Active Directory for staff
  - Google Identity for external partners

Sign In

Google Identity

Windows Integrated

[Return to Application](#)

**Port of  
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# Enterprise Plans

- Increased availability
- Increased resiliency
- Support new systems
- Document management integration

**Port of  
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**Strategic  
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**Past  
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# Enterprise Plans

- **Increased availability**
  - Additional parallel technology stacks
  - Always-on capability
- Increased resiliency
- Support new systems
- Document management integration

**Port of  
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**Strategic  
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# Enterprise Plans

- Increased availability
- **Increased resiliency**
  - Multiple data centers
- Support new systems
- Document management integration

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# Enterprise Plans

- Increased availability
- Increased resiliency
- **Support new systems**
  - Computer Aided Dispatch
  - Computerized Maintenance Management System (CMMS)
  - Enterprise Asset Management (EAM)
- Document management integration

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**Strategic  
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# Enterprise Plans

- Increased availability
- Increased resiliency
- Support new systems
- **Document management integration**
  - Leverage Enesgy® Document for tighter integration with Electronic Document and Record Management System (EDRMS)

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# Automation Plans

- Information sharing
- Collaboration
- Coordination
- Information capture
- Customer service

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# Automation Plans

- **Information sharing**
  - Single source of truth for large infrastructure projects, e.g. Pier B On-Dock Rail Facility
- Collaboration
- Coordination
- Information capture
- Customer service

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# Automation Plans

- Information sharing
- **Collaboration**
  - Multi-agency editing of shared information, e.g. overweight cargo routes
- Coordination
- Information capture
- Customer service

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# Automation Plans

- Information sharing
- Collaboration
- **Coordination**
  - Clearinghouse for external streaming data sources, links to external sites
- Information capture
- Customer service

**Port of  
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**Strategic  
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# Automation Plans

- Information sharing
- Collaboration
- Coordination
- **Information capture**
  - Incident reporting, condition assessment inspections, windshield surveys
- Customer service

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**Past  
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# Automation Plans

- Information sharing
- Collaboration
- Coordination
- Information capture
- **Customer service**
  - Tenant work order portal

**Port of  
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**Strategic  
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# Leadership

- Virtual Port
- RAMS
- Overweight cargo routes

**Port of  
Long Beach**

**Strategic  
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# Leadership

- **Virtual Port**
  - Hosting and sharing advanced situational awareness system with other ports, local, state and federal agencies
- RAMS
- Overweight cargo routes

**Port of  
Long Beach**

**Strategic  
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**Past  
5 Years**

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# Leadership

- Virtual Port
- **RAMS**
  - Hosting the map, data and documents for ACTA, a joint rail agency between Ports of Long Beach and Los Angeles
- Overweight cargo routes

**Port of  
Long Beach**

**Strategic  
Alignment**

**Past  
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# Leadership

- Virtual Port
- RAMS
- **Overweight cargo routes**
  - Centralizing and sharing roads where overweight cargo is permissible between 2 ports, 3 cities and 1 state agency

**Port of  
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**Strategic  
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# Integrations

- Vessel tracking
- Satellite imagery
- Property and right of way management

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**Strategic  
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# Integrations

- **Vessel tracking**
  - AIS, Marine Exchange of SoCal, Coast Guard, other ports
- Satellite imagery
- Property and right of way management

**Port of  
Long Beach**

**Strategic  
Alignment**

**Past  
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# Integrations

- Vessel tracking
- **Satellite imagery**
  - Planet.com, Los Angeles County-led aerial photo consortium (LAR-IAC)
- Property and right of way management

**Port of  
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**Strategic  
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**Past  
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# Integrations

- Vessel tracking
- Satellite imagery
- **Property and right of way management**
  - Alameda Corridor Transportation Authority, Port of Los Angeles

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# Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- CAD
- BIM
- IoT

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**Strategic  
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# Integrations Plans

- **Live data connections**
  - Port of Los Angeles, neighboring cities and counties, NOAA, telecom, vehicle navigation, vehicle tracking
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- CAD
- BIM
- IoT

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**Strategic  
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# Integrations Plans

- Live data connections
- **Unmanned Aircraft Systems (UAS)**
  - Buildings, structures, weather, cargo, flight plans, tenant and labor communication
- Bathymetry
- CAD
- BIM
- IoT

**Port of  
Long Beach**

**Strategic  
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**Past  
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# Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- **Bathymetry**
  - Bathymetric Information System (BIS), USACE, NOAA and port surveys,
- CAD
- BIM
- IoT

**Port of  
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**Strategic  
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**Past  
5 Years**

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# Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- **CAD**
  - Synergizing CAD with GIS
- BIM
- IoT

**Port of  
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**Strategic  
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**Past  
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**Next  
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# Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- CAD
- **BIM**
  - 3D GIS and BIM integration
- IoT

**Port of  
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**Strategic  
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**Past  
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# Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- CAD
- BIM
- **IoT**
  - Environmental quality monitoring, structural integrity sensor network

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# Access Plans

- ArcGIS Enterprise
- ArcGIS Online
- Field integration

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# Access Plans

- **ArcGIS Enterprise**
  - Portal for ArcGIS
  - ArcGIS Pro
- ArcGIS Online
- Field integration

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**Strategic  
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**Past  
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# Access Plans

- ArcGIS Enterprise
- **ArcGIS Online**
  - Information sharing with public
  - Marketing and public relations
- Field integration

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Long Beach**

**Strategic  
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**Past  
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# Access Plans

- ArcGIS Enterprise
- ArcGIS Online
- **Field integration**
  - Blanket WiFi coverage
  - Increased use of secure, ruggedized mobile devices

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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce

## Strategic Goals & Objectives

The Port has established six strategic goals to achieve in coming years. These goals define our priorities in our mission and focus our resources in a way that moves us closer to our vision for the future. To realize this vision, it is necessary to successfully achieve each of the following goals:

- Strengthen the Port's competitive position through **secure** and efficient **movement of cargo** while providing outstanding **customer service**.
- Maintain financial strength and security of assets.
- Develop and maintain **state-of-the-art infrastructure** that enhances **productivity** and efficiency in goods movement.
- Improve the environment through sustainable practices and the **reduction of environmental impacts** from Port operations and development.
- Broader **community access** to Port-related opportunities and economic benefits.
- Attract, develop and retain a diverse, **high-performing workforce**.

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# Alignment with Port Strategy

- Strategic Plan
- Security
  - Situational and Domain Awareness, damage assessment, tracking
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce

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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
  - Transportation planning, disaster response, event planning
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce

**Port of  
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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
  - Berth allocation, trucker support, more accurate work orders
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce

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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
  - Construction coordination, asset maintenance
- Productivity
- Environmental impact
- Community access
- Workforce

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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
  - Single authoritative source for *mapped* data, linking documents to maps
- Environmental impact
- Community access
- Workforce

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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
  - Monitoring
- Community access
- Workforce

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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
  - Public access to data, secured coordination with contractors
- Workforce

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# Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce
  - Field access to information

**Port of  
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**Strategic  
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# Enterprise

- Enterprise funded
- Technology stack
- Change control

**Port of  
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**Strategic  
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# Enterprise

- **Enterprise funded**
  - Migration from departmental to enterprise GIS
  - Funded through Information Management budget and Security
- Technology stack
- Change control

**Port of  
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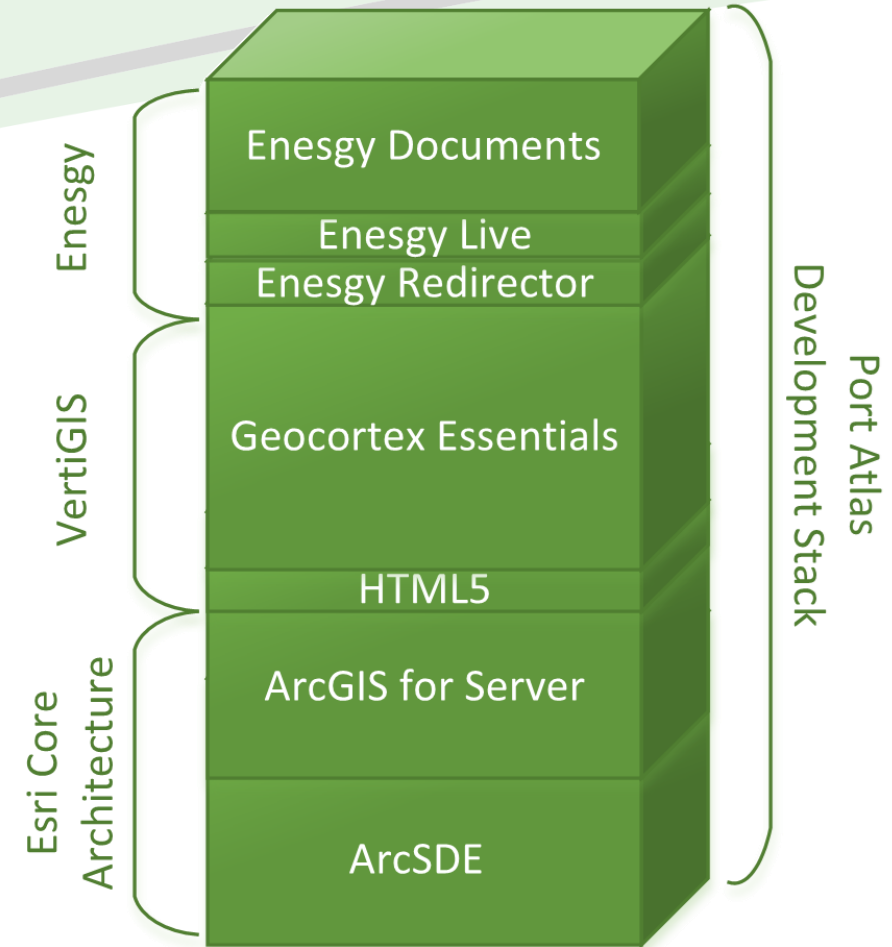
**Past  
5 Years**

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# Enterprise

- Enterprise funded
- **Technology stack**
  - Multi-tier
  - Multi-stack
  - Virtualized
- Change control



**Port of  
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# Enterprise

- Enterprise funded
- Technology stack
- **Change control**
  - Change management
  - Change Advisory Board
  - Software Development Lifecycle

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5 Years**



# Aligning GIS with Port Strategy at the Port of Long Beach

**AAPA Smart Ports Seminar  
San Pedro, CA  
February 5 – 6, 2020**

**Shaun Healy, GIS Coordinator, Port of Long Beach  
Daniel Elroi, President & CEO, NSGIS**

**Port of  
Long Beach**

**Strategic  
Alignment**

**Past  
5 Years**

**Next  
5 Years**