

# Using ArcGIS Online and Collector in an Asset Management Data Model

December 3, 2014



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# NJTPA Region

**Bergen**

**Essex**

**Hudson**

**Hunterdon**

**Jersey City**

**Middlesex**

**Monmouth**

**Morris**

**Newark**

**Ocean**

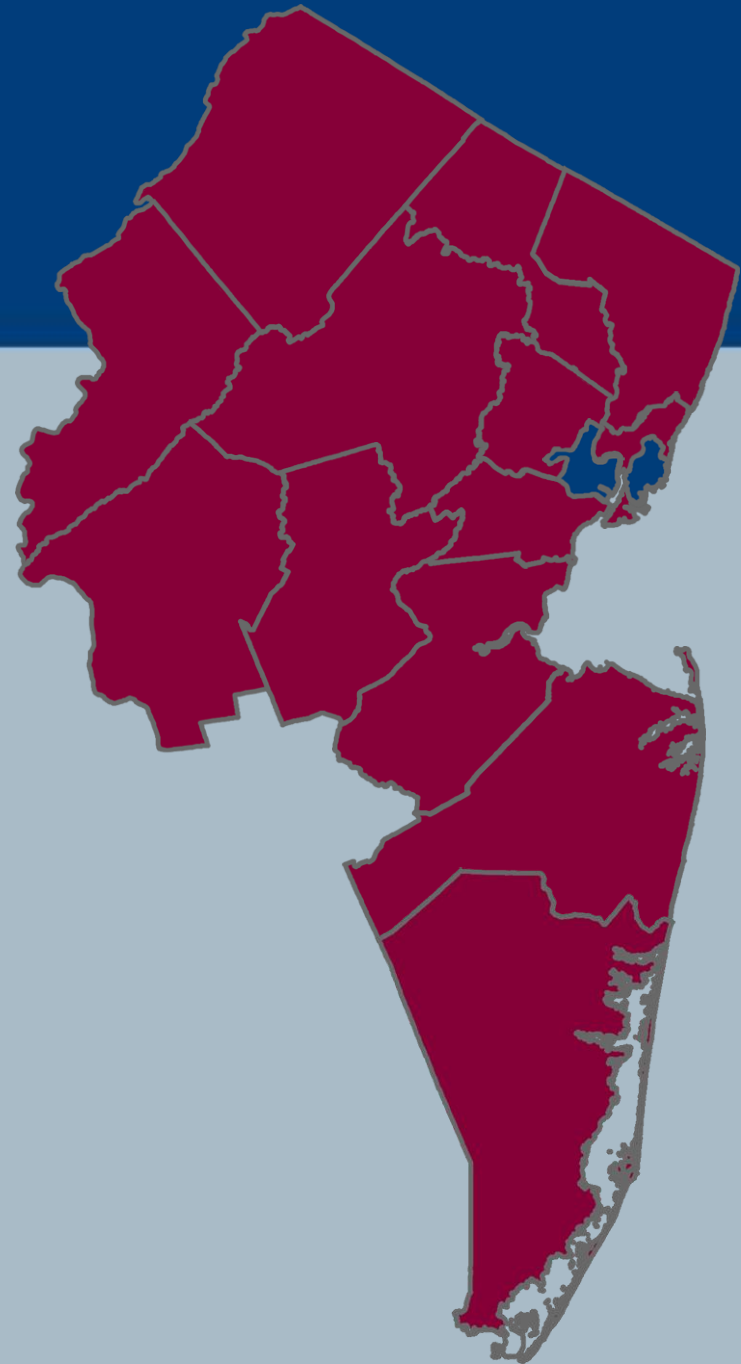
**Passaic**

**Somerset**

**Sussex**

**Union**

**Warren**



# North Jersey Transportation Planning Authority

The Metropolitan Planning Organization for Northern New Jersey



## STANDING COMMITTEES

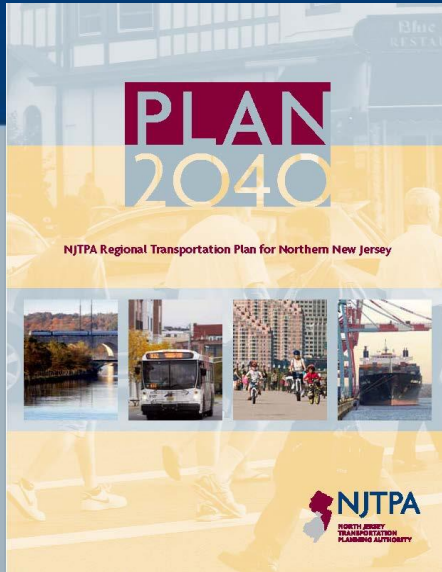
Planning & Economic Development Committee

Project Prioritization Committee

Freight Initiative Committee

Regional Transportation Advisory Committee

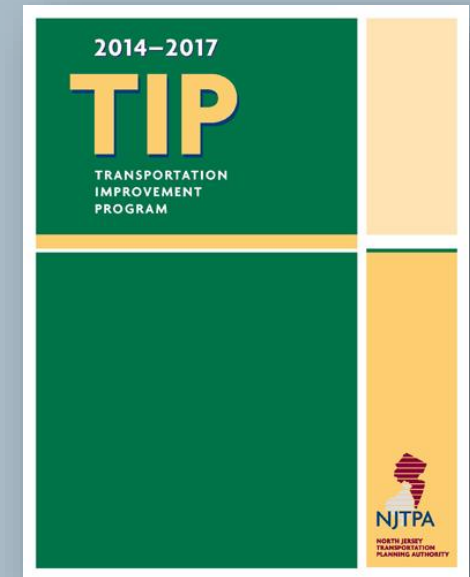
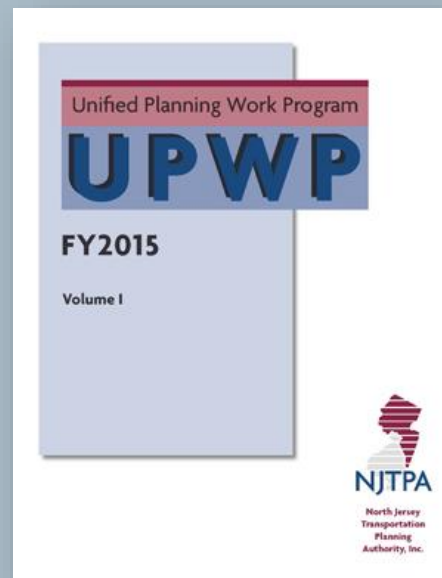
# MPO Key Products



## Regional Transportation Plan (RTP)

*Updated every four years*

*Planning*



## Transportation Improvement Program (TIP)

*Updated every two years*

# Regional Transportation System

## Road Network:

- 147 million vehicle miles each day
- 26,000 miles of roads, including 177 miles of toll roads
- 4,800 bridges

## Transit Network:

- 732,000 trips daily
- 13% of commuters ride transit
- 250 bus routes
- Commuter rail: 390 miles of track, 150 stations

# Asset Management: Project Purpose

- To create a county-level geospatial database for cataloging, maintaining, and managing a variety of physical assets.

# Asset Management: Project Overview

Task 1: Data Gathering and Assessment

Task 2: Design Asset Management Model

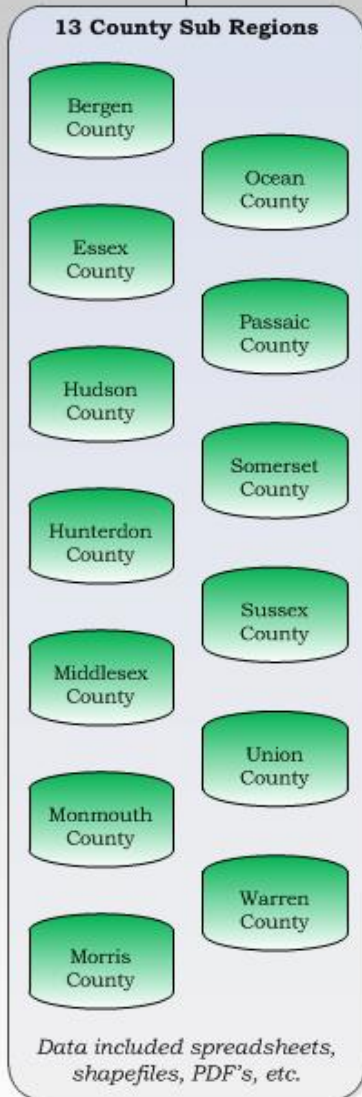
Task 3: Deploy and Refine Model

Task 4: Documentation and Training

(October, 2014)

**STEP 1:**

*Acquisition of relevant county data*



Data uploaded to Secure SharePoint Site by Counties

**STEP 2:**  
*Consolidation of County Data*  
Data downloaded from SharePoint site by Project Team  
Data compiled into County-Level Geodatabases

**STEP 4:**  
*Development of unified schema and geodatabase model*

**STEP 5:**  
*Development of ETL data migration scripts*

**STEP 6:**  
*Migration of county-level feature services (from AGO) to unified geodatabase*

**Workflow Steps:**

- Step 1. Acquisition of relevant data from NJTPA county sub-regions
- Step 2. Consolidation of county sub region data into file geodatabases
- Step 3. Publishing of county-level feature services to NJTPA's AGO Organization
- Step 4. Development of unified schema and geodatabase model
- Step 5. Development of ETL data migration scripts
- Step 6. Migration of county-level feature services to unified geodatabase
- Step 7. Deploy populated unified geodatabase *and* ETL scripts to NJTPA's server (Alpha)
- Step 8. Deployment of the reporting tools to NJTPA's server (Beta Version)
- Step 9. Publishing of regional level feature services to NJTPA ArcGIS Online Org

**STEP 3:**  
*Publish county-level feature services*

**NJTPA ArcGIS Online County-Level**

Same NJTPA AGO Account (Org)

**NJTPA ArcGIS Online Regional-Level**

Step 6 output

**Populated Unified Geodatabase in Baker Development Environment (ALPHA)**

**STEP 7:**  
*Deploy populated unified geodatabase and ETL scripts to NJTPA's server*

Step 7 output

**Populated Unified Geodatabase in NJTPA/EGIS Environment (BETA/FINAL)**

Step 6 output

Step 7 input

**STEP 9:**  
*Feature services published to AGO (from NJTPA ArcGIS Server)*

**STEP 8:**  
*Deployment of reporting tools*



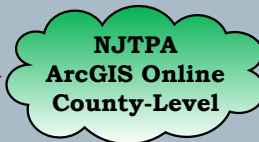
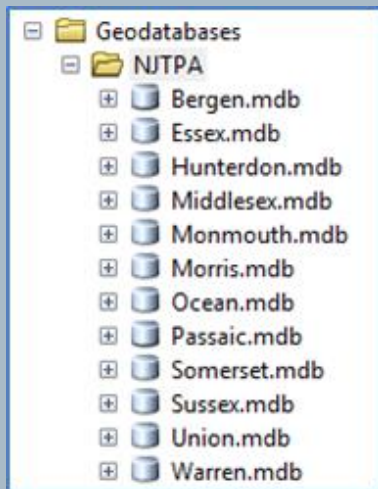


# Asset Management: County Data Inventory Results

	Pavement	Sign						
COUNTY	IRI Data	Posts	Signs	Bridges	Guiderail	Inlets	Outfalls	Signals
<i>Bergen County</i>		X	X	X	X			X
<i>Essex County</i>		X	X				X	
<i>Hudson County</i>		X	X					X
<i>Hunterdon County</i>		X	X	X		X	X	
<i>Middlesex County</i>		X	X	X		X	X	X
<i>Monmouth County</i>		X	X	X	X	X		X
<i>Morris County</i>		X	X	X		X	X	
<i>Ocean County</i>		X	X	X	X	X	X	X
<i>Passaic County</i>		X	X	X		X		
<i>Somerset County</i>		X	X	X		X	X	X
<i>Sussex County</i>	X	X	X	X	X	X	X	X
<i>Union County</i>	X	X	X	X				
<i>Warren County</i>		X	X					

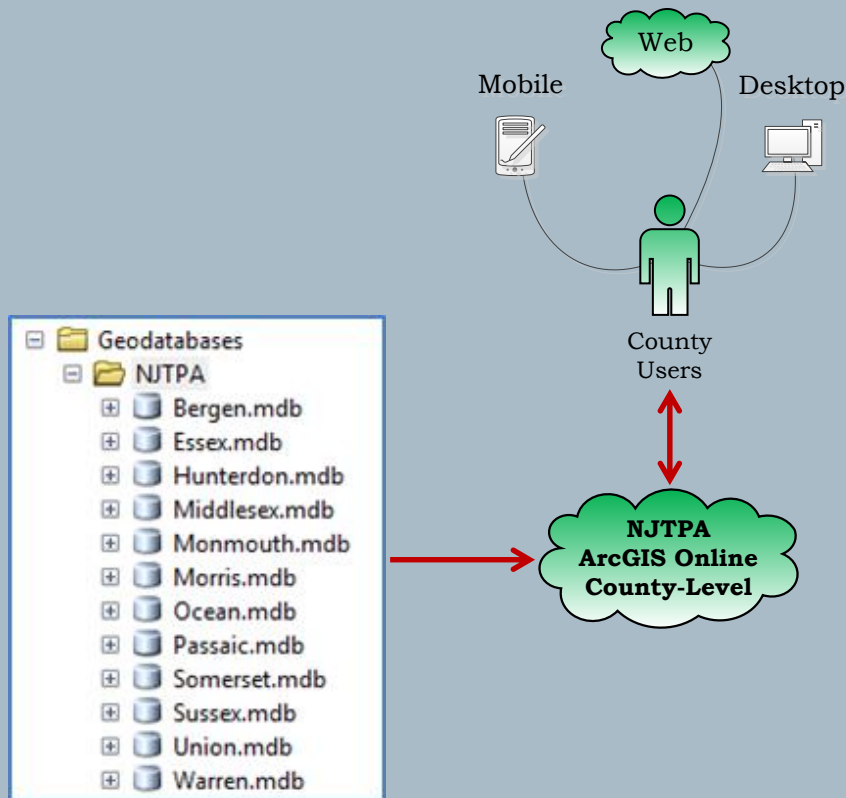
LEGEND	
	Six (6) Identified datasets from Counties
	Two (2) Identified datasets from State (if Counties don't have)
	County data submitted and consolidated to geodatabase - as of 6/4/14
	County data submitted but contained no coordinate data - could not be spatially enabled
X	Denotes originally identified as available data source by County

# Asset Management: Summary of Workflow Process



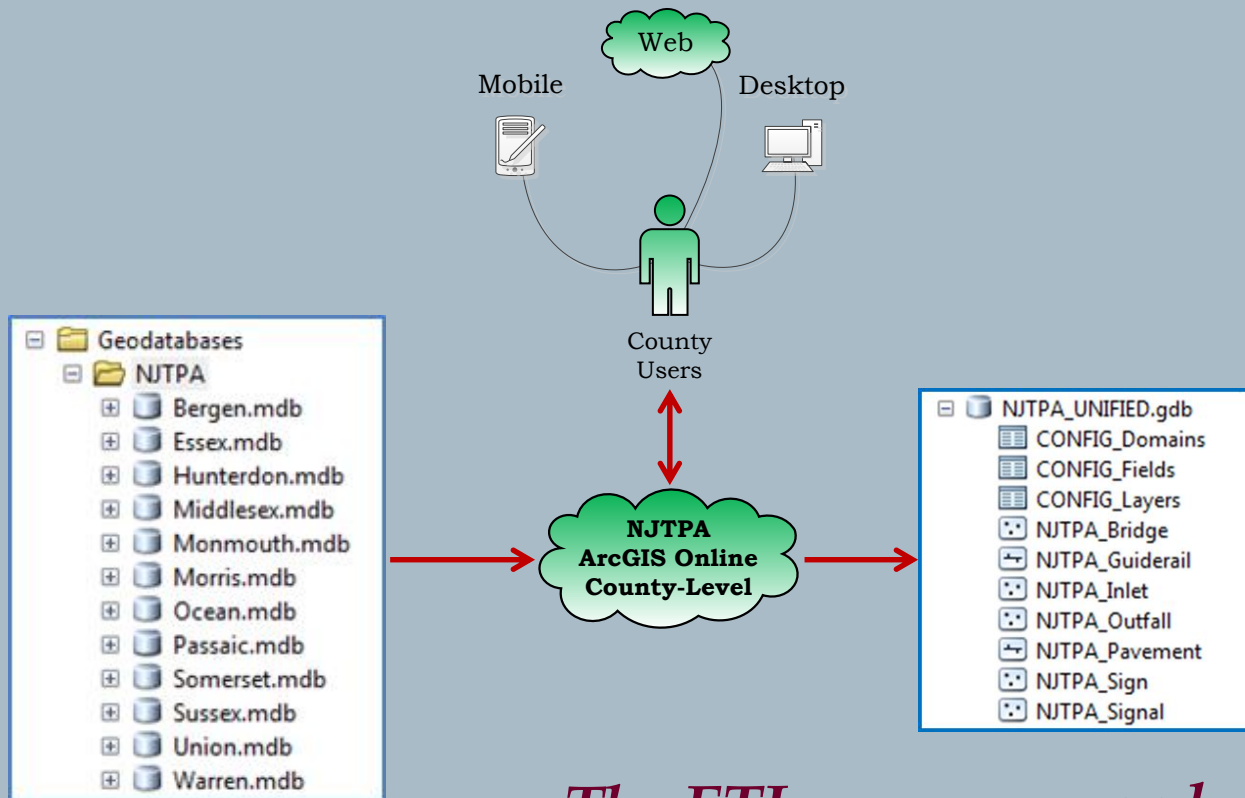
*Publish Individual County-Level  
Geo-databases into NJTPA  
ArcGIS Online Organization*

# Asset Management: Summary of Workflow Process



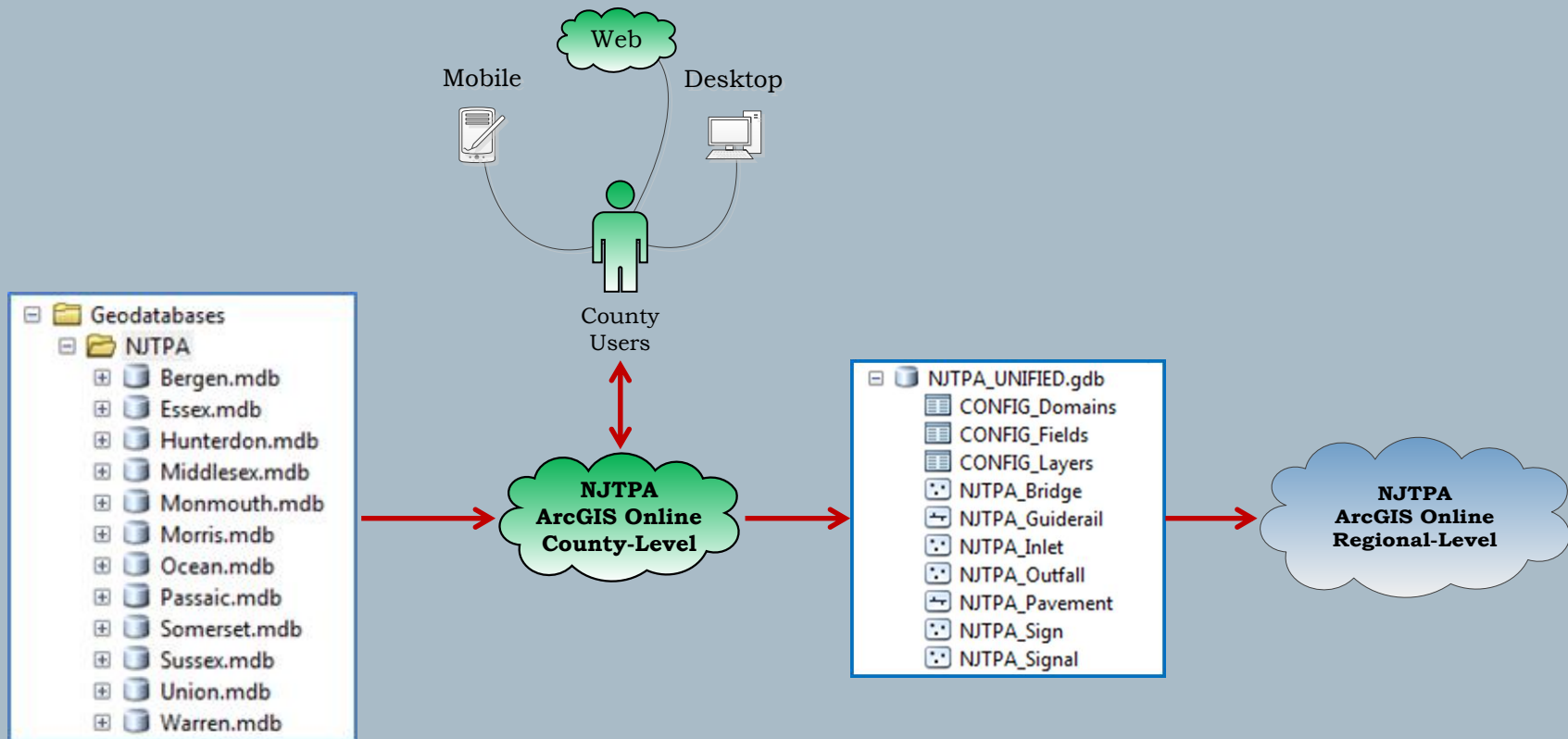
*County Users have access to the feature services in AGO*

# Asset Management: Summary of Workflow Process



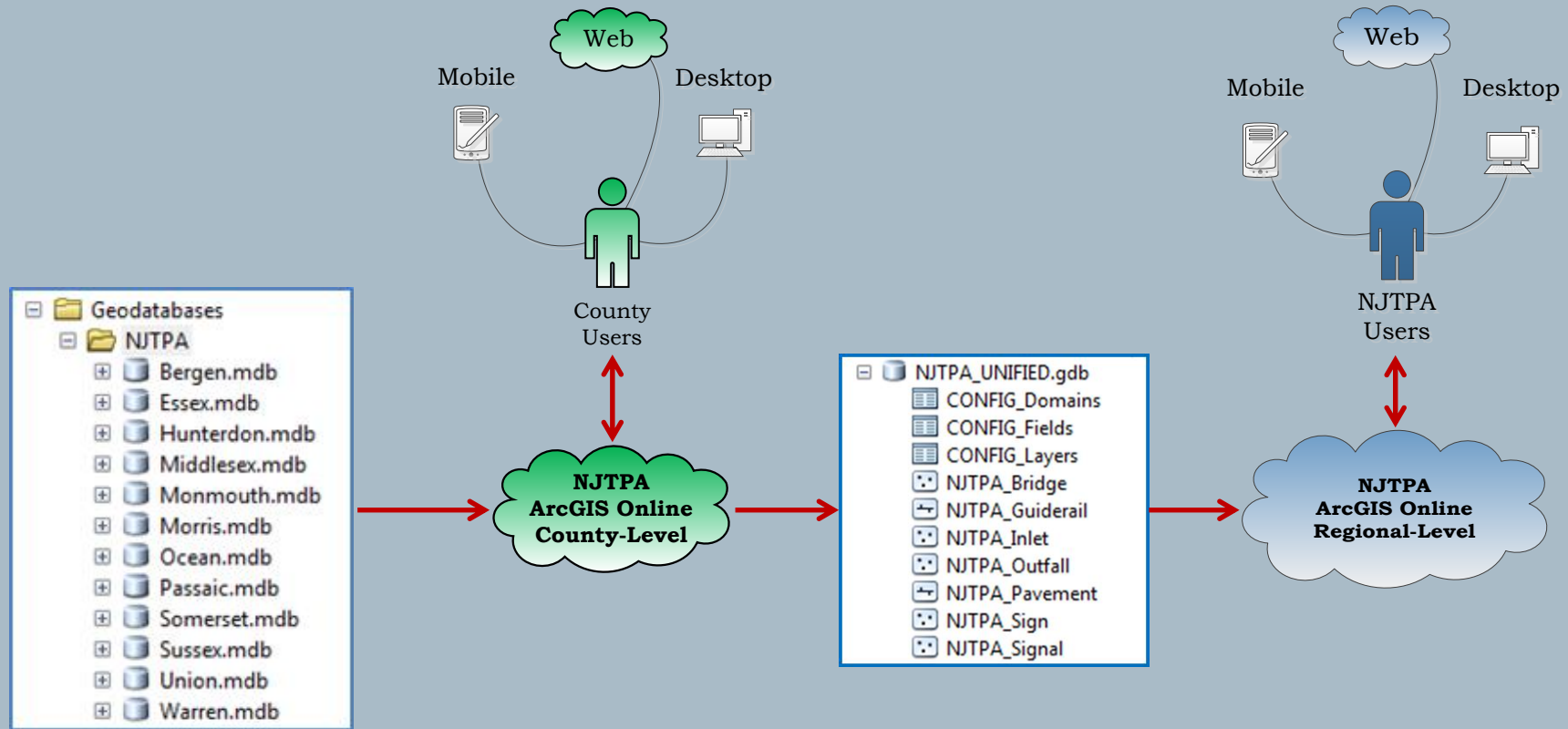
*The ETL process populates the unified data model with current information. It is run on a periodic basis*

# Asset Management: Summary of Workflow Process



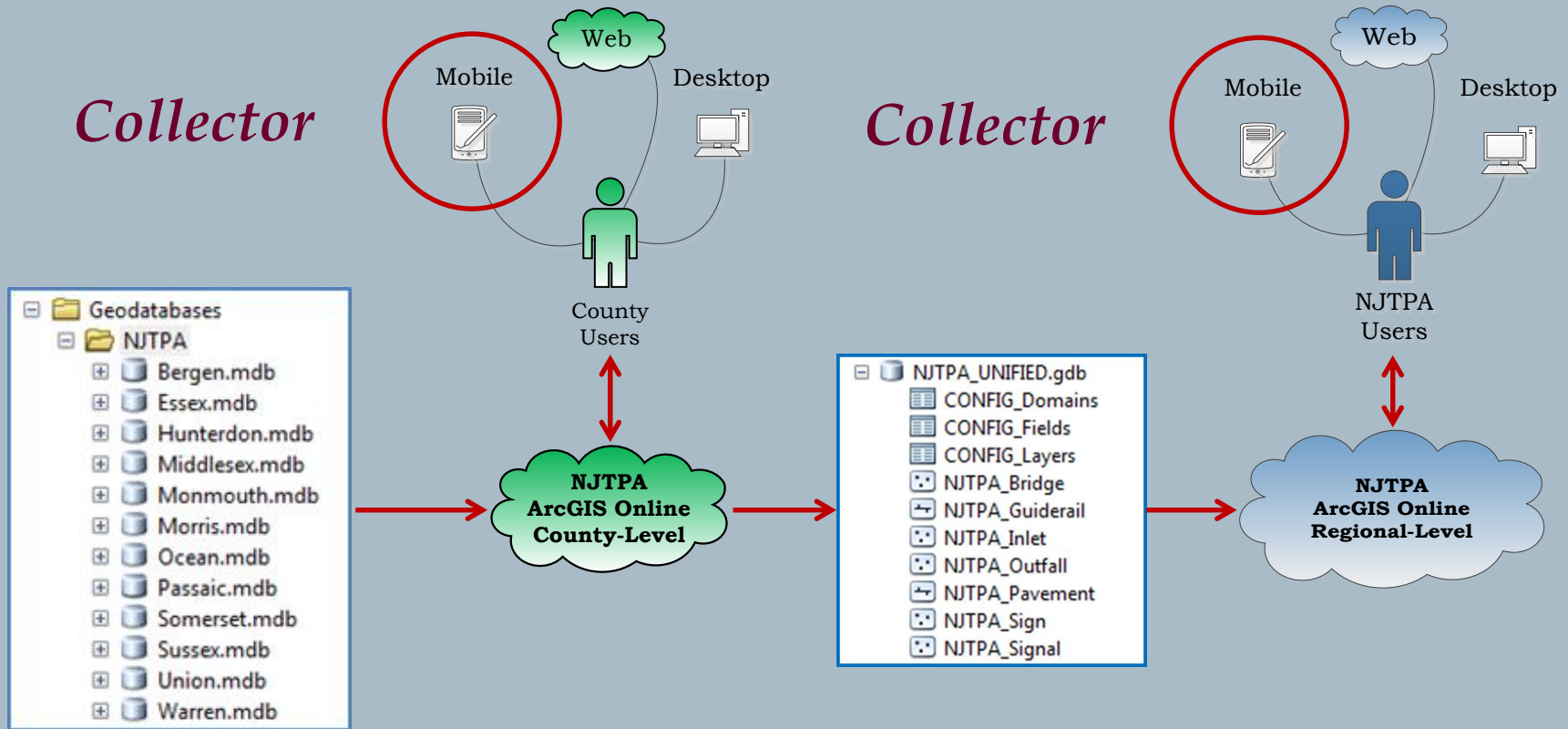
*Feature services are automatically created -  
and published into NJTPA AGO*

# Asset Management: Summary of Workflow Process



*NJTPA staff have access to the asset data  
via AGO*

# Asset Management: Summary of Workflow Process



*NJTPA staff have access to the asset data  
via AGO.*

# Asset Management: ArcGIS Online Organization



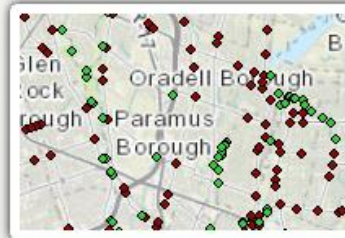
## NJTPA Featured Content



Accessibility



Base Map



Bergen\_County\_Assets



Bergen\_County\_Assets

The NJTPA is the federally authorized Metropolitan Planning Organization for 6.6 million people in the 13-county northern New Jersey region. Each year, the NJTPA oversees more than \$2 billion in transportation improvement projects and provides a forum for interagency cooperation and public input. It also sponsors and conducts studies, assists county planning agencies and monitors compliance with national air quality goals.





# Asset Management: Using ArcGIS Online

HOME GALLERY MAP GROUPS MY CONTENT MY ORGANIZATION







## My Groups

CREATE A GROUP

Show

You are a member of 25 groups

**All My Groups**  
Owned by Me  
Owned by Others  
With New Membership Requests

-  1\_Bergen County Asset Management  
Bergen County Asset Management  
created by gfausel on November 12, 2014  
[Details](#)
-  2\_Essex County Asset Management Data  
Essex County Asset Management Data  
created by gfausel on November 12, 2014  
[Details](#)
-  3\_Hudson County Asset Management  
Hudson County Asset Management  
created by gfausel on November 12, 2014  
[Details](#)
-  4\_Hunterdon County Asset Management Data  
Hunterdon County Asset Management Data  
created by gfausel on November 12, 2014  
[Details](#)
-  5\_Monmouth County Asset Management Data  
Monmouth County Asset Management Data  
created by gfausel on November 12, 2014  
[Details](#)
-  6\_Ocean County Asset Management Data  
Ocean County Asset Management Data  
created by gfausel on November 12, 2014  
[Details](#)



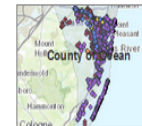
Ocean\_County\_Assets

Ocean\_County\_Assets

Feature Layer by Nick.Hutton\_NJTPA

Last Modified: July 15, 2014

★★★★★ (0 ratings, 0 comments, 70 views)



Ocean\_County\_Assets

Ocean county assets contains guiderails, signs, signals, outfalls and inlets

Web Map by Nick.Hutton\_NJTPA

Last Modified: July 22, 2014

★★★★★ (0 ratings, 0 comments, 12 views)

# Asset Management: Using ArcGIS Collector

Cancel Sign In

Collector for ArcGIS (iOS) wants to access your account information

Sign In **esri**

Username

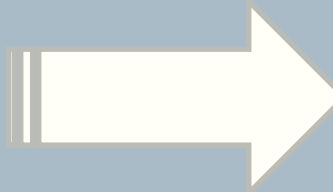

Password

**SIGN IN**

[Forgot username or password?](#)


[Sign in with your enterprise login](#)


Collector for ArcGIS (iOS) developed by:




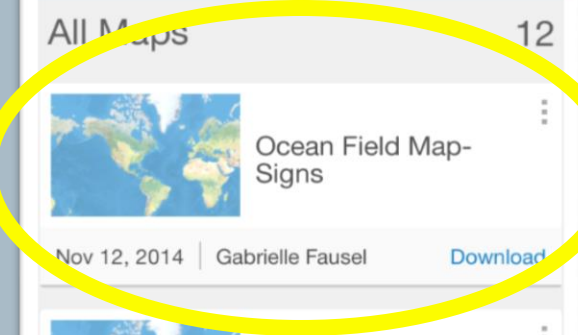
Collector ALL

All Maps 12

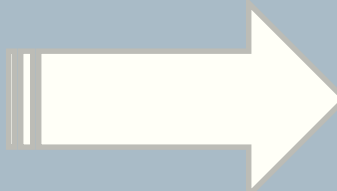
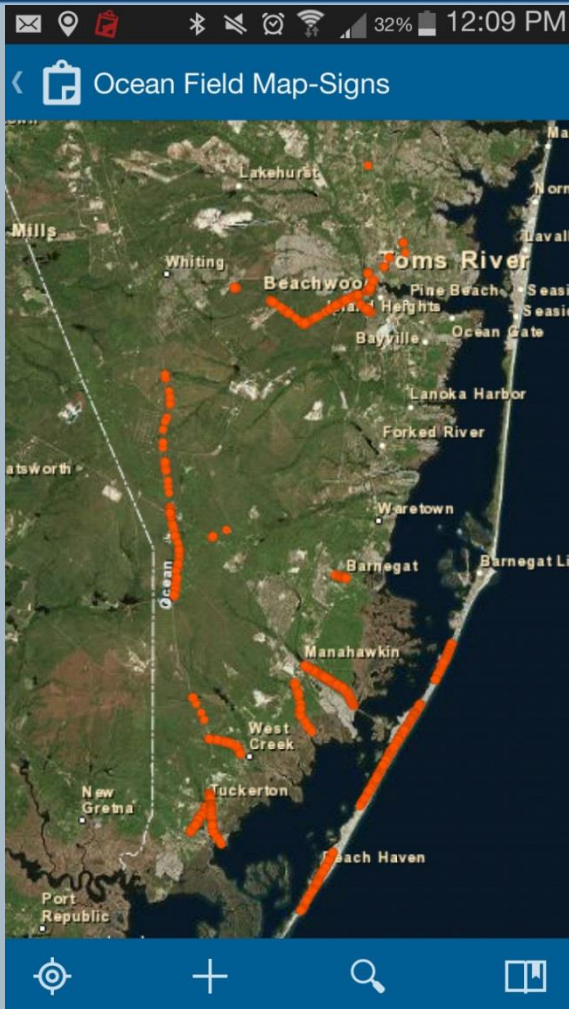
 Ocean Field Map-Signs  
Nov 12, 2014 | Gabrielle Fausel [Download](#)

 Ocean County Signs Field Map  
Nov 12, 2014 | Gabrielle Fausel [Download](#)

 Cap\_Field Map  
Nov 4, 2014 | Gabrielle Fausel [Download](#)



# Asset Management: Using ArcGIS Collector



# Asset Management: Using ArcGIS Collector

25% 12:22 PM

✓ [Menu] [Map]

**Ocean Signs**  
Missing location

BARCODE\_ID  
\_\_\_\_\_

MUTCD\_CODE  
\_\_\_\_\_

CLASS  
\_\_\_\_\_

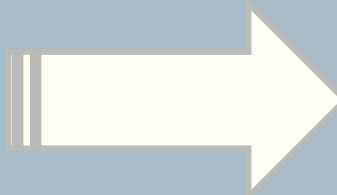
DESCRIPTION  
\_\_\_\_\_

SHEETING  
\_\_\_\_\_

BACKING  
<No value>

BACKGROUND

[Home] [Settings]



24% 12:23 PM

✓ [Menu] [Map]

LEGEND  
\_\_\_\_\_

SUPPORT  
\_\_\_\_\_

BREAKAWAY  
<No value>

[Dropdown Menu]  
Yes there is an attachment  
No there is no attachment  
<No value>

RETROREFLECTIVITY  
\_\_\_\_\_

MOUNTING HEIGHT  
\_\_\_\_\_

[Home] [Settings]

# Asset Management: Using ArcGIS Collector

94% 3:28 PM

✓ [Menu] [Map]

**Ocean Signs**  
long:-74.259578 lat:39.921475

BARCODE\_ID  
030500

MUTCD\_CODE  
M1-6

CLASS  
Guide

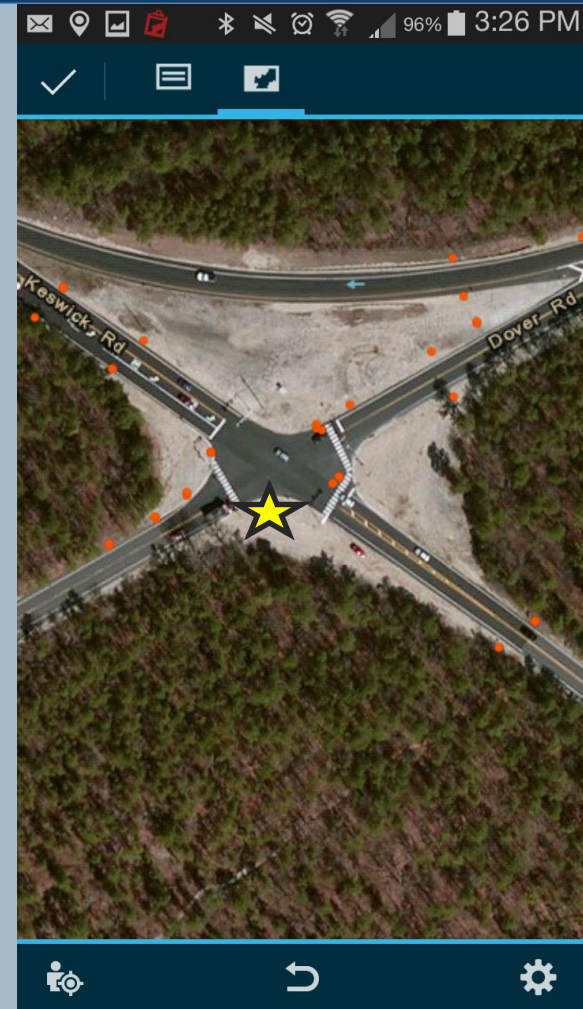
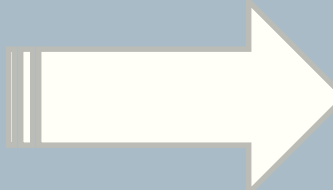
DESCRIPTION  
Rt 530

SHEETING  
Engineer Grade

BACKING  
Wood

BACKGROUND

[Location] [Settings]



# AGO Operations Dashboard

## Operations Dashboard for ArcGIS


### Recent

- Operation View
- Ocean County Signs Operation View
- Operation View-Demo
- Ocean County Signs Operation View...
- Operation View Field Reporter
- Open an Operation View
- Create a New Operation View

Search 


Nick Hutton  
Sign Out


Sort by: **Modified** Title (A-Z) Title (Z-A)


 **Operation View**  
Updated today  
Nick.Hutton\_NJTPA  
No information available  
[More](#)


 **Ocean County Signs Operation View (Hutton)**  
Updated today  
Nick.Hutton\_NJTPA  
No information available  
[More](#)

**55388**  **Ocean County Signs Operation View**  
Updated today  
Nick.Hutton\_NJTPA  
No information available  
[More](#)

 **Operation View Field Reporter**  
Updated last week  
gfausel  
No information available  
[More](#)

 **Operation View-Demo**  
Updated last week  
gfausel  
No information available  
[More](#)

 **Operation View**  
Updated last week  
gfausel  
No information available  
[More](#)

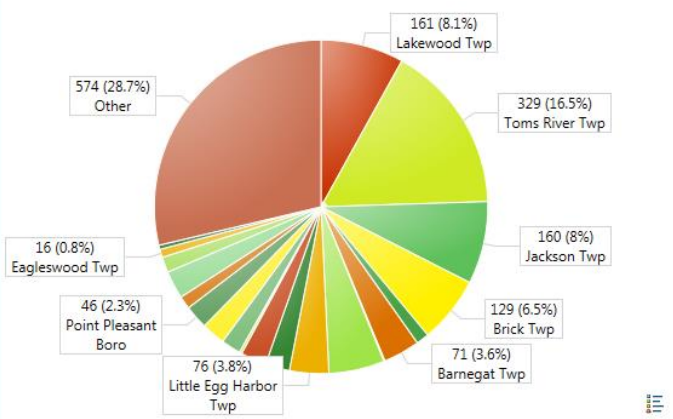
 **Operation View- Pedestrian Safety Signs**  
Updated last week  
gfausel  
Field collector demo  
[More](#)

# AGO Operations Dashboard

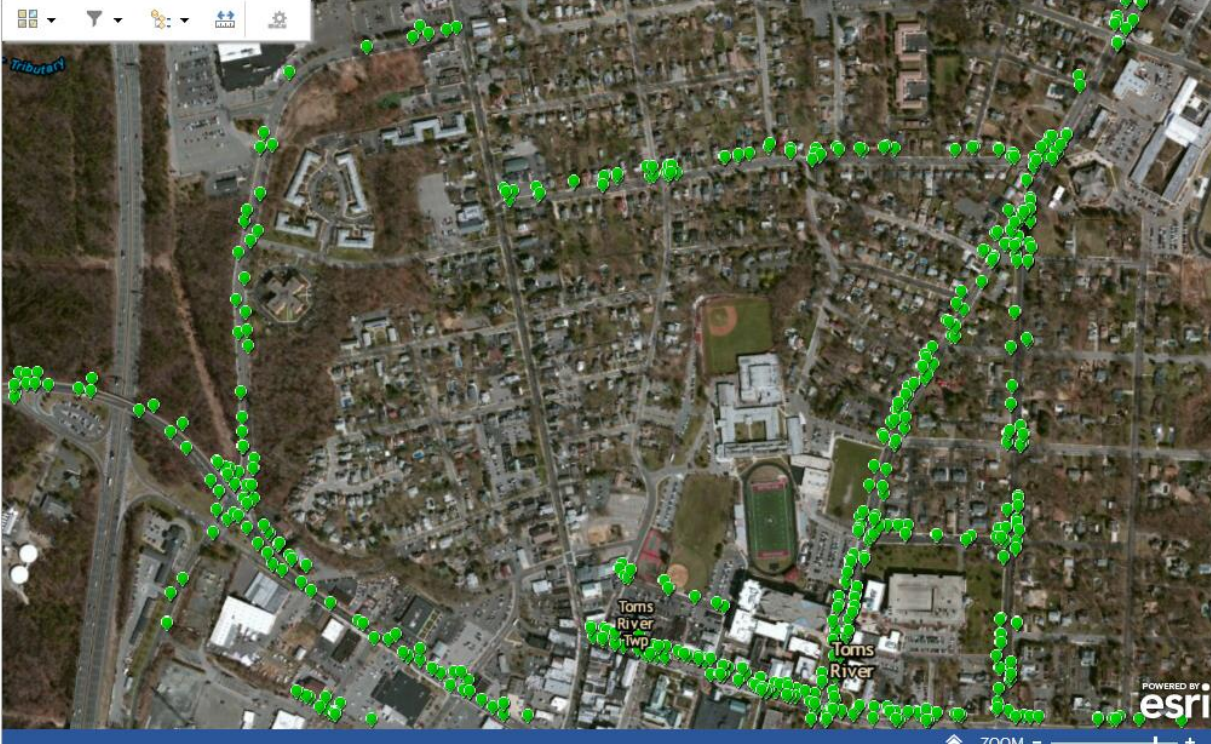
Signs Inventoried

## 55387 Signs Inspected

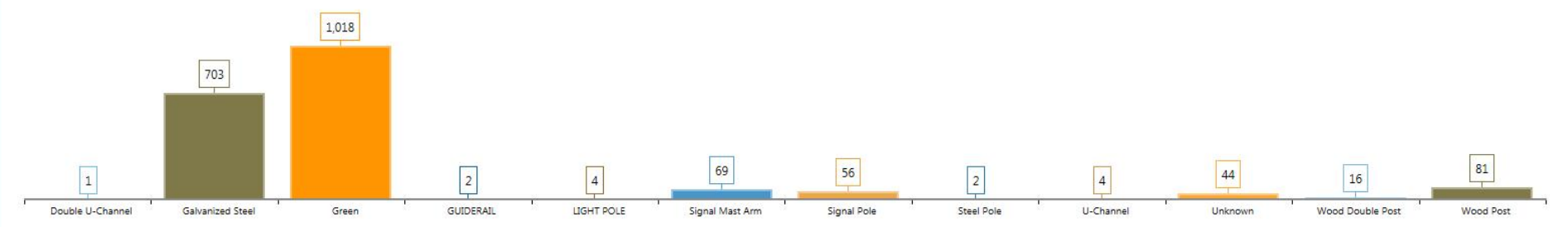
Stop Signs (R1-1) Signs by Municipality



Ocean County Signs Map



Support Types



# Asset Management: Next Steps

- Refine and finalize data model
- Complete data migration process
- Build reporting tools
- Perform Alpha and Beta user acceptance testing
- Develop system documentation
- Provide user training



# QUESTIONS



# THANK YOU

*Defining the Vision. Shaping the Future.*



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