

Critical Infrastructure Dependency Analysis

Department of Homeland Security
Infrastructure Dependencies Pilot Project

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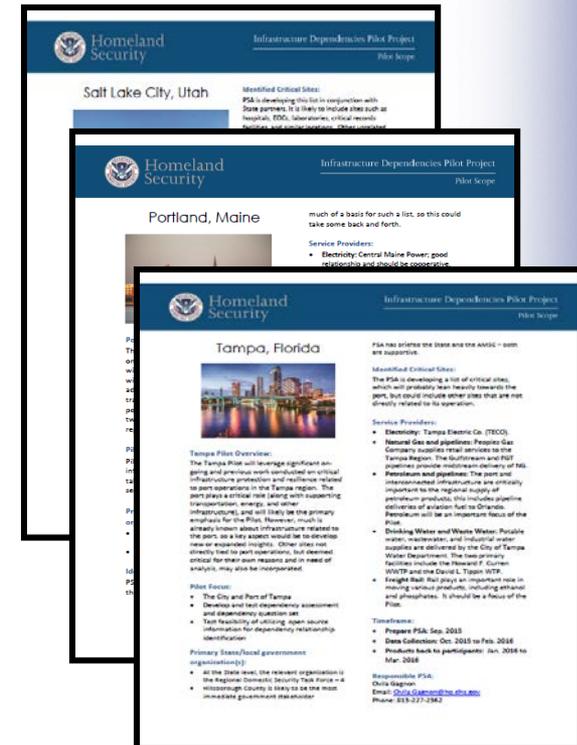
Need for Enhanced Dependency Data

- Office of Infrastructure Protection
Mission
- Dependency Knowledge = Enhanced
Resilience

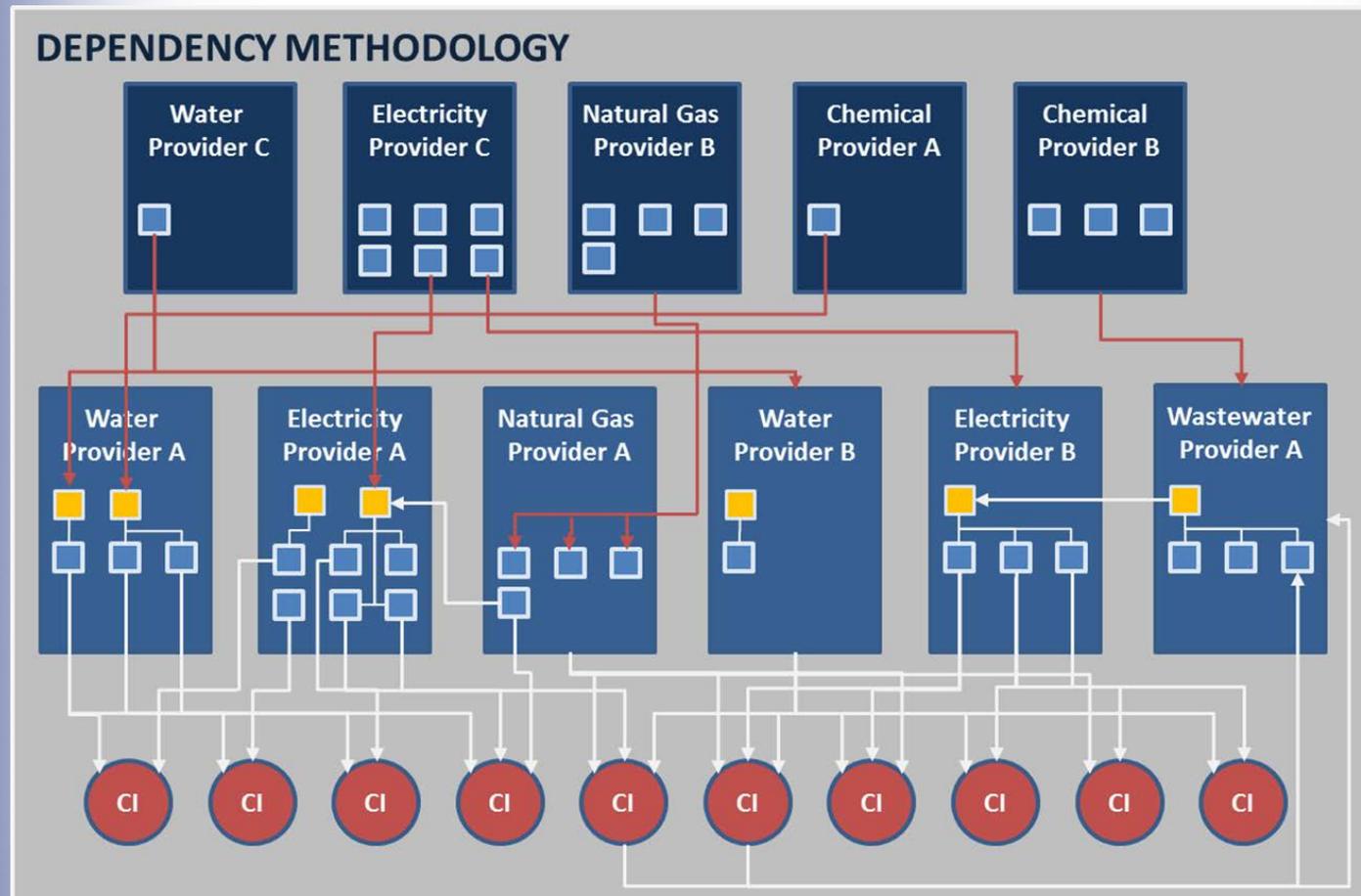
Pilot Regions and Stakeholders

- Regions
 - Salt Lake City, Utah
 - Portland, Maine
 - Tampa, Florida

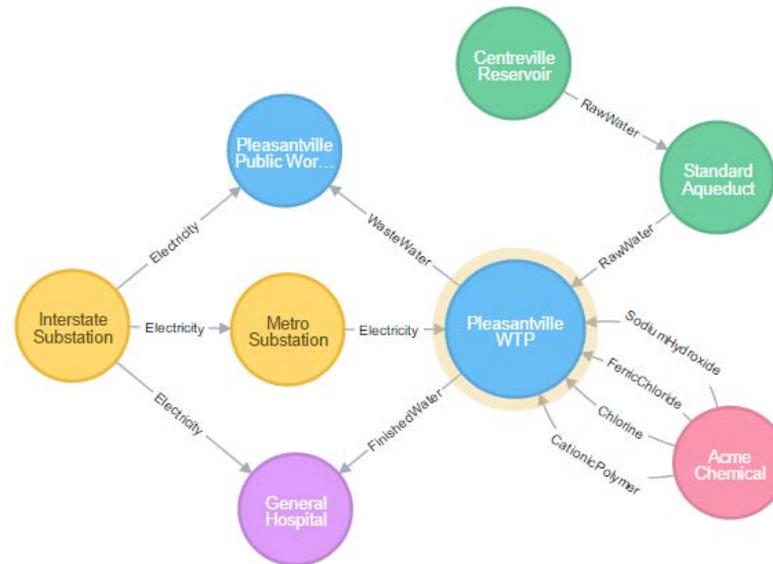
- Stakeholders
 - State and Locals
 - Service Providers
 - Asset Owners



Dependency Model

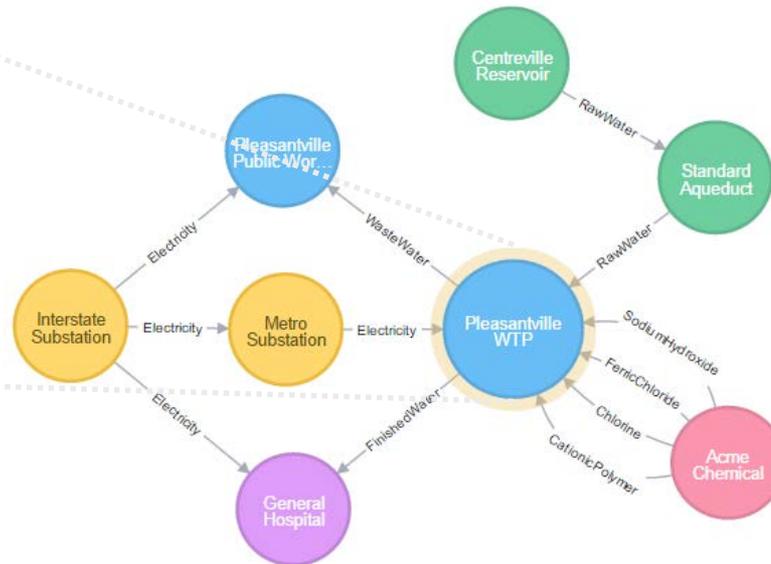
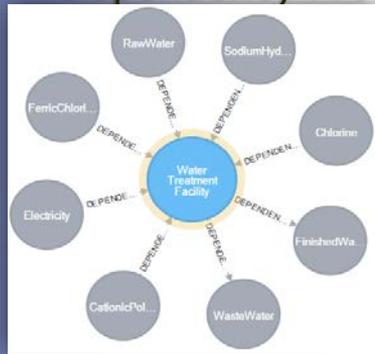


Technical Approach



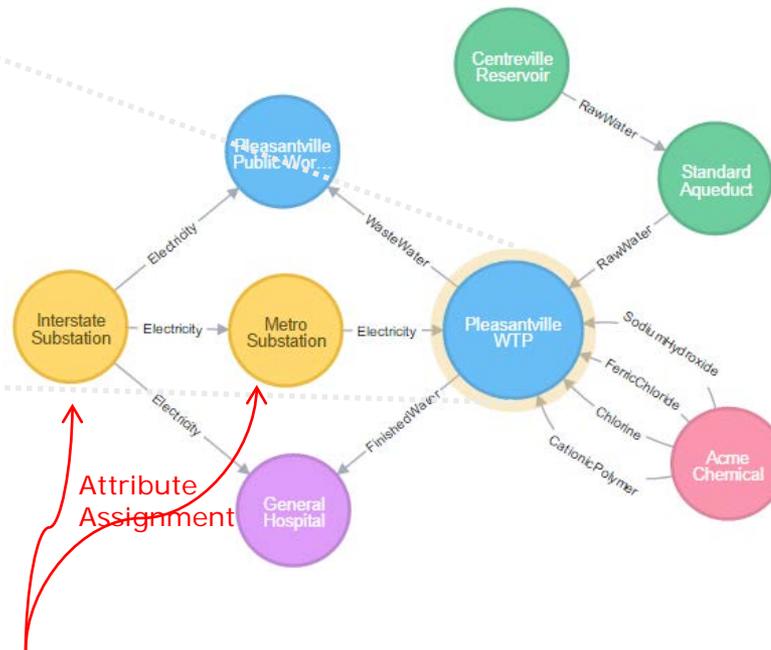
Technical Approach

Dependency Profile



Technical Approach

Dependency Profile



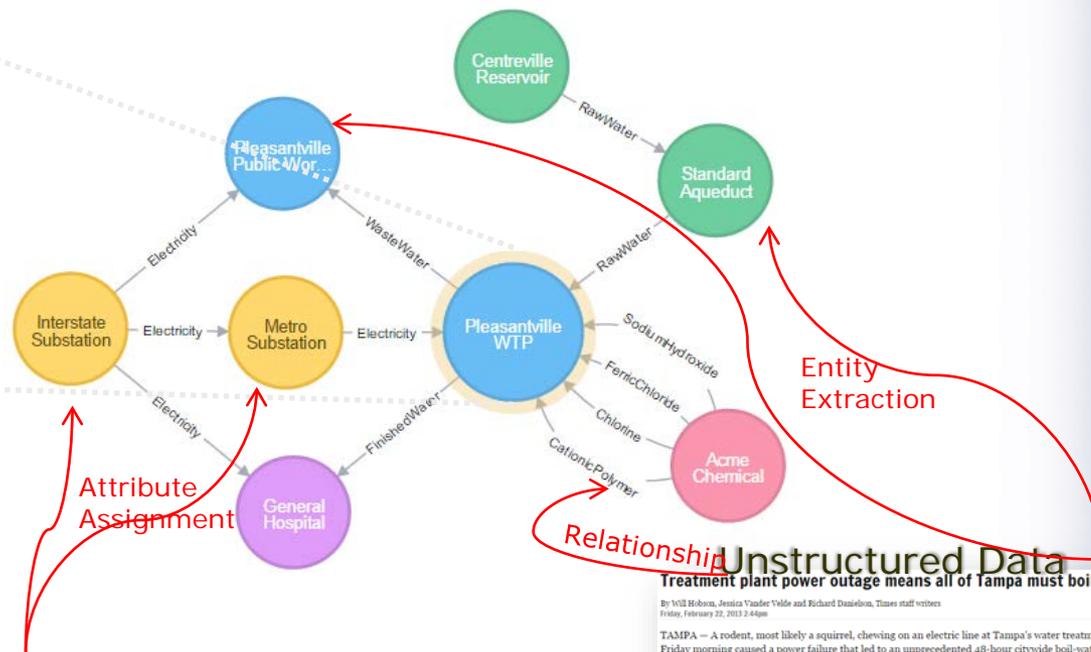
Attribute Assignment

Structured Data

UTILITY_ID	PLANT_CODE	PLANT_NAME	STREET_ADDRESS	CITY	COUNTY	STATE	ZPS_NAME_OF_WATER_SOURCE	
1	7	30917 Twin S. Life Science Post Cogas	2238 East Eldorado St	Decatur	Ill	62625	Manapotty	
3	8	50933 Saganawee Pwr Cogeneration	2245 Saganawee Parkway North	Lafayette	Tippacanoe	IN	47814	Wells
4	20	55454 AES Cypress LLC	PO Box 1740	Paducah	Leflore	AR	72426	Municipal/Commercialized
5	21	10071 AES Shady Point LLC	593 Pearl Road	Dresden	Yates	NY	14851	Potomac River
6	15	2927 AES Greenidge LLC	145 Power Dam Lane	Ius	Anderson	SC	29355	Lake Superior
7	34	3338 Pooky River	1180 Maxco Farms Rd S.E	CumbeLand	Allegheny	MD	21342	City Of Carrolland Water Suppl
8	35	10674 AES Warrior Run Cogeneration Facility	11384 Hickory Rd	Corning	Sullivan	NY	14838	Chemung River
9	39	2524 AES Holding LLC	2438 Wilder Avenue	Buffalo	ESPE	NY	14225	
10	40	55718 Hoonore Inc	141 Depot Road	Ucosaville	New London	CT	6382	Thames River
11	42	10675 AES Thonias		Beaver	Beaver	PA	16157	Beaver River
12	46	55631 AES Haydshin LLC		Tona	San Bernardino	CA	92542	Wells
13	52	10323 ACE Cogeneration Facility	12381 Masposse St	Tona	St Joseph	IN	46512	
14	60	55638 St Joseph County Generating Facility		Lufkin	Angeline	TX	75382	Wells
15	65	50248 Abiko Consolidated Lufkin	3031 Hwy 133 East	Lufkin	Angeline	TX	75382	Wells
16	82	10311 Adco Cogeneration_P	7975 Falcon Street East	ADA	East	MI	49355	City Water
17	84	6386 Tenager	4463 Jensen Rd	Tenager	Accomack	VA	23148	Wells
18	84	6391 Smith Hitead	20397 Calico Jones Rd	Ewell	Somerset	MO	21924	Wells
19	86	55719 Granite Ridge	21 North Westworth Avenue	Londonderry	Floodington	NH	3053	Manchester Wastewater Treatment
20	189	10223 AG Processing Inc	503 N Commercial	Eagle Grove	Wright	IA	50513	Well
21	114	55463 Arctis Energy Wells		Arctis	Worth County	LA	70718	Mississippi River

Technical Approach

Dependency Profile



Structured Data

A	B	C	D	E	F	G	H	I
UTILITY_ID	PLANT_CODE	PLANT_NAME	STREET_ADDRESS	CITY	COUNTY	STATE	ZPS_NAME_OF_WATER_SOURCE	
1	7	30917	Town & Village Council Post Office	2238 East Edisto St	Detroit	IL	10215 Manaporty	
2	8	50937	Sagamore Power Cogeneration	2245 Sagamore Parkway North	Lafayette	Mississippi	47814 Wells	
4	20	55454	AES Cypress LLC	PO Box 1740	Paducah	Alabama	35041 Municipal/Cemeterized	
5	21	10971	AES Shady Point LLC	530 Pearl Road	Dresden	Mississippi	38511 Potomac River	
6	15	2527	AES Greenwood LLC	145 Power Dam Lane	Lus	Anderson	39355 Lake Success	
7	34	3338	Pokey River	1180 Maxco Farms Rd S.E	Cumbeband	Allegany	21382 City Of Carrolland Water Suppl	
8	35	10974	AES Warrior Run Cogeneration Facility	11384 Hickory Rd	Cumbeband	Allegany	14338 Chemung River	
9	35	2528	AES Holding LLC	2438 Wilder Avenue	Bethesda	ESPE	14235	
10	40	5578	Hoosier Inc	141 Depot Road	Ucosaville	New London	CT	6382 Thames River
11	42	10975	AES Thomas		Beaver	Delaver	16157 Beaver River	
12	46	5531	AES Haydshin LLC	12381 Maspoie St	Tiona	San Bernardino	CA	52842 Wells
13	52	10325	ACE Cogeneration Facility	3071 Hwy 133 East	Lufkin	Angeline	TX	75382 Wells
14	60	55338	St Joseph County Generating Facility	7975 Falcon Street East	ADA	Kent	MI	49355 City Water
15	65	6386	Tringer	4463 Jensen Rd	Tanger	Accomack	VA	23448 Wells
16	84	6311	Smith Intered	20357 Calico Jones Rd	Ewell	Somerset	MD	21324 Wells
17	86	5571	Granite Ridge	21 North Westworth Avenue	Londonderry	Floodington	NH	3353 Manchester Wastewater Treatment
18	189	10223	AG Processing Inc	503 N Commercial	Engle Grove	Whitell	IA	50533 Well
19	174	55463	Artex Energy Center	4615	Wentworth	IA	20118 Westchester River	

Unstructured Data

Treatment plant power outage means all of Tampa must boil water

By VOI Hobson, Jessica Vander Velde and Richard Danielson, Times staff writers
Friday, February 22, 2013 2:46pm

TAMPA — A rodent, most likely a squirrel, chewing on an electric line at Tampa's water treatment plant Friday morning caused a power failure that led to an unprecedented 48-hour citywide boil-water notice for 560,000 people and businesses and left them scrambling to snap up bottled water to last through the weekend.

RELATED NEWSARCHIVE

Power outage zaps traffic lights in New Tampa
2 Months Ago

North Tampa power outage disables traffic lights
6 Months Ago

Firefighters patch toxic gas leak at water treatment plant; no injuries reported
2 Months Ago

The effects were immediate and widespread: Water fountains disappeared under trash bags. Restaurant managers bumped into each other in lines as they stocked up on ice and bottled water. And residents across Hillsborough County tried to figure out if the notice affected them and, if it did, what exactly they could do with their tap water.

Until Monday morning, officials said, residents and businesses should boil any tap water used for drinking, cooking, washing fruits or vegetables, making ice or brushing teeth for at least a minute. This affects more than half a million people — about 100,000 of them outside city limits — who get their water from Tampa.

Data Collection

Review Dependency Profiles for each CI

What experts are required for operations?

Expert Type: Select (All Government employees)
 Provider: Not (potentially) pre-approved
 Name: Not (potentially) pre-approved
 Location: Address, City, State, ZIP, County, Latitude, Longitude (potentially pre-approved)
 Taxonomy: Select (All Government employees)
 Function: Primary, Secondary, Contingency

Primary

If service is lost (without considering any backup or alternative modes), how soon would the facility be severely impacted (hours)?

Once external service is lost (WITHOUT considering any backup or alternative modes), what percentage of normal business functions are lost or degraded?

Once external service is lost (AFC considering any backup or alternative modes), what percentage of normal business functions are lost or degraded?

Are there external registrations/licenses that mandate the facility shut down after loss of service including backup?

After how long? (Hours)

Once external service is restored, how long would it take before full resumption of operations? (Hours)

Alternate or Contingency

Percentage of service (Hours)

Integrated Questions

Assets

- Asset 1
- Asset 2
- Asset 3
- Asset 4
- Asset 5
- Asset 6
- Asset 7
- Asset 8
- Asset 9
- Asset 10
- Asset 11
- Asset 12
- Asset 13
- Asset 14
- Asset 15
- Asset 16
- Asset 17
- Asset 18
- Asset 19
- Asset 20

Details

- Asset 1
- Asset 2
- Asset 3
- Asset 4
- Asset 5
- Asset 6
- Asset 7
- Asset 8
- Asset 9
- Asset 10
- Asset 11
- Asset 12
- Asset 13
- Asset 14
- Asset 15
- Asset 16
- Asset 17
- Asset 18
- Asset 19
- Asset 20

Sector Profiles

Multi-Source Data

Dependency Survey Tool

Protected Critical Infrastructure Information
Acme Electric Provider

Home Facility Information Provider Information On-Site Survey Generate Dashboard Exit

INFORMATION

Acme Electric Provider

On-Site Survey Question Status:

Substation A	25%
Substation B	25%
Substation C	25%

FACILITY INFORMATION
 PROVIDER INFORMATION
 ON-SITE SURVEY QUESTIONS
 GENERATE DASHBOARD



Dependency Survey Tool

Protected Critical Infrastructure Information
Acme Electric Provider

Home Facility Information Provider Information On-Site Survey Generate Dashboard Exit

Providing Asset Identification

Provider Critical Infrastructure

Review Dependency Profiles

For each Critical Infrastructure that defines the geographic boundary, identify the providing asset(s) or check the box (X) service is not provided. Click the help icon to view the appropriate providing asset type for the service provided.

C13
 25 Main Street
 Salt Lake City, UT 81304

Click on the list of existing providing assets in order to remove a dependency

Substation A
 Substation B
 Substation C
 Substation F
 Add New...

Click on the list of existing providing assets -> Substation B in order to remove a dependency

C13B
 28 Main Street
 Salt Lake City, UT 81304

Click on the list of existing providing assets -> Substation B in order to remove a dependency

C13C
 23 Main Street
 Salt Lake City, UT 81304

Click on the list of existing providing assets -> Substation C in order to remove a dependency

Add New

Dependency Survey Data

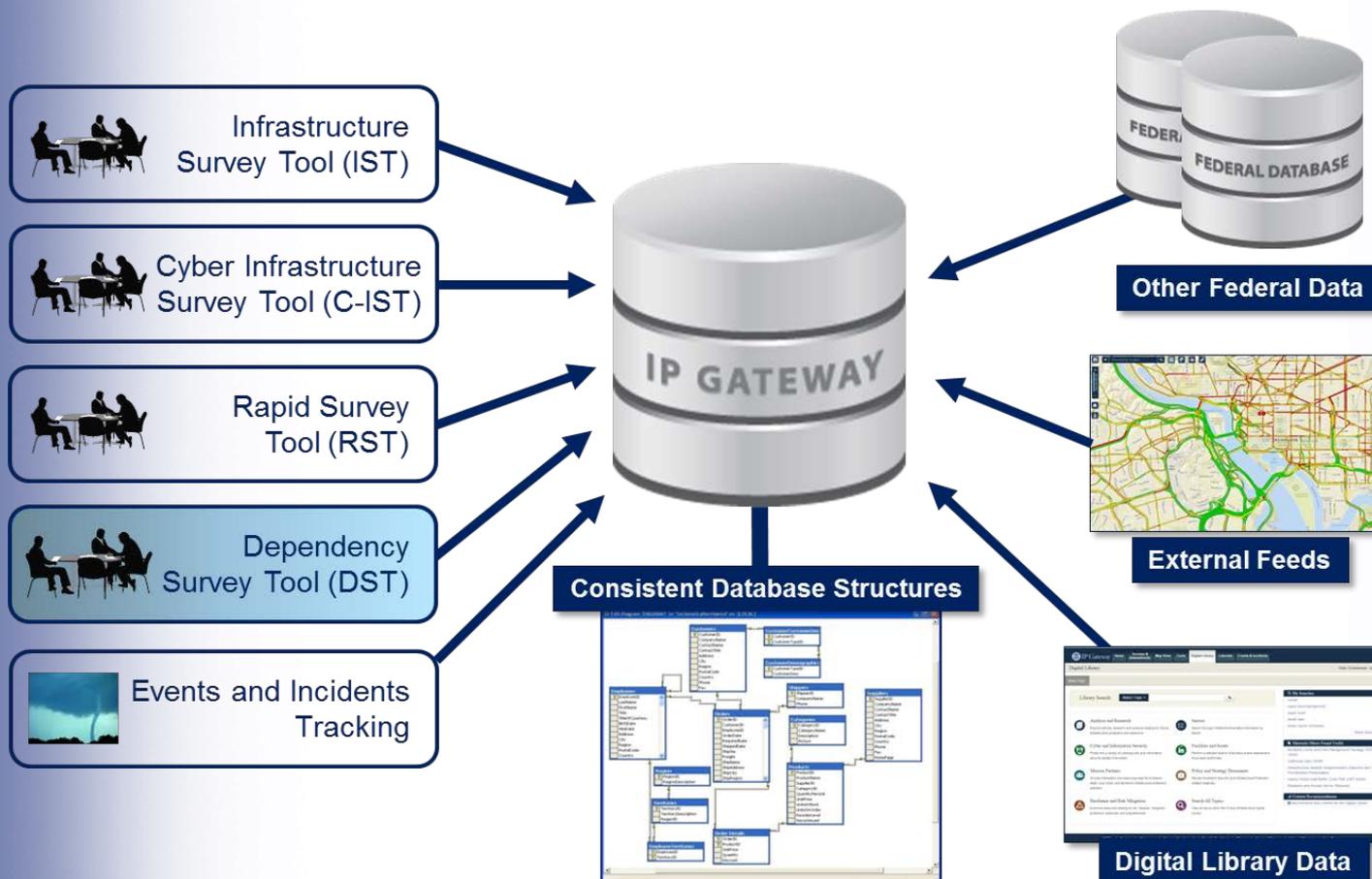
Federal Data



Data Repository

- IP Gateway
 - Users
 - Federal
 - State & Local
 - Private Sector
 - Capabilities
 - Conduct Vulnerability Assessments
 - Risk Analysis
 - Event Planning
 - Incident Response

Data Repository



Integrated Products

Tampa Dependency Pilot

1. Pilot Overview

The goal of this project was to develop and test new approaches of collecting, analyzing, and presenting infrastructure dependency information to better support public and private sector stakeholders in their disaster planning and decision-making processes. The project aimed to develop more efficient processes of gathering and analyzing the types of infrastructure dependency data that Federal, State, local, tribal and territorial governments need to execute their missions. This was accomplished by providing dependency-focused data collection tools, innovative methods for gathering and integrating open-source data, and improved approaches of engaging infrastructure owners and operators and their service providers of critical utilities.

3. Sector Overviews

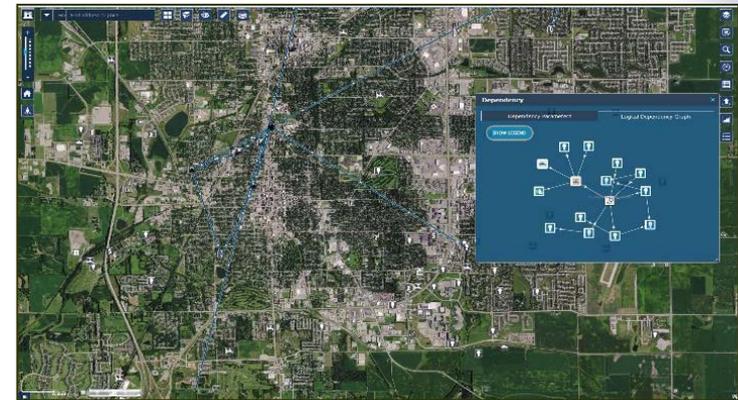
Water

There are more than 150,000 public drinking

Tampa

Dependency Pilot

Department of Homeland Security



IP Gateway Home Surveys & Assessments Map View Tools Digital Library Events & Initiatives Manage Users

Digital Library login

Main Page Search Criteria Facility Search Results Facility Details **Dependency Viewer** Add Facility

Asset XYZ

Dependency Link Parameters

Confidence

low medium high

Strength

low medium high

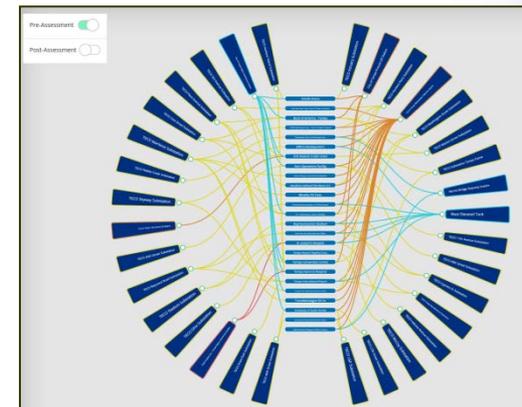
Initial proximity of nodes also represents strength through link network nodes and non-nodes of query

Dependency Details

Export Table

Proximity Asset	Community	Resource Asset	Function	Level	State Source	State Date

FAQ | Training | Resources | Manage My Account | Provide Feedback | Plugins | Terms of Service | Rules of Behavior | User Policy



Mission Support

- Presidential Policy Directive (PPD) 8: National Preparedness
- Presidential Policy Directive (PPD) 12: Critical Infrastructure Security and Resilience
- NIST Community Resilience Planning Guide (CRPG)
- Threat and Hazard Identification and Risk Assessment (THIRA)