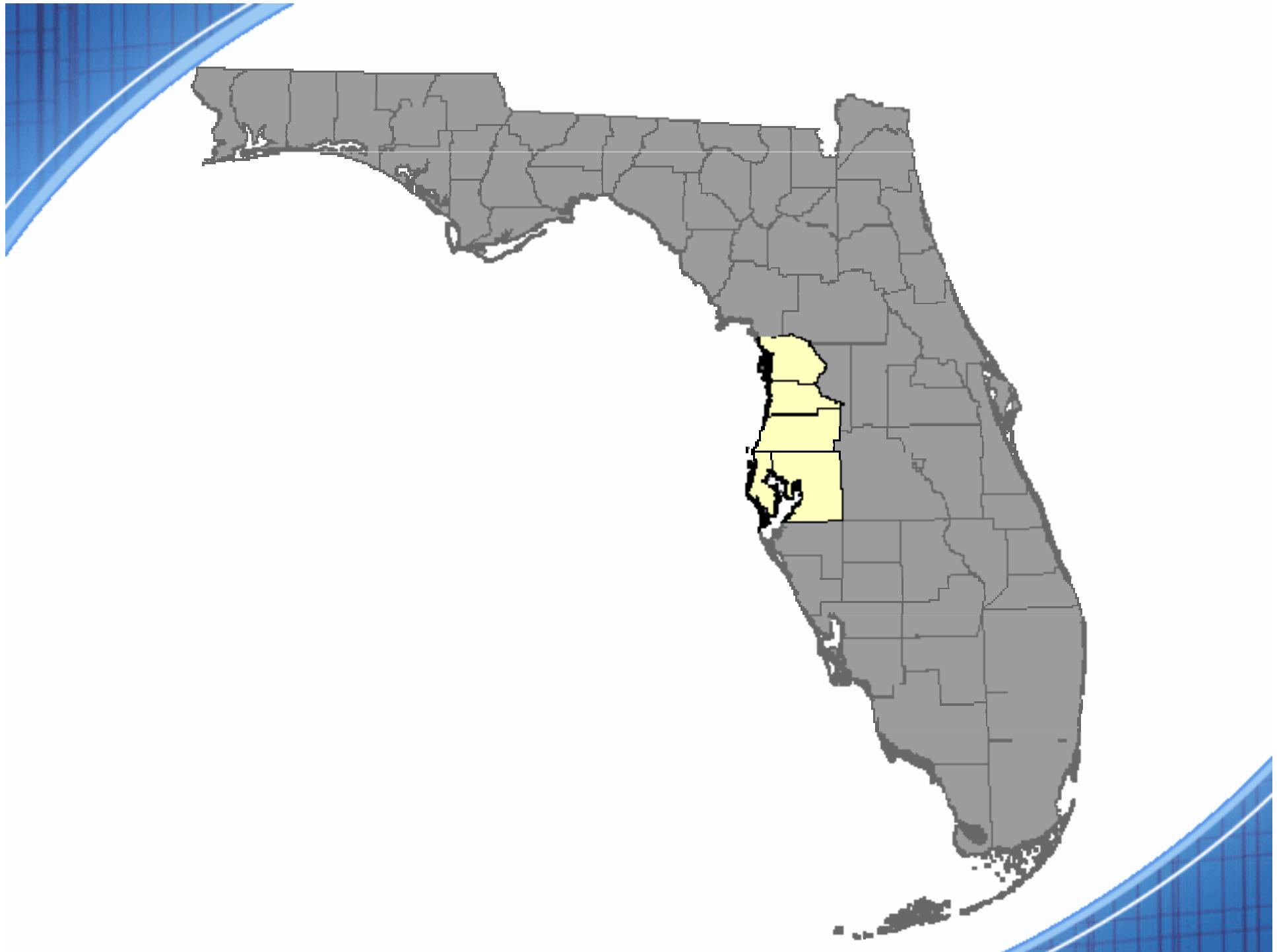
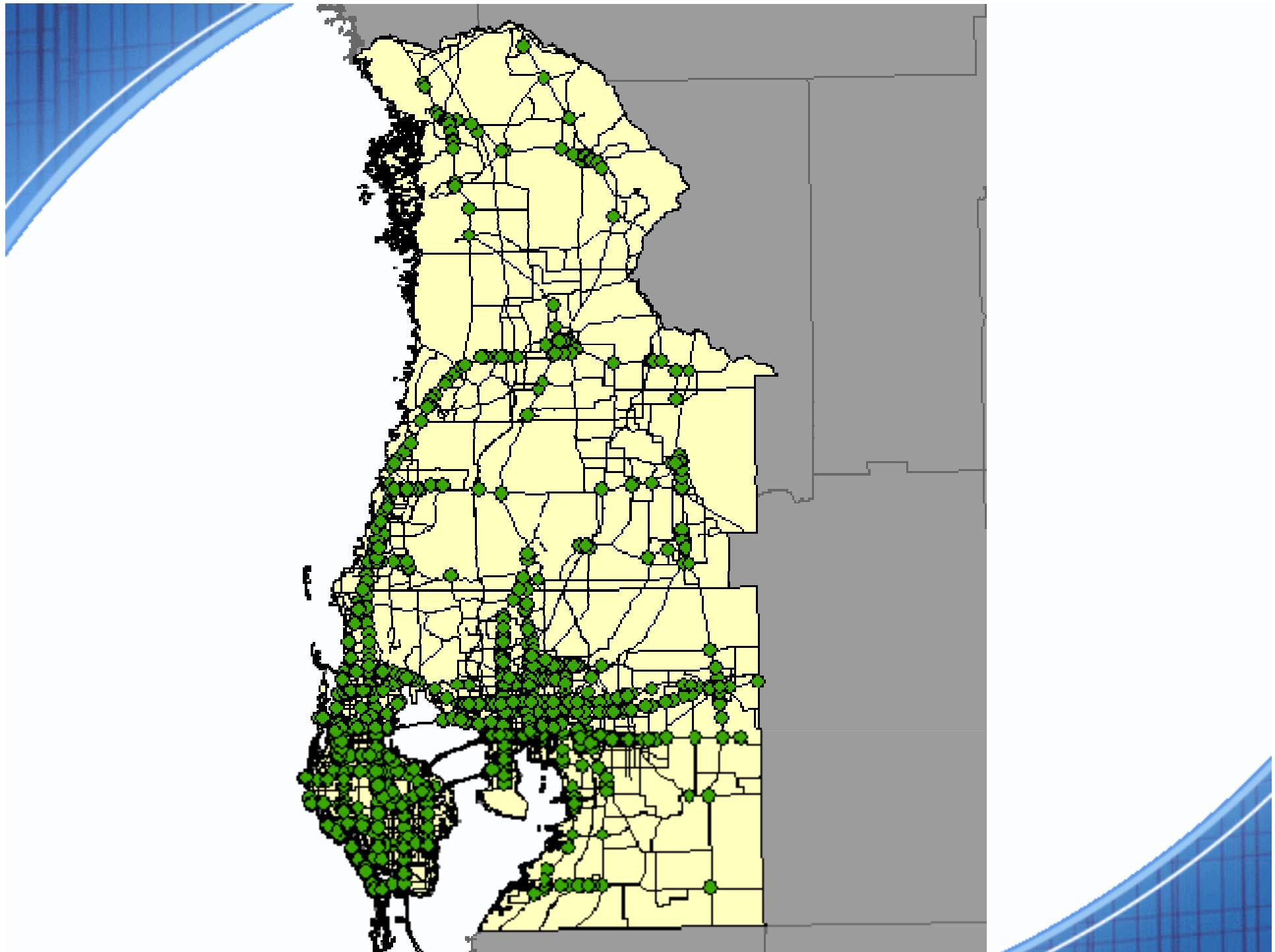


# Signal Inventory Application

By Jeffrey Engerski







# What does it need to do?

- Create a database of FDOT-owned signals.
- Provide all existing characteristics.
  - Site layout
  - Timing
  - Equipment inventory
  - Photos
- Provide automated maintenance tracking and reporting.

# What does it need to do?

- **Provide an interface for maintaining agencies to interact with FDOT.**
- **Facilitate FDOT tracking of installation and maintenance agreements with locals.**
- **Facilitate emergency response and preparedness.**
  - Provide public safety officials with operations information in case of equipment loss.
- **Facilitate post-event restoration.**
- **Provide access to information to fulfill public requests for information.**

# Data Collection

- **Equipment data is collected using a handheld unit with ArcPad.**
  - All data fields are standardized to ensure consistent data entry.
  - Data points are collected accurately to within 3 meters.
- **Photos are taken with GPS-enabled camera.**
- **Intersection layout is sketched with aerial underlay.**
- **Timing data is obtained from maintaining agency.**

# Signal Inventory System

- **Standards Compliant**
  - Built using ASP.NET with VB.NET, a Microsoft Access Geodatabase and ArcIMS 4.0.1.
  - Security features are handled via Microsoft SQL Express.
- **Easily customizable to fit the Traffic Operations Department's needs**
- **Interface customized for each maintaining agency**
- **Data catalog drop-downs for ease of use and standardization**



## District 7 Signals

Zoom to....

### Legend

#### Signalized Intersections



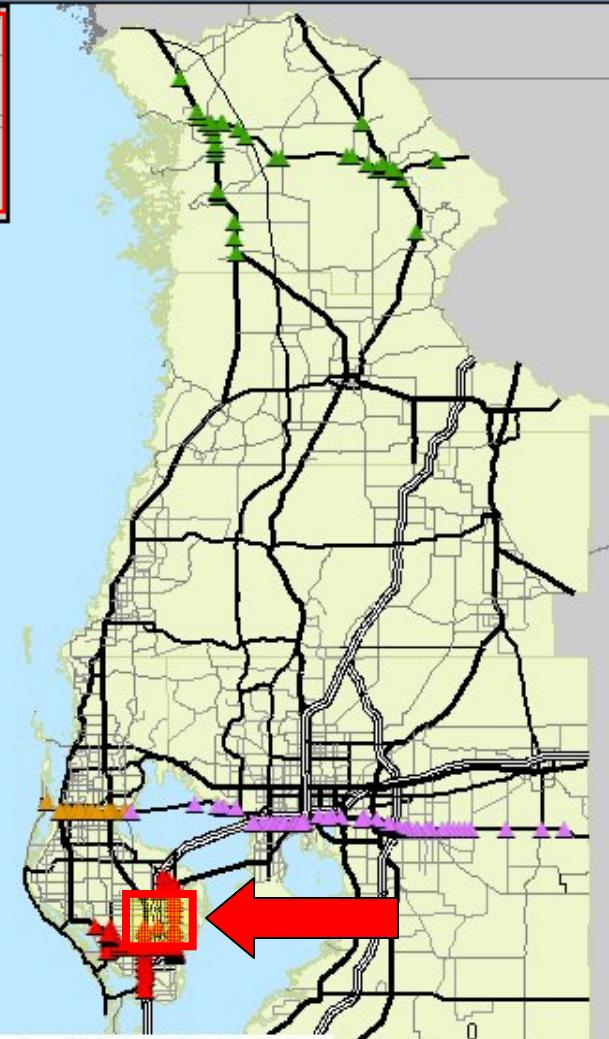
#### MAINTAINING\_AGENCY

- ▲ Citrus County
- ▲ Hillsborough County
- ▲ Pinellas County
- ▲ St Petersburg

#### Major Roads

##### CLASS

- County Road
- Interstate
- Local Road
- Roadway Feature
- State Road
- US Road
- District 7
- State



Map created with ArcIMS - Copyright (C) 1992-2002 ESRI Inc.

### LAYERS

- Intersections
- Roads

**Refresh Map**

Auto Refresh

#### Help:

- A closed group, click to open.
- An open group, click to close.
- A map layer.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.

Zoom In



District 7 Signals - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Address <http://d7gis.d7.dot.state.fl.us/website/Signals/viewer.htm> Go

District 7 Signals Zoom to....

Legend

**Signalized Intersections**

**MAINTAINING\_AGENCY**

- ▲ Citrus County
- ▲ Hillsborough County
- ▲ Pinellas County
- ▲ St Petersburg

**Major Roads**

**CLASS**

- County Road
- Interstate
- Local Road
- Roadway Feature
- State Road
- US Road

District 7

State



Map showing road network and signalized intersections. Major roads include US 92, US 19, US 375, US 591, US 592, US 594, and US 275. Signalized intersections are marked with red triangles. A red box highlights a cluster of signalized intersections near US 19 and US 592. A red arrow points to this highlighted area. The map includes a scale bar (0 to 0.6194 Miles) and a north arrow.

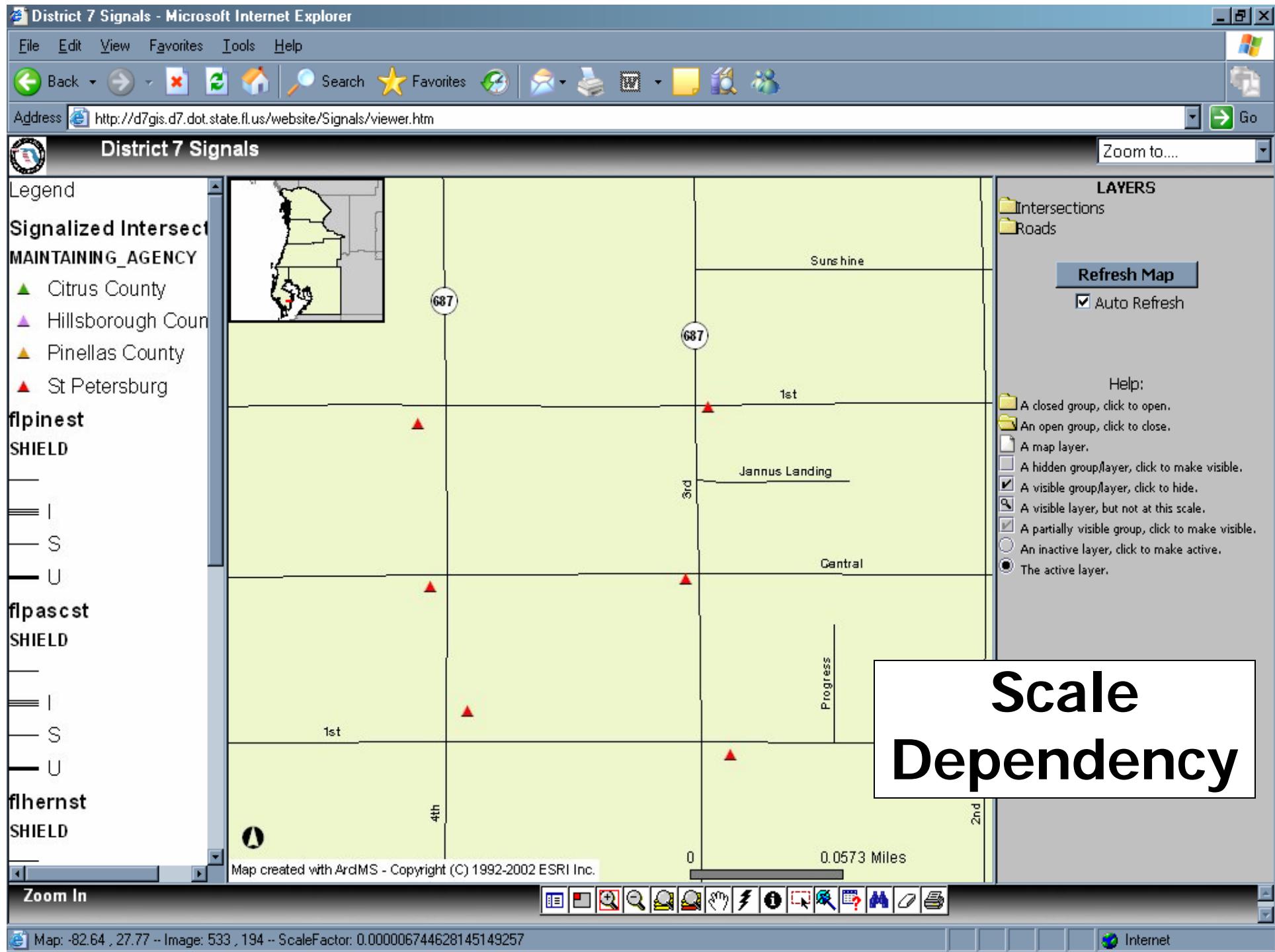
Map created with ArcIMS - Copyright (C) 1992-2002 ESRI Inc.

0 0.6194 Miles

Zoom In

Map: -82.63, 27.78 -- Image: 453, 130 -- ScaleFactor: 0.00007288931469270357

Internet



District 7 Signals - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Address <http://d7gis.d7.dot.state.fl.us/website/Signals/viewer.htm> Go

District 7 Signals

Legend

Signalized Intersections

MAINTAINING\_AGENCY

- ▲ Citrus County
- ▲ Hillsborough County
- ▲ Pinellas County
- ▲ St Petersburg

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SHIELD

Hyperlink

Address <http://d7gis.d7.dot.state.fl.us/website/Signals/viewer.htm>

Map created with ArcIMS - Copyright (C) 1992-2002 ESRI Inc.

0 0.0573 Miles

Zoom to....

LAYERS

- Intersections
- Roads

Refresh Map  Auto Refresh

Help:

- A closed group, click to open.
- An open group, click to close.
- A map layer.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.

**Data Viewing**



## FDOT District 7 Traffic Operations: Signals

[View List](#)[Long Data Sheet](#)[Edit Data](#)[Map Intersection](#)[Printer Friendly](#)

**Intersection #:** 15687032

**County:** Pinellas      **Municipality:** St Petersburg

**Contracted Maintenance to:** St Petersburg

**Description:** Central Ave & 3rd St

[View all data for this intersection](#)

**Open Plan/Aerial Sheet:** [15687032D.pdf](#)

**Open Timing Sheet:** [15687032.xls](#)

# Short Data Sheet View

**East Bound Photo:**



**West Bound Photo:**



**North Bound Photo:**

**South Bound Photo:**

[View all data for this intersection](#)

Open Plan/Aerial Sheet: [15687032D.pdf](#)

Open Timing Sheet: [15687032.xls](#)

East Bound Photo:



West Bound Photo:



North Bound Photo:



South Bound Photo:



**Short  
Data Sheet  
View**



## FDOT District 7 Traffic Operations: Signals

[View List](#)

[Long Data Sheet](#)

[Edit Data](#)

[Map Intersection](#)

[Printer Friendly](#)

**Intersection #:** 15687032

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**Municipality:** St Petersburg

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**Description:** Central Ave & 3rd St

[\*\*View all data for this intersection\*\*](#)

**Open Plan/Aerial Sheet:** [15687032D.pdf](#)

**Open Timing Sheet:** [15687032.xls](#)

**East Bound Photo:**



**West Bound Photo:**



**North Bound Photo:**

**South Bound Photo:**

Red arrow pointing to the "Long Data Sheet" button.



## FDOT District 7 Traffic Op

## Long Data Sheet View

[View List](#)[Short Data Sheet](#)[Edit Data](#)[Map Intersection](#)[Winter Friendly](#)[Back to Previous Window](#)

## Quick Jump Links

[General Signal Info.](#) | [Main Route Info.](#) | [Side Street Info.](#) | [Signal Info.](#) | [Controller Info.](#) | [Pole  
Operational Info.](#) | [Installation Info.](#) | [Operational Changes](#) | [Overhead Sign Info](#)

General Signal Infomation	
Intersection #:	15687032
County:	Pinellas
Municipality:	St Petersburg
Contracted Maint. to:	St Petersburg
Maintaining Agency:	St Petersburg
Agency ID:	None
Description:	Central Ave & 3rd St
Section #:	15090101
Mile Post:	0.44

**Data Field Descriptions:**

**ID INTERSECTION:**

Eight digit identification number for each intersection.  
Ex. 12345678

12 – First two digits of county number  
345 – Main Route number (SR number)  
678 – Designated number given to each intersection

[-close window-](#)

[Done](#)[Internet](#)

# Login Security

- **Secure Logins**
  - Encrypted passwords
  - Each agency can only access its signals.
  - FDOT can access and modify all signals.

Untitled Page - Microsoft Internet Explorer

STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION

## FDOT District 7 Traffic Operations: Signals

Log In

User Name:

Password:

Remember me next time.

[Home](#) | [Public Information](#) | [People](#) | [OIS](#) | [Loss Control](#) | [Training](#)  
[Links](#) | [Infonet](#) | [Contact Us](#) | [Search](#) | [District 800 Numbers](#) | [Bulletin Board](#)



## FDOT District 7 Traffic Operations: Signals

[View List](#)[Short Data Sheet](#)[Long Data Sheet](#)[Map Intersection](#)[View Archived Data](#)

# Edit Page

You are logged in as: jeff.engerski

### Edit Signal Information for St Petersburg

#### Quick Jump Links

[General Signal Info.](#) | [Main Route Info.](#) | [Side Street Info.](#) | [Signal Info.](#) | [Controller Info.](#) | [Pole/SPan Info](#) | [Pedestrian Facilities](#)  
[Operational Info.](#) | [Installation Info.](#) | [Operational Changes](#) | [Overhead Sign Info.](#) | [Timings and Plans](#) | [Signal Images](#)

General Signal Information		
Intersection #:	<input type="text" value="15687032"/>	<a href="#">?</a>
County: Change County:	<input type="text" value="Pinellas"/> <a href="#">--Select--&gt;</a>	<a href="#">?</a>
Municipality: Change Municipality:	<input type="text" value="St Petersburg"/> <a href="#">--Select--&gt;</a>	<a href="#">?</a>
Contracted Maint. to: Change Contracted Maint. To:	<input type="text" value="St Petersburg"/> <a href="#">--Select--&gt;</a>	<a href="#">?</a>
Maintaining Agency: Change Maintaining Agency:	<input type="text" value="St Petersburg"/> <a href="#">--Select--&gt;</a>	<a href="#">?</a>
Agency ID:	<input type="text"/>	<a href="#">?</a>



St Petersburg Edit Data - Microsoft Internet Explorer

Speed:	30	<a href="#">?</a>
<b>Side Street Information</b>		
Name:	Central Ave	<a href="#">?</a>
Local Name:		<a href="#">?</a>
Alt Name:		<a href="#">?</a>
Speed:	15	<a href="#">?</a>
<b>Signal Information</b>		
Signal Type: Change Signal Type:	Stop & Go <a href="#">--Select--&gt;</a>	<a href="#">?</a>
Signal Head: Change Signal Head:	<a href="#">--Select--&gt;</a> Emergency Signal Flashing Beacon Other Stop & Go	 <a href="#">?</a>
Signal Head Type:	Vertical	
# of 3 Section Heads:	5	<a href="#">?</a>

- **Dropdown lists for all standard data input.**
- **Lists were developed to avoid typing mistakes and to standardize data for future reporting tools.**

Update Data

[View Intersection Archive](#)

**Plan/Aerial Sheets and Timings**

<b>Plan/Aerial Sheet:</b> <a href="#">Replace Plan/Aerial Sheet:</a>	<a href="#">15687032D.pdf</a> <input type="button" value="Browse..."/> <a href="#">?</a>	<input type="button" value="Submit New Plan/Aerial Sheet"/> <a href="#">View Plan/Aerial Archive</a> <a href="#">?</a>
<b>Timing Sheet:</b> <a href="#">Replace Timing Sheet:</a>	<a href="#">15687032.xls</a> <input type="button" value="Browse..."/> <a href="#">?</a>	<input type="button" value="Submit New Timing Sheet"/> <a href="#">View Timing Archive</a> <a href="#">?</a>

**Signal Images**

<b>East Bound Photo:</b> 	<b>West Bound Photo:</b> 
<input type="button" value="Browse..."/> <a href="#">Submit New East Image</a>	<input type="button" value="Browse..."/> <a href="#">Submit New West Image</a>

[View Image Archive](#)

# Archive Data List

- **Designed to protect the data**
  - When a change is made to a signal, all information previous to the change is archived.
  - Only FDOT personnel are allowed to restore archived signals.

Untitled Page - Microsoft Internet Explorer

 FDOT District 7 Traffic Operations: Signals

View all Signals Short Data Sheet Long Data Sheet Edit Signal  
Image Archive Timing Archive Plan/Aerial Archive Map Intersection

Only FDOT Personnel are able to restore from the archive.

ID	Maintaining Agency	Description	Date Archived	User Name	Options
15687032	St Petersburg	Central Ave & 3rd St	1/29/2007 9:23:06 AM	jeff.engerski	<a href="#">View Data</a>

St Petersburg

[Home](#) | [Public Information](#) | [People](#) | [QIS](#) | [Loss Control](#) | [Training](#)  
[Links](#) | [Infonet](#) | [Contact Us](#) | [Search](#) | [District 800 Numbers](#) | [Bulletin Board](#)

A red arrow points to the "View Data" link in the table row.



# FDOT District 7 Traffic Operations: Signals

[View List](#)[Short Data Sheet](#)[Long Data Sheet](#)[Edit Intersection](#)[Printer Friendly](#)[Restore From Archive](#)[View Archive List](#)

## Quick Jump Links

[General Signal Info.](#) | [Main Road Info.](#) | [Side Street Info.](#) | [Signal Info.](#) | [Controller Info.](#) | [Pole/SPan Info.](#) | [Pedestrian Facilities](#)  
[Operational Info.](#) | [Installation Info.](#) | [Operational Changes](#) | [Overhead Sign Info.](#) | [Signal Images](#)

### General Signal Infomation

Date Archived:	1/29/2007 9:23:06 AM	<a href="#">?</a>
Name:	jeff.engerski	<a href="#">?</a>
Intersection #:	15687032	<a href="#">?</a>
County:	Pinellas	<a href="#">?</a>
Municipality:	St Petersburg	<a href="#">?</a>
Contracted Maint. to:	St Petersburg	<a href="#">?</a>
Maintaining Agency:	St Petersburg	<a href="#">?</a>
Agency ID:	None	<a href="#">?</a>
Description:	Central Ave & 3rd St	<a href="#">?</a>
Section #:	15090101	<a href="#">?</a>
Mile Post:	0.44	<a href="#">?</a>

A large red arrow points from the bottom left towards the "Restore From Archive" button, which is highlighted with a yellow oval.

# Restore From Archive

- By pressing Restore from Archive the archive data is moved to the live database and the live information is moved to the archive database.

Untitled Page - Microsoft Internet Explorer

 **FDOT District 7 Traffic Operations: Signals**

Restore the following data?

[Return to Archive List](#) [View Archived Data](#)

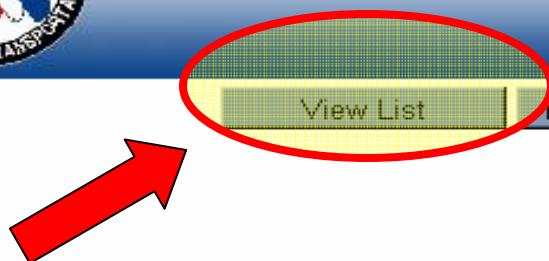
**Description:** Central Ave & 3rd St  
**Maintaining Agency:** St Petersburg  
**County:** Pinellas  
**Date Archived:** 1/29/2007 9:23:06 AM  
**Archived By:** jeff.engerski

[Restore from Archive](#)

[Home](#) | [Public Information](#) | [People](#) | [OIS](#) | [Loss Control](#) | [Training](#)  
[Links](#) | [Infonet](#) | [Contact Us](#) | [Search](#) | [District 800 Numbers](#) | [Bulletin Board](#)



## FDOT District 7 Traffic Operations: Signals



[View List](#)

[Long Data Sheet](#)

[Edit Data](#)

[Map Intersection](#)

[Printer Friendly](#)

Intersection #: 15687032

County: Pinellas      Municipality: St Petersburg

Contracted Maintenance to: St Petersburg

Description: Central Ave & 3rd St

[View all data for this intersection](#)

Open Plan/Aerial Sheet: [15687032D.pdf](#)

Open Timing Sheet: [15687032.xls](#)

# Getting to the Signal List

East Bound Photo:



West Bound Photo:



North Bound Photo:

South Bound Photo:



## FDOT District 7 Traffic Operations: Signals

[GIS Website](#)[Add New Signal](#)[Map](#)County: Municipality: Maintaining Agency: Description: Side Street: Main Route: [Reset Query](#)

<u>Description</u> ▲▼	<u>County</u> ▲▼	<u>Maintaining Agency</u> ▲▼	<u>Options</u>
38th Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
30th Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
26th Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
22nd Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
18th Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
13th Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
9th Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
5th Ave N & 66th St	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
66th St & Pasadena Ave	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
Central Ave & Pasadena Ave	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
1st Ave S & Pasadena Ave	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
9th St\MLK Blvd & Roosevelt Rd	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
16th St N & Roosevelt Rd	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
9th St & Gandy Blvd	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
Frontage Rd & Gandy Blvd	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
I-275 Northside & Gandy Blvd	Pinellas	St Petersburg	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>



## FDOT District 7 Traffic Operations: Signals

[GIS Website](#)[Add New Signal](#)[Map](#)County: Municipality: Maintaining Agency: Description: Side Street: Main Route: [Reset Query](#)

<u>Description</u> ▲▼	<u>County</u> ▲▼	<u>Maintaining Agency</u> ▲▼	<u>Options</u>
SR60 & Pierce St.	Hillsborough	Hillsborough County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR60 Marion St.	Hillsborough	Hillsborough County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR60 & Henderson Blvd.	Hillsborough	Hillsborough County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & DAMASCUS RD.	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & BAYSHORE BLVD.	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & CR 611	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & HAMPTON RD.	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & SKY HARBOR DR.	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & PARK PL. BLVD.	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & CLEARWATER MALL	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & US 19	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & OLD COACHMAN RD.	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & ARCTURUS AVE.	Pinellas	Pinellas County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & Lois Dr.	Hillsborough	Hillsborough County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>
SR 60 & Dale Mabry Hwy.	Hillsborough	Hillsborough County	<a href="#">View</a> <a href="#">Edit</a> <a href="#">Map</a>





## District 7 Signals

Zoom to....

## Legend

## Signalized Intersections

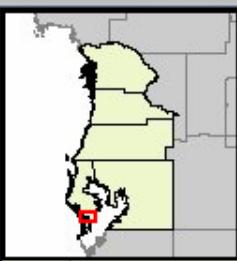
## MAINTAINING\_AGENCY

- ▲ Citrus County
- ▲ Hillsborough County
- ▲ Pinellas County
- ▲ St Petersburg

## Major Roads

## CLASS

- County Road
- Interstate
- Local Road
- Roadway Feature
- State Road
- US Road
- District 7
- State



## LAYERS

- Intersections
- Roads

Refresh Map

 Auto Refresh

## Help:

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- A map layer.
- A visible group/layer, click to hide.
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- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.

Zoom In



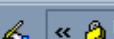
Microsoft Power...

District 7 Signals...

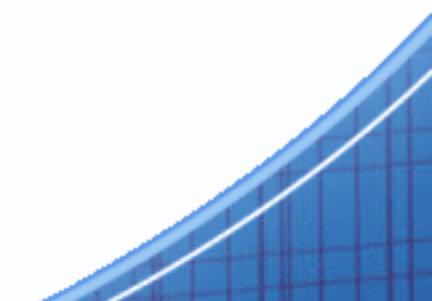
Untitled Page...

Windows Media ...

List.bmp - Paint



9



# Questions?