

FREDERICK COUNTY

ROADWAY CLOSURE

APPLICATION OVERVIEW



BACKGROUND

- ✘ During Emergency Operation Center (EOC) activation for the Blizzard of 2010, Frederick County Staff identified the need to improve the tracking of road closures.
- ✘ Closure information comes from multiple jurisdictions (Frederick County, Frederick City, SHA, Emergency Communications 911) in various media formats (emails, websites, Computer Aided Dispatch).
- ✘ There was no standard for reporting closure information.
- ✘ There was no local map.

OBJECTIVE

- ✖ Create a centralized location to capture the geometry and descriptive data for road closures to be used by multiple internal and external agencies
- ✖ Track day to day road closures such bridge, road, or utility construction, and maintenance
- ✖ Track large-scale closures such as spring flood events, hurricanes, or the Blizzard of 2010
- ✖ Filter road closures by time, reporting agency, lane status, and road closure type
 - + DPW staff could search for roads currently closed by debris and know instantly which roads still require attention.
 - + Filtering by a specific data range provides a historical timeline useful to Emergency Management staff in preparation of After Action Reports (AARs) and loss reimbursement applications
- ✖ Share the data with county citizens and regional agencies
 - + The descriptive text can be used to generate website content
 - + The live map service can be activated into the At A Glance web mapping application.

DEVELOPMENT PLATFORM

Standalone Custom Adobe Flash Application, uses following:

- ✖ Adobe Flash Catalyst CS5 (discontinued) – Initial design/layout
- ✖ Adobe Illustrator/Photoshop CS5
- ✖ Flash Builder 4.6 - Adobe Flex 4.1 SDK
- ✖ ArcGIS API for Flex 2.1
- ✖ Adobe Flex Connector for MS SQL Server – ASP – Facilitates communication with SQL Server, all data maintained through SQL
- ✖ AlivePDF – PDF plug-in for Flex

Activation Tool

- ✖ .NET Framework 4.0
- ✖ Primary configuration through XML

The screenshot shows a web-based application for managing road closures. At the top, there are tabs for 'Road Closure' and 'Countywide Event'. Below these are filters for 'TIME' (Active), 'TYPE' (All), 'LANE STATUS' (All), and 'AGENCY' (All). A search bar labeled 'Address Search' is on the right. The main map area shows a road network with a dark grey polygon indicating a selected area. A blue triangle icon is placed on the map. A 'Create Road Closure' dialog box is open on the right, containing buttons for 'Place Event', 'Select Roads', 'Delete Roads', and 'Create Form'. Three orange callout boxes with arrows point to specific elements: 'Add new event' points to the blue triangle icon, 'Place event location' points to the dark grey polygon, and 'Select roads using lasso' points to the 'Select Roads' button in the dialog box. On the left, there is a 'Municipalities' sidebar with 'High Water Areas' selected, and a map navigation control.

TIME ▼
Active

TYPE ▼
All

LANE STATUS ▼
All

AGENCY ▼
All

Address Search

Street Aerial Layers +

Municipalities
High Water Areas
Bridges
Dams
FEMA Floodplains

2013

Add new event

Place event location

Select roads using lasso

Create Road Closure

Place Event

Select Roads

Delete Roads

Create Form

Silver Hill Creek

TIME ▼

Active

TYPE ▼

All

LANE STATUS ▼

All

AGENCY ▼

All



Address Search

Street

Aerial

Layers

+

Municipalities

High Water Areas

Bridges

Dams

FEMA Floodplains



Remove roads

Enter description



Create Road Closure



Place Event



Select Roads



Delete Roads

Create Form

Street

Aerial

Layers

+

Municipalities

High Water Areas

Bridges

Dams

FEMA Floodplains

400 m

Create Road Closure Form

Event ID:

Roads List

Road Closure Name:

Type:

Bridge Closing

Lane Closure Status:

Local/ Emer. ...

Recurrence: ?

☐ Yes

Press Release Link:

Start Date:

End Date:

Hours Closed:

From:

12

:

00

AM

To:

12

:

00

AM

Closed All Day:

☐ Yes

Event Summary:

Reason:

Detour:

Source/ Agency:

DPW, County

Contact:

Contact:

Save

Clear

Road Closure **Countywide Event**

TIME ▼ **Active** TYPE ▼ **All** LANE STATUS ▼ **All** AGENCY ▼ **All** Address Search

Street Aerial Layers +

Start Date: 10/01/2012 End Date: OK Cancel

October 2012

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Bridge Closing
Bridge Closing
Construction
High Water Area
Incident
Seasonal Closing
Sinkhole

Local/ Emer. ...
Local/ Emer. Only
Emergency Only
Not Passable
Lane Closure

DPW, County
DPW, City
Municipality
SHA
Federal
EOC
EOC

Create Road Closure Form

Event ID: Roads List

Road Closure Name:

Type: Bridge Closing

Lane Closure Status: Local/ Emer. ...

Recurrence: ? ☐ Yes

Press Release Link:

Start Date: End Date:

Hours Closed: From: 12 : 00 AM To: 12 : 00 AM

Closed All Day: ☐ Yes

Event Summary:

Reason:

Detour:

Source/ Agency: DPW, County

Contact:

Contact:

Save Clear



TIME ▼

TYPE ▼

LANE STATUS ▼

AGENCY ▼



retreat

10/29/12-10/31/12

Weather Obstruction

All

All

Street

Aerial

Layers



Retreat Road between Biggs Ford
Rd. and Railroad tracks



Date Start: 10/30/2012 Date End: 10/31/2012

Hours From: 12:00AM Hours To: 12:00AM

Type: Weather Obstruction

Summary: Hurricane Sandy

Contact #1: Lynda Warthen *13423

Glade Creek

Fountain Rock Park & Nature Center

W a l l

Road Closure

Countywide Event

Open All Roads Close All Roads Open Roads Close Roads Passable Roads



Street

Aerial

Layers



Jurisdiction

Roads List

Jurisdictions

<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Brunswick
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Burkittsville
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Emmitsburg
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Frederick City
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Middletown
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Mount Airy
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Myersville
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	New Market
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Rosemont
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thurmont
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Walkersville
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Woodsboro
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Federal
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	State
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	County
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Private

OTHER DESIGN BENEFITS

- ✖ Ability to turn on or add new data layers
 - + SHA CHART incidents and camera feeds
 - + CAD Fire/ EMS Incidents
 - + High water, dams, floodplains, etc
 - + Toxic plume models, spills, or special event boundaries added on the fly
- ✖ Use of county street or orthophoto base map background
- ✖ Zoom to closure event from list of events
- ✖ Search by address

- ✖ The email notification option allows the user to email the newly generated event information to a specified list of addresses.

- ✖ The resulting map service can be used for map production in ArcMap and shared as a feed into other web mapping applications like Frederick County's At A Glance.

XML Configuration

 OFF

HURRICANE SANDY ALERT!

The following roads are currently closed due to effects from Hurricane Sandy:

Incident 

Sandy

Cancel

Save

Exit

X

The following roads are currently closed due to effects from Hurricane Sandy:

as of Monday, November 26, 2012 3:37 PM

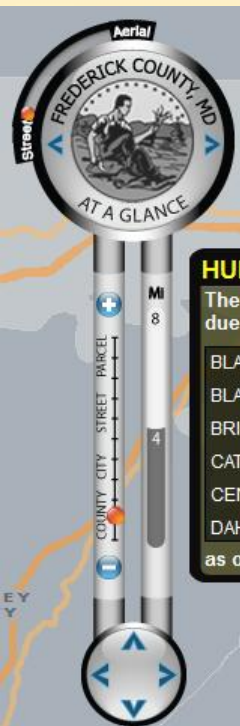
XML Configuration Preview

Users

Road Closure Web Application (Internal Use Only)

Road Closure Web Application (Internal Use Only)





Search by Address or Street Name

[Property Report](#) | [Property Identifier](#) | [Collection Schedule](#)

HURRICANE SANDY ALERT!

The following roads are currently closed due to effects from Hurricane Sandy:

- BLACK RD
- BLACKS MILL RD
- BRICE RD
- CATOCTIN HOLLOW RD
- CENTER ST
- DAHLGREN RD

as of Fri Nov 2 2012 12:24:38 PM





NOW WHAT?

- ✕ Push closure lists to website
 - + External tool to review and export to web site, csv, or other formats
- ✕ Integrate closures from CAD (Intergraph)
- ✕ Bring in more regional jurisdictions and agencies to participate

CONTACT AND DEMONSTRATION SITE

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[Roadway Closure Application Read Only Demo Site](#)