

Low Water Crossings

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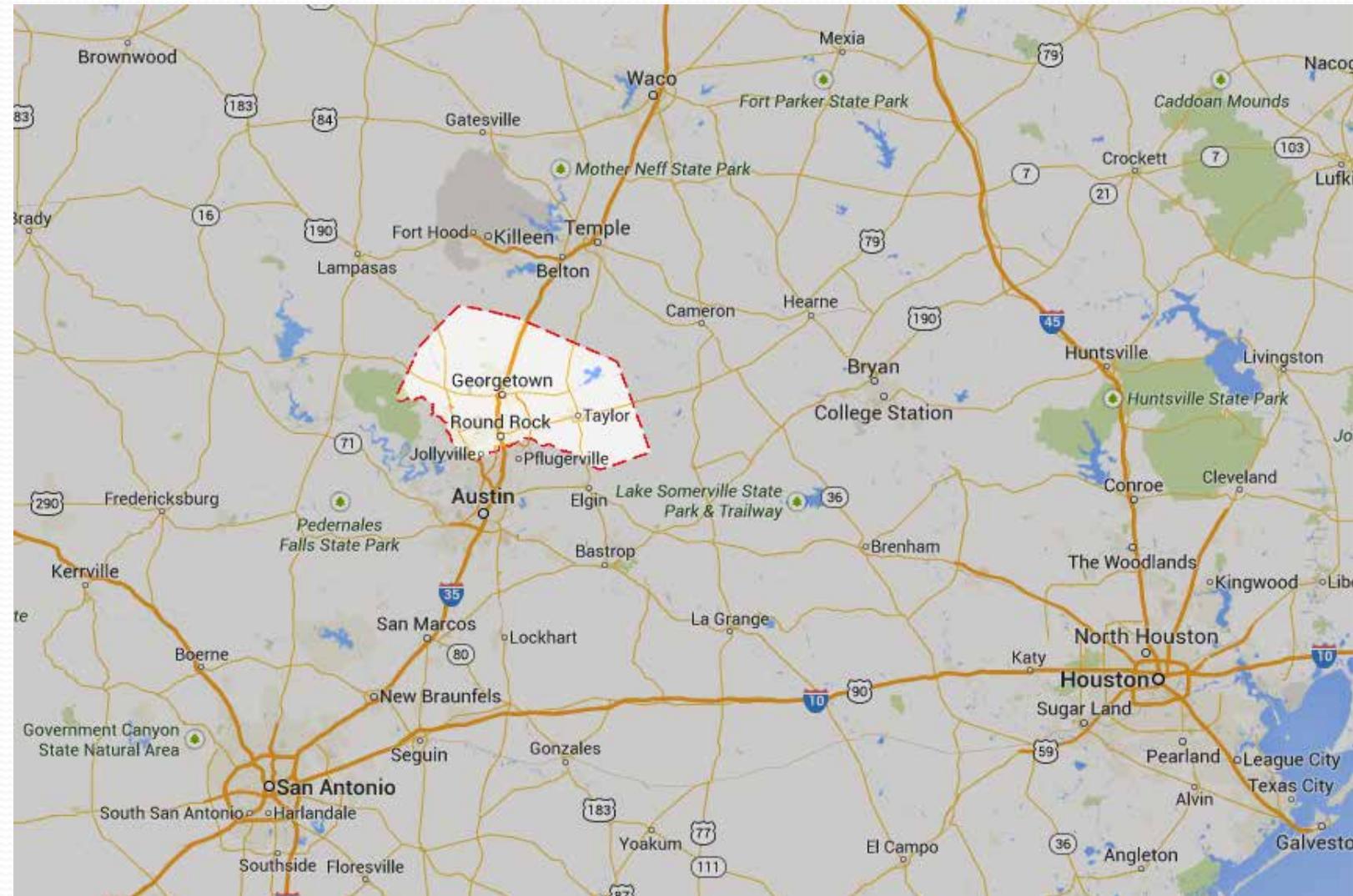


Agenda

- About Williamson County
- The problem
- Solution
 - Technology
 - Process
- Lessons learned
- Questions

About Williamson County

Wilco Location Map



Williamson County

- Population 456,232 (est.)
 - Fastest growing metro area in the USA in 2012 (5% annually)
 - 2 of the top 10 fastest growing cities in the USA in 2012
- 1,100+ Square Miles
- 17 Incorporated Cities
- Major Cities:
 - Austin
 - Cedar Park
 - Georgetown
 - Leander
 - Round Rock

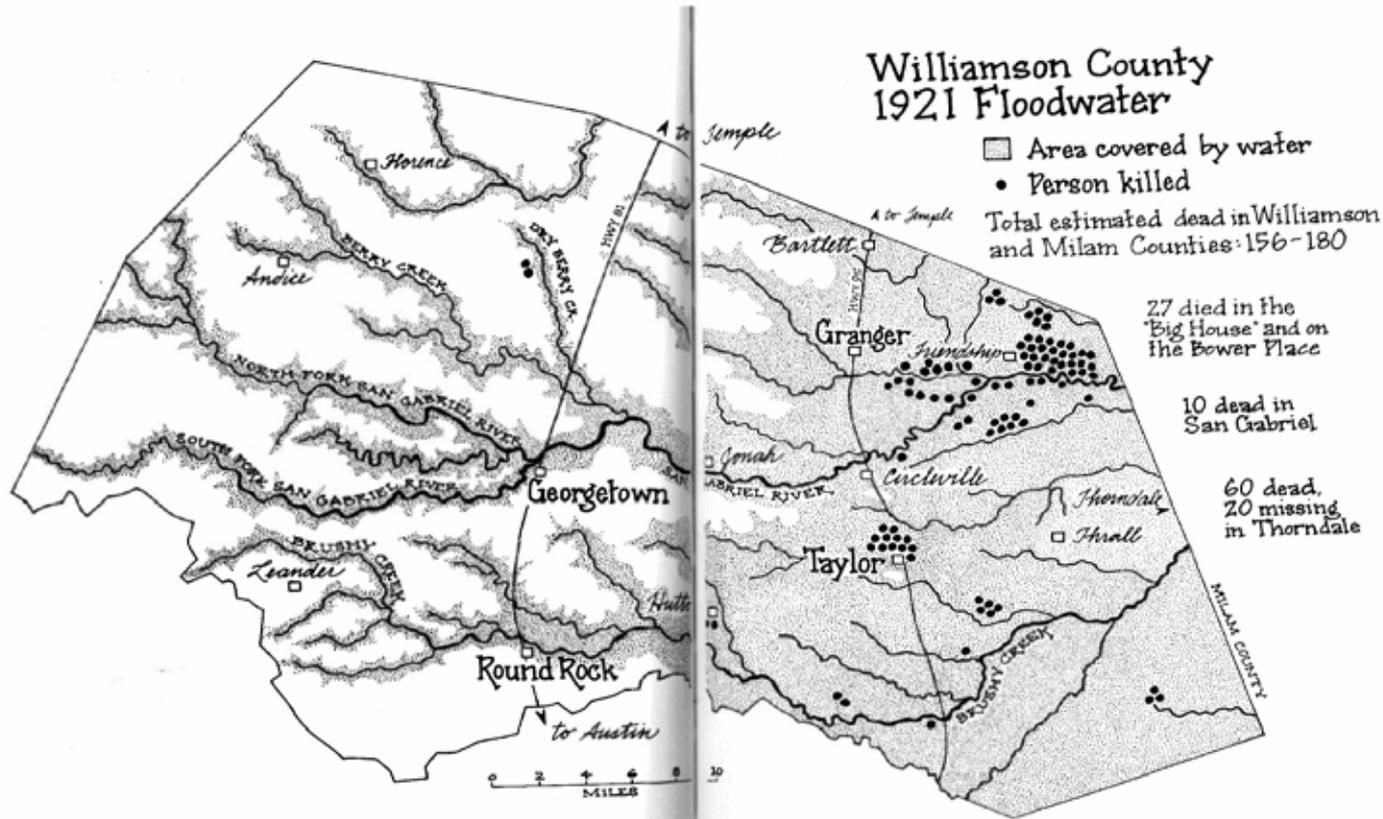
Wilco GIS

- 5 GIS Staff for 9-1-1 centralized GIS and Addressing
- ESRI Shop
 - 3 Production ArcGIS Server Servers (2 internal, 1 in DMZ)
 - 3 Database servers (ArcSDE Microsoft SQL Server)
- Serve 44 County Departments
 - Maps, data, reports
 - Custom web applications
- Emergency Responders
 - 18 Fire Departments and VFDs
 - 13 Sheriff and Police departments
 - 2 EMS Providers
 - Other Agencies (Forest Service, etc).

The Problem

Tracking and notification of low water crossing closures within Williamson County for both internal and external users

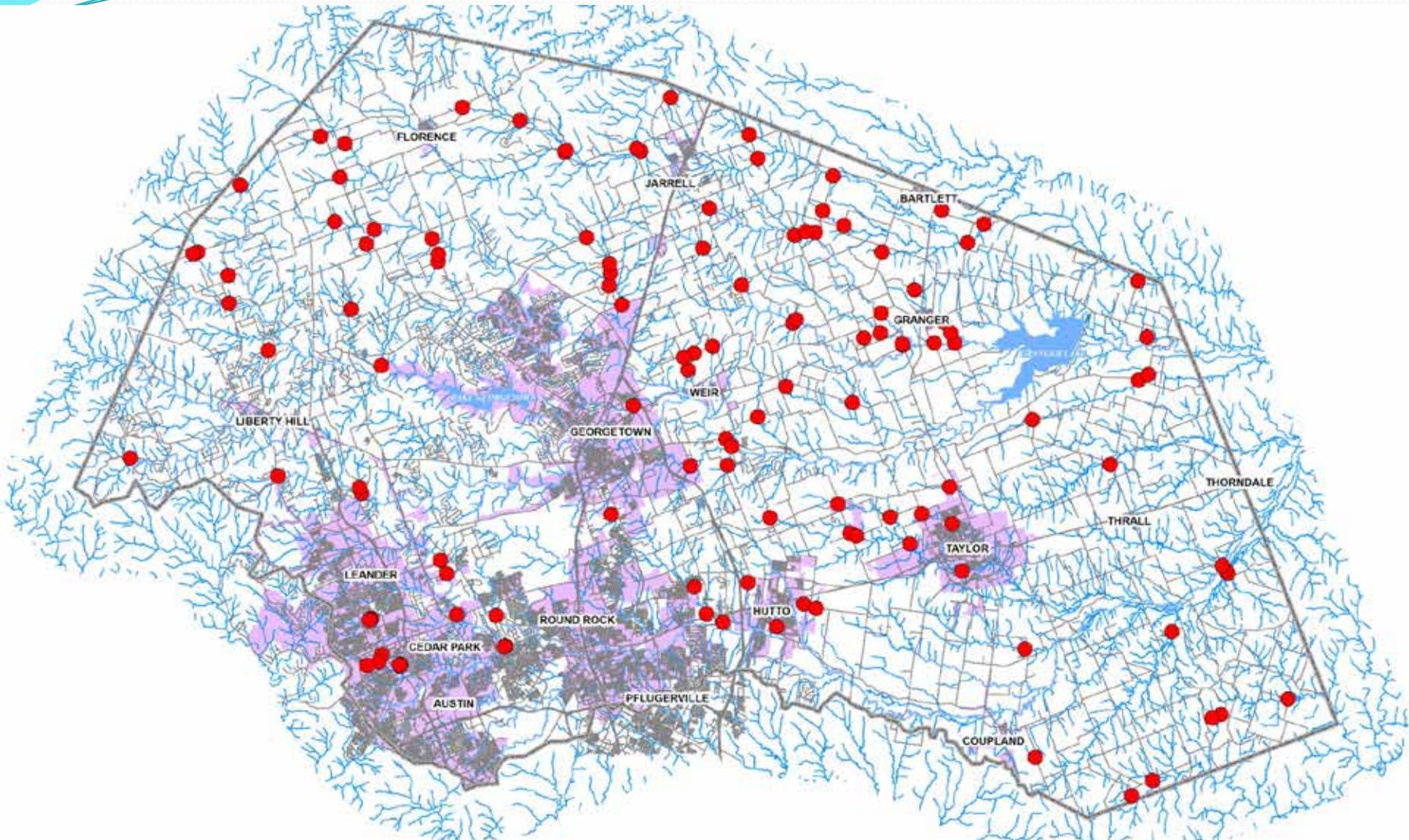
Historical Context



Darkened areas represent flood waters where they swamped Williamson County on the night of September 9, 1921. Every dot represents one person killed. The official death toll for Williamson and Milam Counties was 156, but at least 40 people were never found. Between 200 and 250 people were killed across Texas in the torrential storms of September 1921. *Drawn by Kristin Tucker Price.*

Current Process

- **Collecting information: Calls come into Dispatch or EOC from several sources**
 - Sheriff's Office deputies
 - Road & Bridge Department
 - Citizens
 - Other agencies
- **Tracking information:**
 - Public Information Officer posts closures on County website
 - Communications tracks in CAD
 - EOC tracks in WebEOC



Low Water Crossings

Example of Low Water Crossing



Problems with Current Process

- Manual process
- Many people involved
- Many sources of data
- Not a single repository for data
- No flexible platform for public

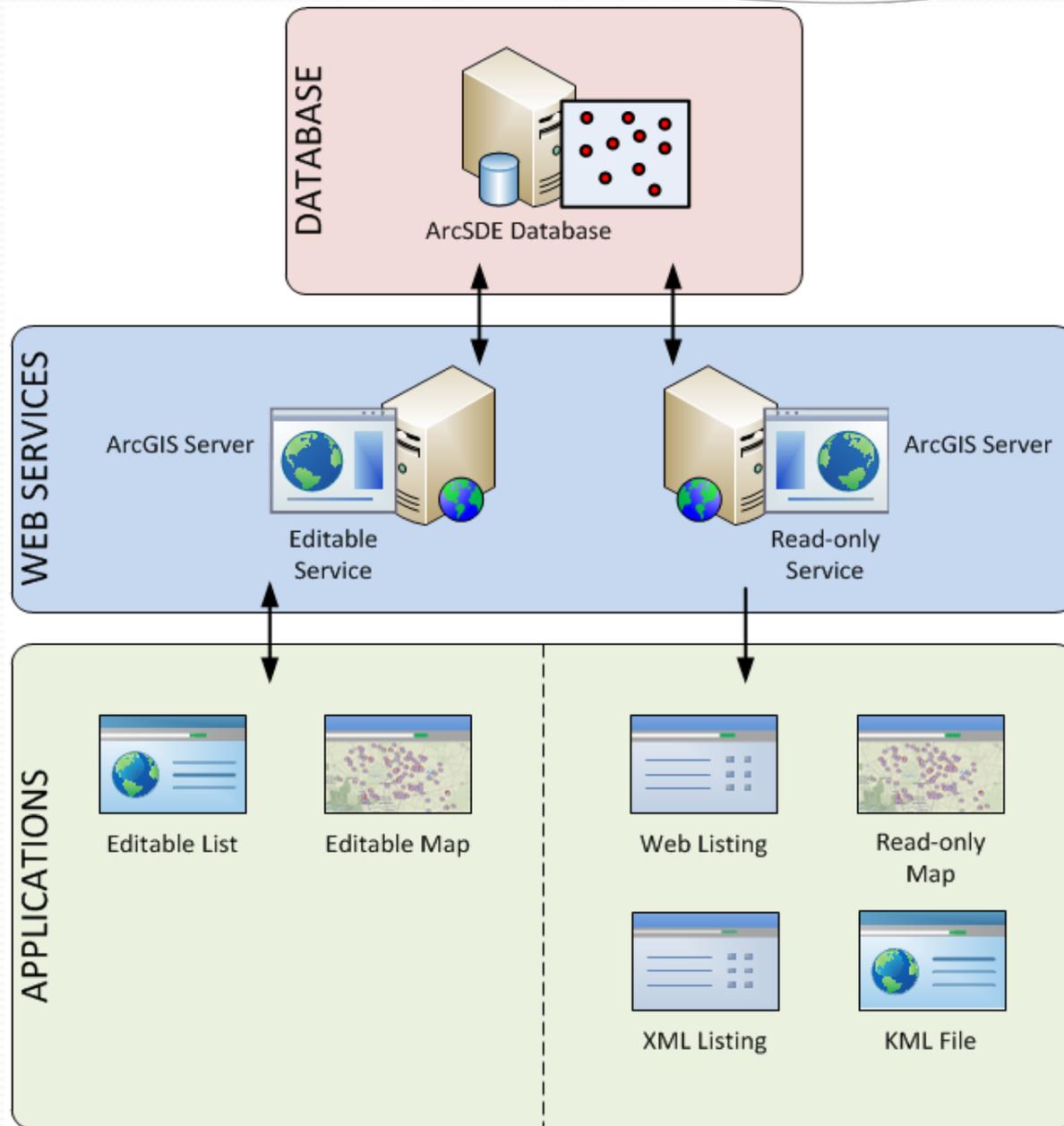
Designing a Solution

Goals

- Simplify tracking and collection
- Use service oriented architecture
- Ease of use for public and editors
- Enable rapid updates

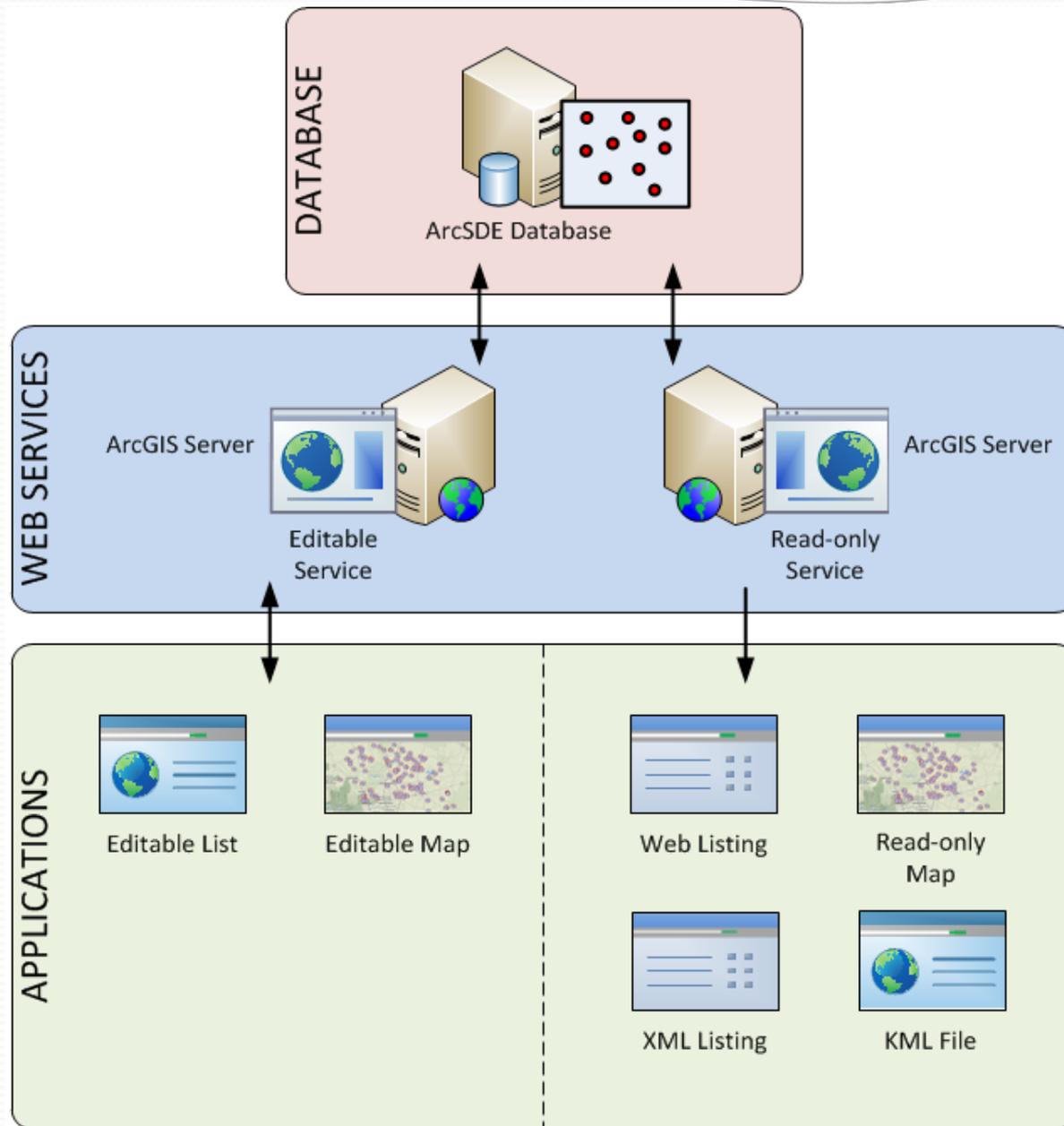
Plan of Action

- Meet with stakeholders to assess needs
- Set data model
- Design, build, test new method
- Go live



Database

- Create low water crossing data schema
- Reconcile data from various sources
- Load into SDE
- Created editing version



Web Services

- Two server configuration
 - Internal
 - External –DMZ
- Created two web services
 - Internal – editing enabled
 - External – read only – public facing
- Published as Feature Services
- Capabilities
 - KML/XML/

Rest Endpoint

ArcGIS REST Services Directory

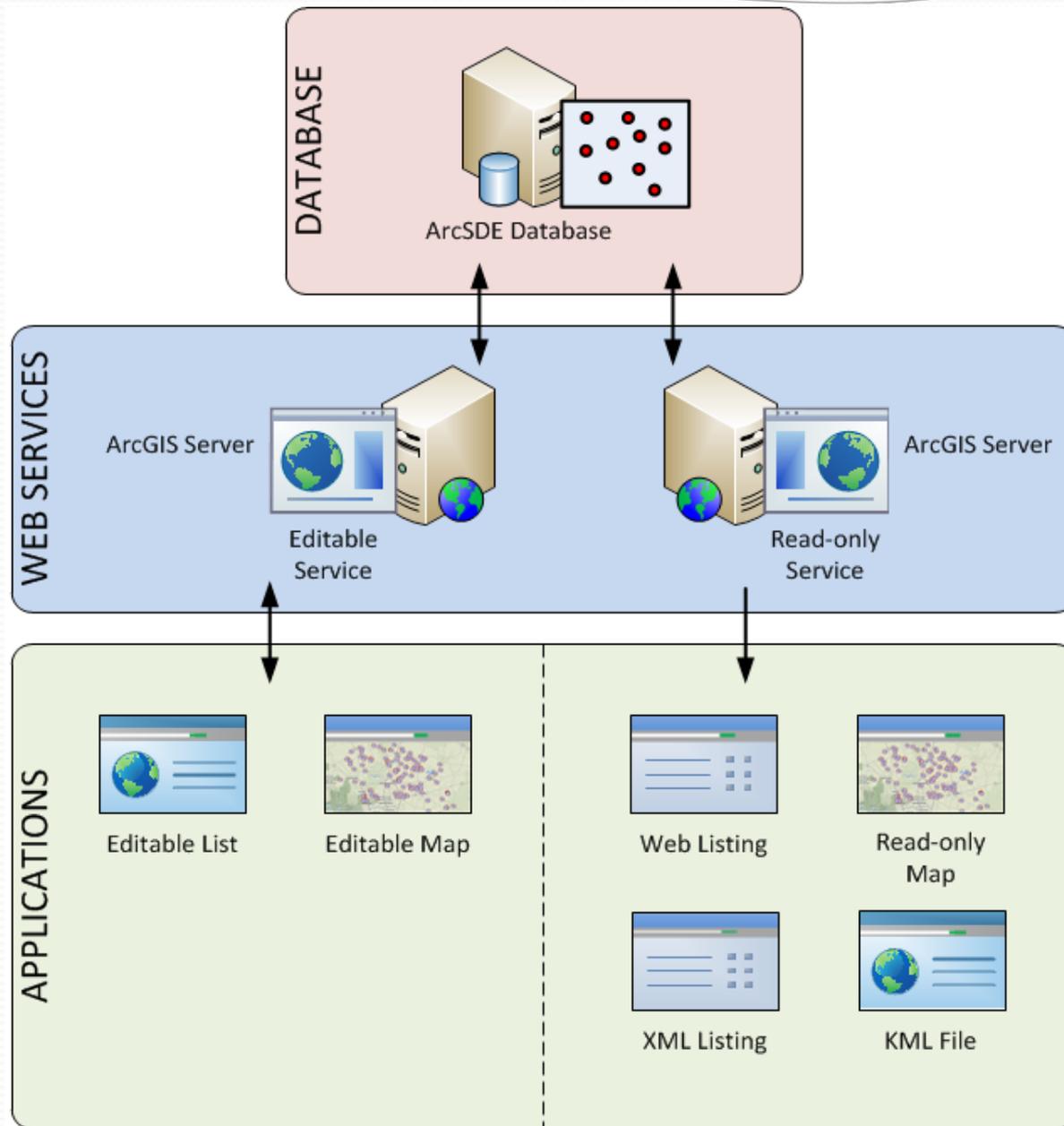
[Login](#) | [Get Token](#)

[Home](#) > [services](#) > [public](#) > [website lowwater \(FeatureServer\)](#) > [Low Water Crossing](#) > [query](#)

[Help](#) | [API Reference](#)

Query: Low Water Crossing (ID: 0)

Where:	<input type="text"/>
Object IDs:	<input type="text"/>
Time:	<input type="text"/>
Input Geometry:	<input type="text"/>
Geometry Type:	<input type="text" value="Envelope"/>
Input Spatial Reference:	<input type="text"/>
Spatial Relationship:	<input type="text" value="Intersects"/>
Relation:	<input type="text"/>
Out Fields:	<input type="text"/>
Return Geometry:	<input checked="" type="radio"/> True <input type="radio"/> False
Max Allowable Offset:	<input type="text"/>
Geometry Precision:	<input type="text"/>
Output Spatial Reference:	<input type="text"/>



Applications

- Internal
 - Editable web map
 - Editable LWC listing
 - List of all LWCs
 - CAD
 - WebEOC
- External
 - County Website (XML)
 - List of closed LWCs
 - Web Map

Internal Applications

Management Page



Williamson County OEM
Low Water Crossing Management

*** WARNING ***

THIS IS LIVE DATA. PLEASE USE THE TRAINING SITE FOR TESTING.

INTERNAL LINKS

EDIT OPEN/COSED	http://psags/watercrossings/edit.aspx
EDITABLE MAP	
READ ONLY LIST	http://psags/watercrossings/list.aspx
INTERNAL AGS REST	http://psags:6080/arcgis/rest/services/test/lowwatercrossingtest/FeatureServer/0

PUBLIC LINKS

COUNTY WEBSITE	http://www.wilco.org/CountyDepartments/EmergencyManagement/LowWaterCrossings/tabid/3675/language/en-US/Default.aspx
PUBLIC MAP	https://maps.wilco.org/alerts/wc/map.aspx
MOBILE PUBLIC MAP	https://maps.wilco.org/alerts/wc/map.aspx
PUBLIC LIST	https://maps.wilco.org/alerts/wc/list.aspx
EXTERNAL AGS REST	https://maps.wilco.org/arcgis/rest/services/public/website_lowwater/FeatureServer/0

Open/Closed Management Page

NAME	LOCATION	STATUS	NOTES
BARON LN	482' SOUTH OF LONE STAR DR	Open	
BRUSHY BEND DR	70' NORTH OF BRUSHY CREEK RD	Closed	TEST ONLY <input type="text"/> Save
BRUSHY CREEK RD	274' WEST OF BRUSHY BEND DR	Closed	WATER EVERYWHERE <input type="text"/> Save
CEDAR PARK DR	289' WEST OF ROYAL LN	Open	
CEDAR PARK DR	16' WEST OF DEWBERRY DR	Closed	
COYOTE TRL	1250' WEST OF SPARROW RD	Open	
CR 100	760' SW OF SH 29	Closed	<input type="text"/> Save
CR 100	130' NORTH OF MCSHEPHERD RD	Closed	<input type="text"/> Save
CR 101	135' NORTH CHANDLER RD	Open	
CR 101	385' CR 160	Open	
CR 106	430' WEST OF CR 100	Open	
CR 108	1250' SOUTH OF LIMMER LOOP	Closed	<input type="text"/> Save
CR 110	930' NORTH OF US 79	Closed	<input type="text"/> Save

View Applications

County Website

Login Register Search  Select Language 

 **Pay** **Search** **View**

Tickets Wilco Careers Commissioners Court Agenda/Minutes Road Closure Request

Hot Checks Jail Look-up Road Repair Request

Property Taxes Public Records My Precinct Reserve A Meeting Room

Motor Vehicles Most Wanted Road Closures Interactive Maps

Home **Online** Explore Government Justice Environment Transparency Ask

WILLIAMSON COUNTY



[WilcoOnline Services](#)
[Search](#)
[Ask](#)



[County Departments](#)
"County Government Works"

Closed Low Water Crossings

NAME	LOCATION	NOTES
BRUSHY BEND DR	70' NORTH OF BRUSHY CREEK RD	TEST ONLY
BRUSHY CREEK RD	274' WEST OF BRUSHY BEND DR	WATER EVERYWHERE
CR 100	130' NORTH OF MCSHEPHERD RD	
CR 100	760' SW OF SH 29	
CR 108	1250' SOUTH OF LIMMER LOOP	
CR 110	930' NORTH OF US 79	
CR 123	690' SW OF WHITETAIL LN	
CR 124	2750' WEST OF CR 157	
CR 130	2000' NORTH OF CHANDLER RD	
CR 245	810' SOUTH OF CR 249	
CR 482	6530' EAST OF CR 481	

Data Current as of: 6/21/2013 8:28:48 AM
[Please read the disclaimer](#) | [Report a problem](#)



Interactive Map



LOW WATER CROSSINGS

Turn Around, Don't Drown

Monitor NOAA Weather Radio, or local news for the latest weather information. If flooding occurs, get to higher ground. Get out of areas subject to flooding. Avoid areas already flooded, especially if the water is flowing. Road beds may be washed out under flood waters. NEVER drive through flooded roadways. Do not camp or park your vehicle along streams and washes. Be especially cautious at night when it is harder to recognize flood dangers.

Current Messages

Closed Low Water Crossings

- BRUSHY BEND DR - 70' NORTH OF BRUSHY CREEK RD
- BRUSHY CREEK RD - 274' WEST OF BRUSHY BEND DR
- CR 100 - 130' NORTH OF MCSHEPHERD RD
- CR 100 - 760' SW OF SH 29
- CR 108 - 1250' SOUTH OF LIMMER LOOP
- CR 110 - 930' NORTH OF US 79
- CR 123 - 690' SW OF WHITETAIL LN
- CR 124 - 2750' WEST OF CR 157
- CR 130 - 2000' NORTH OF CHANDLER RD
- CR 245 - 810' SOUTH OF CR 249
- CR 482 - 6530' EAST OF CR 481

SPECIAL MESSAGES

There are no special alerts at this time.

Current Weather

AccuWeather

AccuWeather.com®

Georgetown, TX

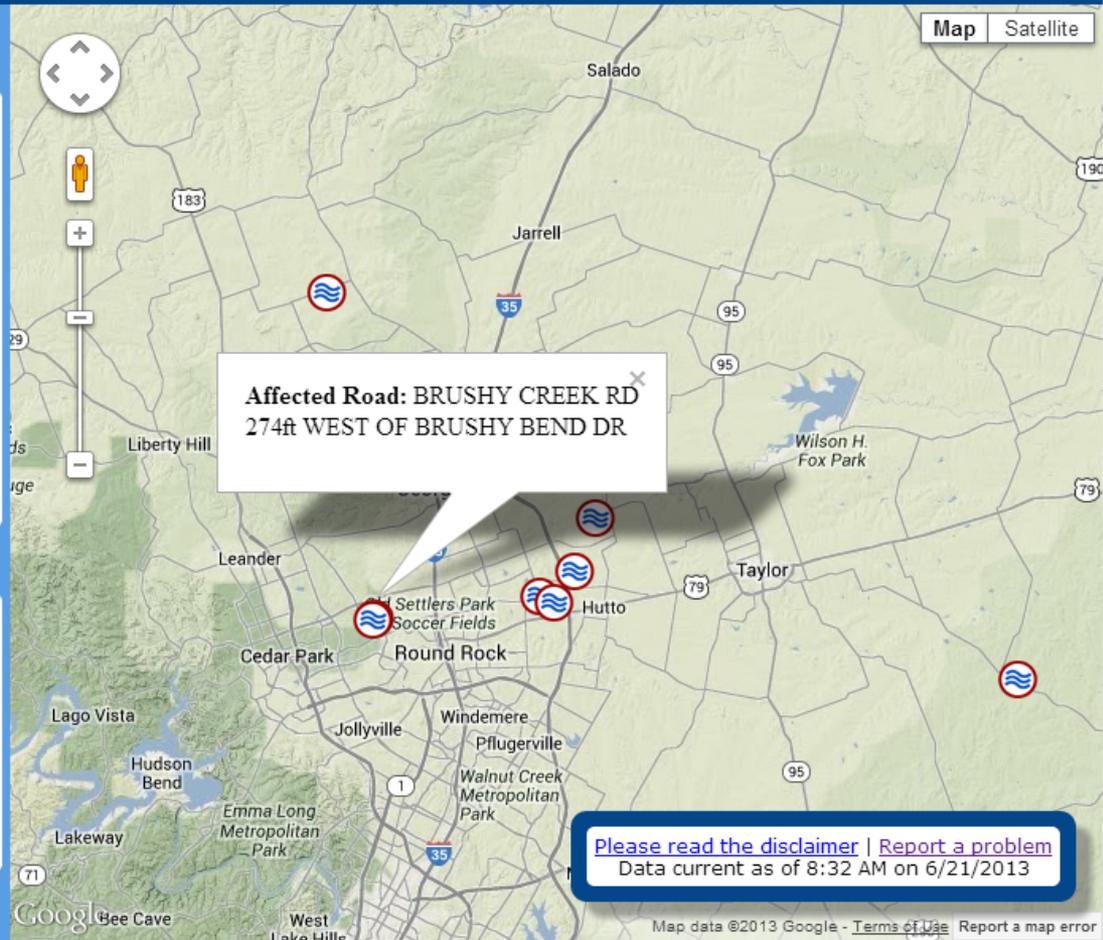
Currently | Hourly Info | 15 Days



Mostly cloudy
79°F

RealFeel®: 84°F
Winds: S at 8 mph

Weather Forecast | Weather Maps



[Please read the disclaimer](#) | [Report a problem](#)
Data current as of 8:32 AM on 6/21/2013



Mobile Application



NAME	LOCATION	NOTES
BRUSHY BEND DR	70' NORTH OF BRUSHY CREEK RD	TEST ONLY
CR 100	760' SW OF SH 29	
CR 101	135' NORTH CHANDLER RD	
CR 108	1250' SOUTH OF LIMMER LOOP	
CR 130	2000' NORTH OF CHANDLER RD	
CR 482	6530' EAST OF CR 481	

Data Current as of: 6/18/2013 6:10:09 PM



Pros/Cons

- **Lots of benefits**
 - **Faster than manual**
 - **Easy**
 - **Secure**
 - **Expandable**
 - **Flexible**
- **Some downsides**
 - **Uncaught errors will propagate through the systems**
 - **Unknown endpoints**
 - **Some custom development**

Lessons Learned

- Infrastructure is the easy part
 - Even with great cooperation!
- Process took a lot longer than initially thought
- Data QC continues to be a work in progress
- Clear vision and stakeholder buy-in essential

Questions?