

A dark, topographic map background with a large, semi-transparent circular grid overlay. The map shows contour lines, a river, and some text like 'CREEK' and 'Oct'.

GIS Update

Partnering Conference

August 10, 2010



Challenges we face...

“Do more with less...”

“Work smarter....”

Furloughs...



A Littler Perspective...



We choose to be public servants...?

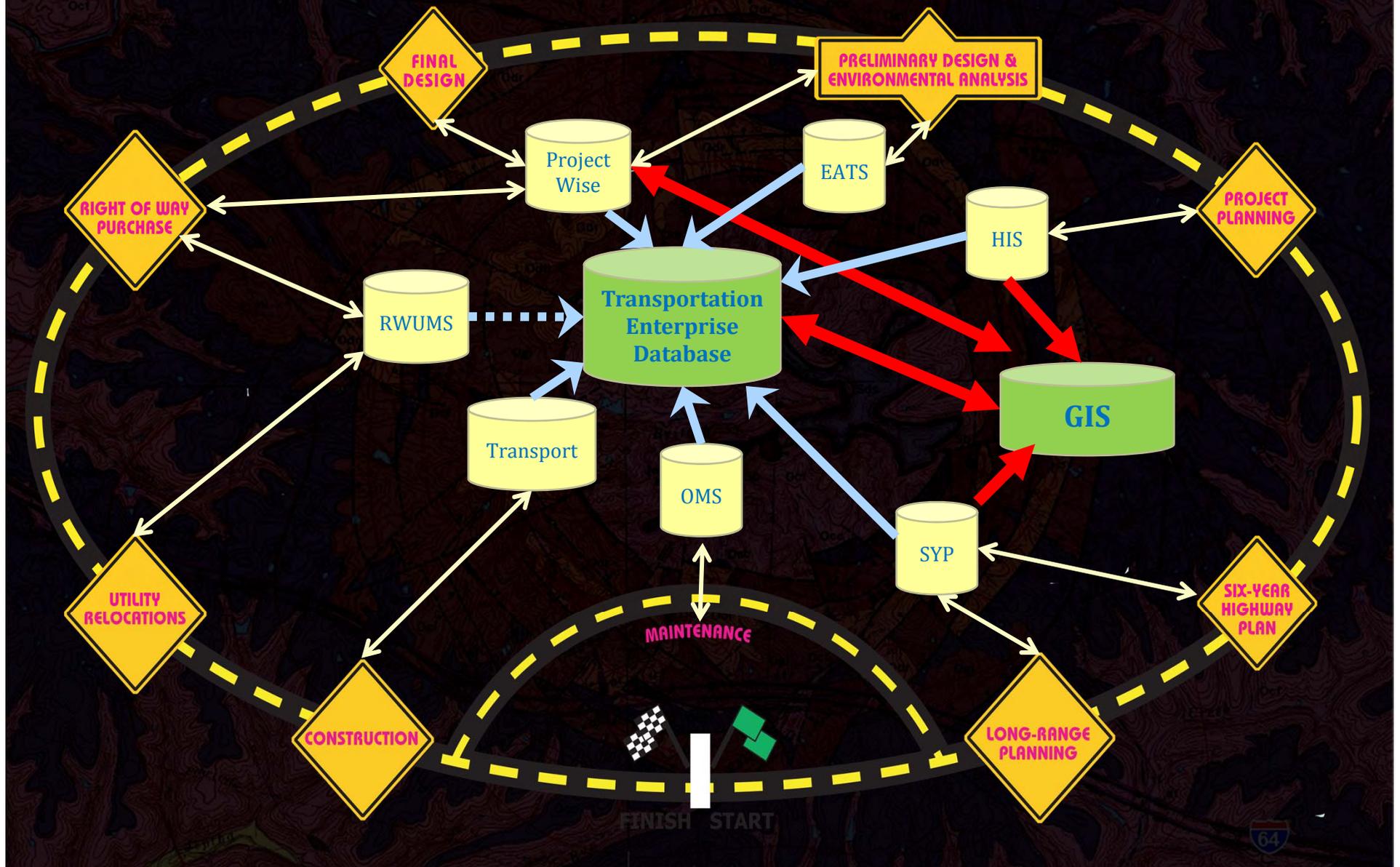
- “Be the change that you want to see in the world.”
 - Mohandas Gandhi
- “A small group of thoughtful people could change the world. Indeed, it's the only thing that ever has.”
 - Margaret Mead

Reflecting On “Where We Are...”



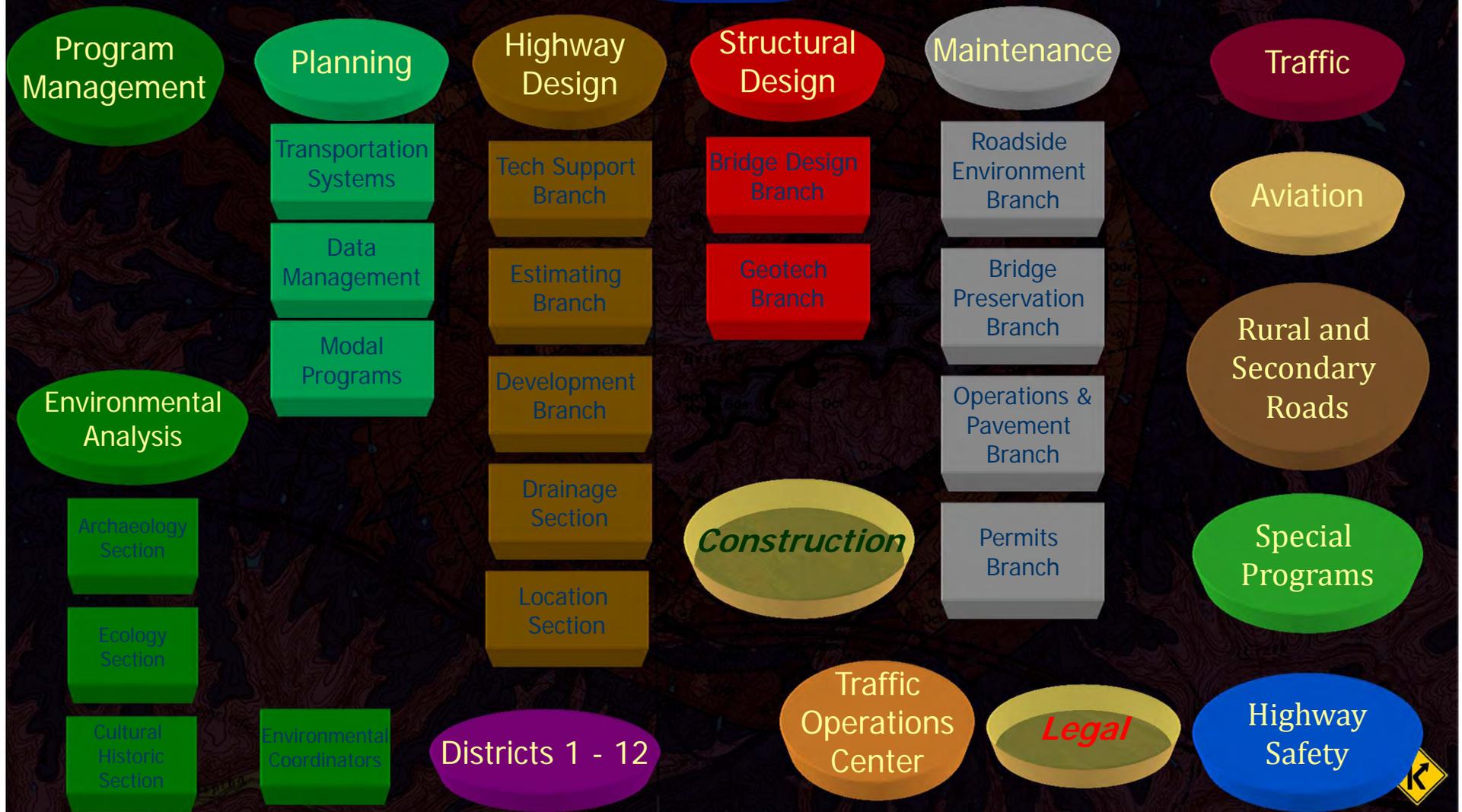
And Where we are headed *with GIS*. 

The Cabinet's Business Cycle



KYTC Agencies We Support Today

State Highway Engineer's Office



How we are contributing...

- New Foundation Technology
 - ArcGIS 10
 - SDE
 - ProjectWise/MicroStation
- Data Collection & Analysis
 - Environmental/Facilities
 - MRP
 - Asphalt Contract Analysis
- Viewing/Decision Making
 - Bridge View
 - Photo Log Viewer
- Future Directions...



ArcGIS 10 is coming...

- Improved display performance
- Improved workflow
- New analysis methods
 - Location-allocation
 - Time
 - 3D
- Later this fall...



SDE/SQL Server...

The screenshot shows the ArcCatalog application window. The title bar reads "ArcCatalog - ArcInfo - Database Connections\KYTCVector on kytcs00e06p as ADAcc.sde". The menu bar includes "File", "Edit", "View", "Go", "Tools", "Window", and "Help". The toolbar contains various icons for navigation and tool management. The "Location" dropdown is set to "Database Connections\KYTCVector on kytcs00e06p as ADAcc.sde". The "Stylesheet" is set to "FGDC ESRI".

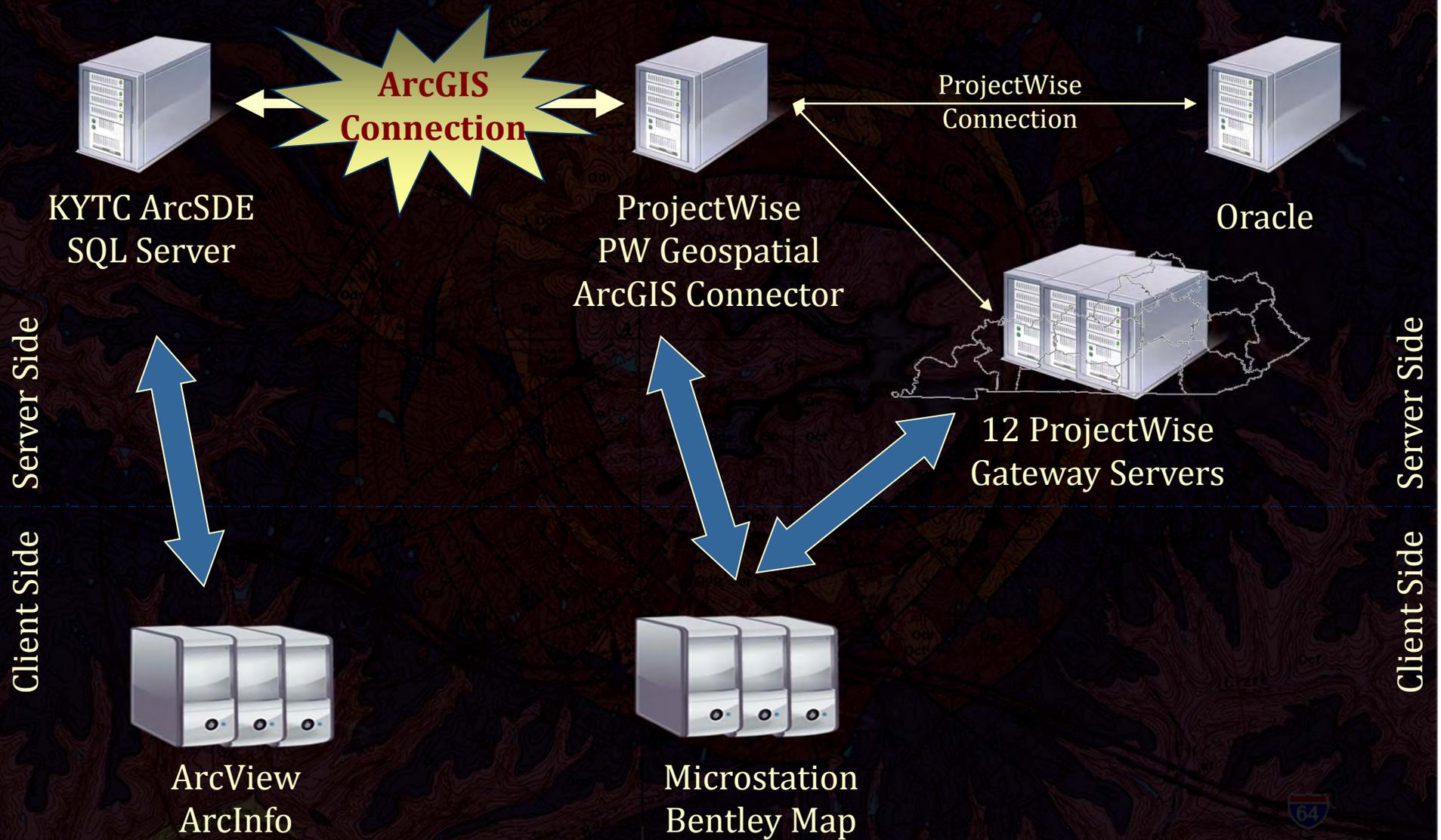
The left pane shows a tree view of the file system, with "Database Connections" expanded to show a list of connections. The right pane shows a table of SDE Feature Classes:

Name	Type	Modifik
KYTCVector.HIS.KYAllStateRoads	SDE Feature Class	
KYTCVector.HIS.KYAllStateRoads10thMP	SDE Feature Class	
KYTCVector.HIS.KYAllStateRoads10thMPSna...	SDE Feature Class	
KYTCVector.HIS.KYInterstates	SDE Feature Class	
KYTCVector.HIS.KYLocalRoads	SDE Feature Class	
KYTCVector.HIS.KYLocalRoads10thMP	SDE Feature Class	
KYTCVector.HIS.KYParkways	SDE Feature Class	
KYTCVector.HIS.KYStateRoutes	SDE Feature Class	
KYTCVector.HIS.KYUSHighways	SDE Feature Class	
KYTCVector.HIS.LN	SDE Feature Class	
KYTCVector.HIS.MD	SDE Feature Class	
KYTCVector.HIS.OP	SDE Feature Class	
KYTCVector.HIS.PIRI	SDE Feature Class	
KYTCVector.HIS.PLPT	SDE Feature Class	
KYTCVector.HIS.PLSG	SDE Feature Class	
KYTCVector.HIS.PLSG_RD_NAME	SDE Feature Class	
KYTCVector.HIS.PM	SDE Feature Class	
KYTCVector.HIS.PN	SDE Feature Class	
KYTCVector.HIS.PV	SDE Feature Class	

SDE...

- Easier sharing between CADD & GIS
- More data will be available
- Multi-user editing
- Better maintenance & performance
- Integrates Field GIS & Desktop

ProjectWise/CADD & GIS Integration: ArcGIS Connector



Reviewing Attributes in Bentley Map

The screenshot shows the Bentley Map V8i interface. The main map area displays a topographic map of River View Park with contour lines and various street labels. An 'Analyze Result' window is open in the foreground, showing a table of attributes for a church feature.

Property	Value
Objectid	4204
Address	130 HOLMES STREET
Address2	
Attendance	0
Cath	N
City	FRANKFORT
Contdate	633741408000000000
Conthow	ALT REF
County	FRANKLIN
Denom	SBC
Directions	
Emergext	
Emergtel	
Emergtitle	
Fips	21073
Geodate	633741408000000000
Geohow	MANUAL
Geolinkid	127018079
Geoprec	ONENTITY
Id	10437208
Loc_Type	
Members	897
Naicscode	813110
Naicsdescr	CHURCHES
Name	MEMORIAL BAPTIST CHURCH
Phoneloc	
Prot	Y
QC_Qa	TGS
Secclass	UNCLASSIFIED
St_Vendor	NAVTEC

The status bar at the bottom of the window displays the following information: Analyze Feature > Identify element, Dgi4cadd_Places_Of_Worship - Celt: Church: Cell Feature \Line, Levell GIS_PL_Church_EX, Ref: 1 (Frankfort_Labeling_Vector.d, Default, 5171751.9137, 3963232.3220).

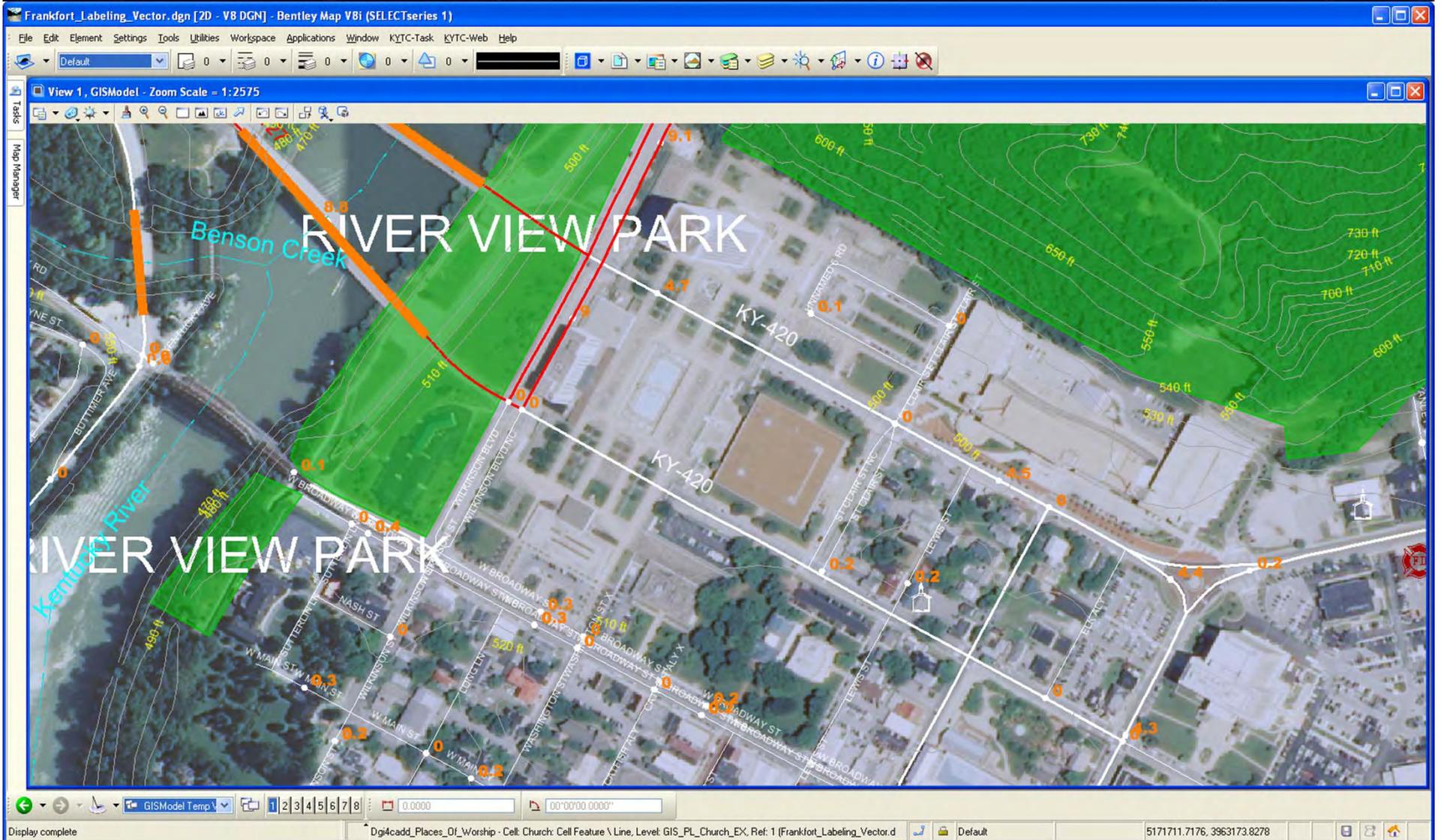
Photo Log Can Be Embedded

The screenshot displays the Bentley Map V8i (SELECTseries 1) interface. The main window shows a GIS model with a green topographic map and a road layout. The 'Analyze Result' window is open, displaying the following data:

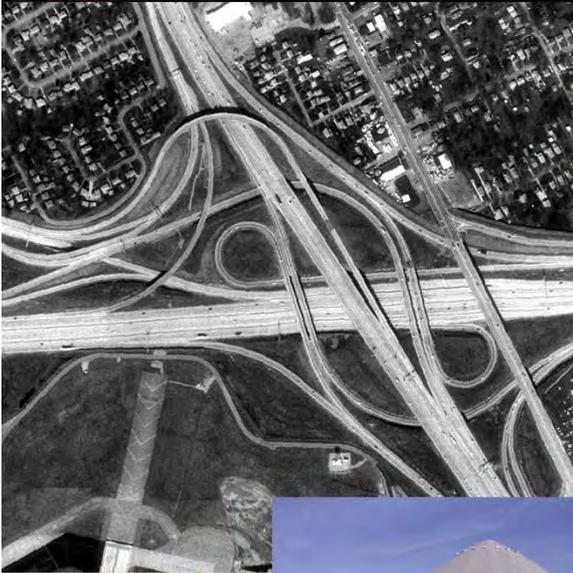
Frame	929
Front_Url	http://roadview-images.kytc.ky.gov/Mandli_Data/11-02-2009/037-KY-420N/037-KY-420N\FRONT\Dir_009\F_00929.jpg
Lane	1
Latitude	38.2011022
Left_Url	http://roadview-images.kytc.ky.gov/Mandli_Data/11-02-2009/037-KY-420N/037-KY-420N\LEFT\Dir_009\F_00929.jpg
Longitude	-84.8735247
Mile_Point	4.442
Northing	3962103.26327631
Offset	0.016
Rec_Id	975060
Rec_Id_Fwd	975061
Rec_Id_Fwd_Mp	4.447
Rec_Id_Rvs	975059
Rec_Id_Rvs_Mp	4.437
Right_Url	http://roadview-images.kytc.ky.gov/Mandli_Data/11-02-2009/037-KY-420N/037-KY-420N\RIGHT\Dir_009\F_00929.jpg
Route	037-KY-0420 -000
Route_Neid	2677
RT_Nbr	0420
RT_Prefix	KY
RT_Section	000
RT_Sfx	
Seg_Id	8590
Session_Name	037-KY-420N
Status	Complete

The 'Analyze Result' window also includes an 'Apply' button. The main map shows a road layout with various labels and a green dashed line indicating a specific lane. A photo log window is embedded in the bottom right corner, showing a photograph of a modern building with a red brick walkway and a black lamppost. The photo log window title is http://roadview-images.kytc.ky.gov/Mandli_Data/11-02-2009/037...

You can also Extract Raster Data



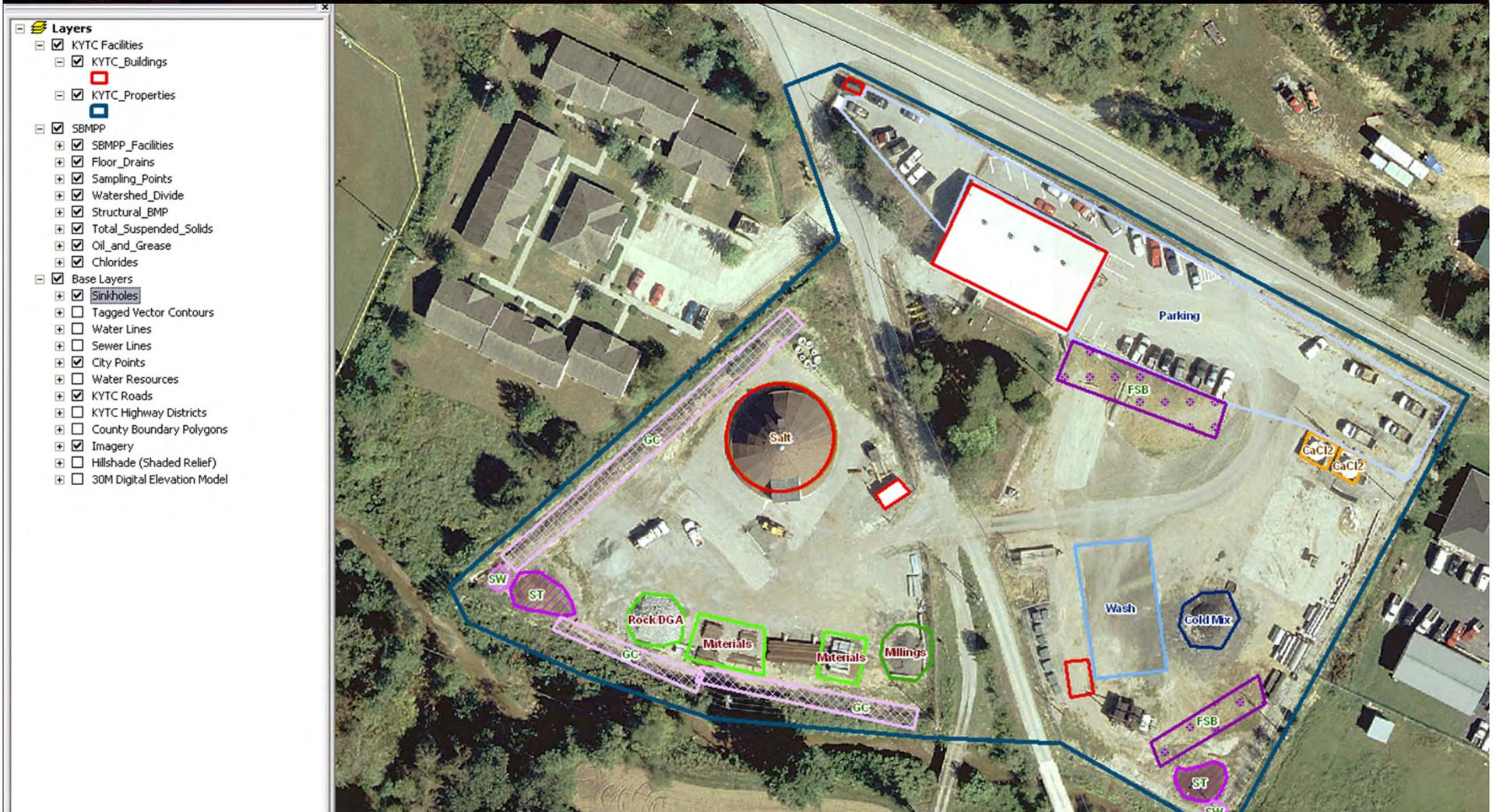
Understanding Our "System"...

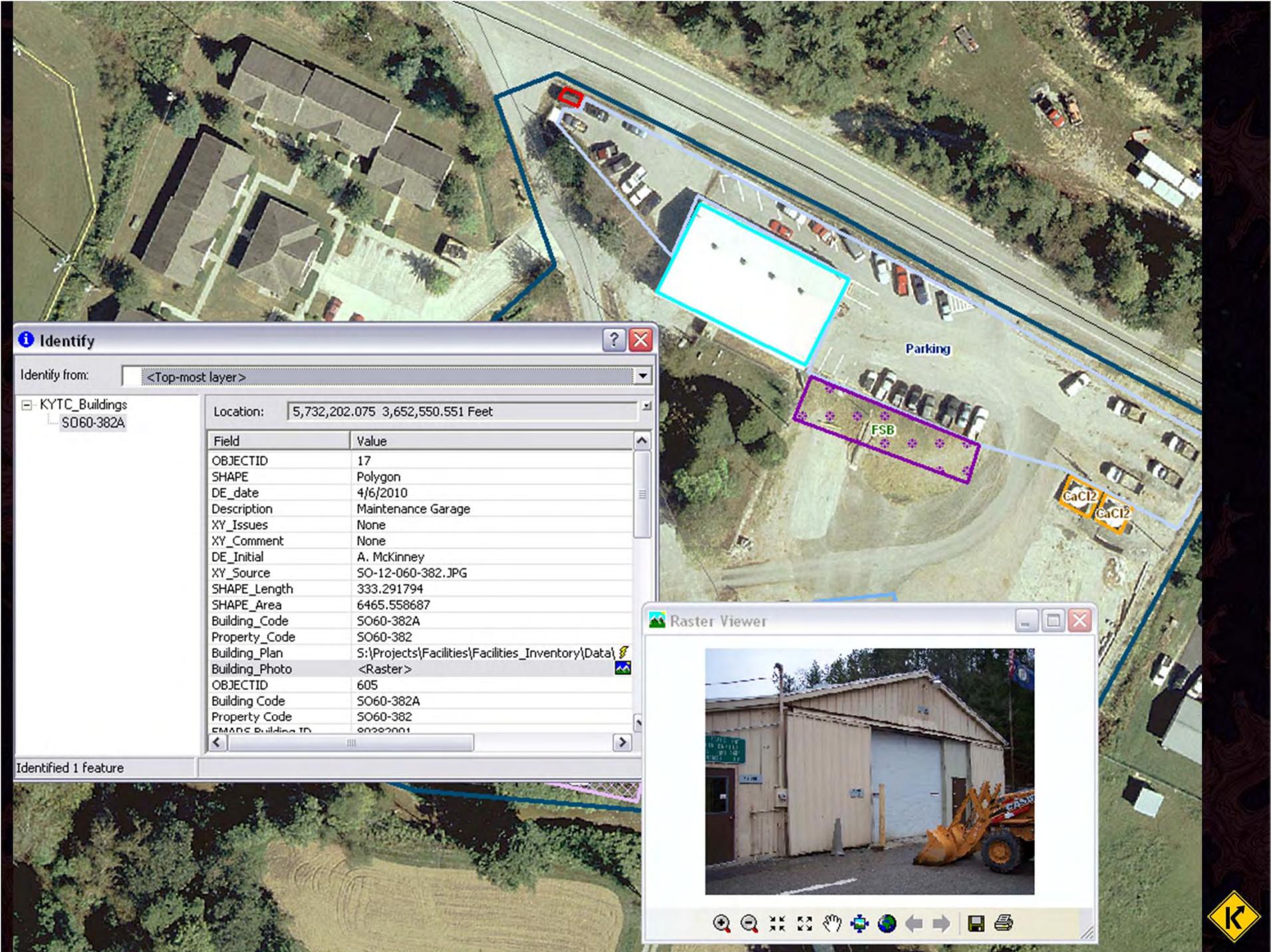


Data Collection & Analysis

- Environmental/Facilities
- MRP
- Asphalt Contract Analysis

Facilities Management and Environmental Compliance Inventory





Identify

Identify from: <Top-most layer>

KYTC_Buildings
 SO60-382A

Location: 5,732,202.075 3,652,550.551 Feet

Field	Value
OBJECTID	17
SHAPE	Polygon
DE_date	4/6/2010
Description	Maintenance Garage
XY_Issues	None
XY_Comment	None
DE_Initial	A. McKinney
XY_Source	SO-12-060-382.JPG
SHAPE_Length	333.291794
SHAPE_Area	6465.558687
Building_Code	SO60-382A
Property_Code	SO60-382
Building_Plan	S:\Projects\Facilities\Facilities_Inventory\Data\
Building_Photo	<Raster>
OBJECTID	605
Building Code	SO60-382A
Property Code	SO60-382
EMANS Building ID	90222001

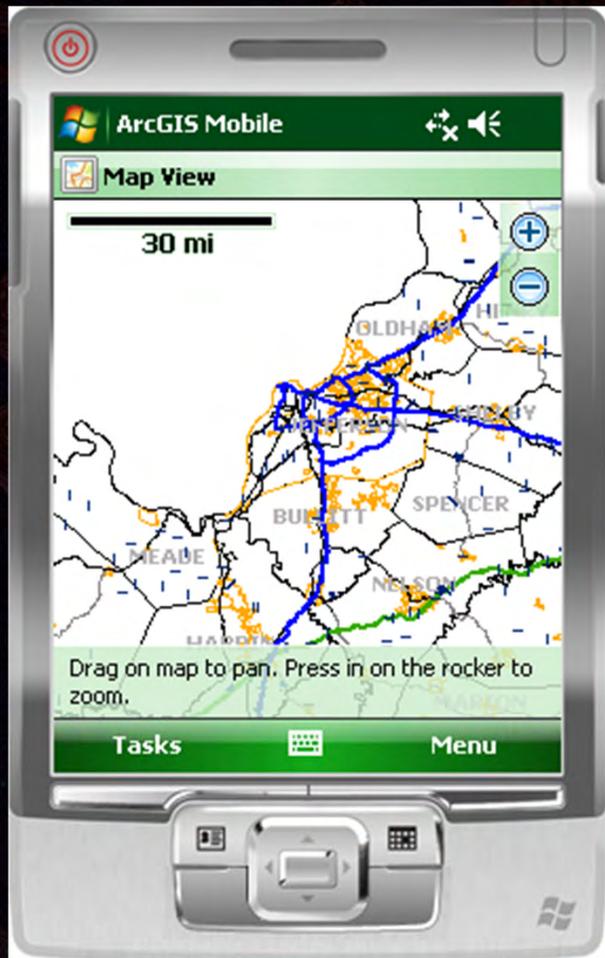
Raster Viewer

Identified 1 feature

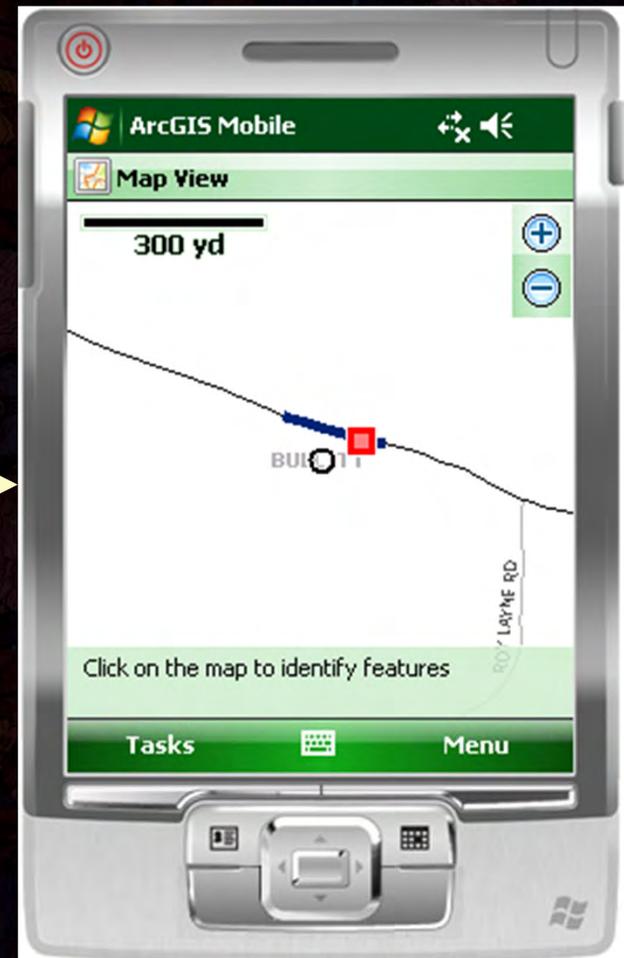
Navigation icons: zoom in, zoom out, pan, rotate, home, back, forward, print, save.



Mobile Application: Maintenance Rating Program Pavement Inventory



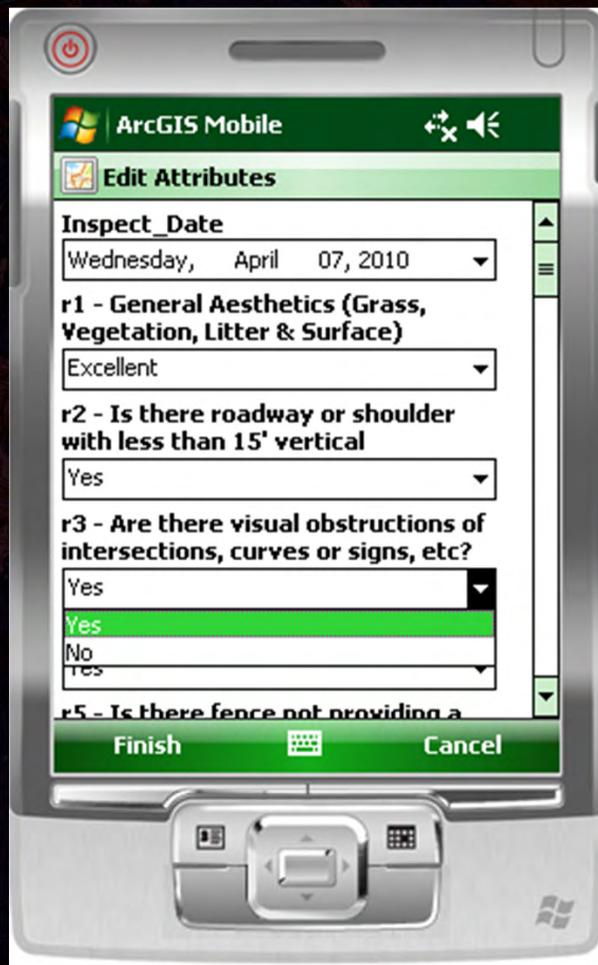
View the Map



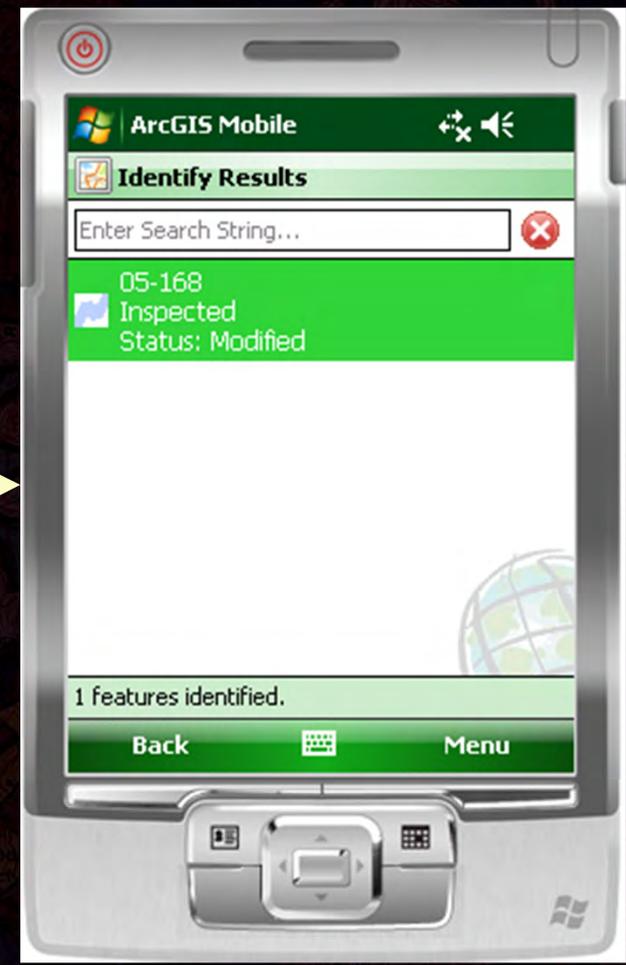
Identify Section



Mobile Application: Maintenance Rating Program Pavement Inventory



Inspecting and updating the Attribute information



Finalized Inspection



Mobile GIS: Maintenance Rating Program

Districts 6, 8 & 12 have mobile GIS units

The screenshot shows the ArcMap interface with the following components:

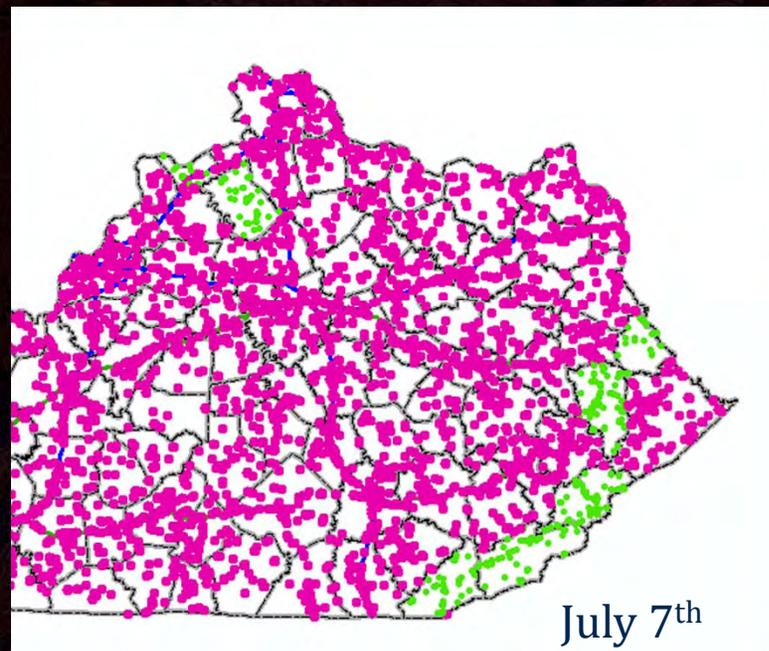
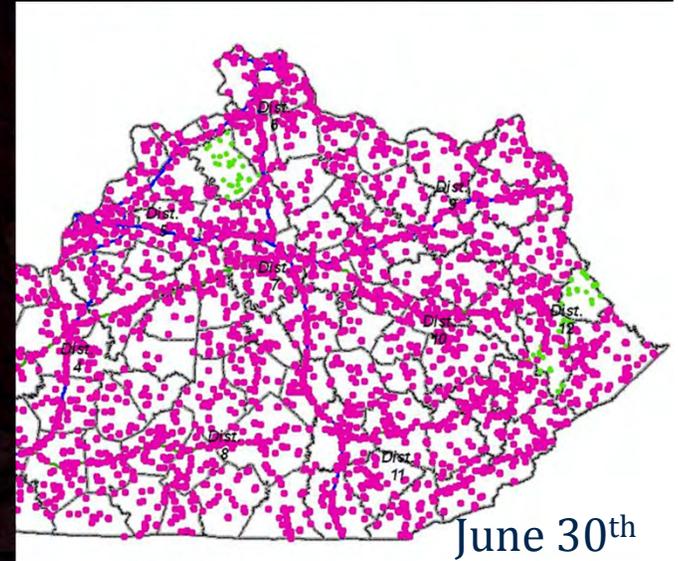
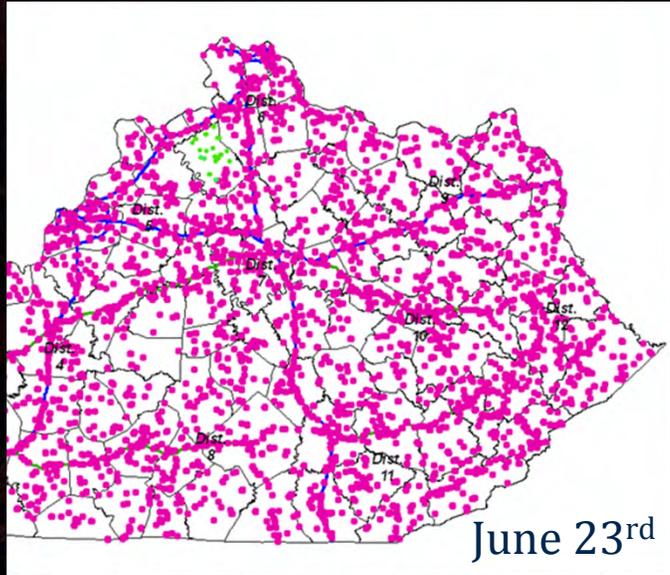
- Layers Panel:** Lists various inspection districts (MRPInspect_D01 to D12), KYTC Roads, State Road Milepoints, KYTC Districts, Incorporated Cities, and County.
- Map:** Displays a road network in Owen County, with a yellow shaded area labeled "OWEN COUNTY" and a red line representing a specific road section.
- Identify Window:** Shows the details for a selected feature (MRPInspect_D06, ID: 06-149). The location is 5,185,211.169 4,103,466.968 Feet.

Field	Value
OBJECTID_12	152
OBJECTID	1676
RT_UNIQUE	094-US-0127 -000
LRS_ID	094 US-127
PROJECT_NO	0149-094-0127-006-019
ROUTE_ID	US0127
COUNTY	OWEN
DISTRICT	District 06
BEG_MP	18.6
END_MP	18.7
MRPW20Sections_LENGTH	0.1
CLASS	Other SP-55
ADT	3890
LANES	2
LANE_WIDTH	12
PAVEMENT_T	AC
MEDIAN_TYP	None
MEDIAN_WID	0
SHOULDER_T	AC
SHOULDER_W	10
DIRECTION	N
IRI	
IRI2	
SHEET_NO	06-149
LAT_B	38.588545
LONG_B	-84.825746
LAT_E	38.589348
LONG_E	-84.827303
r1 - General Aesthetics (Grass, Vegetation, Litter & Surface)	Good
r2 - Is there roadway or shoulder w/ less than 15' vertical clearance?	No
r3 - Are there visual obstructions of intersections, curves or signs, etc?	No
r4 - Is there right-of-way fencing?	No
r5 - Is there fence not providing a positive barrier?	No
r6 - Is there guardrail?	No
r7 - Is there guardrail outside height specifications (25' to 29')?	No
r8 - Is there guardrail with post or accident damage?	No
r9 - Number of guardrail attenuators/rail ends	0
r10 - Number of attenuators/rail ends damaged	0
p1 - Number of pavement potholes 6" long, 6" wide and 1" deep or larger	
p2 - Rutting - Outside wheel path at 0 feet	>1/4
p3 - Rutting - Outside wheel path at 100 feet	>1/4
s1 - Is there pavement dropoff to shoulder greater or equal to 1.5'?	Yes
s2 - Is there shoulder dropoff to ground greater than or equal to 3.0'?	No

Owen County - Detail of completed sections

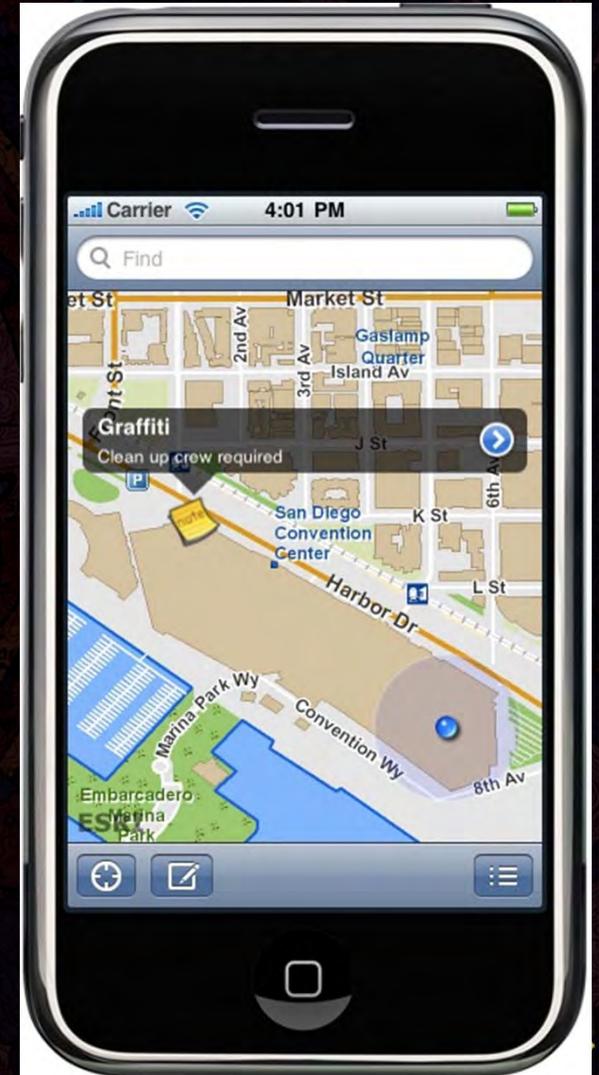


Progress so far.



The Mobile Future

- Many more integrated applications.
 - Mobile elements post into larger systems (OMS, RCI, PERKS...)
- Yes... there is an (ESRI) I-Phone App for that.



Web Solutions

- [KY View](http://maps.kytc.ky.gov/kyview/) – KYTC Layout Sheet Map Generator
– <http://maps.kytc.ky.gov/kyview/>
- [Photo Log Viewer](#)
- [Bridge Viewer](#)

Future Web Development

- Embed spatial elements into all IT applications (where appropriate).
 - Maps
 - Tabular “answers”
 - What is near?
 - Is it in?
 - What touches?
 - What is the route description (County Route Milepoint).



Training/ Customer Support

- Video streaming of classes
- Remote live training & “application sharing”
- Continuing the KYTC Transportation GIS Conference.

Remember Why We Work to Build A Safe Transportation System





The background is a dark, topographic map with contour lines and some text like 'CREEK' and 'Oct'. A large, semi-transparent circular area is centered on the map, highlighting a specific region. The text 'Thank You!' is written in a large, bold, yellow font across the top of this circle.

Thank You!

GIS Branch &
Our Customers

