


# Illinois OSOW Permitting System 2013 GIS-T

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May 7, 2013

# Summary



The History	<ul style="list-style-type: none"><li>• How we got where we are today</li></ul>
The Opportunity	<ul style="list-style-type: none"><li>• Modern System</li><li>• Modern Work Flow</li><li>• Modern Tools</li></ul>
The Outcome	<ul style="list-style-type: none"><li>• Production System</li><li>• 24/7 Permit Issuance</li></ul>

# The History

- Manual workflow to issue permits
- Paper maps, post-it notes, individual markups
- Introduction of GIS user interface – replaced paper maps with ArcGIS desktop project
- Realize need for automated system

# Previous System

- Mainframe

- › The mainframe system was created in 1980 and was the authoritative source for Illinois permit data.

- Routing

- › Routing proposed by the applicant was manually checked against GIS maps and annotated maps and an electronic card file of prior permits ArcMap
- › Truck Permits – Routes (TPR) ArcGIS application to replace the paper maps used by permit staff for selecting routes for applied-for load characteristics

# Previous System

## ⦿ Electronic Card File

- An electronic card file of prior permits for the proposed size and weight. Routes not found in the card file for the proposed weight are referred to the Department's bridge office for engineering review. This review may take several days to complete.

## ⦿ Local Notification

- Local authorities are not made aware of a permit issued by the Department for a movement that may require the use of a roadway under their jurisdiction.

# The Opportunity

- Fully web-enable the permit application, revision and issuing process and add other system issued permit application types.
- Add routing to the internal and external Truck Permits Route web applications.
- Allow permit origin and destination route selection by street address.
- Integrate the bridge analysis component(s).
- Migrate permit processing from the existing system to a SQL Server Client/Server, web based permitting system and rewrite all program code.
- Provide local jurisdictions with notifications of permits issued that may traverse local roadways.
- Provide applicants with local jurisdiction contact information to facilitate local permitting of the movement.

# New System

- ◉ Network Datasets
  - > State, Tollway, Local
- ◉ ArcMap Restriction Editor
  - > Vertical Clearance
  - > Permanent and Temporary Restrictions
- ◉ Permit Application Interface
  - > Truck Parameters
  - > Applicant Information
- ◉ Automated Routing
  - > Origin and Destination
  - > Waypoints

# Network Dataset(s)

- ◎ Key Component

- › Three sets
  - State, Tollway, Local
- › Implements Rules
- › Vertical Clearance Data
- › Obstructions and Permanent Restriction Data
- › Turn Restrictions
- › Roadway Jurisdiction
- › Nokia/Navteq Streets



# ArcMap Restriction Editor

- Input form allows for simplified data entry into GIS database
- Data snapped to routing network
- Sets data flags to coordinate the nightly update process for the network datasets
- Look-up tools enable the user to quickly find a record
- QA\QC tools for data verification

The screenshot displays the 'Permits Data Management' window in ArcMap. It is divided into two main sections: a 'Lookup' section at the top and a 'Record Info' section below. The 'Lookup' section includes a 'Type' dropdown menu, a 'Value' input field, and a 'LookUp' button. Below this is a 'Results for:' label and a 'Count: 0' indicator, with a large empty rectangular area for displaying search results. The 'Record Info' section has two tabs: 'Record Info' and 'Road Info', with 'Road Info' currently selected. This section contains various input fields and buttons for data entry and navigation. Fields include 'Type' (dropdown), 'VC ID' (text input with a yellow highlight), 'Obstruction' (text input), 'Obst. Type' (dropdown), 'ToFrom (inch)' and 'FromTo (inch)' (text inputs), 'TF Direction' and 'FT Direction' (dropdowns), and 'Measured' (text input with a date '4/29/2013' and a calendar icon). There are also 'Flash' and 'Zoom To' buttons. Below these are 'Location', 'Feature Overhead', and 'Feature Crossed' (text inputs), 'Cnty' (dropdown), 'City' (text input), 'Lat' and 'Lon' (text inputs), and 'Reset Lat Lon' (button). At the bottom, there are 'BING' and 'Google' buttons. The 'Edit Tools' section at the very bottom contains 'Create', 'Update', and 'Delete' buttons.

# Permit Application Interface

- Vehicle Library
- Return Trip
- Revision, Extension and Identical Permits

USDOT Number (optional):

Trip Type:  Single  Round \*

Method of Movement:  \*

Permit Type: \*

- Overdimension Only - All Other loads
- Overdimension Only - Human Habitation (Examples: Communication Bldg, Guard Shack, Manufactured Home, Mobile Office, Portable Outhouse, Prison Cell)
- Overweight **Click Overweight ONLY if Trailer Length is <= 53'0" AND King Pin Length is <= 42'6". Values greater than these would make your load Overdimension.**
- Overweight and Overdimension

Structural Load and/or Windfarm Component?  Yes  No \*

(Examples: Beam, Girder, Concrete Tee, Wind Tower Section, Nacelle, Wind Tower Base, Wind Turbine)

**Object or Vehicle being moved Identification Box**

Load Make:  Model:  Serial:

The three fields above refer to the load being moved.

The two fields below refer to the power unit.

For "Own Power" all five of these fields refer to the vehicle being moved.

License:  State:

Object being moved:  \* Load Category:  \*

# Automated Routing Interface

- Utilizes ESRI Network Analyst for routing
- Routing combines a road network with on-the-fly barrier placement
- Multiple network datasets depending on user input

The screenshot displays the 'Routing Tool' interface. At the top, it shows 'Truck Dimensions: (feet.inches)' with fields for Width: 9.00, Height: 13.04, Length: 47.00, Number of Axles: 5, and Gross Weight: 106000. Below this are buttons for 'Ask Permit Office for Help' and 'Back to Application Form'. The 'ROUTE LOCATOR RESULTS:' section includes 'Origin:' and 'Destination:' fields with 'Clear Origin' and 'Clear Destination' buttons. The 'ROUTE LOCATOR:' section is titled 'Step 1: Input Routing Options' and contains a list of questions with 'Yes' radio buttons: 'Does the permit:', '-use toll roads for routing?', '-start\stop on interstate? (set via map click)', '-will your route use a stopover?', '-route via scales?', and '-route via locals?'. At the bottom of this section are 'Previous Step' and 'Next Step' buttons. The bottom of the tool features 'Reset Routing', 'Recalculate Route', and 'Map Tool:' buttons, along with a 'Map Tool' icon. A vertical sidebar on the right contains buttons for 'Routing', 'Directions', 'Local\Toll Roads', 'Local\Save', and 'Help'.

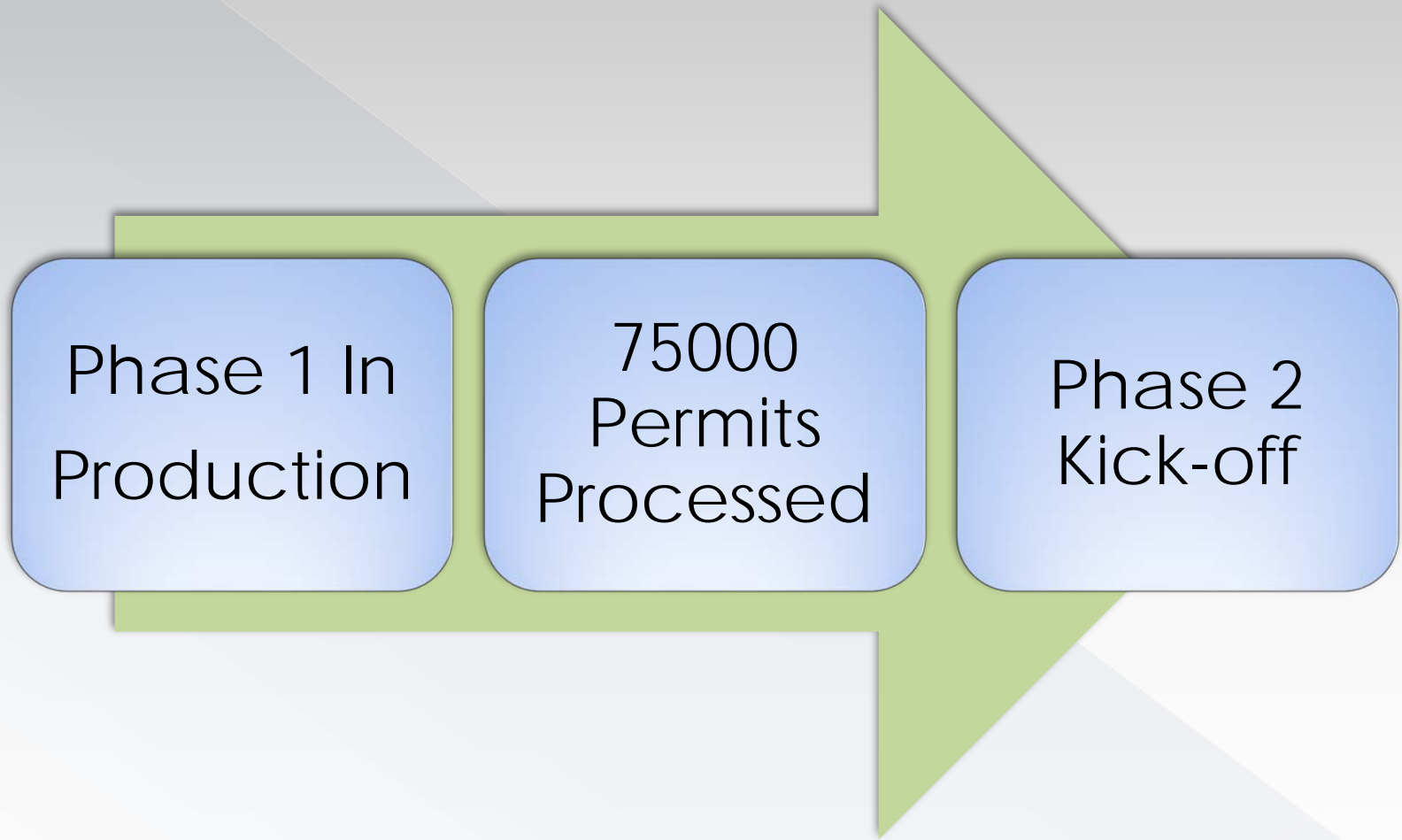
# Define Route



# Application Issues/Obstacles

- ◉ Staff Resistance to change
- ◉ Unique Business Rules (ex. Ramp2Ramp Check)
- ◉ Network Analyst doesn't explain a failed route
- ◉ Bridge Analysis

# Status



# Looking Forward...

- ◉ Mobile Interface?
  - > Permit Application
  - > Route monitoring/verification
- ◉ Local Road Permitting?
- ◉ Automated Bridge Analysis
- ◉ Industry Interface

# Questions and Answers

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