<table>
<thead>
<tr>
<th>EPA Region 3 Monitoring</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>REG ID</td>
<td>110,000,245</td>
</tr>
<tr>
<td>Facility Name</td>
<td>EASTALCO COMPANY</td>
</tr>
<tr>
<td>Address</td>
<td>5601 MANNING AVE</td>
</tr>
<tr>
<td>City</td>
<td>FREDERICK</td>
</tr>
<tr>
<td>State</td>
<td>MD</td>
</tr>
<tr>
<td>Zip</td>
<td>21703</td>
</tr>
<tr>
<td>Latitude</td>
<td>39.35</td>
</tr>
<tr>
<td>Longitude</td>
<td>-77.49</td>
</tr>
<tr>
<td>Facility Page</td>
<td>More info</td>
</tr>
<tr>
<td>FID</td>
<td>1,626</td>
</tr>
</tbody>
</table>

**WebIndex_Full:**

- Rank: 40
- Country: Venezuela
- Web Index: 39.72
- Impact: 38.68
- Economic: 30.49
- Political: 33.15
- Social: 50.64
- Readiness: 45.37
- Communications: 44.43
- Institutional: 48.61
- The Web: 39.79
- Use: 36.35

**Get Directions**
Planning and Design
Planning

• **Message/Audience**
  - What are you trying to communicate?
  - To whom are you trying to communicate it?
    - General audience, technical audience, managers/decision makers

• **Know the Data**
  - What are your attributes describing?
  - What do their values mean?
    - Numerical units
    - String field values
What to Include

• What is the most important piece of information?
  - Put at top; make it obvious
• Context
  - How does data compare to some average or benchmark?
• Should numeric data be displayed as raw values or in a chart?
• Do you have images or hyperlinks?
What Not to Include
or, WHY ARE YOU YELLING AND WHAT’S AN OBJECT ID?

• IDs or codes
• Lat/Long
• Raw field names (underscores, abbreviations, all caps)
• Duplicate or redundant information
• Jargon or acronyms (for non-technical audiences)

➢ Every attribute may not be necessary!
Types of Pop-up Displays

- List of Field Attributes
  - Recommended only for a technical audience

- Description from One Field
  - Appropriate for things like project descriptions

- Custom Attribute Display
  - Recommended in most cases
Custom Attribute Displays
Use Fields within Sentences

This city ranked \#{Rank} in terms of air fare pricing during this period. This represented a change of \{Pct_Chng_2010_2011\}% from 2010 to 2011.

The average airfare was $\{4Q_2011\}$.

Average Domestic Air Fare - 4th Quarter 2011 - for Salt Lake City, UT

This city ranked \#46 in terms of air fare pricing during this period. This represented a change of 7.80% from 2010 to 2011.

The average airfare was $372.

Q3 Trends for Salt Lake City, UT (price in $)
Limit Use of Field Labels
Text Formatting

- Bold
- Italics
- Underlining
- Color
- ALL CAPS
- BOLD COLORED CAPS
Hyperlinks

• Put full URLs into hyperlinks, not raw text

• If a link will be unique to each feature, it must be an attribute
Numeric Formatting

- Decimal places
- 1,000s separators
- Dollar signs in front of currency values
Pop-up Media
Charts

• Choose the right type:
  - Column/Bar
  - Line
  - Pie

• Include good captions
  - Units of measure
  - Normalization basis
  - Instructions
  - Other attributes
Images

• Store unique image URLs as attributes
• Use low-res images for thumbnails
• Use optional link to go to high-res images or informational website
• Titles/Captions
  - Credit sources
  - Instruct users to click for larger photo
• Can also insert images into body of the pop-up
  - No hyperlinks
Beyond Features
Related Table Fields

- One-to-one relationships:
  - Attributes displayed as usual

- One-to-many relationships:
  - String fields show count
  - Numeric fields can show choice of statistic
Pop-ups for Image Services

- At 10.4, multiple Raster Processing Templates available in one query
- Can display pixel values for other raster functions besides the current renderer (e.g. NDVI or moisture index)
- Attribute reference format:
  - \{raster.ServicePixelValue.ProcessingTemplate\}
Power-User Tips
Handling Inconsistent or Missing Information

• Separate attributes onto different lines and avoid labels to handle empty fields
  - Ex. {CITY}, {STATE}
  - Ex. Phone numbers, websites

• Create different pop-ups for different feature types
  - Copy layer and set filters

Example
Using Arcade Expressions

- Dynamically create new attributes from features
- Use anywhere you work with regular attributes
  - ex. Showing a value in meters instead of feet or dynamically creating a URL based on attributes

Example

```
Round((feature.Total / feature.Population) * 1000, 1)
```

Custom Attribute Display

Use the area below to define, format, and lay out the information you want to display.

```
The rate of crime in this city was {expression/expr0%

Total_by_Population {Total_by_Population%

Total_per_1000 {Total_per_1000%

FID {FID%

Crime Rate {expression/expr0
```
Using HTML

- HTML source editor OR
- Put markup/code as column values

- Format text without a Rich Text editor
  - Ex. titles
- Add hyperlinked images to the title or body
- Display other media besides photos
Sending Email from a Pop-up

- ‘Mailto’ protocol + hyperlinks
Want to learn more?

• ArcGIS Online Help: Configure Pop-ups

• ArcGIS Online Blog

• ArcGIS Arcade
  - https://developers.arcgis.com/arcade/