



# Building Routing Applications with ArcGIS Online or ArcGIS Enterprise

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ESRI USER CONFERENCE

Slides from this demo theater

<http://esriurl.com/uc18brago>

# Agenda

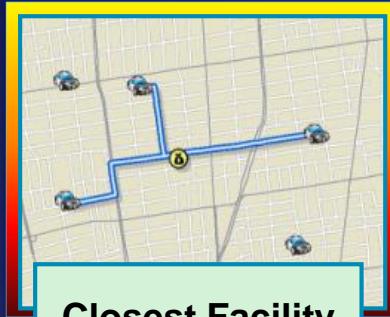
- Directions and routing services
- Creating web apps with ArcGIS
  - Configurable application templates
  - Web AppBuilder for ArcGIS

# Directions and Routing services

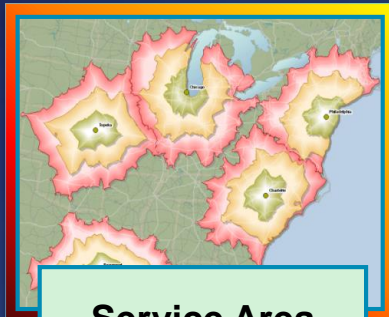
The background features a dark blue grid pattern. In the bottom corners, there are abstract, colorful geometric shapes in shades of red, orange, yellow, and blue, resembling stylized buildings or data structures. The overall aesthetic is modern and technical.



**Route**

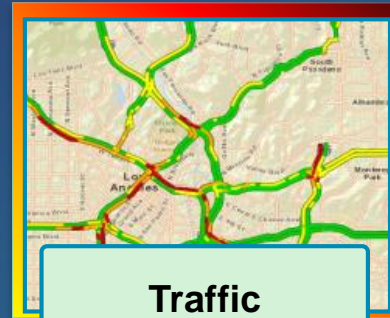


**Closest Facility**

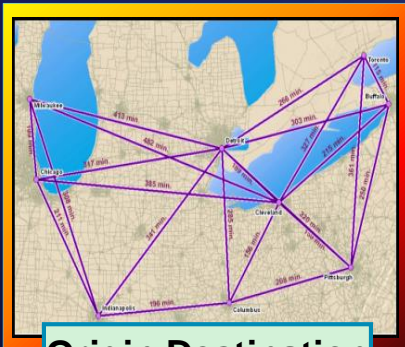


**Service Area**

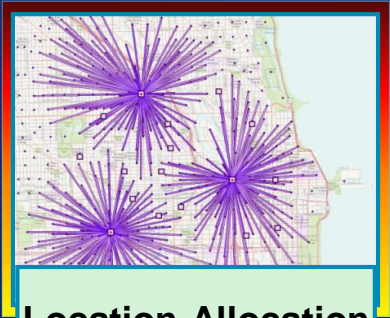
# Directions and Routing Services Perform analyses on street networks



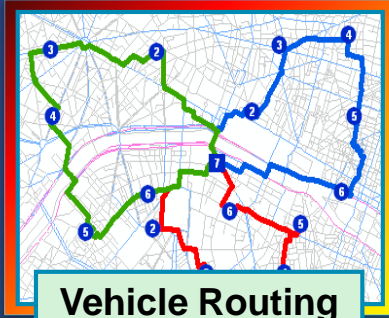
**Traffic**



**Origin Destination  
Cost Matrix**



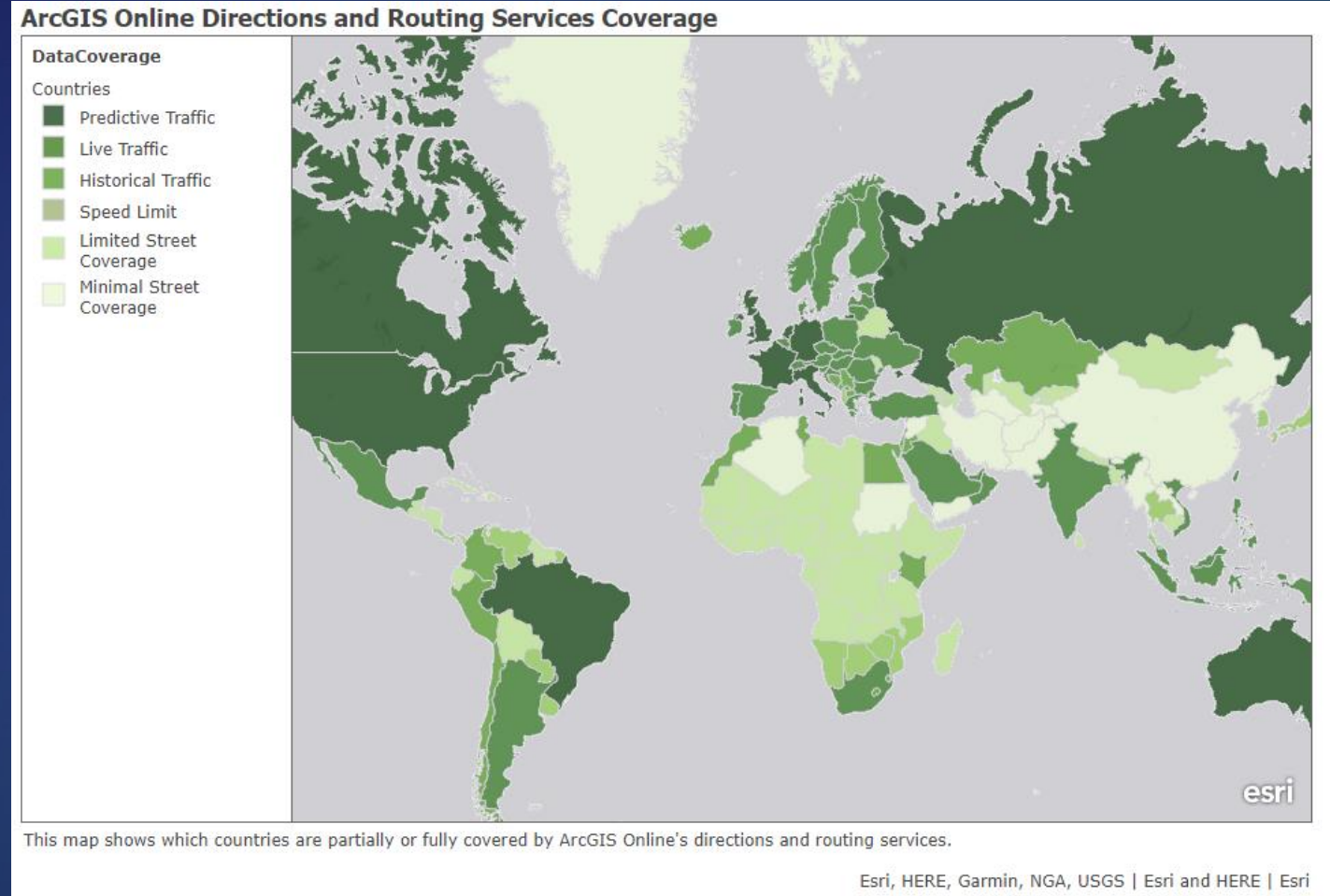
**Location-Allocation**



**Vehicle Routing  
Problem**

# Common to all Services

- Work globally
- Use high quality street data
  - Predictive and real time traffic where available
  - Support for vehicle weight, width and height restrictions
  - Can use preferred truck routes or avoid toll roads
- Driving, Walking, Trucking, or your own travel modes



[View larger map](#)

## Services are also available with ArcGIS Enterprise

- All the Directions and Routing services are also available with ArcGIS Enterprise
  - Requires ArcGIS Enterprise 10.4 or later
  - Do not work globally but restricted to the extent of your street data
  - No support for live traffic
- Use Publish routing services tool included with ArcGIS Enterprise 10.6 or later to publish all the routing services
- Publish routing services tool is available as a separate download for previous versions of ArcGIS Enterprise

# Creating web apps with ArcGIS

The background features a dark blue grid pattern. In the bottom corners, there are abstract, colorful geometric shapes in shades of red, orange, yellow, and blue, resembling stylized buildings or data visualizations.

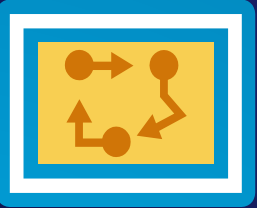


# Creating web apps with ArcGIS

Configure, customize, or build apps from scratch



Story maps



Configurable  
app templates



Web AppBuilder for ArcGIS®

No programming



Web AppBuilder  
custom widgets  
and themes



Build apps using  
ArcGIS API for JavaScript

Programming effort



# What is a web map?

Foundation for all your apps

- Enables “intelligent maps” → Web Map stores references to web services and data, display and behavior settings
- Supports: smart mapping, pop-ups, editing, analysis, time, etc.
- Create in Map Viewer available with ArcGIS Online and ArcGIS Enterprise
- **Can be leveraged by all other Esri Apps**

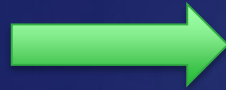


# Configurable app templates

Quickly transform your web map into a focused app



Web Map




### Create a New Web App

Configurable Apps | Web AppBuilder


What do you want to do? | Select a configurable app. | Search

- Show All
- Build a Story Map
- Collect/Edit Data
- Compare Maps/Layers
- Explore/Summarize Data
- Map Social Media
- Provide Local Information
- Route/Get Directions**
- Showcase a Map

Provide routing directions to features within your map

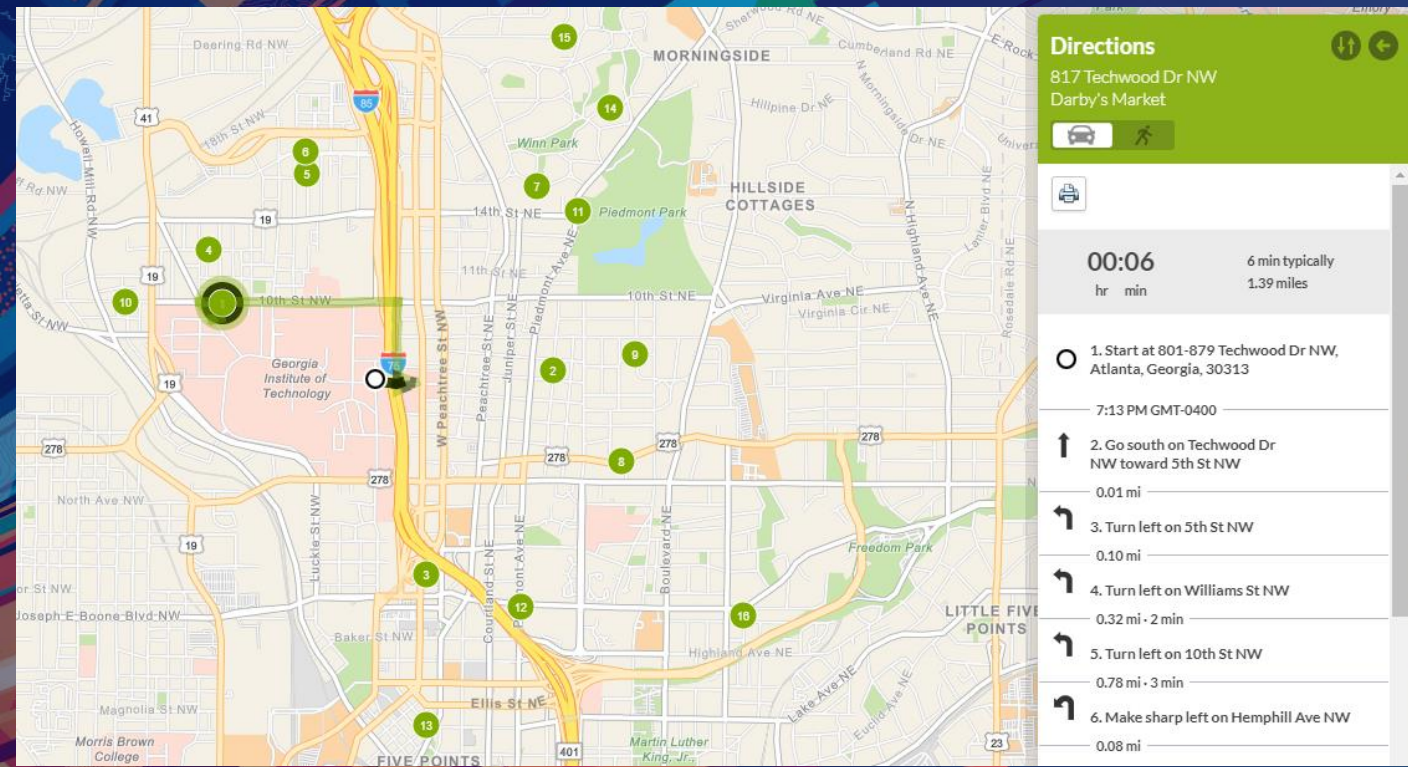


Directions



Local Perspective

BACK CANCEL



# Demo: Store Locator

Create a store locator app using  
configurable app template

Shubhada Kshirsagar

## Demo: Store Locator -- Takeaways

- Directions app template can be used to provide travel directions from user specified location to the features in your map
- Use a web map with your destination features to get started
- Configure popups and symbology in your web map
- Share the app publicly using Subscriber Content settings

# Web AppBuilder

Build powerful GIS apps that run on any device



Web Map



### Create a New Web App

Configurable Apps **Web AppBuilder**

To create a new app with Web AppBuilder, enter a title, tags and summary.

Title:

Tags:  ✕  
Add tag(s)

Summary: (Optional)

Save in folder:



Home ▾ Web AppBuilder for ArcGIS Smart Dispatcher

Theme Map Widget Attribute

Smart Dispatcher with Web AppBuilder for ArcGIS

Find address or place

Billboard Theme Box Theme Den Theme

Foldable Theme Dashboard Theme Launchpad Theme

Jewelry Egg Theme Placau Theme Tab Theme

Style

Layout

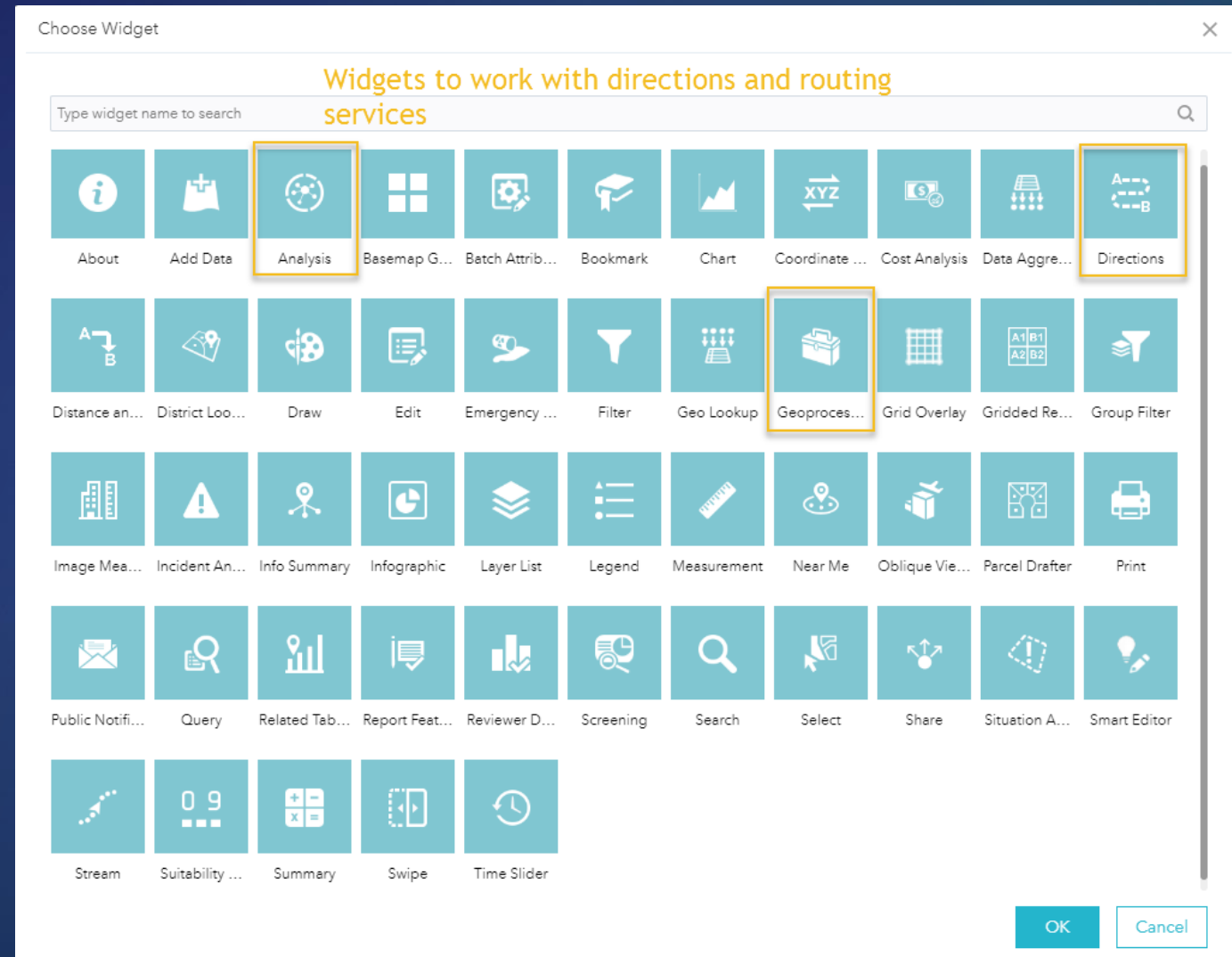
Launch | Previews | Saved

122.759 37.774 Degrees

# Web AppBuilder widgets

Choose the widgets you need in your app

- Pick the widgets for your workflow
- Directions and routing services are available with the following widgets
  - Analysis
  - Directions
  - Geoprocessing



# Web AppBuilder custom widgets


## Build your own widgets

- Build widgets for your own workflows using Web AppBuilder Developer Edition
- Combine existing widgets to create new widgets
- Requires programming in HTML5 / CSS / JavaScript
- Apps containing custom widgets have to be hosted on your own web server

Create custom widgets and themes for Web AppBuilder.

Get Web AppBuilder for ArcGIS (Developer Edition) to create custom widgets and themes. Boost your productivity by extending the framework. Build powerful GIS apps that run on desktops, tablets, and smartphones.


[Supported Browsers](#) | [License](#) | [Key Features](#) | [Developer's Overview](#)



Installation and set up

Instructions are provided to help you install and start Web AppBuilder for ArcGIS.


[> Get Started](#)



Your first app

Find a location for a given address using geocoding functionality.

[> Build your first app](#)



Custom widgets & themes

Build widgets to extend what your apps do and customize themes to tailor the look of your apps.

[> Widgets](#)   [> Themes](#)

[Web AppBuilder Developer Edition](#)



Pizza Shop with Web AppBuilder for ArcGIS

Find address or place

Directions

- 539 Island Ave, San Diego, CA 92101
- 797 J St, San Diego, CA 92101
- 704 J St, San Diego, CA 92101
- 330 K St, San Diego, CA 92101
- 200 Harbor Drive #120, San Diego, CA 92101
- 438 Third Ave #311, San Diego, CA 92101

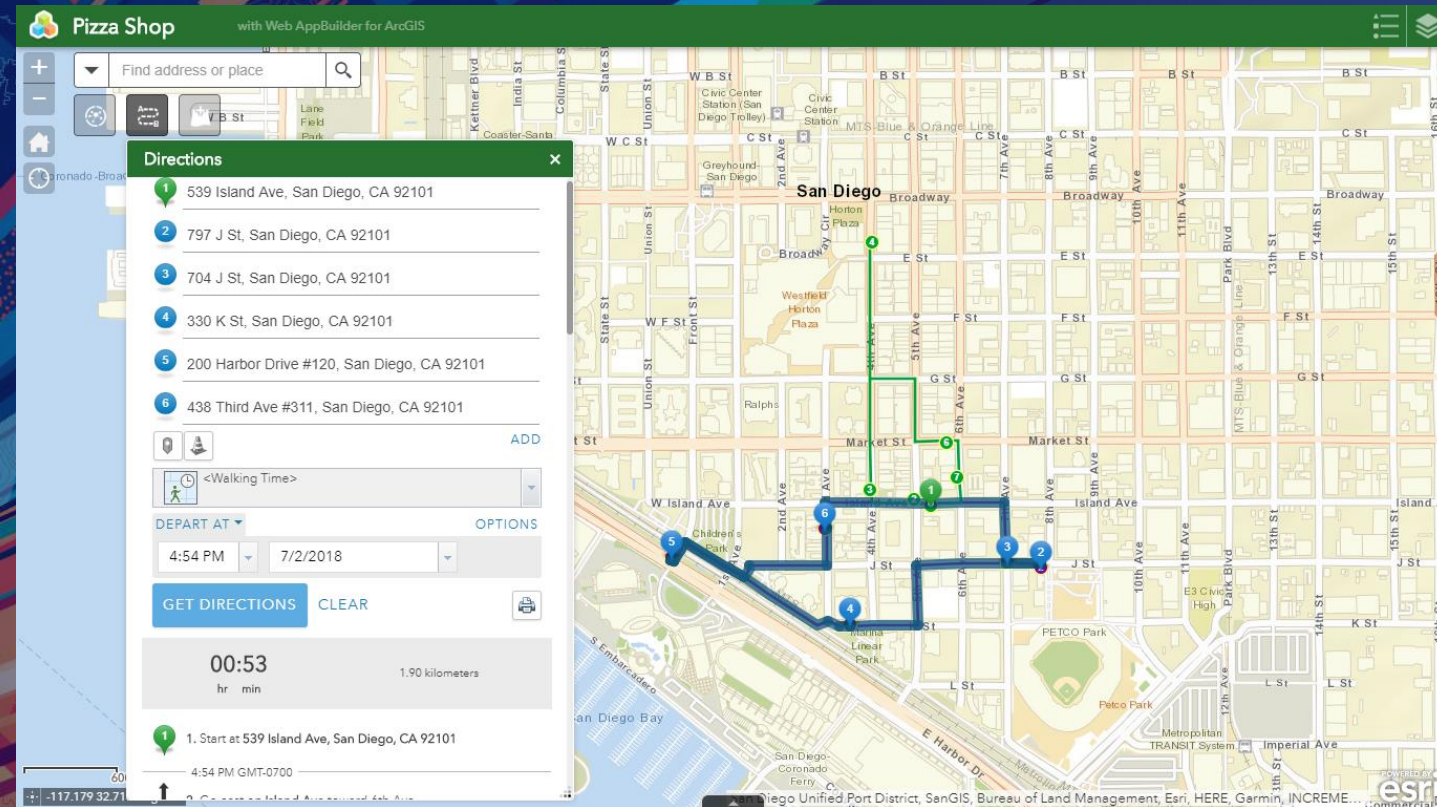
DEPART AT 4:54 PM 7/2/2018

GET DIRECTIONS CLEAR

00:53 1.90 kilometers

1. Start at 539 Island Ave, San Diego, CA 92101

4:54 PM GMT-0700

The image shows a screenshot of a web application titled "Pizza Shop" built with "Web AppBuilder for ArcGIS". The interface features a search bar at the top with the text "Find address or place". Below the search bar is a "Directions" panel. This panel contains a list of six numbered addresses in San Diego, CA. Below the list are controls for "DEPART AT" (set to 4:54 PM on 7/2/2018) and a "GET DIRECTIONS" button. The estimated time and distance are shown as "00:53" and "1.90 kilometers". At the bottom of the panel, it indicates the start location: "1. Start at 539 Island Ave, San Diego, CA 92101". The background is a map of San Diego with a blue route connecting the six addresses. The map includes street names, landmarks like "PETCO Park", and the "Metropolitan TRANSIT System". The Esri logo is visible in the bottom right corner of the map area.

# Demo: Pizza Delivery

Create a Pizza Delivery app using **Plan Routes** analysis widget and **Directions** widget in Web AppBuilder

Shubhada Kshirsagar

## Demo: Pizza Delivery -- Takeaways

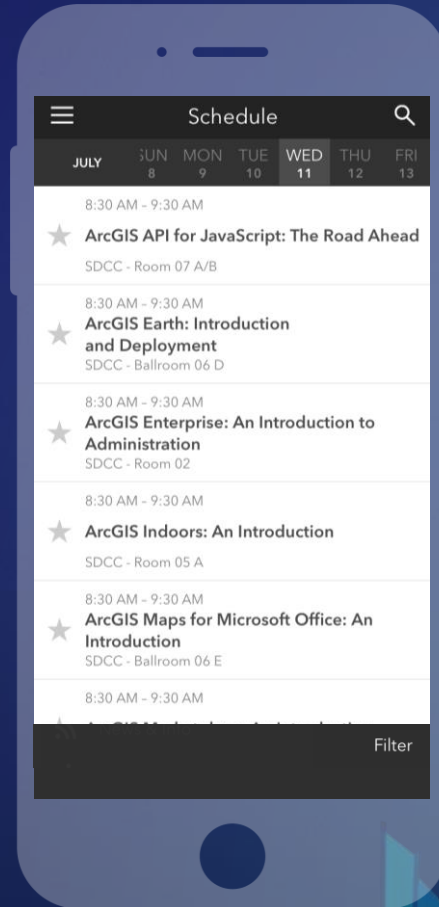
- Web AppBuilder allows building apps with lots of capabilities.
- Analysis widget contains multiple tools
- Add Data widget allows you to add content from local files
- Share routes with your workforce using route layers and Navigator for ArcGIS

# Please Take Our Survey on the App

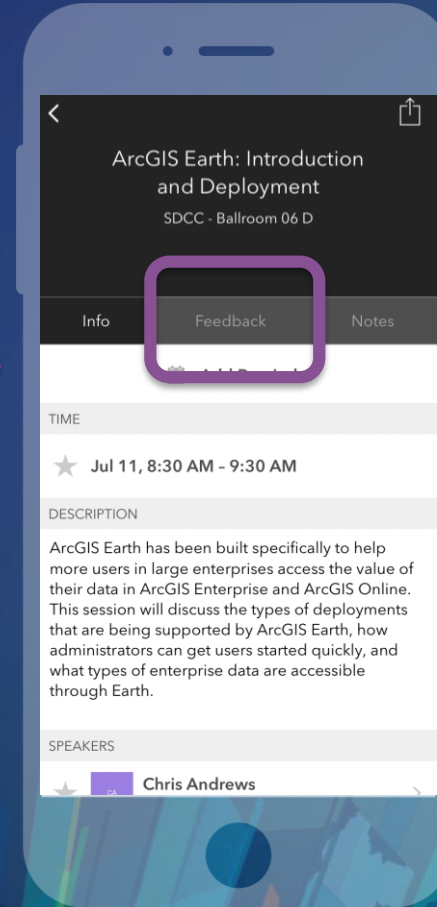
Download the Esri Events app and find your event



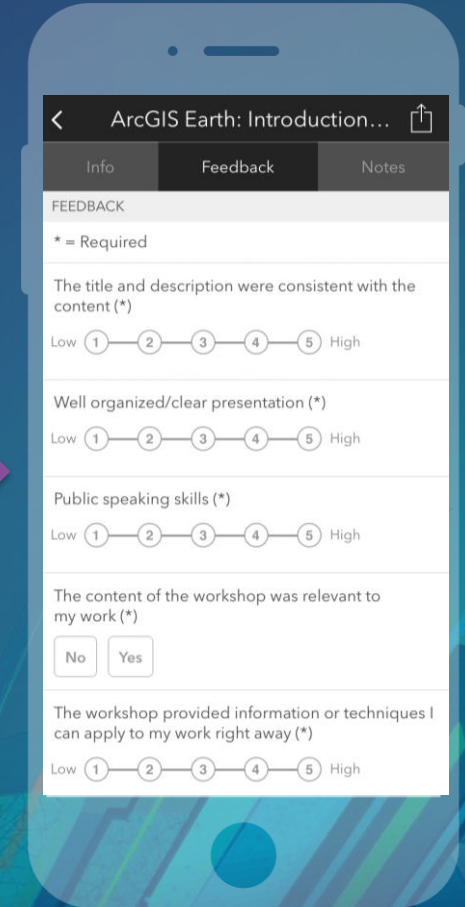
Select the session you attended



Select the Feedback tab



Complete answers and select "Submit"



# See Us Here

## Tuesday July 10

8A	Network Analyst: Creating Network Datasets - Room 30 C	
9A		
10A	Network Analyst: An Introduction - Room 30 C	StreetMap Premium: Adding Custom Roads - Room 16 A
11A		
12P		
1P	GeoAI Deep Dive: Implementing Machine Learning Solutions with ArcGIS - Room 05 B	Navigator for ArcGIS: An Introduction - Room 15 A
2P	ArcGIS API for Python Integrating Machine Learning and Deep Learning - Demo Theater 08	
3P		
4P	Network Analyst: An Introduction - Room 30 C	
5P		

## Wednesday July 11

8A	Network Analyst: Solving Large Transportation Analysis Problems - Room 29 D	
9A		
10A	Network Analyst: Optimize Your Fleet of Vehicles with the VRP Solver - Room 33 C	
11A	ArcGIS Enterprise: Publish Your Own Network Analysis Services - Demo Theater 05	
12P	Navigator for ArcGIS: Connecting to Preplanned Routes - Demo Theater 09	
1P	Network Analyst: Automating Workflows with Geoprocessing - Room 30 A	
2P		
3P		
4P	Network Analyst: Creating Network Datasets - Room 33 C	
5P		

## Thursday July 12

8A	Public Transit Data: Spatial and Network Analysis - Room 07 A/B	
9A		
10A	Building Routing Applications with ArcGIS Online or ArcGIS Enterprise - Demo Theater 10	Navigator for ArcGIS: Connecting to Preplanned Routes - Demo Theater 05
11A		
12P		
1P	ArcGIS Online: Routing and Network Analysis - Room 07 A/B	
2P		
3P	Network Analyst: Automating Workflows with Geoprocessing - Room 31 A	
4P	Network Analyst: Solving Large Transportation Analysis Problems - Room 30 D	Network Analyst: Optimize Your Fleet of Vehicles with the VRP Solver - Room 33 C
5P		

# Questions?

Slides from this demo theater

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THE  
SCIENCE  
OF  
WHERE