Developing with Directions using ArcGIS Online

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Metadata

• Slides will be available at http://esriurl.com/devsummit13slides

• Samples at http://nadev.arcgis.com/arcgis/samples

• http://developers.arcgis.com
Topics

- What are Directions services?
- What can I do with them?
- How to access services?
- How much will they cost me?
Directions Services

- Services that allow you to perform analyses on street networks
Common to all Services

- **Work globally**
  - Currently 102 countries.
  - New countries are added periodically

- **Use high quality underlying street data**
  - Real time traffic where available
  - Support for vehicle weight, width and height restrictions
  - Can use preferred truck routes or avoid toll roads
Directions

- **Point-to-point routing – Simple Route**

- Find the best route for visiting a series of stops that minimizes travel time or travel distance – Optimized route

- Use live traffic conditions

- Driving directions in many languages
Directions

Request URL

https://route.arcgis.com/arcgis/rest/services/World/Route/NAServer/Route_World/solve?<parameters>

Example Request

Directions - Demo

- http://nadev.arcgis.com/arcgis/samples
Closest Facility

• Find the closest facilities from each incident

• Generate routes and driving directions

• You can also…
  - Use live traffic conditions
  - Limit the search distance
  - Limit the number of facilities to find
  - Travel from the facility to the incident

• Synchronous and Asynchronous execution
Closest Facility

Request URL (Synchronous Execution)


Example Request (Synchronous Execution)

Closest Facility - Demo

• [http://nadev.arcgis.com/arcgis/samples](http://nadev.arcgis.com/arcgis/samples)
Service Areas

- Find the area you can reach from a location in a given time period

- You can also...
  - Solve for many locations
  - Use multiple drive time values
  - Analyze for different times of the day
  - Specify the direction of travel

- Synchronous and Asynchronous execution
Service Areas

Request URL (Synchronous Execution)

https://route.arcgis.com/arcgis/rest/services/World/ServiceAreas/NAServer/ServiceArea_World/solveServiceArea?<parameters>

Example Request (Synchronous Execution)

https://route.arcgis.com/arcgis/rest/services/World/ServiceAreas/NAServer/ServiceArea_World/solveServiceArea?token=<yourToken>&facilities=-122.4496,37.7467&f=json
Service Areas - Demo

- http://nadev.arcgis.com/arcgis/samples
Fleet Routing

• Route a fleet of vehicles to service a set of orders

• You can also specify...
  - Vehicle capacities
  - Driver specialties
  - Work breaks
  - Time windows on orders

• Synchronous and Asynchronous execution
Fleet Routing

Request URLs (Asynchronous Execution)

Submit Job


Get Job Status


Get Outputs

Fleet Routing - Demo

- [http://nadev.arcgis.com/arcgis/samples](http://nadev.arcgis.com/arcgis/samples)
- Route Planner Sample
Traffic

- Visualize traffic speeds
  - Support for live, historical and predictive traffic conditions

- Traffic Incidents

- Background layer to display results from directions services

- Data updated every five minutes
Traffic

Request URL
https://traffic.arcgis.com/arcgis/rest/services/World/Traffic/MapServer/export?<parameters>

Example Request
Accessing Services

• All services are secured and require ArcGIS Online Organization Subscription
  - Sign up for a 30 day free trial at www.arcgis.com

• Authentication
  - OAuth2 and non-OAuth2
  - User logins vs App logins

• Enterprise Identity using SAML 2
Understanding Your Bill – Service Credits

• Every successful request deducts credits from your organization

• Credit usage reported as
  - Simple Routes
  - Optimized Route
  - Service Areas
  - Closest Facility Routes
  - Multi-Vehicle Routes

• Credits Explained
Session Evaluation

- [http://esriurl.com/oid201](http://esriurl.com/oid201)

Offering ID 201
Understanding our world.