

RouteParameters

RouteParameters serve as input to the RouteTask object and can include stop and barrier locations, impedance, whether or not to return driving directions and routes, and many others. You can obtain a full list of all the parameters at the link provided. A brief code example is also provided showing how to create an instance of RouteParameters, add stops and define the output spatial reference.

RouteTask

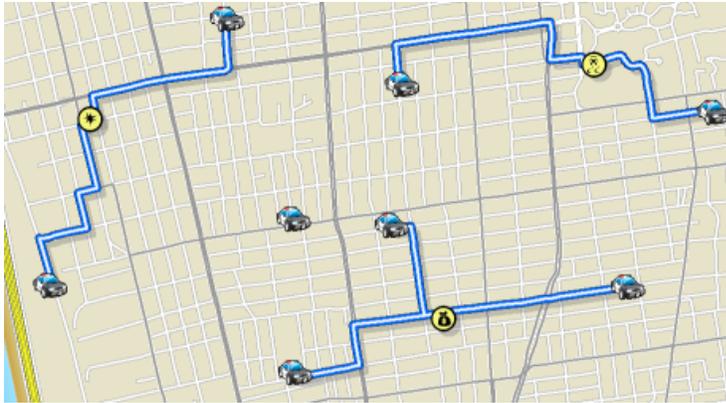
RouteTask executes a routing operation using input parameters supplied by RouteParameters. The constructor for RouteTask takes a pointer to a URL that identifies the network service to use for the analysis. Calling the 'solve()' method on RouteTask executes a routing task against the network analysis service using the input parameters supplied.

RouteResults

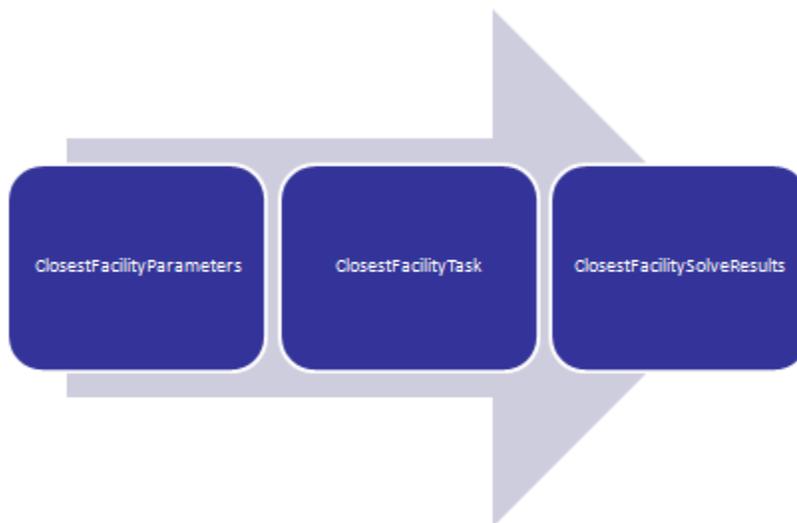
A RouteResult object is returned from the network analysis service to a callback function provided by RouteTask. The callback function then handles the data by displaying it to the user. The data returned is largely dependent upon the input supplied to the RouteParameters object. For instance, directions are returned only if RouteParameters.returnDirections is set to true. Data returned can include directions, the route between points, the route name, and an array of stops.

Closest Facility Task

A new task added to the ArcGIS API for JavaScript is the ClosestFacility task. The closest facility solver measures the cost of traveling between incidents and facilities and determines which are nearest to one other. When finding closest facilities, you can specify how many to find and whether the direction of travel is toward or away from them. The closest facility solver displays the best routes between incidents and facilities, reports their travel costs, and returns driving directions.



The AGIS API for JavaScript classes involved in solving closest facility operations include `ClosestFacilityParameters`, `ClosestFacilityTask`, and `ClosestFacilitySolveResults`. `ClosestFacilityParameters` includes input parameters such as the default cutoff, whether or not to return incidents, routes, and directions, and more. These parameters are used as input to the `ClosestFacilityTask` which calls the 'solve()' method passing in the parameters. Finally, results are passed from ArcGIS Server back to the client in the form of a `ClosestFacilitySolveResults` object.



ClosestFacilityParameters

The `ClosestFacilityParameters` object is used as input to `ClosestFacilityTask`. Some of the more commonly used properties on this object are presented below. The 'incidents' and 'facilities' properties are used to set the locations for the analysis. The data returned by the task can be controlled through the 'returnIncidents', 'returnRoutes', and 'returnDirections' properties which are simply true/false values indicating whether the information should be returned in the results. The 'travelDirection' parameter specifies whether travel should be to or from the facility and 'defaultCutoff' is the cutoff value beyond which the analysis will stop traversing.

ClosestFacilityTask

The `ClosestFacilityTask` accepts the input parameters provided by `ClosestFacilityParameters` and submits

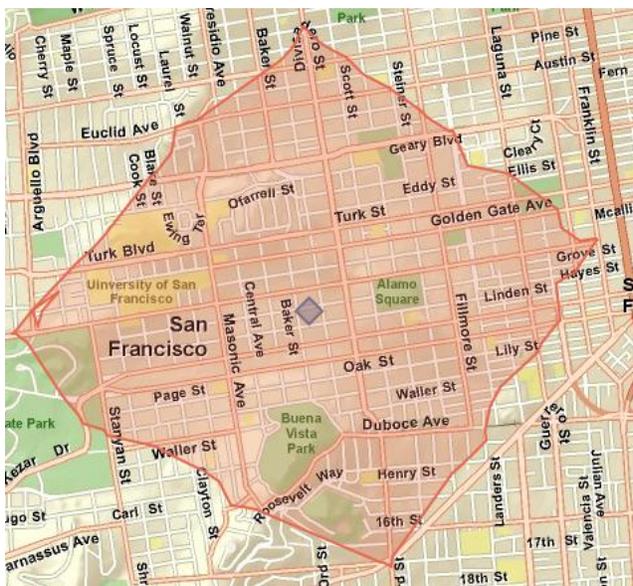
them to a network analysis service using the 'solve()' method. When you create a new instance of ClosestFacilityTask you will need to point to a REST resource representing a network analysis service.

ClosestFacilitySolveResult

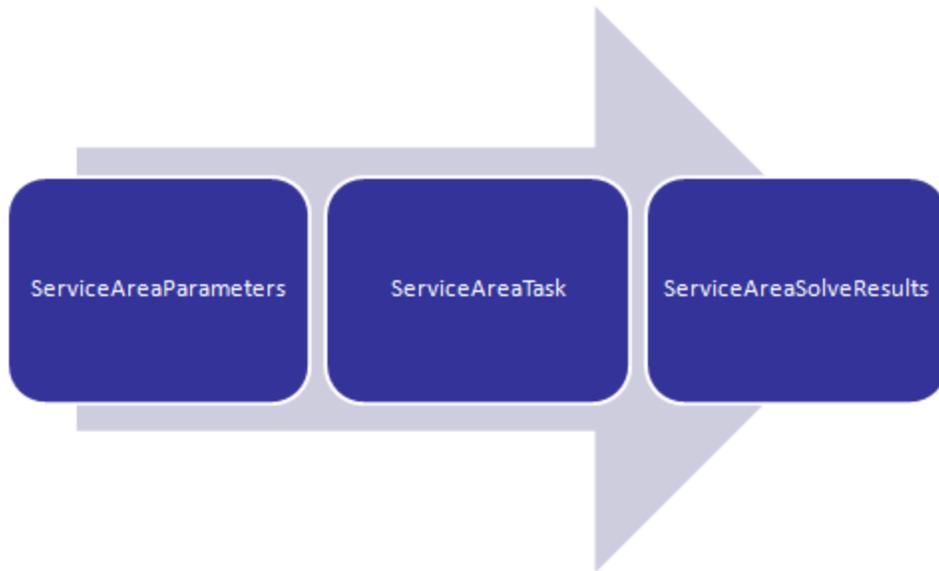
The result object returned from a ClosestFacilityTask operation is a ClosestFacilitySolveResult. This object can contain various properties including a DirectionsFeatureSet which is an array of directions. This DirectionsFeatureSet object contains the turn by turn directions text and geometry of the route. The attributes for each feature provide information associated with the corresponding route segment. Attributes returned include the direction text, length of route segment, time to travel along the route segment, and estimated time of arrival at the route segment. Other properties contained within ClosestFacilitySolveResults including arrays containing the facilities and incidents, an array of polylines representing the routes returned, any messages returned, and arrays containing barriers.

Service Area Task

The new Service Area task calculates the service area around an input location. This service area is defined in minutes and is a region that encompasses all accessible streets within that time range.



The AGIS API for JavaScript classes involved in service area operations include ServiceAreaParameters, ServiceAreaTask, and ServiceAreaSolveResults. ServiceAreaParameters includes input parameters such as the default break, facilities involved, barriers and restrictions, travel direction, and more. These parameters are used as input to the ServiceAreaTask which calls the 'solve()' method passing in the parameters. Finally, results are passed from ArcGIS Server back to the client in the form of a ServiceAreaSolveResults object.



ServiceAreaParameters

The ServiceAreaParameters object is used as input to ServiceAreaTask. The 'defaultBreaks' property is an array of numbers defining the service area. For instance a single value of 2 can be provided to indicate that we'd like to return a 2 minutes service area around the facility. The 'returnFacilities' property, when set to true, indicates that the facilities should be returned with the results. Various point, polyline and polygon barriers can be set as well through the barriers properties. Travel direction for the analysis can be to or from the facility and is set with the 'travelDirection' property. There are many other properties that can be set on ServiceAreaParameters. Please see the API documentation for details.

ServiceAreaTask

ServiceAreaTask finds service areas around a location using a street network. The constructor for ServiceAreaTask should point to a REST resource representing a network analysis service. To submit a request to solve a service area task you will need to call the solve() method on ServiceAreaTask.

ServiceAreaSolveResult

The result object returned from a ServiceAreaTask operation is a ServiceAreaSolveResult. This object can contain various properties including a 'ServiceAreaPolygons' property which is an array of service area polygons returned from the analysis. In addition, other properties include facilities, messages, and barriers.

