

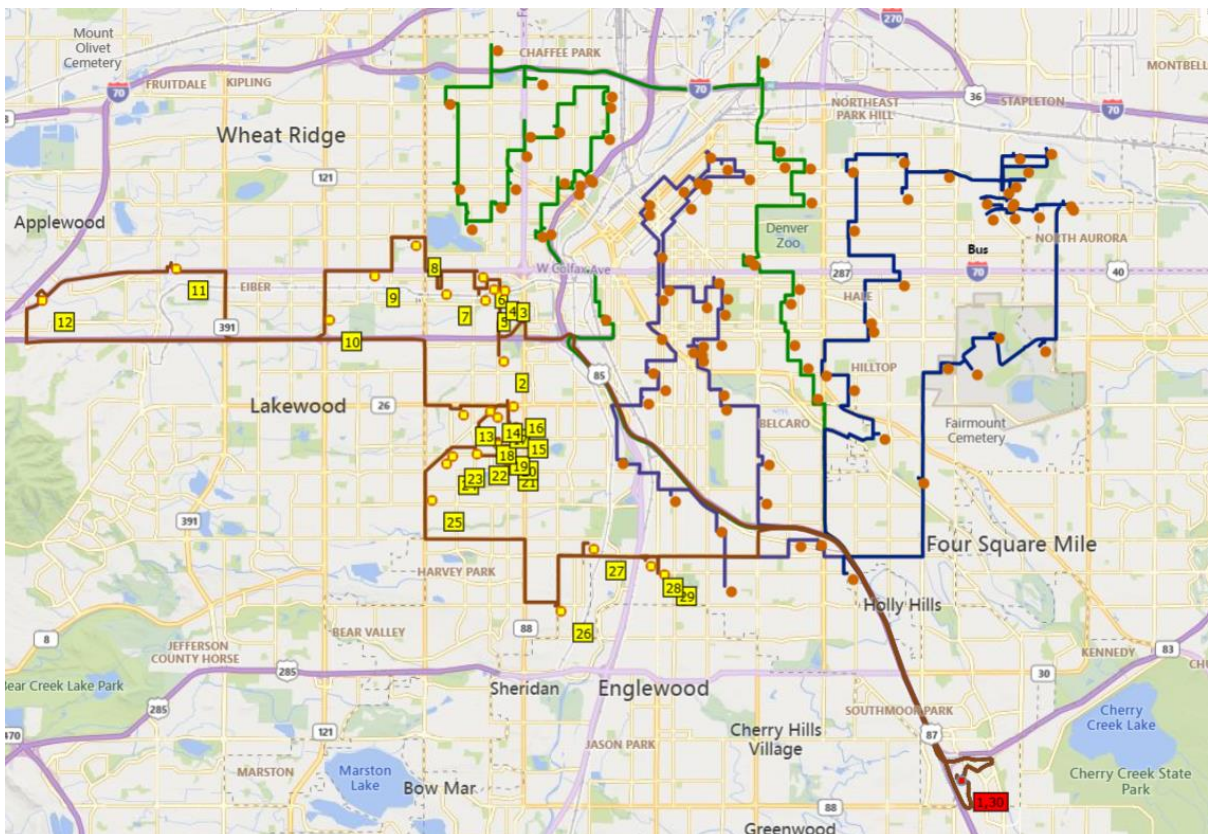


RouteSavvy API PLUS

Introduction:

RouteSavvy API PLUS is an easy-to-use REST service for optimizing driving stop orders, including functionality for stop time window scheduling and automated multi-route allocation. RSAPI.svc allows both GET and POST options. Requests use JSON formatted strings and results are returned in JSON format for optimal use in web applications.

The optimized results return multiple routes each with stops ordered for the most efficient driving route according to driver availability. Results include turn-by-turn directions for reach route leg as well as latitude and longitude polyline describing the route for use in map visualization.



Sample optimized multi vehicle routes displayed over Bing Maps

GET - RSAPI.svc/GetOptimize requests are limited to the URL encoded parameter maximum length. Although this varies by browser, 2048 characters is the typical suggested limit for encoding stops in the URL string. Because of the URL length limitation smaller numbers of stops can be optimized.

POST - RSAPI.svc/PostOptimize requests do not have URL length limitations and can accommodate larger numbers of stops.

URL:

- GET Url: <https://api.routesavvy.com/plus/RSAPI.svc/GETOptimize?query={jsonquery}>
- POST Url: <https://api.routesavvy.com/plus/RSAPI.svc/POSTOptimize>

Multi-Vehicle Optimization Allocation:

Multiple vehicles that are available for driving their own unique route may be defined. One single vehicle may be defined as input, however creating more than one route within the same optimization request is the primary purpose of this API. The API can support a maximum of 1,000 locations (route stops) optimized across a maximum of 50 vehicles (resultant routes).

Trial/dev/test access is limited to a maximum of 100 locations and 5 vehicles with limitations on daily and aggregate optimization requests. Production access is offered through varying license tiers based on maximum numbers of locations/vehicles, associated costs are usage-based and transactionally dependent on the numbers of both locations and vehicles per optimization request. (Please contact info@routesavvy.com for more information on licensing and pricing.)

All vehicles may be defined with the same start and end locations (for example all vehicles start and end at the same depot or warehouse), or each vehicle may be defined with its own unique start and end locations. All vehicle start and end locations must be defined in the Locations Array.

The time-of-day availability of each vehicle/driver may be defined with DriverAvailabilityFrom and DriverAvailabilityTo parameters. Availability time is defined in HH:MM format and limited to a 24 hour period (00:00 to 23:59). If no driver availability parameters are passed, then the driver availability will be defined as 168 hours by default (i.e. 7 days or one week, which can be used for long-haul routing scenarios).

Stop Time Windows:

The Time Window specifies the time-of-day that each route stop may be completed from the earliest to the latest time. Multiple time windows may be defined for any stop. Stop time windows are defined in HH:MM format and limited to a 24 hour period (00:00 to 23:59). If no stop time parameters are passed, then the stop time window will be defined as 24 hours (00:00 to 23:59).

The API also incorporates expected stop duration or the amount of time expected to complete each stop, defined in the VisitDurationInMinutes parameter. If no stop duration is defined, then default of 0 minutes will be assumed. (Please note: a stop may be assigned to a specific time window as long as the resultant beginning time of the stop falls within that time window. It is possible that the resultant ending time of the stop will occur after the close of the time window. The optimization only considers that the stop begin within the assigned time frame, and the stop duration may run after the close of the time window.)

Minimize Vehicles Option:

The MinimizeVehicle parameter allows for the explicit creation of only the minimal number of routes required to complete the stops passed for optimization. This disregards the number of vehicles passed as an argument. For example, if 5 vehicles are input, and all of the stops can be completed with only 3 vehicles and their assigned availability, then the result will include routes for 3 vehicles.

If the MinimizeVehicle parameter is not used (i.e. = false), then the stops passed for optimization will be distributed across all defined vehicles. This may result in routes not utilizing the full driver availability time of some or all vehicles/drivers.

Unassigned Stops:

In the event that the availability of defined vehicles/drivers is insufficient to complete all stops passed for optimization, then unassigned stops will be identified and included in the result.

There are 2 primary parts of the API PLUS request: Locations Array and Optimize Parameters

Locations Array:

Minimum 3 Locations (note that no optimization is possible until three or more stops are requested.)

Each Location has 4 components:

*Name

*Latitude/Longitude

*VisitDurationInMinutes

*Time_Window

Locations include the start and end locations for the definition of vehicle/driver parameters (VisitDurationInMinutes and Time_Windows are not recommended here), as well as all stops to be allocated across the resultant routes (VisitDurationInMinutes and Time_Windows are optional and are recommended if scheduling is critical to optimization needs, but are not required). If no location Name is defined, results will identify ("Name": null) and the location can be identified only by its Latitude/Longitude.

The only required input component is Latitude/Longitude. 6-decimal accuracy is recommended. Lower accuracy lat/lon data may be used, but may cause an error in API processing as well as inaccurate or unusable route results.

If you do not have lat/lon data and only have street addresses, any address geocoding service can be used to convert street address data to lat/lon. (OnTerra Systems can provide access to commercial geocoding services, if required. Please contact info@routesavvy.com for more details including information on licensing and pricing.)

Example Location with Datatype:

```

"Locations": [
  {
    "Name": string,
    "Latitude": float,
    "Longitude": float,
    "VisitDurationInMinutes": integer, (minutes)
    "Time_Window": [
      {
        "earliest": string, (time HH:MM)
        "latest": string (time HH:MM)
      }
    ]
  },
  {...},
  {...} ]

```

Example:
 "Customer001",
 39.595140,
 -104.849620,
 10,
 "09:00",
 "12:00"

Optimize Parameters:

Optimize Parameters has 4 components:

- *AppID
- *OptimizeType
- *MinimizeVehicle
- *Vehicles

AppID refers to your credentials (alphanumeric token) for accessing the API. If you are a current user of our legacy RouteSavvy API, your existing AppID can be used for trial/dev/test access to RouteSavvy API PLUS. If you do not have credentials, you can register for a free trial and receive credentials any time at the following link: <https://www.routesavvy.com/routesavvy-api-free-trial/>

OptimizeType is either “time” or “distance”. RouteSavvy API PLUS performs optimization based on the actual road network between locations, including both travel distance and travel time (based on varying travel speeds of various road types), or what we refer to as “RealRoad” optimization. The “time” option will produce the optimization result with the shortest drive time, while “distance” will produce the result based purely on the shortest driving distance.

The routing used is based on standard vehicle driving directions. If more advanced routing parameters are required, such as the ability to avoid highways, avoid tolls, avoid certain commercial vehicle or truck routing restrictions, such as hazmat or vehicle dimension (height, width, weight) restrictions, OnTerra Systems also offers this through our RouteSavvy API PLUS PREMIUM. (Please contact info@routesavvy.com for more details including information on licensing and pricing.)

MinimizeVehicle is a Boolean option (true, false). If more vehicles/drivers are included in the input than are required to complete all of the route stops (locations), then selecting “true” will return a result that accomplishes the routing with the minimal number of vehicles.

Vehicles are defined by the following components: vehicle_id (unique vehicle name), Start/EndLocation (as defined in the Locations Array), and DriverAvailabilityFrom/To (to define time availability within a 24hr window). Vehicle_id and Start/EndLocation are required, DriverAvailabilityFrom/To is optional (if not defined, default is a 168 hour window).

Example Optimize Parameters with Datatype:

<pre> “OptimizeParameters”: { “AppId”: string, (user token) “OptimizeType”: string, (time or distance) “MinimizeVehicle”: Boolean, “Vehicles”: [{ “vehicle_id”: string, “StartLocation”: string, “EndLocation”: string, “DriverAvailabilityFrom”: string, (time HH:MM) “DriverAvailabilityTo”: string (time HH:MM) }] } </pre>	<p>Example:</p> <pre> “90c13....21a609”, “time”, false, “Vehicle01”, “Depot”, “Depot”, “09:00”, “17:00” </pre>
--	--

Support:

For all support inquiries, please email support@routesavvy.com and be sure to mention that you are using the RouteSavvy API PLUS and include as many details as possible regarding your inquiry.

Example JSON Request:

The following POSTOptimize example includes 30 route stops with varying stop durations and time windows, 3 vehicles each starting and ending at the same location with the same time availability, attempts to minimize vehicles, but the stops cannot be completed within the driver availability so some stops are unassigned.

Example JSON Result:

The following shows the API PLUS results from the above example request. Results components include:

```
{
  "Message": "Success", (or error message if unsuccessful)
  "Route_Details": [
    {
      "Routes": [
        {
          "Vehicle_id": "Vehicle01",
```

Each Vehicle_id route details include the following components, including Examples and Datatypes:

"OptimizedStops":

{	Example
"Arrival": string, (time date)	"17:05:49 5/15/2023",
"Departure": string, (time date)	"17:10:49 5/15/2023",
"Distance": string, (distance mi and km)	"3.30 miles (5.31 km)",
"Duration": string, (drive time min and sec)	"5 minutes, 49 seconds",
"IsDuplicate": Boolean,	false,
"Name": string,	"Customer008",
"RouteLocation": {	
"Latitude": float,	39.59503,
"Longitude": float	-104.80432
},	
"StopTimeMinutes": integer,	5,
"time_windows": {	
"earliest": string, (time HH:MM)	09:00,
"latest": string (time HH:MM)	12:00
},	
"waiting_time": integer (seconds)	2915
}	

"Route":

{	
"DriveDistance": float, (total distance in DriveDistanceUnit)	Example 53.088826,
"DriveDistanceUnit": string,	"Kilometre",
"DriveTime": integer, (total time in DriveTimeUnit)	3133,
"DriveTimeUnit": string,	"Second",
"RouteLegs": Array of RouteLegs,	[See below...],
"RoutePath": Array of Lat,Lon	[See below...]
}	

"RouteLegs":

{	Example
"Directions": Array of strings	
[
"	"Make a U-turn onto South Holly Street",
"	"Turn left onto East County Line Road",
"	"Turn right onto South Quebec Street",
"	"Turn right onto South Quebec Street",
"	"Turn right onto South Quebec Street",
"	"Turn right"
],	
"DriveDistance": float, (in DriveDistanceUnit)	2.7265639999999998,
"DriveTime": integer, (in DriveTimeUnit)	302,
"LegBegin": {	
"Name": string,	"Customer101",
"RouteLocation": {	
"Latitude": float,	39.567508,
"Longitude": float	-104.923069
}	
},	
"LegEnd": {	
"Name": string,	"Customer102",
"RouteLocation": {	
"Latitude": float,	39.558012,
"Longitude": float	-104.90667
}	
}	
}	

"RoutePath":

```
[
  [39.595137, -104.84962],
  [39.595134, -104.850088],
  [39.59559, -104.85009],
  .
  .
  .
]
```


Example POST optimize request:

<https://api.routesavvy.com/plus/RSAPI.svc/POSTOptimize=>

```
{
  "Locations": [
    {
      "Name": "Depot",
      "Latitude": 39.712797,
      "Longitude": -104.987282
    },
    {
      "Name": "Customer001",
      "Latitude": 39.761975,
      "Longitude": -104.907292,
      "VisitDurationInMinutes": 90,
      "Time_Window": [
        {
          "earliest": "09:00:00",
          "latest": "12:00:00"
        },
        {
          "earliest": "15:00:00",
          "latest": "18:00:00"
        }
      ]
    },
    {
      "Name": "Customer002",
      "Latitude": 39.765176,
      "Longitude": -104.919965,
      "VisitDurationInMinutes": 90,
      "Time_Window": [
        {
          "earliest": "09:00:00",
          "latest": "12:00:00"
        },
        {
          "earliest": "15:00:00",
          "latest": "18:00:00"
        }
      ]
    },
    {
      "Name": "Customer003",
      "Latitude": 39.781996,
      "Longitude": -105.021899,
      "VisitDurationInMinutes": 90,
      "Time_Window": [
        {
          "earliest": "09:00:00",
```



```
        "latest": "12:00:00"
      },
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer004",
    "Latitude": 39.750206,
    "Longitude": -104.933919,
    "VisitDurationInMinutes": 90,
    "Time_Window": [
      {
        "earliest": "09:00:00",
        "latest": "12:00:00"
      },
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer005",
    "Latitude": 39.762898,
    "Longitude": -104.934401,
    "VisitDurationInMinutes": 90,
    "Time_Window": [
      {
        "earliest": "09:00:00",
        "latest": "12:00:00"
      },
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer006",
    "Latitude": 39.763766,
    "Longitude": -104.946255,
    "VisitDurationInMinutes": 90,
    "Time_Window": [
      {
        "earliest": "09:00:00",
        "latest": "12:00:00"
      }
    ]
  }
]
```

```
},
{
  "Name": "Customer007",
  "Latitude": 39.764119,
  "Longitude": -104.953665,
  "VisitDurationInMinutes": 60,
  "Time_Window": [
    {
      "earliest": "09:00:00",
      "latest": "12:00:00"
    }
  ]
},
{
  "Name": "Customer008",
  "Latitude": 39.770528,
  "Longitude": -105.025323,
  "VisitDurationInMinutes": 90,
  "Time_Window": [
    {
      "earliest": "09:00:00",
      "latest": "12:00:00"
    }
  ]
},
{
  "Name": "Customer009",
  "Latitude": 39.758191,
  "Longitude": -105.011556,
  "VisitDurationInMinutes": 60,
  "Time_Window": [
    {
      "earliest": "09:00:00",
      "latest": "12:00:00"
    }
  ]
},
{
  "Name": "Customer010",
  "Latitude": 39.758643,
  "Longitude": -104.981753,
  "VisitDurationInMinutes": 90,
  "Time_Window": [
    {
      "earliest": "09:00:00",
      "latest": "12:00:00"
    }
  ]
},
{
  "Name": "Customer011",
```

```
    "Latitude": 39.763568,  
    "Longitude": -104.969632,  
    "VisitDurationInMinutes": 30,  
    "Time_Window": [  
      {  
        "earliest": "09:00:00",  
        "latest": "12:00:00"  
      }  
    ]  
  },  
  {  
    "Name": "Customer012",  
    "Latitude": 39.7665,  
    "Longitude": -105.02622,  
    "VisitDurationInMinutes": 60,  
    "Time_Window": [  
      {  
        "earliest": "09:00:00",  
        "latest": "12:00:00"  
      }  
    ]  
  },  
  {  
    "Name": "Customer013",  
    "Latitude": 39.759404,  
    "Longitude": -105.045166,  
    "VisitDurationInMinutes": 30,  
    "Time_Window": [  
      {  
        "earliest": "15:00:00",  
        "latest": "18:00:00"  
      }  
    ]  
  },  
  {  
    "Name": "Customer014",  
    "Latitude": 39.760577,  
    "Longitude": -105.015824,  
    "VisitDurationInMinutes": 60,  
    "Time_Window": [  
      {  
        "earliest": "15:00:00",  
        "latest": "18:00:00"  
      }  
    ]  
  },  
  {  
    "Name": "Customer015",  
    "Latitude": 39.744377,  
    "Longitude": -104.988027,  
    "VisitDurationInMinutes": 30,
```

```
    "Time_Window": [
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer016",
    "Latitude": 39.753799,
    "Longitude": -104.991493,
    "VisitDurationInMinutes": 60,
    "Time_Window": [
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer017",
    "Latitude": 39.7491,
    "Longitude": -105.022071,
    "VisitDurationInMinutes": 30,
    "Time_Window": [
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer018",
    "Latitude": 39.71005,
    "Longitude": -105.034422,
    "VisitDurationInMinutes": 60,
    "Time_Window": [
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer019",
    "Latitude": 39.699923,
    "Longitude": -105.048865,
    "VisitDurationInMinutes": 30,
    "Time_Window": [
      {
        "earliest": "15:00:00",
```

```
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer020",
    "Latitude": 39.707665,
    "Longitude": -105.029438,
    "VisitDurationInMinutes": 60,
    "Time_Window": [
      {
        "earliest": "15:00:00",
        "latest": "18:00:00"
      }
    ]
  },
  {
    "Name": "Customer021",
    "Latitude": 39.718952,
    "Longitude": -104.94133,
    "VisitDurationInMinutes": 30,
    "Time_Window": [
      {
        "earliest": "12:00:00",
        "latest": "15:00:00"
      }
    ]
  },
  {
    "Name": "Customer022",
    "Latitude": 39.723464,
    "Longitude": -104.976386,
    "VisitDurationInMinutes": 60,
    "Time_Window": [
      {
        "earliest": "12:00:00",
        "latest": "15:00:00"
      }
    ]
  },
  {
    "Name": "Customer023",
    "Latitude": 39.737329,
    "Longitude": -104.986149,
    "VisitDurationInMinutes": 30,
    "Time_Window": [
      {
        "earliest": "12:00:00",
        "latest": "15:00:00"
      }
    ]
  }
]
```

```
},
{
  "Name": "Customer024",
  "Latitude": 39.732052,
  "Longitude": -104.970328,
  "VisitDurationInMinutes": 60,
  "Time_Window": [
    {
      "earliest": "12:00:00",
      "latest": "15:00:00"
    }
  ]
},
{
  "Name": "Customer025",
  "Latitude": 39.73898,
  "Longitude": -104.971841,
  "VisitDurationInMinutes": 30,
  "Time_Window": [
    {
      "earliest": "12:00:00",
      "latest": "15:00:00"
    }
  ]
},
{
  "Name": "Customer026",
  "Latitude": 39.735433,
  "Longitude": -104.969525,
  "VisitDurationInMinutes": 60,
  "Time_Window": [
    {
      "earliest": "12:00:00",
      "latest": "15:00:00"
    }
  ]
},
{
  "Name": "Customer027",
  "Latitude": 39.737571,
  "Longitude": -104.94948,
  "VisitDurationInMinutes": 30,
  "Time_Window": [
    {
      "earliest": "12:00:00",
      "latest": "15:00:00"
    }
  ]
},
{
  "Name": "Customer028",
```

```

    "Latitude": 39.742925,
    "Longitude": -104.962232,
    "VisitDurationInMinutes": 60,
    "Time_Window": [
      {
        "earliest": "12:00:00",
        "latest": "15:00:00"
      }
    ]
  },
  {
    "Name": "Customer029",
    "Latitude": 39.69995,
    "Longitude": -104.99917,
    "VisitDurationInMinutes": 30,
    "Time_Window": [
      {
        "earliest": "12:00:00",
        "latest": "15:00:00"
      }
    ]
  },
  {
    "Name": "Customer030",
    "Latitude": 39.699675,
    "Longitude": -104.958124,
    "VisitDurationInMinutes": 60,
    "Time_Window": [
      {
        "earliest": "12:00:00",
        "latest": "15:00:00"
      }
    ]
  }
],
"OptimizeParameters": {
  "AppId": "<InsertYourTokenHere>",
  "OptimizeType": "time",
  "MinimizeVehicle": true,
  "Vehicles": [
    {
      "vehicle_id": "Vehicle01",
      "StartLocation": "Depot",
      "EndLocation": "Depot",
      "DriverAvailabilityFrom": "08:00:00",
      "DriverAvailabilityTo": "19:00:00"
    },
    {
      "vehicle_id": "Vehicle02",
      "StartLocation": "Depot",
      "EndLocation": "Depot",

```



```

        "DriverAvailabilityFrom": "08:00:00",
        "DriverAvailabilityTo": "19:00:00"
    },
    {
        "vehicle_id": "Vehicle03",
        "StartLocation": "Depot",
        "EndLocation": "Depot",
        "DriverAvailabilityFrom": "08:00:00",
        "DriverAvailabilityTo": "19:00:00"
    }
]
}
}

```

Example POST optimize result:

```

{
  "Message": "Success",
  "Route_Details": [
    {
      "Routes": [
        {
          "Vehicle_id": "Vehicle01",
          "OptimizedStops": [
            {
              "Arrival": null,
              "Departure": "8:00:00 8/5/2023",
              "Distance": null,
              "Duration": null,
              "IsDuplicate": false,
              "Name": "Depot",
              "RouteLocation": {
                "Latitude": 39.712797,
                "Longitude": -104.987282
              },
              "StopTimeMinutes": 0,
              "time_windows": null,
              "waiting_time": 0
            },
            {
              "Arrival": "9:00:00 8/5/2023",
              "Departure": "10:30:00 8/5/2023",
              "Distance": "6.29 miles (10.12 km)",
              "Duration": "11 minutes, 25 seconds",
              "IsDuplicate": false,
              "Name": "Customer008",
              "RouteLocation": {
                "Latitude": 39.770528,
                "Longitude": -105.025323
              },
              "StopTimeMinutes": 90,
            }
          ]
        }
      ]
    }
  ]
}

```

```

    "time_windows": [
      {
        "earliest": "09:00",
        "latest": "12:00"
      }
    ],
    "waiting_time": 2915
  },
  {
    "Arrival": "10:30:57 8/5/2023",
    "Departure": "11:30:57 8/5/2023",
    "Distance": "0.33 miles (0.53 km)",
    "Duration": "57 seconds",
    "IsDuplicate": false,
    "Name": "Customer012",
    "RouteLocation": {
      "Latitude": 39.7665,
      "Longitude": -105.02622
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "09:00",
        "latest": "12:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "11:35:08 8/5/2023",
    "Departure": "12:35:08 8/5/2023",
    "Distance": "1.43 miles (2.31 km)",
    "Duration": "4 minutes, 10 seconds",
    "IsDuplicate": false,
    "Name": "Customer009",
    "RouteLocation": {
      "Latitude": 39.758191,
      "Longitude": -105.011556
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "09:00",
        "latest": "12:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "12:46:00 8/5/2023",
    "Departure": "13:46:00 8/5/2023",

```

```

    "Distance": "3.50 miles (5.63 km)",
    "Duration": "10 minutes, 51 seconds",
    "IsDuplicate": false,
    "Name": "Customer022",
    "RouteLocation": {
      "Latitude": 39.723464,
      "Longitude": -104.976386
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "12:00",
        "latest": "15:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "13:53:55 8/5/2023",
    "Departure": "14:23:55 8/5/2023",
    "Distance": "2.34 miles (3.77 km)",
    "Duration": "7 minutes, 55 seconds",
    "IsDuplicate": false,
    "Name": "Customer021",
    "RouteLocation": {
      "Latitude": 39.718952,
      "Longitude": -104.94133
    },
    "StopTimeMinutes": 30,
    "time_windows": [
      {
        "earliest": "12:00",
        "latest": "15:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "14:29:12 8/5/2023",
    "Departure": "14:59:12 8/5/2023",
    "Distance": "1.79 miles (2.89 km)",
    "Duration": "5 minutes, 17 seconds",
    "IsDuplicate": false,
    "Name": "Customer027",
    "RouteLocation": {
      "Latitude": 39.737571,
      "Longitude": -104.94948
    },
    "StopTimeMinutes": 30,
    "time_windows": [
      {

```

```

        "earliest": "12:00",
        "latest": "15:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "15:04:36 8/5/2023",
  "Departure": "16:34:36 8/5/2023",
  "Distance": "1.82 miles (2.93 km)",
  "Duration": "5 minutes, 23 seconds",
  "IsDuplicate": false,
  "Name": "Customer004",
  "RouteLocation": {
    "Latitude": 39.750206,
    "Longitude": -104.933919
  },
  "StopTimeMinutes": 90,
  "time_windows": [
    {
      "earliest": "09:00",
      "latest": "12:00"
    },
    {
      "earliest": "15:00",
      "latest": "18:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "16:46:31 8/5/2023",
  "Departure": "17:46:31 8/5/2023",
  "Distance": "3.44 miles (5.54 km)",
  "Duration": "11 minutes, 55 seconds",
  "IsDuplicate": false,
  "Name": "Customer016",
  "RouteLocation": {
    "Latitude": 39.753799,
    "Longitude": -104.991493
  },
  "StopTimeMinutes": 60,
  "time_windows": [
    {
      "earliest": "15:00",
      "latest": "18:00"
    }
  ],
  "waiting_time": 0
},
{

```

```

    "Arrival": "17:49:30 8/5/2023",
    "Departure": "18:19:30 8/5/2023",
    "Distance": "0.86 miles (1.38 km)",
    "Duration": "2 minutes, 58 seconds",
    "IsDuplicate": false,
    "Name": "Customer015",
    "RouteLocation": {
      "Latitude": 39.744377,
      "Longitude": -104.988027
    },
    "StopTimeMinutes": 30,
    "time_windows": [
      {
        "earliest": "15:00",
        "latest": "18:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "18:25:49 8/5/2023",
    "Departure": "18:25:49 8/5/2023",
    "Distance": "2.21 miles (3.56 km)",
    "Duration": "6 minutes, 19 seconds",
    "IsDuplicate": false,
    "Name": "Depot",
    "RouteLocation": {
      "Latitude": 39.712797,
      "Longitude": -104.987282
    },
    "StopTimeMinutes": 0,
    "time_windows": null,
    "waiting_time": 0
  }
],
"Route": {
  "DriveDistance": 38.653349999999996,
  "DriveDistanceUnit": "Kilometer",
  "DriveTime": 4034,
  "DriveTimeUnit": "Second",
  "RouteLegs": [
    {
      "Directions": [
        "Continue onto East Cedar Avenue",
        "Turn left onto South Broadway",
        "Turn right onto West Alameda Avenue",
        "Turn right onto South Santa Fe Drive",
        "Keep left onto West Cedar Avenue",
        "Turn slight right toward I 25 North",
        "Keep right and drive toward Speer Boulevard North",
        "Turn right onto Federal Boulevard",

```

```

    "Make a U-turn onto Federal Boulevard"
  ],
  "DriveDistance": 10.123737999999998,
  "DriveTime": 685,
  "LegBegin": {
    "Name": "Depot",
    "RouteLocation": {
      "Latitude": 39.712797,
      "Longitude": -104.987282
    }
  },
  "LegEnd": {
    "Name": "Customer008",
    "RouteLocation": {
      "Latitude": 39.770528,
      "Longitude": -105.025323
    }
  }
},
{
  "Directions": [
    "Continue onto Federal Boulevard",
    "Turn right onto West 36th Avenue"
  ],
  "DriveDistance": 0.525285,
  "DriveTime": 58,
  "LegBegin": {
    "Name": "Customer008",
    "RouteLocation": {
      "Latitude": 39.770528,
      "Longitude": -105.025323
    }
  },
  "LegEnd": {
    "Name": "Customer012",
    "RouteLocation": {
      "Latitude": 39.7665,
      "Longitude": -105.02622
    }
  }
},
{
  "Directions": [
    "Make a U-turn onto West 36th Avenue",
    "Turn right onto Federal Boulevard",
    "Turn left onto Speer Boulevard",
    "Turn sharp left onto Zuni Street",
    "Turn right onto West 29th Avenue"
  ],
  "DriveDistance": 2.3063789999999997,
  "DriveTime": 251,

```

```

    "LegBegin": {
      "Name": "Customer012",
      "RouteLocation": {
        "Latitude": 39.7665,
        "Longitude": -105.02622
      }
    },
    "LegEnd": {
      "Name": "Customer009",
      "RouteLocation": {
        "Latitude": 39.758191,
        "Longitude": -105.011556
      }
    }
  },
  {
    "Directions": [
      "Continue onto 15th Street",
      "Turn right onto Wewatta Street",
      "Turn right onto Wewatta Street",
      "Turn slight right onto Chopper Circle",
      "Turn left onto Speer Boulevard",
      "Keep right onto West Speer Boulevard",
      "Turn right onto Broadway",
      "Turn left onto East 6th Avenue",
      "Turn right onto Emerson Street"
    ],
    "DriveDistance": 5.630609,
    "DriveTime": 651,
    "LegBegin": {
      "Name": "Customer009",
      "RouteLocation": {
        "Latitude": 39.758191,
        "Longitude": -105.011556
      }
    },
    "LegEnd": {
      "Name": "Customer022",
      "RouteLocation": {
        "Latitude": 39.723464,
        "Longitude": -104.976386
      }
    }
  },
  {
    "Directions": [
      "Continue onto Emerson Street",
      "Turn left onto East 4th Avenue",
      "Turn right onto Corona Street",
      "Keep left onto East Speer Boulevard",
      "Keep left",

```



```

    "Turn slight right onto East 1st Avenue",
    "Turn left onto East 1st Avenue",
    "Turn right onto Harrison Street"
  ],
  "DriveDistance": 3.771406,
  "DriveTime": 475,
  "LegBegin": {
    "Name": "Customer022",
    "RouteLocation": {
      "Latitude": 39.723464,
      "Longitude": -104.976386
    }
  },
  "LegEnd": {
    "Name": "Customer021",
    "RouteLocation": {
      "Latitude": 39.718952,
      "Longitude": -104.94133
    }
  }
},
{
  "Directions": [
    "Continue onto Harrison Street",
    "Turn right onto East 3rd Avenue",
    "Turn left onto Colorado Boulevard",
    "Turn left onto East 13th Avenue",
    "Turn right onto Steele Street"
  ],
  "DriveDistance": 2.8881659999999996,
  "DriveTime": 318,
  "LegBegin": {
    "Name": "Customer021",
    "RouteLocation": {
      "Latitude": 39.718952,
      "Longitude": -104.94133
    }
  },
  "LegEnd": {
    "Name": "Customer027",
    "RouteLocation": {
      "Latitude": 39.737571,
      "Longitude": -104.94948
    }
  }
},
{
  "Directions": [
    "Continue onto Steele Street",
    "Turn right onto East 14th Avenue",
    "Turn left onto Colorado Boulevard",

```

```

        "Turn right onto East 23rd Avenue",
        "Turn right onto Cherry Street"
    ],
    "DriveDistance": 2.9285360000000003,
    "DriveTime": 323,
    "LegBegin": {
        "Name": "Customer027",
        "RouteLocation": {
            "Latitude": 39.737571,
            "Longitude": -104.94948
        }
    },
    "LegEnd": {
        "Name": "Customer004",
        "RouteLocation": {
            "Latitude": 39.750206,
            "Longitude": -104.933919
        }
    }
},
{
    "Directions": [
        "Make a U-turn onto Cherry Street",
        "Turn left onto East 23rd Avenue",
        "Turn right onto Washington Street",
        "Turn left onto 25th Street",
        "Turn left onto Tremont Place",
        "Turn right onto Park Avenue West",
        "Turn left onto Larimer Street"
    ],
    "DriveDistance": 5.540058,
    "DriveTime": 716,
    "LegBegin": {
        "Name": "Customer004",
        "RouteLocation": {
            "Latitude": 39.750206,
            "Longitude": -104.933919
        }
    },
    "LegEnd": {
        "Name": "Customer016",
        "RouteLocation": {
            "Latitude": 39.753799,
            "Longitude": -104.991493
        }
    }
},
{
    "Directions": [
        "Continue onto Larimer Street",
        "Turn left onto 20th Street",

```

```

        "Turn right onto Arapahoe Street",
        "Turn left onto 19th Street",
        "Turn right onto Tremont Place"
    ],
    "DriveDistance": 1.37798,
    "DriveTime": 178,
    "LegBegin": {
        "Name": "Customer016",
        "RouteLocation": {
            "Latitude": 39.753799,
            "Longitude": -104.991493
        }
    },
    "LegEnd": {
        "Name": "Customer015",
        "RouteLocation": {
            "Latitude": 39.744377,
            "Longitude": -104.988027
        }
    }
},
{
    "Directions": [
        "Continue onto Tremont Place",
        "Turn left onto 17th Street",
        "Keep right onto Broadway",
        "Turn left onto East Cedar Avenue"
    ],
    "DriveDistance": 3.561191,
    "DriveTime": 379,
    "LegBegin": {
        "Name": "Customer015",
        "RouteLocation": {
            "Latitude": 39.744377,
            "Longitude": -104.988027
        }
    },
    "LegEnd": {
        "Name": "Depot",
        "RouteLocation": {
            "Latitude": 39.712797,
            "Longitude": -104.987282
        }
    }
}
},
"RoutePath": [
    [
        39.712973,
        -104.987278
    ],

```

```
[
  39.712977,
  -104.987556
],
[
  39.711148,
  -104.987595
],
[
  39.711172,
  -104.990642
],
[
  39.711219,
  -104.990793
],
[
  39.711223,
  -104.991604
],
[
  39.71118,
  -104.991724
],
[
  39.711189,
  -104.992863
],
[
  39.71123,
  -104.992982
],
[
  39.711225,
  -104.996416
],
[
  39.711258,
  -104.997133
],
[
  39.712277,
  -104.997643
],
[
  39.713376,
  -104.998224
],
[
  39.71344,
  -104.998342
]
```

```
],  
[  
  39.713433,  
  -104.998533  
],  
[  
  39.713276,  
  -104.999245  
],  
[  
  39.713269,  
  -104.999449  
],  
[  
  39.71331,  
  -104.999644  
],  
[  
  39.71338,  
  -104.999801  
],  
[  
  39.71345,  
  -104.999914  
],  
[  
  39.713642,  
  -105.000142  
],  
[  
  39.713956,  
  -105.000455  
],  
[  
  39.71468,  
  -105.001028  
],  
[  
  39.715423,  
  -105.00154  
],  
[  
  39.715839,  
  -105.001862  
],  
[  
  39.716279,  
  -105.00228  
],  
[  
  39.716594,
```

```
-105.002648  
],  
[  
  39.717119,  
  -105.003388  
],  
[  
  39.718065,  
  -105.004801  
],  
[  
  39.71847,  
  -105.005363  
],  
[  
  39.71885,  
  -105.005836  
],  
[  
  39.721726,  
  -105.008941  
],  
[  
  39.722215,  
  -105.009571  
],  
[  
  39.723232,  
  -105.010981  
],  
[  
  39.7235,  
  -105.0113  
],  
[  
  39.723952,  
  -105.011793  
],  
[  
  39.724419,  
  -105.012238  
],  
[  
  39.725137,  
  -105.012812  
],  
[  
  39.725581,  
  -105.013133  
],  
[
```

```
39.726387,  
-105.013641  
],  
[  
39.726703,  
-105.013817  
],  
[  
39.727414,  
-105.014137  
],  
[  
39.729527,  
-105.014921  
],  
[  
39.730883,  
-105.015384  
],  
[  
39.731382,  
-105.0155  
],  
[  
39.731731,  
-105.01556  
],  
[  
39.732237,  
-105.015605  
],  
[  
39.732753,  
-105.015577  
],  
[  
39.733196,  
-105.015521  
],  
[  
39.733703,  
-105.015399  
],  
[  
39.733999,  
-105.015307  
],  
[  
39.734671,  
-105.015034  
],
```



```
[
  39.735829,
  -105.014446
],
[
  39.736305,
  -105.014248
],
[
  39.736687,
  -105.014119
],
[
  39.737135,
  -105.013999
],
[
  39.738177,
  -105.013859
],
[
  39.738698,
  -105.01385
],
[
  39.740321,
  -105.013948
],
[
  39.740603,
  -105.013995
],
[
  39.741004,
  -105.0141
],
[
  39.74141,
  -105.014261
],
[
  39.741621,
  -105.014364
],
[
  39.741904,
  -105.014541
],
[
  39.742118,
  -105.014702
```

```
],  
[  
  39.742429,  
  -105.014964  
],  
[  
  39.744713,  
  -105.01733  
],  
[  
  39.745188,  
  -105.017669  
],  
[  
  39.745418,  
  -105.017796  
],  
[  
  39.745822,  
  -105.017972  
],  
[  
  39.746147,  
  -105.018075  
],  
[  
  39.746507,  
  -105.018137  
],  
[  
  39.747108,  
  -105.018153  
],  
[  
  39.747307,  
  -105.018138  
],  
[  
  39.747706,  
  -105.018061  
],  
[  
  39.748131,  
  -105.01792  
],  
[  
  39.750886,  
  -105.016781  
],  
[  
  39.751618,
```

```
-105.016406  
],  
[  
  39.75215,  
  -105.016068  
],  
[  
  39.752714,  
  -105.015646  
],  
[  
  39.753516,  
  -105.014873  
],  
[  
  39.753719,  
  -105.014643  
],  
[  
  39.75411,  
  -105.014149  
],  
[  
  39.755483,  
  -105.012261  
],  
[  
  39.755804,  
  -105.011634  
],  
[  
  39.755859,  
  -105.011413  
],  
[  
  39.755852,  
  -105.011225  
],  
[  
  39.755795,  
  -105.011037  
],  
[  
  39.755752,  
  -105.010965  
],  
[  
  39.755643,  
  -105.010855  
],  
[
```

```
39.755517,  
-105.010795  
],  
[  
39.755345,  
-105.010784  
],  
[  
39.755191,  
-105.010856  
],  
[  
39.75506,  
-105.011022  
],  
[  
39.755006,  
-105.011174  
],  
[  
39.754984,  
-105.01136  
],  
[  
39.755001,  
-105.011545  
],  
[  
39.755047,  
-105.011761  
],  
[  
39.755183,  
-105.012198  
],  
[  
39.755801,  
-105.013901  
],  
[  
39.756179,  
-105.015013  
],  
[  
39.756451,  
-105.0162  
],  
[  
39.756565,  
-105.016561  
],
```

```
[
  39.757565,
  -105.019314
],
[
  39.758042,
  -105.020548
],
[
  39.758558,
  -105.021621
],
[
  39.759156,
  -105.022678
],
[
  39.759272,
  -105.022914
],
[
  39.75944,
  -105.023299
],
[
  39.759876,
  -105.024433
],
[
  39.760271,
  -105.025249
],
[
  39.763639,
  -105.025238
],
[
  39.764073,
  -105.025197
],
[
  39.772927,
  -105.025194
],
[
  39.772915,
  -105.025304
],
[
  39.770528,
  -105.025314
```

```
],  
[  
  39.766507,  
  -105.025307  
],  
[  
  39.766505,  
  -105.02622  
],  
[  
  39.766507,  
  -105.025307  
],  
[  
  39.764679,  
  -105.025298  
],  
[  
  39.764074,  
  -105.025283  
],  
[  
  39.763639,  
  -105.025238  
],  
[  
  39.760271,  
  -105.025249  
],  
[  
  39.759876,  
  -105.024433  
],  
[  
  39.75944,  
  -105.023299  
],  
[  
  39.759272,  
  -105.022914  
],  
[  
  39.759156,  
  -105.022678  
],  
[  
  39.758558,  
  -105.021621  
],  
[  
  39.758042,
```

```
-105.020548  
],  
[  
  39.757514,  
  -105.019173  
],  
[  
  39.756565,  
  -105.016561  
],  
[  
  39.756451,  
  -105.0162  
],  
[  
  39.756293,  
  -105.015826  
],  
[  
  39.75841,  
  -105.015843  
],  
[  
  39.758403,  
  -105.011811  
],  
[  
  39.758198,  
  -105.011547  
],  
[  
  39.756847,  
  -105.009786  
],  
[  
  39.755802,  
  -105.008402  
],  
[  
  39.754369,  
  -105.006546  
],  
[  
  39.75391,  
  -105.005964  
],  
[  
  39.753755,  
  -105.005822  
],  
[
```



```
39.752611,  
-105.004355  
],  
[  
39.75249,  
-105.004118  
],  
[  
39.751623,  
-105.002986  
],  
[  
39.751541,  
-105.003064  
],  
[  
39.751008,  
-105.003745  
],  
[  
39.751013,  
-105.003816  
],  
[  
39.75033,  
-105.004739  
],  
[  
39.750213,  
-105.004758  
],  
[  
39.750078,  
-105.004934  
],  
[  
39.749628,  
-105.004344  
],  
[  
39.749246,  
-105.003983  
],  
[  
39.74844,  
-105.003357  
],  
[  
39.747622,  
-105.002661  
],
```

```
[
  39.746408,
  -105.001433
],
[
  39.745844,
  -105.000999
],
[
  39.745379,
  -105.000758
],
[
  39.745256,
  -105.000725
],
[
  39.744982,
  -105.000666
],
[
  39.743689,
  -105.000556
],
[
  39.743187,
  -105.000425
],
[
  39.742979,
  -105.000353
],
[
  39.741794,
  -104.999787
],
[
  39.740191,
  -104.998896
],
[
  39.740018,
  -104.998785
],
[
  39.738123,
  -104.997397
],
[
  39.73686,
  -104.996475
]
```

```
],  
[  
  39.735727,  
  -104.995631  
],  
[  
  39.733656,  
  -104.994118  
],  
[  
  39.729732,  
  -104.991226  
],  
[  
  39.728934,  
  -104.990585  
],  
[  
  39.72825,  
  -104.989939  
],  
[  
  39.727963,  
  -104.989696  
],  
[  
  39.727708,  
  -104.989416  
],  
[  
  39.727455,  
  -104.989067  
],  
[  
  39.727261,  
  -104.988738  
],  
[  
  39.726601,  
  -104.987427  
],  
[  
  39.72564,  
  -104.987464  
],  
[  
  39.725596,  
  -104.976421  
],  
[  
  39.723464,
```

```
-104.976413  
],  
[  
  39.722478,  
  -104.97641  
],  
[  
  39.722473,  
  -104.97408  
],  
[  
  39.720134,  
  -104.974068  
],  
[  
  39.718889,  
  -104.974042  
],  
[  
  39.718576,  
  -104.97399  
],  
[  
  39.718454,  
  -104.973941  
],  
[  
  39.71835,  
  -104.97387  
],  
[  
  39.718318,  
  -104.973824  
],  
[  
  39.718183,  
  -104.973208  
],  
[  
  39.718182,  
  -104.967287  
],  
[  
  39.71819,  
  -104.963612  
],  
[  
  39.718192,  
  -104.959309  
],  
[
```

```
39.718181,  
-104.959093  
],  
[  
39.718056,  
-104.958047  
],  
[  
39.718042,  
-104.957616  
],  
[  
39.718034,  
-104.954622  
],  
[  
39.718031,  
-104.951809  
],  
[  
39.718017,  
-104.951637  
],  
[  
39.717979,  
-104.951429  
],  
[  
39.717849,  
-104.951005  
],  
[  
39.71783,  
-104.950715  
],  
[  
39.717776,  
-104.950499  
],  
[  
39.717667,  
-104.950206  
],  
[  
39.717669,  
-104.950109  
],  
[  
39.717699,  
-104.950047  
],
```

```
[
  39.7177,
  -104.949956
],
[
  39.71778,
  -104.949692
],
[
  39.717779,
  -104.949215
],
[
  39.717818,
  -104.948586
],
[
  39.717811,
  -104.946783
],
[
  39.717802,
  -104.94422
],
[
  39.717803,
  -104.941868
],
[
  39.717772,
  -104.941779
],
[
  39.717777,
  -104.940944
],
[
  39.717807,
  -104.9409
],
[
  39.717856,
  -104.940955
],
[
  39.717856,
  -104.941344
],
[
  39.718952,
  -104.941346
```

```
],  
[  
  39.720965,  
  -104.941347  
],  
[  
  39.720929,  
  -104.940612  
],  
[  
  39.734665,  
  -104.940588  
],  
[  
  39.736685,  
  -104.940603  
],  
[  
  39.736721,  
  -104.940771  
],  
[  
  39.736754,  
  -104.941313  
],  
[  
  39.736779,  
  -104.949492  
],  
[  
  39.737571,  
  -104.949488  
],  
[  
  39.738352,  
  -104.949485  
],  
[  
  39.738323,  
  -104.942073  
],  
[  
  39.738295,  
  -104.940597  
],  
[  
  39.743383,  
  -104.940599  
],  
[  
  39.743986,
```

```
-104.940654  
],  
[  
  39.751038,  
  -104.940609  
],  
[  
  39.751053,  
  -104.933944  
],  
[  
  39.750206,  
  -104.93395  
],  
[  
  39.751053,  
  -104.933944  
],  
[  
  39.751039,  
  -104.940775  
],  
[  
  39.751089,  
  -104.941003  
],  
[  
  39.751165,  
  -104.942581  
],  
[  
  39.751232,  
  -104.945098  
],  
[  
  39.751251,  
  -104.950304  
],  
[  
  39.751221,  
  -104.951933  
],  
[  
  39.751194,  
  -104.952449  
],  
[  
  39.751184,  
  -104.954268  
],  
[
```



```
39.751159,  
-104.955096  
],  
[  
39.750973,  
-104.956989  
],  
[  
39.750965,  
-104.957306  
],  
[  
39.750939,  
-104.957615  
],  
[  
39.750721,  
-104.959316  
],  
[  
39.750718,  
-104.967181  
],  
[  
39.750741,  
-104.978146  
],  
[  
39.751153,  
-104.978146  
],  
[  
39.751572,  
-104.978692  
],  
[  
39.749708,  
-104.981122  
],  
[  
39.752382,  
-104.984615  
],  
[  
39.753736,  
-104.986346  
],  
[  
39.755751,  
-104.988967  
],
```

```
[
  39.753792,
  -104.991483
],
[
  39.752935,
  -104.992597
],
[
  39.752266,
  -104.991715
],
[
  39.75161,
  -104.990849
],
[
  39.750657,
  -104.992045
],
[
  39.750168,
  -104.991411
],
[
  39.748637,
  -104.989432
],
[
  39.746974,
  -104.987384
],
[
  39.744803,
  -104.9874
],
[
  39.744739,
  -104.987519
],
[
  39.744365,
  -104.988012
],
[
  39.744104,
  -104.988354
],
[
  39.743364,
  -104.987395
```

```
    ],  
    [  
      39.741688,  
      -104.987386  
    ],  
    [  
      39.740008,  
      -104.987401  
    ],  
    [  
      39.738459,  
      -104.987396  
    ],  
    [  
      39.736442,  
      -104.987393  
    ],  
    [  
      39.730454,  
      -104.987422  
    ],  
    [  
      39.727181,  
      -104.987417  
    ],  
    [  
      39.72564,  
      -104.987464  
    ],  
    [  
      39.722555,  
      -104.987512  
    ],  
    [  
      39.721693,  
      -104.987491  
    ],  
    [  
      39.716568,  
      -104.987486  
    ],  
    [  
      39.712977,  
      -104.987556  
    ],  
    [  
      39.712973,  
      -104.987278  
    ]  
  ]  
}
```

```

},
{
  "Vehicle_id": "Vehicle02",
  "OptimizedStops": [
    {
      "Arrival": null,
      "Departure": "8:00:00 8/5/2023",
      "Distance": null,
      "Duration": null,
      "IsDuplicate": false,
      "Name": "Depot",
      "RouteLocation": {
        "Latitude": 39.712797,
        "Longitude": -104.987282
      },
      "StopTimeMinutes": 0,
      "time_windows": null,
      "waiting_time": 0
    },
    {
      "Arrival": "8:59:59 8/5/2023",
      "Departure": "10:29:59 8/5/2023",
      "Distance": "3.40 miles (5.47 km)",
      "Duration": "10 minutes, 17 seconds",
      "IsDuplicate": false,
      "Name": "Customer010",
      "RouteLocation": {
        "Latitude": 39.758643,
        "Longitude": -104.981753
      },
      "StopTimeMinutes": 90,
      "time_windows": [
        {
          "earliest": "09:00",
          "latest": "12:00"
        }
      ],
      "waiting_time": 2982
    },
    {
      "Arrival": "10:33:19 8/5/2023",
      "Departure": "11:03:19 8/5/2023",
      "Distance": "0.92 miles (1.48 km)",
      "Duration": "3 minutes, 20 seconds",
      "IsDuplicate": false,
      "Name": "Customer011",
      "RouteLocation": {
        "Latitude": 39.763568,
        "Longitude": -104.969632
      },
      "StopTimeMinutes": 30,

```

```

    "time_windows": [
      {
        "earliest": "09:00",
        "latest": "12:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "11:06:48 8/5/2023",
    "Departure": "12:06:48 8/5/2023",
    "Distance": "0.94 miles (1.51 km)",
    "Duration": "3 minutes, 28 seconds",
    "IsDuplicate": false,
    "Name": "Customer007",
    "RouteLocation": {
      "Latitude": 39.764119,
      "Longitude": -104.953665
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "09:00",
        "latest": "12:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "12:16:00 8/5/2023",
    "Departure": "13:16:00 8/5/2023",
    "Distance": "2.88 miles (4.63 km)",
    "Duration": "9 minutes, 12 seconds",
    "IsDuplicate": false,
    "Name": "Customer026",
    "RouteLocation": {
      "Latitude": 39.735433,
      "Longitude": -104.969525
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "12:00",
        "latest": "15:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "13:17:37 8/5/2023",
    "Departure": "14:17:37 8/5/2023",

```

```

    "Distance": "0.28 miles (0.45 km)",
    "Duration": "1 minutes, 37 seconds",
    "IsDuplicate": false,
    "Name": "Customer024",
    "RouteLocation": {
      "Latitude": 39.732052,
      "Longitude": -104.970328
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "12:00",
        "latest": "15:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "14:20:02 8/5/2023",
    "Departure": "14:50:02 8/5/2023",
    "Distance": "0.68 miles (1.09 km)",
    "Duration": "2 minutes, 25 seconds",
    "IsDuplicate": false,
    "Name": "Customer025",
    "RouteLocation": {
      "Latitude": 39.73898,
      "Longitude": -104.971841
    },
    "StopTimeMinutes": 30,
    "time_windows": [
      {
        "earliest": "12:00",
        "latest": "15:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "14:53:18 8/5/2023",
    "Departure": "15:23:18 8/5/2023",
    "Distance": "0.94 miles (1.51 km)",
    "Duration": "3 minutes, 15 seconds",
    "IsDuplicate": false,
    "Name": "Customer023",
    "RouteLocation": {
      "Latitude": 39.737329,
      "Longitude": -104.986149
    },
    "StopTimeMinutes": 30,
    "time_windows": [
      {

```

```

        "earliest": "12:00",
        "latest": "15:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "15:30:53 8/5/2023",
  "Departure": "16:30:53 8/5/2023",
  "Distance": "2.56 miles (4.13 km)",
  "Duration": "7 minutes, 34 seconds",
  "IsDuplicate": false,
  "Name": "Customer014",
  "RouteLocation": {
    "Latitude": 39.760577,
    "Longitude": -105.015824
  },
  "StopTimeMinutes": 60,
  "time_windows": [
    {
      "earliest": "15:00",
      "latest": "18:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "16:37:37 8/5/2023",
  "Departure": "17:07:37 8/5/2023",
  "Distance": "1.95 miles (3.13 km)",
  "Duration": "6 minutes, 44 seconds",
  "IsDuplicate": false,
  "Name": "Customer013",
  "RouteLocation": {
    "Latitude": 39.759404,
    "Longitude": -105.045166
  },
  "StopTimeMinutes": 30,
  "time_windows": [
    {
      "earliest": "15:00",
      "latest": "18:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "17:16:28 8/5/2023",
  "Departure": "18:46:28 8/5/2023",
  "Distance": "2.81 miles (4.53 km)",
  "Duration": "8 minutes, 50 seconds",

```

```

    "IsDuplicate": false,
    "Name": "Customer003",
    "RouteLocation": {
      "Latitude": 39.781996,
      "Longitude": -105.021899
    },
    "StopTimeMinutes": 90,
    "time_windows": [
      {
        "earliest": "09:00",
        "latest": "12:00"
      },
      {
        "earliest": "15:00",
        "latest": "18:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "18:59:49 8/5/2023",
    "Departure": "18:59:49 8/5/2023",
    "Distance": "6.68 miles (10.74 km)",
    "Duration": "13 minutes, 21 seconds",
    "IsDuplicate": false,
    "Name": "Depot",
    "RouteLocation": {
      "Latitude": 39.712797,
      "Longitude": -104.987282
    },
    "StopTimeMinutes": 0,
    "time_windows": null,
    "waiting_time": 0
  }
],
"Route": {
  "DriveDistance": 38.685284,
  "DriveDistanceUnit": "Kilometer",
  "DriveTime": 4207,
  "DriveTimeUnit": "Second",
  "RouteLegs": [
    {
      "Directions": [
        "Continue onto East Cedar Avenue",
        "Turn left onto South Lincoln Street",
        "Keep left onto Lincoln Street",
        "Turn left onto 20th Street",
        "Keep right onto Curtis Street",
        "Turn left onto 27th Street",
        "Turn right onto Arapahoe Street"
      ]
    }
  ],

```



```

    "DriveDistance": 5.473039,
    "DriveTime": 618,
    "LegBegin": {
      "Name": "Depot",
      "RouteLocation": {
        "Latitude": 39.712797,
        "Longitude": -104.987282
      }
    },
    "LegEnd": {
      "Name": "Customer010",
      "RouteLocation": {
        "Latitude": 39.758643,
        "Longitude": -104.981753
      }
    }
  },
  {
    "Directions": [
      "Continue onto Arapahoe Street",
      "Turn right onto Downing Street",
      "Turn left onto East Bruce Randolph Avenue",
      "Turn right onto Humboldt Street"
    ],
    "DriveDistance": 1.4816839999999998,
    "DriveTime": 200,
    "LegBegin": {
      "Name": "Customer010",
      "RouteLocation": {
        "Latitude": 39.758643,
        "Longitude": -104.981753
      }
    },
    "LegEnd": {
      "Name": "Customer011",
      "RouteLocation": {
        "Latitude": 39.763568,
        "Longitude": -104.969632
      }
    }
  },
  {
    "Directions": [
      "Make a U-turn onto Humboldt Street",
      "Turn right onto East Bruce Randolph Avenue",
      "Turn right onto Fillmore Street"
    ],
    "DriveDistance": 1.5125979999999999,
    "DriveTime": 208,
    "LegBegin": {
      "Name": "Customer011",

```

```

    "RouteLocation": {
      "Latitude": 39.763568,
      "Longitude": -104.969632
    }
  },
  "LegEnd": {
    "Name": "Customer007",
    "RouteLocation": {
      "Latitude": 39.764119,
      "Longitude": -104.953665
    }
  }
},
{
  "Directions": [
    "Make a U-turn onto Fillmore Street",
    "Turn left onto East Bruce Randolph Avenue",
    "Turn left onto York Street",
    "Turn right onto East 13th Avenue",
    "Turn left onto Humboldt Street"
  ],
  "DriveDistance": 4.634869000000001,
  "DriveTime": 552,
  "LegBegin": {
    "Name": "Customer007",
    "RouteLocation": {
      "Latitude": 39.764119,
      "Longitude": -104.953665
    }
  },
  "LegEnd": {
    "Name": "Customer026",
    "RouteLocation": {
      "Latitude": 39.735433,
      "Longitude": -104.969525
    }
  }
},
{
  "Directions": [
    "Continue onto Humboldt Street",
    "Turn right onto East 10th Avenue"
  ],
  "DriveDistance": 0.445546,
  "DriveTime": 97,
  "LegBegin": {
    "Name": "Customer026",
    "RouteLocation": {
      "Latitude": 39.735433,
      "Longitude": -104.969525
    }
  }
}

```

```

    },
    "LegEnd": {
      "Name": "Customer024",
      "RouteLocation": {
        "Latitude": 39.732052,
        "Longitude": -104.970328
      }
    }
  },
  {
    "Directions": [
      "Continue onto East 10th Avenue",
      "Turn right onto Downing Street",
      "Turn right onto East 14th Avenue",
      "Turn left onto Marion Street"
    ],
    "DriveDistance": 1.09452,
    "DriveTime": 145,
    "LegBegin": {
      "Name": "Customer024",
      "RouteLocation": {
        "Latitude": 39.732052,
        "Longitude": -104.970328
      }
    },
    "LegEnd": {
      "Name": "Customer025",
      "RouteLocation": {
        "Latitude": 39.73898,
        "Longitude": -104.971841
      }
    }
  },
  {
    "Directions": [
      "Make a U-turn onto Marion Street",
      "Turn right onto East 13th Avenue",
      "Turn right onto Lincoln Street"
    ],
    "DriveDistance": 1.509646,
    "DriveTime": 196,
    "LegBegin": {
      "Name": "Customer025",
      "RouteLocation": {
        "Latitude": 39.73898,
        "Longitude": -104.971841
      }
    },
    "LegEnd": {
      "Name": "Customer023",
      "RouteLocation": {

```

```

        "Latitude": 39.737329,
        "Longitude": -104.986149
      }
    }
  },
  {
    "Directions": [
      "Continue onto Lincoln Street",
      "Turn left onto East Colfax Avenue",
      "Keep right onto 15th Street",
      "Keep left",
      "Turn right onto Speer Boulevard",
      "Turn right onto Zuni Street"
    ],
    "DriveDistance": 4.1274560000000005,
    "DriveTime": 454,
    "LegBegin": {
      "Name": "Customer023",
      "RouteLocation": {
        "Latitude": 39.737329,
        "Longitude": -104.986149
      }
    },
    "LegEnd": {
      "Name": "Customer014",
      "RouteLocation": {
        "Latitude": 39.760577,
        "Longitude": -105.015824
      }
    }
  },
  {
    "Directions": [
      "Make a U-turn onto Zuni Street",
      "Turn sharp right onto Speer Boulevard",
      "Keep left onto West 29th Avenue",
      "Turn right onto Tennyson Street",
      "Turn left onto West Hayward Place"
    ],
    "DriveDistance": 3.1331700000000002,
    "DriveTime": 404,
    "LegBegin": {
      "Name": "Customer014",
      "RouteLocation": {
        "Latitude": 39.760577,
        "Longitude": -105.015824
      }
    },
    "LegEnd": {
      "Name": "Customer013",
      "RouteLocation": {

```

```

        "Latitude": 39.759404,
        "Longitude": -105.045166
    }
}
},
{
  "Directions": [
    "Make a U-turn onto West Hayward Place",
    "Turn left onto Tennyson Street",
    "Turn right onto West 38th Avenue",
    "Turn left onto Federal Boulevard",
    "Turn right onto West 47th Avenue",
    "Turn right onto Eliot Street",
    "Turn left onto West 47th Avenue"
  ],
  "DriveDistance": 4.5284689999999994,
  "DriveTime": 531,
  "LegBegin": {
    "Name": "Customer013",
    "RouteLocation": {
      "Latitude": 39.759404,
      "Longitude": -105.045166
    }
  },
  "LegEnd": {
    "Name": "Customer003",
    "RouteLocation": {
      "Latitude": 39.781996,
      "Longitude": -105.021899
    }
  }
},
{
  "Directions": [
    "Make a U-turn onto West 47th Avenue",
    "Turn left onto Elm Court",
    "Turn right onto West 46th Avenue",
    "Turn left onto Federal Boulevard",
    "Turn left onto Speer Boulevard",
    "Keep right and take I 25 toward I 25 South, Colorado Springs",
    "Keep right and take CO 26 toward Alameda Avenue",
    "Turn left onto South Lincoln Street",
    "Turn left onto East Cedar Avenue"
  ],
  "DriveDistance": 10.744287,
  "DriveTime": 801,
  "LegBegin": {
    "Name": "Customer003",
    "RouteLocation": {
      "Latitude": 39.781996,
      "Longitude": -105.021899
    }
  }
}

```

```
    }
  },
  "LegEnd": {
    "Name": "Depot",
    "RouteLocation": {
      "Latitude": 39.712797,
      "Longitude": -104.987282
    }
  }
},
"RoutePath": [
  [
    39.712973,
    -104.987278
  ],
  [
    39.712958,
    -104.986296
  ],
  [
    39.713269,
    -104.986273
  ],
  [
    39.714761,
    -104.986249
  ],
  [
    39.718349,
    -104.986228
  ],
  [
    39.725238,
    -104.98626
  ],
  [
    39.726542,
    -104.986153
  ],
  [
    39.731522,
    -104.986139
  ],
  [
    39.736845,
    -104.986133
  ],
  [
    39.738455,
    -104.986131
  ]
]
```

```
],  
[  
  39.739259,  
  -104.98619  
],  
[  
  39.740009,  
  -104.98613  
],  
[  
  39.741681,  
  -104.986109  
],  
[  
  39.744143,  
  -104.986112  
],  
[  
  39.745485,  
  -104.986115  
],  
[  
  39.746784,  
  -104.986115  
],  
[  
  39.747524,  
  -104.986111  
],  
[  
  39.747956,  
  -104.98611  
],  
[  
  39.748919,  
  -104.987378  
],  
[  
  39.752933,  
  -104.987387  
],  
[  
  39.757478,  
  -104.98153  
],  
[  
  39.758142,  
  -104.982394  
],  
[  
  39.758641,
```

```
-104.98175  
],  
[  
  39.763753,  
  -104.975151  
],  
[  
  39.764933,  
  -104.973651  
],  
[  
  39.764989,  
  -104.973483  
],  
[  
  39.76498,  
  -104.973395  
],  
[  
  39.764954,  
  -104.973349  
],  
[  
  39.764514,  
  -104.97335  
],  
[  
  39.764508,  
  -104.969656  
],  
[  
  39.763568,  
  -104.969659  
],  
[  
  39.764508,  
  -104.969656  
],  
[  
  39.764497,  
  -104.960172  
],  
[  
  39.764481,  
  -104.958571  
],  
[  
  39.764474,  
  -104.953648  
],  
[
```



```
39.764119,  
-104.953649  
],  
[  
39.764474,  
-104.953648  
],  
[  
39.764493,  
-104.959758  
],  
[  
39.754465,  
-104.95977  
],  
[  
39.750722,  
-104.959755  
],  
[  
39.746947,  
-104.959794  
],  
[  
39.744762,  
-104.959788  
],  
[  
39.736824,  
-104.959792  
],  
[  
39.736833,  
-104.967241  
],  
[  
39.736835,  
-104.968475  
],  
[  
39.736885,  
-104.969534  
],  
[  
39.735433,  
-104.969522  
],  
[  
39.732069,  
-104.969493  
],
```

```
[
  39.732066,
  -104.970328
],
[
  39.732055,
  -104.972959
],
[
  39.736725,
  -104.973009
],
[
  39.738418,
  -104.973013
],
[
  39.738416,
  -104.971857
],
[
  39.73898,
  -104.971861
],
[
  39.736882,
  -104.971847
],
[
  39.736888,
  -104.983329
],
[
  39.736846,
  -104.983796
],
[
  39.736845,
  -104.986133
],
[
  39.737329,
  -104.986132
],
[
  39.738455,
  -104.986131
],
[
  39.739259,
  -104.98619
```

```
],  
[  
  39.740138,  
  -104.986127  
],  
[  
  39.740155,  
  -104.987825  
],  
[  
  39.740182,  
  -104.987943  
],  
[  
  39.740272,  
  -104.988124  
],  
[  
  39.740527,  
  -104.988489  
],  
[  
  39.740908,  
  -104.989025  
],  
[  
  39.742238,  
  -104.990777  
],  
[  
  39.743246,  
  -104.992078  
],  
[  
  39.744264,  
  -104.993413  
],  
[  
  39.745263,  
  -104.994704  
],  
[  
  39.746525,  
  -104.99634  
],  
[  
  39.747602,  
  -104.997751  
],  
[  
  39.749368,
```

```
-104.999994  
],  
[  
  39.749444,  
  -105.000184  
],  
[  
  39.749471,  
  -105.000306  
],  
[  
  39.749466,  
  -105.000456  
],  
[  
  39.749423,  
  -105.000618  
],  
[  
  39.748812,  
  -105.001398  
],  
[  
  39.748756,  
  -105.001488  
],  
[  
  39.748509,  
  -105.003117  
],  
[  
  39.749356,  
  -105.003764  
],  
[  
  39.749657,  
  -105.004058  
],  
[  
  39.749876,  
  -105.004316  
],  
[  
  39.750336,  
  -105.00492  
],  
[  
  39.751365,  
  -105.006341  
],  
[
```

```
39.751705,  
-105.006743  
],  
[  
39.75197,  
-105.006981  
],  
[  
39.752475,  
-105.007356  
],  
[  
39.752753,  
-105.007608  
],  
[  
39.752998,  
-105.007879  
],  
[  
39.753211,  
-105.008154  
],  
[  
39.753389,  
-105.008452  
],  
[  
39.75434,  
-105.010362  
],  
[  
39.754714,  
-105.011136  
],  
[  
39.755183,  
-105.012198  
],  
[  
39.756073,  
-105.014684  
],  
[  
39.756179,  
-105.015013  
],  
[  
39.756371,  
-105.015827  
],
```

```
[
  39.760577,
  -105.01585
],
[
  39.756371,
  -105.015827
],
[
  39.756451,
  -105.0162
],
[
  39.756565,
  -105.016561
],
[
  39.757565,
  -105.019314
],
[
  39.758042,
  -105.020548
],
[
  39.758452,
  -105.021402
],
[
  39.758469,
  -105.022082
],
[
  39.758492,
  -105.025296
],
[
  39.758513,
  -105.034625
],
[
  39.758493,
  -105.044021
],
[
  39.759411,
  -105.04402
],
[
  39.759409,
  -105.045166
```

```
],  
[  
  39.759411,  
  -105.04402  
],  
[  
  39.76303,  
  -105.044019  
],  
[  
  39.769373,  
  -105.044026  
],  
[  
  39.769409,  
  -105.042299  
],  
[  
  39.769445,  
  -105.041689  
],  
[  
  39.769468,  
  -105.038745  
],  
[  
  39.769519,  
  -105.036993  
],  
[  
  39.769542,  
  -105.034643  
],  
[  
  39.769287,  
  -105.025913  
],  
[  
  39.769284,  
  -105.025204  
],  
[  
  39.772474,  
  -105.025194  
],  
[  
  39.776635,  
  -105.02517  
],  
[  
  39.782103,
```

```
-105.025136
],
[
  39.782097,
  -105.023973
],
[
  39.782008,
  -105.023974
],
[
  39.782005,
  -105.021899
],
[
  39.782006,
  -105.022815
],
[
  39.780234,
  -105.022824
],
[
  39.78025,
  -105.025284
],
[
  39.769285,
  -105.025319
],
[
  39.764679,
  -105.025298
],
[
  39.764074,
  -105.025283
],
[
  39.763639,
  -105.025238
],
[
  39.760271,
  -105.025249
],
[
  39.759876,
  -105.024433
],
[
```



```
39.75944,  
-105.023299  
],  
[  
39.759272,  
-105.022914  
],  
[  
39.759156,  
-105.022678  
],  
[  
39.758558,  
-105.021621  
],  
[  
39.758042,  
-105.020548  
],  
[  
39.757514,  
-105.019173  
],  
[  
39.756565,  
-105.016561  
],  
[  
39.756451,  
-105.0162  
],  
[  
39.756173,  
-105.015544  
],  
[  
39.755844,  
-105.014944  
],  
[  
39.755724,  
-105.014884  
],  
[  
39.755606,  
-105.014887  
],  
[  
39.755167,  
-105.015139  
],
```

```
[
  39.755025,
  -105.015193
],
[
  39.754821,
  -105.015198
],
[
  39.754398,
  -105.015134
],
[
  39.754081,
  -105.015159
],
[
  39.753658,
  -105.015316
],
[
  39.753513,
  -105.015389
],
[
  39.753301,
  -105.015536
],
[
  39.752909,
  -105.015766
],
[
  39.752222,
  -105.01627
],
[
  39.751658,
  -105.016616
],
[
  39.750902,
  -105.016995
],
[
  39.74853,
  -105.017987
],
[
  39.747996,
  -105.018184
```

```
],  
[  
  39.747357,  
  -105.018343  
],  
[  
  39.746897,  
  -105.018372  
],  
[  
  39.746509,  
  -105.018353  
],  
[  
  39.746133,  
  -105.018287  
],  
[  
  39.745814,  
  -105.018196  
],  
[  
  39.745381,  
  -105.018006  
],  
[  
  39.745144,  
  -105.01787  
],  
[  
  39.744748,  
  -105.017596  
],  
[  
  39.744448,  
  -105.017344  
],  
[  
  39.743429,  
  -105.016331  
],  
[  
  39.74304,  
  -105.015867  
],  
[  
  39.742543,  
  -105.015331  
],  
[  
  39.742188,
```

```
-105.015005  
],  
[  
  39.74202,  
  -105.014872  
],  
[  
  39.741714,  
  -105.014652  
],  
[  
  39.741328,  
  -105.014449  
],  
[  
  39.740758,  
  -105.014248  
],  
[  
  39.740389,  
  -105.014168  
],  
[  
  39.740145,  
  -105.014139  
],  
[  
  39.738816,  
  -105.014068  
],  
[  
  39.73824,  
  -105.014065  
],  
[  
  39.737456,  
  -105.014165  
],  
[  
  39.737152,  
  -105.01429  
],  
[  
  39.736684,  
  -105.014422  
],  
[  
  39.73619,  
  -105.014601  
],  
[
```

```
39.735761,  
-105.014782  
],  
[  
39.734483,  
-105.015429  
],  
[  
39.733975,  
-105.015622  
],  
[  
39.733438,  
-105.01577  
],  
[  
39.733013,  
-105.015841  
],  
[  
39.732303,  
-105.015882  
],  
[  
39.731791,  
-105.015854  
],  
[  
39.731242,  
-105.015729  
],  
[  
39.730845,  
-105.015617  
],  
[  
39.729527,  
-105.015179  
],  
[  
39.728843,  
-105.014939  
],  
[  
39.728146,  
-105.014663  
],  
[  
39.727441,  
-105.014411  
],
```

```
[
  39.72675,
  -105.014125
],
[
  39.726377,
  -105.013947
],
[
  39.725624,
  -105.01348
],
[
  39.724933,
  -105.012976
],
[
  39.724269,
  -105.012396
],
[
  39.723775,
  -105.011886
],
[
  39.723079,
  -105.011065
],
[
  39.722252,
  -105.009908
],
[
  39.721746,
  -105.00925
],
[
  39.721173,
  -105.008613
],
[
  39.720743,
  -105.008179
],
[
  39.719242,
  -105.006572
],
[
  39.718806,
  -105.006088
```

```
],  
[  
  39.718491,  
  -105.00571  
],  
[  
  39.71812,  
  -105.005218  
],  
[  
  39.716881,  
  -105.003383  
],  
[  
  39.716552,  
  -105.002922  
],  
[  
  39.716179,  
  -105.002469  
],  
[  
  39.715757,  
  -105.002064  
],  
[  
  39.715332,  
  -105.001736  
],  
[  
  39.714992,  
  -105.001517  
],  
[  
  39.714488,  
  -105.00125  
],  
[  
  39.713088,  
  -105.000595  
],  
[  
  39.71217,  
  -105.000106  
],  
[  
  39.711261,  
  -104.999667  
],  
[  
  39.711175,
```

```
-104.999583  
],  
[  
  39.711111,  
  -104.999409  
],  
[  
  39.711106,  
  -104.997074  
],  
[  
  39.711147,  
  -104.995883  
],  
[  
  39.711142,  
  -104.992982  
],  
[  
  39.711189,  
  -104.992863  
],  
[  
  39.71118,  
  -104.991724  
],  
[  
  39.711139,  
  -104.991615  
],  
[  
  39.711136,  
  -104.991156  
],  
[  
  39.711134,  
  -104.99079  
],  
[  
  39.711172,  
  -104.990642  
],  
[  
  39.711151,  
  -104.988132  
],  
[  
  39.711155,  
  -104.986373  
],  
[
```



```

        39.712475,
        -104.986346
    ],
    [
        39.712958,
        -104.986296
    ],
    [
        39.712973,
        -104.987278
    ]
    ]
}
},
{
  "Vehicle_id": "Vehicle03",
  "OptimizedStops": [
    {
      "Arrival": null,
      "Departure": "8:00:00 8/5/2023",
      "Distance": null,
      "Duration": null,
      "IsDuplicate": false,
      "Name": "Depot",
      "RouteLocation": {
        "Latitude": 39.712797,
        "Longitude": -104.987282
      },
      "StopTimeMinutes": 0,
      "time_windows": null,
      "waiting_time": 0
    },
    {
      "Arrival": "9:00:00 8/5/2023",
      "Departure": "10:30:00 8/5/2023",
      "Distance": "5.31 miles (8.55 km)",
      "Duration": "16 minutes, 25 seconds",
      "IsDuplicate": false,
      "Name": "Customer006",
      "RouteLocation": {
        "Latitude": 39.763766,
        "Longitude": -104.946255
      },
      "StopTimeMinutes": 90,
      "time_windows": [
        {
          "earliest": "09:00",
          "latest": "12:00"
        }
      ],
      "waiting_time": 2615
    }
  ]
}

```

```

},
{
  "Arrival": "10:33:07 8/5/2023",
  "Departure": "12:03:07 8/5/2023",
  "Distance": "0.79 miles (1.27 km)",
  "Duration": "3 minutes, 7 seconds",
  "IsDuplicate": false,
  "Name": "Customer005",
  "RouteLocation": {
    "Latitude": 39.762898,
    "Longitude": -104.934401
  },
  "StopTimeMinutes": 90,
  "time_windows": [
    {
      "earliest": "09:00",
      "latest": "12:00"
    },
    {
      "earliest": "15:00",
      "latest": "18:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "12:11:42 8/5/2023",
  "Departure": "13:11:42 8/5/2023",
  "Distance": "2.95 miles (4.75 km)",
  "Duration": "8 minutes, 34 seconds",
  "IsDuplicate": false,
  "Name": "Customer028",
  "RouteLocation": {
    "Latitude": 39.742925,
    "Longitude": -104.962232
  },
  "StopTimeMinutes": 60,
  "time_windows": [
    {
      "earliest": "12:00",
      "latest": "15:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "13:21:51 8/5/2023",
  "Departure": "14:21:51 8/5/2023",
  "Distance": "3.25 miles (5.23 km)",
  "Duration": "10 minutes, 9 seconds",
  "IsDuplicate": false,

```

```

    "Name": "Customer030",
    "RouteLocation": {
      "Latitude": 39.699675,
      "Longitude": -104.958124
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "12:00",
        "latest": "15:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "14:31:11 8/5/2023",
    "Departure": "15:01:11 8/5/2023",
    "Distance": "4.64 miles (7.47 km)",
    "Duration": "9 minutes, 20 seconds",
    "IsDuplicate": false,
    "Name": "Customer029",
    "RouteLocation": {
      "Latitude": 39.69995,
      "Longitude": -104.99917
    },
    "StopTimeMinutes": 30,
    "time_windows": [
      {
        "earliest": "12:00",
        "latest": "15:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "15:11:07 8/5/2023",
    "Departure": "15:41:07 8/5/2023",
    "Distance": "3.14 miles (5.05 km)",
    "Duration": "9 minutes, 55 seconds",
    "IsDuplicate": false,
    "Name": "Customer019",
    "RouteLocation": {
      "Latitude": 39.699923,
      "Longitude": -105.048865
    },
    "StopTimeMinutes": 30,
    "time_windows": [
      {
        "earliest": "15:00",
        "latest": "18:00"
      }
    ]
  }

```

```

    ],
    "waiting_time": 0
  },
  {
    "Arrival": "15:43:54 8/5/2023",
    "Departure": "16:43:54 8/5/2023",
    "Distance": "1.04 miles (1.67 km)",
    "Duration": "2 minutes, 47 seconds",
    "IsDuplicate": false,
    "Name": "Customer018",
    "RouteLocation": {
      "Latitude": 39.71005,
      "Longitude": -105.034422
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "15:00",
        "latest": "18:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "16:45:31 8/5/2023",
    "Departure": "17:45:31 8/5/2023",
    "Distance": "0.52 miles (0.84 km)",
    "Duration": "1 minutes, 36 seconds",
    "IsDuplicate": false,
    "Name": "Customer020",
    "RouteLocation": {
      "Latitude": 39.707665,
      "Longitude": -105.029438
    },
    "StopTimeMinutes": 60,
    "time_windows": [
      {
        "earliest": "15:00",
        "latest": "18:00"
      }
    ],
    "waiting_time": 0
  },
  {
    "Arrival": "17:54:36 8/5/2023",
    "Departure": "18:24:36 8/5/2023",
    "Distance": "3.33 miles (5.36 km)",
    "Duration": "9 minutes, 4 seconds",
    "IsDuplicate": false,
    "Name": "Customer017",
    "RouteLocation": {

```

```

    "Latitude": 39.7491,
    "Longitude": -105.022071
  },
  "StopTimeMinutes": 30,
  "time_windows": [
    {
      "earliest": "15:00",
      "latest": "18:00"
    }
  ],
  "waiting_time": 0
},
{
  "Arrival": "18:31:57 8/5/2023",
  "Departure": "18:31:57 8/5/2023",
  "Distance": "4.05 miles (6.51 km)",
  "Duration": "7 minutes, 21 seconds",
  "IsDuplicate": false,
  "Name": "Depot",
  "RouteLocation": {
    "Latitude": 39.712797,
    "Longitude": -104.987282
  },
  "StopTimeMinutes": 0,
  "time_windows": null,
  "waiting_time": 0
}
],
"Route": {
  "DriveDistance": 46.696118999999996,
  "DriveDistanceUnit": "Kilometer",
  "DriveTime": 4702,
  "DriveTimeUnit": "Second",
  "RouteLegs": [
    {
      "Directions": [
        "Continue onto East Cedar Avenue",
        "Turn left onto South Lincoln Street",
        "Turn left onto 20th Street",
        "Keep right onto Stout Street",
        "Turn left onto Madison Street"
      ],
      "DriveDistance": 8.5454890000000017,
      "DriveTime": 985,
      "LegBegin": {
        "Name": "Depot",
        "RouteLocation": {
          "Latitude": 39.712797,
          "Longitude": -104.987282
        }
      }
    }
  ],
},

```

```

    "LegEnd": {
      "Name": "Customer006",
      "RouteLocation": {
        "Latitude": 39.763766,
        "Longitude": -104.946255
      }
    }
  },
  {
    "Directions": [
      "Continue onto Madison Street",
      "Turn right onto East Bruce Randolph Avenue",
      "Turn right onto Cherry Street"
    ],
    "DriveDistance": 1.268466,
    "DriveTime": 187,
    "LegBegin": {
      "Name": "Customer006",
      "RouteLocation": {
        "Latitude": 39.763766,
        "Longitude": -104.946255
      }
    },
    "LegEnd": {
      "Name": "Customer005",
      "RouteLocation": {
        "Latitude": 39.762898,
        "Longitude": -104.934401
      }
    }
  },
  {
    "Directions": [
      "Continue onto Cherry Street",
      "Turn right onto Martin Luther King Jr Boulevard",
      "Turn left onto Colorado Boulevard",
      "Turn right onto East 17th Avenue",
      "Turn left onto Vine Street"
    ],
    "DriveDistance": 4.7470430000000006,
    "DriveTime": 514,
    "LegBegin": {
      "Name": "Customer005",
      "RouteLocation": {
        "Latitude": 39.762898,
        "Longitude": -104.934401
      }
    },
    "LegEnd": {
      "Name": "Customer028",
      "RouteLocation": {

```

```

        "Latitude": 39.742925,
        "Longitude": -104.962232
    }
}
},
{
    "Directions": [
        "Make a U-turn onto Vine Street",
        "Turn right onto East 17th Avenue",
        "Turn right onto York Street",
        "Turn slight right onto University Boulevard",
        "Turn left onto East Kentucky Avenue",
        "Turn right onto South Josephine Street"
    ],
    "DriveDistance": 5.228432999999999,
    "DriveTime": 609,
    "LegBegin": {
        "Name": "Customer028",
        "RouteLocation": {
            "Latitude": 39.742925,
            "Longitude": -104.962232
        }
    },
    "LegEnd": {
        "Name": "Customer030",
        "RouteLocation": {
            "Latitude": 39.699675,
            "Longitude": -104.958124
        }
    }
},
{
    "Directions": [
        "Continue onto South Josephine Street",
        "Turn right onto East Tennessee Avenue",
        "Turn left onto South University Boulevard",
        "Keep right and take I 25 North toward Downtown",
        "Keep right and take US 85, CO 26 toward Santa Fe Drive, Alameda Avenue",
        "Keep left and take US 85 South toward Santa Fe Drive",
        "Turn left onto South Santa Fe Drive",
        "Turn right onto West Tennessee Avenue",
        "Turn right onto South Huron Street",
        "Turn left onto West Tennessee Avenue",
        "Turn right onto South Jason Street"
    ],
    "DriveDistance": 7.467058999999999,
    "DriveTime": 560,
    "LegBegin": {
        "Name": "Customer030",
        "RouteLocation": {
            "Latitude": 39.699675,

```

```

        "Longitude": -104.958124
      }
    },
    "LegEnd": {
      "Name": "Customer029",
      "RouteLocation": {
        "Latitude": 39.69995,
        "Longitude": -104.99917
      }
    }
  },
  {
    "Directions": [
      "Make a U-turn onto South Jason Street",
      "Turn right onto West Mississippi Avenue",
      "Turn right onto South Federal Boulevard",
      "Turn left onto West Kentucky Avenue",
      "Keep left onto Morrison Road"
    ],
    "DriveDistance": 5.0533860000000006,
    "DriveTime": 596,
    "LegBegin": {
      "Name": "Customer029",
      "RouteLocation": {
        "Latitude": 39.69995,
        "Longitude": -104.99917
      }
    },
    "LegEnd": {
      "Name": "Customer019",
      "RouteLocation": {
        "Latitude": 39.699923,
        "Longitude": -105.048865
      }
    }
  },
  {
    "Directions": [
      "Make a U-turn onto Morrison Road"
    ],
    "DriveDistance": 1.67418,
    "DriveTime": 167,
    "LegBegin": {
      "Name": "Customer019",
      "RouteLocation": {
        "Latitude": 39.699923,
        "Longitude": -105.048865
      }
    },
    "LegEnd": {
      "Name": "Customer018",

```



```

    "RouteLocation": {
      "Latitude": 39.71005,
      "Longitude": -105.034422
    }
  },
  {
    "Directions": [
      "Continue onto Morrison Road",
      "Keep right onto West Alameda Avenue",
      "Turn right onto South Irving Street",
      "Turn left onto West Virginia Avenue"
    ],
    "DriveDistance": 0.842182,
    "DriveTime": 97,
    "LegBegin": {
      "Name": "Customer018",
      "RouteLocation": {
        "Latitude": 39.71005,
        "Longitude": -105.034422
      }
    },
    "LegEnd": {
      "Name": "Customer020",
      "RouteLocation": {
        "Latitude": 39.707665,
        "Longitude": -105.029438
      }
    }
  },
  {
    "Directions": [
      "Make a U-turn onto West Virginia Avenue",
      "Turn right onto South Irving Street",
      "Turn right onto West Alameda Avenue",
      "Turn left onto South Federal Boulevard",
      "Turn right onto West 20th Avenue",
      "Turn left onto Mile High Stadium Circle",
      "Turn left onto Decatur Street"
    ],
    "DriveDistance": 5.358475,
    "DriveTime": 544,
    "LegBegin": {
      "Name": "Customer020",
      "RouteLocation": {
        "Latitude": 39.707665,
        "Longitude": -105.029438
      }
    },
    "LegEnd": {
      "Name": "Customer017",

```

```

      "RouteLocation": {
        "Latitude": 39.7491,
        "Longitude": -105.022071
      }
    },
  {
    "Directions": [
      "Make a U-turn onto Decatur Street",
      "Turn left onto Mile High Stadium Circle",
      "Turn slight right and take I 25 South toward Colorado Springs",
      "Keep right and take CO 26 toward Alameda Avenue",
      "Turn left onto South Lincoln Street",
      "Turn left onto East Cedar Avenue"
    ],
    "DriveDistance": 6.5114079999999994,
    "DriveTime": 441,
    "LegBegin": {
      "Name": "Customer017",
      "RouteLocation": {
        "Latitude": 39.7491,
        "Longitude": -105.022071
      }
    },
    "LegEnd": {
      "Name": "Depot",
      "RouteLocation": {
        "Latitude": 39.712797,
        "Longitude": -104.987282
      }
    }
  }
],
"RoutePath": [
  [
    39.712973,
    -104.987278
  ],
  [
    39.712958,
    -104.986296
  ],
  [
    39.713269,
    -104.986273
  ],
  [
    39.714761,
    -104.986249
  ],
  [

```

```
39.718349,  
-104.986228  
],  
[  
39.725238,  
-104.98626  
],  
[  
39.726542,  
-104.986153  
],  
[  
39.731522,  
-104.986139  
],  
[  
39.738455,  
-104.986131  
],  
[  
39.739259,  
-104.98619  
],  
[  
39.740009,  
-104.98613  
],  
[  
39.741681,  
-104.986109  
],  
[  
39.744143,  
-104.986112  
],  
[  
39.745485,  
-104.986115  
],  
[  
39.746784,  
-104.986115  
],  
[  
39.747524,  
-104.986111  
],  
[  
39.747956,  
-104.98611  
],
```

```
[
  39.748919,
  -104.987378
],
[
  39.750237,
  -104.987374
],
[
  39.759871,
  -104.974952
],
[
  39.760699,
  -104.973874
],
[
  39.760751,
  -104.973716
],
[
  39.76076,
  -104.973352
],
[
  39.76074,
  -104.964727
],
[
  39.760745,
  -104.961606
],
[
  39.760737,
  -104.958576
],
[
  39.760753,
  -104.957956
],
[
  39.760799,
  -104.957699
],
[
  39.760865,
  -104.95749
],
[
  39.760926,
  -104.95735
]
```

```
],  
[  
  39.761096,  
  -104.957099  
],  
[  
  39.761579,  
  -104.956547  
],  
[  
  39.761742,  
  -104.956232  
],  
[  
  39.761776,  
  -104.956114  
],  
[  
  39.761838,  
  -104.955778  
],  
[  
  39.761843,  
  -104.954267  
],  
[  
  39.761829,  
  -104.94994  
],  
[  
  39.761773,  
  -104.94882  
],  
[  
  39.761761,  
  -104.948242  
],  
[  
  39.761755,  
  -104.946267  
],  
[  
  39.763766,  
  -104.946272  
],  
[  
  39.764464,  
  -104.946269  
],  
[  
  39.764456,
```



```
39.743769,  
-104.943623  
,  
[  
39.743778,  
-104.943987  
,  
[  
39.743818,  
-104.944074  
,  
[  
39.743813,  
-104.944431  
,  
[  
39.743777,  
-104.944552  
,  
[  
39.743775,  
-104.945357  
,  
[  
39.743814,  
-104.955929  
,  
[  
39.743823,  
-104.957827  
,  
[  
39.743842,  
-104.958238  
,  
[  
39.743868,  
-104.958455  
,  
[  
39.743905,  
-104.958614  
,  
[  
39.743979,  
-104.958797  
,  
[  
39.744068,  
-104.958955  
,
```

```
[
  39.744181,
  -104.9591
],
[
  39.744502,
  -104.959382
],
[
  39.744625,
  -104.959524
],
[
  39.744703,
  -104.959648
],
[
  39.744762,
  -104.959788
],
[
  39.744795,
  -104.960004
],
[
  39.744803,
  -104.962248
],
[
  39.742925,
  -104.962251
],
[
  39.743216,
  -104.96225
],
[
  39.743212,
  -104.960406
],
[
  39.743226,
  -104.960068
],
[
  39.743272,
  -104.959786
],
[
  39.737281,
  -104.959791
```



```
],  
[  
  39.732877,  
  -104.959808  
],  
[  
  39.73116,  
  -104.959849  
],  
[  
  39.730959,  
  -104.959896  
],  
[  
  39.730707,  
  -104.960097  
],  
[  
  39.730637,  
  -104.960133  
],  
[  
  39.730496,  
  -104.960168  
],  
[  
  39.730281,  
  -104.960185  
],  
[  
  39.727121,  
  -104.960185  
],  
[  
  39.725612,  
  -104.960162  
],  
[  
  39.725438,  
  -104.960127  
],  
[  
  39.725337,  
  -104.96002  
],  
[  
  39.724962,  
  -104.959527  
],  
[  
  39.724876,
```

```
-104.959472  
],  
[  
  39.724813,  
  -104.959454  
],  
[  
  39.719413,  
  -104.959444  
],  
[  
  39.718351,  
  -104.959308  
],  
[  
  39.715846,  
  -104.95931  
],  
[  
  39.714003,  
  -104.959337  
],  
[  
  39.712192,  
  -104.959336  
],  
[  
  39.711851,  
  -104.959314  
],  
[  
  39.711207,  
  -104.959348  
],  
[  
  39.711109,  
  -104.959306  
],  
[  
  39.710808,  
  -104.95933  
],  
[  
  39.70567,  
  -104.959342  
],  
[  
  39.703873,  
  -104.959366  
],  
[
```

```
    39.700219,  
    -104.959342  
  ],  
  [  
    39.700222,  
    -104.958116  
  ],  
  [  
    39.699675,  
    -104.958117  
  ],  
  [  
    39.698395,  
    -104.958119  
  ],  
  [  
    39.698393,  
    -104.95934  
  ],  
  [  
    39.688174,  
    -104.959367  
  ],  
  [  
    39.687064,  
    -104.959397  
  ],  
  [  
    39.686681,  
    -104.959495  
  ],  
  [  
    39.686022,  
    -104.959548  
  ],  
  [  
    39.685748,  
    -104.959628  
  ],  
  [  
    39.685652,  
    -104.959707  
  ],  
  [  
    39.685553,  
    -104.959851  
  ],  
  [  
    39.685513,  
    -104.960034  
  ],  
  ],
```

```
[
  39.685478,
  -104.960517
],
[
  39.685392,
  -104.961346
],
[
  39.685338,
  -104.962309
],
[
  39.685344,
  -104.962677
],
[
  39.685367,
  -104.962984
],
[
  39.685419,
  -104.963368
],
[
  39.685486,
  -104.963667
],
[
  39.685701,
  -104.964399
],
[
  39.6859,
  -104.964966
],
[
  39.689166,
  -104.971664
],
[
  39.690685,
  -104.97472
],
[
  39.691029,
  -104.975286
],
[
  39.691676,
  -104.976196
]
```

```
],  
[  
  39.692048,  
  -104.976642  
],  
[  
  39.694529,  
  -104.97938  
],  
[  
  39.696332,  
  -104.98144  
],  
[  
  39.696728,  
  -104.981861  
],  
[  
  39.700197,  
  -104.985861  
],  
[  
  39.700795,  
  -104.986574  
],  
[  
  39.702337,  
  -104.988591  
],  
[  
  39.702537,  
  -104.988875  
],  
[  
  39.702811,  
  -104.989324  
],  
[  
  39.702983,  
  -104.989666  
],  
[  
  39.703196,  
  -104.990195  
],  
[  
  39.7035,  
  -104.991087  
],  
[  
  39.703948,
```

```
-104.99258  
],  
[  
  39.704324,  
  -104.993572  
],  
[  
  39.704451,  
  -104.993848  
],  
[  
  39.70463,  
  -104.994183  
],  
[  
  39.704972,  
  -104.994678  
],  
[  
  39.705573,  
  -104.995352  
],  
[  
  39.705794,  
  -104.995547  
],  
[  
  39.705981,  
  -104.995676  
],  
[  
  39.706347,  
  -104.995856  
],  
[  
  39.706456,  
  -104.995944  
],  
[  
  39.70658,  
  -104.99613  
],  
[  
  39.706621,  
  -104.996275  
],  
[  
  39.706617,  
  -104.996514  
],  
[
```

```
39.706512,  
-104.996893  
],  
[  
39.706323,  
-104.996963  
],  
[  
39.706112,  
-104.996996  
],  
[  
39.705794,  
-104.997001  
],  
[  
39.705455,  
-104.996981  
],  
[  
39.704944,  
-104.996839  
],  
[  
39.704194,  
-104.996523  
],  
[  
39.702764,  
-104.99565  
],  
[  
39.701969,  
-104.995024  
],  
[  
39.701463,  
-104.994595  
],  
[  
39.699666,  
-104.993184  
],  
[  
39.699368,  
-104.993011  
],  
[  
39.699063,  
-104.992873  
],
```

```
[
  39.698751,
  -104.992775
],
[
  39.698506,
  -104.992723
],
[
  39.698491,
  -104.996779
],
[
  39.699453,
  -104.996789
],
[
  39.699458,
  -104.999179
],
[
  39.69995,
  -104.99918
],
[
  39.696689,
  -104.999149
],
[
  39.696697,
  -105.005077
],
[
  39.696734,
  -105.006597
],
[
  39.696736,
  -105.007632
],
[
  39.696737,
  -105.010195
],
[
  39.696763,
  -105.011702
],
[
  39.696757,
  -105.01334
```



```
],  
[  
  39.696769,  
  -105.01561  
],  
[  
  39.696727,  
  -105.021552  
],  
[  
  39.696733,  
  -105.025057  
],  
[  
  39.697799,  
  -105.025064  
],  
[  
  39.697877,  
  -105.02501  
],  
[  
  39.699238,  
  -105.025024  
],  
[  
  39.700411,  
  -105.025005  
],  
[  
  39.700411,  
  -105.027424  
],  
[  
  39.700351,  
  -105.029788  
],  
[  
  39.700359,  
  -105.034449  
],  
[  
  39.700416,  
  -105.048152  
],  
[  
  39.699914,  
  -105.048854  
],  
[  
  39.701365,
```

```
-105.046795  
],  
[  
  39.702921,  
  -105.044549  
],  
[  
  39.702921,  
  -105.044492  
],  
[  
  39.70324,  
  -105.044035  
],  
[  
  39.703295,  
  -105.044011  
],  
[  
  39.703973,  
  -105.043078  
],  
[  
  39.706759,  
  -105.039127  
],  
[  
  39.707998,  
  -105.037331  
],  
[  
  39.710052,  
  -105.034424  
],  
[  
  39.710713,  
  -105.033483  
],  
[  
  39.710717,  
  -105.033403  
],  
[  
  39.711143,  
  -105.032727  
],  
[  
  39.711115,  
  -105.03167  
],  
[
```

```
    39.7111,  
    -105.029964  
  ],  
  [  
    39.710545,  
    -105.029832  
  ],  
  [  
    39.71031,  
    -105.029812  
  ],  
  [  
    39.707672,  
    -105.02982  
  ],  
  [  
    39.70767,  
    -105.029438  
  ],  
  [  
    39.707672,  
    -105.02982  
  ],  
  [  
    39.71031,  
    -105.029812  
  ],  
  [  
    39.710545,  
    -105.029832  
  ],  
  [  
    39.7111,  
    -105.029964  
  ],  
  [  
    39.711091,  
    -105.026413  
  ],  
  [  
    39.711068,  
    -105.025964  
  ],  
  [  
    39.71107,  
    -105.024978  
  ],  
  [  
    39.713573,  
    -105.025037  
  ],  
  ],
```

```
[
  39.718167,
  -105.025018
],
[
  39.719366,
  -105.025055
],
[
  39.722493,
  -105.02507
],
[
  39.724246,
  -105.024999
],
[
  39.725677,
  -105.024953
],
[
  39.725825,
  -105.024922
],
[
  39.72658,
  -105.024923
],
[
  39.727516,
  -105.024997
],
[
  39.728616,
  -105.025027
],
[
  39.730661,
  -105.025011
],
[
  39.732975,
  -105.025055
],
[
  39.734969,
  -105.025065
],
[
  39.73566,
  -105.025157
]
```

```
],  
[  
  39.736127,  
  -105.025186  
],  
[  
  39.736924,  
  -105.025182  
],  
[  
  39.738001,  
  -105.025084  
],  
[  
  39.738308,  
  -105.025084  
],  
[  
  39.740777,  
  -105.025106  
],  
[  
  39.742039,  
  -105.025142  
],  
[  
  39.742501,  
  -105.025157  
],  
[  
  39.742746,  
  -105.02522  
],  
[  
  39.747574,  
  -105.025247  
],  
[  
  39.747577,  
  -105.023721  
],  
[  
  39.747527,  
  -105.023574  
],  
[  
  39.747386,  
  -105.023389  
],  
[  
  39.747497,
```

```
-105.023227  
],  
[  
  39.747578,  
  -105.023035  
],  
[  
  39.747593,  
  -105.02288  
],  
[  
  39.747594,  
  -105.02208  
],  
[  
  39.7491,  
  -105.022083  
],  
[  
  39.747594,  
  -105.02208  
],  
[  
  39.747597,  
  -105.018975  
],  
[  
  39.747541,  
  -105.018734  
],  
[  
  39.747489,  
  -105.01864  
],  
[  
  39.747386,  
  -105.0186  
],  
[  
  39.746713,  
  -105.01861  
],  
[  
  39.746347,  
  -105.01858  
],  
[  
  39.746179,  
  -105.018533  
],  
[
```

```
39.746012,  
-105.018476  
],  
[  
39.745513,  
-105.01823  
],  
[  
39.745118,  
-105.01798  
],  
[  
39.744734,  
-105.017669  
],  
[  
39.744448,  
-105.017344  
],  
[  
39.743429,  
-105.016331  
],  
[  
39.74304,  
-105.015867  
],  
[  
39.742543,  
-105.015331  
],  
[  
39.742188,  
-105.015005  
],  
[  
39.741714,  
-105.014652  
],  
[  
39.74156,  
-105.014563  
],  
[  
39.741328,  
-105.014449  
],  
[  
39.740758,  
-105.014248  
],
```

```
[
  39.740389,
  -105.014168
],
[
  39.740145,
  -105.014139
],
[
  39.738816,
  -105.014068
],
[
  39.73824,
  -105.014065
],
[
  39.737456,
  -105.014165
],
[
  39.737152,
  -105.01429
],
[
  39.736684,
  -105.014422
],
[
  39.73619,
  -105.014601
],
[
  39.735761,
  -105.014782
],
[
  39.734483,
  -105.015429
],
[
  39.733975,
  -105.015622
],
[
  39.733438,
  -105.01577
],
[
  39.733013,
  -105.015841
```



```
],  
[  
  39.732303,  
  -105.015882  
],  
[  
  39.731791,  
  -105.015854  
],  
[  
  39.731242,  
  -105.015729  
],  
[  
  39.730845,  
  -105.015617  
],  
[  
  39.728843,  
  -105.014939  
],  
[  
  39.728146,  
  -105.014663  
],  
[  
  39.727441,  
  -105.014411  
],  
[  
  39.72675,  
  -105.014125  
],  
[  
  39.726377,  
  -105.013947  
],  
[  
  39.725624,  
  -105.01348  
],  
[  
  39.724933,  
  -105.012976  
],  
[  
  39.724269,  
  -105.012396  
],  
[  
  39.723775,
```

```
-105.011886  
],  
[  
  39.723079,  
  -105.011065  
],  
[  
  39.722252,  
  -105.009908  
],  
[  
  39.721746,  
  -105.00925  
],  
[  
  39.721173,  
  -105.008613  
],  
[  
  39.720743,  
  -105.008179  
],  
[  
  39.719242,  
  -105.006572  
],  
[  
  39.718806,  
  -105.006088  
],  
[  
  39.718491,  
  -105.00571  
],  
[  
  39.71812,  
  -105.005218  
],  
[  
  39.716881,  
  -105.003383  
],  
[  
  39.716552,  
  -105.002922  
],  
[  
  39.716179,  
  -105.002469  
],  
[
```

```
39.715757,  
-105.002064  
],  
[  
39.715332,  
-105.001736  
],  
[  
39.714992,  
-105.001517  
],  
[  
39.714488,  
-105.00125  
],  
[  
39.713088,  
-105.000595  
],  
[  
39.71217,  
-105.000106  
],  
[  
39.711261,  
-104.999667  
],  
[  
39.711175,  
-104.999583  
],  
[  
39.711111,  
-104.999409  
],  
[  
39.711106,  
-104.997074  
],  
[  
39.711147,  
-104.995883  
],  
[  
39.711142,  
-104.992982  
],  
[  
39.711189,  
-104.992863  
],
```

```
[
  [
    39.71118,
    -104.991724
  ],
  [
    39.711139,
    -104.991615
  ],
  [
    39.711136,
    -104.991156
  ],
  [
    39.711134,
    -104.99079
  ],
  [
    39.711172,
    -104.990642
  ],
  [
    39.711151,
    -104.988132
  ],
  [
    39.711155,
    -104.986373
  ],
  [
    39.712475,
    -104.986346
  ],
  [
    39.712958,
    -104.986296
  ],
  [
    39.712973,
    -104.987278
  ]
]
}
}
],
"UnassignedStops": [
  {
    "Name": "Customer001",
    "code": "2",
    "id": "location-1",
    "reason": "cannot be visited within time window"
  }
],
```

```
{
  "Name": "Customer002",
  "code": "2",
  "id": "location-2",
  "reason": "cannot be visited within time window"
}
]
}
]
```