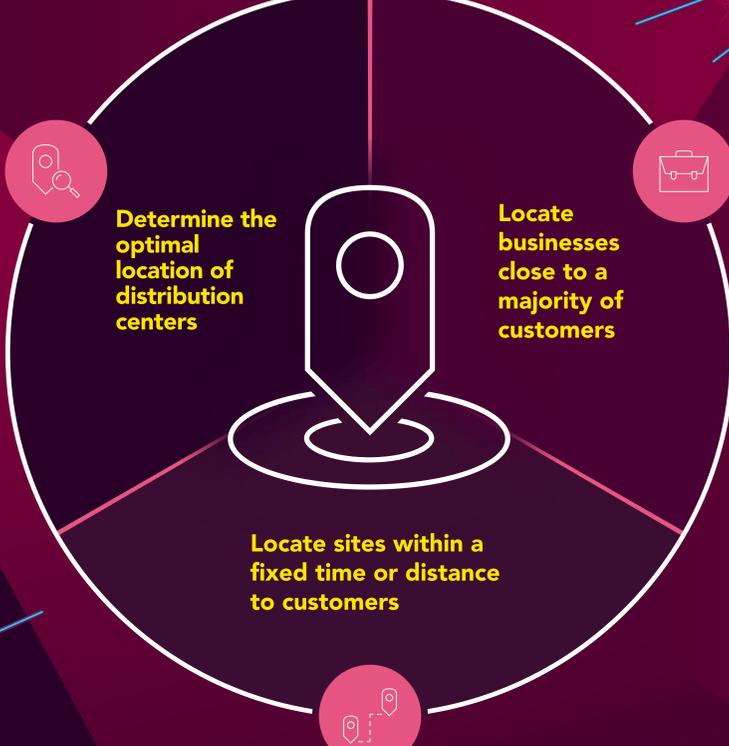


# LOCATION ALLOCATION

## Introduction

Location is one of the most important success factors for organizations. A good location can impact fixed and overhead costs; it can ensure high customer traffic or fast and easy access to customers when it comes to deliveries. And it can lower the cost and increase the quality of customer service. **The goal of location-allocation is to ensure that goods and services are as close as possible to demand points**, whether those are customers or distribution centers.

## Location Allocation Goals



## Selection Criteria



To select the optimal site, multiple criteria need to be considered:

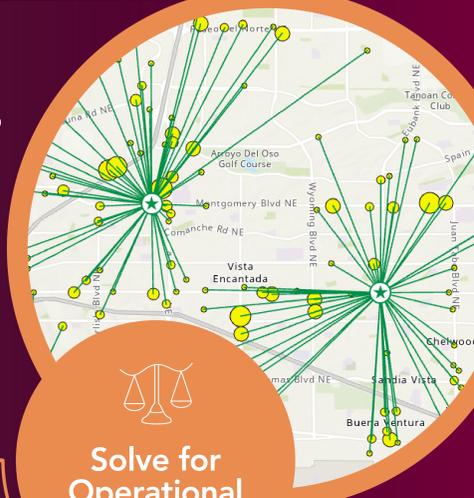
- Where are customers located?
- Where are my existing sites?
- Where are competitor sites relative to the optimum site and my existing sites?
- Other factors such as traffic patterns, proximity to highways, daytime versus nighttime population, cost of land, etc.

**ArcGIS gives you cutting-edge network-based spatial analysis capabilities and tools to help you make better business decisions based on your goals and criteria.**

## Locating Warehouses

### Case 1

Optimal locations for warehouses need to be within certain time or distance from retail locations or customers to minimize fixed and variable costs, and to reduce transportation costs. Organizations gain a competitive edge with faster, on-time and on-demand deliveries, and achieve higher customer satisfaction.



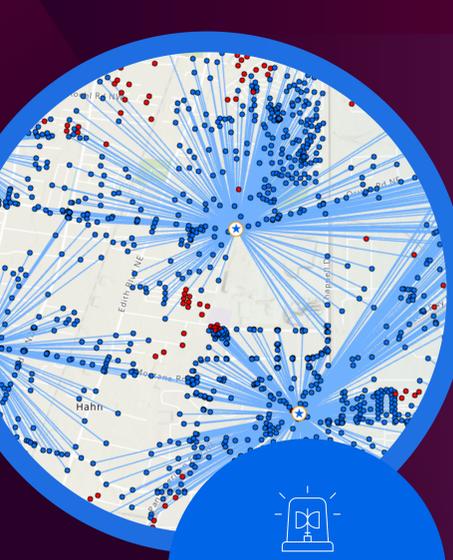
**Solve for Operational Constraints**

- Time or Distance
- Minimize overall transportation costs
- Improve customer satisfaction with on-time delivery

## Locating Fire Stations

### Case 2

Strategic locations of fire stations and a smoothly operating response pattern to emergencies means the difference between life and death, salvage and destruction. The goal is to maximize the population that can be reached within a specified time. Location-allocation can help communities that have existing fire stations to better plan for new sites and optimize the performance of existing fire station sites.



**Maximize Fire Station Coverage**

- Maximize fire protection with minimum number of fire stations
- Improve performance of existing fire stations
- Assure response time coverage for each fire station

## Locating Retail Sites

### Case 3

A model evaluates the market share of locations in terms of both existing as well as possible future locations. The goal is to identify the best location for a retail store that will maximize the number of customers that will shop there. Retailers can utilize location-allocation to increase their store revenue based on understanding where customers live and what competitors are close by.



**Maximize Market Share**

- Better leverage your existing customer base
- Select locations that attract new customers
- Prevent cannibalization between retail locations
- Take market share from competition

**Huff Model**  
- Helps predict the probability of consumer behavior with other competing retail stores.

**Distance Decay Effect**  
- More customers are likely to shop at a store that is closer to them.

## Additional Use Cases

- Finding best locations for a fast-food restaurant
- Identifying sales territories, bank and ATM machine locations, and EV charging stations
- Intelligent downsizing of businesses to maximize market share
- Pre-position emergency resources
- Find equitable locations for public libraries or community centers