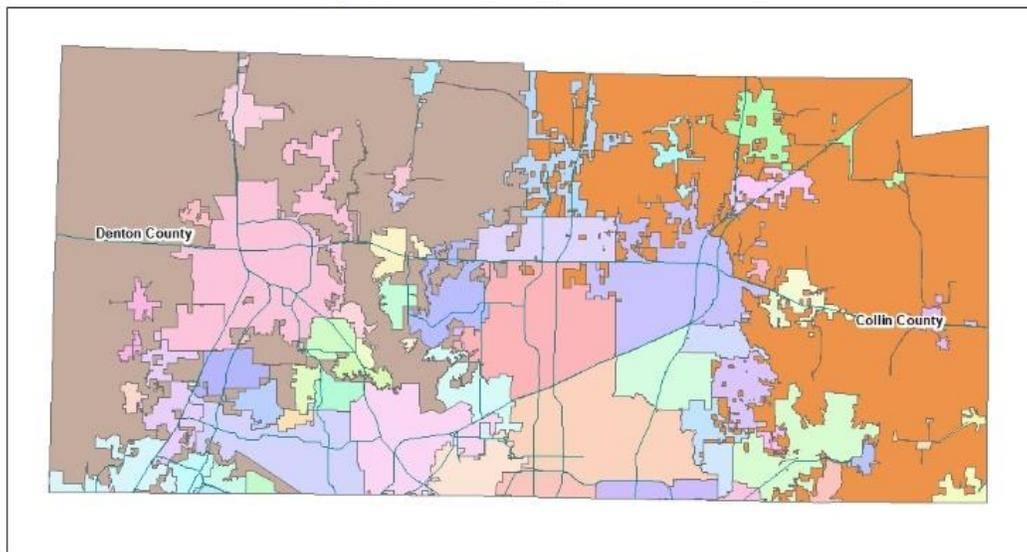


Logistical Analysis of Warehouse Distribution Centers for Property Acquisition

Business and Market Understanding

Invesco, a real estate investment company, desires to establish a process for identifying properties that meet the needs of many E-commerce businesses that are seeking to expand their operations. By developing a process, they can proactively acquire properties that meet the needs of multiple business relocating and expanding operations worldwide. In order to invest in these properties, Invesco must first understand the needs and business practice of those businesses. XYZ Corporation is an e-commerce business that subcontracts for multiple retail businesses to provide rapid-delivery transportation services. The delivery process completes the order by taking the packed boxes from the distribution center to the customer's address. This process has been perfected so that each stage only takes 20 minutes for completion. This is the bases of our research as our team has been delegated to assist with the identification and analysis of additional distribution locations within Collin, Tarrant, Denton and Dallas County. In order to perform this analysis, we must determine what information is necessary for site selection and for locating target markets and how to evaluate that information. This analysis narrows down the area to two counties, Collin and Denton County, that have been categorized as the fastest growing counties in Texas. Figure 1 below shows the area of interest with the municipal boundaries and existing transportation networks.

**Collin County & Denton County
City Limits & Transportation Networks**



Legend

- Existing Major Transportation Networks
- Collin
- Denton



0 3.5 7 14 21 28 Miles

Methods & Data

The markets and communities that have a higher percentage of e-commerce purchases have the following characteristics and should be used during the site evaluation.

- Demographic Profile One:
 - Age: 20's and 30
 - Assets close to the national average
 - Higher education levels
 - Above average neighborhood employment levels
 - Above average utilization of technology for social media
- Demographic Profile Two:
 - Ages in 40's and 50's
 - Wealthy
 - Drive late model vehicles, generally imports, luxury vehicles and SUV's
 - Purchase latest home furnishing and home renovations items
 - Travel
 - Physically Fit

Furthermore, if the target market is in a specific region, we can evaluate available properties in that region, that meet the requirements following:

- Zoning
 - Industrial or warehouse & distribution center are allowed by right;
 - Access to major transportation networks or 240' and greater;
 - Loading areas that can accommodate a variety of vehicles including semi-vehicles, light-transportation vehicles, and passenger vehicles;
 - Building square footage should include properties that can accommodate 50,000 square feet and greater;
 - High Ceilings that provide enough space to accommodate staking and staging.

The data preparation phase is generally a time-consuming process that involves the gathering and validation of data used during the analysis process. Considering the target markets discussed in the previous section, the following information needs to be collected and analyzed:

- County Shapefiles for Collin, and Denton County;
- Existing Transportation Networks within target area;
- Future Thoroughfare Plans within target area;
- Zoning layers within target area;
- US Census Data;
- American Community Survey Data
- ESRI Business Analyst
- Regional Demographics and Regional Consumer Purchases

- Existing E-Commerce Locations
- Available Properties
- Municipal Boundaries
- Existing Utilities
- Future Water Line and Sewer Line Locations – Capital Improvement Plans
- Zip Code Boundaries

A GIS is a software tool that allows us to store specific information about geography or a place. The GIS system can sort, display, manipulate and analyze spatial information. There are multiple GIS platforms that will be used during this analysis. Two of the systems used during this analysis include ArcGIS Desktop and Maptitude. Using both software we can create drive time ring analysis of the proposed locations and overlay the information available in specific census tracts to determine which site will reach a greater percentage of the target market. We are researching the fastest growing areas in Texas and need to check the information for accuracy and collection dates. The US Census information includes, age, income, household size, ethnicity, education level, language preferences, vehicle profile and purchase profile. This information is necessary to identify where consumers reside and their proximity to the proposed distribution centers. By using Costar, a realty database of commercial properties, the available properties can be queried information about current occupants are available. This information will assist with identifying possible distribution center locations and with identifying the current locations of e-commerce businesses. The zip code information will be beneficial to determine sales percentage for some of the retailers providing goods for delivery and distribution. If a substantial percentage come from a specific zip code that are should be considered when adding additional stores. By overlaying the areas that permit warehouse distribution center with the available properties we can eliminate properties that do not allow this type of business operation. If you don't have the ability to gather the most recent demographic information the ESRI Business Analysis service is available for collecting and analyzing this information.

Results

The "Dallas Business Journal" ranked the fastest growing communities for 2018 and Frisco, Prosper, Little Elm, McKinney, and Flower Mound are ranked in the top 25 cities. In order stay ahead of business demand my analysis focused on these areas. The greatest percentage of population containing the characteristics of the target market reside is in Collin and Denton County. The properties in the closest proximity to major roadways within Denton County included Plano, The Colony, Carrollton, The Colony, Prosper, Frisco, Little Elm and The Colony. The properties that met these characteristics in Collin County include Plano, McKinney, Frisco, and Prosper. There are two cities that are present in both Counties, which are Prosper and Frisco. The other cities are still considered based on the demographics within that region and their proximity to specific locations.

Conclusion & Recommendations

The first property examined is in Denton County, Lewisville but is closer in proximity to the population in The Colony. It has access to multiple major roadways and is near cities that

have a population that contains the target demographics. There are multiple building available on Sam Rayburn Tollway, which connects I-35, and Dallas Tollway. According to the American Community survey in 2017, The Colony had a population of 87,751 and 26.3% of that population were in their 20's and 30's and 30% of the population were in their 40's and 50's. Within this industrial park there are spaces available that range from 12,800 square feet to 90,180 square feet. The current tenants include PPG Architectural Finishes, Southwest Solutions Group and Nokia among others. The property is within a 20 minute commute to Plano, The Colony, Lewisville, and Carrollton. The second property is newly constructed and is in Collin County, Frisco, Texas. The property has access to US 380, Dallas North Tollway, US 75 and Preston Road. The population within the drive time radius meets and exceeds the target demographics for an E-Commerce building. The consumers purchase items online and have a greater percentage of people participating in social networking. Frisco had a population of 155,363 in 2017 of which 23.2% of that populations were in their 20's and 30's and 32% of the population were in their 40's and 50's. The industrial park has lease spaces available from 30,000-187,000 square feet. Seeing as the property is newly constructed there are several lease spaces available and a tenant listing is not currently available. The following cities can be reached within 20 minutes when traveling by vehicle: Prosper, McKinney, Little Elm, and Celina.

Taking the characteristics of each site into consideration, the Frisco site has a greater opportunity for long term success and continued growth. On the southwest corner of Rockhill Road and Preston Road in Frisco, Texas an industrial development is in its beginning stages. The property already has two buildings that encompass greater than 100,000 square feet per building. Three of the cities in close proximity were on the Dallas Business Journal list as a fastest growing community. Those communities include: Prosper, Frisco, and McKinney.



The buildings have access to Preston Road (289), Rockhill Road and are within one mile of Dallas North Tollway and US 380. The ultimate highway will be approximately 330 feet wide and contain eight lanes of divided transportation.

Resources

1. ArcGIS Business Analyst: <https://www.esri.com/en-us/arcgis/products/arcgis-business-analyst/overview>
2. American Community Survey Website: <https://www.census.gov/programs-surveys/acs/>
3. City of Allen: <https://www.cityofallen.org/>
4. City of Celina: <https://celina-tx.gov/>
5. City of Denton: <https://www.cityofdenton.com/en-us/>
6. City of Frisco: <https://friscotexas.gov/>
7. City of McKinney: <https://www.mckinneytexas.org/>
8. City of Plano: <http://plano.gov/>
9. City of The Colony: <https://www.thecolonytx.gov/>
10. Costar Real-Estate Service: <https://www.costar.com/>
11. Dallas Business Journal: <https://www.bizjournals.com/dallas/gallery/446516>
12. ESRI Online: <http://town-of-prosper.maps.arcgis.com/home/webmap/viewer.html?useExisting=1>
13. North Central Texas Council of Governments: <https://www.nctcog.org/regional-data/geographic-information-systems-gis>
14. United States Census Bureau: <https://www.census.gov/>