# Dun & Bradstreet

## Business Data & Analytics for Transportation Planning
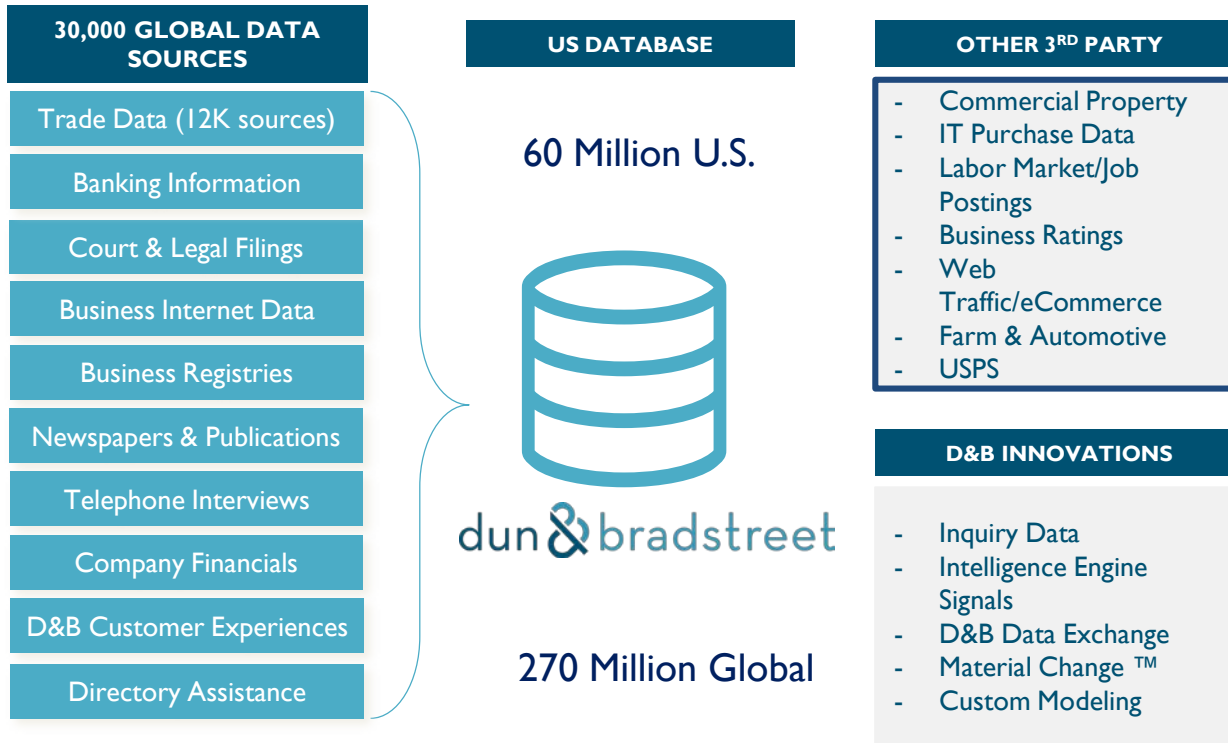
## Presented by Chip Rogers

## GAMPO Board Meeting

September 25, 2017

dun & bradstreet

# World's largest business activity database providing insights for establishing relationships with employers in your region

## 30,000 GLOBAL DATA SOURCES

- Trade Data (12K sources)
- Banking Information
- Court & Legal Filings
- Business Internet Data
- Business Registries
- Newspapers & Publications
- Telephone Interviews
- Company Financials
- D&B Customer Experiences
- Directory Assistance

## US DATABASE

60 Million U.S.

**dun & bradstreet**

270 Million Global

## OTHER 3RD PARTY

- Commercial Property
- IT Purchase Data
- Labor Market/Job Postings
- Business Ratings
- Web Traffic/eCommerce
- Farm & Automotive
- USPS

## D&B INNOVATIONS

- Inquiry Data
- Intelligence Engine Signals
- D&B Data Exchange
- Material Change ™
- Custom Modeling

# Based on the past and the present, what will the future look like?

## Key Highlights by Utilizing D&B Data for Industry, Employment, and Time-Series Trend Modeling

❖ **Employment Dynamics**: tracking every business and its employment data at the site level through our D-U-N-S Number.

❖ **Market Segmentation**: conduct model analysis in multiple dimensions such as Geographic, industry segmentation, longevity & sustainability.

❖ **Predicting the Future**:  in addition to the most complete content of current marketplace views, Dun & Bradstreet offers government agencies access to a 25-year historical archive database providing year by year extracts of our entire US Database.

# Dun & Bradstreet's database is dynamically maintained with >5.0M daily changes

*- Standard Data, Analytical Data, Predictive Data*

## Standard Data

Address

Geodata

Industry (SIC & NAICS)

Employees (total & on-site)

Sales & Revenue

Age of Business

## Analytical Data

Legal Structure

Diversity / Small Business Classifications

Import / Export

Employment Trends

Sales Trends

Owns vs. Rents

Square Footage

Business Moves / Migration Data

## Predictive Data

Failure Predictors

Viability Indicators

Financial Delinquency Predictors

Growth/Contraction models.

Site Location risk indicator

# Dun & Bradstreet's data offers for Transportation, MPOs and DOTs targets 3 prime goals:

*- Data Completeness, Data Accuracy, Data Utility\* (flexibility of use)*

## Completeness

| DATA AVAILABILITY COMPLETENESS | |
|---|---|
| SALES FIGURES | 98.86% |
| EMPLOYMENT FIGURES | 99.56% |
| INDUSTRY CODE (SIC/NAICS) | 93.51% |
| ADDRESS DATA | 100.00% |
| *TELEPHONE NUMBERS* | *82.94%* |

## Accuracy

| DATA ACCURACY |
|---|
| 5.0M DAILY CHANGES |
| NIGHTLY VALIDATION |
| RANDOM SAMPLING QA AUDITING |
| COMPARATIVE TESTING |
| INTERNAL ACCURACY THRESHOLD *** |

## Utility\*

| DATA FORMAT / UTILITY |
|---|
| FLAT FILE DATA |
| API-FED DATA |
| ON LINE RESEARCH & DOWNLOADS |
| WEB-HOSTED BI TOOLS |
| TIME-SERIES ARCHIVE db |

*\* Multi-agency or Enterprise access database is recommended*

# State of Georgia Economy

There are 562,777 Employer Locations in Georgia

D&B is Tracking Approximately 5.4M Employees in Georgia

# D&B Data Solution Example 1

## Rome-Cartersville Development Corridor (RCDC)

o **The need for improved access and connectivity to support economic development**: Enhance access to existing and future development.

o **The need for an improved truck route**: Accommodate growing freight traffic and relieve existing truck congestion on other roadways.

o **The need to provide better local access**: Increase mobility and connectivity in the corridor and surrounding areas.

o **The need for an improved connection to I-75**: Support existing industry and planned growth in Floyd and Bartow Counties
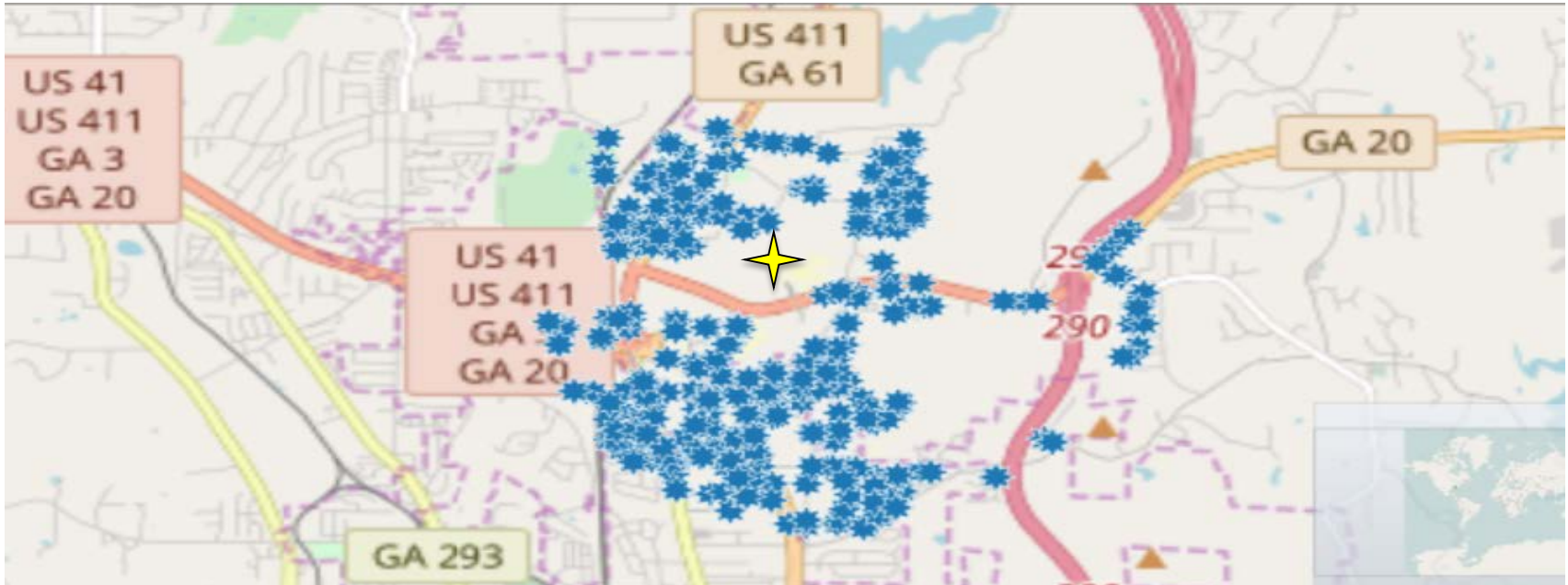
Source:     http://www.dot.ga.gov/BS/Projects/SpecialProjects/Rome-CartersvilleDevelopmentCorridor

# D&B Data Solution Example 1: RCDC (Rome)

Parameters:

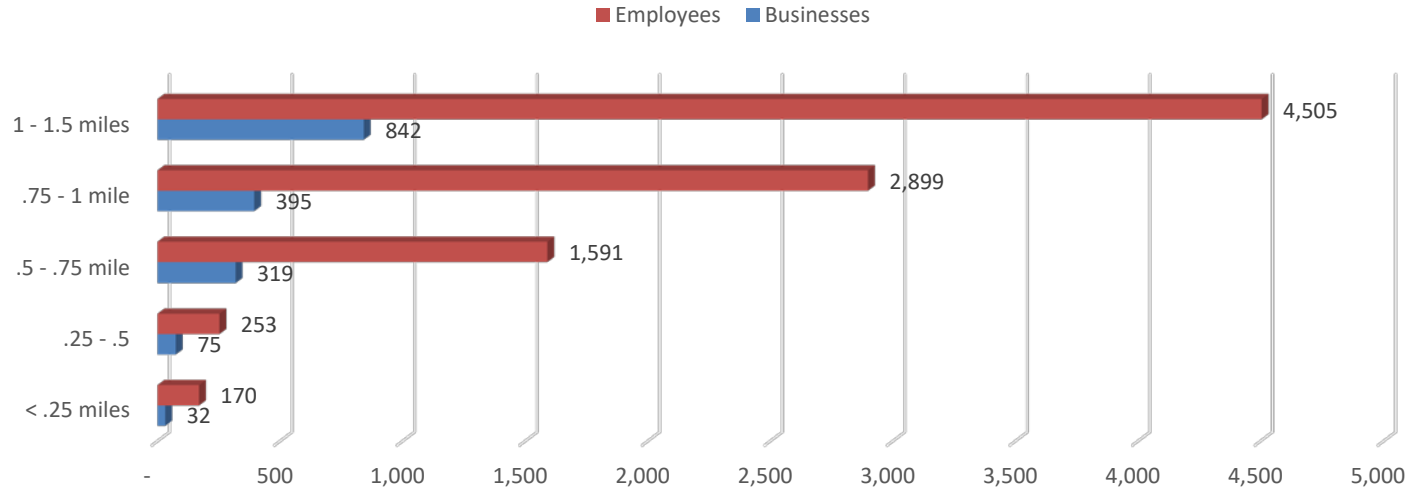1,663 businesses within 1.5 miles from Project DUNS 82-886-8781

Latitude / Longitude: 34.206029/-84.781363

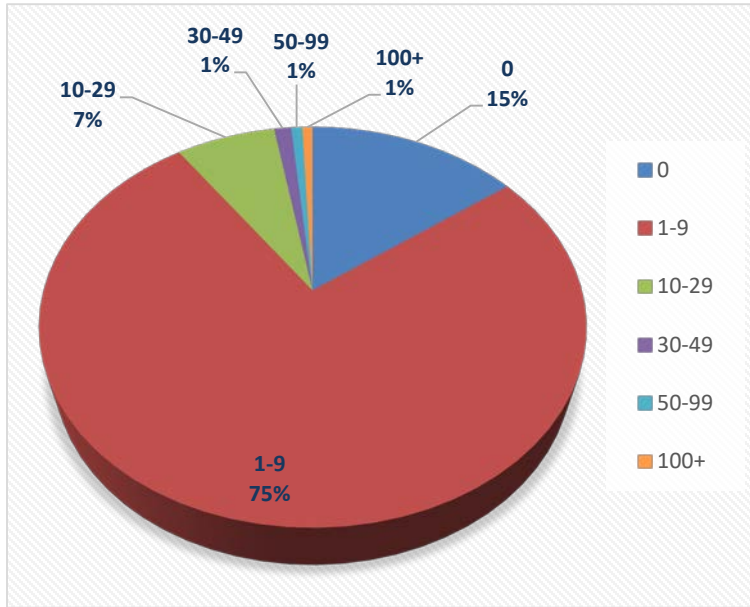# D&B Data Solution Example 1: RCDC (Rome)

## Distance from Rome Project
### By # of Employees and Businesses

■ Employees  ■ Businesses

| Distance | Employees | Businesses |
|---|---|---|
| 1 - 1.5 miles | 4,505 | 842 |
| .75 - 1 mile | 2,899 | 395 |
| .5 - .75 mile | 1,591 | 319 |
| .25 - .5 | 253 | 75 |
| < .25 miles | 170 | 32 |

Axis: - 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000 4,500 5,000

# D&B Data Solution Example 1: RCDC (Rome)

## Employee Range



Legend:
- 0
- 1-9
- 10-29
- 30-49
- 50-99
- 100+

Pie chart labels:
- 30-49 1%
- 50-99 1%
- 100+ 1%
- 0 15%
- 10-29 7%
- 1-9 75%

## Major Industry Category

| Major Industry Category | Sites | Sum(Emp Here) |
|---|---|---|
| Services | 693 | 3,546 |
| Unclassified | 320 | 747 |
| Retail Trade | 242 | 2,203 |
| Financial/Insurance/Real Estate | 125 | 584 |
| Construction | 97 | 390 |
| Wholesale Trade | 54 | 283 |
| Transportation/Communication/Utilities | 53 | 261 |
| Manufacturing | 50 | 747 |
| Agriculture/Forestry/Fishing | 16 | 32 |
| Misc/Public Administration | 13 | 625 |
| TOTAL | 1,663 | 9,418 |

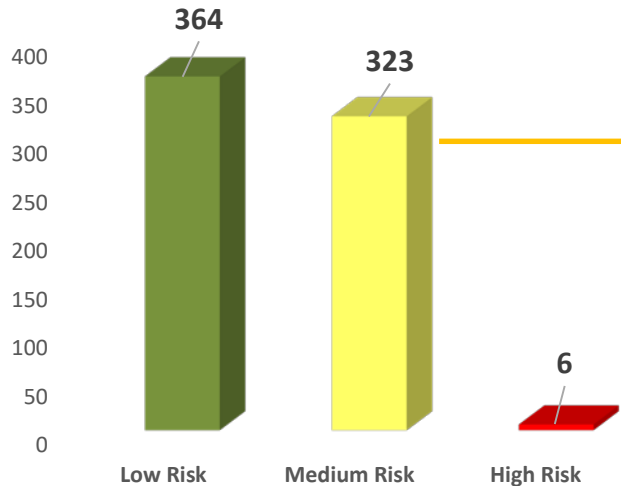# D&B Data Solution Example 1: RCDC (Rome)

## Businesses & employees based on age of the business

| Age of Business | Sites | Sum (Employees Here) |
|---|---|---|
| Less than 5 years | 373 | 1,261 |
| 6 - 10 years | 531 | 1,128 |
| 11 - 25 years | 391 | 2,312 |
| 26 - 99 years | 98 | 956 |
| 100+ years | 270 | 3,761 |
| TOTAL | 1,663 | 9,418 |

# Tracking Financial Stress of Businesses near RCDC

**# of Employer Locations**



**364** — Low Risk
**323** — Medium Risk
**6** — High Risk

80% of all business failures are from FSS 4 & 5. 63% from 4

**Employment by Financial Stress**



43
2255
4225

*Excludes gov't locations where FSS is not available

■ Low Risk  ■ Medium Risk  ■ High Risk

The **Financial Stress Score™ predicts** the likelihood that a business will seek legal relief from its creditors, cease business operations without paying all its creditors in full, voluntarily withdraw from business operation and leave unpaid obligations, go into receivership or reorganization, or make an arrangement for the benefit of creditors over the next 12 month period, based on the information in D&B's files.

# Introducing Material Change

# We analyzed and filtered tens of thousands of variables that are most predictive, and developed 6 measure-specific models



Thousands of Variables

Variable Screening, Clustering, Dimension Reduction

Best Predictors

| Predictive Model | Business Measure |
|:---:|:---:|
| 1 | Employees |
| 2 | Sales |
| 3 | Borrowing |
| 4 | Inquiries |
| 5 | Credit |
| 6 | Orders |

Predicting probability
of a future material change
(grow vs. decay)
for each business measure
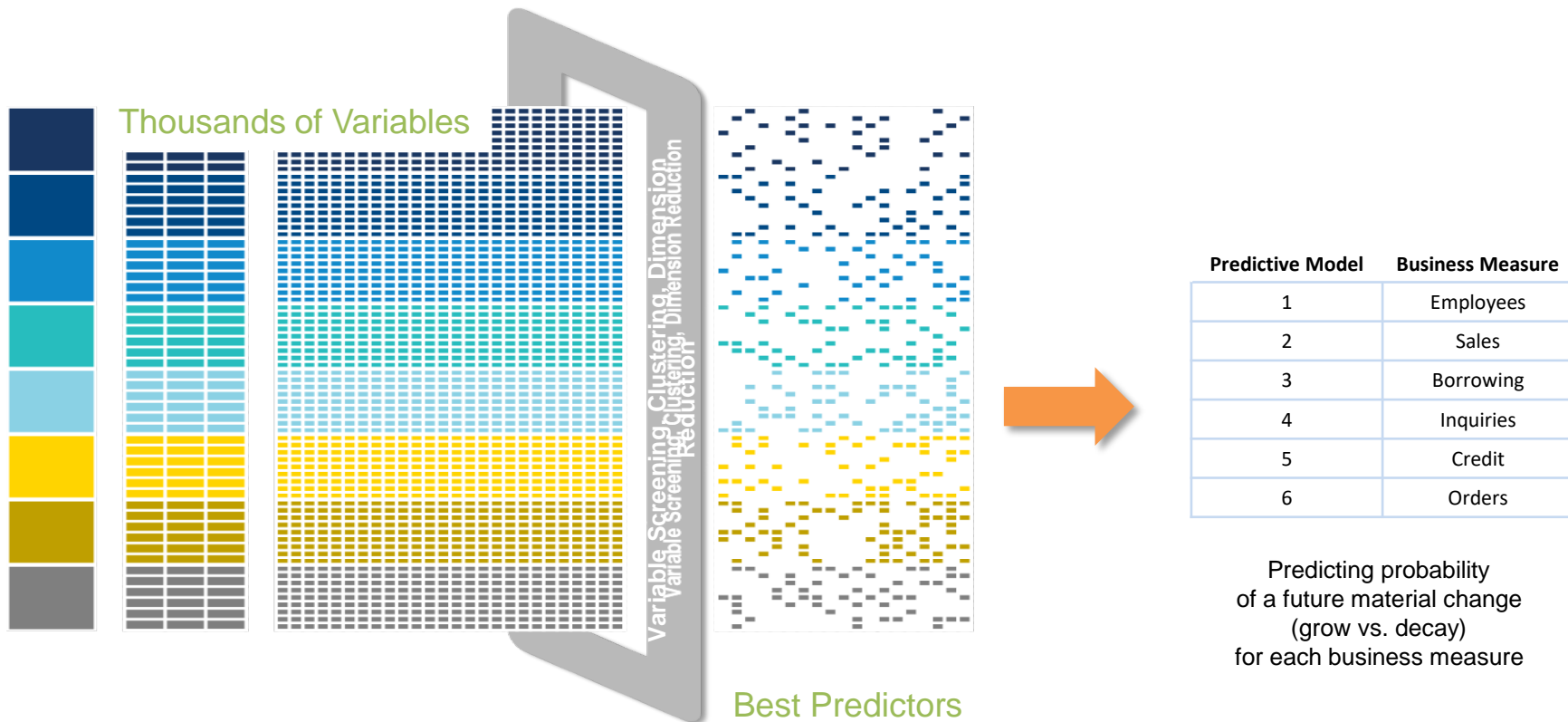
| Material Change Value | Workers Comp / Labor/ Layoff Aversion / Economic Development | Material Change Value | Workers Comp / Labor/ Layoff Aversion / Economic Development |
|---|---|---|---|
| **Increase in Scale** | Businesses in this segment are more likely to grow in spending, borrowing and **increase their number of employees / jobs or increase or expand their facility size** | **Decrease in Scale** | Businesses in this segment are more likely **to reduce borrowing and number of employees / jobs.** |
| **Leverage for Growth** | Businesses in this segment are more likely to increase their borrowing and **maintain or grow their number of employees / jobs or increase or expand their facility size** | **Increase in Borrowing** | Businesses in this segment are more likely to increase their borrowing and **maintain or reduce their number of employees / jobs.** |
| **Organic Growth** | Businesses in this segment are more likely **to increase their number of employees / jobs in the next year**, typically without increasing their borrowing significantly. | **Spend Growth** | Businesses in this segment are more likely to increase their spending, **fluctuate total employment numbers**, and maintain or expand their borrowing. |
| **Increase in Demand** | Businesses in this segment are more likely **to grow their number of employees** and maintain or grow their spending. | **Early Signs of Decay** | Businesses in this segment are more likely to maintain their number of employees/jobs, but reduce their borrowing or spending. |
| **Decrease in Demand** | Businesses in this segment are more likely to reduce spending and borrowing. | **Stable** | Businesses in this segment tend not to experience significant change in employee or facility size, spending, or borrowing in the next 12 months. |

# Material Change™ is an Anticipatory Analytic measuring a businesses <u>current</u> trajectory – positive or negative



D&B Material Change™ for the Rome project
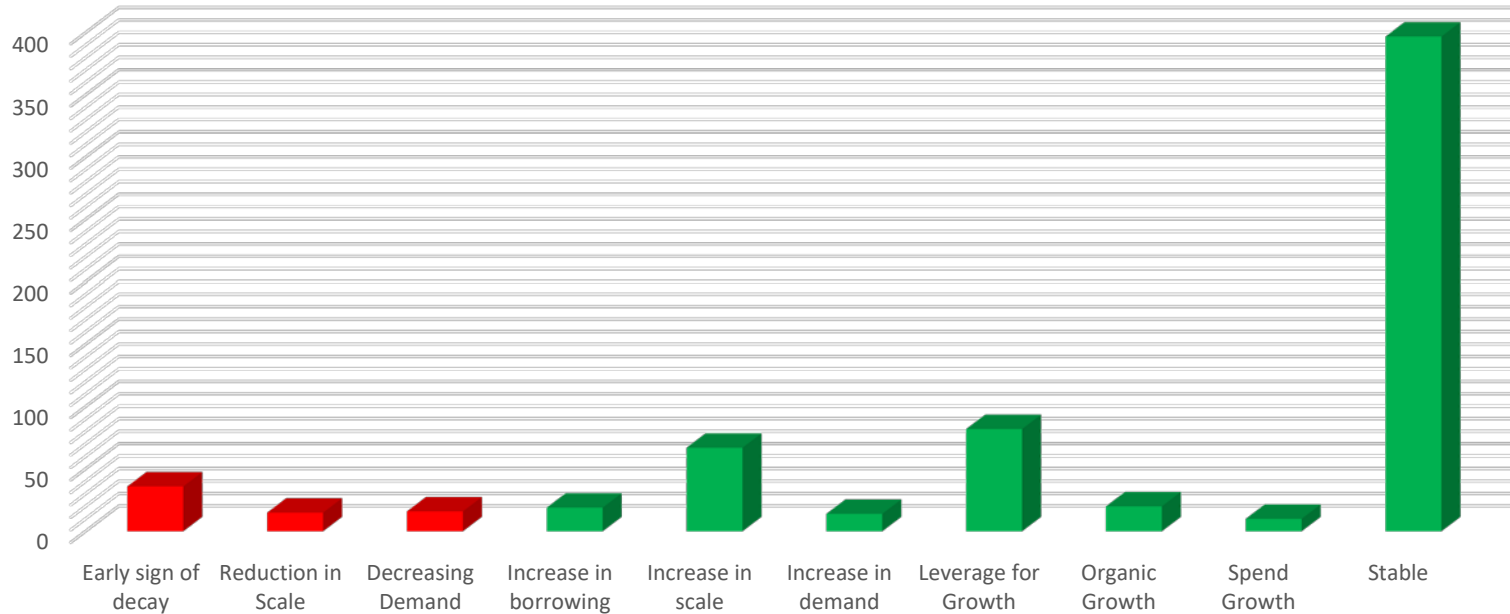
# D&B Data Solution Example 2

## I-285/ & SR 400 Improvements (Atlanta)

o The project will improve 4.3 miles of I-285 from west of Roswell Road to east of Ashford Dunwoody Road and 6.2 miles along SR 400 from the Glenridge Connector to Spalding Drive.

o Designed to help reduce traffic congestion and enhance safety in the area near the I-285/SR 400 interchange in metro Atlanta.

o This priority project adds new flyover ramps, new collector-distributor lanes and other facilities to aid east-west travel along I-285 and north-south travel along SR 400.
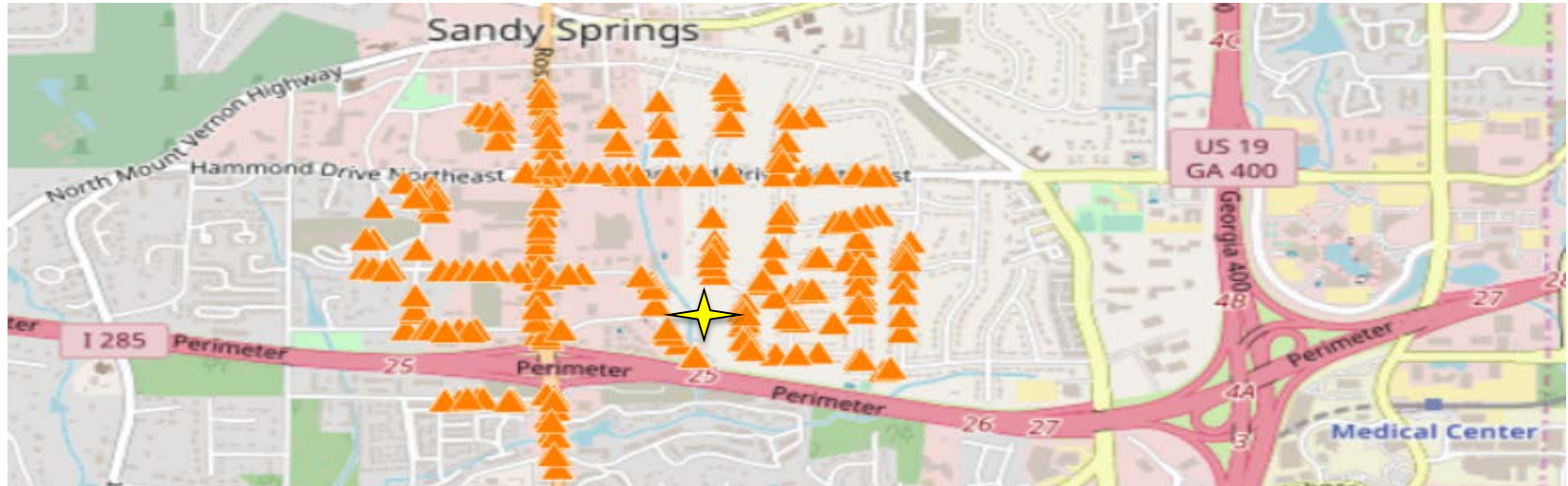
Source: http://www.dot.ga.gov/BS/Projects/SpecialProjects/I285SR400

# D&B Data Solution Example 2: Atlanta

Parameters:

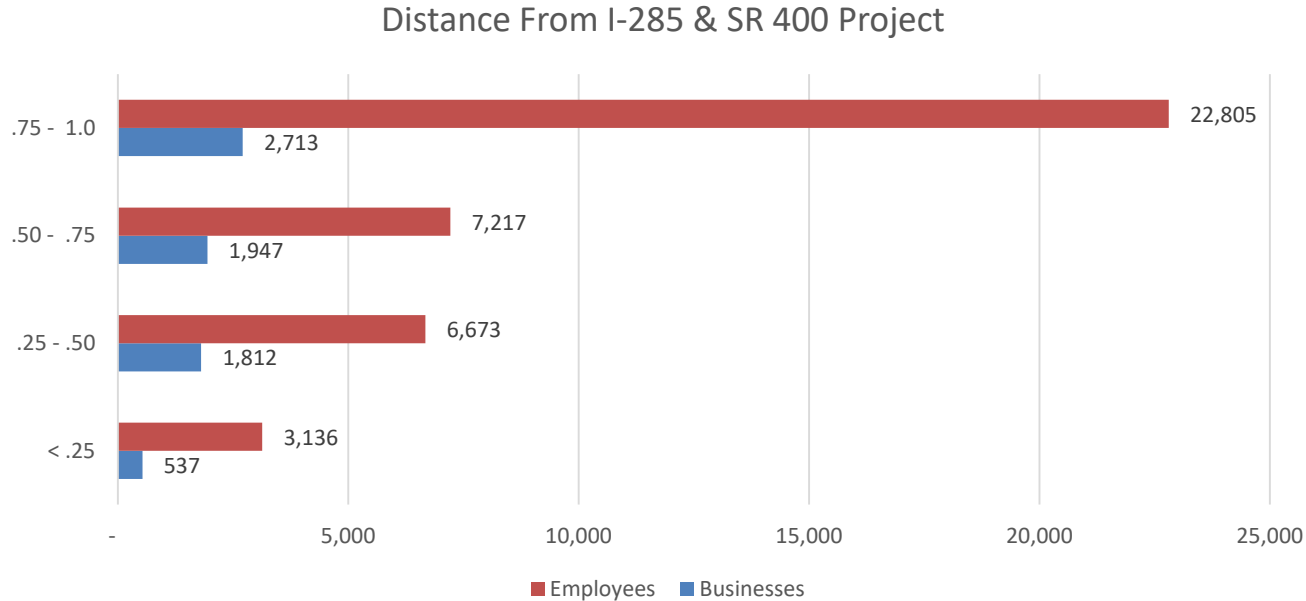2,349 sites in ½ mile radius of Site DUNS 02-909-9923 provided.

Latitude / Longitude: 33.915426 / -84.376104



Source: http://www.dot.ga.gov/BS/Projects/SpecialProjects/Rome-CartersvilleDevelopmentCorridor
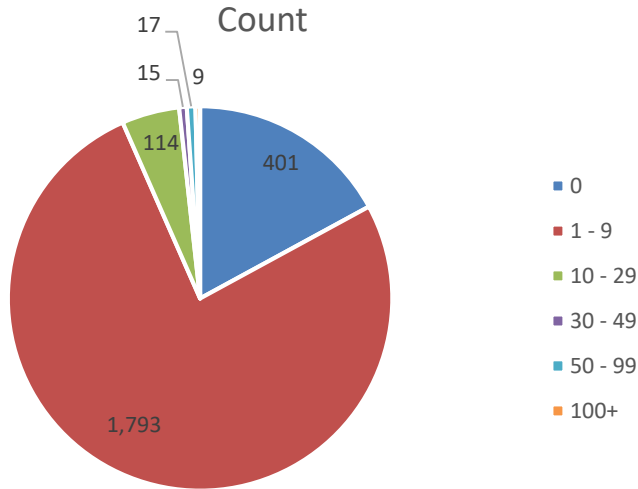
# D&B Data Solution Example 2:  Atlanta

## I-285 & SR 400 Improvements

### Distance From I-285 & SR 400 Project



| | Employees | Businesses |
|---|---|---|
| .75 - 1.0 | 22,805 | 2,713 |
| .50 - .75 | 7,217 | 1,947 |
| .25 - .50 | 6,673 | 1,812 |
| < .25 | 3,136 | 537 |

■ Employees   ■ Businesses

# D&B Data Solution Example 2: Atlanta

## Employee Range



Count

- 0 — 401
- 1 - 9 — 1,793
- 10 - 29 — 114
- 30 - 49 — 15
- 50 - 99 — 17
- 100+ — 9

Source: http://www.dot.ga.gov/BS/Projects/SpecialProjects/I285SR400

## Major Industry Category

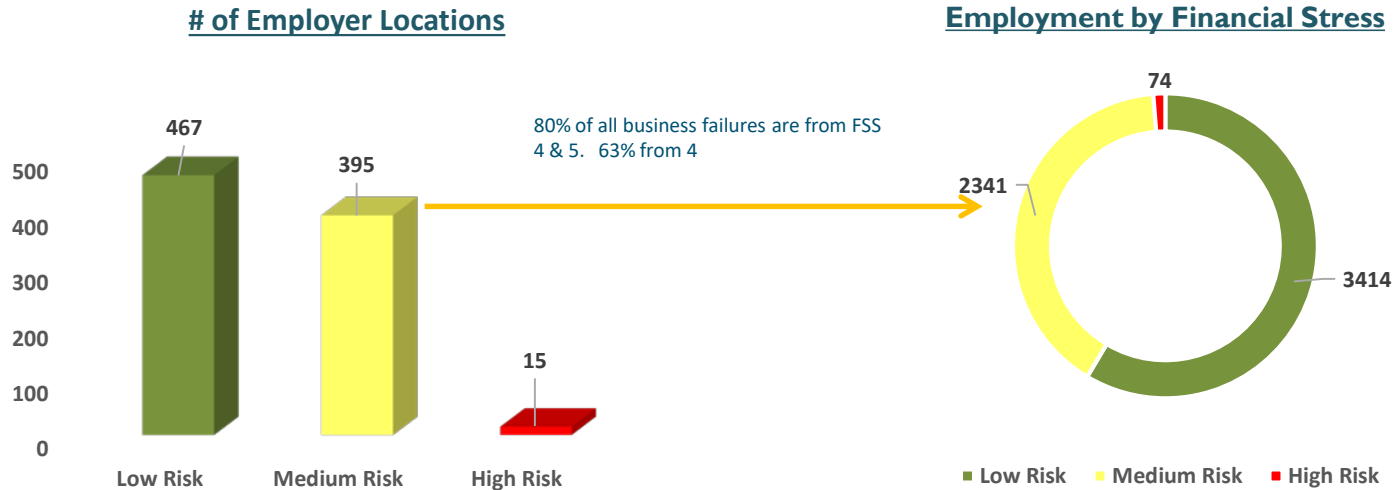| | Sites | Sum(Emp Here) |
|---|---|---|
| Services | 997 | 4,021 |
| Unclassified | 495 | 790 |
| Retail Trade | 296 | 2,274 |
| Financial/Insurance/Real Estate | 280 | 1,564 |
| Construction | 73 | 207 |
| Transportation/Communication/Utilities | 72 | 270 |
| Wholesale Trade | 62 | 224 |
| Manufacturing | 43 | 336 |
| Agriculture/Forestry/Fishing | 23 | 88 |
| Misc/Public Administration | 7 | 34 |
| Minig | 1 | 1 |
| TOTAL | 2,349 | 9,809 |

# D&B Data Solution Example 2: Atlanta

## Businesses & employees based on age of the business

| Age of Business | Sites | Sum(Emp Here) |
|---|---|---|
| Less than 5 years | 404 | 1,515 |
| 6 - 10 years | 888 | 1,904 |
| 11 - 25 years | 603 | 3,089 |
| 26 - 99 years | 174 | 1,071 |
| 100+ years | 280 | 2,230 |
| TOTAL | 2,349 | 9,809 |

Source:   http://www.dot.ga.gov/BS/Projects/SpecialProjects/I285SR400

# Analyze Financial Stress of Georgia Businesses: Atlanta project

## # of Employer Locations



467 — Low Risk
395 — Medium Risk
15 — High Risk

80% of all business failures are from FSS 4 & 5.  63% from 4

## Employment by Financial Stress



74
2341
3414

*Excludes gov't locations where FSS is not available

■ Low Risk   ■ Medium Risk   ■ High Risk

The **Financial Stress Score**™ predicts the likelihood that a business will seek legal relief from its creditors, cease business operations without paying all its creditors in full, voluntarily withdraw from business operation and leave unpaid obligations, go into receivership or reorganization, or make an arrangement for the benefit of creditors over the next 12 month period, based on the information in D&B's files.

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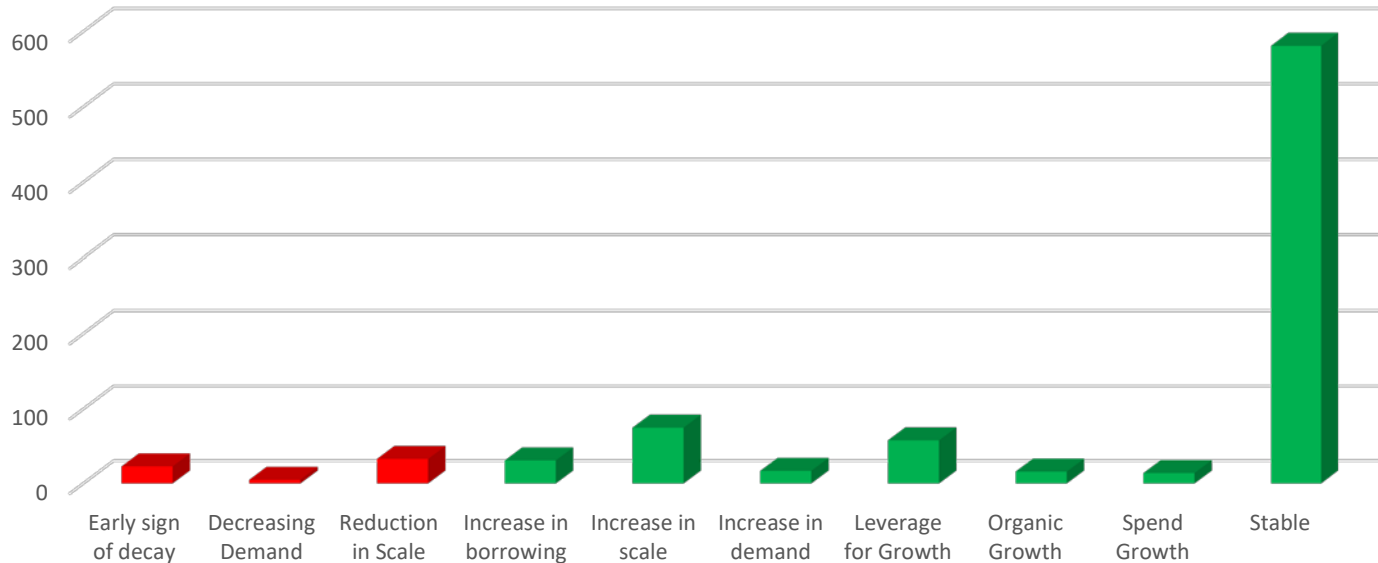
# Questions & Discussion

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