BEECHER FIRE PROTECTION DISTRICT

COMMUNITY RISK ASSESSMENT

STANDARDS OF COVER

2022

FLASHPOINT strategies, llc

BEECHER FIRE PROT. DIST.

BEECHER FIRE PROTECTION DISTRICT

BOARD OF TRUSTEES

President – Margie Cook
Secretary – Michael Waterman
Treasurer – Justin Bakker
Bruce Becker
David Kolosh

FIRE CHIEF

Joseph M. Falaschetti

DEPUTY FIRE CHIEF

Mike Heusing

DATA ANALYST/CONSULTANT

Randy Reeder
FLASHPOINT STRATEGIES LLC

MISSION STATEMENT

The Beecher Fire Protection District takes pride in providing a safe community by protecting its residents and visitors from the loss of property and lives. This is accomplished through fire prevention, public education, and emergency medical care. These services are provided by twenty-four-hour staffing of well-trained firefighters and emergency medical personnel, who take honor in providing professionalism in all their duties.

VISION STATEMENT

The Beecher Fire Protection District is a regional leader providing the highest level of fire, rescue, emergency medical, and prevention services to a diverse and growing community with:

- *Mission-essential staffing and training.*
- *State-of-the-art equipment and technology.*
- *A strong, diverse, sustainable funding base while maintaining stewardship of taxpayer resources.*
- *A safe environment for our citizens through effective and comprehensive prevention and public education programs.*
- *A safe and healthy workforce.*

CORE VALUES

We, the members of the Beecher Fire Protection District, are committed to the following values in our interactions with coworkers and customers:

- ***Professionalism****- In application, appearance, attitude, and standards.*
- ***Integrity****- Demonstrate honesty and fairness.*
- ***Compassion****- Demonstrate kindness and empathy.*
- ***Responsibility and Accountability-*** *Professionally, personally, and fiscally responsible for our actions.*
- ***Respect****- For each other, our department, the citizens and visitors of the Village of Beecher, and unincorporated areas.*
- ***Diversity****- Be open-minded and responsive to the uniqueness of our community without regard to age, gender, religion, or ethnic origin.*
- ***Commitment****- In all department endeavors.*
- ***Teamwork****- Encourage unity and a cooperative attitude.*
- ***Health and Safety-*** *Personal and professional health and safety are paramount in fulfilling the mission of the Beecher Fire Protection District.*

AT A GLANCE

BEECHER FIRE PROTECTION DISTRICT

Formed 1884 (Fire Department /1973 (Fire District)

Protecting

6,731 Residents **2,683** HOUSING UNITS

FEMALE: ***51 %*** *MEDIAN AGE:* ***43.7*** *HOMEOWNERS:* ***85 %*** *UNEMPLOYMENT:* ***3.2 %***

56.1 Square Miles

$ **171.7** million in Equalized Assessed Valuation

from

1 Fire Station

with

6 *Contract* Full-Time Firefighter/Paramedics

29 Part-Time Firefighter/Paramedics & EMT's.

12 Paid on Call

5 Per Shift, **4** MINIMUM per 24-hour shift day

3 *Admin/Support:* ***1*** *Fire Chief (**FT**),* ***1*** *Deputy Chief (PT),* ***1*** *Administrative Assistant (**FT**)*

50 *(Total Combined) Staffing shifts 24/7:* **2** ENGINES (1 Rescue/1 Tender, **1** QUINT/TRUCK, **2** AMBULANCES)

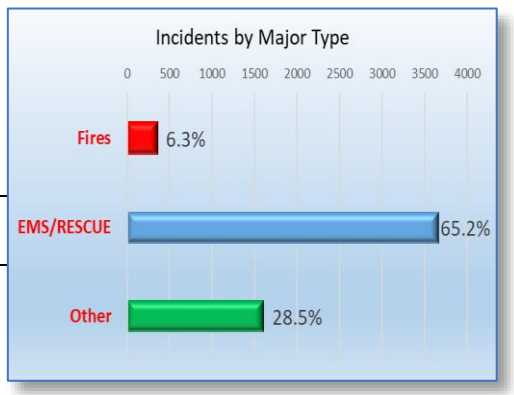
ALS – Advanced Life Support Equipped Ambulances and Engine 44

delivering

CLASS **4** ISO Rating

1,149 calls for service (2021) **3.1** *per day*

5,781 Incidents (2016-21) **19,958** Apparatus Responses



oversight

5 *person* ***elected*** *Board of Trustees*

Funding ***$2.68*** *mil* Budget (***81%*** *from Property Taxes-* ***75*** *% residential)* *Tax rate:* ***1.0389***

Table of Contents

EXECUTIVE SUMMARY

JOSEPH FALASCHETTI
FIRE CHIEF

I am humbled and honored to serve as the Fire Chief of the Beecher Fire Protection District. Having called this community home for most of my life, I have a strong connection to its history, culture, and residents. To be named Fire Chief of the department where it all started for me is a blessing; it has come full circle.

The Beecher Fire Protection District's leadership, starting with the Board of Trustees, has made it clear that we have an obligation to serve the ever-changing needs of the District and accomplish that by being proactively prepared. Currently, the District is a rural/farming community with a population of approximately 7,000, spread over 54 square miles, and have a tremendous amount of growth potential on the docket ranging from residential housing to the northeast, business park development to the north and the possibility of the South Suburban Airport, with associated infrastructure, to the west. Through preparation and training, we maintain the District's highest level of service. If you have a medical emergency, a fire, become trapped or injured because of a natural event such as a tornado or a flood, or pinned in a car from an accident, we are trained, prepared, and ready to respond.

The District analyzed data from 2016 to 2021 to evaluate current service capabilities and performance. Utilizing this Community Risk Assessment and Standards of Cover (CRA/SOC) study, we have identified areas for improvement in service delivery to enhance the Fire District's safety and quality of services. Data has been evaluated against adopted response time criteria to determine areas of compliance and non-compliance. Main data points analyzed include:

- Response time
- Call concentration
- Reliability of resources
- Resource distribution
- Infrastructure

Through the Community Risk Assessment and Standards of Cover, we can reset where needed and build on the District's strengths while learning from the District's weaknesses and setting plans and policies to meet those shortcomings. We shall embrace opportunities and meet challenges with planning and preparation.

The Conclusions and Recommendations presented in this report now become the groundwork of the District's Command Team to investigate, create timelines and benchmarks, and implement as soon as possible. While some of the findings are not new, they are now fact and analysis based with input from all. If not addressed, they can stop the Fire District's forward progress and force us to become a reactive organization instead of being proactively prepared for the needs of the residents, which is not the direction given to us by the District's Board of Trustees.

I am proud to present our Community Risk Assessment & Standards of Cover as just one part of the District's years of challenging work and efforts in our never-ending pursuit of continuous quality improvement, providing the best fire and rescue services possible.

Joseph Falaschetti
Fire Chief

INTRODUCTION

The District has conducted this Community Risk Assessment / Standards of Coverage (CRA-SOC) for the area it serves. The primary purpose of this document is two-fold:

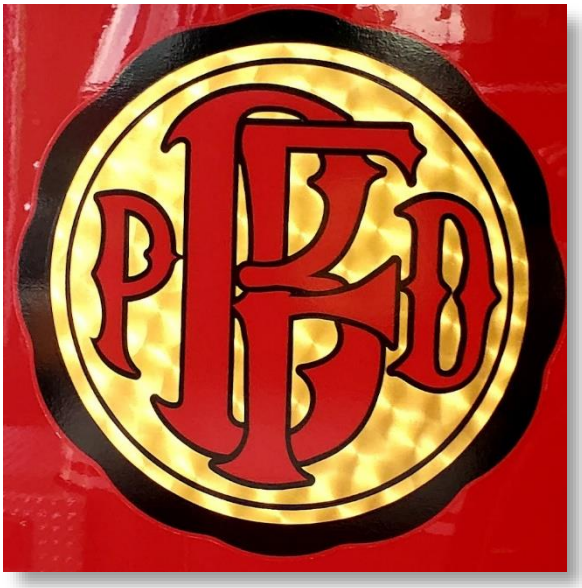
- First, identify and assess risks specific to our citizens, visitors, and businesses that it protects.
- Second, allocate an efficient, effective deployment distribution and concentration of resources to respond appropriately to our mission.

The basis of a Community Risk Assessment/Standards of Cover document is a tool to provide:

- assessment of community all-hazard risks: fire and non-fire emergencies
- definitions of baseline (actual) and benchmark (goal) – emergency response performance
- determination of apparatus and staffing patterns
- planning for potential future station locations/relocation
- evaluation of workload and ideal unit utilization
- measurement of service delivery
- support of strategic planning and policy development relative to resources and allocation of funds

This analysis is part of the District's continuous improvement process plan and divides into sections:

1. Overview of Area
2. Programs and Services
3. All Hazard Risk Assessment
4. Risk and Response
5. Service Deployment and Performance
6. Plan for Maintaining and Improving Performance
7. Key Findings and Recommendations



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Note: Content added by the author sourced to other original work products by the author or others. ***RR***
Data provided by the District is analyzed through several programs and sources to the best of our ability. Validity and volatility may be challenged potentially by multiple Records Management Systems (RMS) and data entry/mining interoperability.

DISTRICT OVERVIEW

1

SECTION 1 -- Area Characteristics

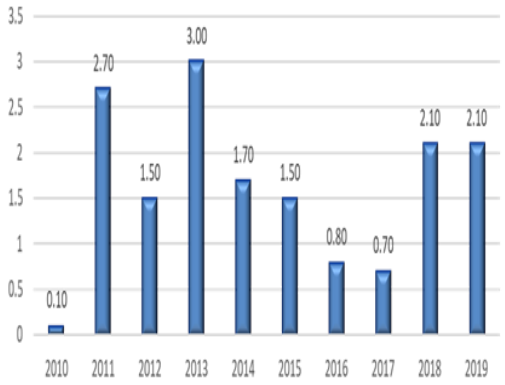
Legal Basis and Governance

The District was started as a Fire Department in **1899**, then incorporated in the State of Illinois in **1950** as a Special District under Illinois Compiled Statutes (ILCS) Special Districts – Fire Protection District Act (70 ILCS 705/). The District is an independent governing body and is not directly associated with other government entities such as towns or cities. As a Special District, the District has no direct affiliation with the incorporated Village within the coverage area.

The Fire Protection District (the District) Board of Trustees (BOT) consists of five (5) **elected** officials that direct the business activities of the taxing body and oversight of the Fire District's Administration. BOT appointments are six (6) year terms and are staggered to provide overlap and continuity. The BOT is supported by an appointed Board of Fire Commissioners (BOFC), whose responsibilities include the hiring and promotional activities that are then confirmed by the BOT. The BOT meets every month, and the BOFC meets quarterly. Both are compliant with the Illinois Open Meetings Act legislative mandates.

Funding Sources

The Board levies property taxes to meet budget demands as the primary source of funding revenue. Surcharges are applied based upon property valuation and Equalized Assessed Valuation (EAV) amounts. The District is limited by a state-mandated Property Tax Extension Law Limit (PTELL), thus restricting tax levy increases. Both the District's and Pension Fund's property tax revenues fall under the tax cap limit of 5% or CPI (whichever is less). Approximately **81% of funding is obtained through property taxes** levied on District residents. Other revenue sources include EMS fees, incident cost recovery, investment income, and fire prevention fees. The District is limited to revenue sources as a Special District and cannot impose additional taxes. Furthermore, the District does not directly receive revenue through any municipal entity.



The Fire Protection District is a special taxing district. The primary funding source is from property taxes collected for properties within the District. Additionally, the District does not receive sales tax funds of any type, and funds are collected for services. These include EMS service, grants, false alarm fines, cost recovery responding to non-residents, and fees for fire prevention inspections.

Budget

In 2021, the working budget was **$2.68 million.**

Levy Year	2016 Extension	2017 Extension	2018 Extension	2019 Extension	2020 Extension
Collection Year	2017	2018	2019	2020	2021
TOTAL ASSESSED VALUATION	**145,138,973**	**147,634,513**	**153,790,316**	**163,357,524**	**171,690,286**
Change over previous		2,495,540	6,155,803	9,567,208	8,332,762
Tax Rate	**1.0952**	**1.1127**	**1.1104**	**1.0732**	**1.0389**
Change over previous		0.0175	(0.0023)	(0.0372)	(0.0343)
TOTAL LEVY	**1,589,562**	**1,642,729**	**1,707,688**	**1,753,153**	**1,783,690**
Change over previous		53,167	64,958	45,465	30,537

Appropriations	2016	2017	2018	2019	2020
Corporate	758,867	982,643	1,061,543	983,600	967,400
Ambulance	473,260	557,000	626,650	657,300	639,400
Pension	-	-	-	12,254	99,194
Tort Liability	315,000	335,000	370,000	380,000	370,000
Social Security and Medicare	52,000	52,000	85,000	85,628	60,000
Capital/Debt Service	1,986,969	1,827,272	2,610,000	1,980,536	2,198,600
TOTAL	**3,586,096**	**3,753,915**	**4,753,193**	**4,099,318**	**4,334,594**
Change over previous		167,819	999,278	(653,875)	235,276

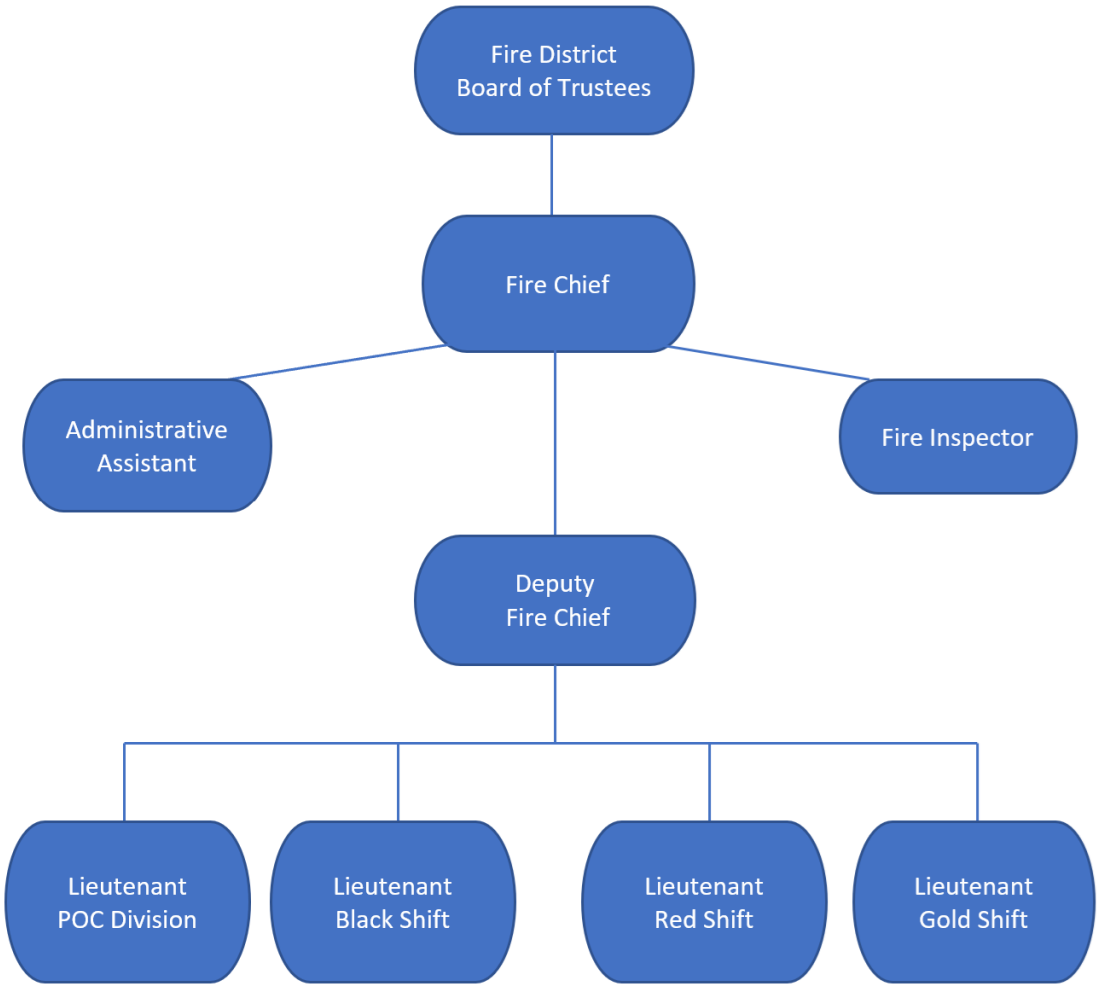
Audited	2016	2017	2018	2019	2020
Corporate	761,321	791,946	990,320	782,906	919,506
Ambulance	518,371	570,419	732,486	759,823	724,208
Pension	-	-	-	12,278	99,145
Tort Liability	111,874	109,767	123,178	338,185	133,315
Social Security and Medicare	45,894	52,997	51,851	48,250	45,460
Capital/Debt Svc	82,195	47,741	57,420	51,300	498,960
TOTAL	**1,519,655**	**1,572,870**	**1,955,255**	**1,992,742**	**2,420,594**
Change over previous		53,215	382,385	37,487	427,852

Year End Fund Balances			Change over Previous
	2016	2,052,390	
	2017	2,352,498	300,108
	2018	2,280,203	(72,295)
	2019	2,452,090	171,887
	2020	6,116,654	3,664,564
	2021 Est	1,929,116	(4,187,538)

Revenue		2020	%
Taxes		1,613,248	81%
User Fees		271,247	14%
Donations/Grants		-	0%
Interest		57,419	3%
Other		44,099	2%
	TOTAL	**1,986,013**	100%

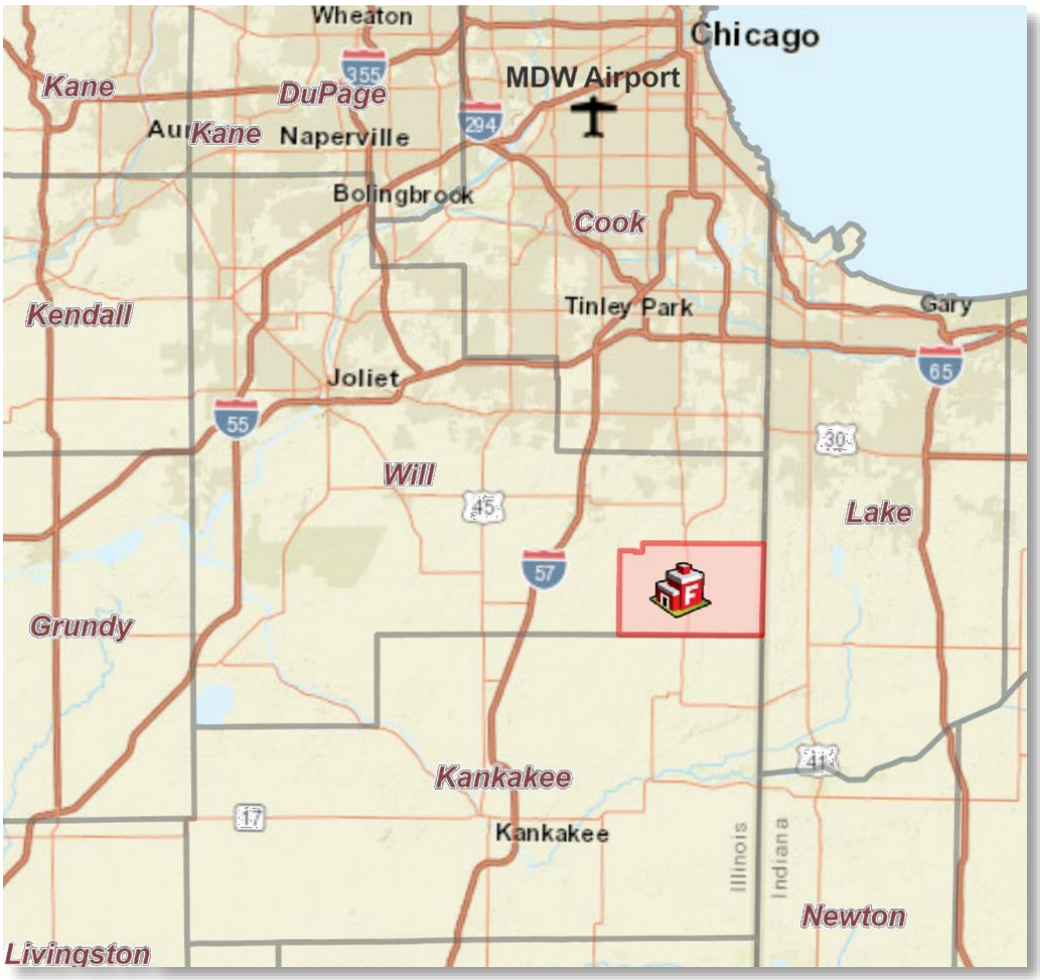
Organization Overview

The District Organizational Chart is depicted below. Officer Assignments and Responsibilities are included in the Appendix.



Service Area

Fire Station Locations
- Municipal Boundary
- Railroad
- Beecher Fire District
- Beecher Fire Station

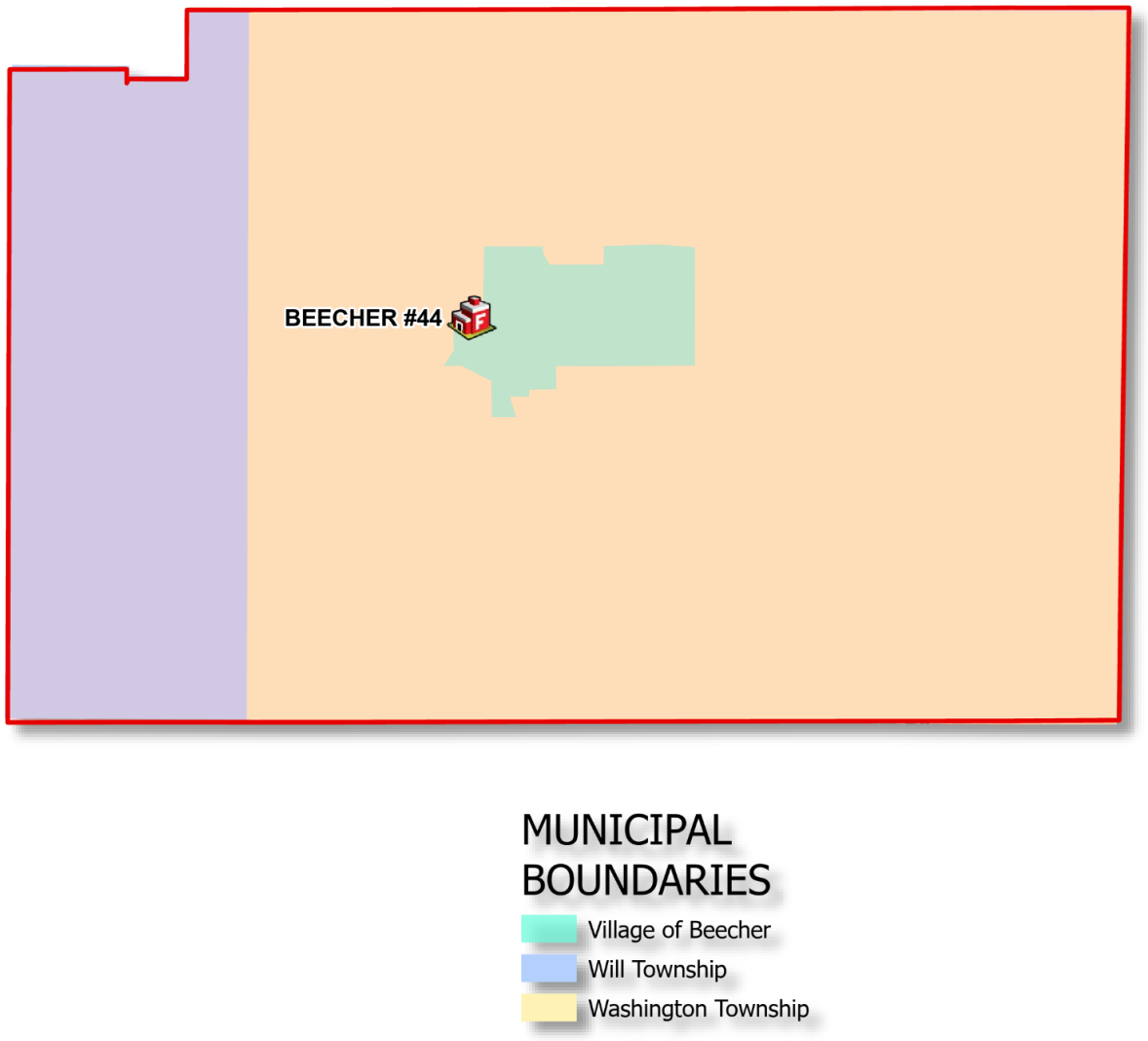


LEGEND
- Airports
- Beecher Fire Station
- Beecher Fire District
- Counties

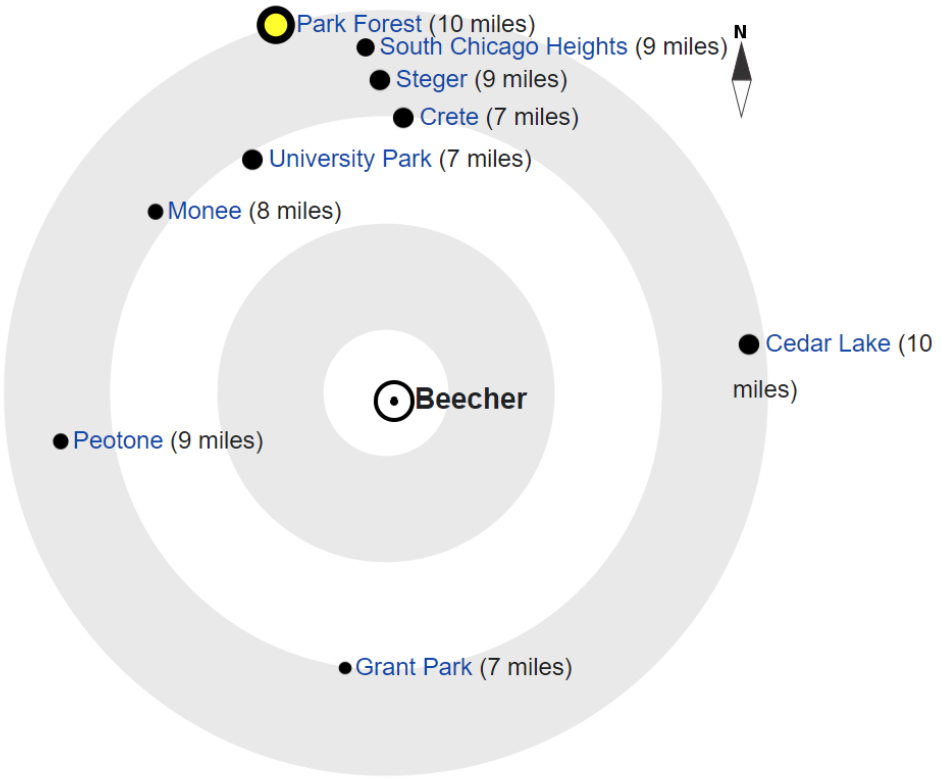
Municipalities

The District encompasses **56 square miles** and is in Will County, Illinois, approximately **34** miles southwest of Chicago. The service area covers the Village of Beecher (about 2.8 square miles) and the unincorporated areas within the Townships of Washington and Will.

Will County is in the northern part of Illinois and is one of the fastest-growing counties in the United States. The county seat of Will County is Joliet. Founded in 1836, Will County is a major hub for roads, rail, and natural gas pipelines. According to the Will County CED, in the last fifteen (15) years, Will County has become the **Largest Inland Port** in North America, with the development of two large modern intermodal centers and the addition of over 100M square feet of new industrial space plan for development just to the west of the District, in nearby Joliet. Over 3 million international and domestic containers flow through the port annually, carrying over $65 billion worth of products, including 70 million+ bushels of grain.



Nearest Cities



Surrounding Fire Stations

Fire Stations

Station 44

711 Penfield St
Beecher, IL 60401

Constructed: 1987 **Remodeled**: 2019
Apparatus Housed: Engine 44, Truck 44, Tender 44, Ambulance 44, Ambulance 45,
Staffing: Line - Four **(4)** minimum / Five **(5)** maximum *(*jump company if at 4-person minimum)*
Staff - one ***(1)*** *Fire Chief,* one ***(1)*** *Deputy Chief,* one ***(1)*** *Administrative Assistant*

Station 44 is currently the single station in the District and serves as the Headquarters location with Command, Support, and Administration based here.

Apparatus

The several types of apparatus that the District deploys on emergencies, listed by their dispatch designator type, are described.

Major classifications:

Engine – Primary response unit for most service requests. Each engine is equipped with a minimum 1,500 GPM pump, 750-gallon water tank (tanker – 2,500 tank), and complement sets of equipment following NFPA 1901, Standards for Automotive Fire Apparatus, and 2016 edition. All engines comply with FEMA Type 1 engine classification.

Truck – Apparatus equipped with a fixed aerial ladder or platform, an assortment of ground ladders, fixed and portable lighting, various power tools, and salvage equipment, following NFPA 1901, Chapter 6. The District ladder apparatus is equipped with a 1,500 GPM pump, a 500-gallon water tank, and a minimum number of feet of the large-diameter supply hose. Trucks meet the requirements for FEMA Type 1 ladder classification.

Ambulance – Provide medical treatment and transport. Ambulances meet the requirements for GSA Type 1 ambulance classification.

Brush Truck – Specialty unit, usually 4x4 pickup truck type w/ 100-300 gallon tank/pump, designed to go off-road for vegetation fires.

Incident Command – Capable of being an incident command post with associated communication equipment and workspace.

Tender/Tanker – specialized apparatus designed to transport higher quantities of water (2,500+ gallons)

Utility – SUV, pickup, or flatbed type unit that may, or may not, have firefighting capabilities.

UTV – Utility Task Vehicle, specialized 4-wheel drive “side by side” or SXS unit like an ATV.

Unit	Type	Year	Make	Model	Mileage	Pump Size	Tank Size	Staffed
AM 44	**Ambulance**	**2019**	**Ford/Osage**	**F550**	**30,526**	**--**	**--**	**YES Jump/TK44/TN44**
AM 45	Ambulance	2014	Ford/ Road Rescue	E450	44,859	--	--	No
AM 46	Reserve Ambulance	2010	Ford/ MedTec	E450	99,189	--	--	No
BT 44	Brush	2001	Ford	F350	10,344	250	250	No
CH 44	Chief	2019	Chevy	Tahoe	19,445	--	--	Yes
CH 45	Chief	2015	Ford	F150	51,641	--	--	Yes
EN 44	**Rescue Engine**	**2012**	**Pierce**	**Arrow**	**22,414**	**1500**	**1000**	**YES**
TK 44	Quint	2006	Pierce	Arrow	30,640	1500	500	**Jump/A44**
TN 44	Engine Tender	2009	Pierce	Enforcer	30,670	1250	2500	**Jump/A44**
UT 44	Pick-up	2011	Ford	F250	52,285	--	--	No
UT 45	Pick-up/command vehicle	2017	Ford	F150	45,528	--	--	No
UTV 44	UTV	2013	Polaris	Ranger	733	250	120	No


BEECHER
ENGINE
44


BEECHER
TENDER
44


BEECHER
TRUCK
44


BEECHER
44
BEECHER
44


BEECHER
45
45

Staffing

The personnel are comprised of:

6 Full-Time Firefighter/Paramedics ***Contract***

29 Part-Time Firefighter/Paramedics & EMT's.

12 Paid on Call

3 *Admin/Support:*

1 *Fire Chief (**FT**),* ***1*** *Deputy Chief (PT),* ***1*** *Administrative Assistant (**FT**)*

50 PERSONNEL (*Total Combined*)

Staffing shifts 24/7:

5 Per Shift, **4** MINIMUM per 24-hour shift day

2 ENGINES (1 rescue/1 tender, **1** QUINT/TRUCK, **2** AMBULANCES

ALS – Advanced Life Support Equipped Ambulances and Engine 44

District History

2021

June Awarded OSFM Small Tool Grant to purchase battery-operated hydraulic extrication tools.

April Received FEMA Public Assistance grant funding for purchasing UV devices for ambulances and reimbursement for COVID-19 PPE.

Feb Fire station remodel and addition complete.

2020

Nov Hired Government Accounting, LLC as Fire District accountant.

Aug Adopted By-Laws for the Health and Safety Committee.

Aug Adoption of By-Laws for newly formed Foreign Fire Insurance Board.

July Received FEMA AFG (S) grant for COVID 19 Pandemic Personal Protective Equipment for $6,474.76.

May Michael Heusing appointed Deputy Fire Chief.

April Beecher Veterinary Clinic donated pet oxygen masks for fire apparatus and ambulances.

April Received FEMA AFG grant to retrofit station with an NFPA 13 fire sprinkler system for $88,666.67.

March Moved into a construction trailer in the lot east of Post Office at 712 Penfield Street during construction of fire station project.

Feb David Kolosh appointed Fire District Trustee to fulfill the remainder of Trustee Kennedy's term.

Jan Fire District Trustee Dennis Kennedy resigned.

Jan Board of Trustees authorized the issuance of General Obligation Bonds (Alternative Revenue Source) in an aggregate principal amount not to exceed 4 million dollars.

2019

Oct Received FEMA AFG grant for 24 self-contained breathing apparatus for $168,000.00.

Aug Purchased 13 steel shipping containers to begin construction of the training facility.

July Fire District purchased 2- Zoll X Series cardiac monitors.

June Excavation began for land preparation for the training facility.

June Fire District adoption of the 2015 editions of International Fire Code and NFPA Life Safety 101.

April Hired R.C. Wegman Construction to provide construction management services for the Fire Station Remodel and Addition.

March IGA with Village of Beecher to allow the BFPD Fire Prevention Bureau to conduct fire inspections and plan reviews within the Village of Beecher on all commercial occupancies and common areas on multifamily dwellings.

March Board of Trustees approves the formation of the Fire Prevention Bureau.

March Hired Metro Paramedic Services, Inc. for contractual personnel. The previous vendor was Kurtz/AMR.

Feb Purchased 2019 SSV Chevy Tahoe for Fire Chief.

2018

Oct Hired FGM Architects to conduct a needs assessment of the fire station to evaluate future needs of the fire station.

Sept IGA with Village of Beecher for long-term land use to benefit a training facility.

Aug Purchased 2019 Ford F550 4x4 Osage Super Warrior Ambulance.

Sept Received FEMA AFG grant to install a source capture vehicle exhaust removal system in the fire station for $48,862.00.

Sept Engine 44 became ALS Engine.

Sept Reverend Ronald Rock was sworn in as Chaplain of the BFPD.

Feb Deputy Chief Joe Falaschetti sworn in by Board of Trustees as Fire Chief.

Jan Joe Falaschetti was sworn in by the Board of Trustees / Fire Commissioners as Deputy Fire Chief.

2017

Dec Vehicle numbers changed from 400 series to the Will County model of station numbers. Beecher was issued stations 44, 45, and 46.

Dec Consolidation of dispatch centers completed, and Eastcom was disbanded and now dispatched by Laraway Communication Center in Joliet, IL.

Nov Beecher Firefighter's Pension Fund established.

Nov Adoption of Board of Fire Commissioners Rules and Regulations.

Nov Purchased a Gear extractor for cleaning firefighting turnout gear.

Nov Purchased 4 Getac Tablets and associated hardware/software for use as Mobile Data Terminals in fire apparatus to increase efficiency and modernize the way we communicate with the dispatch center.

Oct 25 Worked with the Home Fire Sprinkler Coalition, Northern Illinois Fire Sprinkler Advisory Board, and the NFPA to conduct a live burn demonstration at a residential structure donated by the State of Illinois (footprint of the South Suburban Airport).
https://www.youtube.com/watch?v=EehF0UHYaYk

Oct Fire Chief David Lagesse retired from BFPD.

May Michael Waterman and Justin Bakker were sworn in as new Fire District Trustees.

2016

Aug LED sign purchased for the fire station for $20,673.00.

May Fire District approves IGA in support of Beecher Emergency Management Agency.

2014

Feb Hired Kurtz Paramedic Services to provide contractual personnel. A total of 6 were hired, 2 per shift.

2013

Aug Purchased a 2014 Ford E450 (gasoline) Road Rescue Ambulance for $177,866.63.

Aug Constructed a September 11th memorial on the east side of the fire station.

Feb	Purchased a Polaris Ranger 6x6 Fire/Rescue Skid unit from RKO Enterprises.
2012	
Aug	Purchased a Stryker Power Cot and loading system for the frontline ambulance.
May	Joined the Monee & Peotone Fire Academy training effort.
Jan	Purchased King Vision televised intubation equipment.
2011	
Dec	Purchase Chevy Tahoe civilian model for deputy chief.
Sept	Chief Lagesse/Lt. Joaquin traveled to New York City to pick up the World Trade Center beams.
Aug	Purchased a Pierce PUC Rescue Engine for $564,650.
March	Iconic all-glass bay doors were replaced with more energy-efficient doors.
2009	
Oct	Purchased EZ Interosseous needle drills for ambulances.
Aug	Purchased Ford E450 Medtec Ambulance from Foster Coach $152,789.
April	Two office cubicles were added on the north end of the training room for the deputy chief office and shift officer bunk.
Jan	Crews responded to a freight train derailment in Grant Park.
2008	
Nov	Purchased a Pierce pumper/tender to replace the 1989 elliptical style tender for $640,000.
2007	
Nov	David Lagesse was hired as the first full-time Fire Chief.
2005	
Nov	Passed a referendum to increase Will County Tax extension limitation from .30% to .40%.
Nov	Bunkroom partition added in the north end of the fire station. (Partitioned off the meeting room)
June	Increased staffing to three FF/PMs or EMTs for the 6 pm-6 am shift.
April	Purchased 2006 Pierce Enforcer 75ft quint for $536,863.00.
March	Added staffing of 2 FF/PMs or EMTs for night shift (Folding beds placed in dayroom)
2003	
July	Purchase of 2004 International Road Rescue Ambulance for Ambulance 411 for $149,905.00.

June Daytime staffing increased from two FF/PM/EMTs to three. (Two 6 am-6 pm shifts and one 8 am-4 pm shift)

Feb First-ever in-house academy hosted by the Beecher Fire Protection District.

July Brian Claus was promoted to Deputy Chief.

2001

Dec The Beecher Volunteer Fire Department, Inc. sold the 6 acres of land known as Firemen's Park to the Village of Beecher. The Village agreed to make an annual contribution to the Beecher Volunteer Fire Department Inc for $10,000 per year for five years commencing in 2002. 2001 was the last year that the Fire Department ran the 4th of July Celebration.

Oct 7th Beecher Volunteer Fire Department, Inc. (Association) organized a Pancake Breakfast for New York families affected by the Terrorist Attacks of 9-11-01.

March Officially joined MABAS IL.

March Dry hydrant installed at the Beecher Sportsman's Club on Yates Ave.

March Purchased Scott 4.5 Self Contained Breathing Apparatus, replacing ISI 2216.

Feb Entered into an agreement with the Village of Beecher to issue funds from Foreign Fire Tax to be transferred to the village to replace fire hydrants.

2000

Sept Purchased a 2000 Ford Crown Victoria as the fire chief car for $23 640.89.

July Purchased Ford F350 for Brush truck for $26,711.50.

1999

Mar 15 Crews responded to Bourbonnais Amtrak train crash.

1998

Sept Purchase of first thermal imaging camera purchased by Ladies Auxiliary.

Aug Purchased 1999 Chevy Suburban for a command vehicle for $30,800.00.

1997

Dec Joined Eastcom for dispatch services.

March Purchased Ford E350 Medtec ambulance for $98,975.00 (Amb 421.)

1995

Sept Purchased 1996 Pierce Saber engine (Eng 404.)

August Purchased cardiac monitors for ambulances.

July 25 Historic Doll House fire Vlasta Dolls at 546 Gould Street in Downtown Beecher burns from a lightning strike.

Jan Hired the first group of part-time firefighters, referred to as "Hirebacks," to staff days from 8 am–4 pm.

1994

Nov Successfully passed a referendum to start funding EMS services.

Jan FMC Engine 406 (1984) sent Pierce to enclose cab and refurbishment.

1993

Oct Entered into group fuel purchasing cooperative with the Village of Beecher, Washington Township, and Beecher School District 200-U.

1992

Ambulance service initially provided by Hack Funeral Home was transferred to the Fire Protection District. Thank you to the hard work and dedication of Chief Larry Cox, Firefighter/Paramedic John Dean, Paramedic Nancy Werkman, and Firefighter/Paramedic Dwayne Werkman.

Fire Chief Larry Cox retires, and David Lagesse is appointed Fire Chief.

1987

Aug The Fire Protection District now appoints the Fire Chief. The Beecher Volunteer Fire Department elected the Chief in previous years.

Feb No longer able to ride on the tailboard of fire apparatus

1986

July Fire Protection District and Volunteers agreed to build a fire station at 711 Penfield Street. Fire District was to pay $240,000, and Volunteers to pay an estimated 100,000.

1983

August Purchased 1984 FMC pumper. The cost was shared between Fire Protection District and Beecher Volunteer Fire Department, Inc.

Oct Purchase of Lukas hydraulic rescue equipment

April Beecher Fire Protection District transitions from a three-member appointed Board of Trustees to a five-member appointed Board of Trustees.

1982

Feb 16 The Beecher Volunteer Fire Department responded to Missouri Pacific Railroad train derailment south of Indiana Ave.

1981

May Paramedic John Dean (Medic 1) organized the first in-house EMT training program for BVFD. The training was 1st Monday of every month.

1978

Oct A new band shell was constructed and dedicated in Firemen's Park. This project was funded by a $20,000 donation from Antoinette Werner and replaced the existing one, which had begun to deteriorate.

1974

Feb 5 Fire destroyed Knuth's Grocery Store located at 500 Indiana Ave. Damage was estimated to be $250,000.

Oct Fire call answering service in Peotone went live. The first firefighter to arrive at the fire station to sound the siren alerting the rest of the volunteers.

1973

Oct Total budget taxation of newly formed Fire Protection District was $10,725.00.

Oct The Beecher Fire Protection District forms an agreement with the Beecher Volunteer Fire Department, Inc. to provide manpower to handle fire suppression services.

July Ladies Auxiliary was formed.

May The Beecher Fire Protection District was formed to levy taxes. Three Trustees were appointed to represent the taxpayers. Those individuals were Walter Bockelman, Ray Reising, and Ray Meyer.

1972

March "West side" fire station built at 640 Gould Street.

Payment for volunteers was $2 per call and $1 for practices.

1971

Nov Purchased four (4) Scott Air Packs.

1969

Nov Beecher Volunteer Fire Department, Inc. obtained a License from the FCC to utilize radios for communications, the original call sign was **KCV0704**

1959

July The Beecher Volunteer Fire Department, Inc. rented half of the Village Hall for fire station one at 724 Penfield Street.

1958

Dec Purchased a 1959 American LaFrance pumper from John Beam Company.

Aug Purchased remaining land on the north side of Firemen's Park from Carl Eberhart.

July There were an estimated 20,000 visitors to the 4th of July Celebration.

1938

March Reising Chevy Garage at 700 S. Dixie Hwy caught fire. The fire destroyed the building along with 20 automobiles.

July 4th Celebration was the largest to date. Merry-Go-Round sold 2,230 rides alone. This was also the first year of the car raffle, 1938 Plymouth Sedan, which Albert Knuth won.

1937

July The Beecher Volunteer Fire Department Inc hosted the 4th of July Celebration at the new location, Firemen's Park on Penfield Street. Attendance was estimated at 1,600 visitors.

1913

July The Beecher Volunteer Fire Department raised money to fund the fire department by sponsoring the first 4th of July Celebration. The fire department hosted the celebration until 2001, when the 4th of July Commission was formed to continue the tradition.

1911

Apr 21 The first meeting to organize the volunteer fire department was held, officials were elected, and three companies were formed. C. B. Eskilson was Chief, and the three captains were William Bielfedt, William Boderias and Henry Wehmhoefer.

1909

Sept 13 Cloidt Elevator burned. There was a strong southwest wind, and flying embers were carried throughout the village. Wilke & Ruge suffered a loss of about $450 in lumber and machinery. The railroad company lost a box car, grain doors, and railroad ties. Flying embers spread to the roofs of The Depot, Werner's elevator, and surrounding homes. Small fires were started all over town and were eventually extinguished. The elevator contained several thousand bushels of corn, oats, and seed valued at $6,000.00. In addition, the elevator loss was estimated at $10,000.00.

1908

Nov Large machine barn and hen house on the former T.L. Miller (founding father of Beecher) farm caught fire at approx. 9:30 at night. The alarm sounded, and everyone in the village responded, many coming from the Clark- Struve Hall. The village pumper and hose cart were not working, so a bucket brigade was organized. There was a stiff wind, and in less than 2 hours, the large barn filled with machinery, buggies, wagons, and automobiles had burned to the ground. The hen house and two hundred chickens were also destroyed. The firefighters could barely prevent the house and adjoining buildings from catching fire.

1887

Sept William Warneka awarded a bid to dig three public wells at key points in the village for fire protection and water supply.

June Purchased a steel fire alarm bell "to be made of No. 8 amalgam steel and 33" in diameter. It was purchased from Gould and Austin Company

Feb Awarded a bid of $117 from Simon Bielfeldt to construct a 24’ x 14’ building on the east side of Gould Street between Penfield and Indiana for a fire engine house. This was the first fire station in Beecher.

Jan 21st First Firemen’s Dance held in the Village Hall to raise money for equipment.

Jan The village purchased a fire engine hand pump and hose cart with five hundred feet of hose from James W. Newkirk and Company of Chicago for $585.00.

Jan Henry Hack was chosen to be the fire marshal, with twenty-four volunteers serving under him.

1884

July It was decided that one set of ladders and hooks should be kept at five locations within the village for easy access in case of fire. Gould and Hodges, Gould and Penfield, Hodges and Woodward, Woodward and Indiana, Indiana State Road (Dixie Hwy)

June The first fire department committee was formed. The following supplies were ordered: 5 x 14- ft single ladders, 4 x 30 ft extension ladders, 1 x 18 ft single ladder, twelve fire hooks, 5 x dozen paper buckets.

Fire Chiefs

The Fire Chiefs that have served the District include:

- Joseph Falaschetti (2017- current)
- David Lagesse (1992 - 2017)
- Larry Cox (1981- 1992)
- John Storbeck (1975 - 1981)
- Larry Grim (1969- 1975)
- Norman Schmitt (1968 - 1969)
- Emil Herz (1964 -1968)
- George Younker (1948 - 1964)
- William C. Selk (1933 - 1948)
- C.B Eskilson (1911 -1933)
- Henry Hack (1887)

Board of Trustees

The Fire District oversight is by a **5-person elected** Board of Trustees.

Current Board members:

- **Bruce Becker** (2003 - present)
- **Margie Cook** (2005 - present)
- **Justin Bakker** (2017 - present)
- **Michael Waterman** (2017 - present)
- **David Kolosh** (2020 - present)

Past Board members:

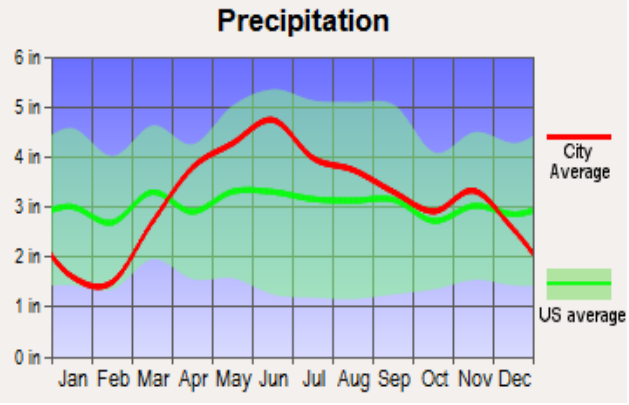
- George Wilkening
- Willard Boicken
- Richard Seitz
- Ray Meyer
- Larry Grim
- Wayne Nelson
- Al Wojciechowski
- Jim Hansel
- Kerry Pikal
- Robert Husum
- Chuck Schultz
- Dale Murray (2003 - 2014)
- Mary Carol Berger (2003 - 2015)
- Dennis Kennedy Sr. (2015 - 2019)

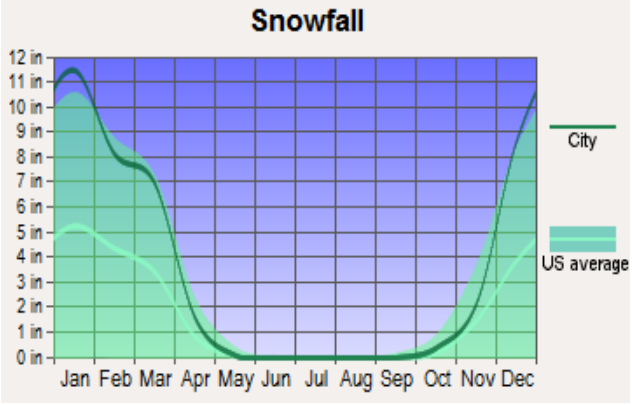
Climate

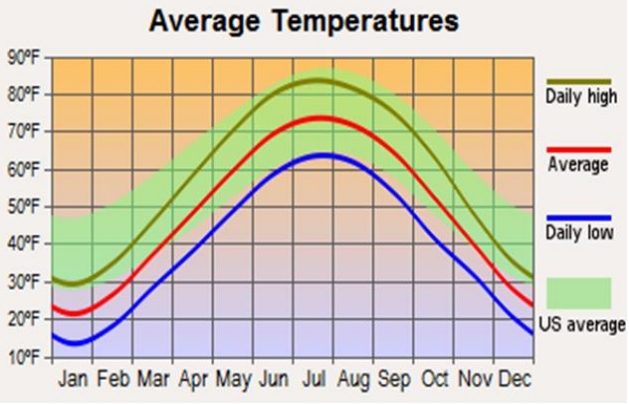
Many people confuse weather and climate, but they are different. Weather is the atmosphere's conditions over a brief time, and climate is how the atmosphere is measured over a prolonged period.

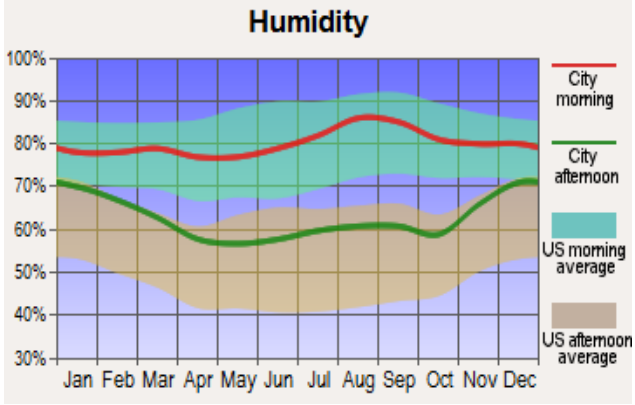
Weather is how the atmosphere behaves and its effects upon life and human activities. Weather can change from minute to minute. Most people think of weather in temperature, humidity, precipitation, cloudiness, brightness, visibility, wind, and atmospheric pressure.

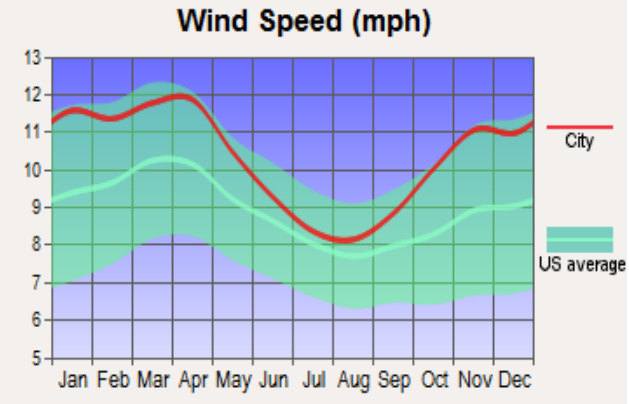
Climate is the long-term weather pattern description and can mean the average weather for a particular region and period taken over 30 years. Climate is the average of weather over time. These charts are provided to give an overview of the climate and weather conditions in the District.

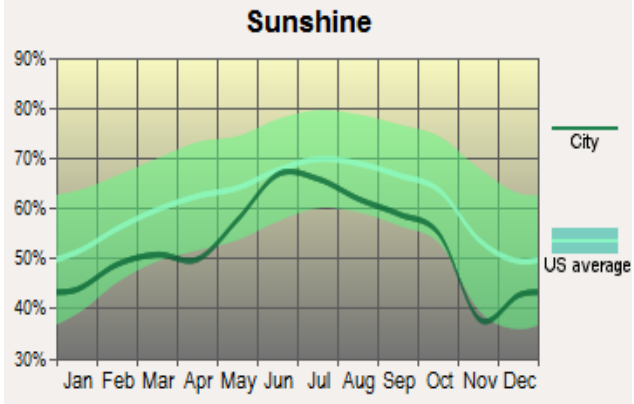


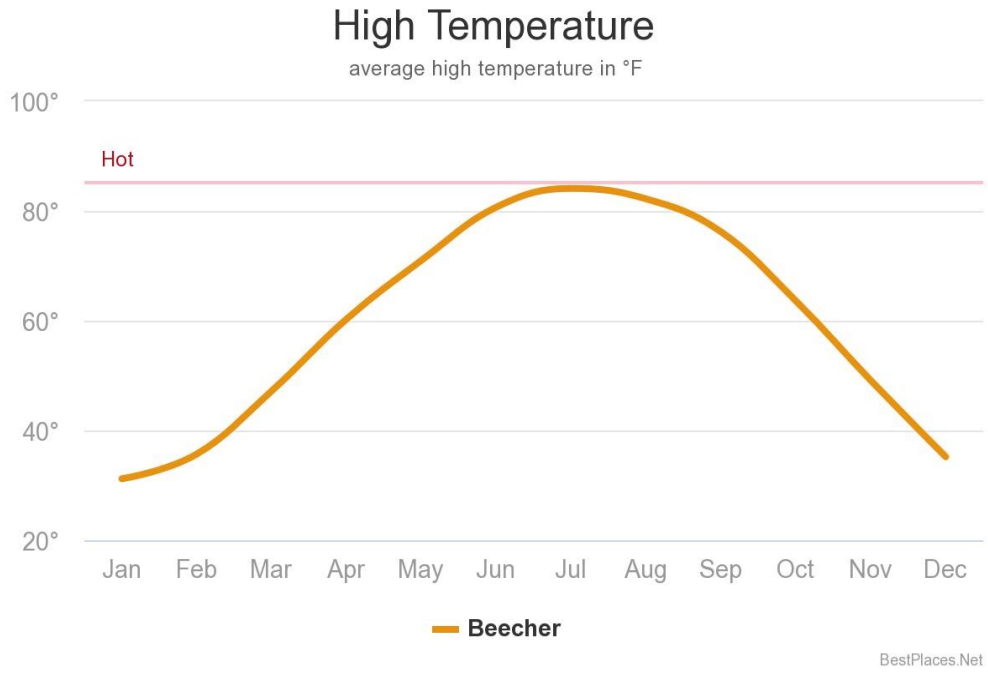




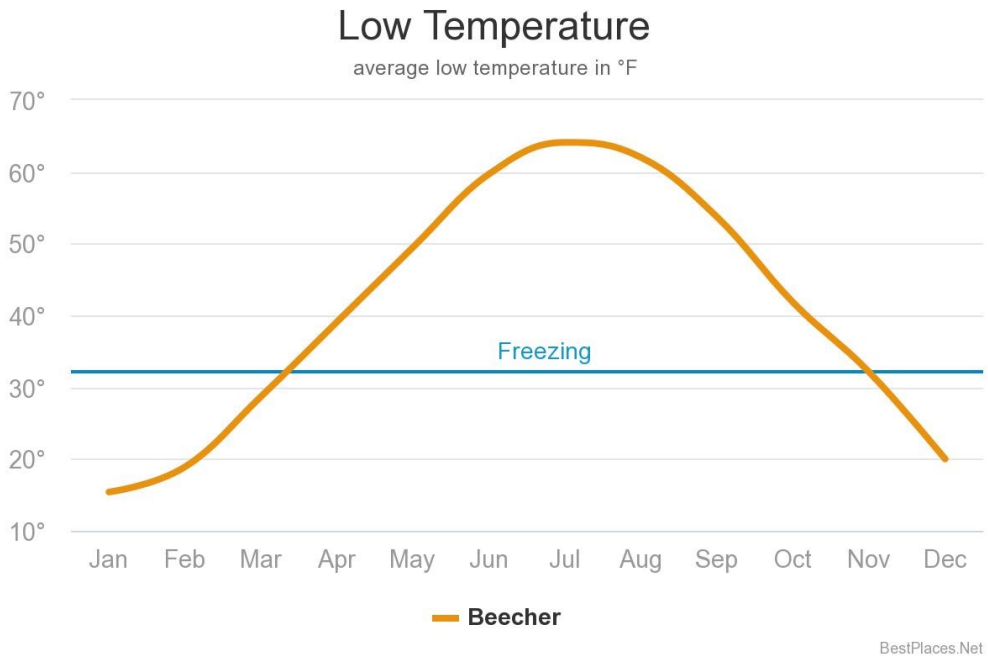




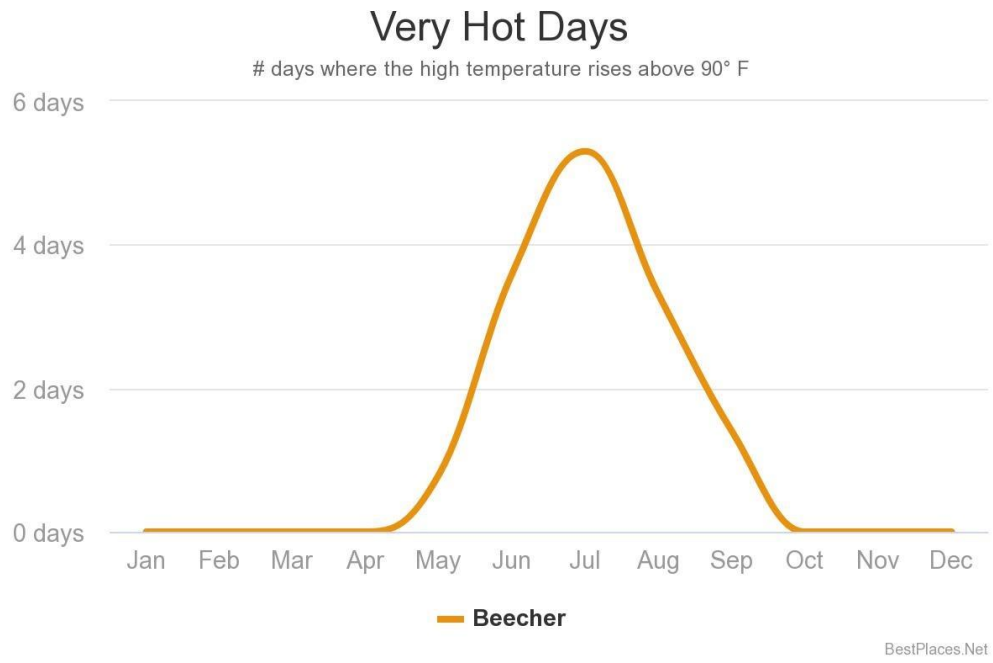




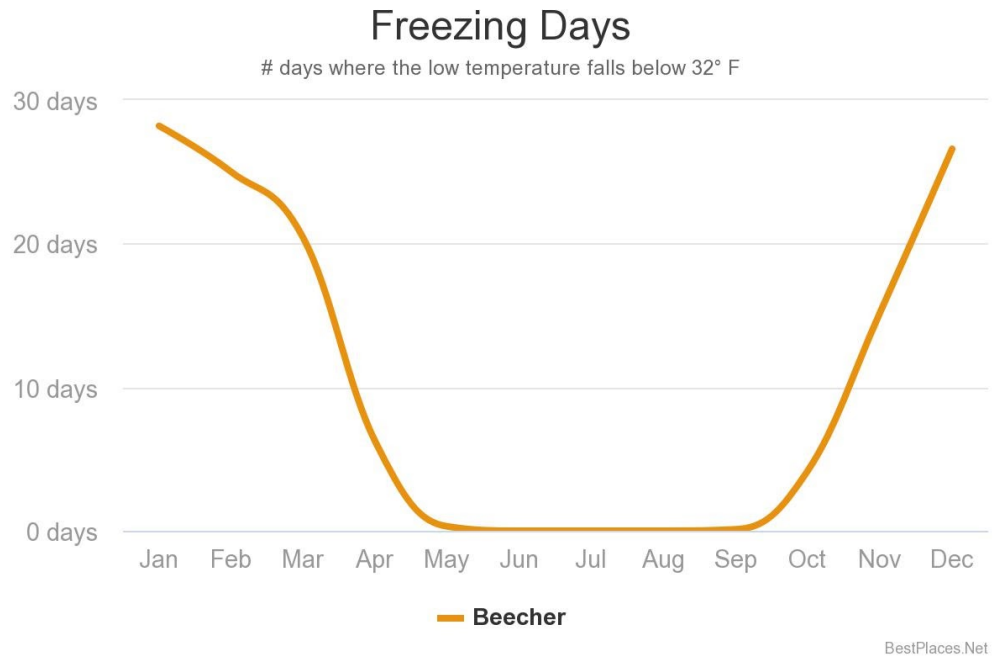
July is the hottest month for Beecher, with an average high temperature of 84.1°, which ranks it as cooler than most places in Illinois. In Beecher, there are five comfortable months with high temperatures in the range of 70-85°. The most pleasant months of the year for Beecher are September, June, and August.



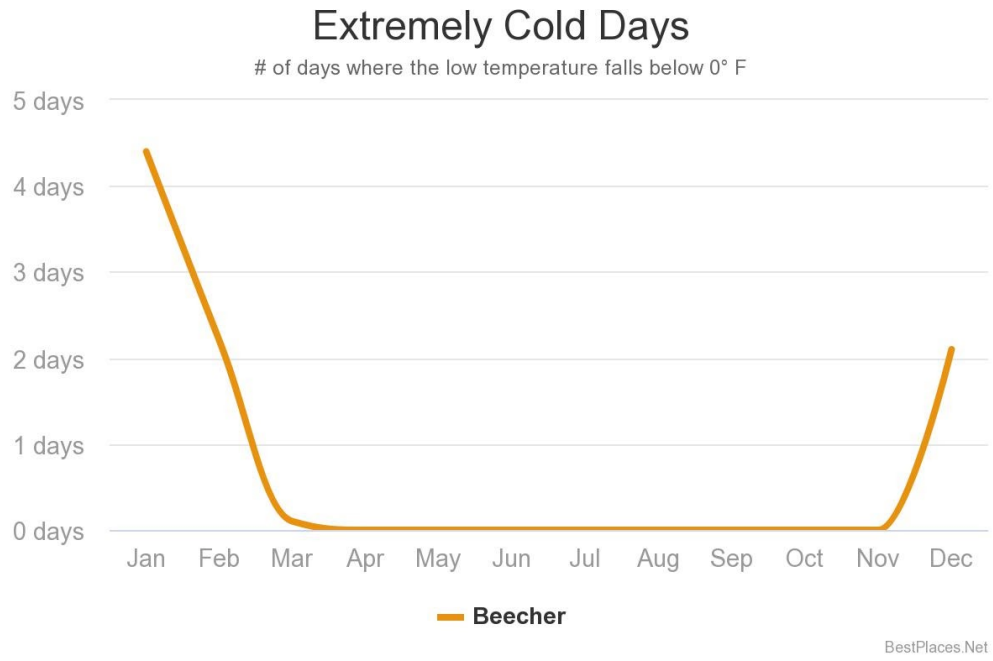
January has the coldest nighttime temperatures for Beecher, with an average of 15.4°, colder than most Illinois places.



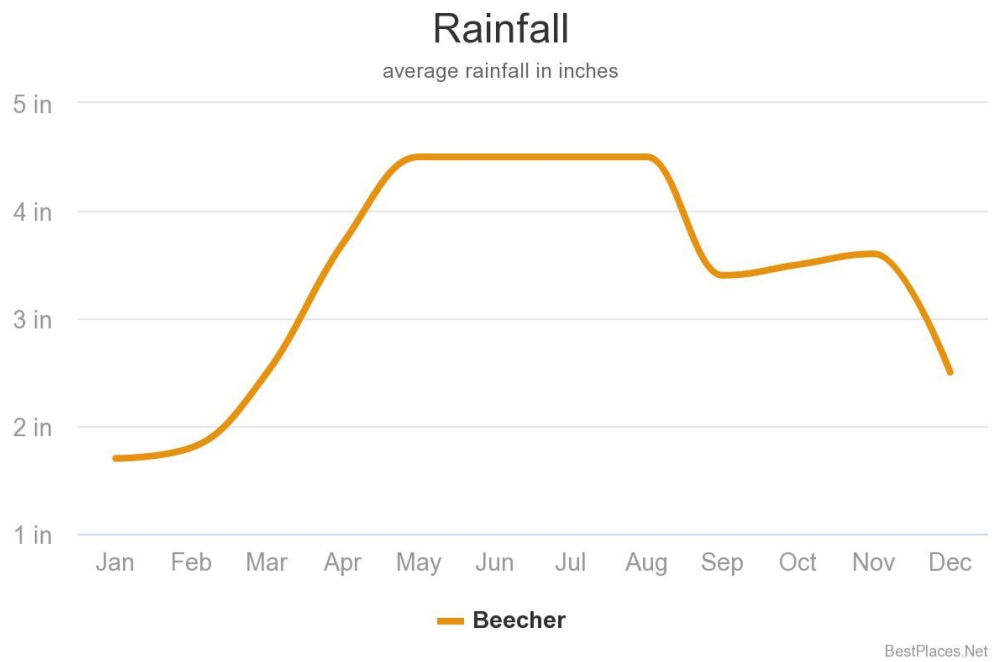
In Beecher, there are 14.4 days annually when the high temperature is over 90°, which is cooler than most places in Illinois.



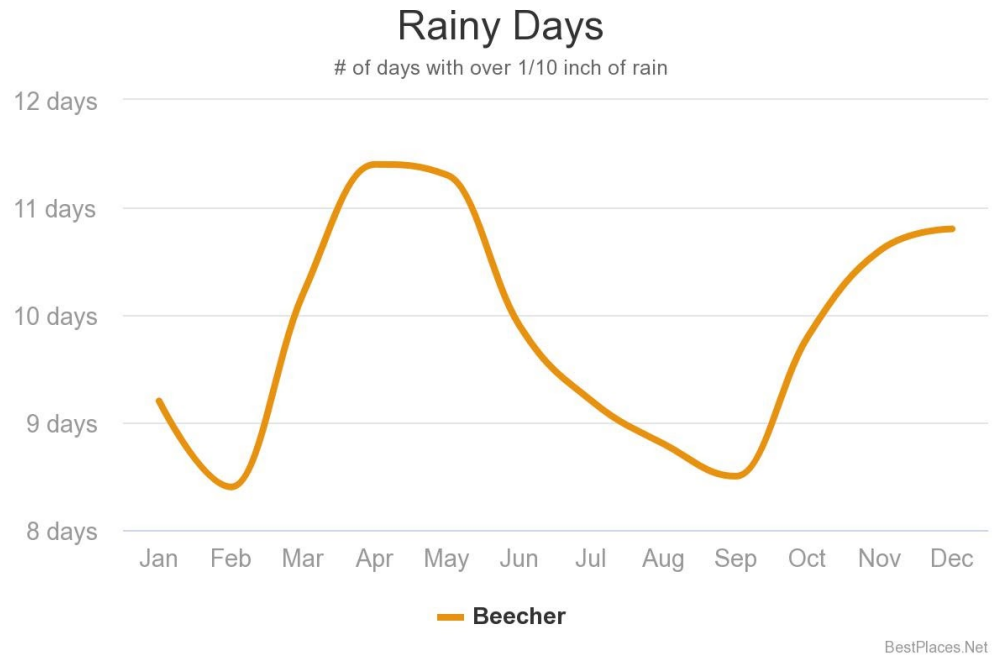
There are 126.2 days annually in Beecher when the nighttime low temperature falls below freezing, colder than most Illinois places.



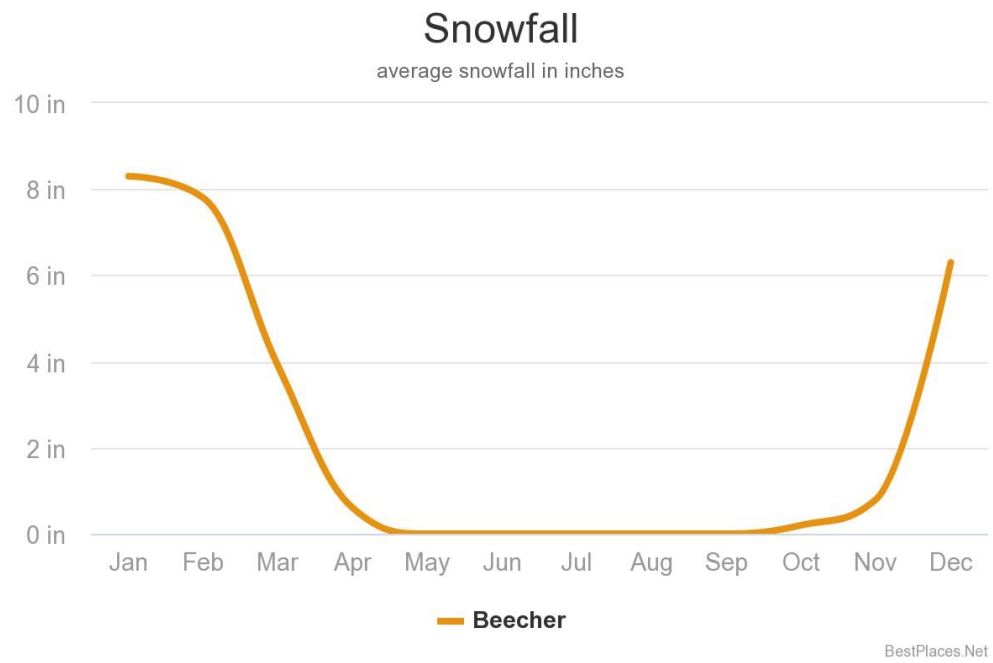
There are 8.8 days annually in Beecher when the nighttime low temperature falls below zero°, colder than most Illinois places.



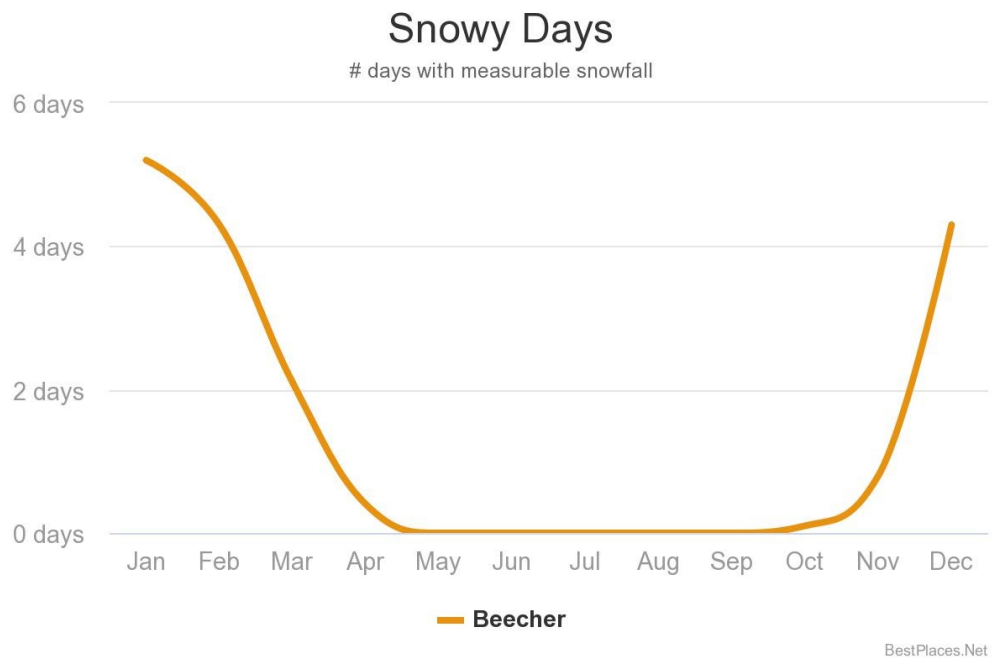
August is the wettest month in Beecher with 4.5 inches of rain, and the driest month is January with 1.7 inches. The wettest season is Autumn, with 33% of yearly precipitation and 15% in Spring, the driest season. The annual rainfall of 40.7 inches in Beecher means that it is wetter than most places in Illinois.

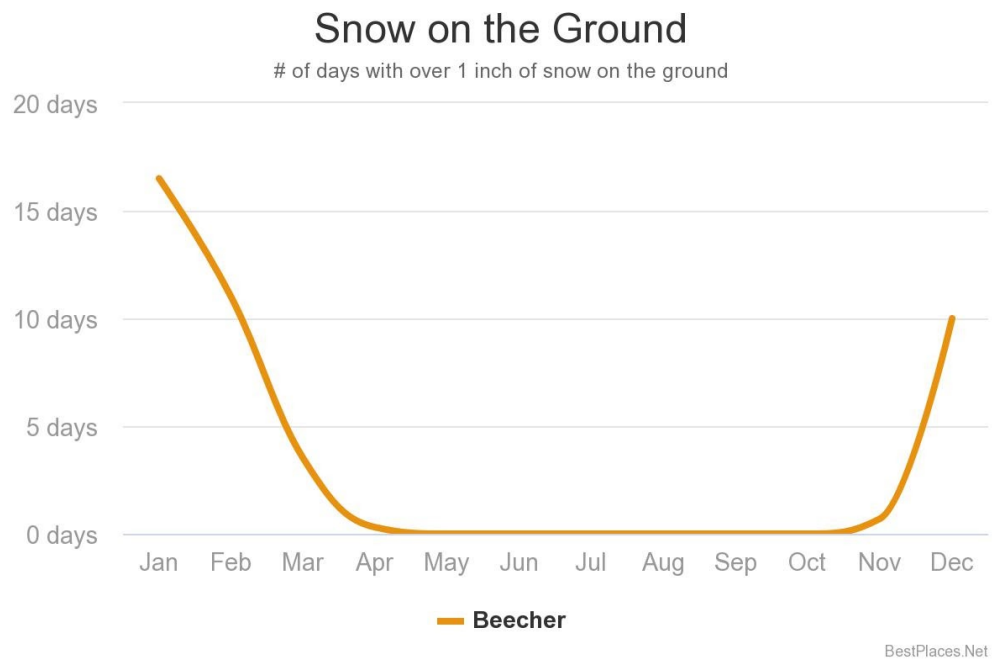


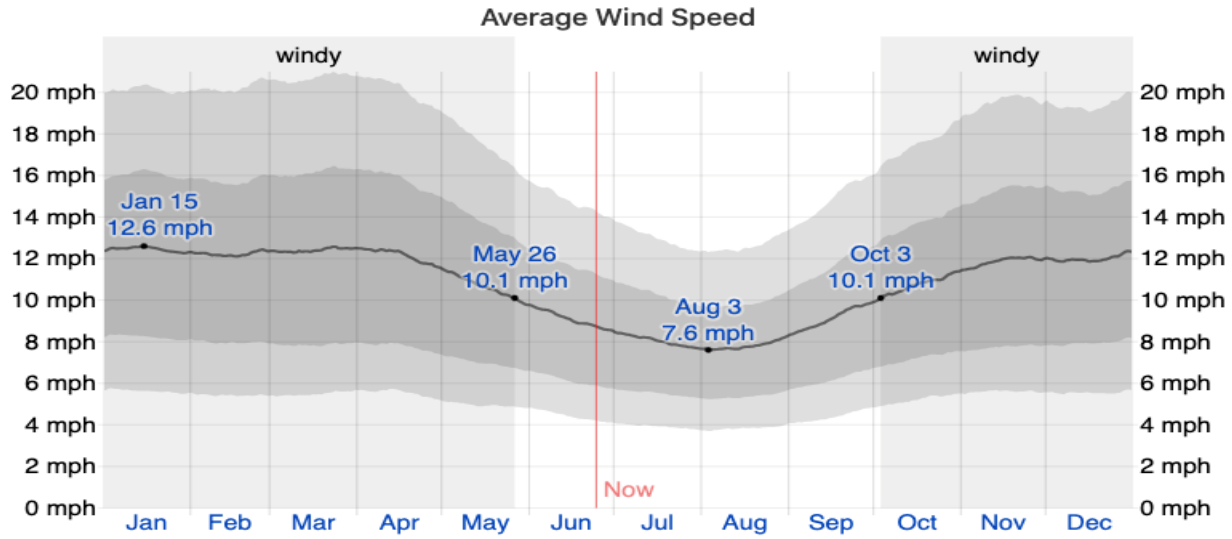
There are 118.2 rainy days annually in Beecher, which is rainier than most places in Illinois. In Beecher, April is the rainiest month with 11.4 days of rain, and February is the driest month with only 8.4 rainy days. The rainiest season is Summer when it rains 28% of the time, and the driest is Autumn, with only a 24% chance of a rainy day.



An annual snowfall of 28.0 inches in Beecher means snowier than most places in Illinois. January is the snowiest month in Beecher, with 8.3 inches of snow, and six months of the year have significant snowfall.


Snowy Days
days with measurable snowfall
6 days
4 days
2 days
0 days
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Beecher
BestPlaces.Net


Snow on the Ground
# of days with over 1 inch of snow on the ground
20 days
15 days
10 days
5 days
0 days
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Beecher
BestPlaces.Net

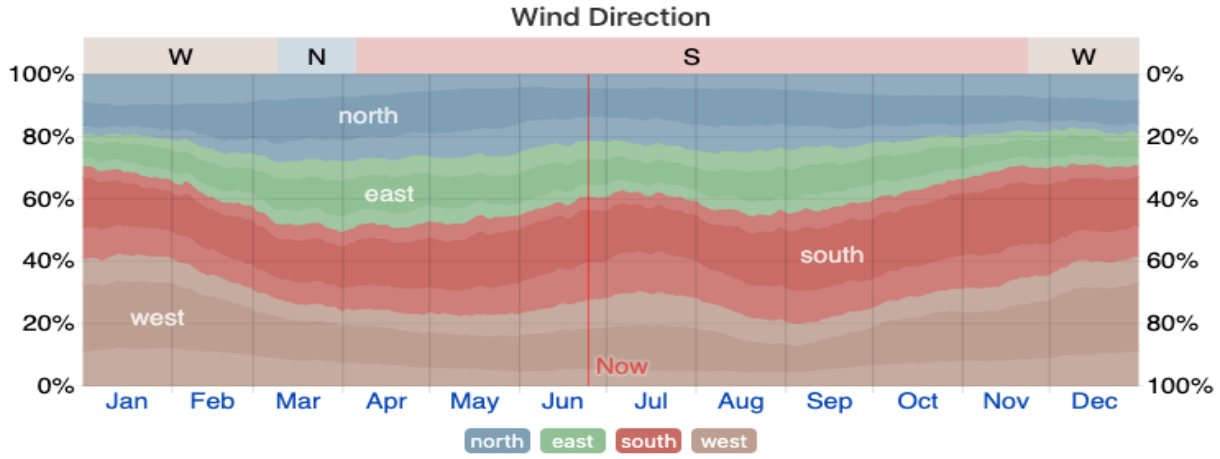


The average of mean hourly wind speeds (dark gray line), with 25th to 75th and 10th to 90th percentile bands.

The average hourly wind speed in Beecher experiences significant seasonal variation over the course of the year. The windier part of the year lasts for 7.7 months, from October 3 to May 26, with average wind speeds of more than 10.1 miles per hour. The windiest day of the year is January 15, with an average hourly wind speed of 12.6 miles per hour.

The calmer year lasts for 4.3 months, from May 26 to October 3. The calmest day of the year is August 3, with an average hourly wind speed of 7.6 miles per hour. The predominant average hourly wind direction in Beecher varies throughout the year.

The wind is most often from the north for 3.9 weeks, from March 9 to April 5, with a peak percentage of 28% on March 10. The wind is most often from the south for 7.6 months, from April 5 to November 23, with a peak percentage of 37% on November 12. The wind is most often from the west for 3.5 months, from November 23 to March 9, with a peak percentage of 41% on January 1.



*The percentage of hours in which the mean wind direction is from each of the four cardinal wind directions, excluding hours in which the mean wind speed is less than **1.0 mph**. The lightly tinted areas at the boundaries are the percentage of hours spent in the implied intermediate directions (northeast, southeast, southwest, and northwest).*

Demographics & Population

Demographics

6,731 Total Population

125% INCREASE since 2000 in the Village of Beecher

Housing Units: **2,683** (2,419 households)

Average Household Size: **2.7**

Types of Structure: **93%** Single Unit, **6%** Multi-unit, **1%** Mobile home

Estimated median house or condo value: **$191,300**

43.7

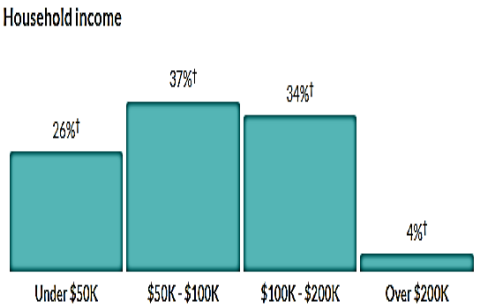
Median age

Median Household Income: **$87,664**

Per Capita Income: **$33,836**

Unemployed: **3.2%**

Poverty Rate: **3.9%**



Percentage of residents living in poverty in 2019: **3.3%**

For population 25 years and over in Beecher:

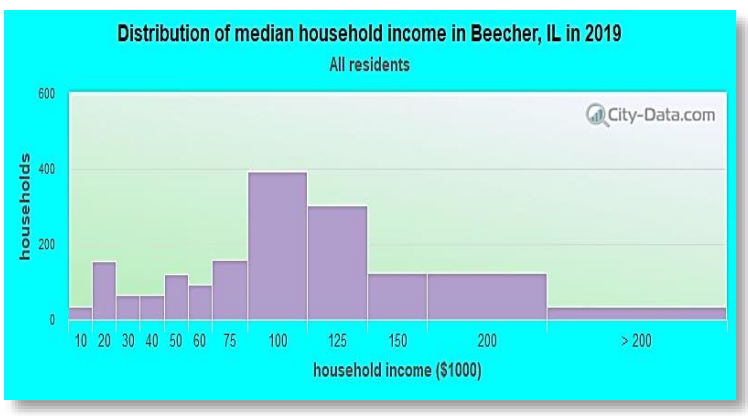
- High school or higher: **93.1%**
- Bachelor's degree or higher: **21%**
- Graduate or professional degree: **7%**

Married: **57%**

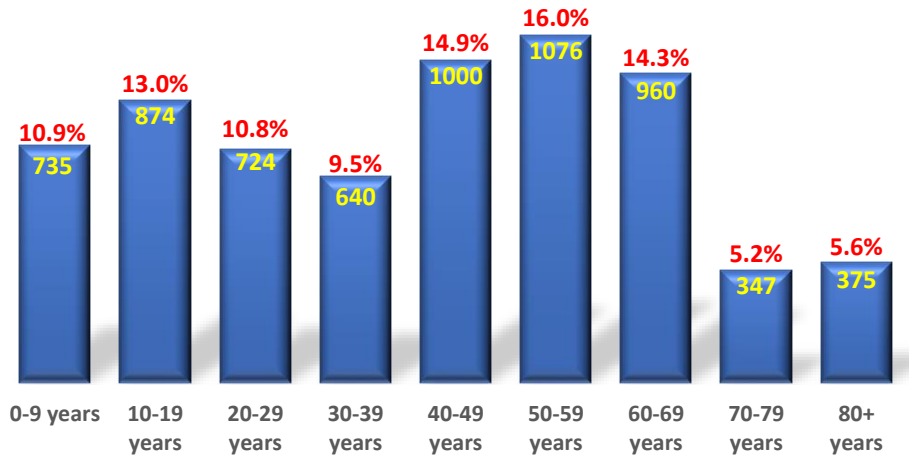
Males: **49%** Females: **51%**

Veteran Status: **9.6%** **(510** Total – **481** Male, **29** Female**)**

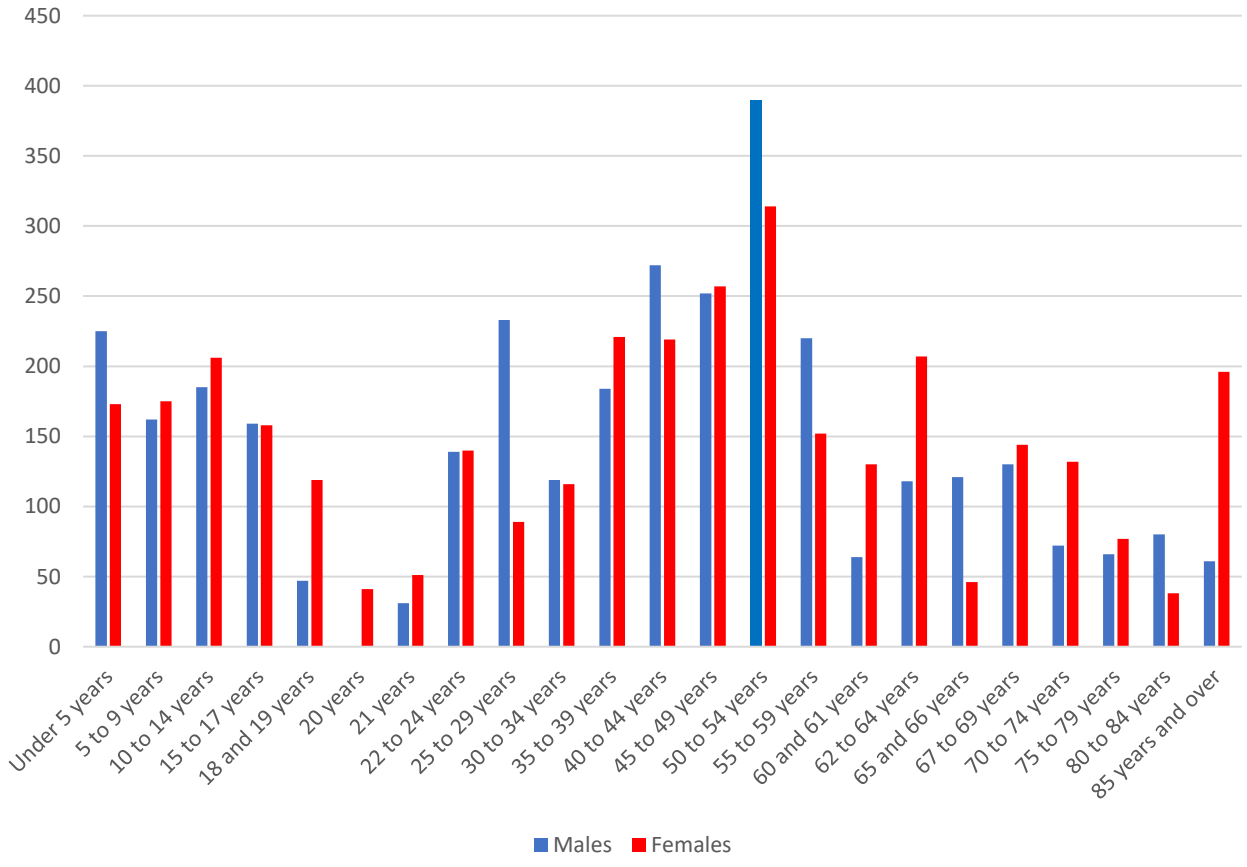
Race - White ***93.3%***, Hispanic **5.8%,** Other/Two+ **.6%**, African American **.2%**

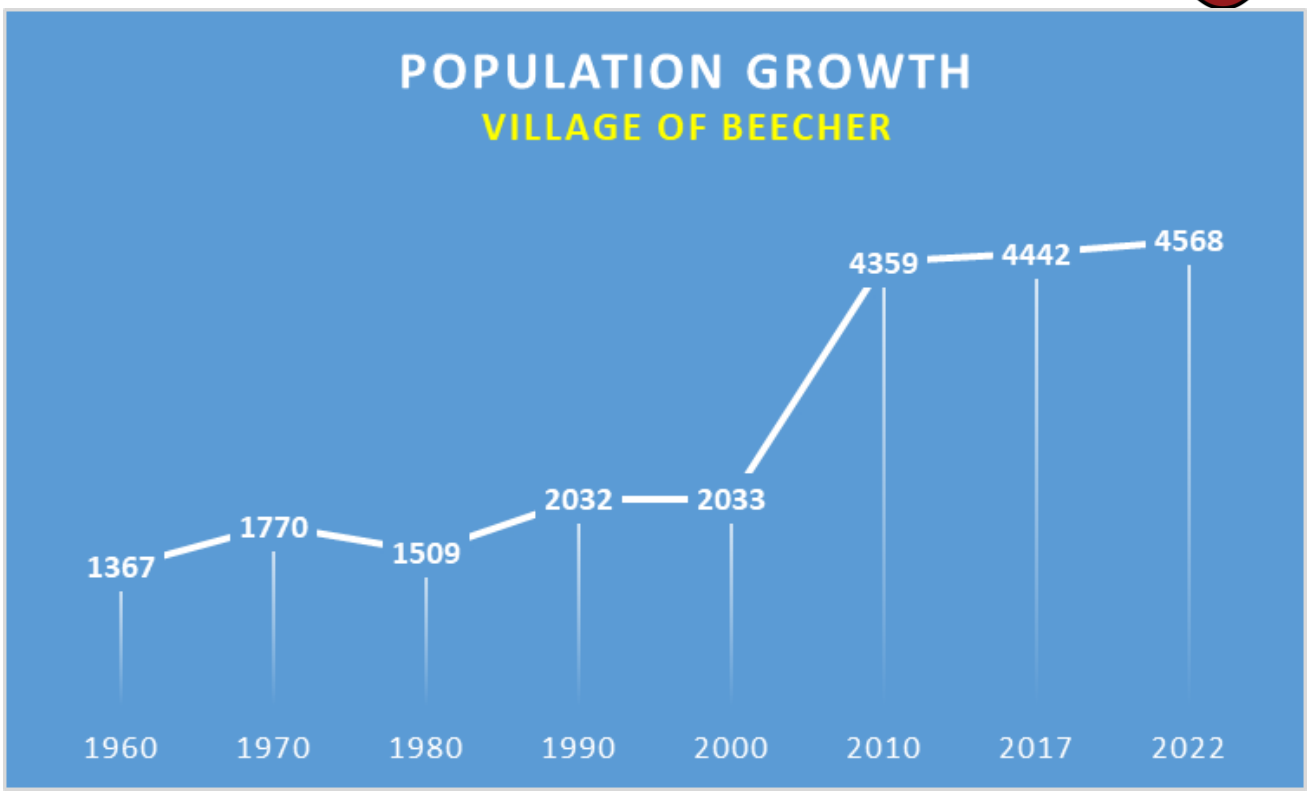


Total Population by Age Group



Population by Age Group and Gender

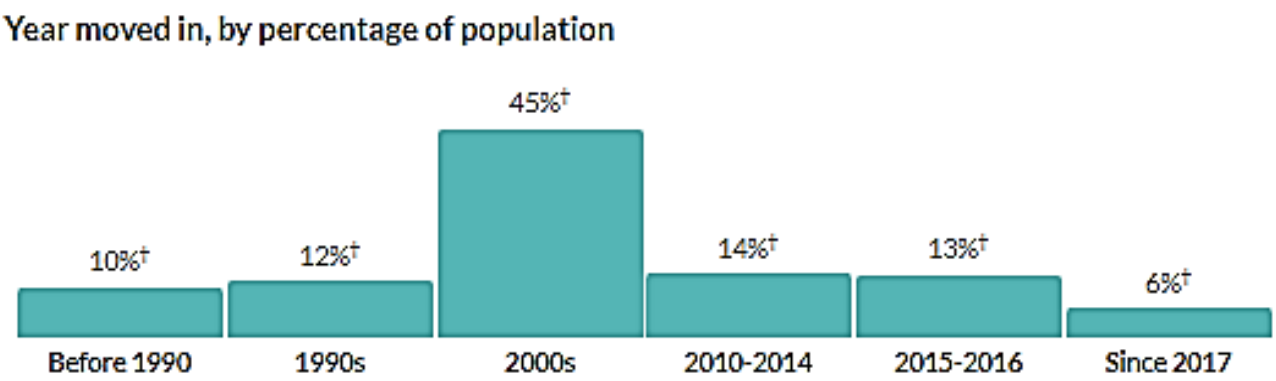




Population Growth (Village)	
5%	**2010-2022**
125%	**2000-2022**
203%	**1980-2022**

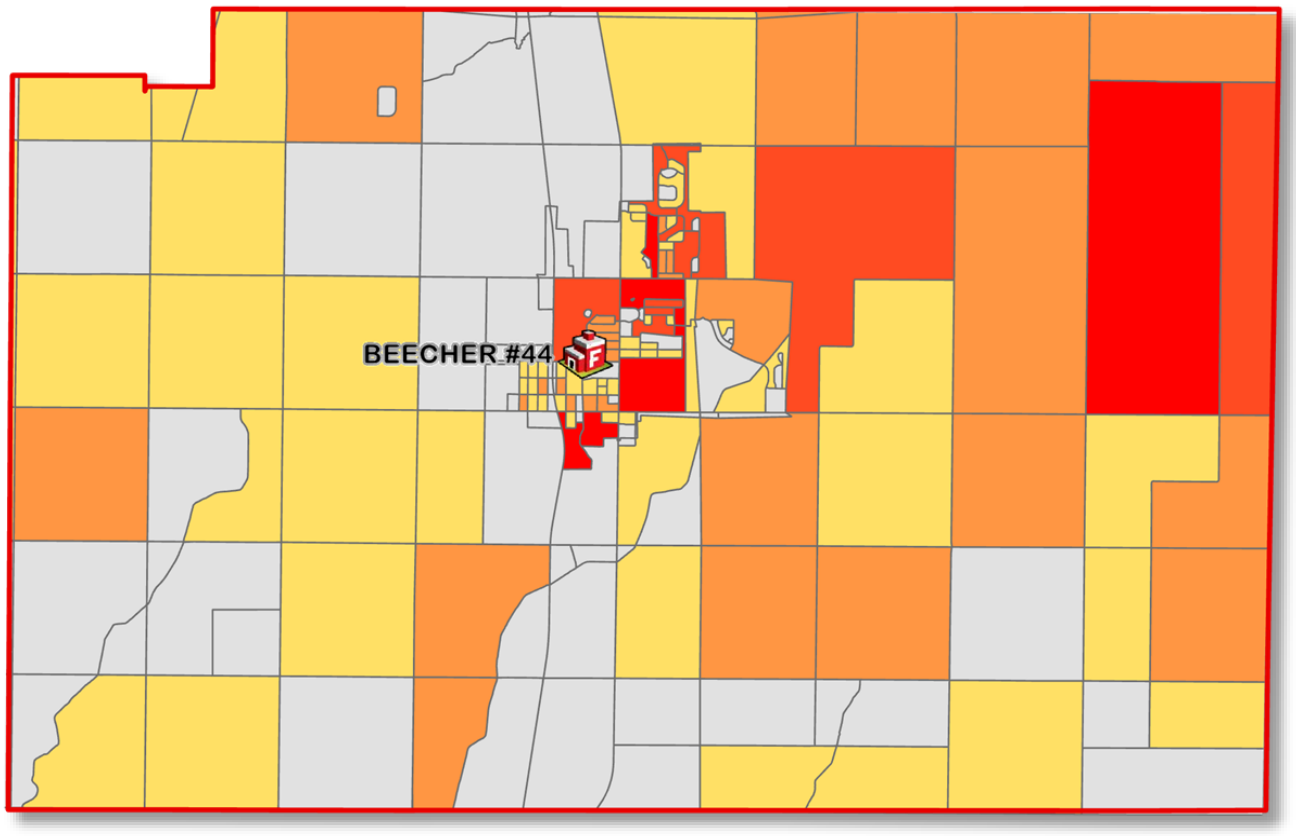
NOTE:

The entire Fire Protection District (including both incorporated and unincorporated areas) population is estimated at **6,731.**



Density **Shift** (2010-2020)

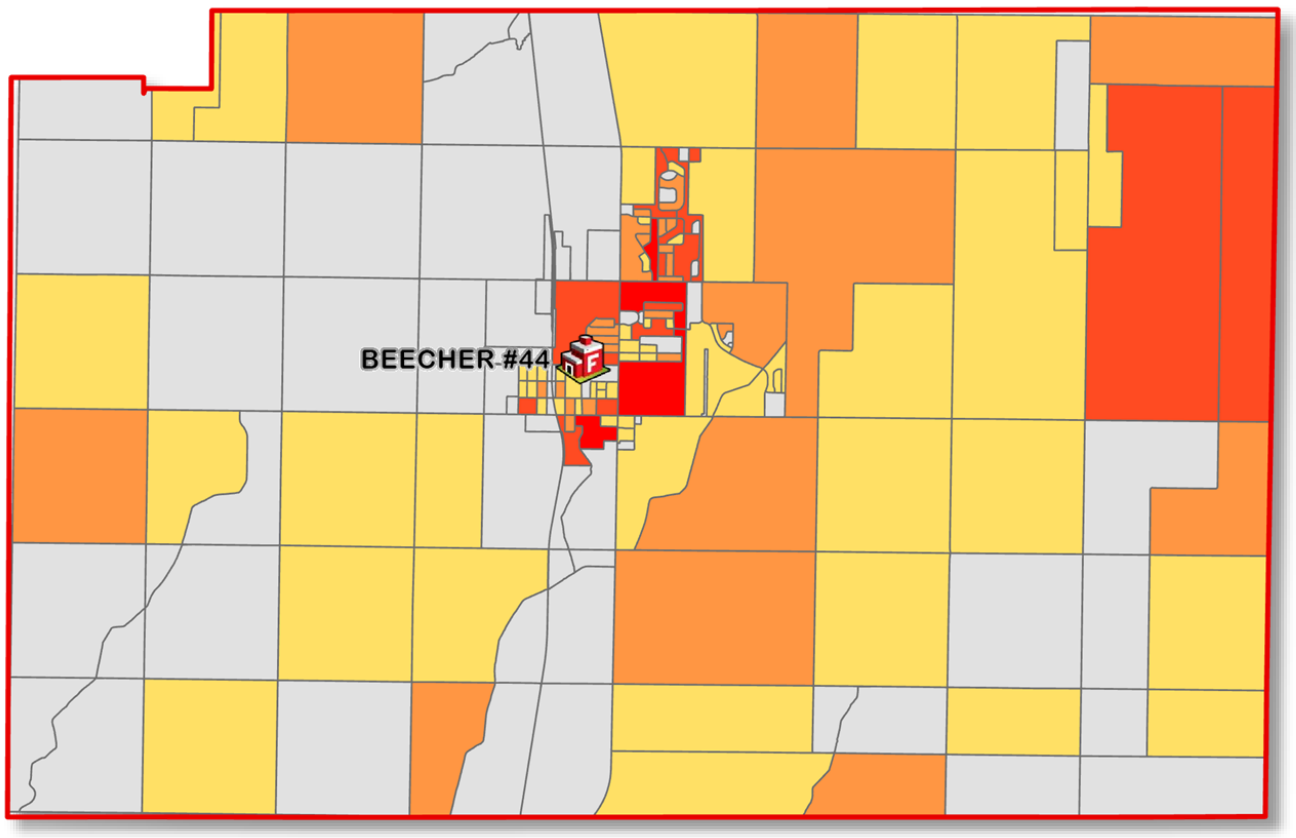
2010



2010 CENSUS BLOCKS
TOTAL POPULATION COUNT
Total Population 2010: 6,868

- 0 - 18
- 19 - 45
- 46 - 85
- 86 - 150
- 151 - 307

2020

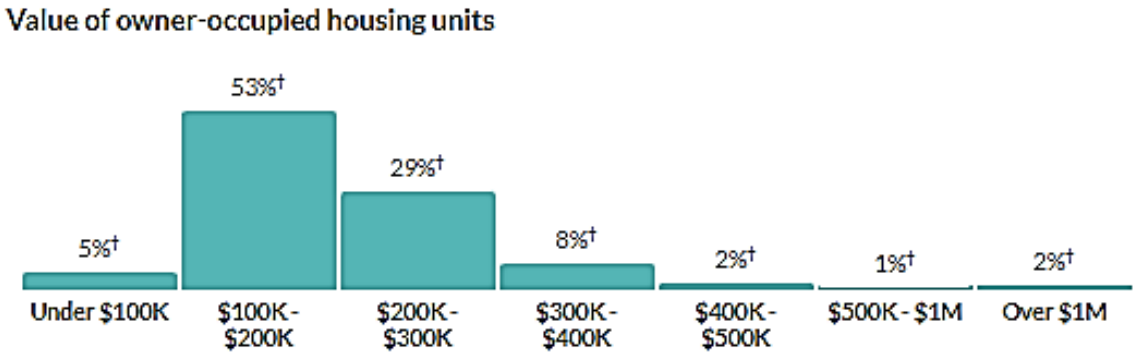


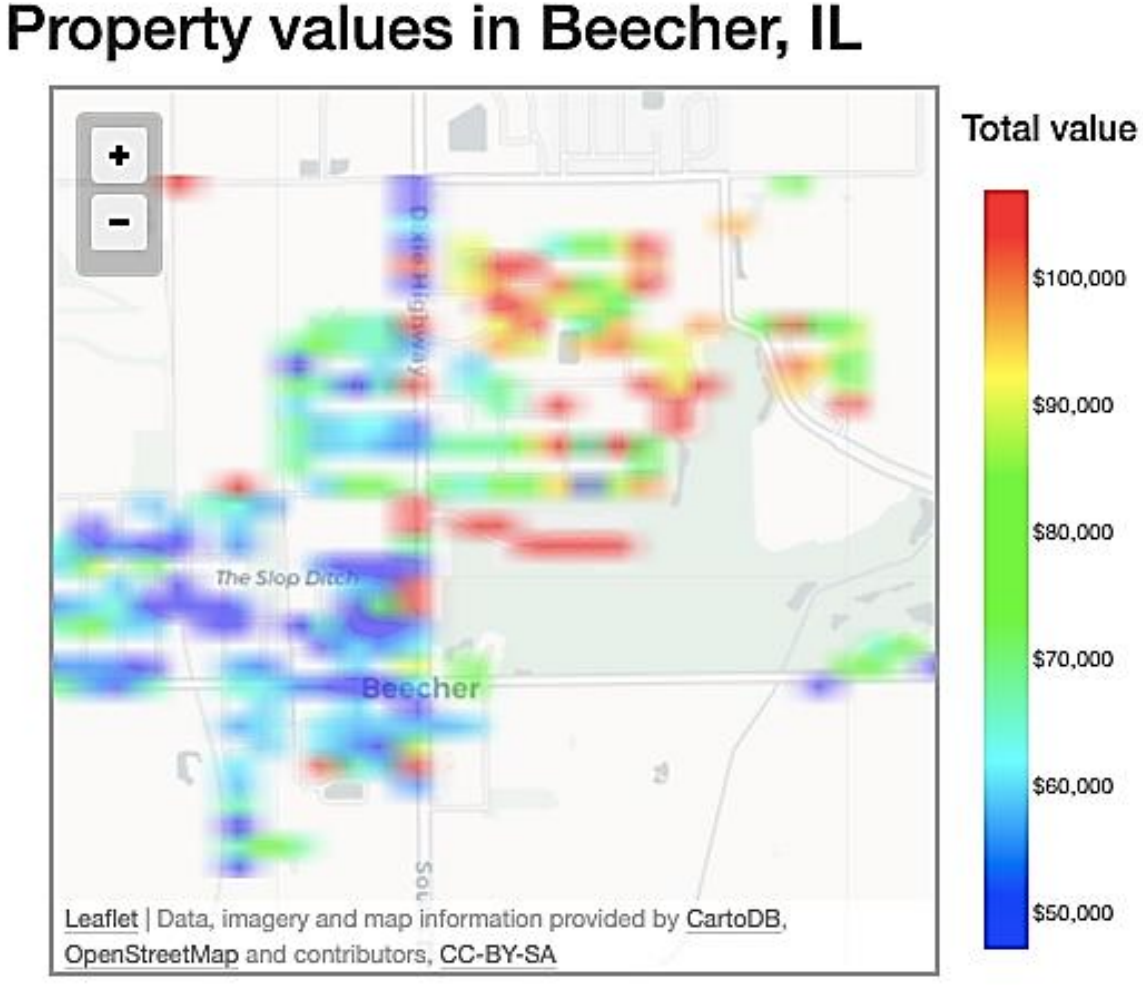
2020 CENSUS BLOCKS
TOTAL POPULATION COUNT
Total Population 2020: 6,789

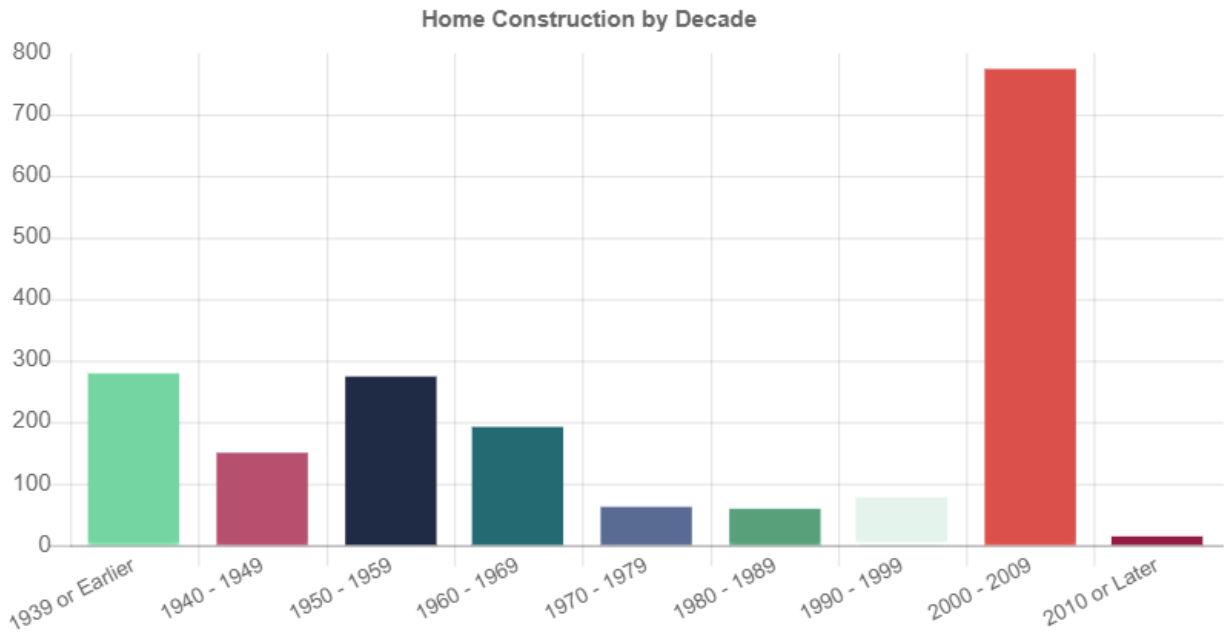
- 0 - 18
- 19 - 45
- 46 - 85
- 86 - 150
- 151 - 306

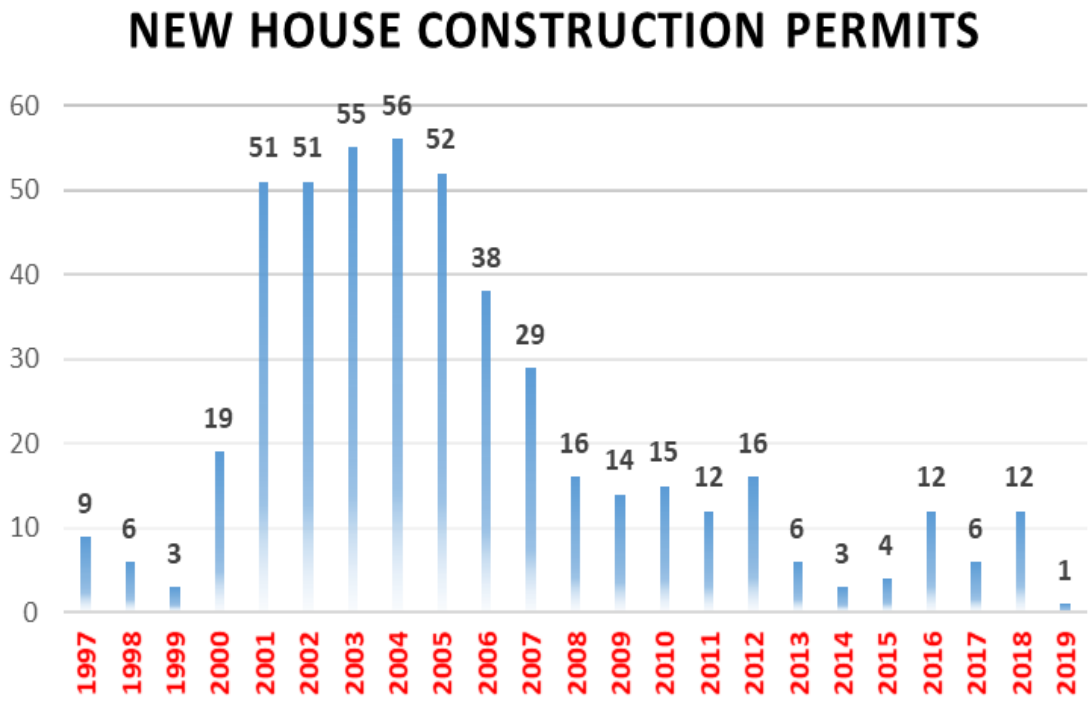
Property/Housing

Estimated median owner-occupied housing unit = **$191,300**

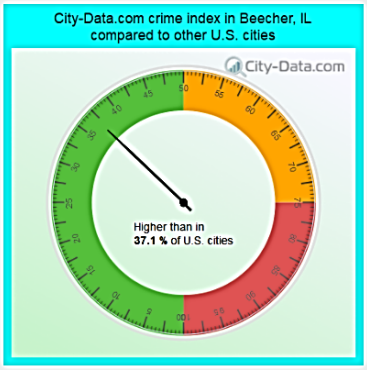





Home Construction by Decade
800
700
600
500
400
300
200
100
0
1939 or Earlier
1940 - 1949
1950 - 1959
1960 - 1969
1970 - 1979
1980 - 1989
1990 - 1999
2000 - 2009
2010 or Later


NEW HOUSE CONSTRUCTION PERMITS
60
50
40
30
20
10
0
9
6
3
19
51
51
55
56
52
38
29
16
14
15
12
16
6
3
4
12
6
12
1
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019

Crime



Crime rate in Beecher, IL

The 2019 crime rate in Beecher, IL is 90 (City-Data.com crime index), which is 3.0 times lower than the U.S. average. It was higher than in 37.1% U.S. cities. The 2019 Beecher crime rate rose by 30% compared to 2018. In the last 5 years Beecher has seen rise of violent crime and decreasing property crime.

See how dangerous Beecher, IL is compared to the nearest cities:

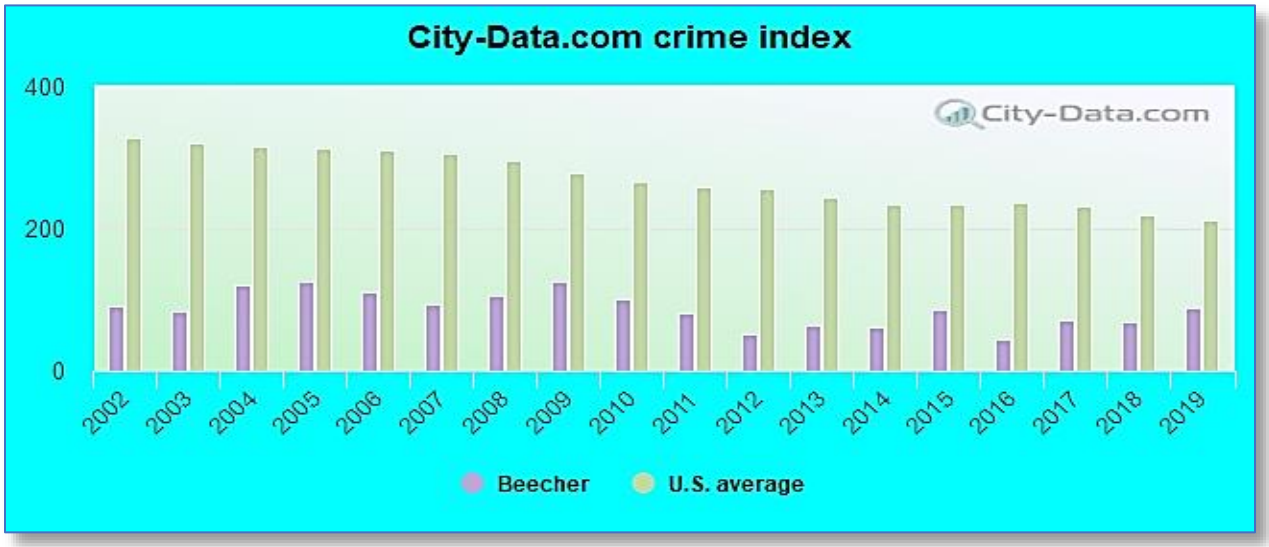
(Note: Higher means more crime)

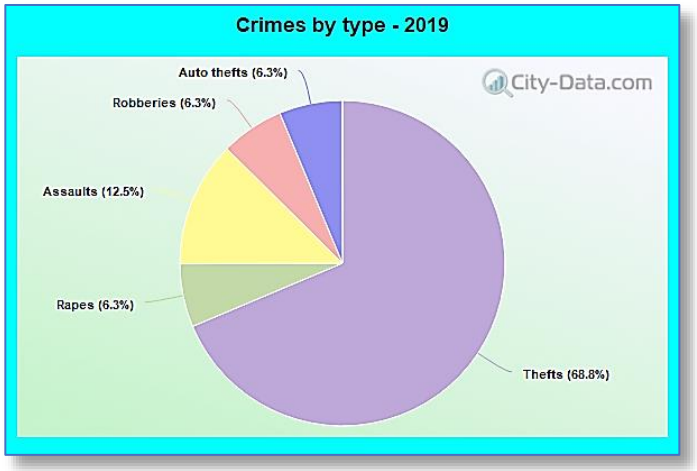
Beecher:	90.4
Grant Park:	37.3
University Park:	146.7
Crete:	155.4
Monee:	137.0
Steger:	269.6
Peotone:	58.0
South Chicago Heights:	350.2
Cedar Lake:	101.1

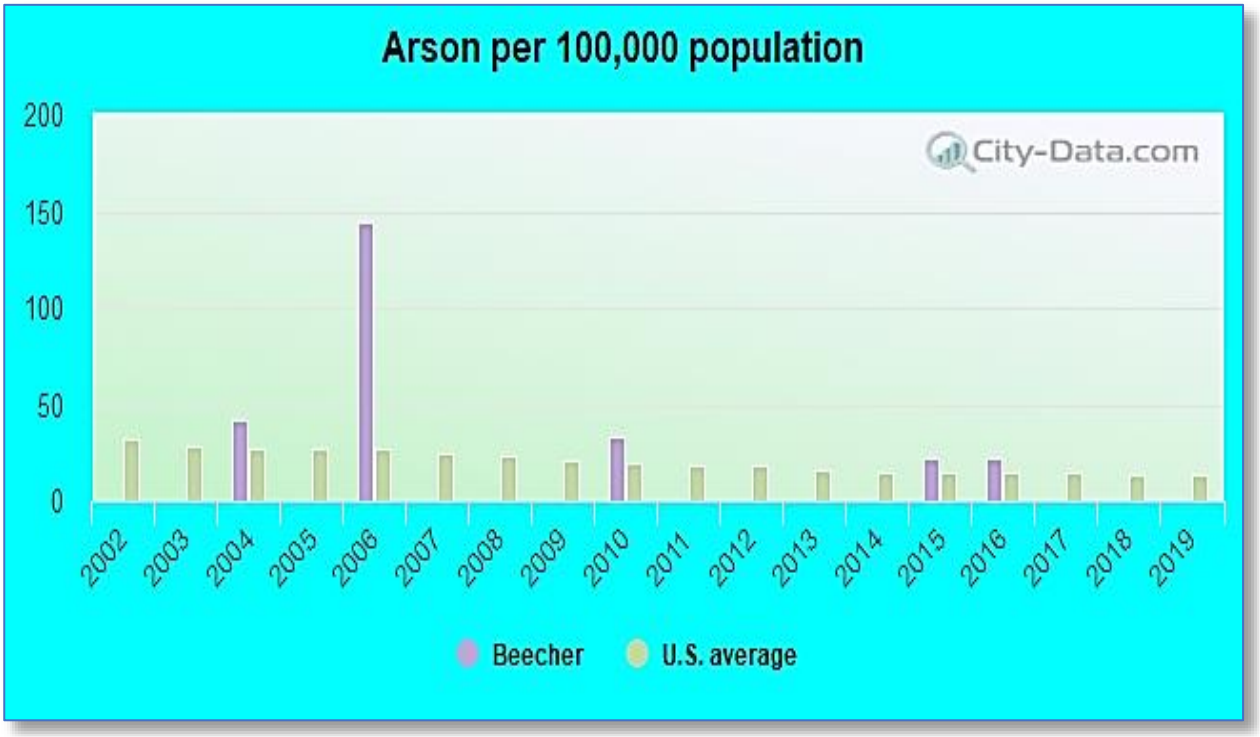
Crime rates in Beecher by year

Type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Murders (per 100,000)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Rapes (per 100,000)	0 (0.0)	0 (0.0)	1 (33.6)	1 (33.0)	1 (33.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (22.4)	2 (44.6)	2 (44.7)
Robberies (per 100,000)	0 (0.0)	0 (0.0)	1 (33.6)	0 (0.0)	1 (33.0)	3 (68.8)	1 (22.8)	0 (0.0)	0 (0.0)	1 (22.3)	2 (44.8)	0 (0.0)	0 (0.0)	2 (44.7)
Assaults (per 100,000)	3 (108.3)	2 (67.9)	0 (0.0)	3 (99.0)	0 (0.0)	0 (0.0)	1 (22.8)	1 (22.5)	3 (67.1)	4 (89.2)	1 (22.4)	2 (44.9)	2 (44.6)	4 (89.5)
Burglaries (per 100,000)	5 (180.6)	6 (203.7)	3 (100.8)	2 (66.0)	5 (165.1)	7 (160.6)	4 (91.2)	8 (179.6)	3 (67.1)	13 (290.0)	1 (22.4)	2 (44.9)	4 (89.2)	0 (0.0)
Thefts (per 100,000)	50 (1,806)	45 (1,527)	47 (1,579)	50 (1,651)	36 (1,189)	54 (1,239)	37 (843.6)	52 (1,167)	38 (850.1)	45 (1,004)	23 (515.1)	43 (964.3)	21 (468.1)	22 (492.1)
Auto thefts (per 100,000)	2 (72.2)	2 (67.9)	0 (0.0)	3 (99.0)	2 (66.0)	0 (0.0)	1 (22.8)	0 (0.0)	5 (111.9)	1 (22.3)	2 (44.8)	2 (44.9)	0 (0.0)	2 (44.7)
Arson (per 100,000)	4 (144.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (22.3)	1 (22.4)	0 (0.0)	0 (0.0)	0 (0.0)
City-Data.com crime index	112.3	94.4	107.2	124.8	100.7	81.4	53.4	63.8	61.1	86.8	43.7	72.2	69.5	90.4

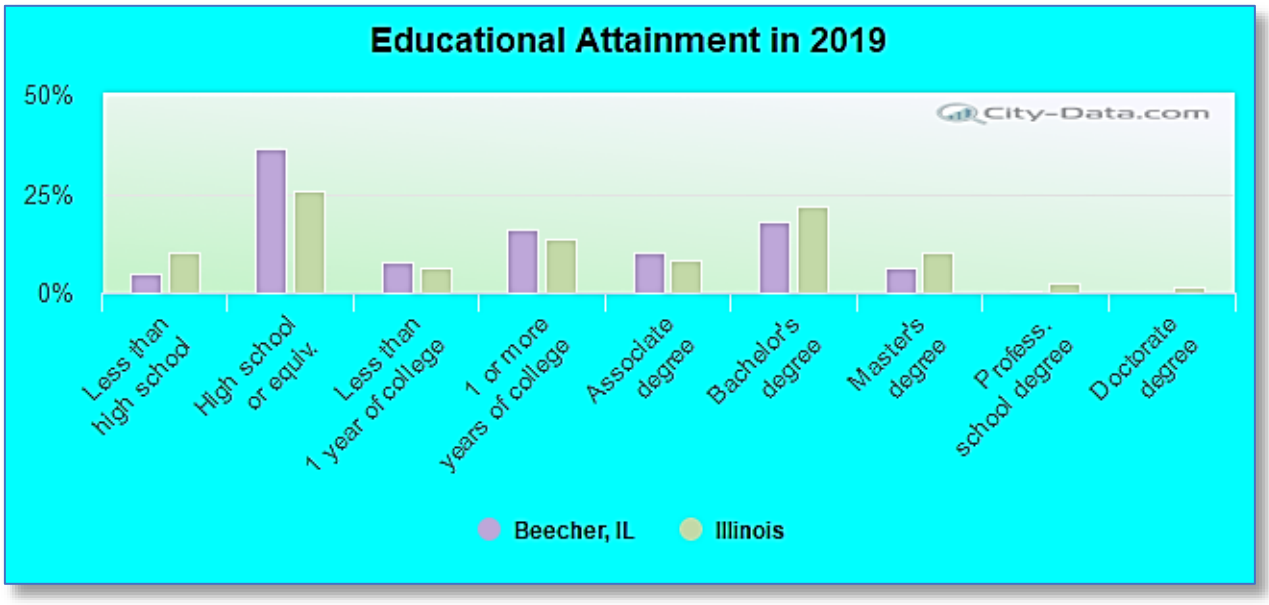
The City-Data.com crime index weighs serious crimes and violent crimes more heavily. Higher means more crime, U.S. average is 270.6. It adjusts for the number of visitors and daily workers commuting into cities.

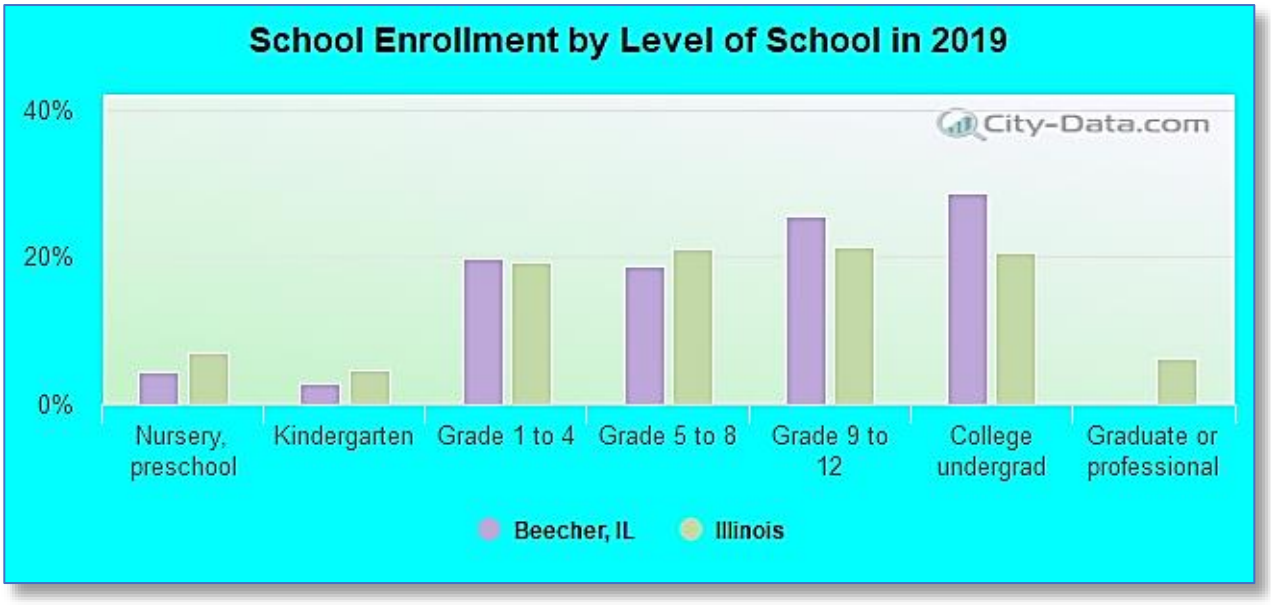



Crimes by type - 2019
City-Data.com
Auto thefts (6.3%)
Robberies (6.3%)
Assaults (12.5%)
Rapes (6.3%)
Thefts (68.8%)


Arson per 100,000 population
City-Data.com
200
150
100
50
0
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Beecher
U.S. average

Education





School Name	Type	Grades	Students
Beecher Elementary	Elementary	PK-5	**459**
Beecher Jr High	Jr High	6-8	**239**
Beecher High School	High	9-12	**347**
Zion Lutheran	Private	PK-8	**112**
		Total	**1,157**

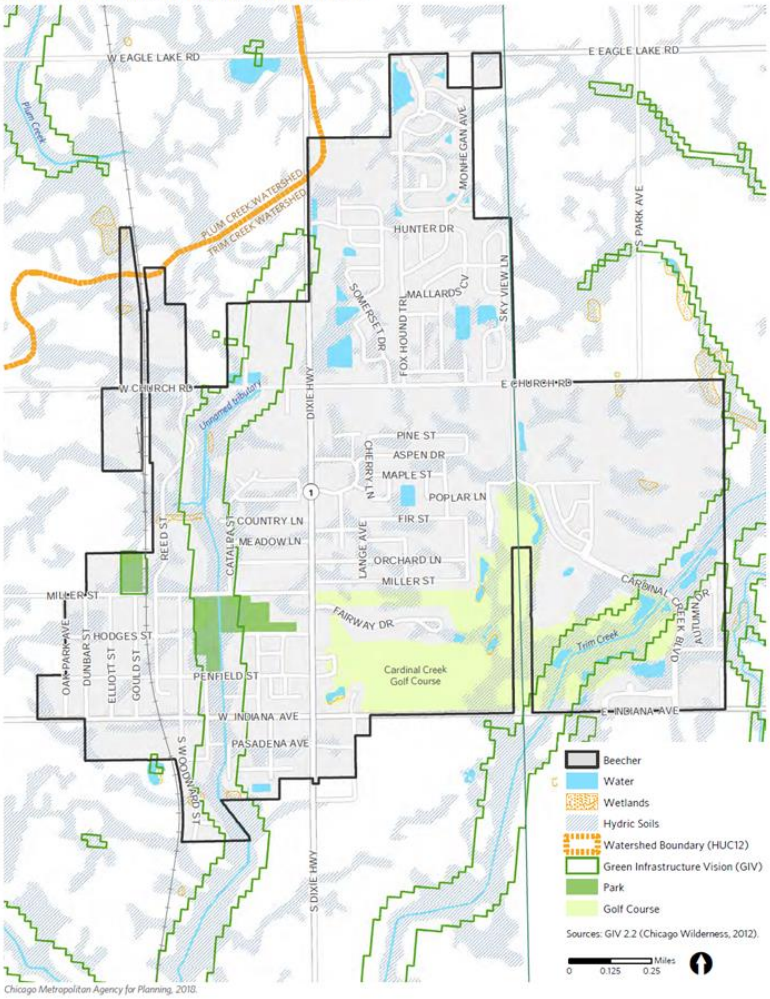
Topography and Geography

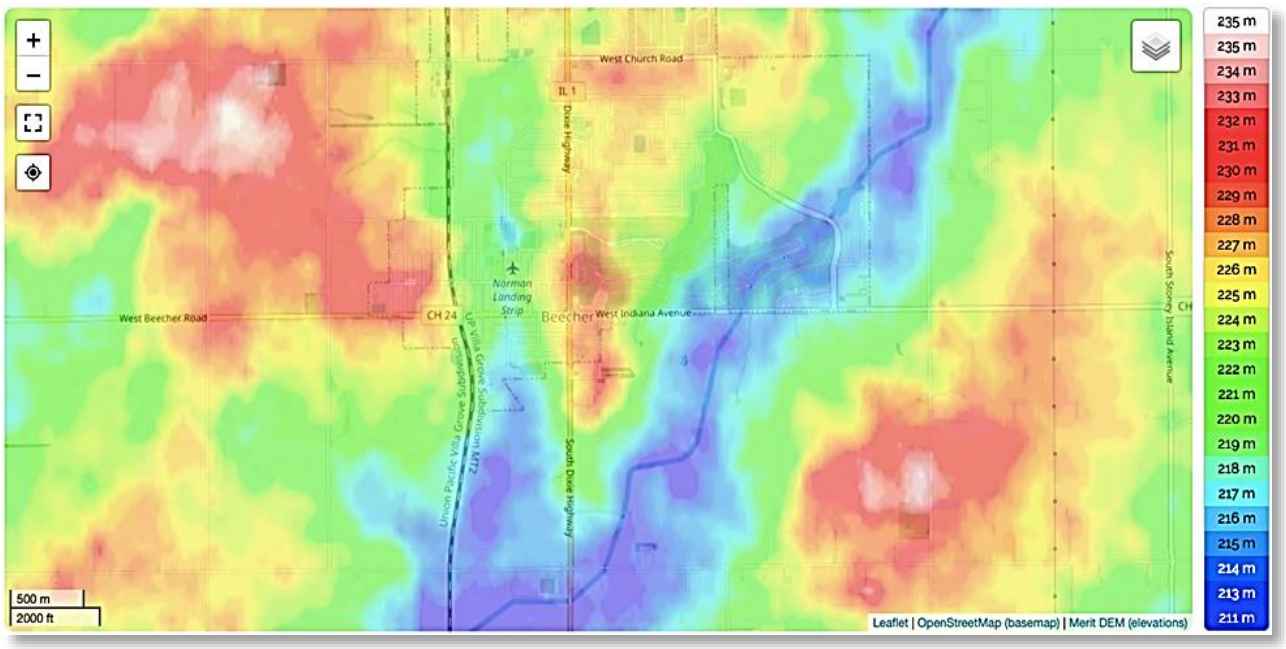
The geographical coordinates of the District near the center of the Village of Beecher are:

-41.3406° N, 87.6214° W

The topography, as shown, is primarily flat and primarily agricultural farmland with an altitude of **738** ft.

Figure 8.3: Streams, Wetlands, and Hydric Soils





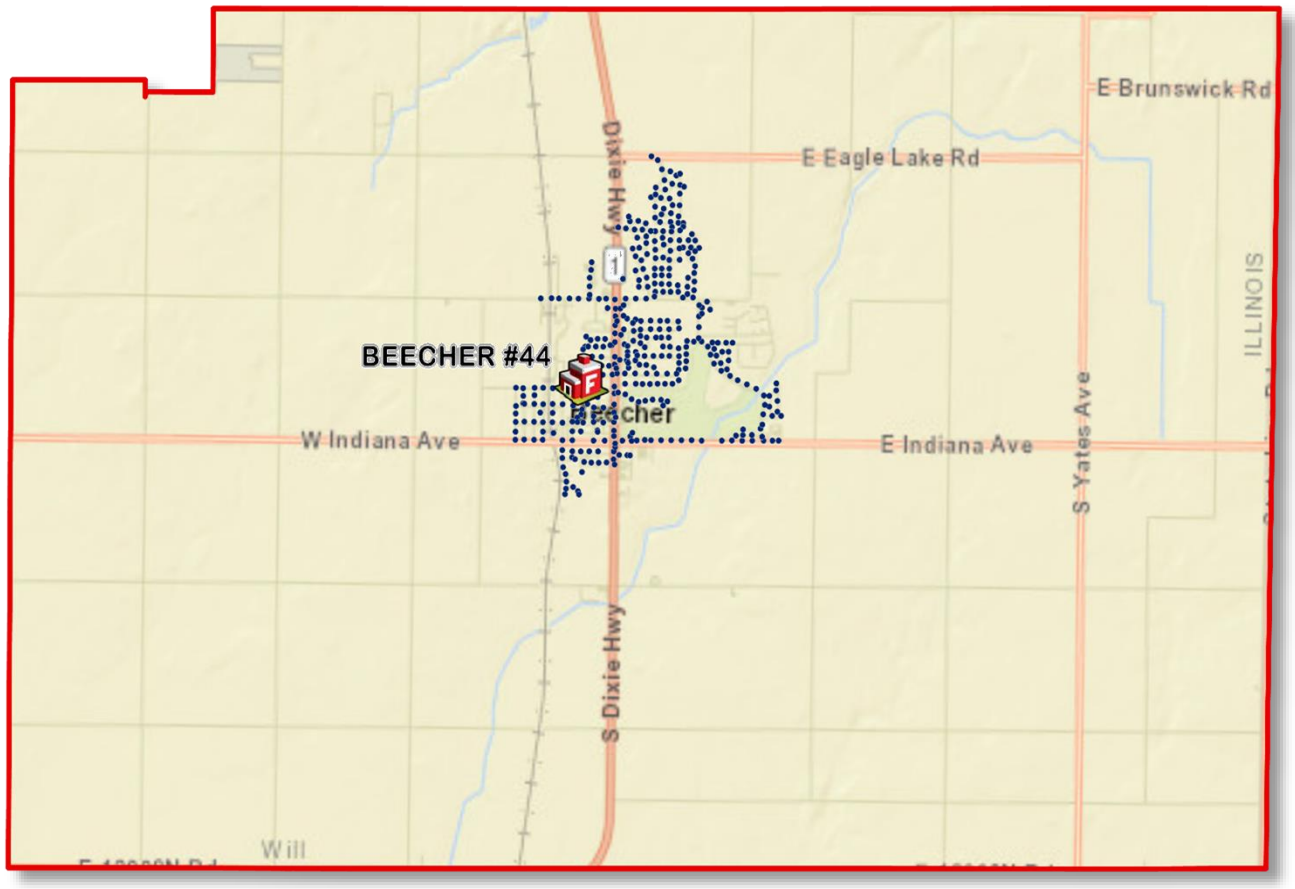
Waterways

Fire District Waterways

Creeks and Rivers

Water Supply

The Village of Beecher provides the water supply to incorporated areas of the District.

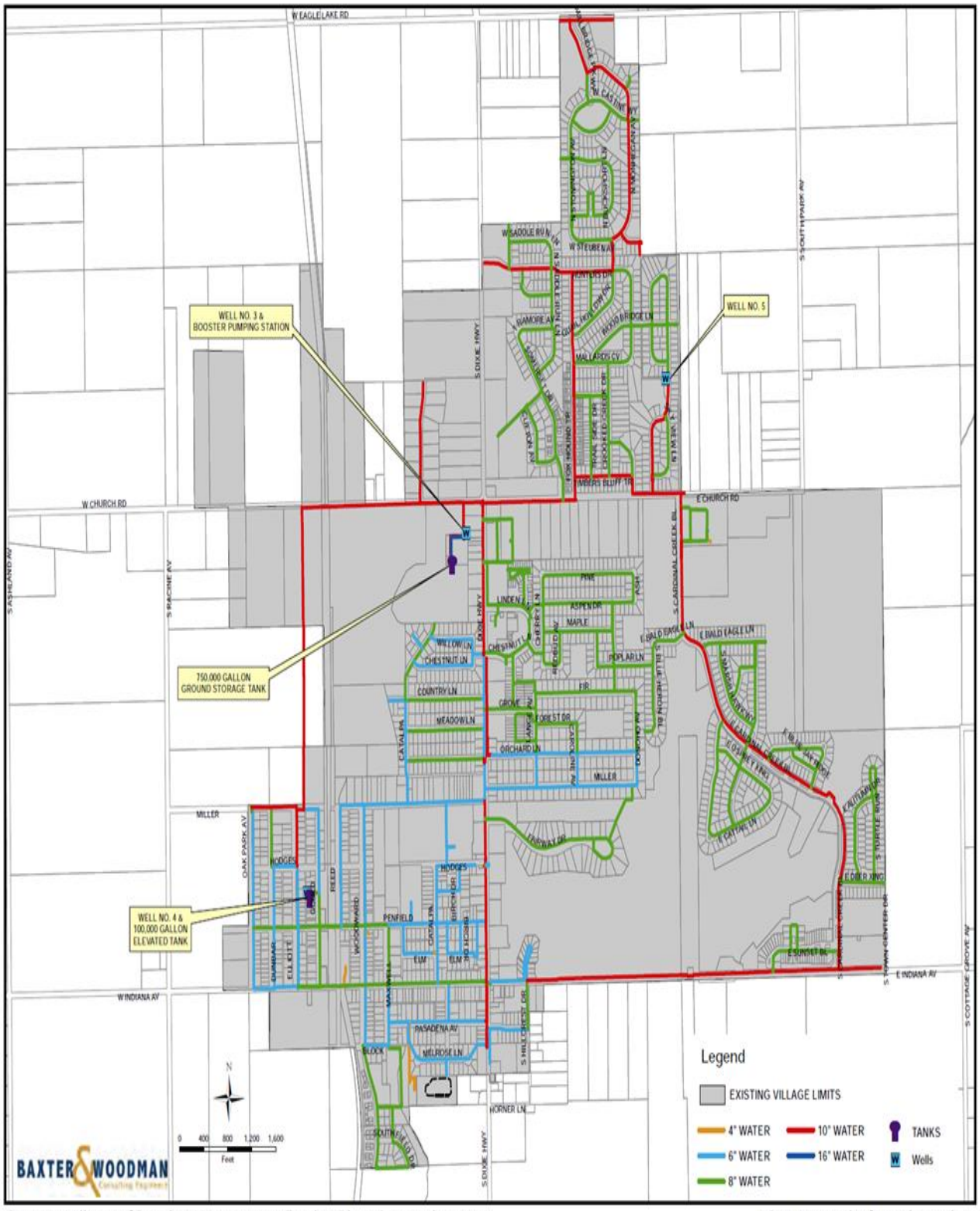


The last ISO grading scored the District's Water Supply listed below with 23.98 points out of a possible 40 (59.95%).

394 Hydrants

ISO - SCORING: WATER SUPPLY		
616 Supply System	30	16.18
		53.93%
621 Hydrants	3	3
		100.00%
631 Inspection and Flow Testing	7	4.8
Previously: Inspection & Condition		68.57%
590 CREDIT for WATER SUPPLY	40	23.98
		59.95%

Figure 6.5: Existing Sub-basin Boundary and Water System Map*



Source: Village of Beecher Wastewater Facility Plan, September 2016

*See Appendix for enlarged map.

Critical Infrastructure

Critical infrastructure is assets considered essential to society, economies, and communities. Presidential Policy Directive 21 (PPD-21) "Critical Infrastructure Security and Resilience" recognizes 16 Critical Infrastructure categories. When conducting a complete Community Risk Assessment, these facilities must be identified and built into the emergency response planning process. There are sixteen critical infrastructure sectors whose assets, systems, and networks, whether physical or virtual, are considered so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health, or safety, or any combination thereof. Presidential Policy Directive 21 (PPD-21): Critical Infrastructure Security and Resilience advances a national policy to strengthen and maintain a secure, functioning, and resilient critical infrastructure classified in the following sectors:

- Chemical
- Commercial Facilities
- Communications
- Critical Manufacturing
- Dams
- Defense Industrial Base
- Emergency Services
- Energy
- Financial Services
- Food and Agriculture
- Government Facilities
- Healthcare and Public Health
- Information Technology
- Nuclear Reactors, Materials, and Waste
- Transportation Systems
- Water and Wastewater Systems

Commercial Facilities Sector

The Commercial Facilities Sector includes a diverse range of sites that draw large crowds for shopping, business, entertainment, or lodging. Facilities within the sector operate on the principle of open public access, meaning that the public can move freely without the deterrent of highly visible security barriers. Most of these facilities are privately owned and operated, with minimal interaction with the federal government and other regulatory entities.

The Commercial Facilities Sector consists of eight subsectors:

- Entertainment and Media (e.g., motion picture studios, broadcast media)
- Gaming (e.g., casinos)
- Lodging (e.g., hotels, motels, conference centers)
- Outdoor Events (e.g., theme and amusement parks, fairs, campgrounds, parades)

- Public Assembly (e.g., arenas, stadiums, aquariums, zoos, museums, convention centers)
- Real Estate (e.g., office and apartment buildings, condominiums, mixed-use facilities, self-storage)
- Retail (e.g., retail centers and districts, shopping malls)
- Sports Leagues (e.g., professional sports leagues and federations)

Communications Sector

The Communications Sector is an integral component of the U.S. economy, underlying the operations of all businesses, public safety organizations, and government. Presidential Policy Directive 21 identifies the Communications Sector as critical because it provides an "enabling function" across all critical infrastructure sectors. Over the last 25 years, the industry has evolved from predominantly a provider of voice services into a diverse, competitive, and interconnected industry using terrestrial, satellite, and wireless transmission systems. The transmission of these services has become interconnected; satellite, wireless, and wireline providers depend on each other to carry and terminate their traffic. Companies routinely share facilities and technology to ensure interoperability.

Emergency Services Sector

The Emergency Services Sector (ESS) is a community of millions of highly skilled, trained personnel and physical and cyber resources that provide a wide range of prevention, preparedness, response, and recovery services during day-to-day operations and incident response. The ESS includes geographically distributed facilities and equipment in both paid and volunteer capacities organized primarily at the federal, state, local, tribal, and territorial levels of government, such as city police departments and fire stations, county sheriff's offices, Department of Defense police and fire departments, and town public works departments. The ESS also includes private sector resources, such as industrial fire departments, private security organizations, and private emergency medical services providers.

Energy Sector

The U.S. energy infrastructure fuels the economy of the 21st century. Without a stable energy supply, health and welfare are threatened, and the U.S. economy cannot function. Presidential Policy Directive 21 identifies the Energy Sector as uniquely critical because it provides an "enabling function" across all critical infrastructure sectors. More than 80 percent of the country's energy infrastructure is owned by the private sector, supplying fuels to the transportation industry, electricity to households and businesses, and other energy sources integral to growth and production.

The energy infrastructure is divided into three interrelated segments: electricity, oil, and natural gas. The reliance on virtually all industries on electric power and fuels means that all sectors have some dependence on the Energy Sector. The Energy Sector is aware of its vulnerabilities and is leading a significant voluntary effort to increase its planning and preparedness. Cooperation through industry groups has resulted in substantial information sharing of best practices across the sector. Many sector owners and operators have extensive experience abroad with infrastructure protection and have recently focused on cybersecurity.

Financial Services Sector

The Financial Services Sector represents a vital component of the District's nation's critical infrastructure. Large-scale power outages, recent natural disasters, and the increased number and sophistication of cyberattacks demonstrate the wide range of potential risks facing the sector.

The Financial Services Sector includes thousands of depository institutions, providers of investment products, insurance companies, other credit and financing organizations, and the providers of the critical financial utilities and services that support these functions. Financial institutions vary widely in size and presence, ranging from some of the world's largest global companies with thousands of employees and many billions of dollars in assets to community banks and credit unions. In addition, a small number of employees serve individual communities. Whether an individual savings account, financial derivatives, credit extended to a large organization, or investments made to a foreign country, these products allow customers to:

- Deposit funds and make payments to other parties
- Provide credit and liquidity to customers
- Invest funds for both long and short periods
- Transfer financial risks between customers

Government Facilities Sector

The Government Facilities Sector includes many buildings, located in the United States and overseas, owned or leased by federal, state, local, and tribal governments. Many government facilities are open to the public for business activities, commercial transactions, or recreational activities. In contrast, others that are not open to the public contain highly sensitive information, materials, processes, and equipment. These facilities include general-use office buildings and special-use military installations, embassies, courthouses, national laboratories, and structures that may house critical equipment, systems, networks, and functions. In addition to physical facilities, the sector includes cyber elements that protect sector assets (e.g., access control systems and closed-circuit television systems) and individuals who perform essential functions or possess tactical, operational, or strategic knowledge.

Education Facilities Subsector

The Education Facilities Subsector covers pre-kindergarten through 12th-grade schools, higher education institutions, and business and trade schools. The subsector includes facilities owned by both government and private sector entities. The National Monuments and Icons Subsector encompasses various assets, networks, systems, and functions located throughout the United States. Many National Monuments and Icons assets are listed in either the National Register of Historic Places or the List of National Historic Landmarks.

Election Infrastructure Subsector

The Election Infrastructure Subsector covers a wide range of physical and electronic assets such as storage facilities, polling places, and centralized vote tabulations locations used to support the election process and information and communications technology to include voter registration databases, voting machines, and

other systems to manage the election process and report and display results on behalf of state and local governments.

Healthcare and Public Health Sector

The Healthcare and Public Health sectors protect all economic sectors from terrorism, infectious disease outbreaks, and natural disasters. Because many of the sector's assets are privately owned and operated, collaboration and information sharing between the public and private sectors is essential to increasing the resilience of the nation's Healthcare and Public Health critical infrastructure. Working in all U.S. states, territories, and tribal areas, the sector plays a significant role in response and recovery across all other sectors in the event of a natural or manmade disaster. While healthcare tends to be delivered and managed locally, the sector's public health component, focused primarily on population health, is worked across all government levels: national, state, regional, local, tribal, and territorial.

The Healthcare and Public Health sectors are highly dependent on fellow sectors for continuity of operations and service delivery, including Communications, Emergency Services, Energy, Food and Agriculture, Information Technology, Transportation Systems, and Water and Wastewater Systems.

Information Technology Sector

The Information Technology Sector is central to the nation's security, economy, and public health and safety as businesses, governments, academia, and private citizens are increasingly dependent upon Information Technology Sector functions. These virtual and distributed functions produce and provide hardware, software, information technology systems, and services and collaborate with the Communications Sector—the Internet. The complex and dynamic environment identifies threats, assesses vulnerabilities difficult, and requires these tasks to be addressed collaboratively and creatively.

A combination of entities operates Information Technology Sector functions—often owners and operators and their respective associations—that maintain and reconstitute the network, including the Internet. Although information technology infrastructure has a certain level of inherent resilience, its interdependent and interconnected structure presents challenges and opportunities for coordinating public and private sector preparedness and protection activities.

Transportation Systems Sector

The Department of Homeland Security and the Department of Transportation are designated as the Co-Sector-Specific Agencies for the Transportation Systems Sector. The nation's transportation system quickly, safely, and securely moves people and goods through the country and overseas.

The Transportation Systems Sector consists of seven key subsectors or modes:

- **Aviation** includes aircraft, air traffic control systems, and about 19,700 airports, heliports, and landing strips. Approximately 500 provide commercial aviation services at civil and joint-use military airports, heliports, and seaplane bases. The aviation model includes commercial and recreational aircraft (manned and unmanned) and various support services (aircraft repair stations, fueling facilities, navigation aids, and flight schools).

- **Highway and Motor Carrier** encompasses more than 4 million miles of roadway, more than 600,000 bridges, and more than 350 tunnels. Vehicles include trucks (including those carrying hazardous materials), other commercial vehicles (including commercial motor coaches and school buses), vehicle and driver licensing systems, traffic management systems, and cyber systems used for operational management.
- **Maritime Transportation System** consists of about 95,000 miles of coastline, 361 ports, more than 25,000 miles of waterways, and intermodal landside connections that allow the various modes of transportation to move people and goods and water.
- **Mass Transit and Passenger Rail** includes terminals, operational systems, and supporting infrastructure for passenger services by transit buses, trolleybuses, monorail, heavy rail (subways or metros), light rail, passenger rail, and vanpool/rideshare. Public transportation and passenger rail operations provided an estimated 10.8 billion passenger trips in 2014.
- **Pipeline Systems** consist of more than 2.5 million miles of pipelines spanning the country and carrying nearly all the nation's natural gas and about 65 percent of hazardous liquids, as well as various chemicals. Above-ground assets, such as compressor stations and pumping stations, are also included.
- **Freight Rail** consists of seven major carriers, hundreds of smaller railroads, over 138,000 miles of active railroad, over 1.33 million freight cars, and approximately 20,000 locomotives. An estimated 12,000 trains operate daily. The Department of Defense has designated 30,000 miles of track and structure critical to the mobilization and resupply of U.S. forces.
- **Postal and Shipping** moves about 720 million letters and packages each day and includes large integrated carriers, regional and local courier services, mail services, mail management firms, and chartered and delivery services.

Water and Wastewater Systems Sector

Safe drinking water is a prerequisite for protecting public health and human activity. Adequately treated wastewater is vital for preventing disease and protecting the environment. Thus, ensuring the supply of drinking water and wastewater treatment and service is essential to modern life and the nation’s economy.

The Water and Wastewater Systems Sector is vulnerable to various attacks, including contamination with deadly agents and physical attacks (such as releasing toxic gaseous chemicals) and cyberattacks. The result of various attacks could be large numbers of illnesses or casualties or a denial of service that would impact public health and economic vitality. The sector is also vulnerable to natural disasters. Critical services, such as firefighting and healthcare (hospitals), and other dependent and interdependent sectors, such as Energy, Food and Agriculture, and Transportation Systems, would suffer negative impacts from a denial of service in the Water and Wastewater Systems Sector.

Target Hazards/Critical Facilities

FEMA defines these as: “facilities in either the public or private sector that provide essential products and services to the public, are otherwise necessary to preserve the welfare and quality of life in the community, or fulfill important public safety, emergency response, and/or disaster recovery functions.”

To conduct a practical target hazard assessment, some key definitions must be understood:

Hazards: Known physical features that can ignite and sustain combustion or existing features (natural or manmade) that can negatively impact life, property, and/or natural resources

Values: Community assets, including life, property, and natural resources

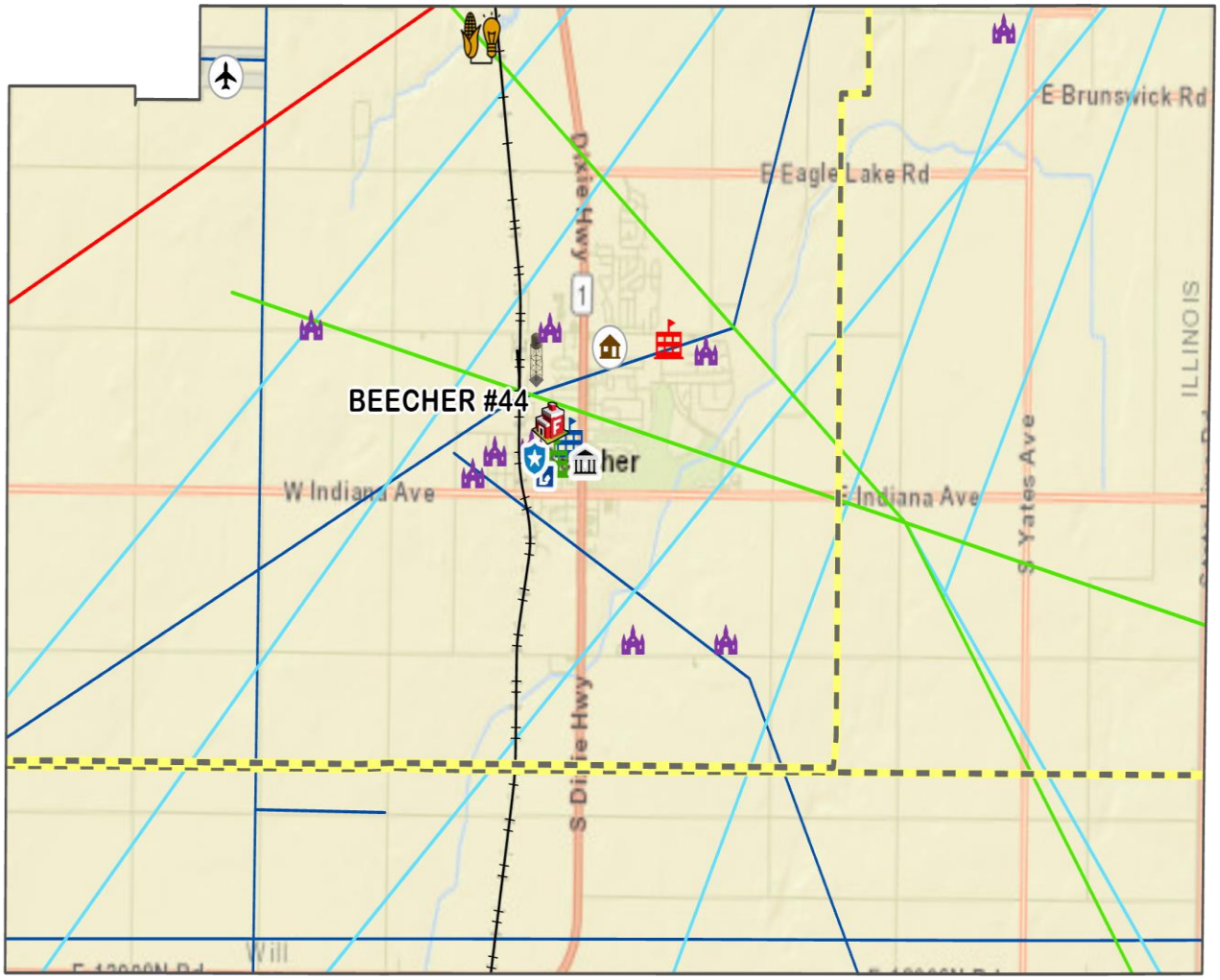
Other significant target hazards have been identified. These include nursing homes, mid-rise, and other buildings (consisting of three floors or greater), all public schools, and locations of hazardous materials sites. This information helped determine where best to locate fire suppression and other specialty resources for each planning zone.

A comprehensive review of the service area was completed. Data was gathered from ISO, fire prevention inspection records, GIS list of high-rise occupancies, target hazards in CAD, economic revenues from the Census, and interviews with the Village and District stakeholders. The information was then reviewed with the Fire Prevention Division. Data was collected on the type of risk found: Need Fire Flow (NFF), Hazardous Material occupancy, Life Safety risk, High Rise, economic risk, and others (historical/cultural).

After a detailed analysis, the District has identified the following as “target hazards/critical facilities”: Schools, Nursing/Assisted Living, Hotels, and non-sprinklered structures four stories or more are considered high or target hazards. Police and Fire Stations, Communication Systems, Water Treatment facilities are considered “critical” facilities. Fortunately, some of these facilities are fully sprinklered and alarmed within the District.

Target Hazard Map

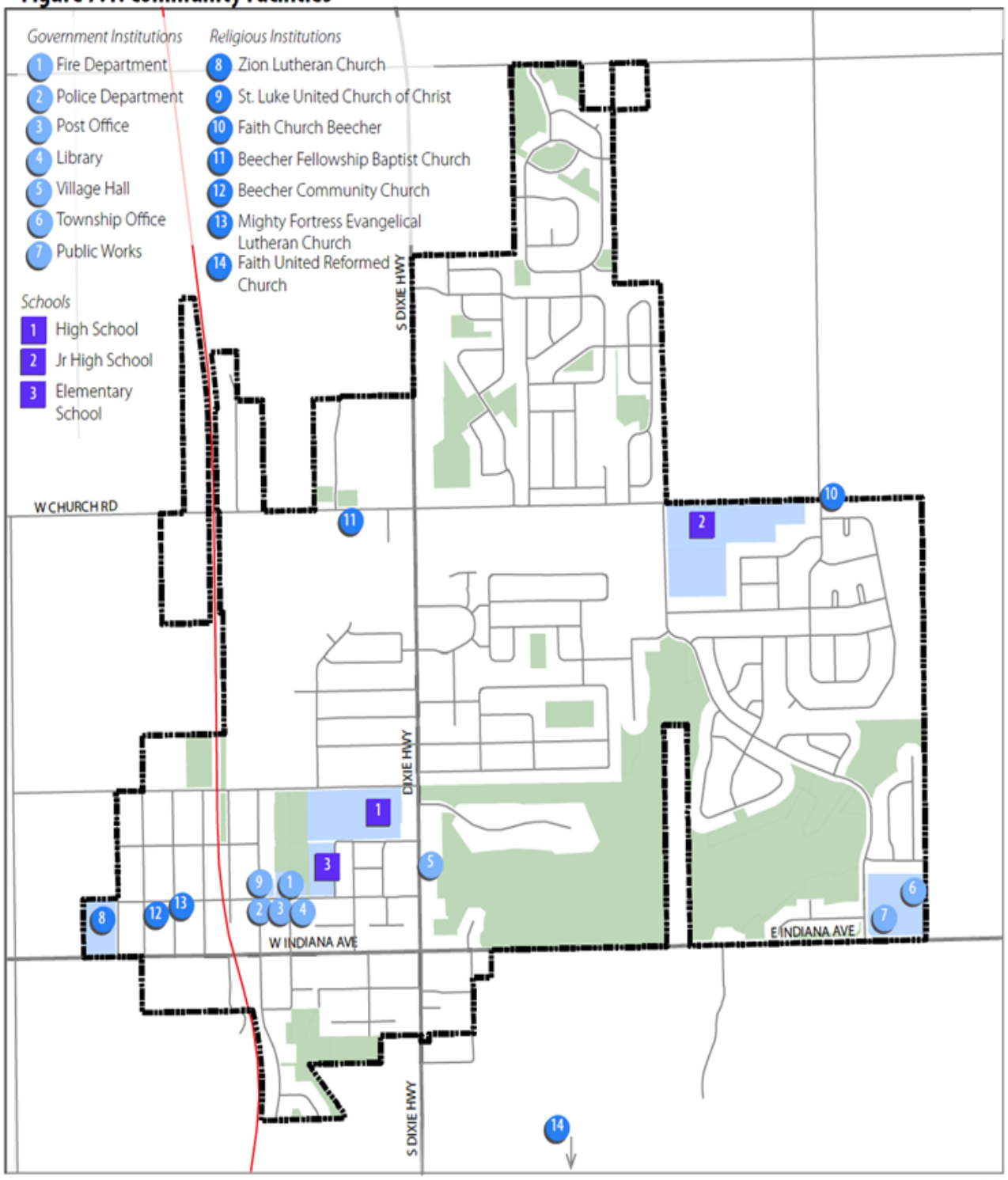
High-Risk Facilities



Critical Infrastructure & Hazard Points

- City or Village Hall
- Library
- Police Station
- Place of Worship
- Airport
- Water Tower
- Nursing Home
- High School
- Middle School
- Elementary School
- Biomass Power Plant
- Electric Transmission Line
- Railroad
- Crude Oil Pipeline
- HGL Pipeline
- Natural Gas Pipeline
- Petroleum Product Pipeline

Figure 7.1: Community Facilities



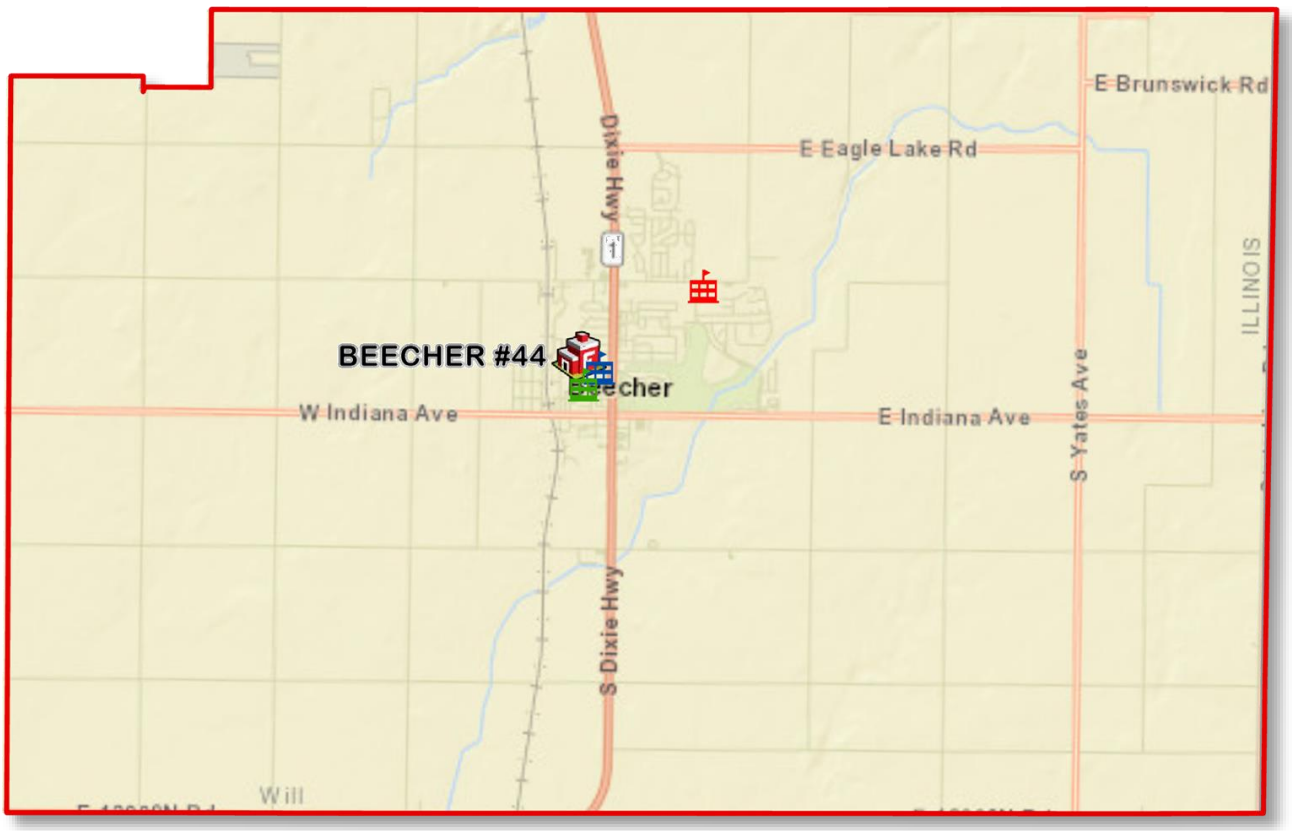
Village of Beecher, Illinois

Comprehensive Plan

Beecher Limits — Railways — Institution — Green Space/Green Infrastructure

Source: Village of Beecher, Google Maps

Schools



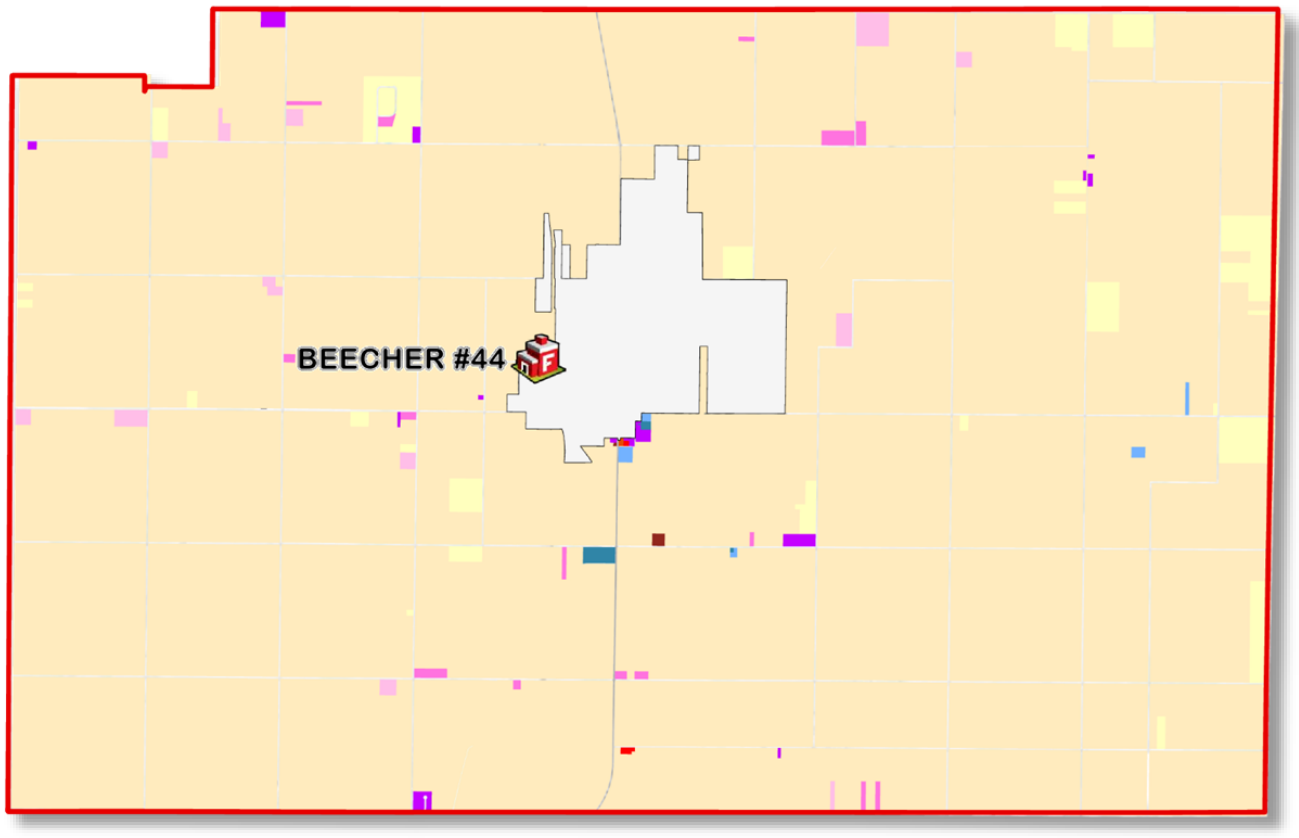
SCHOOL TYPES

- HIGH
- MIDDLE
- ELEMENTARY

School Name	Type	Grades	Students
Beecher Elementary	Elementary	PK-5	**459**
Beecher Jr High	Jr High	6-8	**239**
Beecher High School	High	9-12	**347**
Zion Lutheran	Private	PK-8	**112**
		Total	**1,157**

BEECHER 200U
SCHOOL DISTRICT

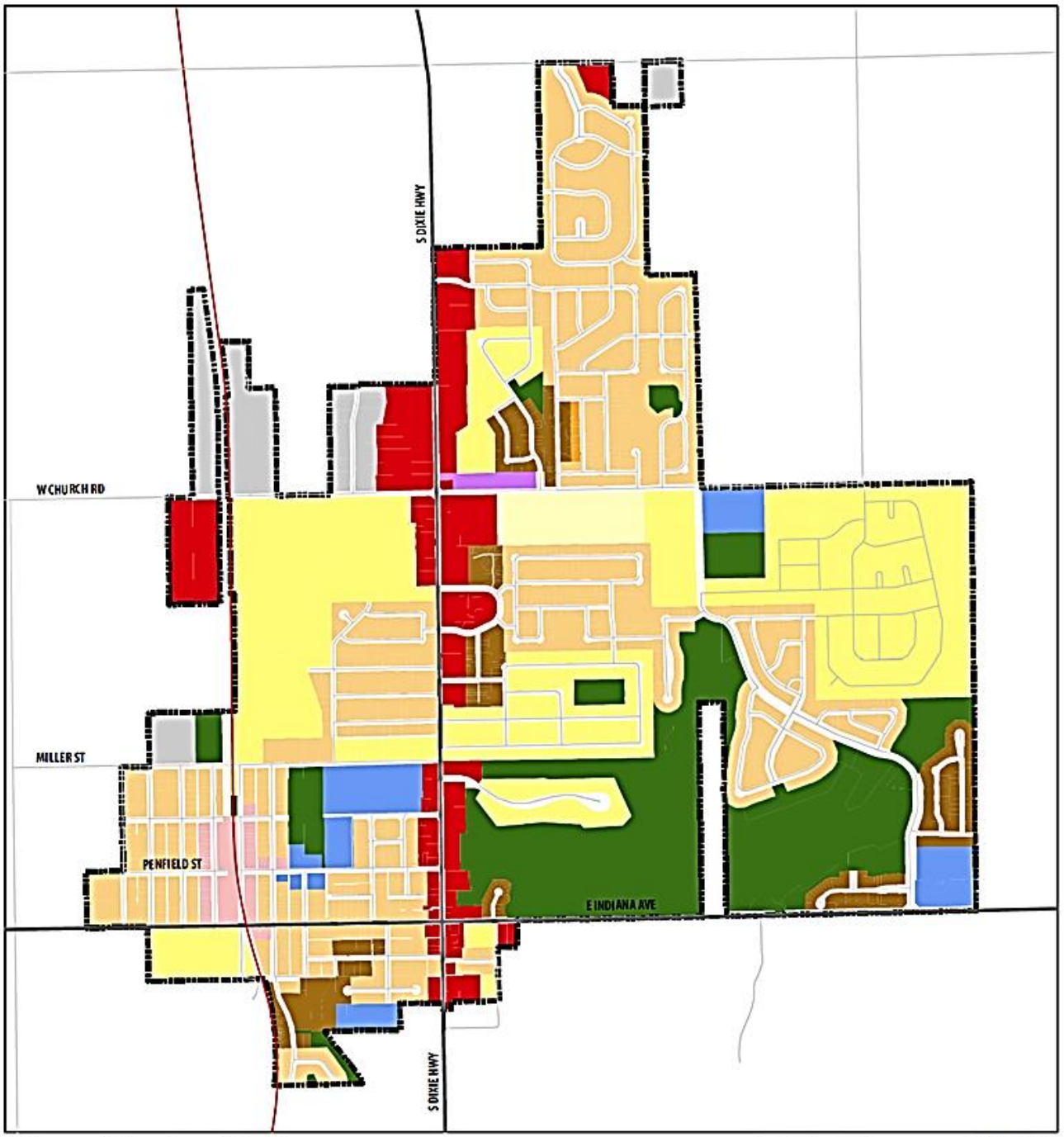
Zoning



WILL COUNTY ZONING

- Municipality
- A-1: Agritultural
- A-2: Agricultural-Residential
- C-1: Local Commercial-1
- C-2: Local Commercial-2
- C-3 thru 6: Other Commercial
- E-1: Residential Rural Estate
- E-2: Residential Estate
- I-1: Limited Industrial
- I-2: General Industrial
- I-3: Intensive Industrial
- R-1 thru 5: Residential Single Family
- R-6: Residential-Multi-family

Figure 4.6: Existing Zoning Map

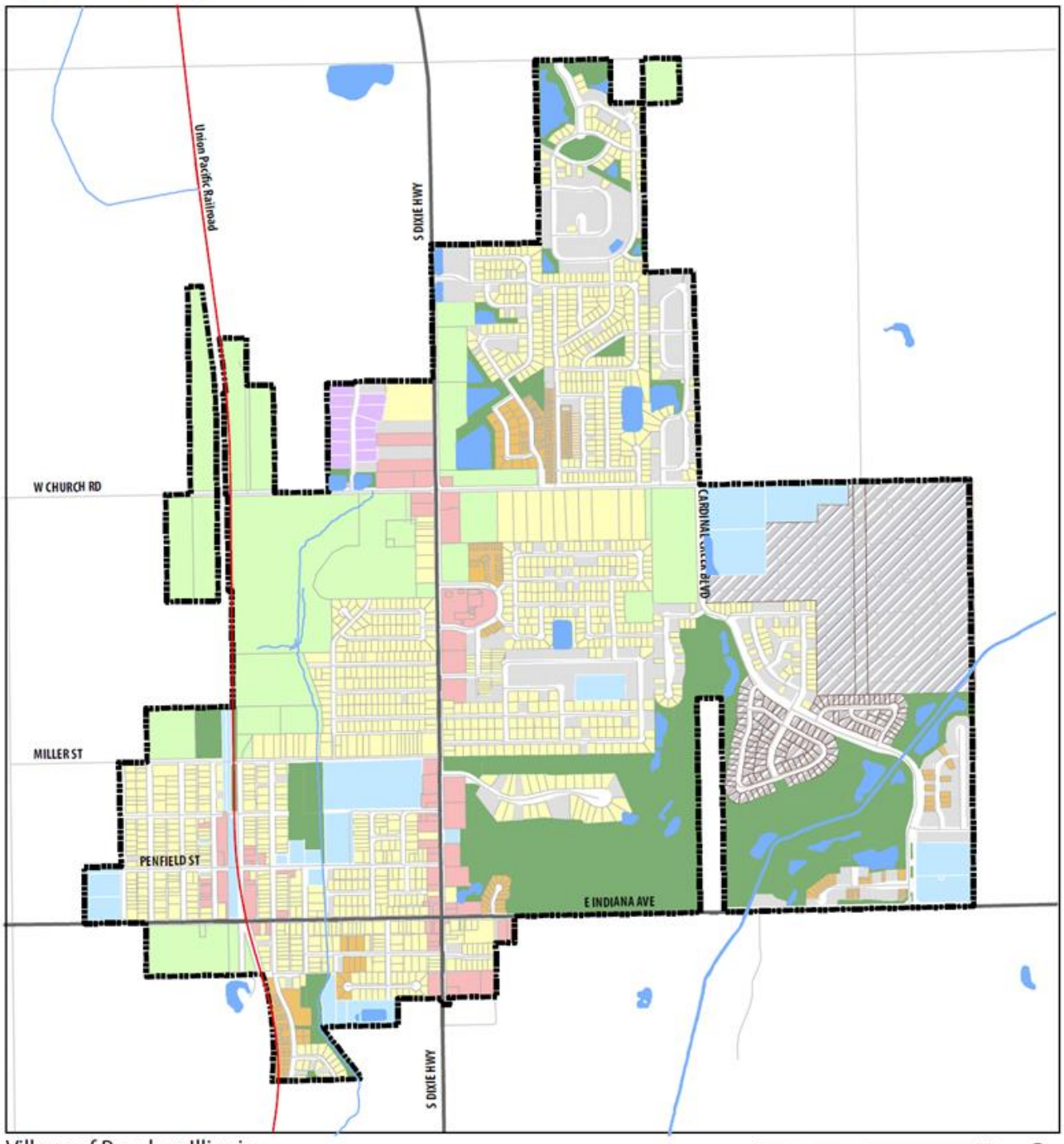


Source: Will County, Village of Beecher

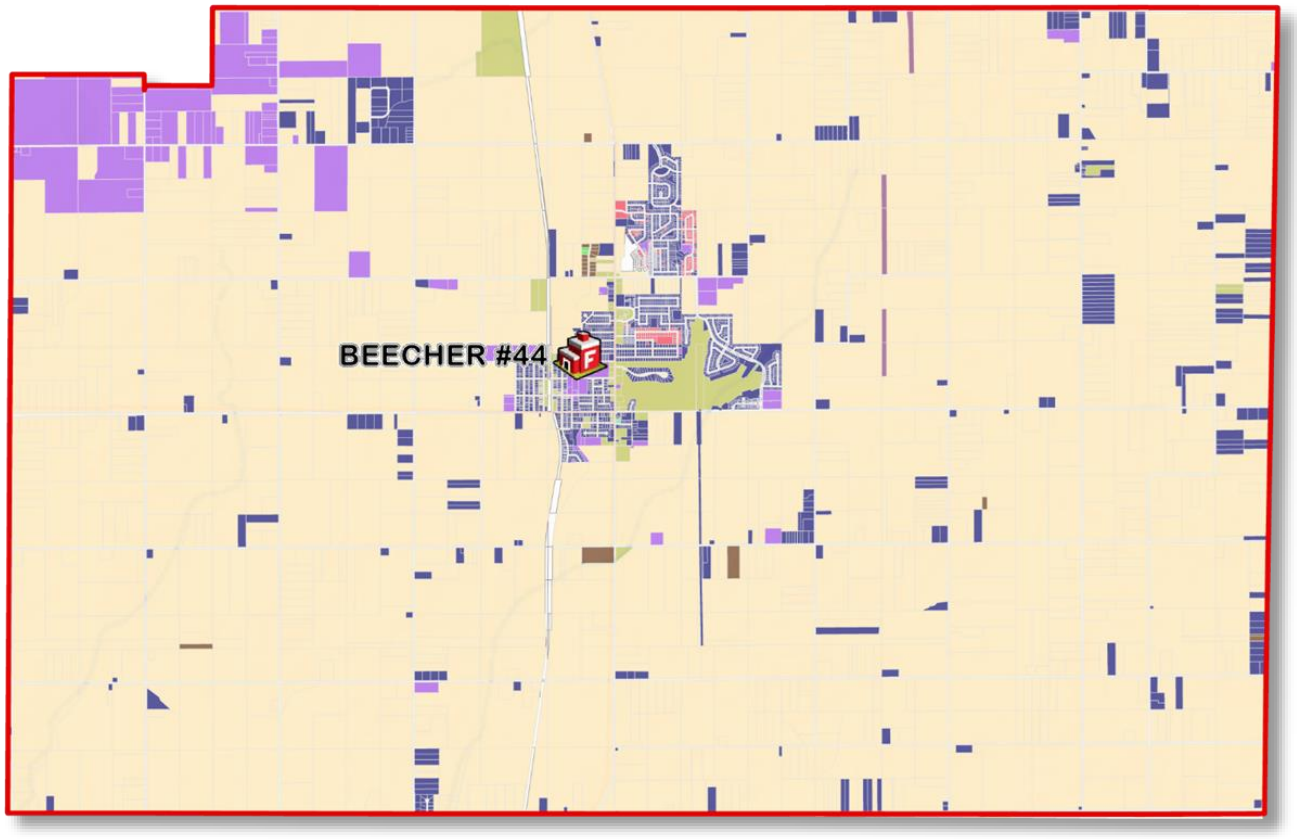
Figure 4.5: Zoning Districts

Zoning Districts	Purpose
AG-1 **Agriculture**	The AG-1 Agriculture District provides and preserves land for farming, horticulture, forestry, animal raising and breeding, and other forms of growing crops such as greenhouses within the village. The AG-1 District also allows farm homesteads, the sale of agricultural products and research/experimental farms.
RE **Residence Estate**	The RE Residence Estate District provides for residence estates including single-family detached dwellings, agriculture, and home occupations together. Special uses can be granted to locate uses such as religious institutions, cemeteries, golf courses, hospitals, nursery schools, parks, public utilities etc.
R-1 **Single-Family**	The R-1 Single-Family Residence District provides for single-family residential development within the village. The R-1 District provides for limited nonresidential uses that are compatible with surrounding residential neighborhoods.
R-1A **Single-Family**	The R-1A Single-Family Residence District allows single-family residential lots less than seventy-five feet (75') in width as conforming within the village. The R-1 District provides for limited nonresidential uses that are compatible with surrounding residential neighborhoods.
R-2 **Two Family**	The R-2 Two Family Residence District provides for two-family dwellings. The R-2 District provides for limited nonresidential uses that are compatible with surrounding residential neighborhoods.
R-3 **General Residence**	The purpose of R-3 General Residential District is to provide for, and preserve, quality higher density residential development, including multifamily dwellings. The R-3 district also provides for limited nonresidential uses that are compatible with surrounding residential neighborhoods, and allows a number of commercial uses as a special use.
B-1 **Historic Downtown**	The B-1 Historical Downtown Business District is designed to preserve and enhance the character of the older and original business area of the village. The B-1 district provides for a variety of commercial, office and institutional uses. With permission, residential units are permitted above the first floor.
B-2 **Local Business District**	The B-2 Local Business District promotes a mix of retail, personal service and office uses that meet the daily needs of local residents. The B-2 district permits a wider range of commercial uses than the B-1 district to accommodate incompatible uses in the B-1 district. With permission, residential units are permitted above the first floor.
B-3 **General Business and Service District**	The B-3 General Business and Service District accommodates a variety of related shopper-type businesses and personal services with other complimentary uses. The B-3 district permits a wider range of uses than the B-2 and B-1 districts, and with permission, allows residential units above the first floor.
I-1 **Limited Industrial**	The I-1 Limited Industrial District provides land for development by industrial firms with high standards of performance which are still compatible with residential and business districts. The I-1 district permits most manufacturing, wholesaling, and warehousing facilities with adequate protection to adjacent uses and sufficient control of external effects.
GI **Government and Institutional**	The GI Government and Institutional District permits municipal and other public oriented uses separate from residential, commercial, and industrial uses. This includes municipal office buildings, public safety buildings, churches and schools, public works facilities, and utility and water management facilities are detention areas.

Figure 4.4: Existing Land Use



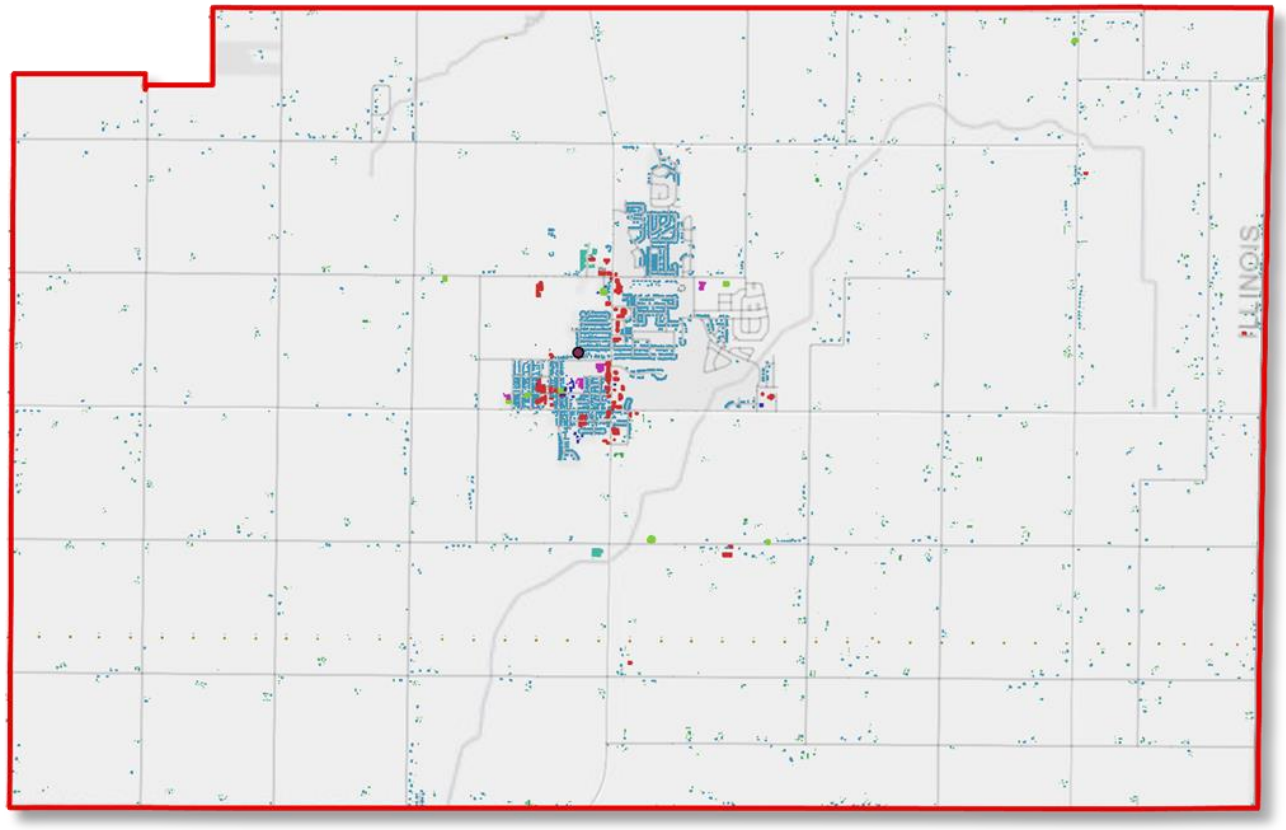
Source: Will County and Village of Beecher



PARCEL PROPERTY CLASS

- Commercial (118)
- Exempt (144)
- Farm (1133)
- Residential Developers Relief (207)
- Commercial Developers Relief (1)
- Industrial (26)
- Industrial Developers Relief (2)
- Industrial Land (Farm Leased) (5)
- Industrial Recreational (0)
- Residential (2553)
- Mineral Rights (1)
- Commercial Recreational (1)
- Commercial Land - Farm Leased (0)
- No Data (53)

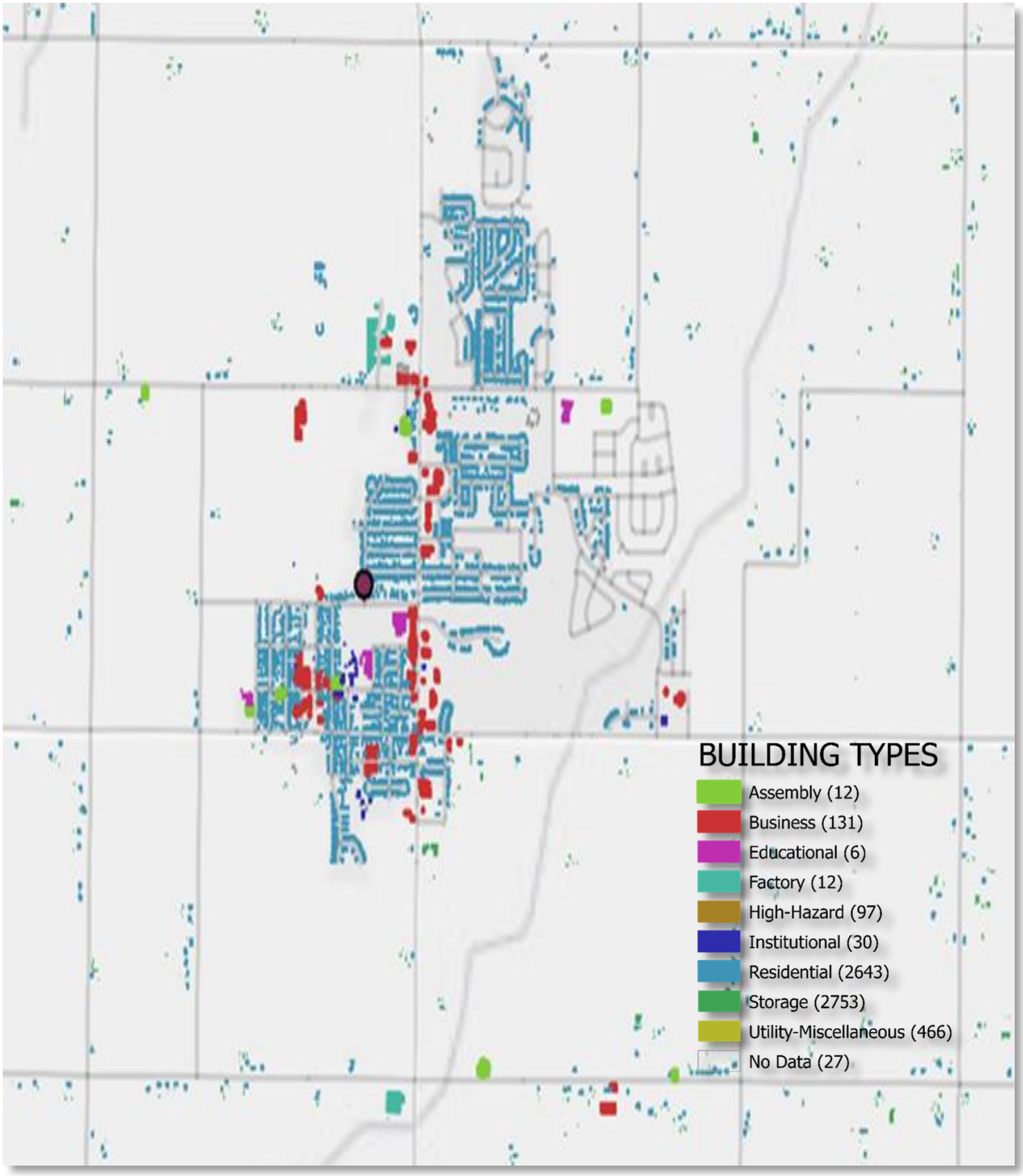
Building Types



BUILDING TYPES

- Assembly (12)
- Business (131)
- Educational (6)
- Factory (12)
- High-Hazard (97)
- Institutional (30)
- Residential (2643)
- Storage (2753)
- Utility-Miscellaneous (466)
- No Data (27)

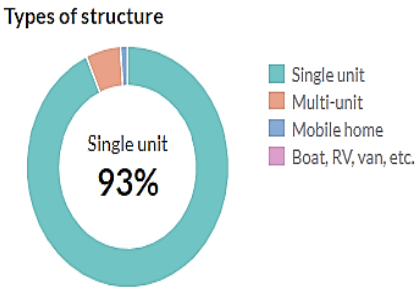
Building Types – Village closeup



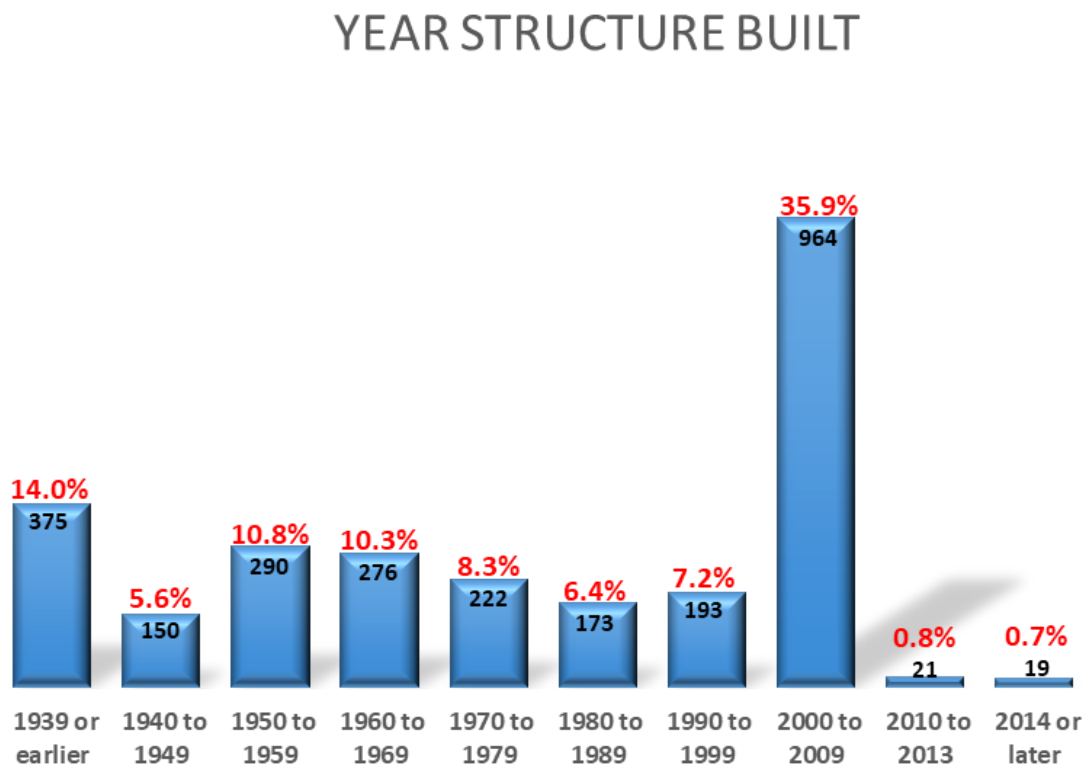
Aerial View

Structure Inventory

All Building Types		Risk Level	%	
Assembly	12	H	0.2%	
Business / Mercantile	131	M	2.1%	
Educational	6	H	0.1%	
Factory / Manufacturing	12	M-H	0.2%	
High-Hazard	97	H	1.6%	
Institutional	30	M	0.5%	
Residential	**2504**	M-H	**40.5%**	***77.2%** not counting Storage*
Multifamily	**149**	M-H	**2.4%**	
Storage	2753	M	44.5%	
Utility-Misc.	466	M	7.5%	
No Data	27	-	0.4%	
TOTAL COUNT	**6187**			



Year Structures Built

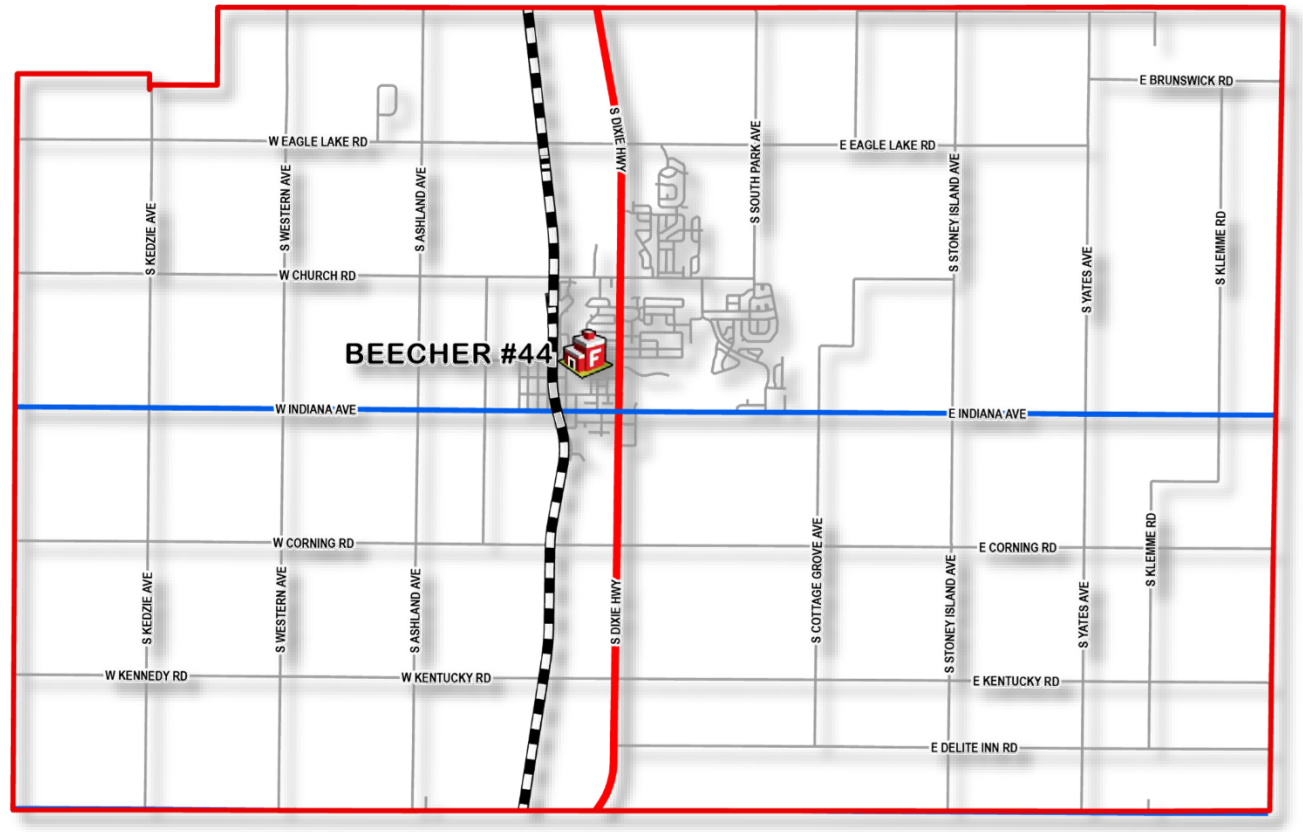


Transportation Network

Trains

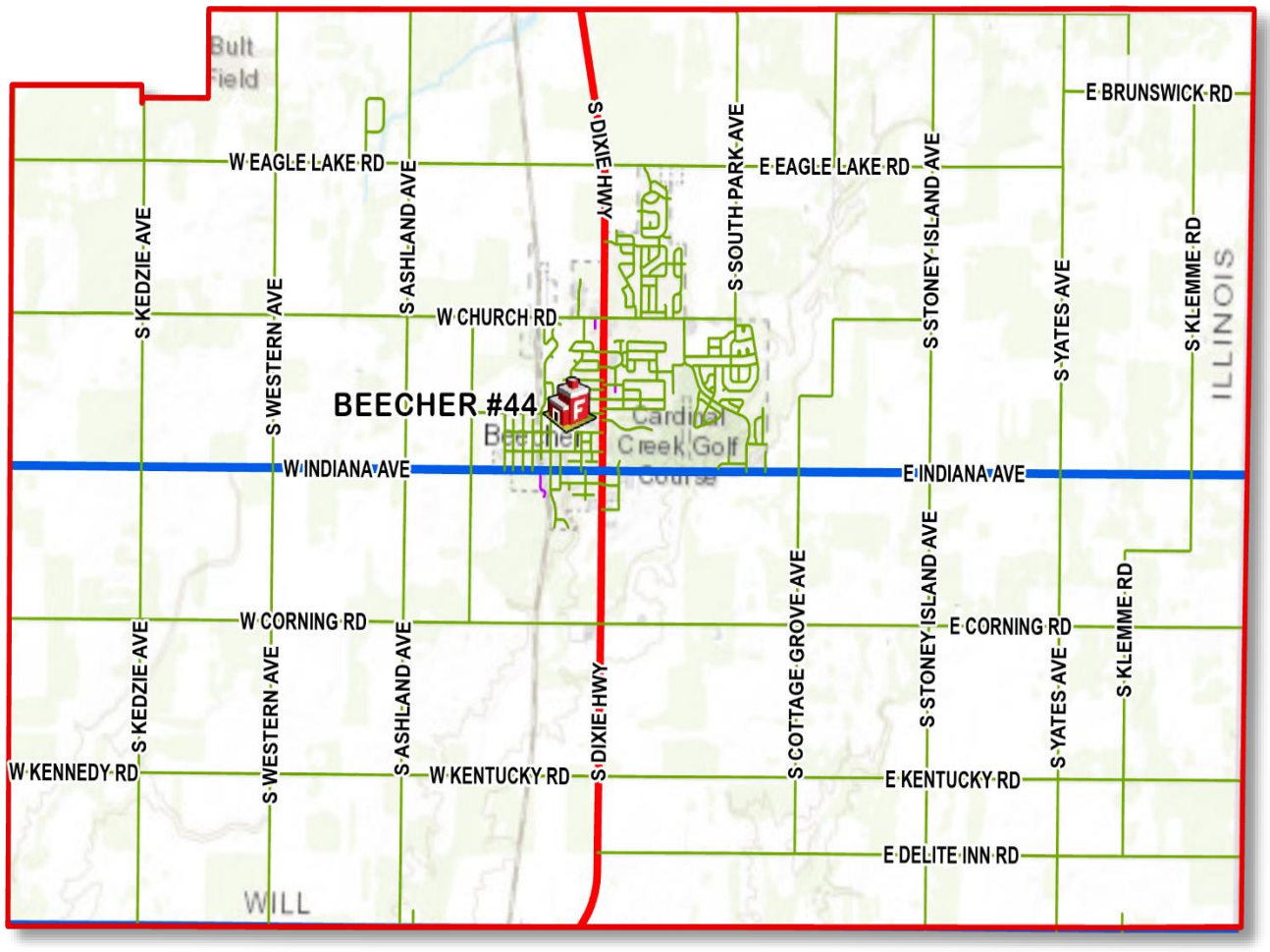
The **Union Pacific** line crosses through the District on two parallel rails. Primarily, freight trains utilize this line extensively, including CSX and UP.

HAZARDOUS MATERIAL COMMODITY FLOW REPORT (2020 Data)								
RAIL COMPANY	TRAINS				CARS	CHEMICALS		
	Daily	Weekly	Monthly	Yearly	Total Carload	types # Chemicals	Crossings	Overpass
Union Pacific	24	168	672	**8,064**	**9,342**	**265**	6	1
CSX	*unable to obtain*			**?**	**41,671**	**201**		
total	**24**	**168**	**672**	**8,064**	**51,013**	**466**	**6**	**1**



Transportation Network

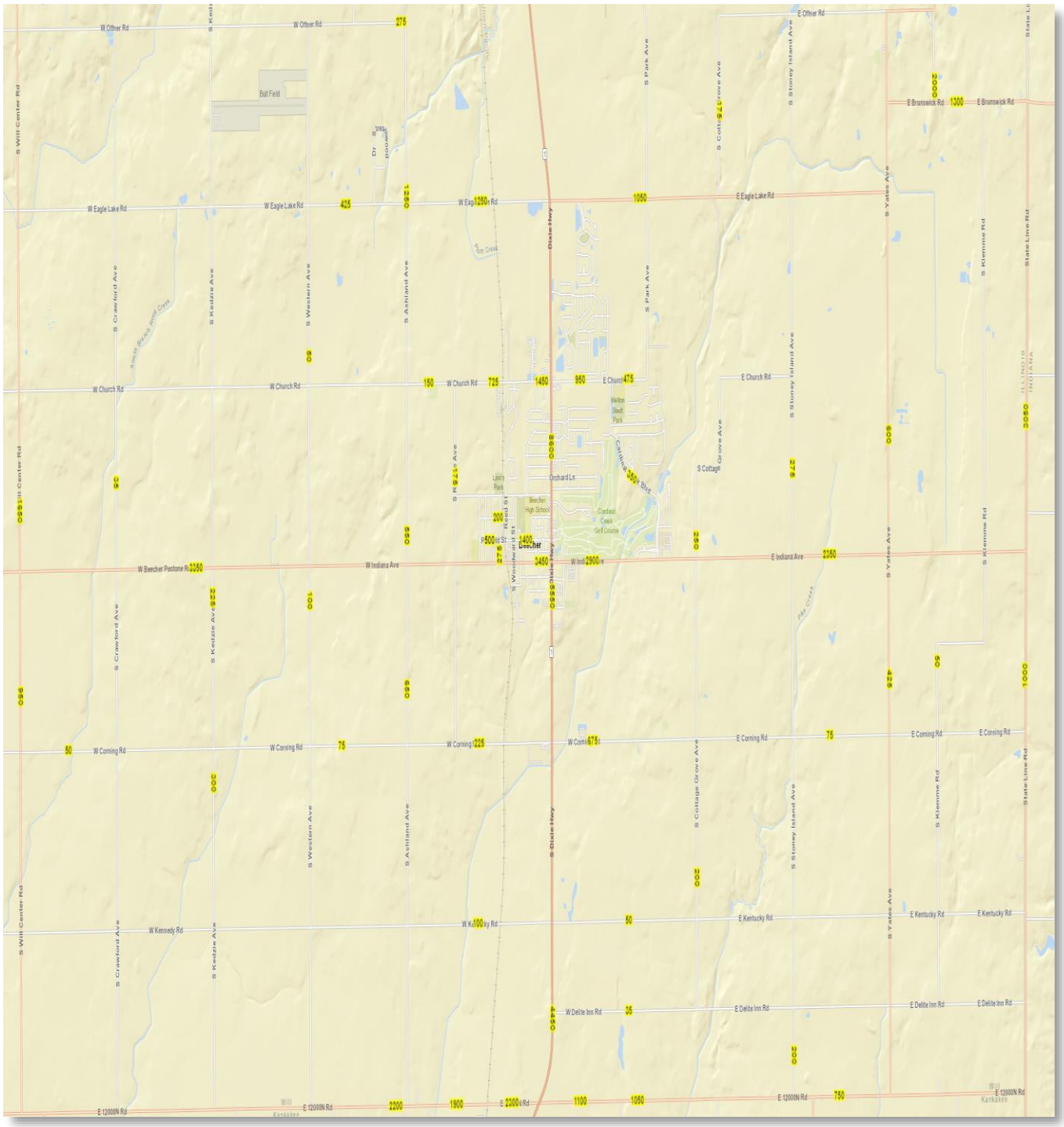
- State
- County
- Other
- Railroad



ROAD NETWORK

Street Mileage Total: 164.51

- State (42)
- County (59)
- Local (555)
- Other (3)



https://www.gettingaroundillinois.com/Traffic%20Counts/index.html

11,000 vehicles per day

on Dixie Hwy *(16% Trucks)*

Illinois Department of Transportation

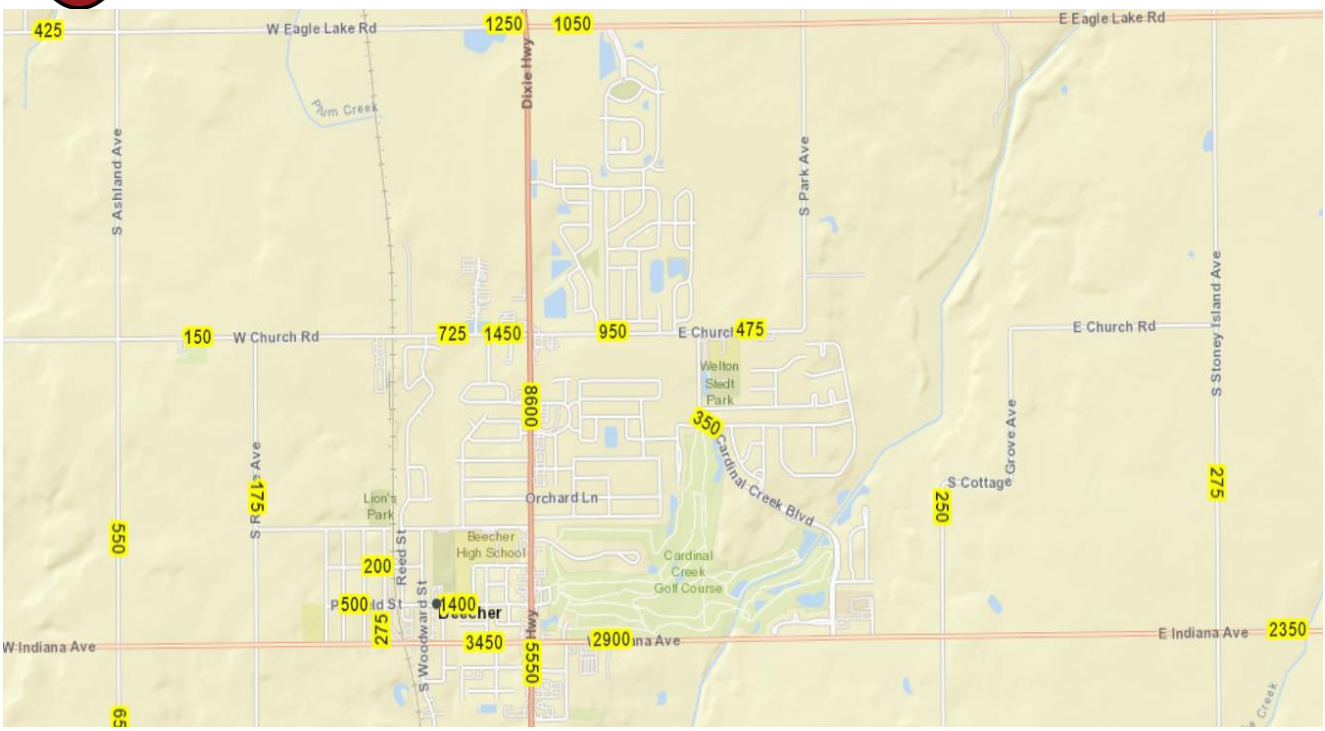
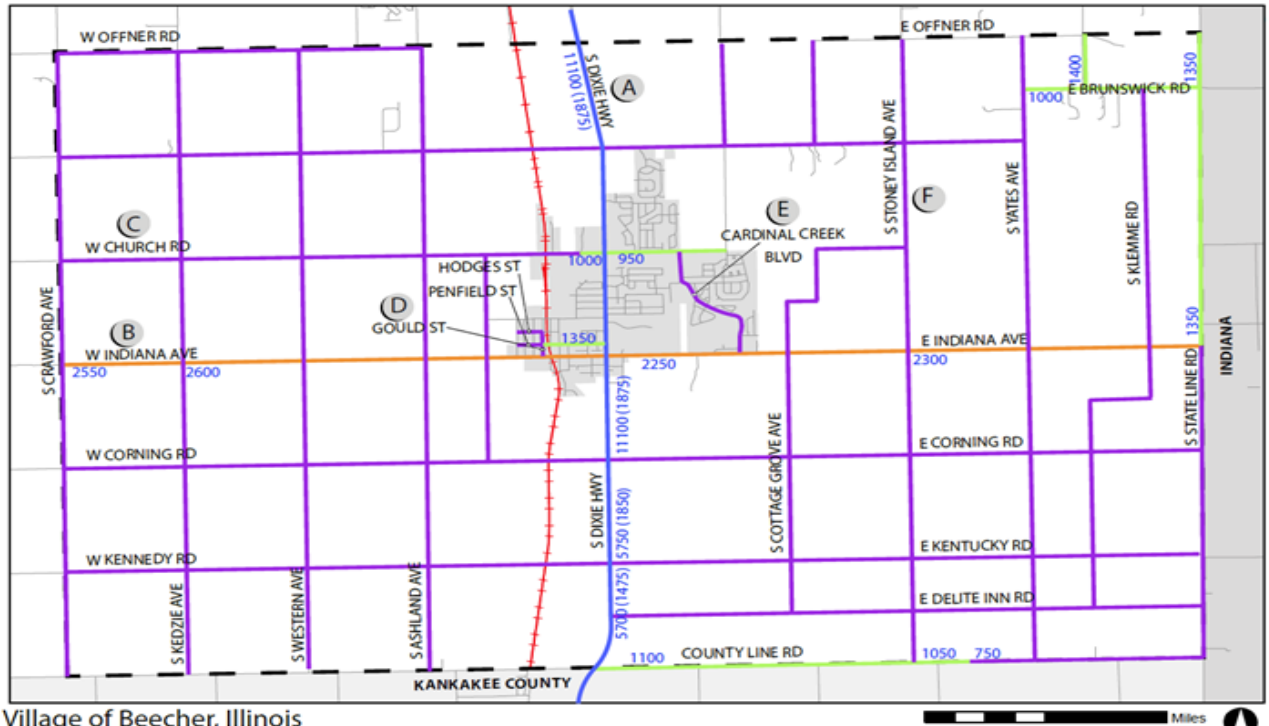


Figure 6.2: Regional Transportation Map



Village of Beecher, Illinois

Comprehensive Plan

Railroad
Beecher Limits
Planning Area
Streets
750 ADT
750-1500 ADT
1500-3000 ADT
3000+ ADT
1100 2016 ADT Counts
(900) 2016 Truck ADT Counts
ADT = Average Daily Traffic

Source: Getting Around Illinois, IDOT, June 2018

Will County - Inland Port

According to the Will County Center for Economic Development (CED), in the last fifteen (15) years, **Will County** has become the **Largest Inland Port in North America**, with the development of two large modern intermodal centers and the addition of over 100M square feet of new industrial space plan for development just to the west of the District, in nearby Joliet. Over 3 million international and domestic containers flow through the port annually, carrying over $65 billion worth of products, including 70 million+ bushels of grain.

Due to its strategic location at the confluence of six Class I railways, five interstate highways, three navigable waterways, and proximity to major airports, Will County has emerged as the largest inland port in North America volumes.

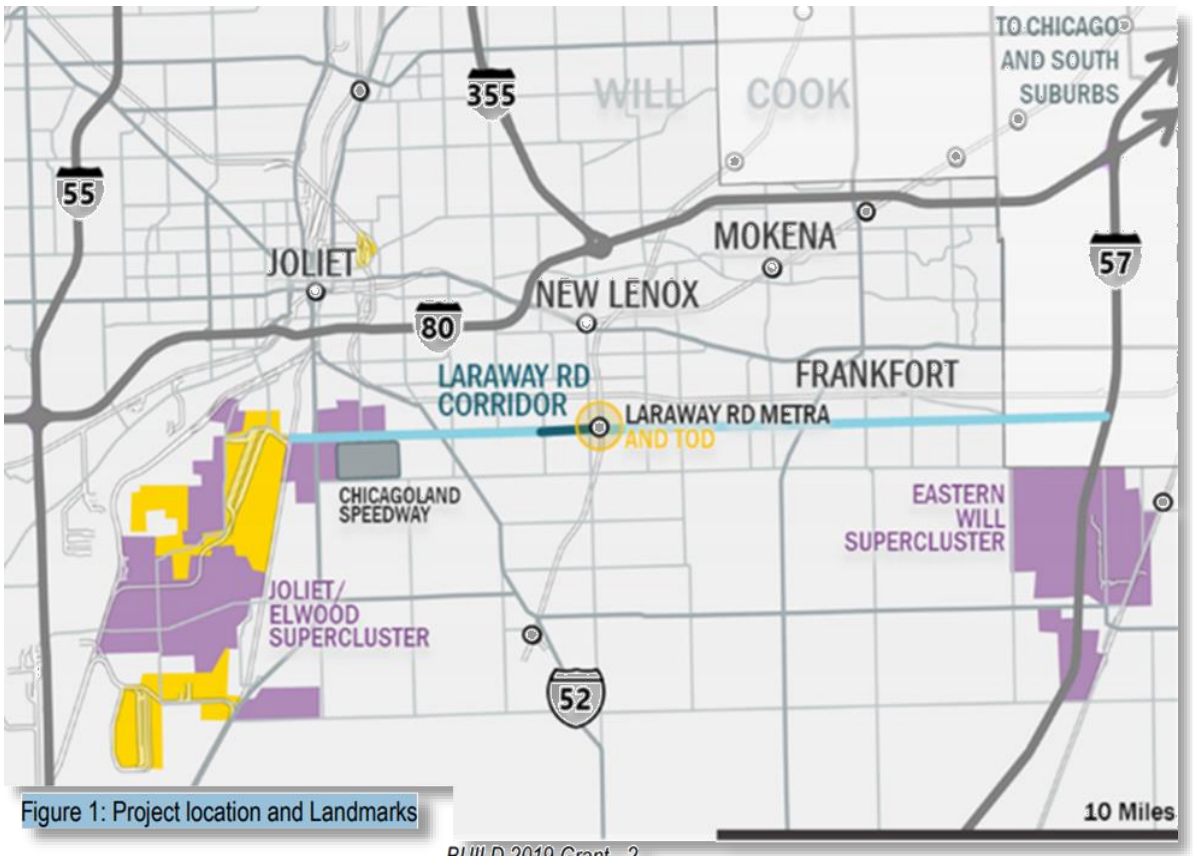


Figure 1: Project location and Landmarks

BUILD 2019 Grant - 2

Planned Development

According to the Beecher 2040 Comprehensive Plan, several regional transportation projects have the potential to impact Beecher and long-term planning. Several proposed projects shall significantly affect the District if completed. These include, but are not limited to:

- South Suburban Airport (SSA)
- CSX Intermodal Facility (just north of District in nearby Crete)
- Illiana Crossroads Business Park
- Illiana Expressway
- Beecher Bypass (Rt 1/Dixie Highway)

It should be noted that the Beecher 2040 Comprehensive Plan considers that the planning and development of these projects are ongoing. Still, none are currently advancing to such a degree that they are expected to come to fruition within the lifetime of the Plan.

For further in-depth information, see the excellent Beecher 2040 Comprehensive Plan -https://www.cmap.illinois.gov/programs/lta/beecher)

South Suburban Airport (SSA)

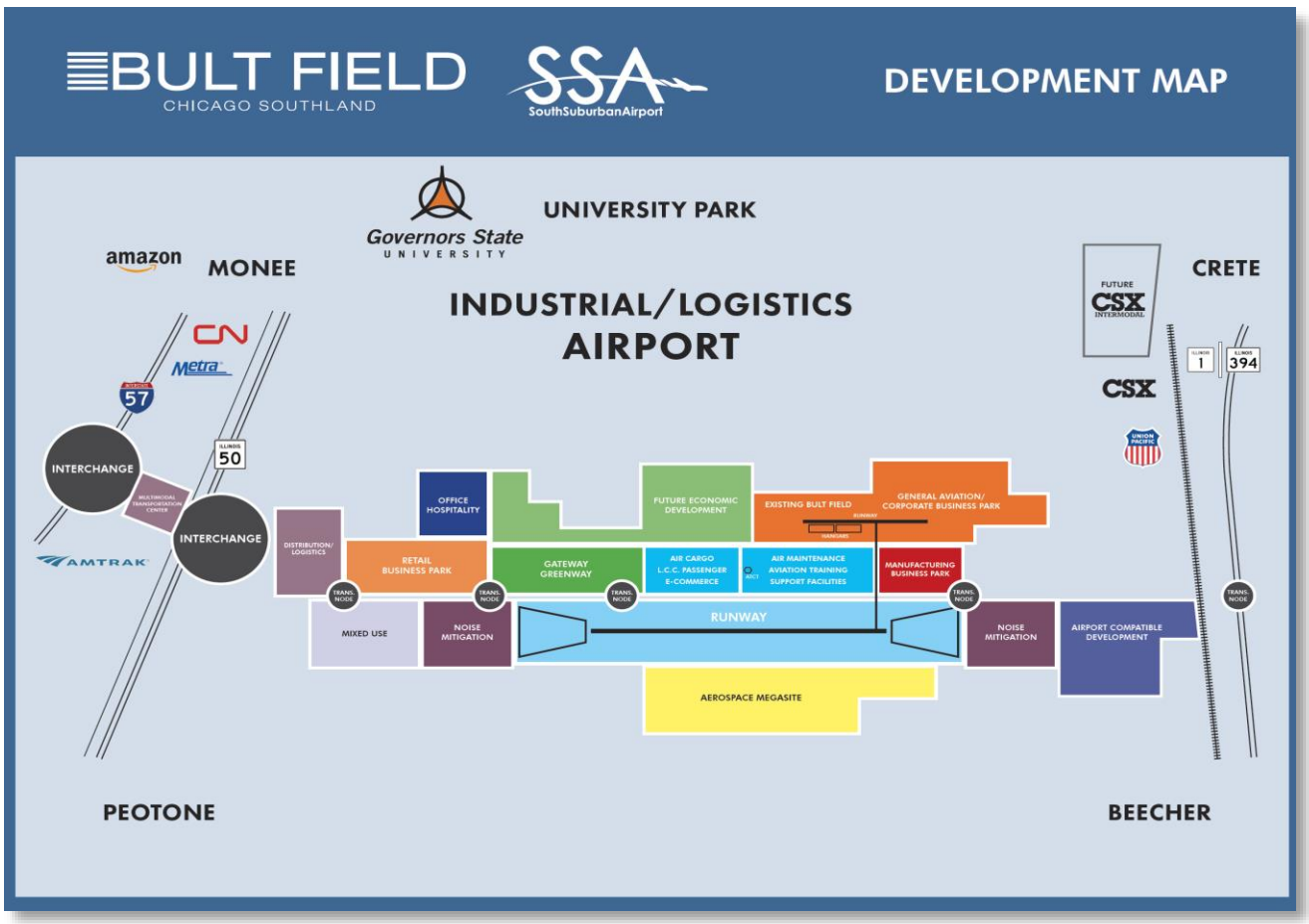
The most significant impact would be the proposed South Suburban Airport (SSA) at Bult Field, currently the extreme Northwest corner of the District. Bult Field is now a small general and corporate airfield with a 5,000' runway and hangars. However, master planning is underway to develop this area into the third major commercial airport in the Chicagoland area. The "South Suburban Airport (SSA)" is contested locally by some and significantly impacts the Fire Protection District, requiring much planning and federal assistance if/when it comes to fruition. Currently, the proposed footprint lies within two other Fire Districts– Peotone and Manteno.

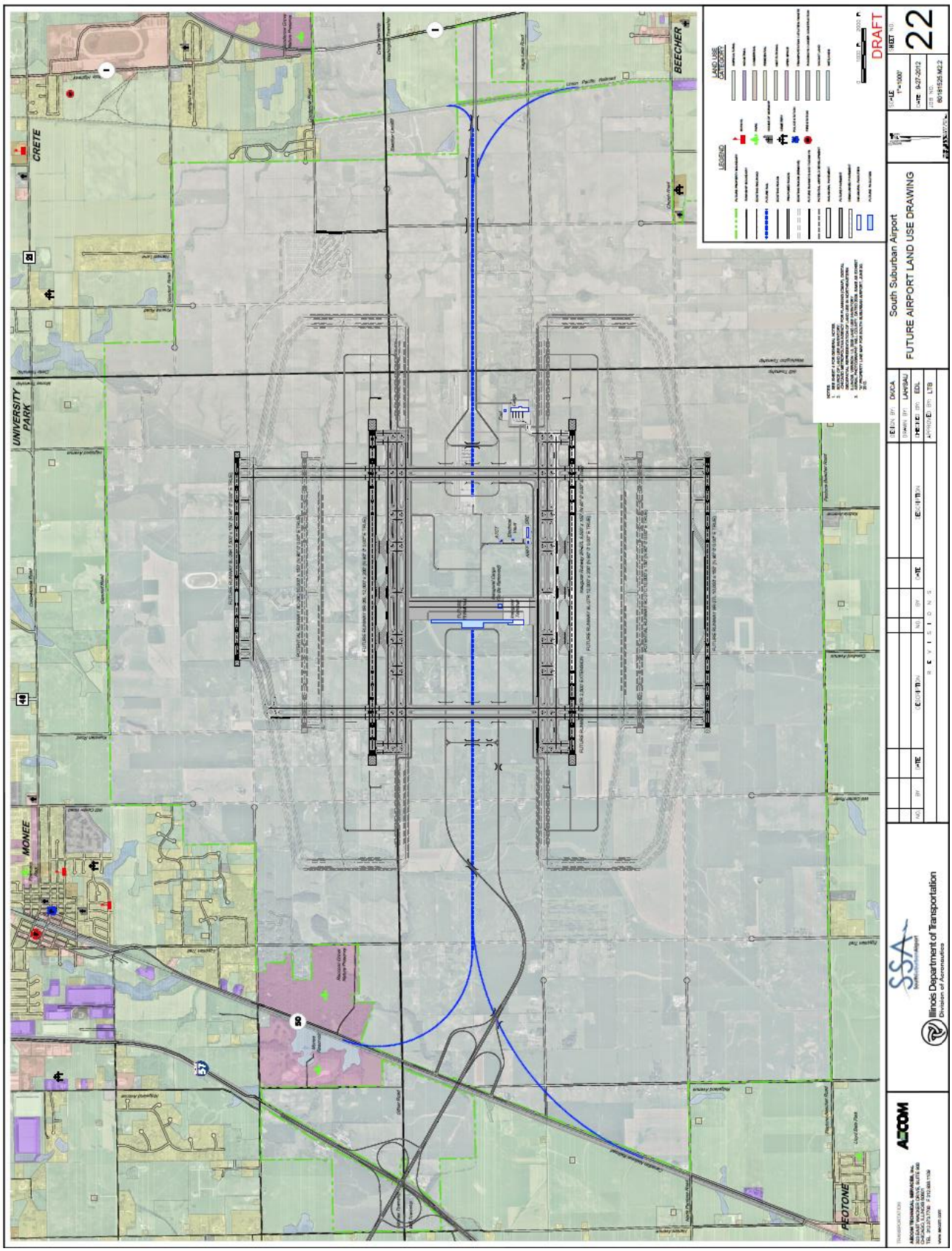
IDOT has recently earmarked **$ 205.5 million** to install a brand-new interchange at I-57 and Eagle Lake Road to service the SSA. Additionally, IDOT purchased Bult Field in 2014 for **$34 million** and surrounding land purchases in excess of **$97 million** to date for 4,600 acres of the estimated needed 5,800 acres.

Given the substantial expenditures and budgeted infrastructure improvements planned, it is likely that this airport may finally come to fruition. As such, planning and preparations should continue to prepare for this major change and impact on the District.

As identified in the following maps, this project's final design phase may **significantly impact** nearly 25+% of the District. The following maps and diagrams are detailed concept master plans for the SSA.


BULT FIELD
CHICAGO SOUTHLAND


BULT FIELD
CHICAGO SOUTHLAND
SSA
SouthSuburbanAirport
DEVELOPMENT MAP
UNIVERSITY PARK
Governors State
UNIVERSITY
amazon
MONEE
CRETE
INDUSTRIAL/LOGISTICS
AIRPORT
FUTURE
CSX
INTERMODAL
CSX
CN
Metra
57
50
1
394
INTERCHANGE
INTERCHANGE
AMTRAK
OFFICE
HOSPITALITY
FUTURE ECONOMIC
DEVELOPMENT
EXISTING BULT FIELD
GENERAL AVIATION/
CORPORATE BUSINESS PARK
DISTRIBUTION/
LOGISTICS
RETAIL
BUSINESS PARK
GATEWAY
GREENWAY
AIR CARGO
L.C.C. PASSENGER
E-COMMERCE
AIR MAINTENANCE
AVIATION TRAINING
SUPPORT FACILITIES
MANUFACTURING
BUSINESS PARK
TRANS.
NODE
MIXED USE
NOISE
MITIGATION
RUNWAY
NOISE
MITIGATION
AIRPORT COMPATIBLE
DEVELOPMENT
AEROSPACE MEGASITE
PEOTONE
BEECHER


BEECHER
CRETE
UNIVERSITY PARK
MONEE
PEOTONE
DRAFT
South Suburban Airport
FUTURE AIRPORT LAND USE DRAWING
SSA
Illinois Department of Transportation
Division of Aeronautics
AECOM

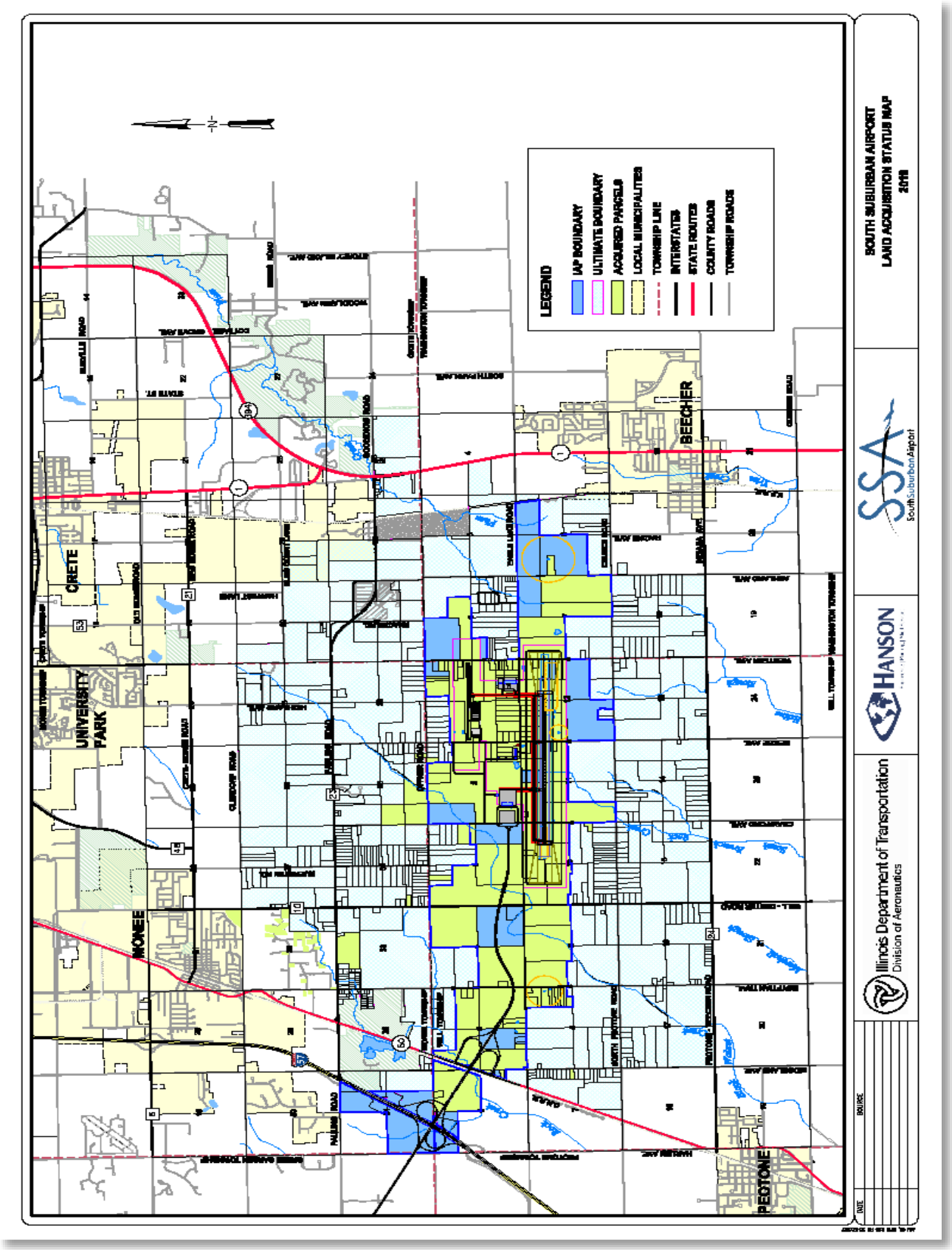
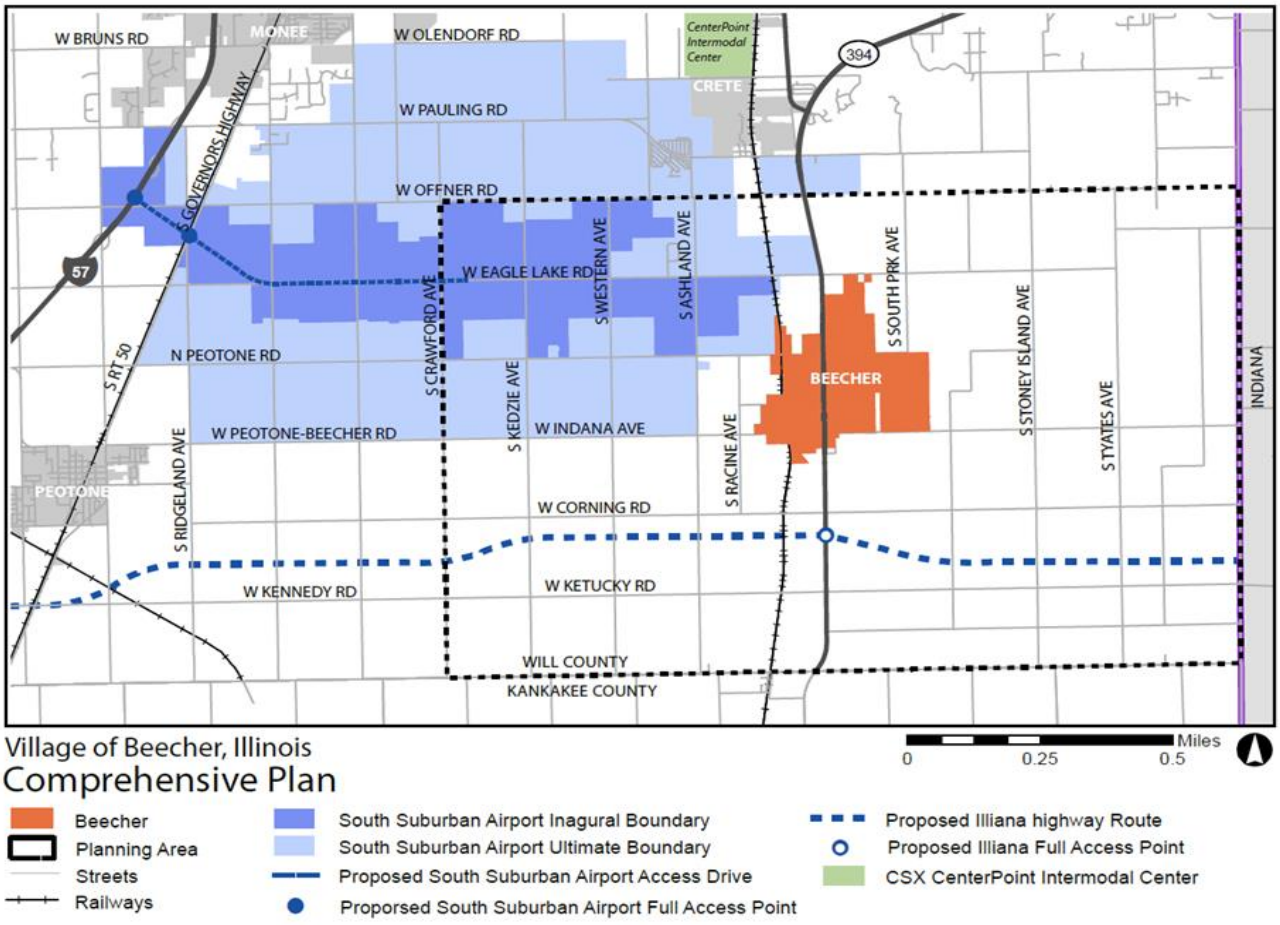

LEGEND
IAP BOUNDARY
ULTIMATE BOUNDARY
ACQUIRED PARCELS
LOCAL MUNICIPALITIES
TOWNSHIP LINE
INTERSTATES
STATE ROUTES
COUNTY ROADS
TOWNSHIP ROADS
SOUTH SUBURBAN AIRPORT
LAND ACQUISITION STATUS MAP
2018
SSA
South Suburban Airport
HANSON
Illinois Department of Transportation
Division of Aeronautics
BEECHER
CRETE
UNIVERSITY PARK
MONEE
PEOTONE
DATE
BRUSE

Figure 6.1: Future Regional Improvements



Source: South Suburban Airport Layout Plan (IDOT); Illinois Department of Transportation; CSX

CSX Intermodal - Crete

Five miles to the north of the District's boundaries in Crete is a planned Intermodal Facility. While this is not within the District, historically, these types of development increase commercial warehouse development in the nearby areas and increase truck traffic to and from those mega-type facilities.

Illiana Crossroads Business Park

Illiana Crossroads Business Park is a planned commercial development slated to be on the south side of Church Rd, west of Dixie Highway. New construction usually includes complete fire protection systems (sprinklers/alarms) up to current codes and therefore, dramatically reduces the potential fire impact and needed fire flows for such structures.

Illiana Expressway

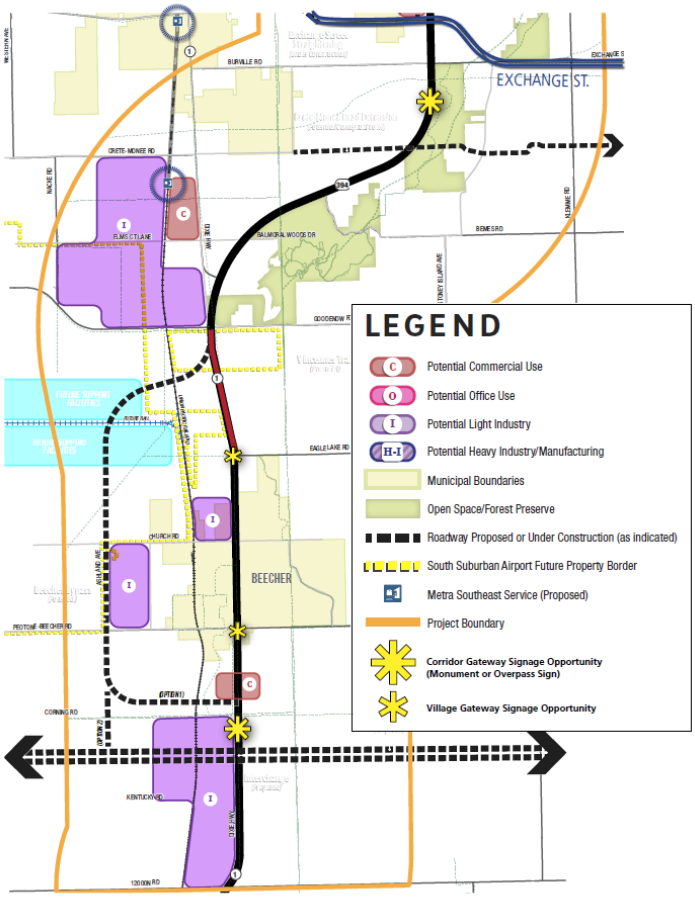
This proposed expressway is not currently budgeted in the short term. However, it is planned to run south of and parallel to Indiana Road from I-57 to connect to the east and I-65 in Indiana. Eventually, the concept plan would connect the west to I-355.

However, as the State of Illinois looks to increase the commercial development of the "inland port" in Will County and the possibility of the South Suburban Airport, the District needs to keep this project on the long-term radar.

Beecher Bypass

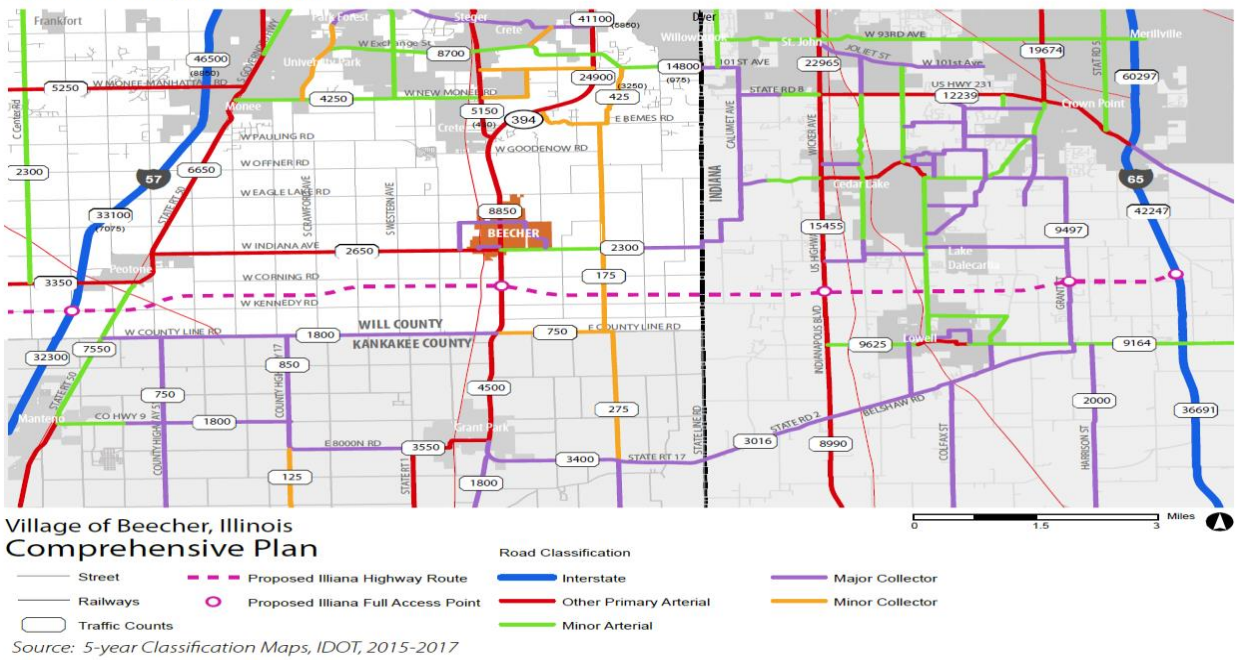
Both plans from the Beecher 2040 Comprehensive Plan and the Will County 2017 Community Friendly Mobility Plan discuss the possibility of a bypass extension of Dixie Highway (IL Route 1 and Class II Truck Route) to circumvent the village to the west (likely aligned along Ashland Ave) as shown to the right. It is anticipated that this bypass and the proposed Illiana Expressway would then intersect.

Figure 1.3: South Section of the Land Use Framework Map, IL Route 394/IL Route 1



Source: IL Route 394/IL Route 1 Corridor Plan

Figure 6.3: Existing Road Network



Source: 5-year Classification Maps, IDOT, 2015-2017

Figure 3.4: Future Land Use Plan

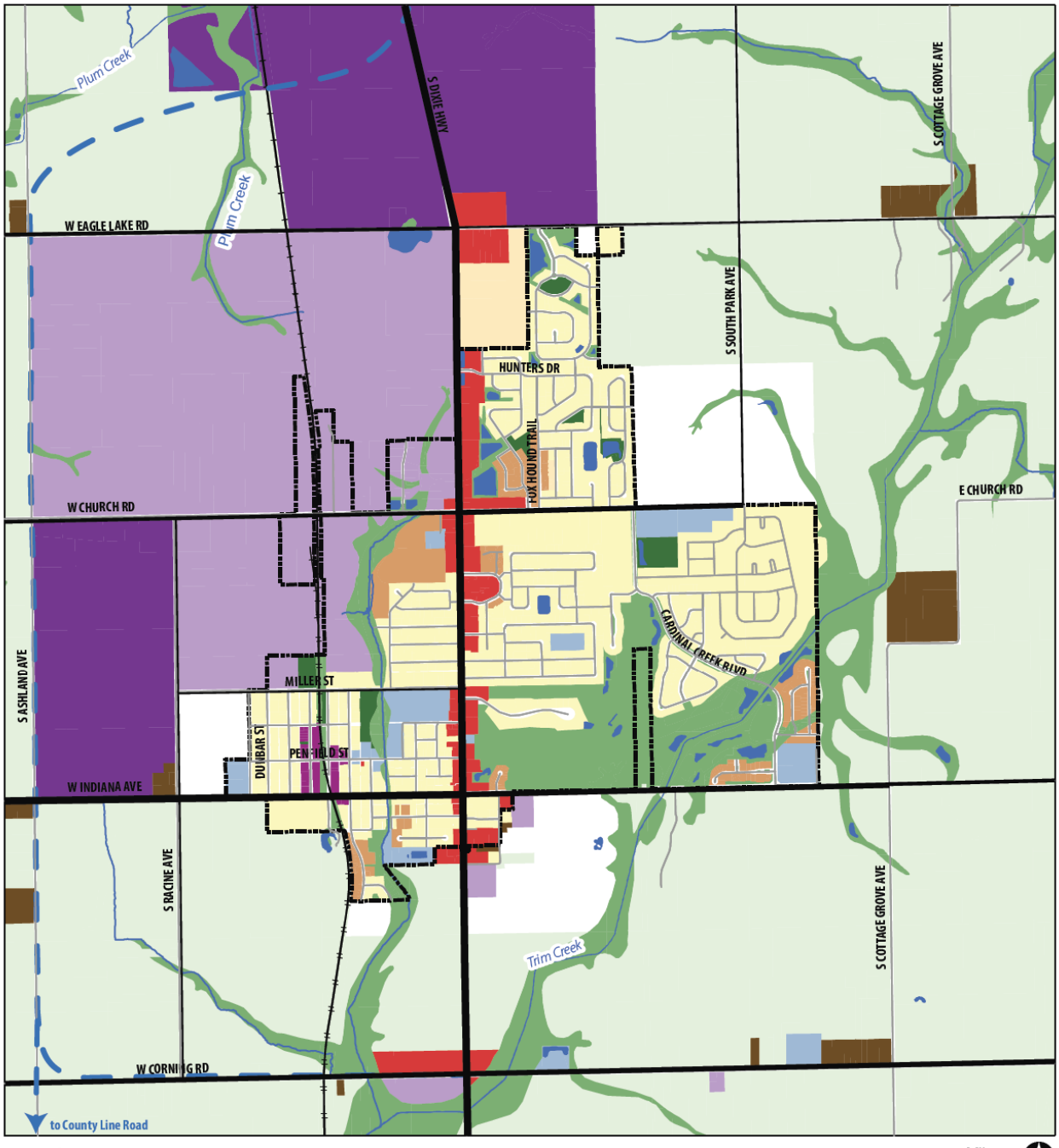
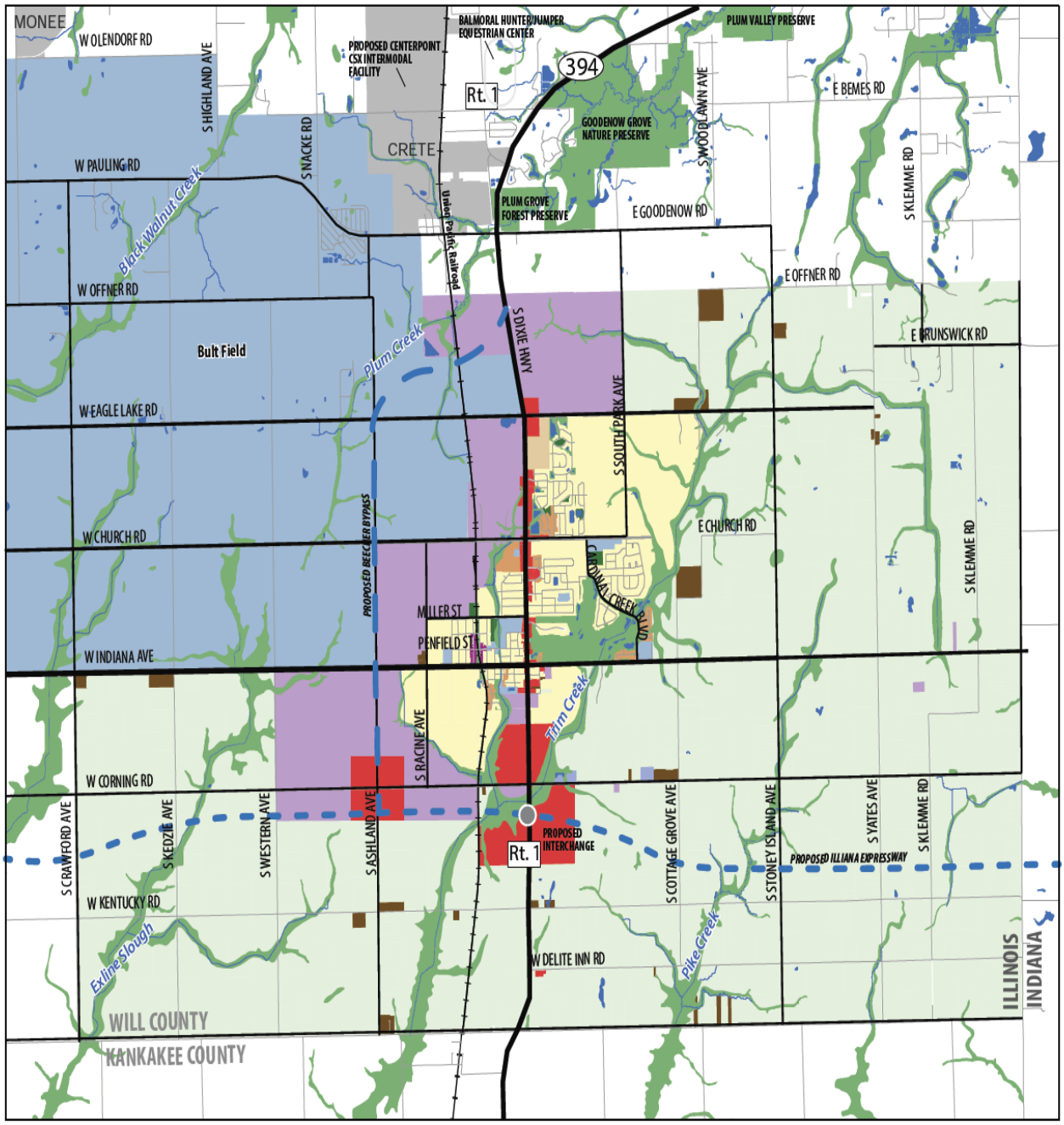


Figure: A.1 Airport & Illiana Alternative Future Land Use Plan

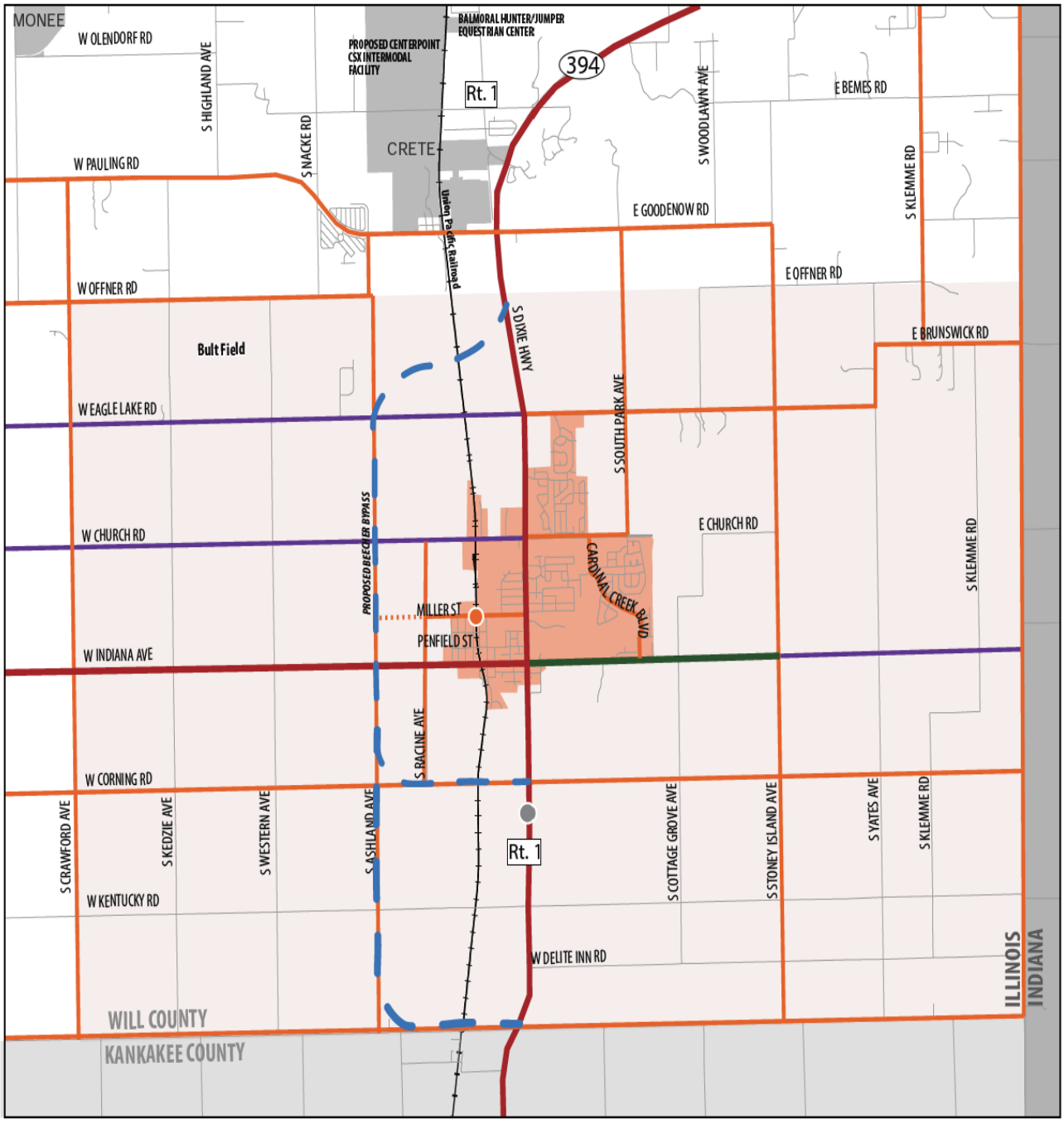


BEECHER 2040
PLAN FOR THE FUTURE

AIRPORT & ILLIANA ALTERNATIVE FUTURE LAND USE PLAN

0 0.5 1 2 Miles

- Township Limits
- Railroad
- Water Bodies
- Mixed-Use
- Commercial
- Industrial/Office
- Institutional
- Rural Residential
- Single-Family Residential
- Two-Family Residential
- Multi-Family Residential
- Agriculture
- Open Space
- Park
- Proposed South Suburban Airport (Ultimate Boundary)
- Proposed Beecher Bypass
- Proposed Illiana Expressway



BEECHER 2040 PLAN FOR THE FUTURE

TRANSPORTATION PLAN

Miles
0 0.5 1 2

- Village Limits
- Planning Area
- Railroad
- Potential Grade Separated Crossing
- Interstate
- Other Primary Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Proposed Extension as Minor Collector
- Local Street
- Potential Beecher Bypass Routes

Figure 4.8: Senior Housing Opportunity Sites

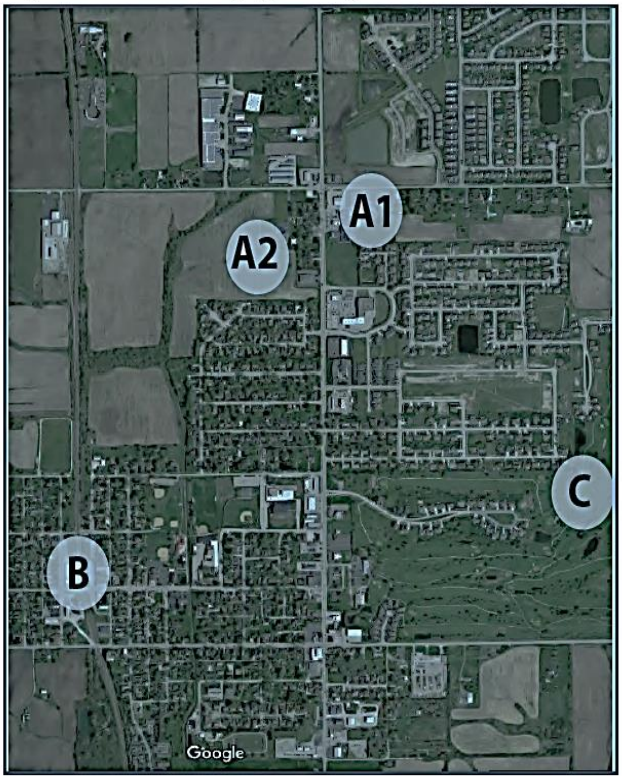
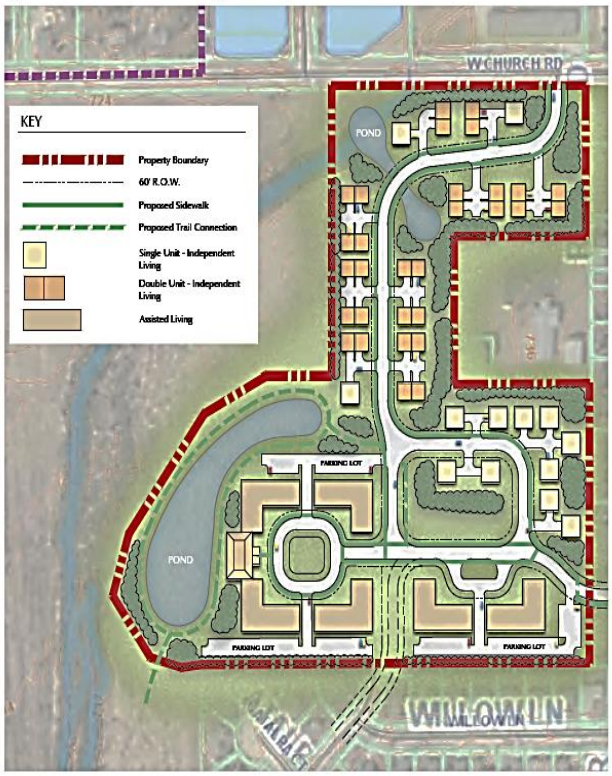


Figure 4.9: Senior Housing Concept Plan



INFILL EXISTING VACANT LOTS

The Village has 300 acres that are set aside for residential uses. Some of those parcels are vacant lots in existing subdivisions whereas others are undeveloped residential subdivisions that already have approval but were never developed as a result of the Great Recession. Much of Beecher's anticipated growth during the life of the Beecher 2040 Plan can be accommodated in these areas, though if there is increased demand, the Future Land Use Plan indicates areas where further residential development is preferred.

Figure 3.5: Existing and Holding Capacity Population

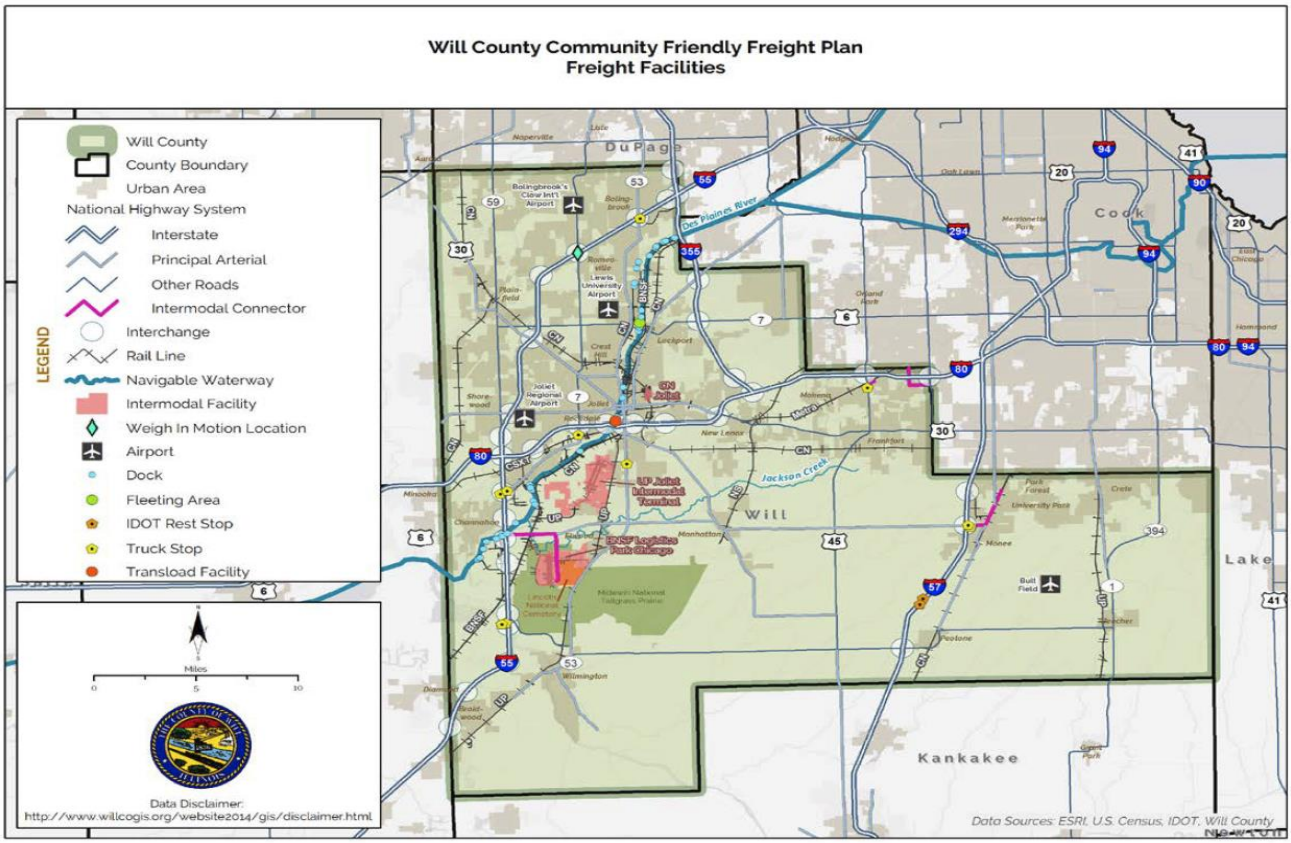
Acres/Population	Existing 2019, within Village Limits	Additional within Village Limits	Additional within Planning Area	Maximum Capacity within Planning Area
Developed Residential Acres	440	347	431	1,542
Population	4,472	2,514	3,121	16,596

Note: Planning area 2018 population includes 6,360 in Washington Township (ACS) and estimated 129 in Will Township

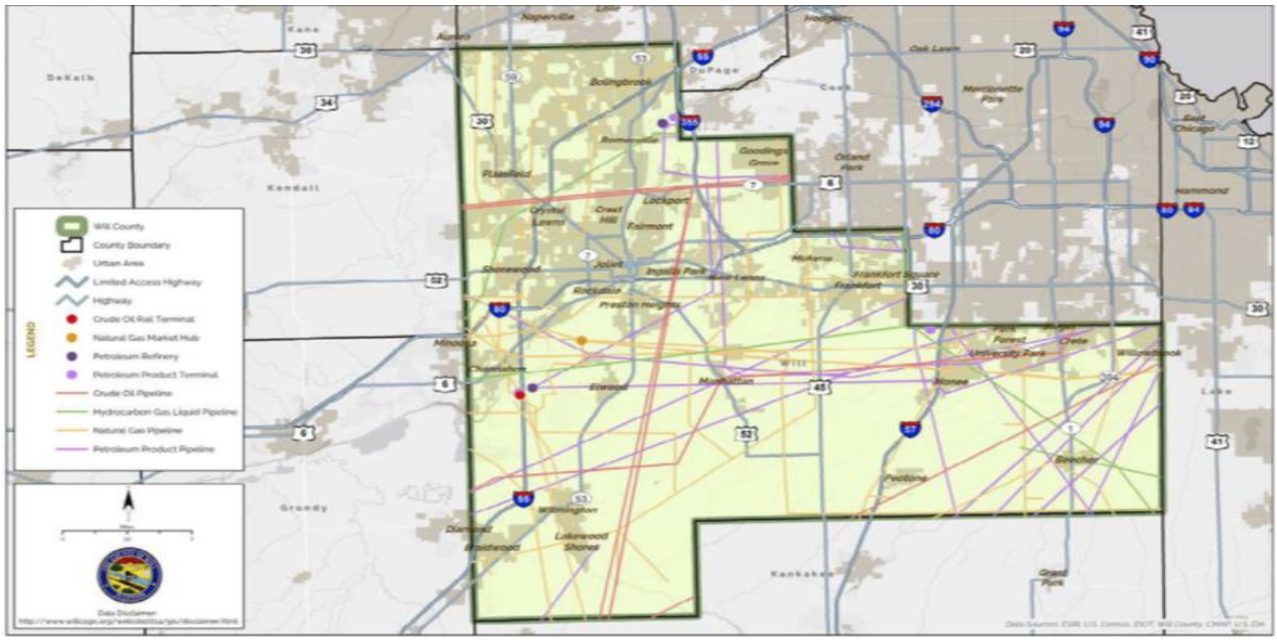
Will County Community Friendly Freight Plan – Current & Future

https://www.willcountyboard.com/uploads/2/6/1/1/26116196/will_county_freight_exec_sum_lo_res_21sept17.pdf

The following maps and charts are supporting documentation and reference from the Will County Community Freight Plan (2017).



PIPELINES



TRUCK COUNTS AND DENSITY

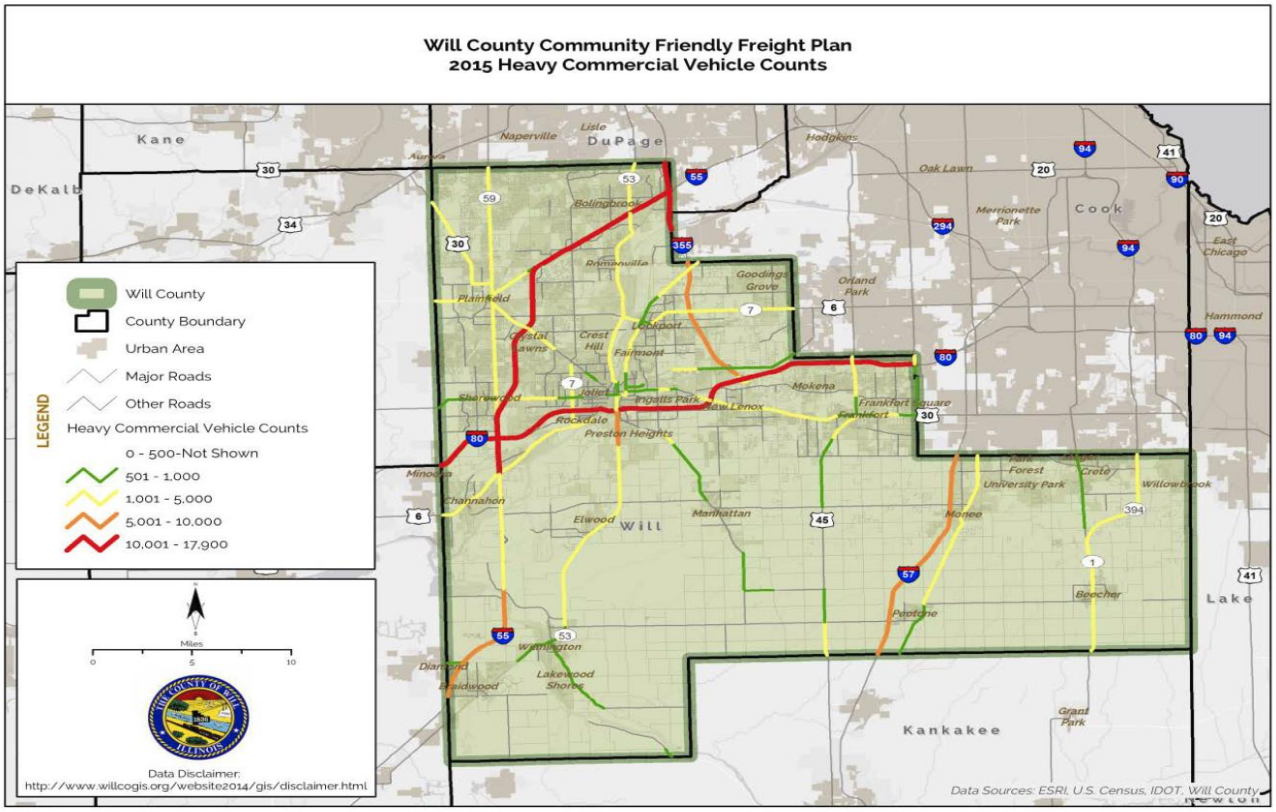
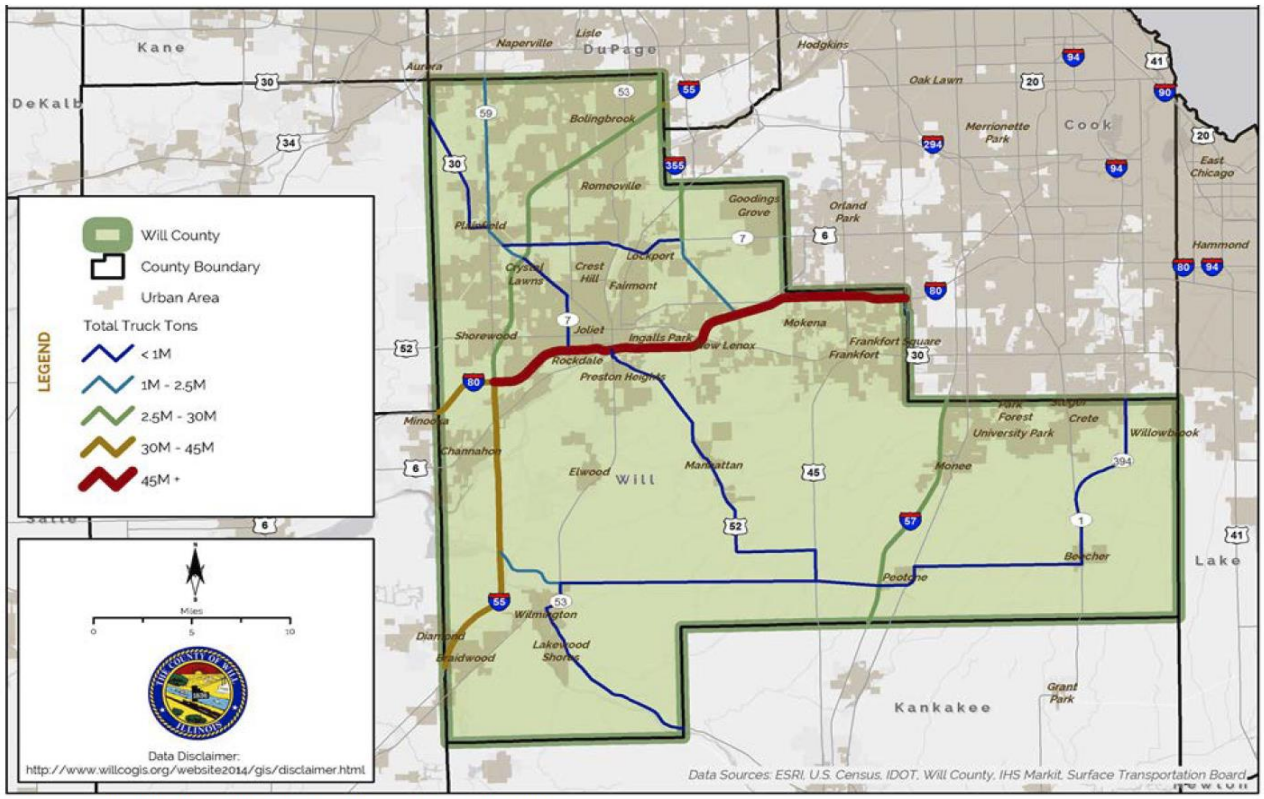
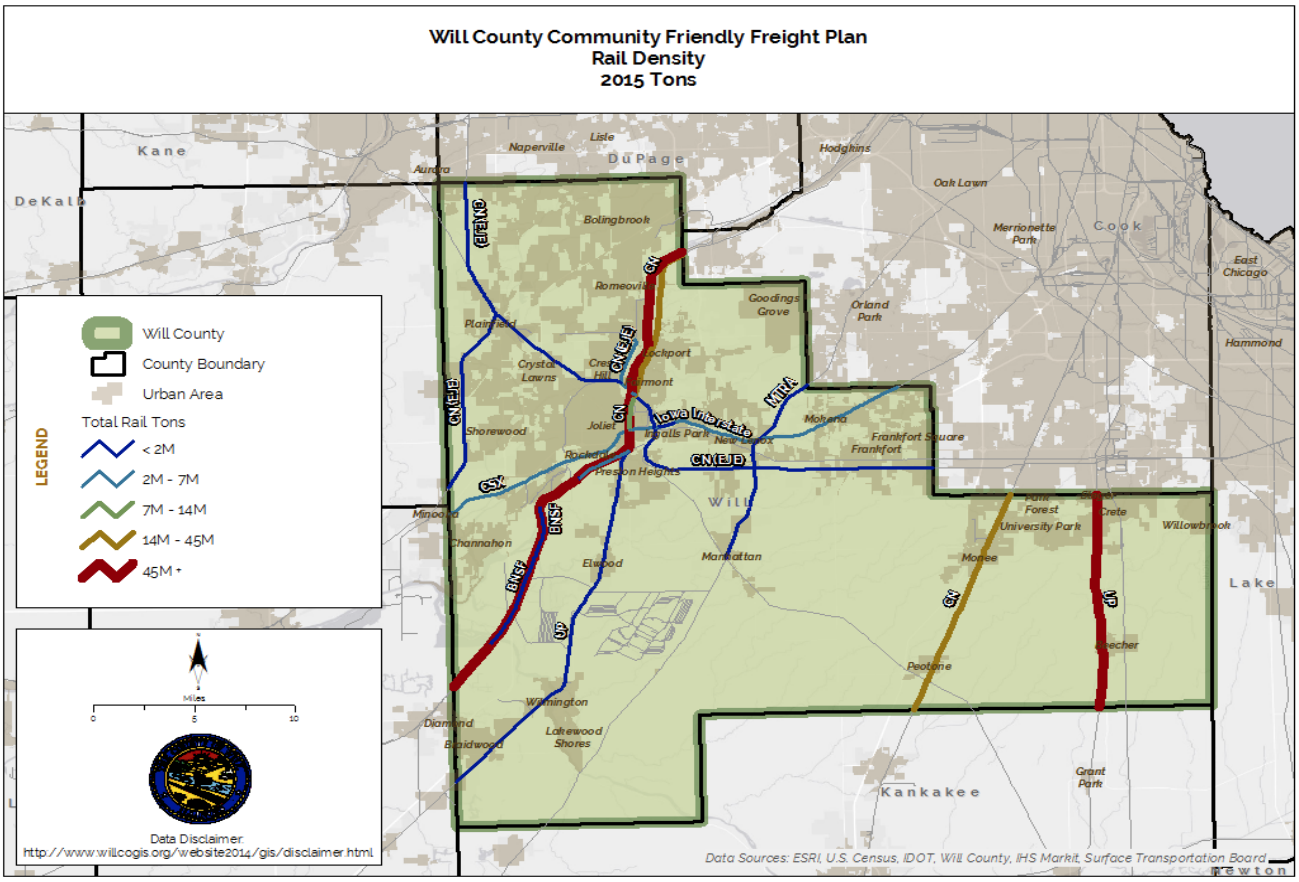


FIGURE 1-27: TRUCK DENSITY, 2015 TONS

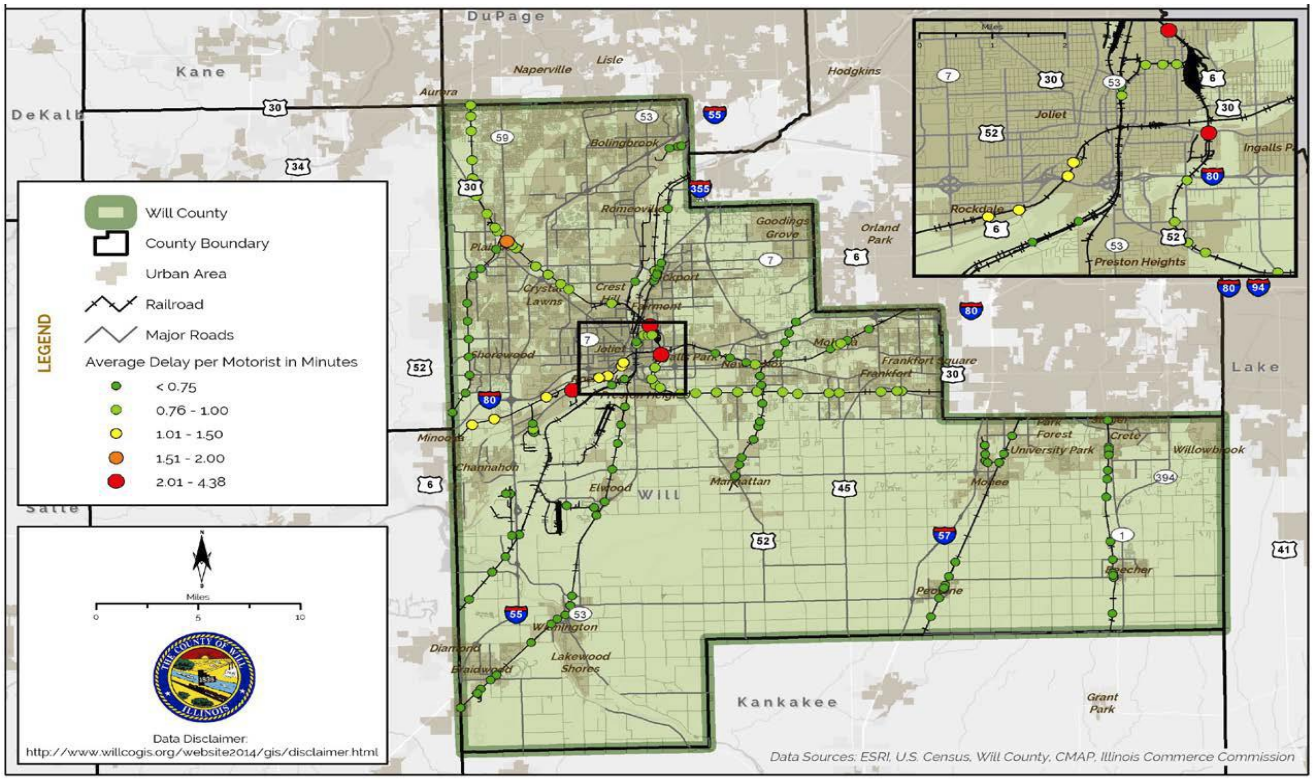


Source: prepared by CDM Smith, based on Transearch® data for 2015

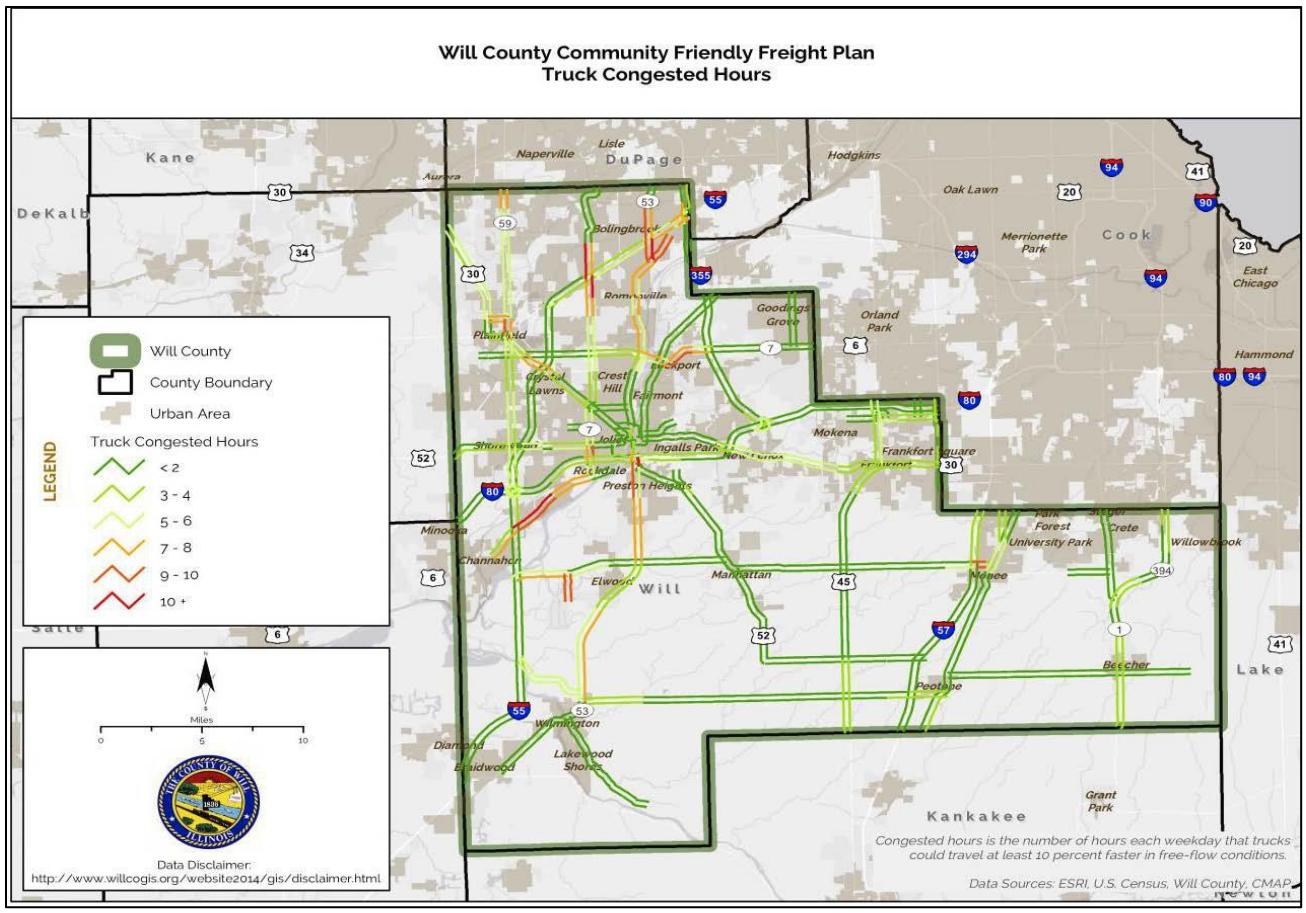
RAIL DENSITY



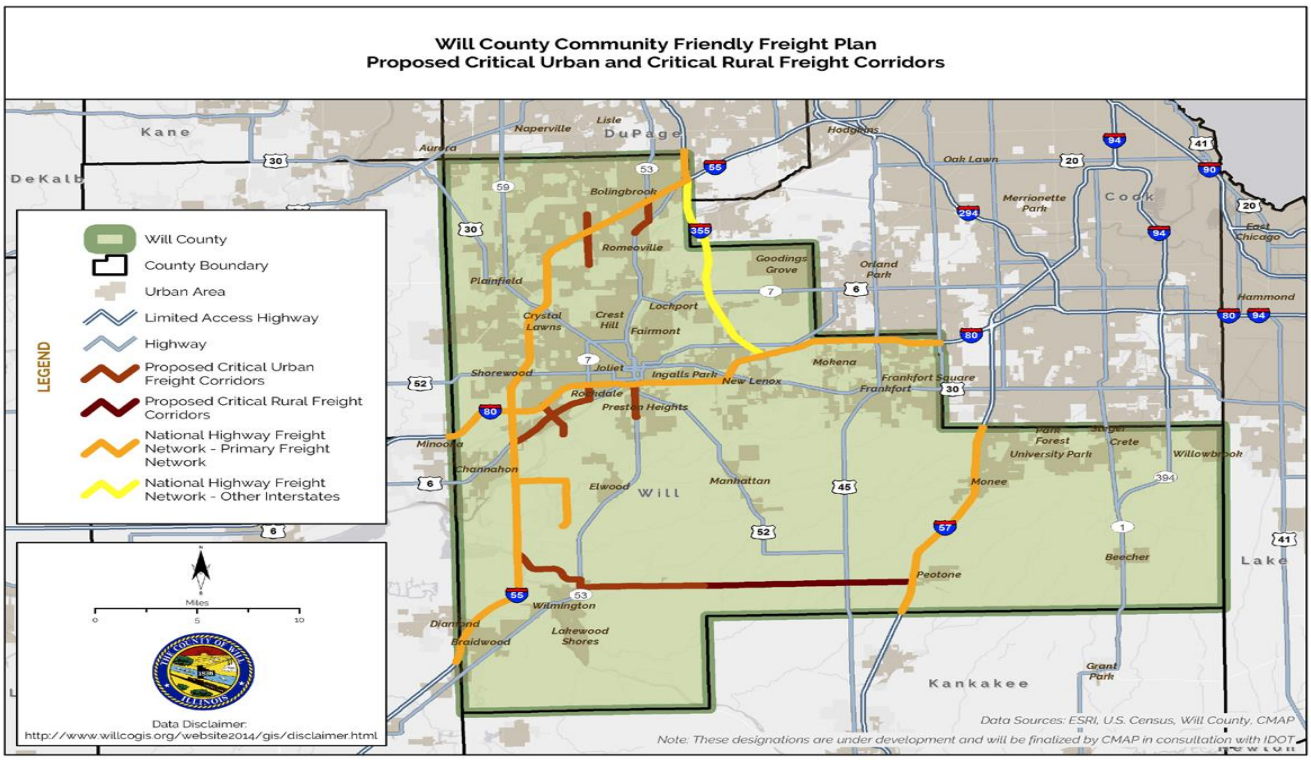
MOTORIST DELAY



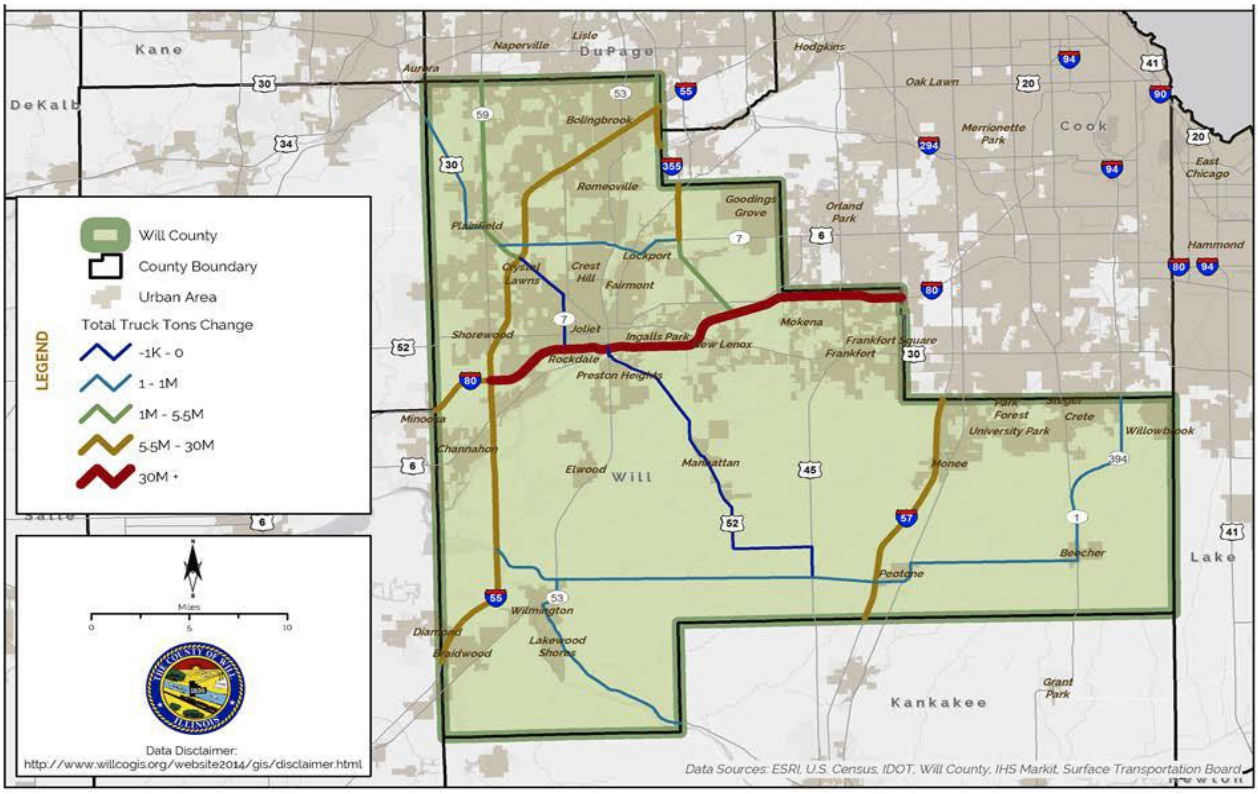
TRUCK CONGESTED HOURS

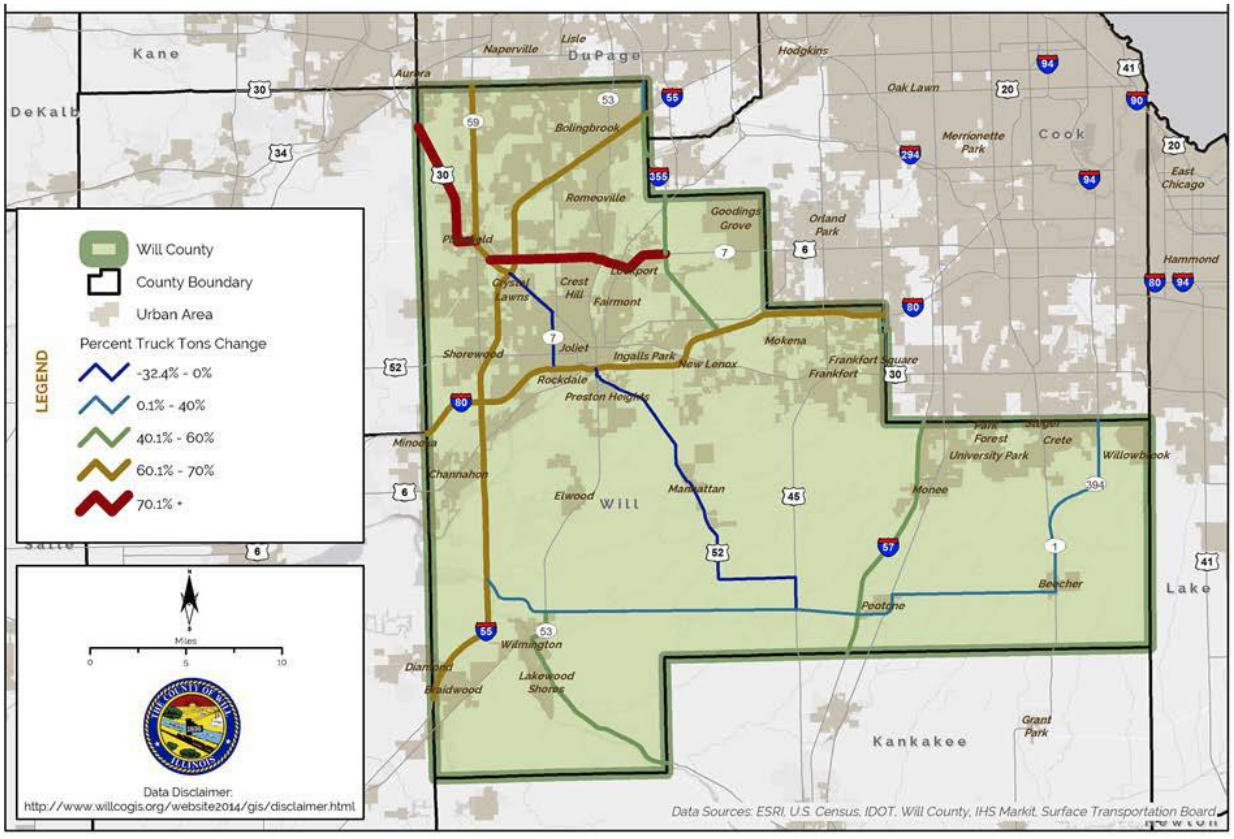


PROPOSED CRITICAL CORRIDORS

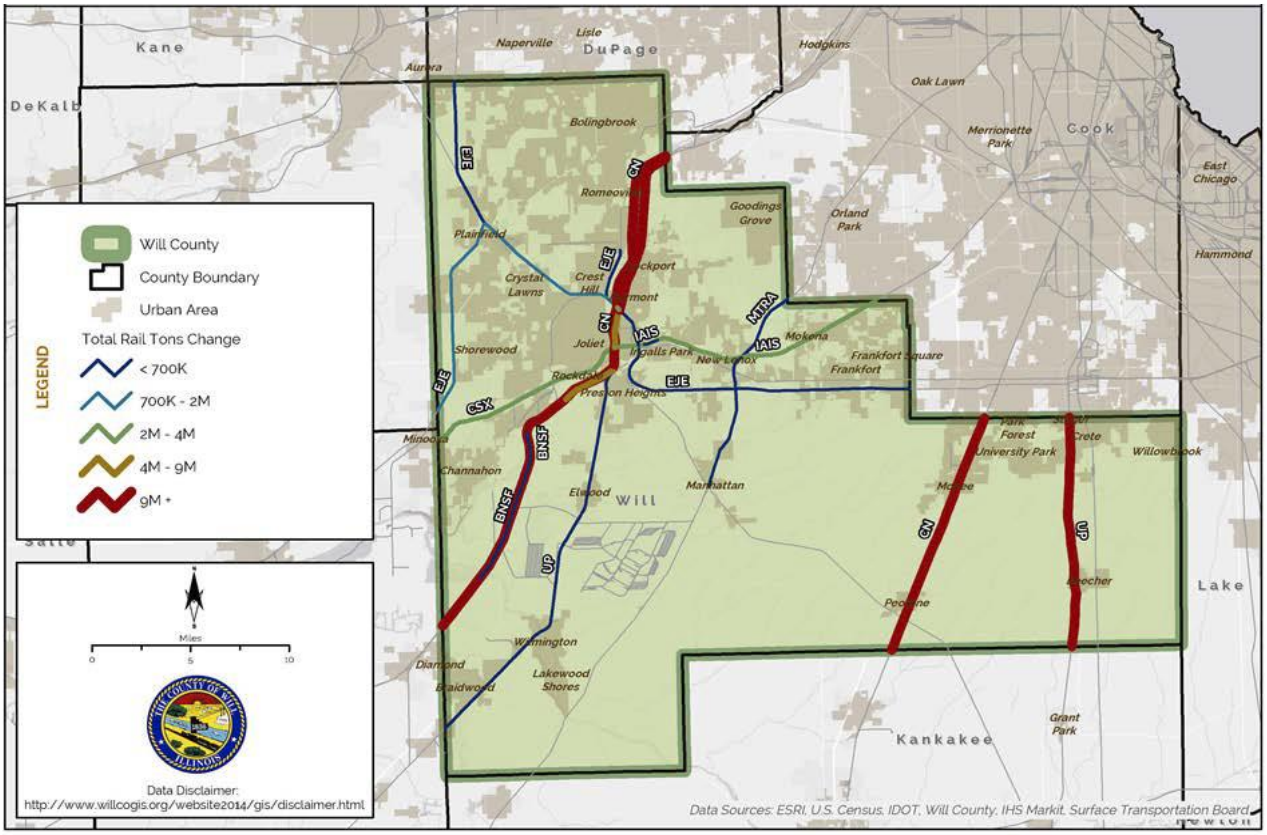


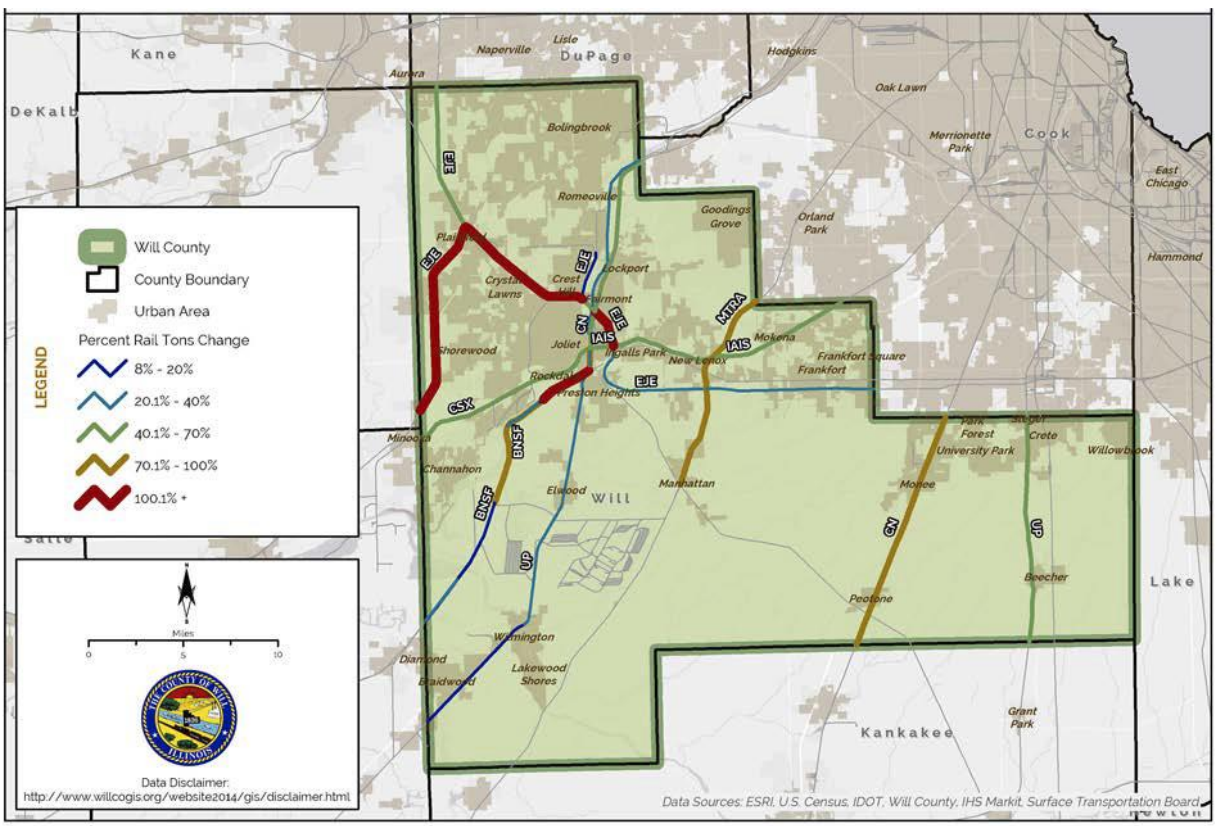
TRUCK CHANGE

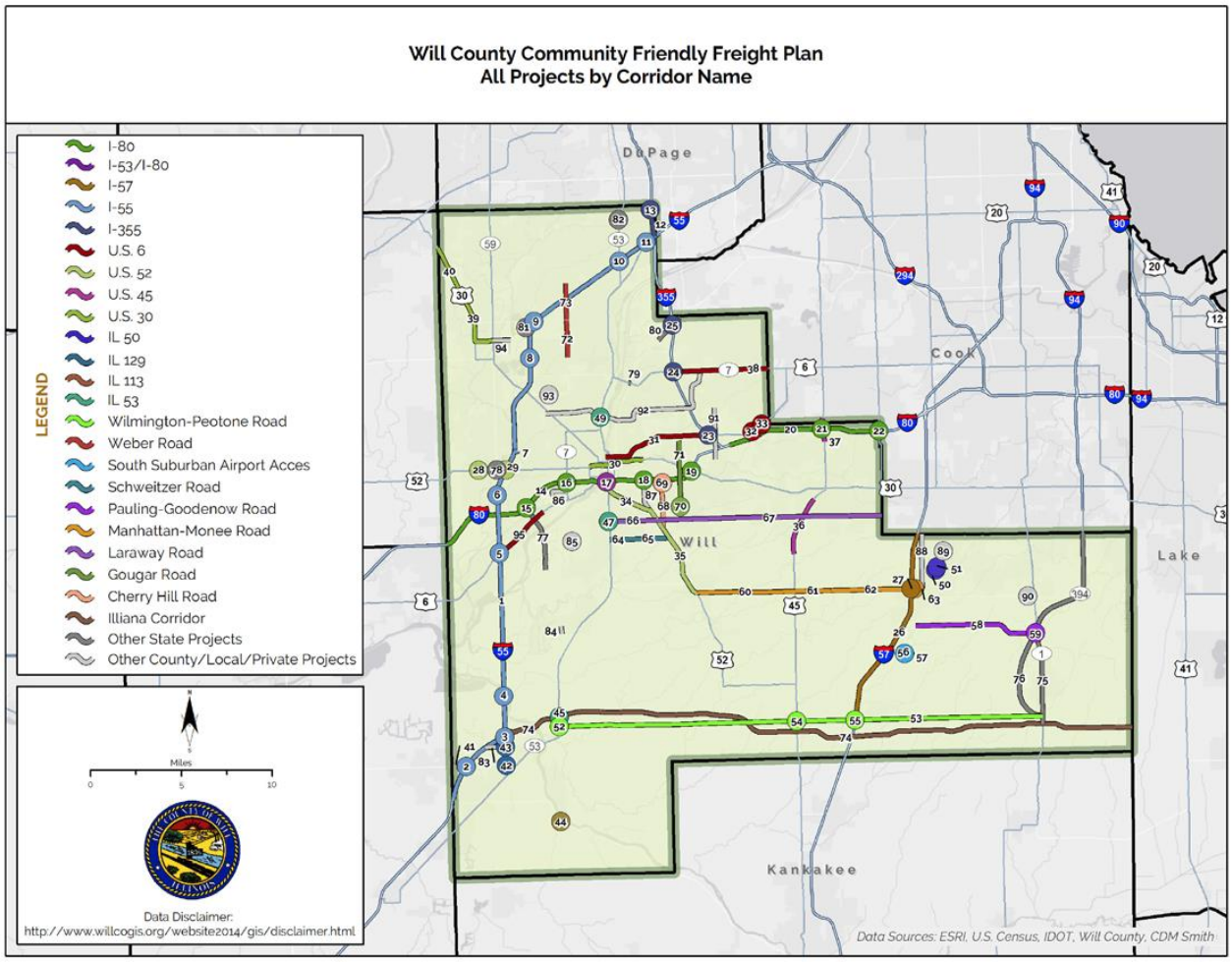


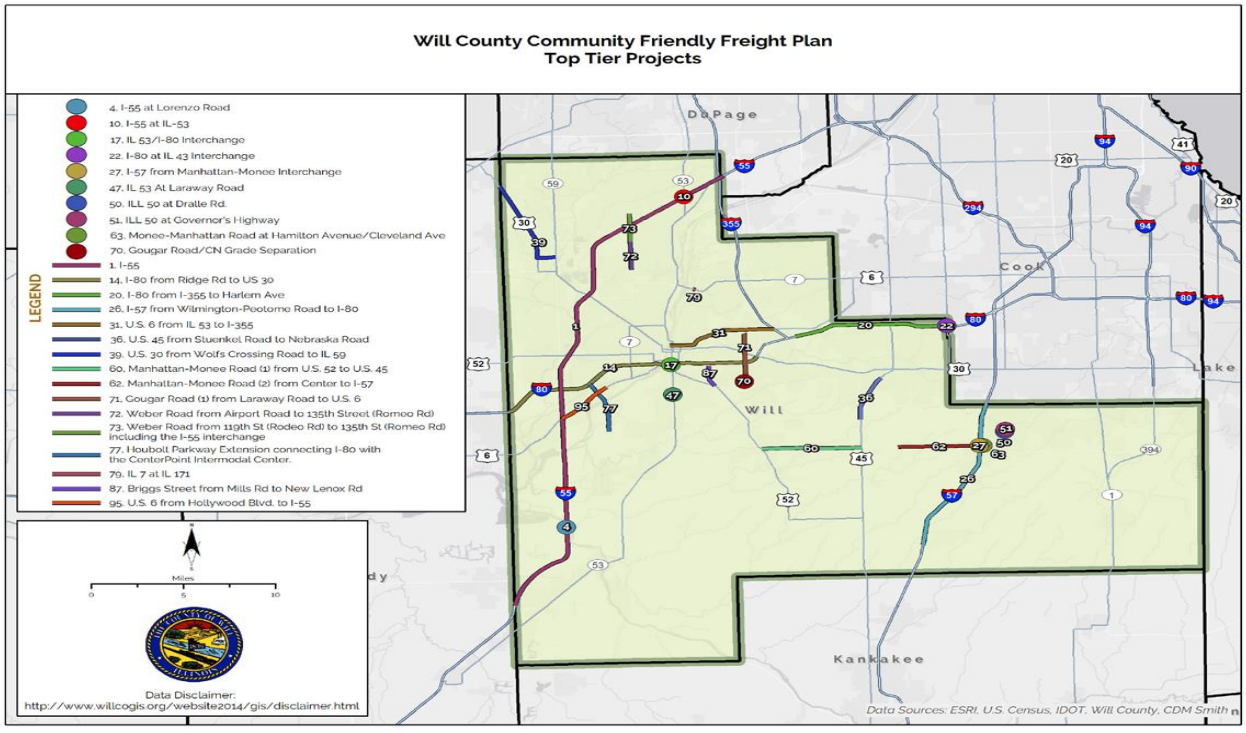


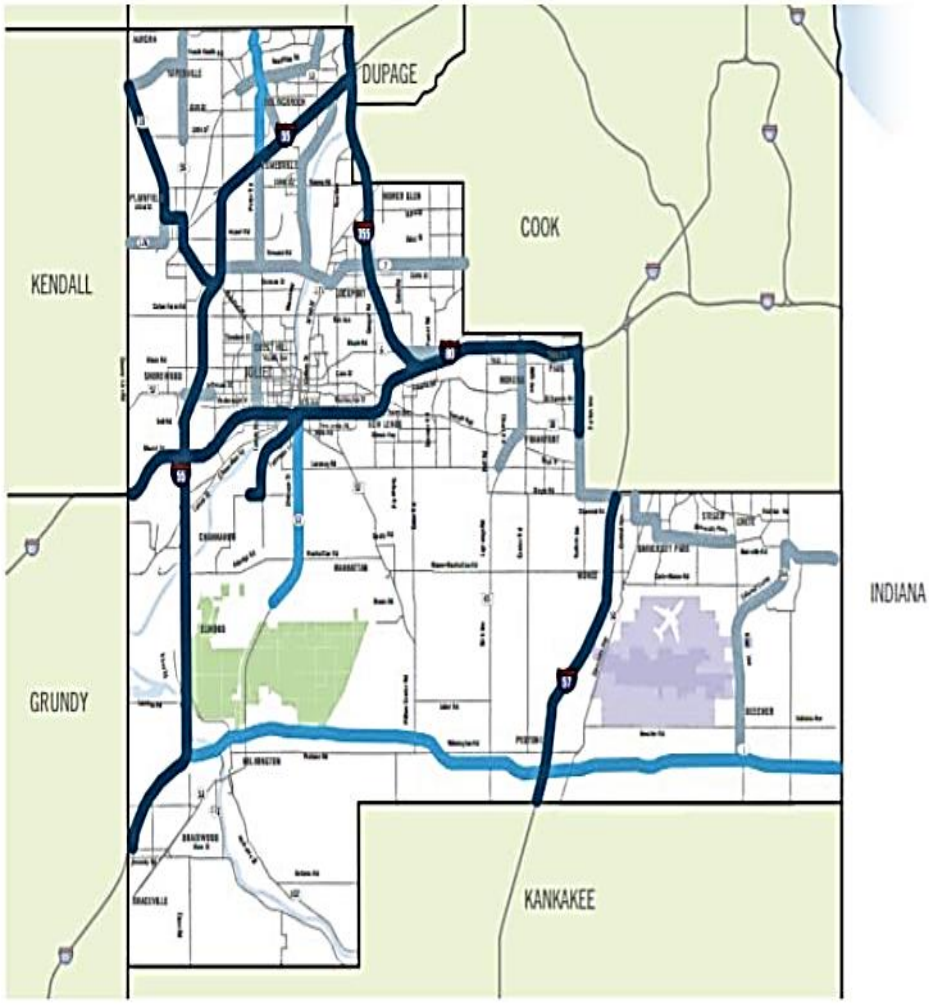
RAIL CHANGE


Kane
DeKalb
DuPage
Cook
Will
Lake
Kankakee
Naperville
Aurora
Lisle
Hodgkins
Oak Lawn
Merrionette Park
East Chicago
Hammond
Bolingbrook
Romeoville
Goodings Grove
Orland Park
Plainfield
Crystal Lawns
Crest Hill
Lockport
Joliet
Shorewood
Rockdale
Preston Heights
Mokena
New Lenox
Frankfort Square
Frankfort
Park Forest
University Park
Crete
Willowbrook
Monee
Manhattan
Elwood
Channahon
Minooka
Peotone
Beecher
Wilmington
Diamond
Braidwood
Lakewood Shores
Grant Park
EJE
GN
IAIS
MRA
BNSF
UP
CSX
LEGEND
Will County
County Boundary
Urban Area
Total Rail Tons Change
< 700K
700K - 2M
2M - 4M
4M - 9M
9M +
Miles
0
5
10
Data Disclaimer:
http://www.willcogis.org/website2014/gis/disclaimer.html
Data Sources: ESRI, U.S. Census, IDOT, Will County, IHS Markit, Surface Transportation Board


Kane
DeKalb
DuPage
Cook
Will
Lake
Kankakee
Naperville
Aurora
Lisle
Hodgkins
Oak Lawn
Merrionette Park
East Chicago
Hammond
Bolingbrook
Romeoville
Goodings Grove
Orland Park
Crystal Lawns
Crest Hill
Lockport
Joliet
Shorewood
Rockdale
Preston Heights
Mokena
New Lenox
Frankfort Square
Frankfort
Park Forest
University Park
Crete
Willowbrook
Monee
Manhattan
Elwood
Channahon
Minooka
Peotone
Beecher
Wilmington
Diamond
Braidwood
Lakewood Shores
Grant Park
EJE
GN
IAIS
MRA
BNSF
UP
CSX
LEGEND
Will County
County Boundary
Urban Area
Percent Rail Tons Change
8% - 20%
20.1% - 40%
40.1% - 70%
70.1% - 100%
100.1% +
Miles
0
5
10
Data Disclaimer:
http://www.willcogis.org/website2014/gis/disclaimer.html
Data Sources: ESRI, U.S. Census, IDOT, Will County, IHS Markit, Surface Transportation Board


Will County Community Friendly Freight Plan
All Projects by Corridor Name
LEGEND
I-80
I-53/I-80
I-57
I-55
I-355
U.S. 6
U.S. 52
U.S. 45
U.S. 30
IL 50
IL 129
IL 113
IL 53
Wilmington-Peotone Road
Weber Road
South Suburban Airport Acces
Schweitzer Road
Pauling-Goodenow Road
Manhattan-Monee Road
Laraway Road
Gougar Road
Cherry Hill Road
Illiana Corridor
Other State Projects
Other County/Local/Private Projects
Miles
Data Disclaimer:
http://www.willcogis.org/website2014/gis/disclaimer.html
DuPage
Cook
Will
Lake
Kankakee
Data Sources: ESRI, U.S. Census, IDOT, Will County, CDM Smith


Will County Community Friendly Freight Plan
Top Tier Projects
LEGEND
4. I-55 at Lorenzo Road
10. I-55 at IL-53
17. IL 53/I-80 Interchange
22. I-80 at IL 43 Interchange
27. I-57 from Manhattan-Monee Interchange
47. IL 53 At Laraway Road
50. ILL 50 at Dralle Rd.
51. ILL 50 at Governor's Highway
63. Monee-Manhattan Road at Hamilton Avenue/Cleveland Ave
70. Gougar Road/CN Grade Separation
1. I-55
14. I-80 from Ridge Rd to US 30
20. I-80 from I-355 to Harlem Ave
26. I-57 from Wilmington-Peotone Road to I-80
31. U.S. 6 from IL 53 to I-355
36. U.S. 45 from Stuenkel Road to Nebraska Road
39. U.S. 30 from Wolfs Crossing Road to IL 59
60. Manhattan-Monee Road (1) from U.S. 52 to U.S. 45
62. Manhattan-Monee Road (2) from Center to I-57
71. Gougar Road (1) from Laraway Road to U.S. 6
72. Weber Road from Airport Road to 135th Street (Romeo Rd)
73. Weber Road from 119th St (Rodeo Rd) to 135th St (Romeo Rd) including the I-55 interchange
77. Houbolt Parkway Extension connecting I-80 with the CenterPoint Intermodal Center.
79. IL 7 at IL 171
87. Briggs Street from Mills Rd to New Lenox Rd
95. U.S. 6 from Hollywood Blvd. to I-55
Miles
Data Disclaimer:
http://www.willcogis.org/website2014/gis/disclaimer.html
DuPage
Cook
Will
Lake
Kankakee
Data Sources: ESRI, U.S. Census, IDOT, Will County, CDM Smith



Though freight-related projects can be costly to undertake, there is a clear need for more and better directed investment in freight infrastructure in Will County as future freight activity continues to intensify.

Source: Will County Travel Demand Model Including CMAP Illiana Truck Trip Tables.


BEECHER
FIRE DISTRICT


BEECHER
PFD
FIRE PROT. DIST

PROGRAMS & SERVICES

2

SECTION 2 -- Programs & Services

Communications

The District contracts its 911 dispatching services through Laraway Communications Center (LCC) in Joliet, IL. It is a newer (2017) regional dispatch facility providing 911 service for **15** fire and **16** police agencies as part of a state mandate requiring the consolidation of 50% of Will County dispatch centers. According to a recent LCC study: in 2020, there were **367,652 total CAD incidents** recorded, averaging 1,005 per day. Law enforcement calls totaled 92.5% of those incidents (340,178), and **fire service calls totaled 27,474, which accounted for 7.5% of the total incidents, averaging 75.3 per day with 122,132 total unit responses to these incidents in 2020.**

Life Safety / Community Risk Reduction

As part of the Fire District mission, providing a safe community is accomplished through fire prevention and public education programs. Therefore, it is committed to providing education and preventative services to stop or minimize dangers to the people served before they occur. The District currently has one part-time Life Safety Educator and one part-time Fire Inspector. The Village of Beecher is classified as the Authority Having Jurisdiction (AHJ) with an inter-governmental agreement (IGA) with the District granting authority to conduct fire inspections and occupancy approvals. Fines are managed through the Village's Code Enforcement. The District handles everything in the unincorporated areas. The National Fire Protection Association (NFPA) 101 The Life Safety Code recommends life safety inspections annually. Currently, the Fire District has approximately **143** commercial, industrial, and multi-family occupancies located within its boundaries.

Fire Prevention Bureau / Public Education

The Fire Prevention Bureau plays a vital role in the fire district's mission. The Bureau is responsible for developing and implementing programs and policies that prevent or reduce the chance of emergencies, such as loss of property, loss of life, personal injury, or environmental damage. The Division is also responsible for providing public education, coordinating special events, and issuing special permits.

Mission Statement

"The Beecher Fire Prevention Bureau strives to prevent the incidence of fire and reduce any life safety hazards within its boundaries through a cooperative effort with the public. We will accomplish this goal through a program of inspection, code enforcement, and education."

COMMUNITY RISK REDUCTION ACTIVITIES

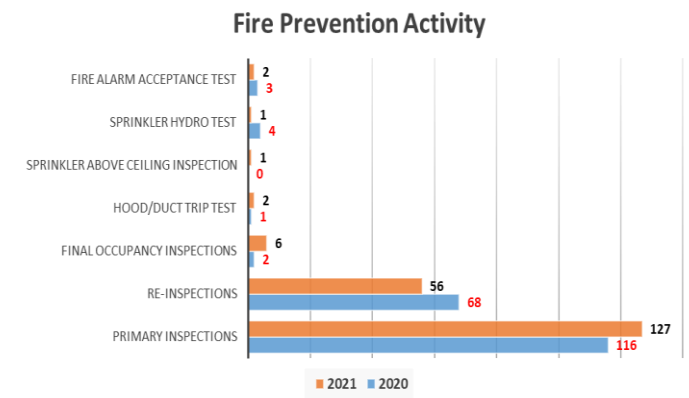
FIRE PREVENTION/LIFE SAFETY	2016	2017	2018	2019	2020	2021	Total	Average
Primary inspections	--	--	--	37	116	127	280	93
Re-inspections	--	--	--	23	68	56	147	49
Final occupancy inspections	--	--	--	--	2	6	8	4
Hood/duct trip test	--	--	--	--	1	2	3	2
Sprinkler above ceiling inspection	--	--	--	--	0	1	1	1
Sprinkler Hydro test	--	--	--	--	4	1	5	3
Fire alarm acceptance test	--	--	--	--	3	2	5	10
TOTAL	* No FPB or data available			60	194	195	449	898
change over previous					223%	1%		

PUBLIC EDUCATION	2016	2017	2018	2019	2020	2021	Total	Average
Community Events	1	5	7	12	2	18	45	8
Block parties	1	1	2	2	0	4	10	2
Fall Prevention presentations	0	1	1	1	0	0	3	1
Fire Drills	2	2	2	4	3	7	20	3
Fire Extinguisher training	0	0	0	1	0	1	2	0
First Aid talk/demo	1	1	1	2	0	3	8	1
Health fair	0	0	0	0	0	1	1	0
Presentation to outside group	0	0	0	0	0	2	2	0
Fire Safety talk/demo	1	1	1	1	0	4	8	1
Fire Station tour	2	2	5	8	5	21	43	7
School Visit	12	12	12	12	0	8	56	9
Open House	1	1	1	1	0	1	5	1
Safety Challenge - Grade Schools - SD Checks	0	0	0	0	0	0	0	0
TOTAL	21	26	32	44	10	70	203	385
change over previous		24%	23%	38%	-77%	600%		

CONTACTS							
Children	480	578	770	800	125	900	3,653	609
Adults	300	350	550	700	300	1,000	3,200	533
Open House Attendance	400	600	700	1,000	0	700	3,400	567
Total Outreach	780	928	1,320	1,500	425	1,900	6,853	1142
change over previous		19%	42%	14%	-72%	347%		

FIRE INVESTIGATIONS	2016	2017	2018	2019	2020	2021	Total	Average
	13	21	16	26	19	27	122	20
change over previous		62%	-24%	63%	-27%	42%		

Activity by the Division is listed below. Note that 2020 activity had a drastic reduction due to COVID lock-down policy and procedures in both Fire Prevention and Public Education programs.

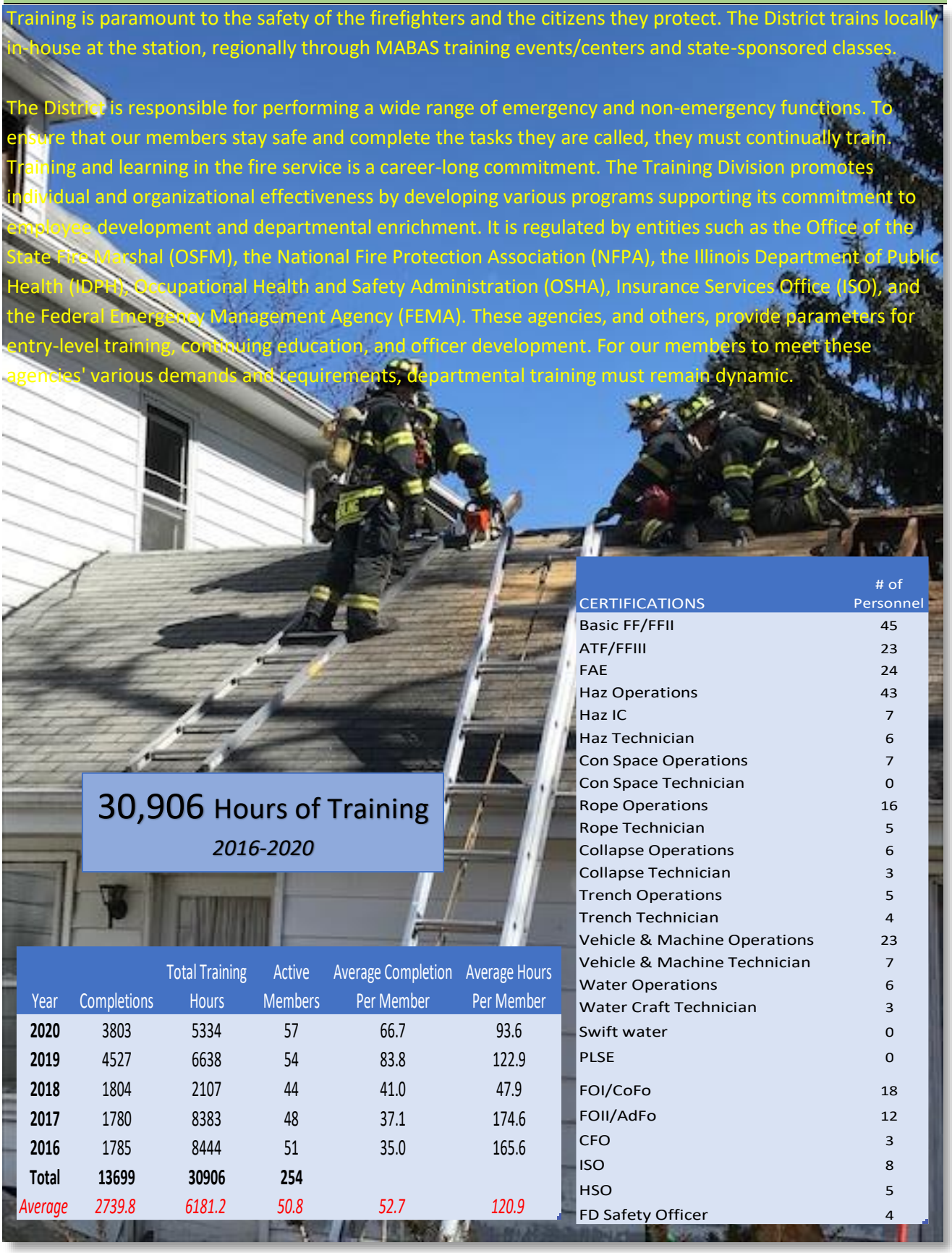


6,853 Pub. Ed Contacts

Training

Training is paramount to the safety of the firefighters and the citizens they protect. The District trains locally in-house at the station, regionally through MABAS training events/centers and state-sponsored classes.

The District is responsible for performing a wide range of emergency and non-emergency functions. To ensure that our members stay safe and complete the tasks they are called, they must continually train. Training and learning in the fire service is a career-long commitment. The Training Division promotes individual and organizational effectiveness by developing various programs supporting its commitment to employee development and departmental enrichment. It is regulated by entities such as the Office of the State Fire Marshal (OSFM), the National Fire Protection Association (NFPA), the Illinois Department of Public Health (IDPH), Occupational Health and Safety Administration (OSHA), Insurance Services Office (ISO), and the Federal Emergency Management Agency (FEMA). These agencies, and others, provide parameters for entry-level training, continuing education, and officer development. For our members to meet these agencies' various demands and requirements, departmental training must remain dynamic.



30,906 Hours of Training

2016-2020

Year	Completions	Total Training Hours	Active Members	Average Completion Per Member	Average Hours Per Member
2020	3803	5334	57	66.7	93.6
2019	4527	6638	54	83.8	122.9
2018	1804	2107	44	41.0	47.9
2017	1780	8383	48	37.1	174.6
2016	1785	8444	51	35.0	165.6
Total	**13699**	**30906**	**254**		
Average	*2739.8*	*6181.2*	*50.8*	*52.7*	*120.9*

CERTIFICATIONS	# of Personnel
Basic FF/FFII	45
ATF/FFIII	23
FAE	24
Haz Operations	43
Haz IC	7
Haz Technician	6
Con Space Operations	7
Con Space Technician	0
Rope Operations	16
Rope Technician	5
Collapse Operations	6
Collapse Technician	3
Trench Operations	5
Trench Technician	4
Vehicle & Machine Operations	23
Vehicle & Machine Technician	7
Water Operations	6
Water Craft Technician	3
Swift water	0
PLSE	0
FOI/CoFo	18
FOII/AdFo	12
CFO	3
ISO	8
HSO	5
FD Safety Officer	4

EMS

The Emergency Medical Services (EMS) program responds to the District's medical emergencies, which is also most of the District's incidents **(59.3 % - EMS only – 65.2 % including vehicle accidents)** identified as part of the Rescue section). All Ambulances and Engine 44 are ALS equipped.

The Fire District has **27 Paramedics, 14 EMTs** (**crossed trained as Firefighter/Medics**), and **10 First Responder Firefighters** that maintain certifications in various medical disciplines that exceed the Illinois Department of Public Health requirements. They are under the direction of resource hospital Riverside EMS System in Kankakee.

Fire Suppression

The fires include but are not limited to single-family structures, multi-family structures, commercial buildings, strip malls, high-rise occupancies, industrial facilities, vehicle fires, brush fires, and dumpster fires. Within these categories, the District strives to provide a standard of coverage unique to the structure, depending on criteria such as construction type, risk factors, response times, occupancy type, known hazards, and many others.

To provide **24-hour coverage** for the many types of incidents and scenarios that can arise, the District offers a **staffing level of five (5) firefighter/medics on duty per shift with a minimum of four of (4).** It relies on mutual aid for the Effective Response Force (ERF) full concentration for some Moderate to High-Risk events.

Rescue / Special Operations:

Rescue risks vary from elevator removal to vehicle accidents to “pin-in” extrication required accidents. Special Operations include all Technical Rescue types to Hazardous Material incidents.

Technical Rescue covers many incidents, including confined space rescue, rope or water rescue, trench, structural collapse, and more.

Technical Rescue

The Technical Rescue Program within the District can respond to all types of technical rescue incidents, including ice, swift water, trench, confined space, building collapse, rope, elevator, and vehicle extrication. The response level for technical rescue incidents is at the operations level, with technicians available for each rescue discipline at the regional team level. District members receive training to the awareness and operations level for technical rescue responses per NFPA 1670, and the District is part of a regional team – C.A.R.T. (Combined Area Response Team – GREY TEAM). There are currently **zero (0) CART Technicians** from the District on the CART Team.

CERTIFICATIONS	# of Personnel
Collapse Operations	6
Collapse Technician	**3**
Con Space Operations	7
Con Space Technician	**0**
Rope Operations	16
Rope Technician	**5**
Trench Operations	5
Trench Technician	**4**
Vehicle & Machine Operations	23
Vehicle & Machine Technician	**7**

Hazardous Materials

The Hazardous Materials Program within the District is responsible for all hazardous materials incidents, including gas spills, natural gas/propane leaks, carbon monoxide, and more. The District may respond to tanker rollovers, fixed facility incidents, and incidents on the railways. Some incidents are beyond the level of capabilities of the on-scene crews. In that case, the incident upgrades to request a regional HazMat Team response and specialized resources, such as personnel/equipment from the MABAS 27/24 HazMat Team. There are currently **two (2) HazMat Technicians** from the District on the MABAS HazMat Team.

CERTIFICATIONS	# of Personnel
Haz Operations	43
Haz Technician	**6**
Haz IC	7

Water Operations

Water rescue incidents have occurred within the District, and there is a possibility of future events with the numerous waterway and broad flood plains. The District has **six (6)** personnel certified in the **Water Operations** level and **three (3)** in **Watercraft Technician** level and personnel trained in the use of Cold-Water Immersion Suits. Regional Technician level Dive Teams are available through MABAS 27/24. There are currently **zero (0) trained Divers** in the District on the MABAS 27/24 Team.

CERTIFICATIONS	# of Personnel
Swift water	0
Water Craft Technician	**3**
Water Operations	6

MABAS

This section is verbatim from the MABAS website to provide a general organization overview.

MABAS Mission Statement

MABAS-Illinois serves local fire agencies, MABAS Divisions, State of Illinois departments, and Cook County UASI-DHSEM by providing a systems-based resource allocation and distribution network of robust traditional and nontraditional Fire-EMS-Rescue and Special Operations teams for emergency and sustained response within and outside of the State of Illinois. These services accomplishment requires cooperation, standardization, reliability, partnering, brokering, ongoing communication, and compliance with customer specifications and expectations. Customer trust and reliance on the MABAS system are built upon personal relationships, credibility, and ongoing customer support.

MABAS Purpose Statement

The Mutual Aid Box Alarm System (MABAS) provides rapid emergency response and sustained operations when a jurisdiction or region is stricken by an overwhelming event generated by human-made, technological, or environmental threats. In response, MABAS shall mobilize and deploy a sustained fire, emergency medical services (EMS), hazardous materials, technical rescue, water rescue, urban search and rescue, incident management, and team resources to prevent life loss and human suffering further reduce property damage.

MABAS is a statewide mutual aid system that has existed since the late 1960s. Pre September 11th, 2001, MABAS was heavily rooted throughout northern Illinois. Since September 11th, MABAS has rapidly grown throughout Illinois, Wisconsin, Indiana, Michigan, Iowa, and Missouri. Day-to-day MABAS extra alarms are systematically designed to provide the speed of response of emergency resources to the stricken community during an ongoing emergency. Declarations of Disaster provide a MABAS sustained response system on top of daily mutual aid activations. Today MABAS includes approximately 1,175 of the state's 1,246 fire departments organized within 69 divisions. MABAS divisions geographically span Lake Michigan to Iowa's border and south almost into Kentucky. Wisconsin divisions also share MABAS with their Illinois counterparts. Chicago, St. Louis, and Milwaukee are also MABAS member agencies. MABAS has expanded into all 102 Illinois counties.

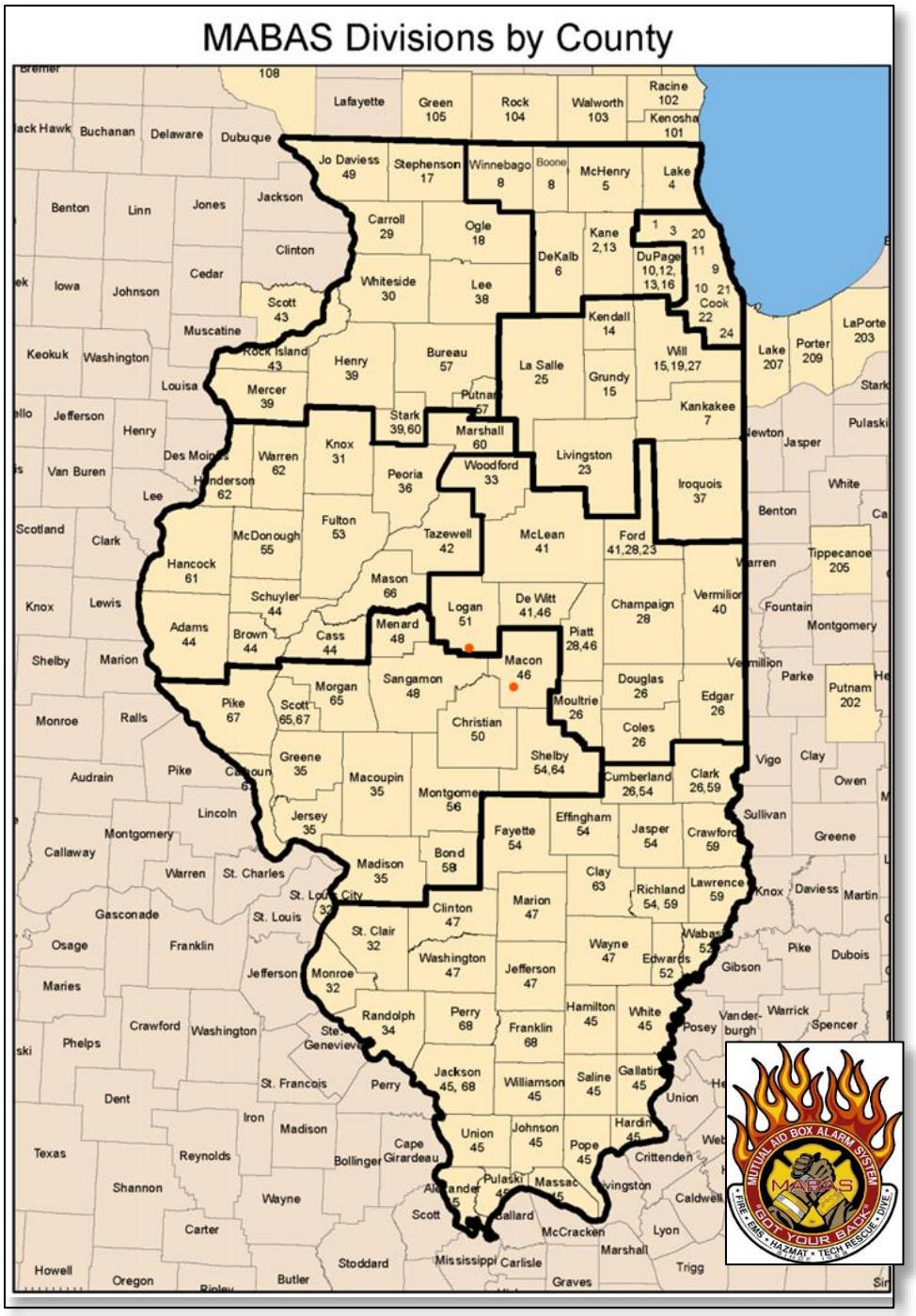
MABAS includes approximately 38,000 of Illinois' 40,000 firefighters who staff emergency response units, including more than 1,600 fire stations, 2,735 engine companies, 500 ladder trucks, 1,300 ambulances (many paramedic ALS capable), 250 heavy rescue squads, and 1,000 water tenders. Fire/EMS reserve (back-up) units account for more than 1,000 additional emergency vehicles.

MABAS also offers specialized operations teams for hazardous materials (40 teams), underwater rescue/recovery (15 teams), technical rescue (39 teams), and a state-sponsored urban search/rescue team. Additional resources include the certified fire investigators, Incident Management Team members, and fleet support mechanics, which can be "packaged" as mobile support teams aiding with larger-scale incidents requiring complicated, time-consuming efforts beyond the capabilities of most.

MABAS is a unique organization in that every MABAS participant agency has signed the same contract with its 1,100 plus counterpart MABAS agencies. As a MABAS agency, you agree to operation standards, incident command, minimal equipment staffing, fireground safety, and on-scene terminology. MABAS agencies, regardless of their geopolitical origin, can work together seamlessly on any emergency scene. All MABAS agencies operate on a standard radio frequency (IFERN) and are activated for response through pre-designed "run" cards. Each participating agency designs and tailors to meet their local risk needs. MABAS also provides mutual aid station coverage to a stricken community when their fire/EMS resources are committed to an incident for an extended period.

The stricken community commands MABAS extra alarms, and dispatch control is managed through the stricken community's MABAS division dispatch center. Over eight hundred (800) MABAS locally controlled additional alarm incidents occur annually throughout the 69 divisions of Illinois MABAS. The existing Illinois statute regarding a Declaration of Disaster allows the Governor to mobilize state assets under the Illinois Emergency Management Agency (IEMA). A memorandum of understanding between IEMA and MABAS, fire, EMS, and special operations resources can be activated as a State of Illinois asset when a Declaration of Disaster is initiated. Activation of the Statewide Plan through IEMA is designed to provide a quantity of response for sustaining incident operations. MABAS also offers various specialty equipment and apparatus staged strategically throughout the State to any MABAS Department upon request.

MABAS 27



The District provides mutual aid to and receives support from other fire departments. Mutual aid received is noted in other areas of this report. Along with handling incidents within the District jurisdiction, the Peotone Fire Protection District is regularly requested to assist surrounding agencies with their incidents. The request may cover a fire station for subsequent incidents or help with personnel and equipment on the scene. A single incident can be taxing to any fire department's resources, which has resulted in mutual aid agreements pre-arranging the assistance before an incident and specifying who responds with what personnel, apparatus, and equipment.

The Fire Protection District is a member of **MABAS Division 27** – one of **sixteen (16)**. The other Fire Departments and Fire Districts include Chicago Heights, Crete, Crete Township, Ford Heights, Matteson, Monee, Park Forest, Richton Park, Sauk Village, South Chicago Heights, Steger, Steger Estates, and University Park, *Peotone, and Frankfort.*

MABAS 27 DEPARTMENTS

ISO

Insurance Service Office (ISO) provides a broad range of insurance, statistical, actuarial, and claims information. ISO utilizes a Public Protection Classification (PPC™) tool to rate communities against fire losses. In addition, ISO evaluates data in fire suppression, emergency communication, water supply, and risk reduction activities.

The process results in a ranking system that reflects District performance on a scale of 1-10, with one being the best.

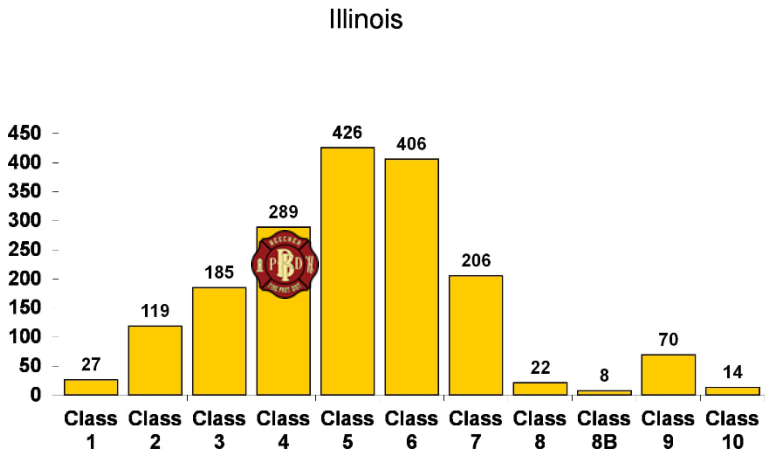
In 2017, ISO rated the District as **Class 4.**

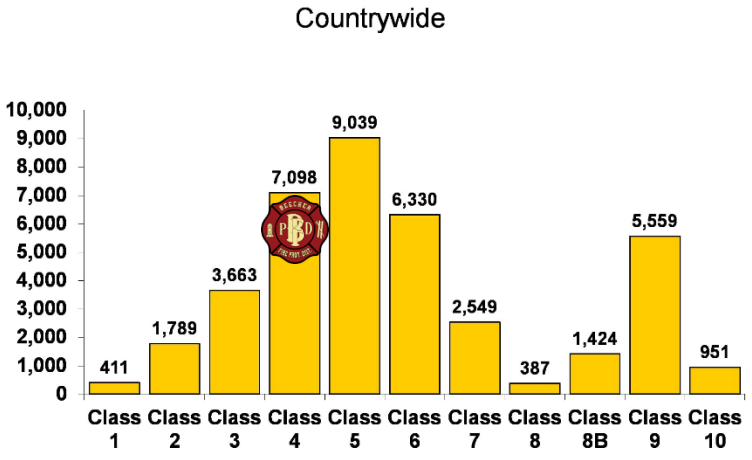
Determining the PPC for a Community

ISO evaluates Dispatch, the Fire Suppression capabilities of the District, and water system infrastructure during grading. Strengths and weaknesses relative to criteria in each category are utilized in determining the PPC. This system allows communities with different combinations of strengths and weaknesses to receive the same PPC.

Major items considered in grading are:

- Telephone Service
- Telecommunication Operators
- Dispatch Center alerting systems
- Engine Companies
- Reserve Engines
- Pump Capacity
- Ladder Companies
- Reserve Ladders
- Distribution of companies
- Number of personnel responding
- Training frequency and areas
- Water Supply Systems
- Hydrant Type and Size
- Hydrant Maintenance and Testing





The Effect of PPC on Insurance Premiums

ISO provides insurance companies with PPC information and associated details, including fire station locations, response area boundaries, hydrants' location, and other water supply details. However, because insurance companies, not ISO,

establish the premiums they charge to policyholders, it is difficult to generalize how an improvement (or deterioration) in PPC shall affect individual policies, if at all. ISO's studies have consistently shown that, on average, communities with superior fire protection have lower fire losses than do communities whose fire protection services are not as comprehensive. Consequently, PPC does play a role in the underwriting process for many insurance companies and, as such, can help keep insurance premiums low.

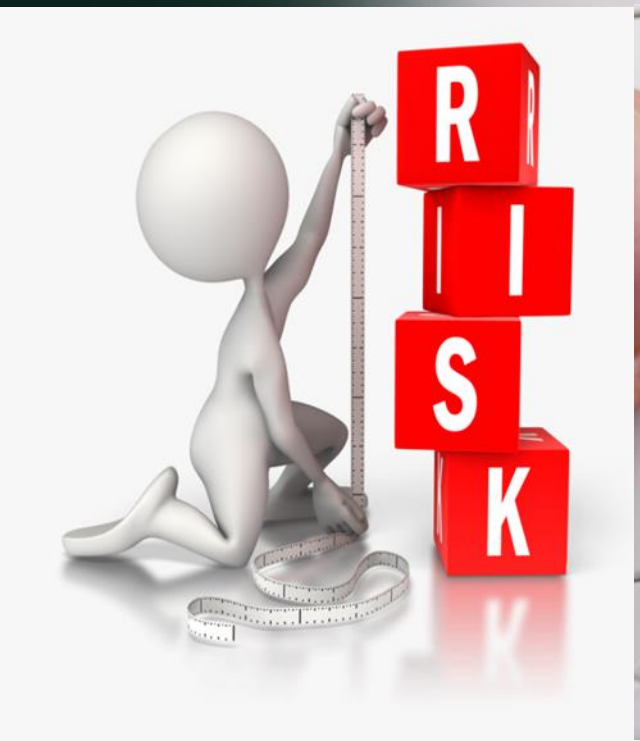
In addition, **improving Class ratings is an outcome and benchmark measure well within the District's reach. As such, the District is actively and aggressively working to enhance its current rating.**

FSRS Feature	Earned	Total Possible
Emergency Communications	**8.66**	10
Fire Department	**26.52**	50
Water Supply	**23.98**	40
Community Risk Reduction	**3.27**	5.50
Divergence	**-1.38**	
Total Points	**61.05**	**100**

ISO 4

CLASS	Percentage Credited
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0 to 9.99

ALL HAZARD RISK ASSESSMENT



3

SECTION 3 -- All Hazard Risk Assessment

All Hazard Risk Assessment

The Fire District provides All-Hazards response services to the community, including natural and man-caused events. The definition of key terms and their relationship to the risk assessment process are essential in conducting and interpreting a comprehensive risk assessment within an All-Hazards environment. An All-Hazards approach includes prevention, preparedness, response, and recovery actions that meet a full range of threats and hazards. All-Hazards include man-caused, natural, and technologically-caused incidents. The infrastructure consists of interdependent systems and networks that contribute to society and the government at any level. Critical infrastructures are those systems that are vital to the community, region, state, nation, or if they were unable to function.

Risk definitions include:

- **Risk**: *potential for an unwanted outcome resulting from an incident, event, or occurrence as determined by the likelihood and associated consequences*
- **Threat**: *natural or human-made circumstances or actions that have the potential to harm life and property*
- **Hazard**: *natural or human-made sources cause harm or difficulty*
- **Vulnerability**: *physical feature or operational attribute renders an entity open to exploitation or susceptible to a given hazard*
- **Consequence**: *the effect of an event, incident, or occurrence, including the number of deaths, injuries, and other human health issues, along with economic impact and different negative results on society*
- **Probability**: the *mathematical likelihood of an event occurring*

Risk Factors

Probability can be calculated through the following formulas:

- **Probability** = Threat x Vulnerability
- **Consequences** = the sum of human, economic, and psychological impacts

Predictable harm can be managed through directed efforts to reduce risk. Risk management is the continual process of identification and evaluation of risk. Control measures are selected, implemented, and measured for performance. A continuous loop provides feedback on performance and areas for improvement to further reduce and control risks.

Risk assessment is defined in *NFPA 1600, Standards on Disaster/Emergency Management and Business Continuity/Continuity of Operations Programs*:

> *"A process for identifying potential hazards/risk exposures and their relative probability of occurrence; identifying assets at risk; assessing the vulnerability of the assets exposed and quantifying the potential impacts of the hazard/risk exposures on the assets. Periodic reassessment is needed when changes to the entity occur. Reassessment is also necessary because hazards/risk exposures change over time, and the collective knowledge of hazards/risk exposures develops over time."*

Risk can also be viewed by quantifying or measuring an identified risk considering its probability and severity. Two or more risks may interact, resulting in a more significant impact. Risk assessments remain complex, even when being reduced to a manageable set of factors. Historical data is a prime resource for risk assessment. While rare or unusual events can and shall happen, historical patterns are a reasonably accurate indicator of future events. Risk cannot be eliminated; however, they can be avoided. Risk can be transferred through insurance. Residual risk can be accepted. Risk/benefit-cost analysis is required to determine the level of risk that a community is willing to have a presence as a threshold. Elected officials determine the levels of risk acceptable, and staff takes appropriate action to allocate resources supplied to meet determined risk levels.

The District has conducted an occupancy community risk assessment to identify structural risks, potential impacts, and acceptance levels. Resource distribution and concentration are continually evaluated to reduce risk and resulting harm.

The U.S. Fire Administration provides an approach to developing a successful risk management plan:

1. Risk Identification
2. Risk Evaluation
3. Risk Control Techniques
4. Risk Management Monitoring

Occupancy factors evaluated included:

- Construction type
- Built-in fire protection systems
- Life safety risk

Community Risk Assessment

The level of service provided by a Fire/EMS organization is based upon the District's ability to manage diverse types and sizes of emergencies reasonably expected after conducting a risk assessment. The first step identifies the scope and magnitude of the risks: fire, EMS, specialized rescue, or other events that threaten life safety, property, and environmental losses. The analysis is based on historical and potential future losses.

An All-Hazards approach to Risk Assessment is completed through a comprehensive analysis of District hazards. The Risk Assessment is conducted in two parts:

- Risks specific to the District include Structure Fires, Emergency Medical Incidents, and Special Operations.
- Large-scale events are community risks that occur in and outside the District's geographical boundaries. These risks include man-caused, natural, and technological developments that cause disasters.

The following components were considered during this analysis:

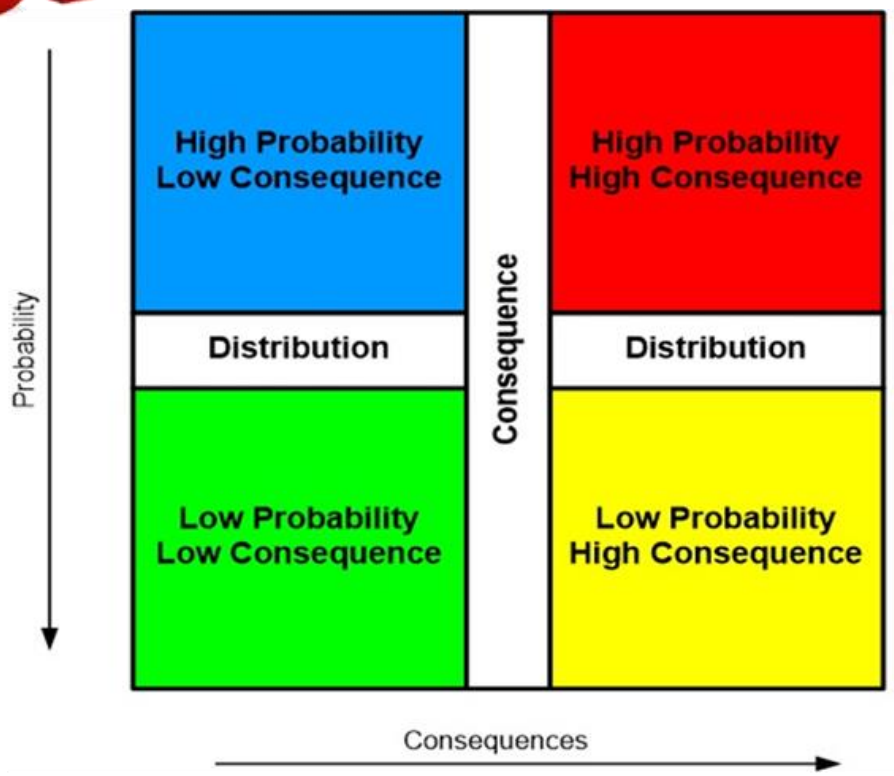
- **Probability** – the likelihood that an event may occur within a given period. It estimates a future event based on historical trends or patterns.
- **Consequence** – the severity of the resulting situation from an event. Life safety and economic risk are both considered. Life safety is inclusive of risk to occupants and responders. Economic impact weighs the loss of property the revenue of assets.
- **Occupancy risk** – assess the relative risk to life and property resulting from an event in a specific or occupancy class. Sub-factors can impact occupancy risks, such as construction type and occupant mobility.
- **Planning zones** – are geographic areas utilized during analysis to relate to station response areas or similar representations. The District has determined station response areas as planning tools for analysis. A station's first due response still district is studied for transportation networks, populations, density, topography, construction types, occupancy risk, and current service levels.
- **Community profile** – attributes of the community, served uniquely based upon demographics, socioeconomic, occupancy risk, and historical and current service levels.

Risk-Based Matrix

The Risk-Based Matrix model reflects risk assessment considerations in the District's response areas. The probability of an event occurring is always present. The frequency of occurrence can range from low to high. Any event has consequences ranging from high to low. Resources required in event management vary based upon the event and community commitment of resources.

Each quadrant illustrates the probability and consequences of any event.

- **Low** probability, **low** consequences
- **Low** probability, **high** consequences
- **High** probability, **low** consequences
- **High** probability, **high** consequences



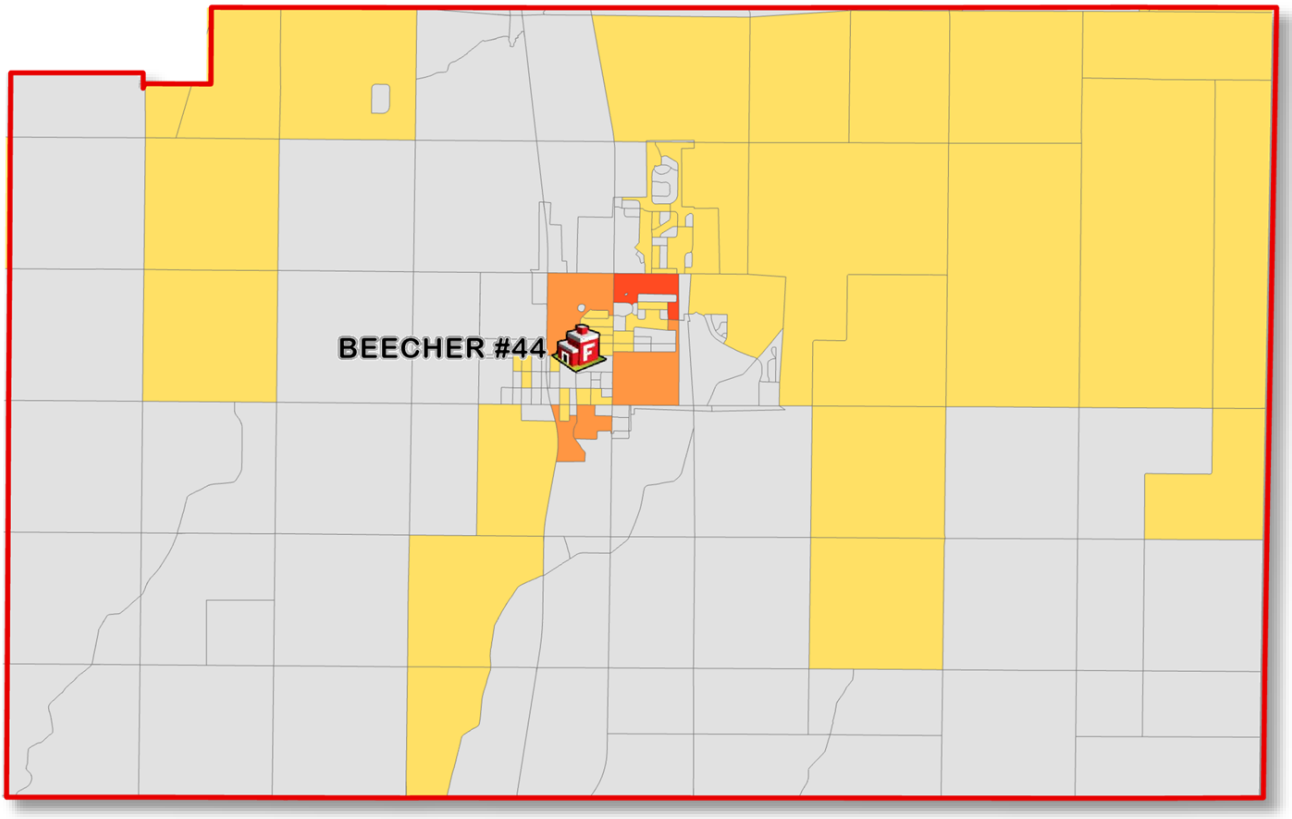
At-Risk Age Groups

At-risk age groups are likely dependent on others and may need additional assistance in emergencies. Thus, they tend to increase the demand and call volume for EMS.

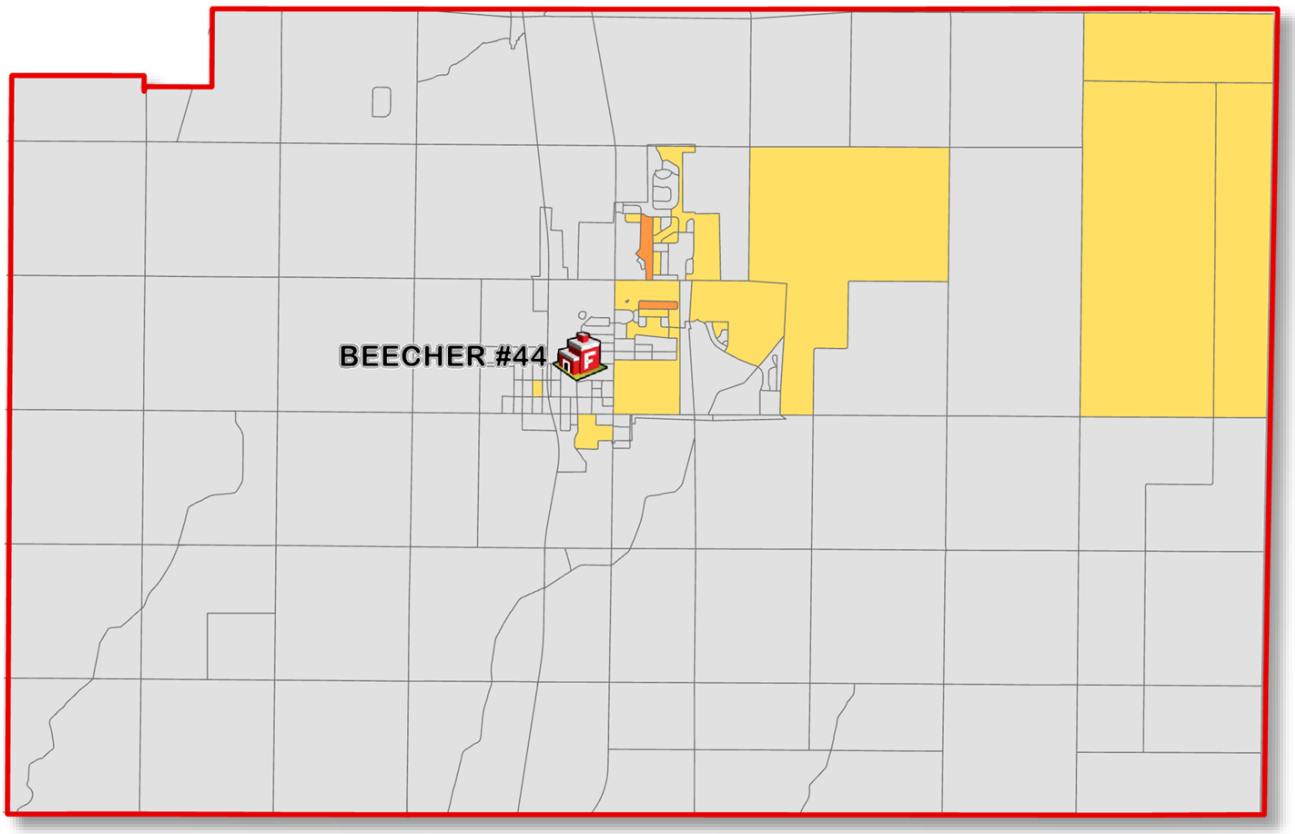
The increase from 2000-2010 in this at-risk group > 65 was 124%.

49% of **EMS patients** are **> 65** years old

> 65 years old

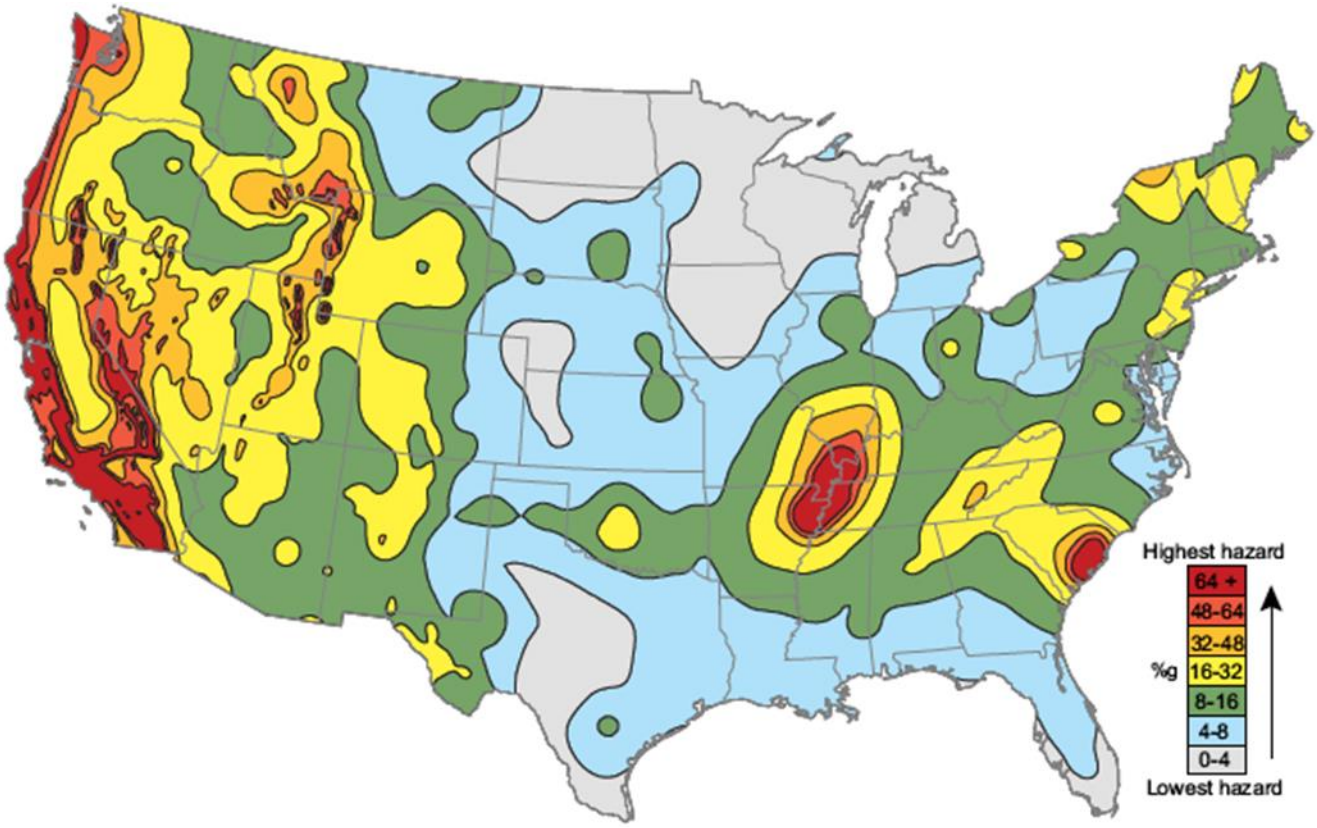


< 5 years old


BEECHER #44
2019 CENSUS BLOCK GROUPS
POPULATION COUNT UNDER 5
Total: 323
0 - 4
5 - 13
14 - 31
32 - 79
80 - 211

Geological

A United States Geological Survey (USGS) report, Illinois's potential earthquake risk has risen. Significant fault lines exist in the area, with earthquakes in limited or no development areas. Due to earthquakes' estimated risk with far-reaching implications, FEMA and IEMA (Illinois Emergency Management District) have developed plans and conducted exercises in preparation.



Earthquake Index, #1227

Beecher, IL 0.02
Illinois 0.24
The U.S. 1.81

The earthquake index value is calculated based on historical earthquake events data using USA.com algorithms. It is an indicator of the earthquake level in a region. A higher earthquake index value means a higher chance of an earthquake.

Historical Earthquake Events

No historical earthquake events that had recorded magnitudes of 3.5 or above found in or near Beecher, IL.

No historical earthquake events found in or near Beecher, IL.

Weather

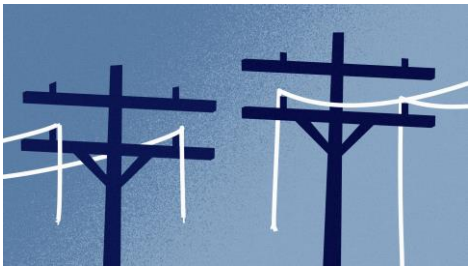
Weather can dramatically affect the District's population, housing, and infrastructure. Events include extreme thunderstorms (which may produce tornados, high winds, or flooding), blizzards and ice storms, temperature extremes (high heat and below zero conditions), and more.

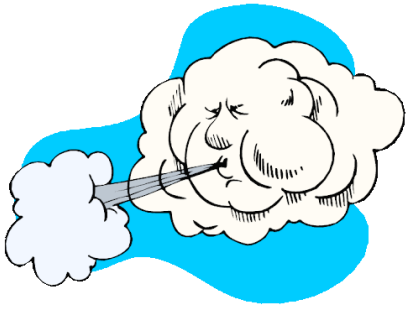
Other Weather Extremes Events

A total of 3,450 other weather extremes events within 50 miles of Beecher, IL were recorded from 1950 to 2010. The following is a break down of these events:

Type	Count	Type	Count	Type	Count	Type	Count	Type	Count
Avalanche:	0	Blizzard:	6	Cold:	19	Dense Fog:	3	Drought:	9
Dust Storm:	0	Flood:	353	Hail:	926	Heat:	32	Heavy Snow:	80
High Surf:	0	Hurricane:	0	Ice Storm:	16	Landslide:	0	Strong Wind:	47
Thunderstorm Winds:	1,683	Tropical Storm:	0	Wildfire:	2	Winter Storm:	85	Winter Weather:	13
Other:	176								

http://www.usa.com/beecher-il-natural-disasters-extremes.htm





Flooding

Flooding is a significant risk in the District, with many historic rain events causing the numerous waterways to overflow.

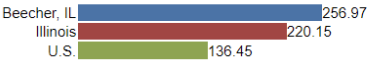
FEMA National Flood Hazards

- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- Static Water Bodies

Tornado Events

There is a higher risk of tornadic activity with recent tornados touching down nearby.

Tornado Index, #291



The tornado index value is calculated based on historical tornado events data using USA.com algorithms. It is an indicator of the tornado level in a region. A higher tornado index value means a higher chance of tornado events.

Historic tornado activity within 20 miles of Beecher

Historical Tornado Events

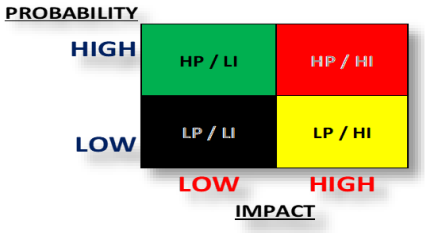
A total of 104 historical tornado events that had recorded magnitude of 2 or above found in or near Beecher, IL.

Distance (miles)	Date	Magnitude	Start Lat/Log	End Lat/Log	Length	Width	Fatalities	Injuries	Property Damage	Crop Damage	Affected County
6.1	2010-10-26	2	41°18'N / 87°44'W	41°20'N / 87°43'W	2.00 Miles	200 Yards	0	2	500K	0K	Will
		Brief Description: EVENT NARRATIVE: A tornado touched down about 4 miles east of Peotone. The tornado produced its most intense damage along South Will Center Road, about halfway between Corning Road and Peotone-Beecher Road, removing a house's roof, collapsing exterior walls on the second floor of the house, and completely destroying a garage and three other outbuildings. Two teenage boys were injured in the house. Four power poles were also downed just northeast of the area along Peotone-Beecher Road. Additional EF1 and EF0 damage was found along a path running southwest toward Kennedy Road. This damage consisted of collapsed outbuildings, snapped cedar trees, and damage to homes. One home on Corning Road was pushed off its foundation and the chimney collapsed. EPISODE NARRATIVE: A line of strong to severe thunderstorms moved across northern Illinois during the morning hours of October 26th. Three tornadoes were reported along with damaging winds.									
8.9	1957-07-12	2	41°23'N / 87°27'W				0	0	250K	0	Lake
9.7	2008-06-07	2	41°26'N / 87°46'W	41°28'N / 87°44'W	2.00 Miles	150 Yards	0	6	5.5M	0K	Will
		Brief Description: EVENT NARRATIVE: A tornado developed near Ridgeland Avenue and Dralle Road, where a high tension metal truss tower collapsed and four others were damaged. Power lines blocked Interstate 57. The tornado destroyed a mobile home and outbuildings east of Ridgeland between Dralle and Stuenkel Roads before crossing Interstate 57. The tornado was rated EF2 in this area. Six people were injured in vehicles on Interstate 57. Several cars were damaged and a semi trailer was completely destroyed. East of Interstate 57 at Stuenkel Road, a large warehouse had bay doors blown in, much of the roof collapsed, and the west wall blown in. Utility poles were pushed over along South Central Avenue. EPISODE NARRATIVE: A single supercell thunderstorm developed over western Illinois and moved northeast reaching Lake Michigan near the Illinois Indiana state line several hours later. This single thunderstorm produced eight different tornadoes as it moved east across Illinois.									
9.8	1954-06-01	2	41°15'N / 87°29'W				0	0	25K	0	Lake
10.1	2008-06-07	2	41°28'N / 87°44'W	41°30'N / 87°40'W	4.00 Miles	150 Yards	0	0	4.0M	0K	Cook
		Brief Description: EVENT NARRATIVE: A tornado which touched down in northwest Will County, crossed Steger Road into Cook County, just west of Cicero Avenue. The tornado hit a subdivision on the northwest corner of Steger Road and Cicero Avenue. Large tree limbs were blown down and a couple trees were uprooted. Homes were somewhat sheltered by large trees and only sustained minor damage. One home near Cicero Avenue had part of its roof torn off. East of Cicero Avenue, the tornado weakened slightly as it moved through an apartment complex. Only minor damage to roofs, soffits and siding was noted. The tornado hit another subdivision along Imperial Drive. A few homes had garages partially collapsed or destroyed. The tornado then passed through an open area before crossing Governors Highway and the Illinois Central tracks, just south of Sauk Trail. The tornado hit an apartment complex just east of the highway and railroad tracks. One three story building had much of the roof ripped off and part of the third floor exterior walls blown down. Carports were collapsed and other buildings had minor damage. The tornado was rated EF2 in this area. The tornado moved through the intersection of Sauk Trail and Richton Square Road where a grocery store and car wash sustained damage. The tornado then weakened to EF0 intensity as it continued northeast across Central Park Avenue and the northwest part of Central Park. Only minor damage to trees was observed in a subdivision in this area. The tornado crossed the E J and E tracks, then it damaged a roof at an apartment complex near North Street and Orchard Drive. The last signs of tree damage were just southwest of the intersection of Lincoln Highway and Western Avenue. Multiple eyewitnesses reported a dog that was picked up by the tornado and carried a few hundred feet away. The dog, a 125 pound Rottweiler, was apparently unharmed. EPISODE NARRATIVE: A single supercell thunderstorm developed over western Illinois and moved northeast reaching Lake Michigan near the Illinois Indiana state line several hours later. This single thunderstorm produced eight different tornadoes as it moved east across Illinois.									
11.1	2008-06-07	2	41°24'N / 87°51'W	41°25'N / 87°47'W	4.00 Miles	150 Yards	0	0	500K	0K	Will
		Brief Description: EVENT NARRATIVE: A tornado touched down along Paulding Road just west of Center Road, south of the Green Garden Country Club. A garage was leveled and a house had part of its roof torn off and damage to the second story exterior walls. At the southwest corner of Bruns and 88th Avenue, barns and trees were damaged. The tornado continued along Bruns Road between 80th and 88th Avenues. On the south side of Bruns Road, a mobile home, a horse barn that was sheltered by large trees and only sustained minor damage, one home near Orchard Avenue had part of its roof torn off, and an outbuilding were completely destroyed. The house lost a large section of the southeast wall on the second floor. Another house was heavily damaged with siding and a west wall blown off. North of Bruns Road, there was a barn that was practically destroyed with only a partial wall standing. A horse barn was destroyed with the stables intact and horses still standing in them. In the backyard of the next home, there were many trees trees, trailers and a small shed were blown into the creek immediately north of Bruns Road. A chain link fence was pulled from the ground. Many trees were uprooted and blown over. Power lines were also blown down. The next house had damage to two garages. The doors were blown out of both garages and the roof of one garage was severely damaged. The house had siding and roof shingles blown off. Further south of this section along Bruns Road, closest to 80th Avenue, had siding blown off and chimney damage. The tornado ended southwest of the intersection of Harlem Avenue and Manhattan-Monee Road, where there was minor tree damage. EPISODE NARRATIVE: A single supercell thunderstorm developed over western Illinois and moved northeast reaching Lake Michigan near the Illinois Indiana state line several hours later. This single thunderstorm produced eight different tornadoes as it moved east across Illinois.									
11.2	1965-05-26	2	41°30'N / 87°42'W		1.00 Mile	50 Yards	0	0	25K	0	Cook
13.0	1961-04-23	3	41°21'N / 88°13'W	41°19'N / 87°31'W	36.30 Miles	33 Yards	0	4	2.5M	0	Will
13.0	1974-06-20	3	41°17'N / 87°25'W	41°19'N / 87°20'W	4.50 Miles	150 Yards	0	5	250K	0	Lake
13.2	1961-04-23	3	41°19'N / 87°31'W	41°09'N / 87°19'W	15.40 Miles	33 Yards	0	0	25K	0	Lake
14.6	1966-07-13	2	41°30'N / 87°25'W				0	0	25K	0	Lake
14.7	2008-06-07	2	41°21'N / 87°55'W	41°22'N / 87°53'W	2.00 Miles	400 Yards	0	0	50K	0K	Will
		Brief Description: EVENT NARRATIVE: A tornado touched down northeast of Wilton Center, just north of Route 52 and east of Elevator Road, where there was minor tree damage. Based on photos and eyewitness reports, the tornado grew to about 400 yards wide but remained in open fields with few structures or trees in its path. At 120th Avenue, a garage was destroyed and all that remained was a cinder block base. A metal outbuilding was severely damaged. The tornado ended near Manhattan-Wilton Road, just west of Route 45. EPISODE NARRATIVE: A single supercell thunderstorm developed over western Illinois and moved northeast reaching Lake Michigan near the Illinois Indiana state line several hours later. This single thunderstorm produced eight different tornadoes as it moved east across Illinois.									
17.0	1965-11-12	3	41°33'N / 87°29'W	41°34'N / 87°24'W	4.10 Miles	40 Yards	0	14	250K	0	Lake
17.5	1965-11-12	2	41°34'N / 87°48'W	41°34'N / 87°47'W			0	0	25.0M	0	Cook
17.9	2004-04-20	2	41°05'N / 87°37'W	41°06'N / 87°37'W	3.00 Miles	50 Yards	0	0	0	0	Kankakee
		Brief Description: The tornado began in an open field and moved north northeast along county road 11000 East, knocking down trees and limbs. The tornado intensified from County Road 2630 South to 2430 South where homes were damaged, a mobile home was destroyed and large trees were knocked down or damaged. The most intense damage occurred at a church where the roof was taken off and walls were pushed down. The tornado continued across a farm field knocking over 2 pivot irrigation systems. It ended near 1000 South where trees were damaged.									
18.0	1962-06-23	2	41°36'N / 87°43'W		0.50 Mile	100 Yards	0	10	250K	0	Cook
18.1	2008-08-04	2	41°33'N / 87°25'W	41°33'N / 87°22'W	3.00 Miles	30 Yards	0	0	1.0M	0K	Lake
		Brief Description: EVENT NARRATIVE: A tornado touched down just northeast of the Ridge Road and Cline Avenue intersection. Damage occurred at the Griffith Park Plaza Mall where windows were blown out of a row of stores and a portion of a roof was blown off of a vacant store. The damage path continued to the east across the mall. Two semi-trailers at the back of the mall were blown southeastward while a third was completely knocked over. The area to the east of this mall in the subdivision along and north of 37th Avenue near Lafayette Avenue and Rensselaer Avenue sustained some of the strongest wind damage from this tornado. Two houses on Lafayette Avenue had their roofs blown off with another house on Rensselaer Avenue also having its roof collapsed and a garage door pushed inward. Other significant damage that occurred was at the Habitat for Humanity building at Colfax and Ridge Road. There, a cinder block storage building completely toppled to the ground. Although the building was knocked over, it appears as though the main cause of it faltering was due to a large tree that fell on top of it. At a nearby gas station within feet of this building, no damage occurred and people actually witnessed the tornado descend on the shelter. EPISODE NARRATIVE: A line of powerful thunderstorms moved across northwest Indiana during the evening hours of August 4th. These storms produced widespread and significant wind damage.									
18.2	1963-04-17	4	41°11'N / 88°06'W	41°08'N / 87°37'W	25.20 Miles	130 Yards	1	50	2.5M	0	Kankakee
18.2	1956-08-23	2	41°35'N / 87°47'W				0	3	250K	0	Cook
19.0	1976-03-12	3	41°05'N / 87°32'W	41°10'N / 87°17'W	13.90 Miles	250 Yards	0	7	250K	0	Newton
19.4	1950-01-25	2	41°10'N / 87°20'W				0	0	250K	0	Kankakee
20.4	2010-06-05	3	41°03'N / 87°45'W	41°04'N / 87°36'W	8.00 Miles	175 Yards	0	1	600K	0K	Kankakee
		Brief Description: EVENT NARRATIVE: The tornado began 3 miles northwest of St. Anne in Kankakee county. The tornado developed just west of 6000E Road and tracked to the east, where it produced damage to a home and a garage along the road. At this location, a single family home collapsed upon itself, leaving it inhabitable. The garage sustained damage to its roof and exterior walls. The tornado was rated EF2 with winds estimated at around 113 mph. The tornado continued to move to the east northeast, where it increased in intensity as it encountered yet another family home at the intersection of Route 1 and 4000S Road. This home and the garage/barn next to it sustained considerable damage, leaving the home inhabitable. The damage to the home consisted of all the walls collapsing, with all remaining debris from the house tossed to the northeast. The garage walls collapsed, with the contents tossed to the east. Two four-wheelers and a four-door automobile inside the garage were lifted and flipped over as the tornado passed. Further north along Route 1, there was minor structural damage to a couple of homes and several trees uprooted. Damage at this location was rated EF3 with winds estimated at around 142 mph and a path width of 175 yards. As this tornado continued to the northeast, it lost its intensity as it came across another residence at the intersection of 4000S Road and 8500E Road. Here, a house sustained partial damage to its roof with several surrounding trees having limbs sheared at the top. The tornado weakened at this point, and damage was rated EF1 with winds estimated at around 97 mph and a path width of 50 yards. The tornado moved to the northeast through a wooded area, causing damage to many trees along its way. The more significant damage occurred near the intersection of 13000E Road and Gamble Road in the Hopkins Park area, where several healthy large hardwood tree tops were sheared or broken. Some homes were damaged by falling trees. The tornado continued to weaken and damage was rated EF1, with winds estimated at around 88 mph, and a path width of 50 yards. It was along 13000E Road where the tornado appeared to lift, with no other damage evident beyond this point. EPISODE NARRATIVE: Severe thunderstorms, including a few long tracked supercells moved across central and northern Illinois, producing damaging winds, hail and tornadoes.									

Natural Event / Weather Risk Scoring

An additional scoring model utilized by the District to evaluate the risk of naturally occurring events was completed. It indicates the risks associated with natural events are primarily low to moderate.

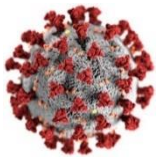
NATURAL EVENT TYPE	PROBABILITY *Likelihood this will occur* *0 = N/A* *1 = Low* *2 = Moderate* *3 = High* *4 = Extreme*	IMPACT / CONSEQUENCES HUMAN *Possibility of death or injury* *0 = N/A* *1 = Low* *2 = Moderate* *3 = High* *4 = Extreme*	PROPERTY *Physical losses and damages* *0 = N/A* *1 = Low* *2 = Moderate* *3 = High* *4 = Extreme*	BUSINESS *Interruption of services* *0 = N/A* *1 = Low* *2 = Moderate* *3 = High* *4 = Extreme*	TOTAL IMPACT Human, Property, Business	AVERAGE IMPACT SCORE	PROBABILITY + IMPACT Probability + Impact (average)
Severe Thunderstorm	4	2	2	3	7	2.3	6.3
Extreme Winter/Ice Storm	4	2	2	3	7	2.3	6.3
Tornado	3	3	4	1	8	2.7	5.7
Temperature Extremes	3	2	1	3	6	2.0	5.0
Flood	3	2	3	3	8	2.7	5.7
Earthquake	1	3	4	1	8	2.7	3.7
Drought	2	2	1	1	4	1.3	3.3
Epidemic	1	4	1	4	9	3.0	4.0
Totals	21	20	18	19	57	19	5.0



Risk Assessment
1-2 Low Threat
3-4 Moderate Threat
5-6 High Threat
7-8 Extreme Threat

The District is prepared for "All Hazard" responses and has plans to remain reliable and sustainable regardless of the environmental or large-scale incident. There are redundancies in place to keep operations always at the ready.

Risk assessment findings indicate a **higher probability and consequence from naturally caused events**.



The United States has undergone a "National Emergency" due to a **Global Pandemic from the COVID 19** (Novel Coronavirus) outbreak. As of this writing, there are over 412 million confirmed cases worldwide (77.6 mil. US), with over 5.8 million deaths (918k+ US). Those numbers rose exponentially throughout the year and continue to increase daily. At-Risk populations (> 65) are being significantly harmed. Unprecedented measures are taking place with US Borders shut to travel internationally, and mass closings of schools, sports, bars/restaurants, churches, theaters, and many businesses alike to "social distance" to "flatten the curve" to postpone and minimize the spread. States issued "stay home orders," and only essential businesses are open until positivity rates are lowered. The US economy crashed to 2008 levels and is slowly recovering. Since December 2020, several vaccines have been approved for use, and mass vaccination rollouts are happening worldwide to combat the virus's spread in hopes of gaining herd immunity and reopening at a quicker rate. A crisis such as this has dramatically affected the Fire and EMS Services everywhere. Increased responses, PPE/exposure protection, extended hospital turn-around times, isolation, staffing, supply, and more overwhelm the entire health care industry. New variants, such as Delta and Omicron, will continue the spread of this pandemic for some time now.

Large Scale Incidents

Community risks exceed traditional fire and EMS to include significant scale events. In most cases, these events would be low-frequency/severe consequence events on a community basis. Department of Homeland Security (DHS) methodology was utilized to conduct risk assessments on the most anticipated events. In the large-scale event risk assessment process, programs to reduce risk and increase preparedness capabilities can be performed. Numerical scores were assigned in the assessment process allowing prioritization of risk reduction efforts.

The following assessment characteristics were utilized:

- Probability
- Vulnerability
- Onset speed
- Impact
- Preparedness
- Geographic size
- Potential for associated MCI
- Warning time
- Length of event
- Consequences

- **Hazardous Materials Incident (HM - Low)**
  - Lower-level HazMat responses are usually handled by local Fire Departments, with Higher-level responses by regional teams. NFPA defines a Level 3 HazMat incident as beyond regional or state capabilities. Level 3 incidents may require federal resources during response or cleanup. These incidents pose an immediate severe and long-term risk to the community due to the release of substantial amounts of hazardous materials. This threat event would likely result from a railroad car release due to the number and type of HazMat transported through the community.

- **Weapons of Mass Destruction Event (WMD - Low)**
  - WMD events involve chemical, biological, radiological release and exposure. Chemical event symptoms begin immediately after the exposure. Radiological and some biological events symptoms may start up to 12 hours after exposure, and others directly.

- **Mass Violence Incident (MVI - Low)**
  - A Mass Violence Incident (MVI) generally has ten (10) or more patients triaged as Yellow or Red. MVI differs from Mass Casualty Incidents (MCI) in that MVI is intentionally caused by human action. MCI can result from non-intentional events such as a vehicle accident. MVI requires tight integration with law enforcement to stabilize the incident and care for victims. Areas and occupancies with large groups of people are soft targets for an MVI. The District has potential targets with MVI probability. Examples of these events are Active Shooter Hostile, explosive device, or as simple as car vs. a crowd.

- **Significant Scale Power Failure (PGF - Low)**
  - Heavy reliance on electrical power has created potential power grid failure. The power grid is owned, operated, and managed by a private entity. Isolated power failures occur during storms several times a year and are short-lasting. A large-scale grid failure would have a significant effect on service demands and associated consequences

- **Public Health Incident (PH - Low)**
  - An increase in public health incidents, such as pandemics and viruses, has been noted in the last few years, and a historic one began in 2020 (COVID 19). A pandemics effects increase service demands and may lower personnel availabilities due to exposure and resulting illness, longer hospital turnaround time, isolations, and supply issues, to name just a few.

- **Cyber Attack (CA – Low)**
  - Most fire service agencies have a high reliance on IT systems for communication and records systems. Targeted attacks on IT systems have been increasing worldwide. These attacks can include Denial of Service (DOS) and ransomware.

	Future Frequency	Impact	Area Affected
Floods	Likely	Serious	Large
Severe Summer Storms	Likely-Frequent	Moderate	Community
Severe Winter Storms	Likely-Frequent	Moderate	Large
Tornado	Likely	Serious - Catastrophic	Community
Extreme Heat	Likely	Moderate	Large
Drought	Seldom	Moderate	Large
Earthquake	Seldom	Low-moderate	Community
Power Outage	Likely	Moderate-Serious	Community

Risk Assessment for Service Level Classifications

Risk assessments were also conducted for the following primary service types:

FIRE **EMS** **HAZMAT** **RESCUE**

FIRE RISK

Fire Risk

Fire risk drives the number of personnel, apparatus, and critical tasks required in suppression operations. Fire suppression services involve a full-range response from single/multi-family residential to commercial, industrial, and special occupancies. Public and private schools, colleges, universities, houses of worship, and healthcare facilities are also covered. Fire response is not limited to fixed property but also incorporates mobile and wildland-urban interfaces.

NATIONWIDE

80 % of all fire deaths occur in residential dwellings.

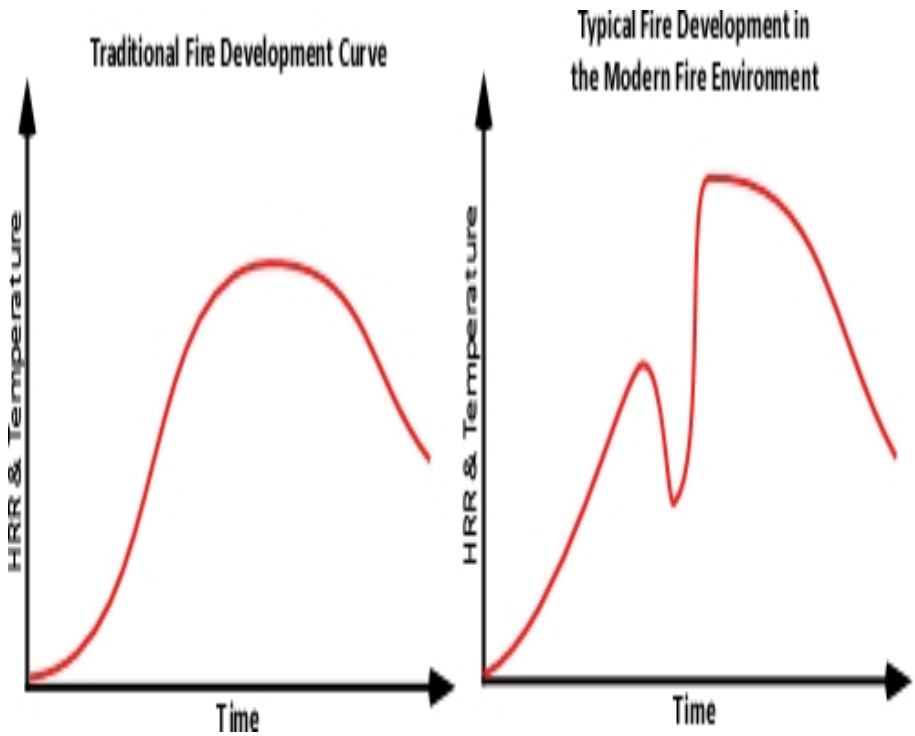
7 people die and 32 are injured every day.

Fire kills more people in the United States every year than all-natural disasters combined.

(Home Fire Sprinkler Coalition, May 2013)

Modern Fire Behavior

Thanks to NIST's recent work (National Institute of Scientific Technology) and UL (Underwriters Laboratory), the fire service is learning more now than ever about the effects of fire on modern construction. The graphs represent the time-temperature curve of a past, or "legacy" style home, compared to the dramatically explosive "modern" fire environment in a ventilation limited fire scenario. These conditions can occur in less than 5 minutes. Standard fire and life safety factors, such as fire flow and code compliance for life safety, are used to determine risk classification. Risk classifications range from Low, Moderate, High, and finally to Special/Maximum. Single-family dwellings, considered typical or moderate risk, comprise most communities.



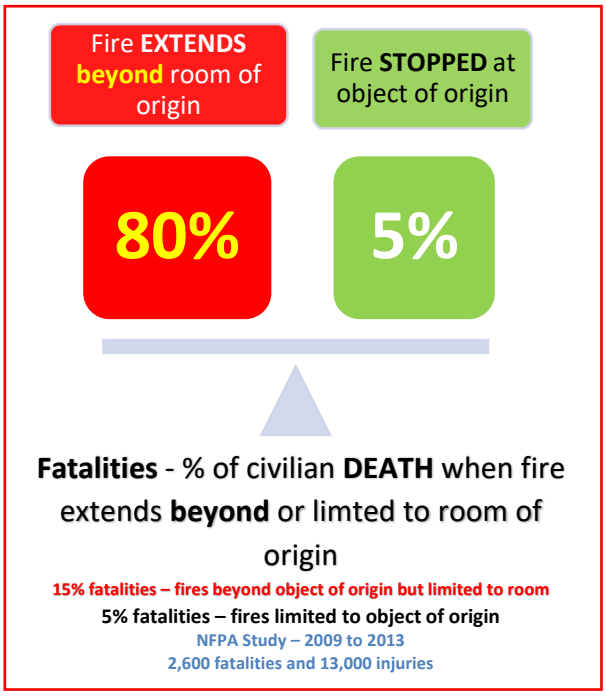
Fire Spread

Limiting fire growth to the smallest area within an occupancy decreases risk to occupants and firefighters. NFPA statistics have also shown a decrease in property loss by ideally limiting fires to the room of origin.

Several primary factors, including influence fire spread:

- Fuel load
- Compartmentalization
- Notification
- Time to apply water

This list is simplified as unlimited variables can influence fire spread. The Fire District does not directly control the first three bullet points. Early detection systems can affect risk by providing early warnings to occupants and the Fire District. The application of water to fire is dependent on the appropriate complement of apparatus and qualified personnel arriving on the scene promptly. The initial arrival of personnel can begin fire suppression operations to start controlling and limit fire spread.



Fire spread is grouped into five categories by NFIRS:

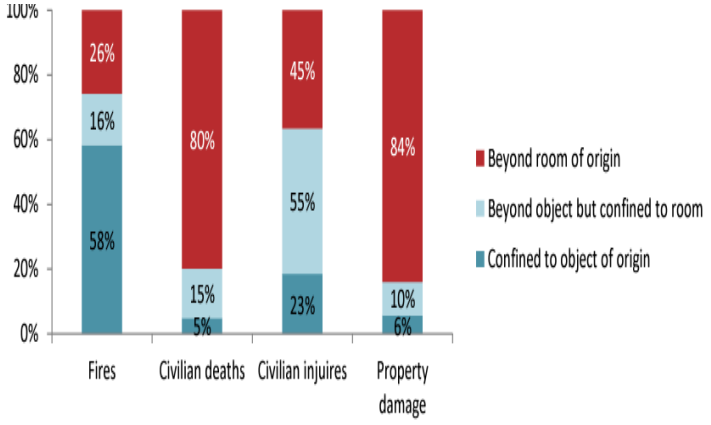
- Limited to the **object** of origin <- **Nationally, 58% of fires were limited to the object of origin**
- Limited to the **room** of origin* **+16% = 74% of fires limited to the room of origin (resulted in 20% fatalities/78% of injuries)**
- Limited to the **floor** of origin
- Limited to the **building** of origin
- Extended **past the structure** of origin

These categories allow fire suppression goals and objectives to be established and measured.

The District effectively limited "WORKING FIRES" to the object or room of origin **20%** of the time.

60% of "ALL FIRES" were limited to object or room of origin

NFPA Reported Structure Fires by Extent of Fire Spread: 2007-2011



NFPA – Reported Structure Fires by Extent of Fire Spread, Occupancy, and Loss Rates
https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Building-and-life-safety/OSStructureFiresbyExtentofFlameSpread.ashx?la=en

NFPA – Home Structure Fire Research 2019
https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Building-and-life-safety/oshomes.pdf

Fire Incident Response Summary

FIRES (includes out of District)	2016	2017	2018	2019	2020	2021	TOTAL	Average	% Fire Incidents
Structures (fires in)	38	36	56	44	34	39	**247**	41	*67.4%*
Vehicles	3	9	6	2	1	6	**27**	5	*9.2%*
Vegetation/Grass	5	16	19	6	9	17	**72**	12	*15.7%*
Outside/Other	1	2	7	1	4	6	**21**	4	*7.6%*
	47	**63**	**88**	**53**	**48**	**68**	**367**	61	
Change over the previous year		*17.40%*	*-3.50%*	*-10.20%*	*6.50%*	*6.50%*			

According to the National Fire Incident Reporting System (NFIRS), a summary of the four main classified fire types is required. These include structures (or fires inside a structure), vehicles, brush/wildland, and other fires classified by NFIRS Types. Also listed is the historical data for fire ground injuries and death to civilians and firefighters and dollar loss/save rates for the study period.

NFIRS Historic Response

	2016	2017	2018	2019	2020	2021	Totals	Average	% of Inc
100 Fire, other			1				**1**	1	*0.3%*
111 Building fire	34	35	54	42	31	36	**232**	39	*64.3%*
112 Fires in structures other than in a building			1				**1**	1	*0.3%*
113 Cooking fire, confined to container	1	1				1	**3**	1	*0.8%*
114 Chimney or flue fire, confined to chimney or flue					1	2	**3**	2	*0.8%*
116 Fuel burner/boiler malfunction, fire confined				1			**1**	1	*0.3%*
118 Trash or rubbish fire, contained	3			1	1		**5**	2	*1.4%*
120 Fire in mobile prop. used as a fixed struc., other					1		**1**	1	*0.3%*
STRUCTURES (Fires in)	**38**	**36**	**56**	**44**	**34**	**39**	**247**	41	***68.4%***
Change over previous		***-5%***	***56%***	***-21%***	***-23%***	***15%***			
131 Passenger vehicle fire	3	5	5	1	1	3	**18**	3	*5.0%*
132 Road freight or transport vehicle fire		2	1			2	**5**	2	*1.4%*
138 Off-road vehicle or heavy equipment fire		2		1		1	**4**	1	*1.1%*
VEHICLES	**3**	**9**	**6**	**2**	**1**	**6**	**27**	5	***7.5%***
Change over previous		***200%***	***-33%***	***-67%***	***-50%***	***500%***			
141 Forest, woods or wildland fire	1		1				**2**	1	*0.6%*
142 Brush, or brush and grass mixture fire	3	13	16	6	7	14	**59**	10	*16.3%*
143 Grass fire	1	3	1				**5**	2	*1.4%*
171 Cultivated grain or crop fire			1		1	3	**5**	2	*1.4%*
173 Cultivated trees or nursery stock fire					1		**1**	1	*0.3%*
VEGETATION/GRASS	**5**	**16**	**19**	**6**	**9**	**17**	**72**	12	***19.9%***
Change over previous		***220%***	***19%***	***-68%***	***50%***	***89%***			
150 Outside rubbish fire, other					1		**1**	1	*0.3%*
151 Outside rubbish, trash or waste fire	1	1	4		1		**7**	2	*1.9%*
153 Construction or demolition landfill fire			1				**1**	1	*0.3%*
154 Dumpster or other outside trash receptacle fire		1	1		2		**4**	1	*1.1%*
161 Outside storage fire				1			**1**	1	*0.3%*
162 Outside equipment fire			1				**1**	1	*0.3%*
OUTSIDE/OTHER	**1**	**2**	**7**	**1**	**4**	**0**	**15**	3	***4.2%***
Change over previous		***100%***	***250%***	***-86%***	***300%***	***-100%***			
NFIRS 100 - FIRES	**47**	**63**	**88**	**53**	**48**	**62**	**361**	60	
change over previous		***34%***	***40%***	***-40%***	***-9%***	***29%***			

"Working" Fires Confined to:	2016	2017	2018	2019	2020	2021	TOTAL	Average	% of Inc
1 - Point			1			1	2	1	10%
2 - Room				2			2	2	10%
3 - Floor							0		0%
4 - Building	1	1	2	2	5	2	13	2	65%
5 - Beyond			2		1		3	2	15%
...of origin									
WORKING FIRES	1	1	5	4	6	3	20		20%
Pump Can extinguishment	*1*	*1*	*3*	*1*	*3*	*1*	*10*		"WORKING" Fires Confined to Point or Room of Origin
Out prior to Arrival	*6*	*2*	*2*				*10*		
NON-WORKING FIRES	7	3	5	1	3	1	20		
TOTAL FIRES IN STRUCTURES	8	4	10	5	9	4	40		
FIRE LOSS									60%
Contents	$70,675	$1,000	$84,070	$31,200	$115,500	$501,500	$803,945		"ALL" Fires Confined to Point or Room of Origin
Property	$155,250	$1,250	$231,500	$110,000	$570,000	$1,523,000	$2,591,000		
TOTAL LOSSES	$225,925	$2,250	$315,570	$141,200	$685,500	$2,024,500	$3,394,945		

PROPERTY USE			% OF INC
Single Family	419	24	60%
Multifamily	429	4	10%
Shed	808	3	8%
Church	131	1	3%
Livestock Storage, Barn	819	2	5%
Garage (detached)	881	1	3%
Livestock Production	659	1	3%
Manufacturer	700	1	3%
Nursing Home	311	1	3%
Outbuilding	926	1	3%
Outside Material Storage	807	1	3%
		40	

FLOOR OF ORIGIN		
1 - Floor 1	27	68%
2 - Floor 2	8	20%
3 - Floor 3	1	3%
-1 - Basement	2	5%
0 - Undetermined	2	5%
	40	

Structure Fire Historical Statistics

AREA OF ORIGIN		
2 - Function	15	38%
UU -Undetermined	7	18%
7 - Structural	6	15%
4 - Storage	4	10%
6 -Equipment	3	8%
8 - Transportation	2	5%
0 - Means of Egress	1	3%
5 - Service	1	3%
9 - Other	1	3%
1 - Assembly, Sales	0	0%
3 - Technical Processing	0	0%
	40	

ROOM of ORIGIN		
BEDROOM	7	18%
UNDETERMINED	7	18%
LAUNDRY	4	10%
GARAGE	3	8%
WALL, EXTERIOR	3	8%
BATHROOM	2	5%
HEATING	2	5%
KITCHEN	2	5%
ROOF	2	5%
ATTIC	1	3%
CLOSET	1	3%
CRAWLSPACE	1	3%
EXTERIOR STAIRWAY	1	3%
MACHINERY	1	3%
OUTSIDE AREA	1	3%
STORAGE	1	3%
UTILITY CHASE	1	3%
	40	

FIRE SPREAD - CONTAINMENT - ALL FIRES		
1 - Point	12	30%
2 - Room	9	23%
3 - Floor	1	3%
4 - Building	15	38%
5 - Beyond	3	8%
	40	
Fires contained to Point or Room of Origin		53%

SMOKE DETECTOR OPERATION		
1 - Fire Too Small	3	15%
2 - Operated	3	15%
3 - FAILED	1	5%
U - Undetermined	2	10%
	9	
Not reported	11	55%
	20	

The District has contained

20%

of **working** structure fires to the ROOM or POINT OF ORIGIN

2016-2021

Fire Risk level Classification

A definition of "fire risk analysis" considers fire potential (probability), life hazards and economic impact (consequences), occupancy use, construction features, fire protection systems, fire flow requirements, and community risk factors. Evaluating event probability, impact, and location (as part of this analysis of existing and potential community risk), the following **TYPE classification** of **fire risk hazard levels** have been established:

FIRE - RISK	
LOW	Outside fires
	Vehicles, Brush, Refuse
MODERATE	Structures
	SMALL - MEDIUM:
	Residential, Multifamily, Commercial
HIGH	Target Hazards
	LARGE - MEGA:
	Residential, Multifamily, Commercial
	or Schools, Hotels, Malls,
	Nursing,Assisted Living

Low-Risk types are incidents typically requiring a single Fire Company. Examples are small brush and dumpster-type fires. Vehicle fires are also classified as Low Risk. However, the District should consider an additional fire company dispatched for traffic control and manpower tasks. Fully protected (alarmed/sprinklered) structures are also low-risk types of classifications and, therefore, can be dispatched with a reduced response with the option to upgrade the response level at any time if further information confirming a fire is determined.

Moderate-Risk types are the structure fire incidents that makeup almost all the Fire District. They involve Small to Medium Residential-Multifamily-Commercial occupancies. Typically, they are single-family residential to small six units or less multifamily apartment buildings and small to medium commercial or strip malls. NFPA structure classification, "low" type.

High-Risk types are Large to Mega Size Residential-Multifamily-Commercial structures. It includes Target Hazards, which risk a sizable loss of life, loss of economic value to the community, or high property loss. These include sites such as Schools, Hotels, Skilled Nursing facilities. NFPA structure classification, "medium to high."

FIRE risk types historically are primarily classified as LOW to MODERATE

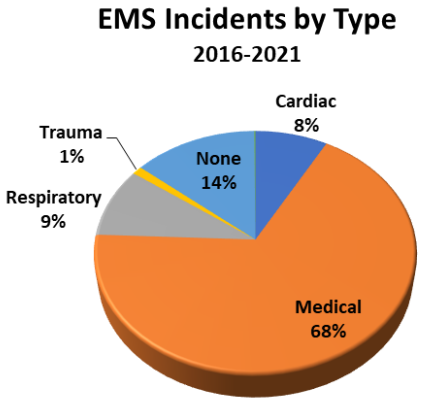
EMS RISK

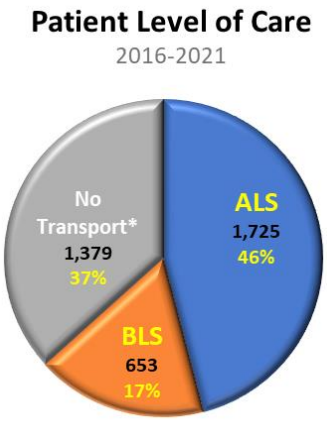
Risks to the EMS community range from treating and transporting the ill/injured, cardiac and respiratory problems, and the broad spectrum of medical issues to the potential mass casualty.

EMS is the highest demand for service the District provides, accounting for nearly **59.3% of incidents** (**65%** *when including vehicle accidents with injuries – categorized to the "Rescue" group)*. The Emergency Medical environment continues to evolve with a changing society. Events such as Covid, active shooter, terrorism, and other man-made hostile events are reshaping EMS roles and responsibilities, requiring continued planning and training to meet those risks.

EMS by Category 2016-2021

Cardiac	c	257	*7%*
Medical	m	2538	*71%*
Respiratory	r	297	*8%*
Trauma	t	59	*2%*
None	n	440	*12%*
No Data	nd	4	*0%*
		3595	





Patient Level of Care	2016	2017	2018	2019	2020	2021	Total	Average	% of Ir
ALS	244	277	358	332	239	275	**1,725**	*288*	46%
BLS	88	84	97	120	90	174	**653**	*109*	17%
No Transport*	120	173	194	283	276	333	**1,379**	*230*	37%
	452	**534**	**649**	**735**	**605**	**782**	**3,757**	*595*	
Change over previous %		*18.1%*	*21.5%*	*13.3%*	*-17.7%*	*29.3%*			
Change over previous #		*82*	*115*	*86*	*-130*	*177*			

**No Transport includes:*	2016	2017	2018	2019	2020	2021	Total	Average	% of Ir
Lift Assist	**0**	**0**	**3**	**14**	**16**	43	**76**	*13*	6%
DOA/ Triple Zero	**3**	**2**	**6**	**8**	**7**	16	**42**	*7*	3%
MPR	0	0	0	0	4	10	**14**	*2*	0%
Refused Treatment	1	0	0	1	32	101	**135**	*23*	4%
Treated/ Refused	2	5	9	16	20	23	**75**	*13*	2%
Treated/ Transferred Care	0	0	2	4	2	1	**9**	*2*	0%
Evaluated/ No Treatment	108	162	170	238	193	129	**1,000**	*167*	27%
Arrest (TOR w/o transport)	6	4	4	2	2	10	**28**	*5*	1%
	120	**173**	**194**	**283**	**276**	**333**	**1,379**		
Change over previous %		*44.2%*	*12.1%*	*45.9%*	*-2.5%*	*20.7%*			
Change over previous #		*53*	*21*	*89*	*-7*	*57*			

Top EMS Incident Types

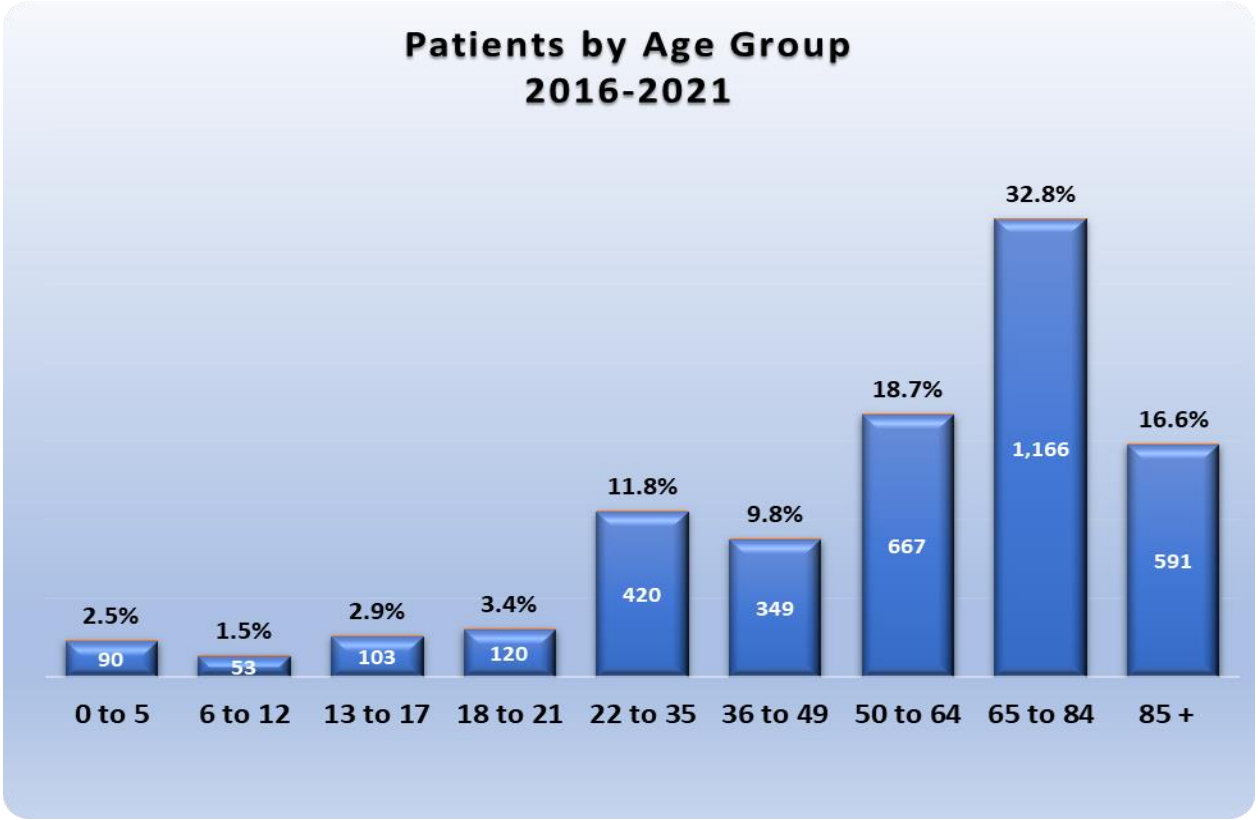
By Frequency

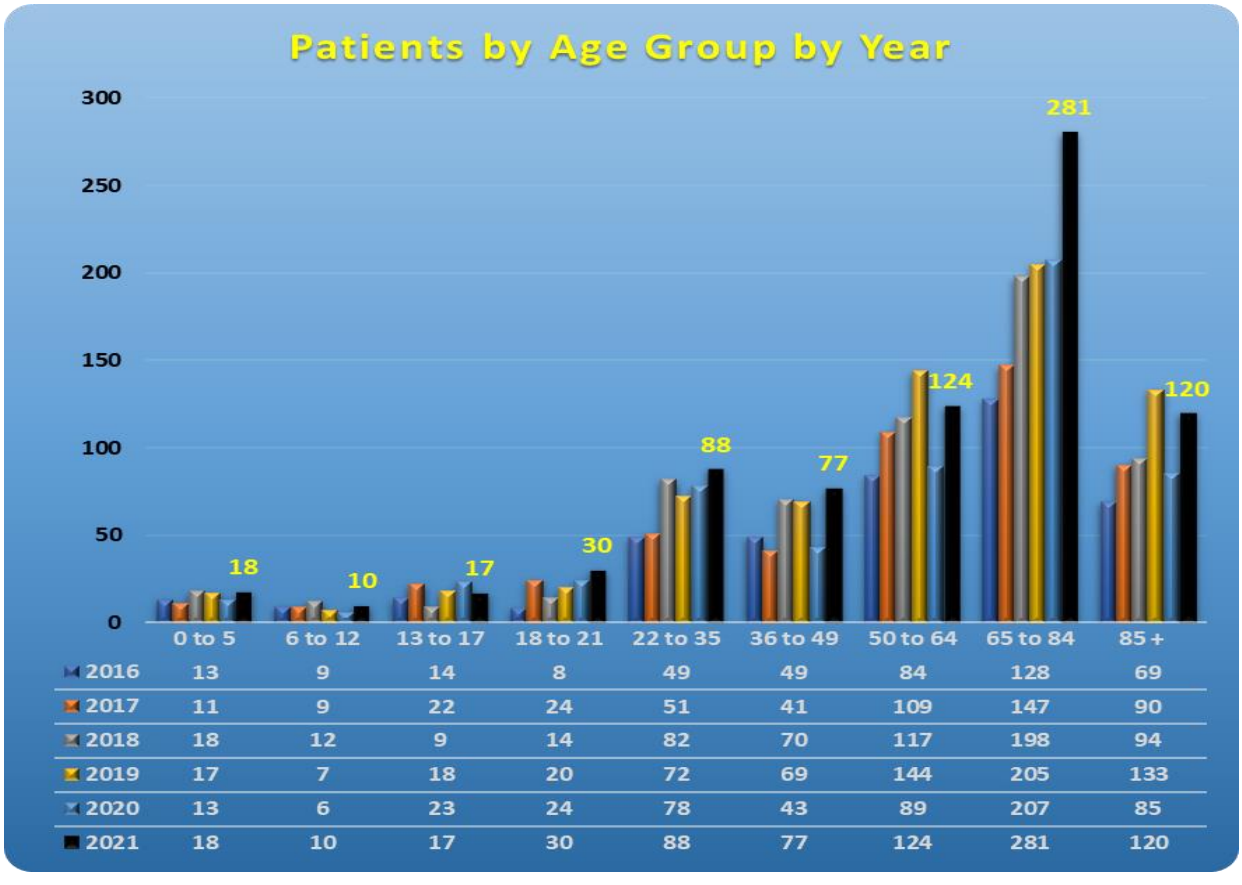
Primary Impression	2016	2017	2018	2019	2020	2021	TOTAL	Average	Type
No Apparent Illness / Injury	0	13	91	134	88	110	436	73	n
Weakness	19	36	55	70	72	79	331	55	m
Pain	23	53	85	71	36	18	286	48	m
Respiratory Distress	42	53	60	64	34	26	279	47	r
Behavioral/Psychiatric Disorder	0	16	34	40	58	25	173	29	m
Abdominal Pain / Problems	29	17	36	33	22	32	169	28	m
Chest Pain or Discomfort	20	30	28	35	24	18	155	26	c
Patient Assist Only	2	0	21	55	52	12	142	24	m
Altered Mental Status	20	14	25	33	19	21	132	22	m
Back Pain (Non-Traumatic)	19	16	24	22	14	14	109	18	m
Syncope/Fainting	10	13	22	22	15	18	100	17	m
Headache	10	4	10	29	20	9	82	14	m
Nausea/Vomiting	8	9	18	15	8	8	66	11	m
Seizure	9	6	14	12	6	11	58	10	m
Cardiac Rhythm Disturbance	15	10	19	6	4	2	56	9	c
Hypertension	8	7	13	14	4	6	52	9	m
Hypoglycemia	7	5	10	11	6	12	51	9	m
ETOH Abuse	9	3	12	8	12	2	46	8	m
Cardiac Arrest	3	7	7	9	7	12	45	8	c
Stroke/CVA	3	8	9	4	3	12	39	7	m
Unconscious (Unknown Etiology)	5	9	9	10	4	0	37	6	m
Hyperglycemia	2	5	10	11	3	5	36	6	m
Obvious Death	7	3	6	5	6	7	34	6	m
Fever	4	5	4	8	3	6	30	5	m
Allergic Reaction	6	5	7	1	3	5	27	5	m
Hypotension	2	5	9	2	3	6	27	5	m
Traumatic Injury	0	0	0	0	24	0	24	4	t
General Malaise	0	0	0	0	17	3	20	3	m
Poisoning / Drug Ingestion	4	3	4	3	1	1	16	3	m
OB / Pregnancy Complications	1	1	5	1	0	7	15	3	m
Airway Obstruction	2	4	1	2	2	2	13	2	r
Coronavirus	0	0	0	0	4	6	10	2	m
Other Illness/Injury	0	0	0	0	10	0	10	2	t
Unknown Problem	0	0	0	0	0	9	9	2	m
Substance/Drug Abuse	0	0	0	0	1	6	7	1	m
Near Syncope	0	0	0	0	5	0	5	1	m
Bowel Obstruction	0	0	0	0	0	4	4	1	m
Common Cold	0	0	0	0	1	3	4	1	m
Heat Exhaustion / Stroke	0	2	2	0	0	0	4	1	m
No Data	0	0	0	0	0	4	4	1	nd
Stings/Venomous Bites	1	0	1	2	0	0	4	1	m
Violent behavior	0	0	0	0	0	4	4	1	m
Infectious Disease	0	0	0	0	0	3	3	1	m
TIA (Transient Ischemic Attack)	0	0	0	0	0	3	3	1	m
Vaginal Hemorrhage	0	1	2	0	0	0	3	1	m
Asthma	0	0	0	0	0	2	2	0	r
Dehydration	0	0	0	0	0	2	2	0	m
Epistaxis (Non-Traumatic)	0	0	0	0	0	2	2	0	m
G.I. Bleed	0	0	0	0	0	2	2	0	m
Hypovolemia	0	1	0	1	0	0	2	0	m
Inhalation Injury (Toxic Gas)	0	0	1	1	0	0	2	0	r
Sepsis	0	0	0	0	0	2	2	0	m
Suicidal	0	0	0	0	0	2	2	0	m
CHF (Congestive Heart Failure)	0	0	0	0	0	1	1	0	c
Diarrhea	0	0	0	0	0	1	1	0	m
OB / Childbirth	0	0	0	0	1	0	1	0	m
Other Endocrine/Metabolic Problem	0	0	0	0	1	0	1	0	m
Other G.I. Symptoms	0	0	0	0	1	0	1	0	m
Respiratory Arrest	0	0	0	0	0	1	1	0	r
Sexual Assault	0	0	0	1	0	0	1	0	t
TOTAL	290	364	654	735	594	546	3183		
Change over previous %		26%	80%	12%	-19%	-8%			
Change over previous #		74	290	81	-141	-48			

Alphabetical

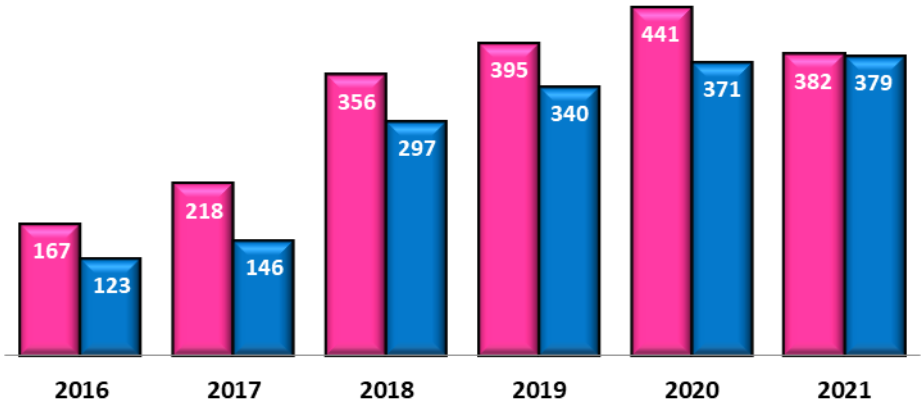
Primary Impression	2016	2017	2018	2019	2020	2021	TOTAL	Average	Type
Abdominal Pain / Problems	29	17	36	33	22	32	**169**	28	m
Airway Obstruction	2	4	1	2	2	2	**13**	2	r
Allergic Reaction	6	5	7	1	3	5	**27**	5	m
Altered Mental Status	20	14	25	33	19	21	**132**	22	m
Asthma	0	0	0	0	0	2	**2**	0	r
Back Pain (Non-Traumatic)	19	16	24	22	14	14	**109**	18	m
Behavioral/Psychiatric Disorder	0	16	34	40	58	25	**173**	29	m
Bowel Obstruction	0	0	0	0	0	4	**4**	1	m
Cardiac Arrest	3	7	7	9	7	12	**45**	8	c
Cardiac Rhythm Disturbance	15	10	19	6	4	2	**56**	9	c
Chest Pain or Discomfort	20	30	28	35	24	18	**155**	26	c
CHF (Congestive Heart Failure)	0	0	0	0	0	1	**1**	0	c
Common Cold	0	0	0	0	1	3	**4**	1	m
Coronavirus	0	0	0	0	4	6	**10**	2	m
Dehydration	0	0	0	0	0	2	**2**	0	m
Diarrhea	0	0	0	0	0	1	**1**	0	m
Epistaxis (Non-Traumatic)	0	0	0	0	0	2	**2**	0	m
ETOH Abuse	9	3	12	8	12	2	**46**	8	m
Fever	4	5	4	8	3	6	**30**	5	m
G.I. Bleed	0	0	0	0	0	2	**2**	0	m
General Malaise	0	0	0	0	17	3	**20**	3	m
Headache	10	4	10	29	20	9	**82**	14	m
Heat Exhaustion / Stroke	0	2	2	0	0	0	**4**	1	m
Hyperglycemia	2	5	10	11	3	5	**36**	6	m
Hypertension	8	7	13	14	4	6	**52**	9	m
Hypoglycemia	7	5	10	11	6	12	**51**	9	m
Hypotension	2	5	9	2	3	6	**27**	5	m
Hypovolemia	0	1	0	1	0	0	**2**	0	m
Infectious Disease	0	0	0	0	0	3	**3**	1	m
Inhalation Injury (Toxic Gas)	0	0	1	1	0	0	**2**	0	r
Nausea/Vomiting	8	9	18	15	8	8	**66**	11	m
Near Syncope	0	0	0	0	5	0	**5**	1	m
No Apparent Illness / Injury	0	13	91	134	88	110	**436**	73	n
No Data	0	0	0	0	0	4	**4**	1	nd
OB / Childbirth	0	0	0	0	1	0	**1**	0	m
OB / Pregnancy Complications	1	1	5	1	0	7	**15**	3	m
Obvious Death	7	3	6	5	6	7	**34**	6	m
Other Endocrine/Metabolic Problem	0	0	0	0	1	0	**1**	0	m
Other G.I. Symptoms	0	0	0	0	1	0	**1**	0	m
Other Illness/Injury	0	0	0	0	10	0	**10**	2	t
Pain	23	53	85	71	36	18	**286**	48	m
Patient Assist Only	2	0	21	55	52	12	**142**	24	m
Poisoning / Drug Ingestion	4	3	4	3	1	1	**16**	3	m
Respiratory Arrest	0	0	0	0	0	1	**1**	0	r
Respiratory Distress	42	53	60	64	34	26	**279**	47	r
Seizure	9	6	14	12	6	11	**58**	10	m
Sepsis	0	0	0	0	0	2	**2**	0	m
Sexual Assault	0	0	0	1	0	0	**1**	0	t
Stings/Venomous Bites	1	0	1	2	0	0	**4**	1	m
Stroke/CVA	3	8	9	4	3	12	**39**	7	m
Substance/Drug Abuse	0	0	0	0	1	6	**7**	1	m
Suicidal	0	0	0	0	0	2	**2**	0	m
Syncope/Fainting	10	13	22	22	15	18	**100**	17	m
TIA (Transient Ischemic Attack)	0	0	0	0	0	3	**3**	1	m
Traumatic Injury	0	0	0	0	24	0	**24**	4	t
Unconscious (Unknown Etiology)	5	9	9	10	4	0	**37**	6	m
Unknown Problem	0	0	0	0	0	9	**9**	2	m
Vaginal Hemorrhage	0	1	2	0	0	0	**3**	1	m
Violent behavior	0	0	0	0	0	4	**4**	1	m
Weakness	19	36	55	70	72	79	**331**	55	m
TOTAL	**290**	**364**	**654**	**735**	**594**	**546**	**3183**		
Change over previous %		26%	80%	12%	-19%	-8%			
Change over previous #		74	290	81	-141	-48			

Patients by Age Group



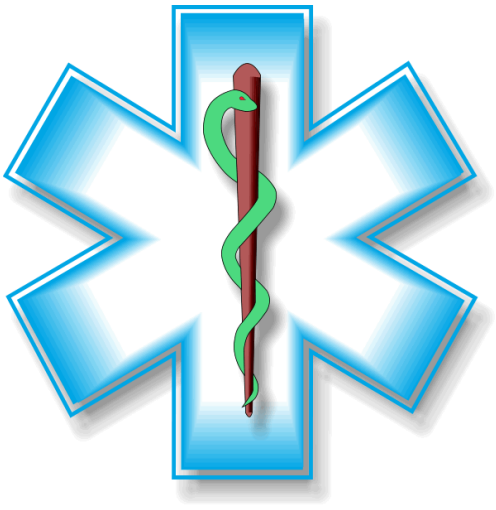


Patients by Gender



HOSPITAL TRANSPORTED TO	2016	2017	2018	2019	2020	2021	TOTAL	%
Franciscan Dyer	145	122	178	210	140	248	**1,043**	*45.8%*
Franciscan Olympia Fields	47	58	92	176	70	158	**601**	*26.4%*
Riverside	23	33	39	46	29	30	**200**	*8.8%*
St. Mary's	11	1	26	13	7	5	**63**	*2.8%*
Franciscan CH HTS**	106	138	114	0	0	0	**358**	*15.7%*
Franciscan Crown Point	0	0	0	0	0	3	**3**	0.1%
Munster Community	0	0	0	0	0	5	**5**	0.2%
Franciscan Munster	0	0	0	0	0	4	**4**	0.2%
South Suburban	0	0	0	0	0	1	**1**	0.0%
	332	**352**	**449**	**445**	**246**	**454**	**2,278**	

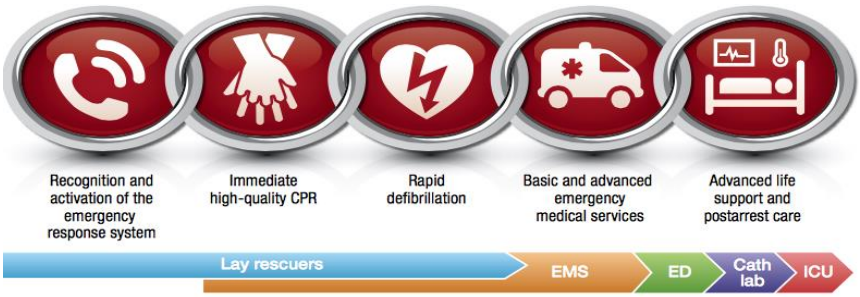
**Franciscan Chicago Heights was closed in September 2018



Cardiac Arrest

A sudden cardiac arrest patient that is not defibrillated within eight to ten minutes has virtually no chance of survival

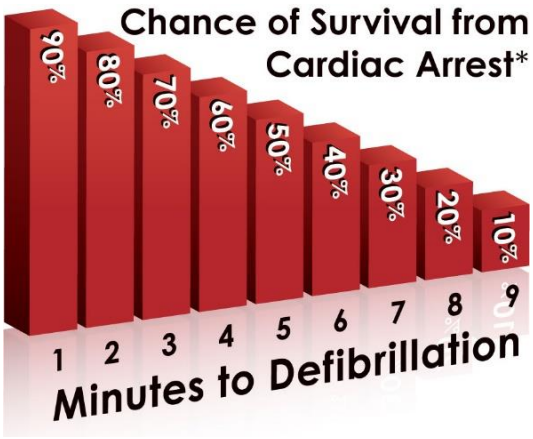
EMS service-level objectives are typically designed to provide medical intervention within six minutes. Intervention includes early recognition, activation of 911, and bystander CPR until the arrival of emergency responders. Respiratory and traumatic injuries are also heavily time and resource-dependent. Survivability dramatically decreases in cardiac and respiratory arrest situations beyond four to six minutes without proper intervention.

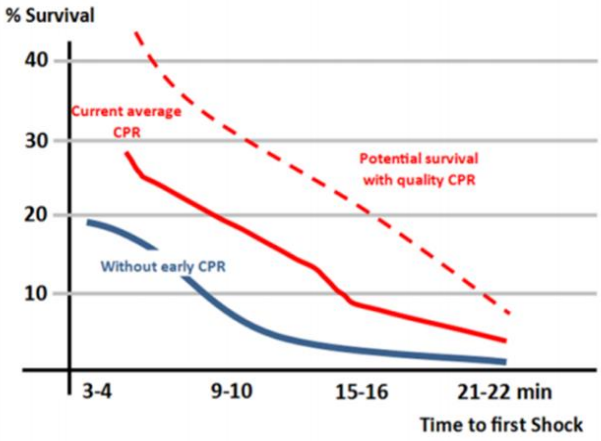


Early defibrillation is a critical link in the American Heart Association's Chain of Survival. Early defibrillation supports converting the heart from a chaotic rhythm back to normalcy. Oxygenated blood is not circulated throughout the body when the heart is in fibrillation. Without defibrillation within six minutes, the patient likely dies. The odds of survival decrease every minute without defibrillation.

Recognizing the cardiac arrest event, activating the EMS system, and beginning CPR in as short a time as possible increases survival rates. Having trained residents and access to AEDs in public buildings has supported an increase in survival. Patient contact times increase during responses to high rise and other large structures.

The initiation of CPR and early defibrillation are critical initial links in the survival chain. The heart may start to beat chaotically in sudden cardiac arrest, requiring an electrical shock through a defibrillator to restore regular operation and blood flow. **Survival is reduced each minute CPR or defibrillation does not occur**. Witness-driven CPR and access to AED's dramatically increase survival.





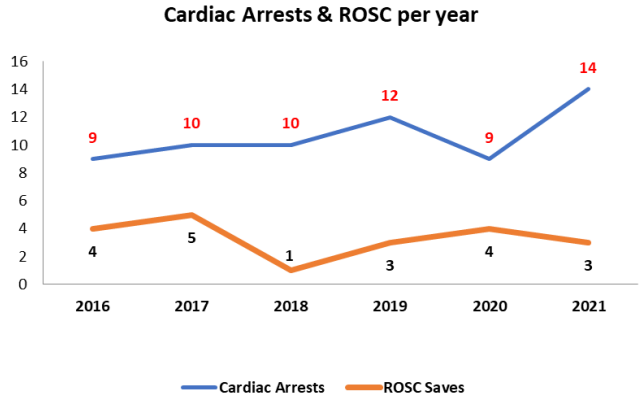
From 2016-2020, there has been **50** Cardiac/Respiratory Arrests in the District ***(average 10 year)***

R.O.S.C. Survival Rate = 31% *average* (2017-20)

NATIONAL R.O.S.C. average: 7-11%

**R.O.S.C. – Return Of Spontaneous Circulation*

*The District is developing strategies to continue **to improve** this critically important outcome measure.*



CARDIAC ARREST SAVE RATES

	Arrests	Saves	
2016	9	**4**	***44%***
2017	10	**5**	***50%***
2018	10	**1**	***10%***
2019	12	**3**	***25%***
2020	9	**4**	***44%***
2021	14	**3**	***21%***
Total	64	**20**	***31%***
Average	*11*	*3*	

EMS Risk level Classification

The District has identified that emergency medical services are critical to the community through strategic planning. Statistical data substantiates that this is the highest level of service demand in all response zones. Although the consequence of an individual incident may not be high (typically limited to one fire company and one ambulance company), the probability of multiples of these incidents occurring concurrently is typical (**13% of the time - *simultaneous incidents occur of any nature***). Thus, emergency medical incidents are of high importance and have an exceedingly high impact on District resources.

EMS Incidents can be broken into three significant TYPE group categories (with response) – Low, Moderate, High. The chart to the right is the corresponding Critical TASKS associated with each Risk Group necessary to mitigate them successfully.

EMS - TASKS / ERF	
LOW	
Command/Safety/Family Liaison	1
Patient Assessment/Treatment	1
Paramedic in Charge/ Reporting	1
Patient Movement/Transport	2
TOTAL ERF	**4-5**
MODERATE	
Command/Safety/Family Liaison	1
Patient Assessment/Treatment	1
Paramedic in Charge/ Reporting	1
Patient Movement/Transport	2
Resuscitation/Stabilization/Extricate	2
TOTAL ERF	**7**
HIGH	
Command	3
Scene Safety	1
Medical	2
Triage	4
Treatment	6
Transportation	12
Staging	1
TOTAL ERF	**29**

EMS - RISK	
LOW	Single Patient *Injured/Illness*
MODERATE	Severe Life Threat *Cardiac Arrest/Trauma/Extrication*
HIGH	Multi/Mass Casualty *5 or more Pts*

NFIRS Historical Response

	2016	2017	2018	2019	2020	2021	Totals	Average	% of Total Inc
311 Medical assist, assist EMS crew	3	6	5	3	3		**20**	4	*0.3%*
32 Emergency medical service (EMS)					1		**1**	1	*0.0%*
321 EMS call, excluding vehicle accident with injury	434	495	575	542	416	518	**2,980**	497	*51.5%*
321A EMS call - refusal of care				111	88	14	**213**	71	*3.7%*
321B EMS Call - Treat with no transport				9	33	135	**177**	59	*3.1%*
321B Refusal						11	**11**	11	*0.2%*
321C Lift Assist					3	43	**46**	23	*0.8%*
NFIRS 300 - EMS	**437**	**501**	**580**	**665**	**544**	**721**	**3448**	**575**	**59.6%**
change over previous		*15%*	*16%*	*15%*	*-18%*	*33%*			

EMS risk types are primarily classified as LOW to MODERATE

RESCUE RISK

Technical Rescue Risks

RESCUE - RISK	
LOW	Elevator entrapment
	Occupied, Lock Out,Wires Down
MODERATE	MVA w/ extrication
	Vehicle into Building
HIGH	Spec Operations Technicians (TRT)
	Confined Space, Trench,
	Structure Collapse, Water/Ice
	Low/High Angle Rope Rescues

Rescue risks vary from elevator removal to pin-in vehicle accidents to Special Operations. Technical Rescue covers a wide range of incidents, confined space rescue, trench collapse, low/high angle rescue, water/ice rescue, and structural collapse. The hazard levels are established for technical rescue risk per Special Operations – Rope, Confined Space, Trench, and Water/Ice Rescue discipline. The District has begun to locate and assess critical characteristics of technical rescue hazards. Below-grade and confined space hazards exist. These "Special Operations" type incidents are rare. However, when they do occur, they most definitely fit the "low frequency, high risk" category and must be trained diligently. There are corresponding Critical Tasks associated with the **High-Risk type of Group that is strictly Technician Level** team deployments supported by the initial Operations level response**.**

NFIRS Historic Response

	2016	2017	2018	2019	2020	2021	Totals	Average	% of Total Inc
322 Vehicle accident with injuries	30	41	51	45	42	42	**251**	42	*4.4%*
322A MVC - Multiple Patient Release				1	3	9	**13**	4	*0.2%*
323 Motor vehicle/pedestrian accident (MV Ped)	1			6	4		**11**	4	*0.2%*
324 Motor vehicle accident no injuries	2	4	15	7		13	**41**	8	*0.7%*
324A MVC - No Injuries - Multiple Patient Release					1	1	**2**	1	*0.0%*
341 Search for person on land	1	1	1				**3**	1	*0.1%*
342 Search for person in water				1			**1**	1	*0.0%*
352 Extrication of victim(s) from vehicle				1	1		**2**	1	*0.0%*
353 Removal of victim(s) from stalled elevator	1					1	**2**	1	*0.0%*
360 Water & ice related rescue, other				1			**1**	1	*0.0%*
362 Ice rescue				1			**1**	1	*0.0%*
363 Swift water rescue			2				**2**	2	*0.0%*
381 Rescue or EMS standby	3	8					**11**	6	*0.2%*
NFIRS 300 - RESCUE	**38**	**54**	**69**	**63**	**51**	**66**	**341**	**57**	**5.9%**
change over previous		*42%*	*28%*	*-9%*	*-19%*	*29%*			

RESCUE risk types are primarily classified as LOW to MODERATE

HAZMAT RISK

The risk of a Hazardous Material (HazMat) release can occur in commercial, industrial, farm, and transportation applications. Flammable/combustible products are located throughout the District. Fuel spills, natural gas leaks, and carbon monoxide incidents are included in this category. Hazardous conditions within the District have included power lines down or arcing/shorting out.

Most of the potential exposure for High-risk type incidents in the District includes transportation, roadway, rail, electrical, and pipelines, which require a regional response Technician Level response.

*DETAILED ENVIROFACTS REPORTING FROM EPA FOR FACILITIES IN DISTRICT
https://enviro.epa.gov/enviro/enviroFACTS.quickstart?ve=12,41.333692,-87.611836&pSearch=Beecher,%20Illinois&miny=41.29489419430403&minx=-87.68067260773333&maxy=41.37248980639234&maxx=-87.5430001834171.

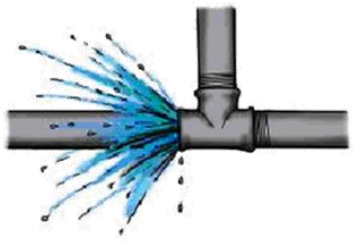
NFIRS Historic Response

	2016	2017	2018	2019	2020	2021	Totals	Average	% of Total Inc
411 Gasoline or other flammable liquid spill		1	2	3	1		**7**	2	*0.1%*
412 Gas leak (natural gas or LPG)	14	7	16	6	15	11	**69**	12	*1.2%*
421 Chemical hazard (no spill or leak)						1	**1**	1	*0.0%*
422 Chemical spill or leak	1		1				**2**	1	*0.0%*
424 Carbon monoxide incident	7	5	4	7	2	8	**33**	6	*0.6%*
441 Heat from short circuit (wiring), defective/worn	1			1	2		**4**	1	*0.1%*
442 Overheated motor	1	1		1	1		**4**	1	*0.1%*
444 Power line down	11	11	12	14	7	7	**62**	10	*1.1%*
445 Arcing, shorted electrical equipment	4	1	2	1		1	**9**	2	*0.2%*
471 Explosive, bomb removal (for bomb scare, use 721)						1	**1**	1	*0.0%*
NFIRS 400 - HAZARDOUS	**39**	**26**	**37**	**33**	**28**	**29**	**192**	**32**	**3.3%**

HAZMAT risk types are primarily classified as LOW to MODERATE

SERVICE/OTHER

Non-Emergency "Service" incidents make up a significant percentage of responses in the District. These incidents are not measured in benchmark standards for response time. Descriptions for these types of incidents include cover assignment/change of quarters, lock-out, assist police or other agency, water leak, smoke removal, and more listed in detail in the following historic response charts. Incidents involving "554 Assist invalid" could be included in EMS incidents.




NFIRS Historic Response

	2016	2017	2018	2019	2020	2021	Totals	Average	% of Total Inc
500 Service Call, other				2	1		**3**	2	*0.1%*
510 Person in distress, other					1		**1**	1	*0.0%*
511 Lock-out	1			1			**2**	1	*0.0%*
522 Water or steam leak			1				**1**	1	*0.0%*
531 Smoke or odor removal	4	1	2		1	9	**17**	3	*0.3%*
540 Animal problem, other				1			**1**	1	*0.0%*
542 Animal rescue			1				**1**	1	*0.0%*
550 Public service assistance, other				3			**3**	3	*0.1%*
551 Assist police or other governmental agency	14	14	8	8	8	3	**55**	9	*1.0%*
5511 Fire Investigation.	4	4	8				**16**	5	*0.3%*
552 Police matter			1		1		**2**	1	*0.0%*
553 Public service	8	5	9	8	12	12	**54**	9	*0.9%*
554 Assist invalid	6	15	17	5	12	5	**60**	10	*1.0%*
561 Unauthorized burning		2	2				**4**	2	*0.1%*
571 Cover assignment, standby, moveup	35	31	38	42	33	26	**205**	34	*3.5%*
NFIRS 500 - SERVICE	**72**	**72**	**87**	**70**	**69**	**55**	**425**	**71**	**7.4%**
change over previous		*0%*	*21%*	*-20%*	*-1%*	*-20%*			

	2016	2017	2018	2019	2020	2021	Totals	Average	% of Total Inc
611 Dispatched & canceled en route	54	69	69	103	78	109	**482**	80	*8.3%*
621 Wrong location	2	1					**3**	2	*0.1%*
622 No incident found on arrival of incident address	10	5	13	7	2	5	**42**	7	*0.7%*
622A Call Dispatched in Error	4	10	20	2	2		**38**	8	*0.7%*
631 Authorized controlled burning	2		1	1	5	3	**12**	2	*0.2%*
632 Prescribed fire			1		1	2	**4**	1	*0.1%*
651 Smoke scare, odor of smoke	4	7	1	10	11	6	**39**	7	*0.7%*
652 Steam, vapor, fog or dust thought to be smoke			1		1		**2**	1	*0.0%*
661 EMS call, party transported by non-fire agency	2	1	1	1	1	1	**7**	1	*0.1%*
671 Hazmat release investigation w/ no hazmat	1	1		2	1	1	**6**	1	*0.1%*
NFIRS 600 - SERVICE	**79**	**94**	**107**	**126**	**102**	**127**	**635**	**106**	**11.0%**
change over previous		*19%*	*14%*	*18%*	*-19%*	*25%*			

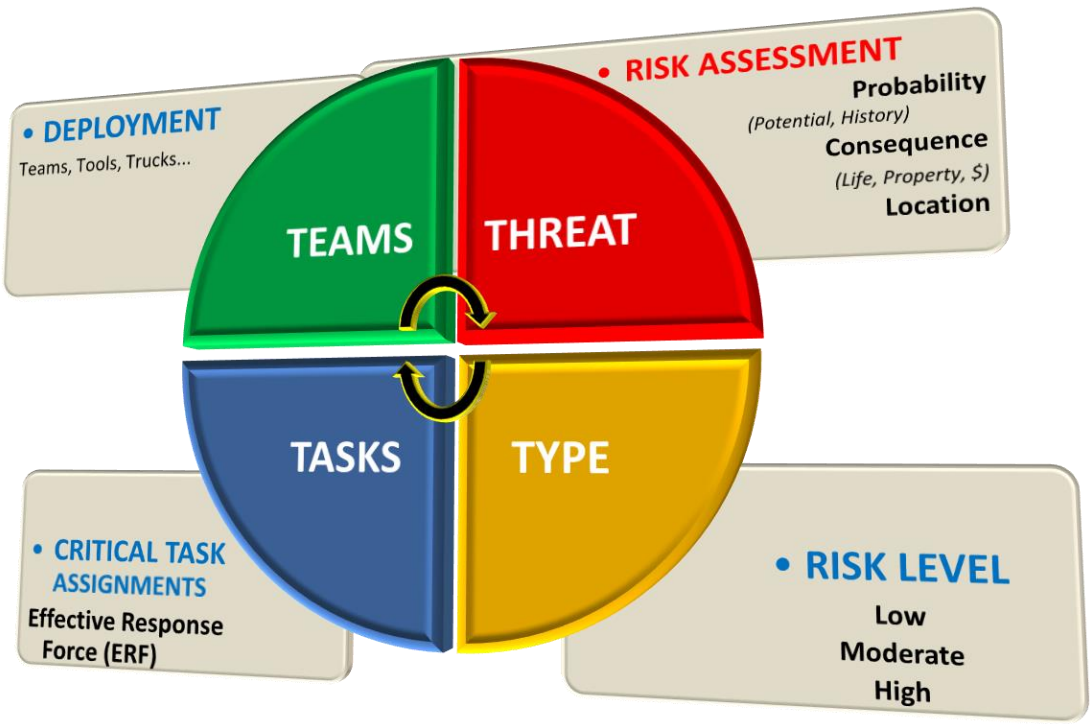
	2016	2017	2018	2019	2020	2021	Totals	Average	% of Total Inc
700 False alarm or false call, other	7	10	13		3		**33**	8	*0.6%*
710 Malicious, mischievous false call, other			2				**2**	2	*0.0%*
711 Municipal alarm system, malicious false alarm	2	2		1			**5**	2	*0.1%*
712 Direct tie to FD, malicious/false alarm		9		1	2		**12**	4	*0.2%*
713 Telephone, malicious false alarm		1					**1**	1	*0.0%*
714 Central station, malicious false alarm	1		1	2	1	1	**6**	1	*0.1%*
715 Local alarm system, malicious false alarm	4	1	1				**6**	2	*0.1%*
730 System malfunction, other				1	2		**3**	2	*0.1%*
731 Sprinkler activation due to malfunction			1				**1**	1	*0.0%*
732 Extinguishing system activation due to malfunction			1				**1**	1	*0.0%*
733 Smoke detector activation due to malfunction	3	3	2	1	1	3	**13**	2	*0.2%*
735 Alarm system sounded due to malfunction	2	4	9	1	2	9	**27**	5	*0.5%*
736 CO detector activation due to malfunction	1	1	1	2	4	1	**10**	2	*0.2%*
741 Sprinkler activation, no fire - unintentional						1	**1**	1	*0.0%*
743 Smoke detector activation, no fire - unintentional	15	8	9	11	6	3	**52**	9	*0.9%*
744 Detector activation, no fire - unintentional		1	2	2			**5**	2	*0.1%*
745 Alarm system sounded, no fire - unintentional	16	25	19	7	13	64	**144**	24	*2.5%*
746 Carbon monoxide detector activation, no CO	1	1	1	6	2		**11**	2	*0.2%*
NFIRS 700 - FALSE ALARM	**52**	**66**	**62**	**35**	**36**	**82**	**333**	**56**	**5.8%**
change over previous		*27%*	*-6%*	*-44%*	*3%*	*128%*			
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**Totals**	Average	% of Total Inc
900 Special type of incident, other	9	11	6	1	2		**29**	6	*0.5%*
911 Citizen complaint			1				**1**	1	*0.0%*
911A Citizen Assist				2	1		**3**	2	*0.1%*
NFIRS 900 - SPECIAL	**9**	**11**	**7**	**3**	**3**	**0**	**33**	**6**	**0.6%**
change over previous		*22%*	*-36%*	*-57%*	*0%*	*-100%*			
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**Totals**	Average	% of Total Inc
Totals	**775**	**887**	**1041**	**1048**	**881**	**1149**	**5781**	**964**	**100.0%**
change over previous		*14%*	*17%*	*1%*	*-16%*	*30%*			

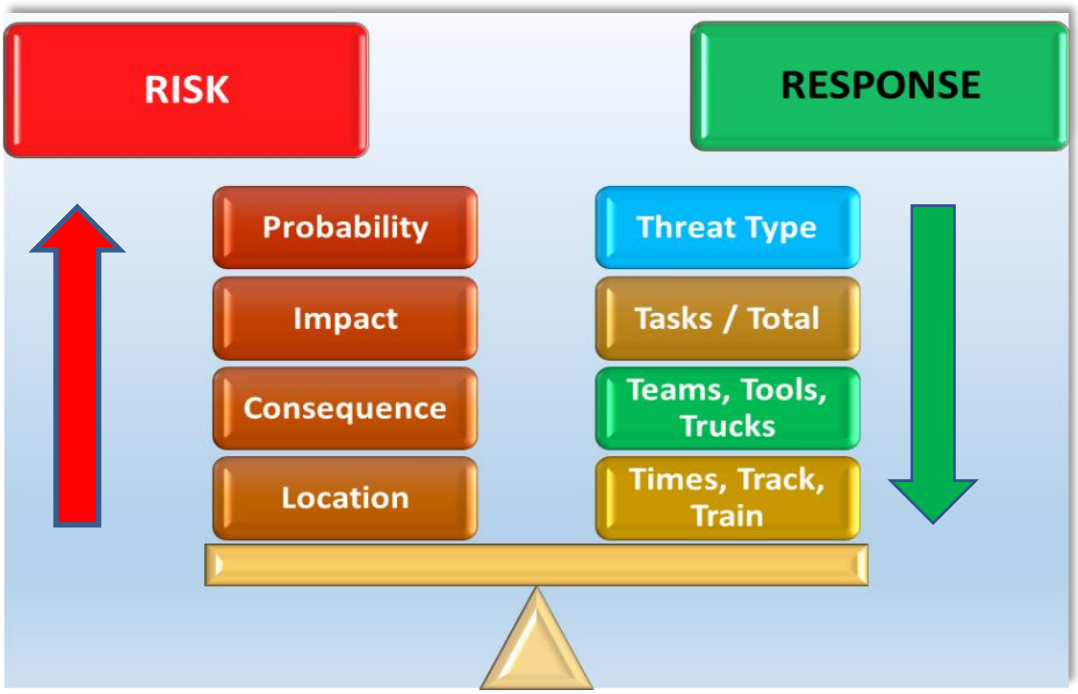

BEECHERFIRE.ORG


BEECHER
PFD
FIRE PROT. DIST.
RISK
and
RESPONSE
4

SECTION 4 -- RISK & RESPONSE

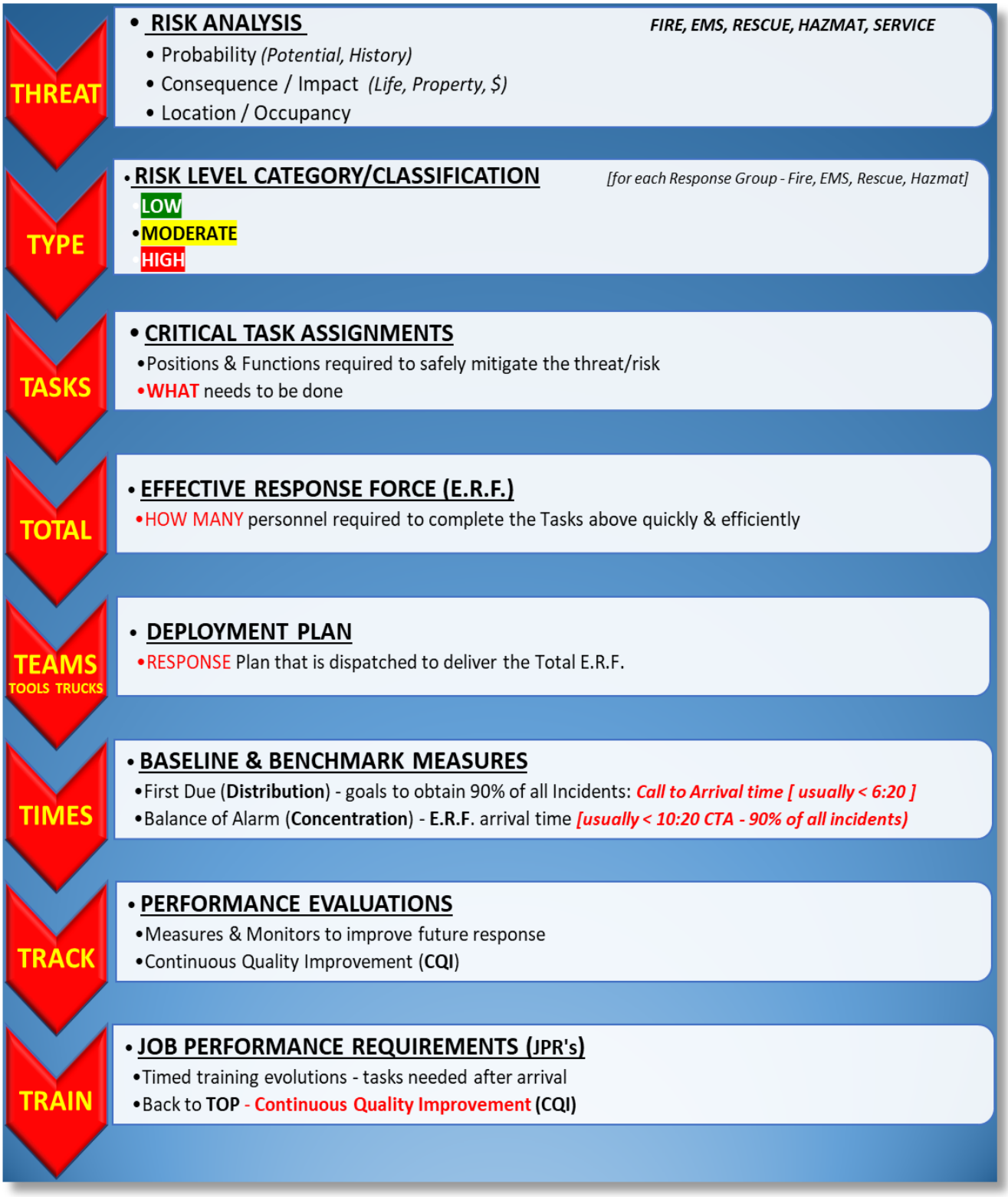
To provide the optimum protection levels and a proactive Standards of Cover for the entire District is dependent on the Risk Assessment, and it is imperative to outweigh the **RESPONSE TO THE RISK**.





"Top Ten T's" – Risk Assessment and Response Cycle

A simple way to understand the reason and rationale that the District responds to incidents can be described in the chart below as the basis of how a Risk Assessment becomes a Response Plan. These steps are broken down into a flowchart formula.



THREAT - Analysis

Analyzing the THREAT or Risk in all service categories can be accomplished in several ways. Two focus and starting points include the PROBABILITY of an incident occurring and the CONSEQUENCE/IMPACT that may result if this threat were to happen in all Risk Response Categories to the District – i.e.:

FIRE EMS RESCUE HAZMAT

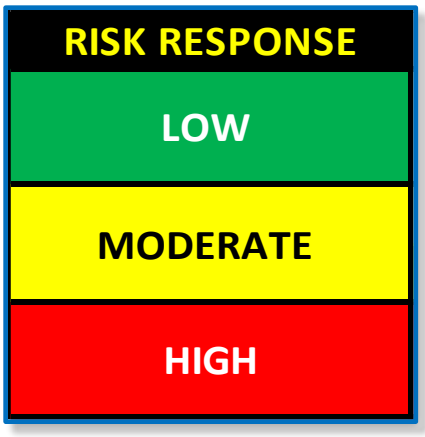
- **PROBABILITY** can be determined by analyzing the POTENTIAL for an incident, with historical demand as a critical indicator.
- **CONSEQUENCE** and **IMPACT** can also be determined by the potential and historic demand of prior incidents viewed through a scoring matrix emphasizing effects on Life, Property, or Economics.
- **LOCATION/OCCUPANCY** are essential measures.

Using a scoring system, such as a Structure Risk Assessment, the Occupancy Vulnerability Assessment Profile (OVAP), or the Threat and Hazard Identification and Risk Assessment (THIRA) from FEMA, allows other measurements to determine a Risk Score and determination of a Threat/Risk level category.

All emergency services provided (**FIRE, EMS, RESCUE, HAZMAT**) should be analyzed and classified as one of 3 risk type levels:

- **LOW**
- **MODERATE**
- **HIGH**

If necessary, SPECIAL can also be utilized as the risk type beyond HIGH, such as Target Hazards, Aircraft Rescue Fire Fighting (ARFF), Wildland, or Marine.



Risk Assessment Methodology and Categorization

Risk assessment includes determining and defining the community's distinct threats based on occupancies such as single-family, multi-family, commercial, and other special type structures. Each scenario presents unique problems and requires an appropriate Fire, Rescue, or EMS response. After analysis of these and all other factors, the District had chosen to use the following structure assessment to help define its risk:

SHOPS – ***Size, Height, Occupancy, Problem, Score*** as the basis to classify the potential risks associated. "**SHOPS**" is also Blue Card Command "size up" as the acronym for defining a structure's:
Size, Height, Occupancy, Problem, Strategy, and ties in perfectly with a scoring system to determine a Structural Risk Assessment for most threat level responses – **EMS, FIRE, and SPECIAL OPERATIONS.**

For example, this chart of various typical structures common in the District and service risks is scored according to the SHOPS guide.

STRUCTURE RISK ASSESSMENT				
SIZE				
PRECONNECT REACH	Small	Medium	Large	Mega
	1	2	3	4
HEIGHT				
STORIES	One	Two	Three	Four+
	1	2	3	4
OCCUPANCY				
TYPE	Residential	Multifamily	Commercial	Target
	1	2	3	4
PROBLEM				
NATURE	EMS	FIRE	SPEC OP	SERVICE
	1	2	3	0
RISK SCORE				
LOW= < 3	MODERATE = 4-9		HIGH = > 10	

SHOPS	Size	Height	Occupancy	Problem	SCORE
RESIDENTIAL	2	2	1	1	6
MULTIFAMILY	3	3	2	1	9
COMMERCIAL	3	1	3	2	9
TARGET	4	4	4	2	14

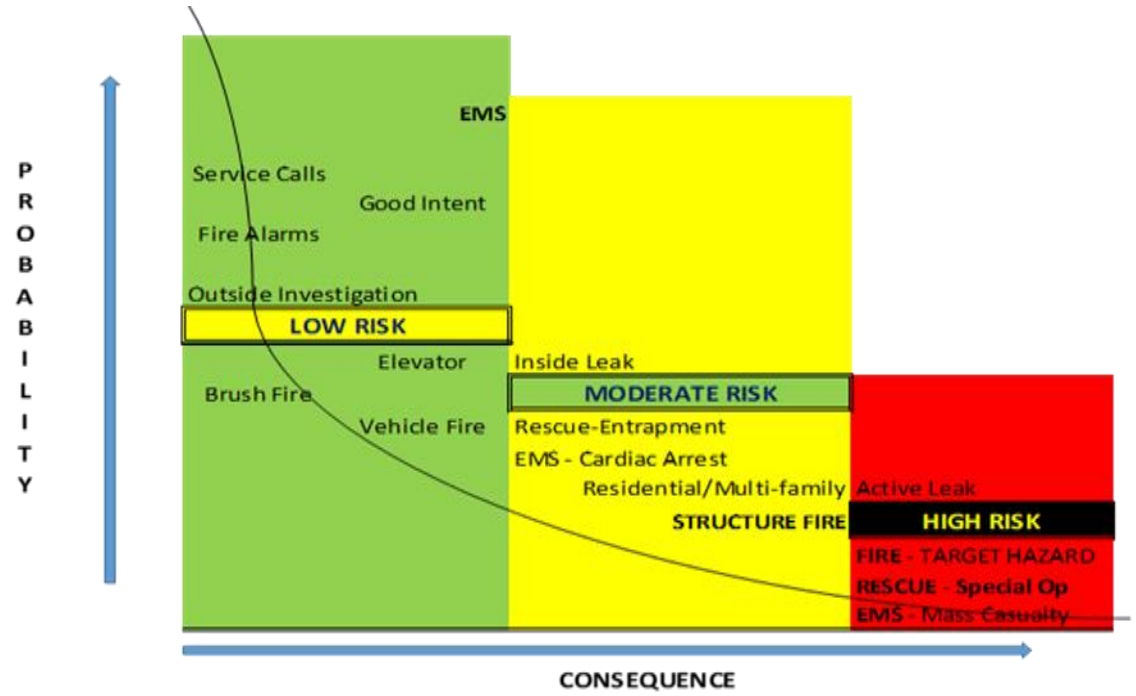
Example "SHOPS" scoring matrix

Points are scored on a structured assessment. The structure assessment utilizes a Size, Height, Occupancy, Problem, and Special. This assessment reflects the number of personnel needed to mitigate an incident based on critical task analysis, "Task Math," and impact the District and community. The more significant, taller buildings require more personnel to mitigate incidents in these structures and have different community impacts and risk considerations. The last "S" for Special would allow the District to add a multiplier as needed [i.e., a + for a Target Hazard or - for fully protected].

Risk Level Factors

- Inability of occupants to take self-preserving actions
- Construction features
- Lack of built-in fire protection
- Hazardous structures
- Lack of needed fire flow
- Nature of the occupancy or its contents, etc.

Probability and Consequence Model

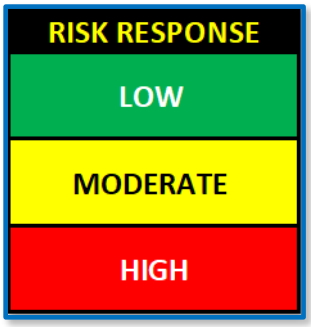


FIRES	PROBABILITY	CONSEQUENCE	RISK
Structure			
Residential s-m	Low	Moderate	Moderate
Multi-Family s-m	Low	Moderate	Moderate
Commercial s-m	Low	Moderate	Moderate
Target (+Large L-XL	Low	High	High
Non-Structure			
Oustide	Moderate	Low	Low
Vehicle	Moderate	Low	Low
EMS			
Medical	High	Low	Low
Cardiac Arrest	Low	High	Moderate
Mass Casualty	Low	High	High
RESCUE			
Elevator/Lock-out	Moderate	Low	Low
Entrapment	Low	Moderate	Moderate
Special Ops	Low	High	High
HAZMAT			
Outside Invest	Low	Low	Low
Inside Leak	Moderate	Moderate	Moderate
Active Leak	Low	High	High

Structure Stock in District

Building Type	Risk Level	
Assembly	**H**	**12**
Business/Commercial	**L-M**	**131**
Educational	**H**	**6**
Factory	**L-M**	**12**
High-Hazard	**H**	**97**
Institutional	**H**	**30**
Residential	**M**	**2643**
Storage	**L**	**2753**
Utilities	**M**	**466**
Grand Total		**6,150**

TYPE – Classification of Risk Level



Once the hazard assessment is complete, a risk level can be classified by category for all-hazard response.

These assignments then have corresponding critical TASKS that must be assigned and accomplished. Examples of Threat/Risk TYPE levels per Response type are listed below.

SPECIAL, an additional level could be added as a category above HIGH if necessary.

Most Low-risk level types are primarily first-due company assignments and, as such, are the prevalent incident responses.

FIRE - RISK

LOW Outside fires
Vehicles, Brush, Refuse

MODERATE Structures
SMALL - MEDIUM:
Residential, Multifamily, Commercial

HIGH Target Hazards
LARGE - MEGA:
Residential, Multifamily, Commercial
or ***Schools, Hotels, Malls, Nursing,Assisted Living***

EMS - RISK

LOW Single Patient
Injured/Illness

MODERATE Severe Life Threat
Cardiac Arrest/Trauma/Extrication

HIGH Multi/Mass Casualty
5 or more Pts

HAZMAT - RISK

LOW Investigations - Outside Incident
CO Detector (no illnesss), Fuel spill, Odor

MODERATE Static
Inside Gas leak, CO Detector w/ illness

HIGH Dynamic/Active release
Level A - Technical Team may be needed

RESCUE - RISK

LOW Elevator entrapment
Occupied, Lock Out,Wires Down

MODERATE MVA w/ extrication
Vehicle into Building

HIGH Spec Operations Technicians (TRT)
Confined Space, Trench,
Structure Collapse, Water/Ice
Low/High Angle Rope Rescues

For **"Structure Fires,"** - NFPA classifies Low-Hazard Occupancies slightly differently.

The NFPA Fire Protection Handbook defines hazard levels of occupancies by type. Each hazard level carries inherent risks.

- **Low-Hazard Occupancies** — Two- or three-family dwellings and scattered small business and industrial occupancies.

  The District classifies these as MODERATE-RISK TYPE responses

- **Medium-Hazard Occupancies** — Apartments, offices, mercantile, and industrial occupancies not typically requiring extensive rescue by fire fighting forces.

  The District classifies these as HIGH-RISK TYPE responses

- **High-Hazard Occupancies**— Schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings, and other high-life hazard or large fire potential occupancies.

  The District classifies these as TARGET HAZARDS responses

TASKS / TOTAL (E.R.F.)

Once a TYPE level has been identified, several critical TASK Assignments are determined to mitigate the situation effectively and efficiently. Additionally, an **ERF** (Effective Response Force) of the **number of personnel** necessary to accomplish these tasks is allocated to each type of level.

These **TASKS** are categorized by **LOW, MODERATE,** and **HIGH** for All-Hazard responses – EMS, FIRE, RESCUE, and HAZMAT. Typically, SERVICE/INVESTIGATIONS are classified as LOW Levels.

TASKS & TOTAL [ERF] ***PER RISK TYPE & LEVEL***

EMS - TASKS / ERF	
LOW	
Command/Safety/Family Liaison	1
Patient Assessment/Treatment	1
Paramedic in Charge/ Reporting	1
Patient Movement/Transport	2
TOTAL ERF	**4-5**
MODERATE	
Command/Safety/Family Liaison	1
Patient Assessment/Treatment	1
Paramedic in Charge/ Reporting	1
Patient Movement/Transport	2
Resuscitation/Stabilization/Extricate	2
TOTAL ERF	**7**
HIGH	
Command	3
Scene Safety	1
Medical	2
Triage	4
Treatment	6
Transportation	12
Staging	1
TOTAL ERF	**29**

FIRE - TASKS / ERF	
LOW	
Command/Safety	1
Fire Attack/Investigation	1
Pump Operations	1
	3
Vehicle fires & Alarm Investigations	7
TOTAL ERF	**7-9**
MODERATE	
Command Aide/Safety	2
Fire Attack - 2nd (Backup)	2
Pump Operations/Aerial	2
Search/Rescue	2
OnDeck - Rapid Intervention	2
Ventilation	2
Utilities	1
EMS - Medical/Rehab	2
TOTAL ERF	**15**
HIGH	
Command/Safety	4
Fire Attack - 1st & 2nd (Backup)	4
Pump Operations/Aerial	2
Forcible Entry	2
Search/Rescue	3
OnDeck - Rapid Intervention	4
Water Supply	1
Ventilation	3
Utilities	2
EMS - Medical/Rehab	4
TOTAL ERF	**29**

HAZMAT - TASKS / ERF	
LOW	
Command/Safety	1
Investigation	2
TOTAL ERF	**3**
MODERATE	
Command/Safety	1
Hazmat Sector Officer	1
Investigation/Entry	2
Backup	2
Science/Research	1
EMS/Treatment	2
TOTAL ERF	**9**
HIGH	
Command	1
Safety	1
Hazmat Sector Officer	1
Entry	2
Backup	2
Science/Research	2
Decon	3
EMS/Treatment	2
TOTAL ERF	**14**

The **number of TASKS needed to safely and efficiently mitigate the situation determines the TOTAL number of personnel required to complete those task**s – many of them simultaneously (i.e., "**Task Math**").

Thus, the **TOTAL** number of personnel equates to the Effective Response Force **(ERF).**

High-risk type levels for HAZMAT and RESCUE incidents usually require a regional response team.

These are low-frequency high risks events.

****Special Operations Teams needed****

RESCUE - TASKS / ERF	
LOW	
Command/Safety	1
Extrication	2
TOTAL ERF	3
MODERATE	
Command/Safety	1
Rescue Sector Officer	1
Stabilization	2
Extrication	2
Medical	1
TOTAL ERF	7
HIGH	
Special Op's Teams Level	

RESCUE - TASKS / ERF

HIGH - Special Op's Teams Level

COLLAPSE	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Squad Officers	2
Rescue Specialists	8
Monitoring	1
Cut Station	2
Equipment Log	1
TOTAL ERF	19

CONFINED SPACE	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Rigging / Haul Team	5
Monitoring	1
Ventilation	1
Air supply	1
Attendant	1
Scribe	1
TOTAL ERF	19

ROPE	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Rigging / Haul Team	5
TOTAL ERF	14

TRENCH	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Rigging / Haul Team	5
Monitoring	1
Ventilation	1
Shoring Team	8
TOTAL ERF	24

WATER	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Rope Tenders	4
TOTAL ERF	13

Critical Tasks

Some critical task definitions for structure fires are shown below:

- Attack lines – *used to control and extinguish the fire. Capable of a minimum of 150+ GPM.*
- Search and Rescue – *search, and removal of live victims generally require two personnel inside with two outside to meet OSHA requirements.*
- Ventilation – *removing toxic smoke, heat, and other gases from a structure. Must be coordinated with the attack to avoid an extension or additional risk to interior crews.*
- Water supply/Pump ops – establishing *a positive water supply requiring one qualified driver/operator.*
- Incident Command (IC) – Transfers and *provides command and control for the incident upon arrival from the initial arriving officer.*
- A backup line is *used to provide additional water supply for interior crews.*
- Rapid Intervention Crews/On-Deck (RIC) – *two (2) firefighters minimum to aid or assist interior crews if needed (rescue/resources)*
- Exposure line – *protection for internal or external areas threatened by fire spread.*

Additional tasks shall be required, such as salvage and overhaul. It should also be noted that crews may be assigned multiple tasks as incident needs require. Automatic Aid (AA) and Mutual Aid (MA) are utilized to provide appropriate staffing and apparatus levels. Critical tasks must be conducted timely and appropriately to mitigate the incident and differ based on incident types and unique circumstances. These tasks for Fire, EMS, HazMat, Technical, and Water Rescue represent those required, which may need to be modified to account for specific circumstances. In all incidents, firefighter safety remains paramount. Several variables can impact an incident that cannot always be accounted for. These variables introduce a level of unpredictability to operations magnified by a lack of staff, apparatus, or plans.

Critical tasks may vary due to the following factors:

- Building construction
- Number of floors
- Number of occupants
- Exposures
- Extent/phase of fire
- Built-in protection systems
- Patient condition and safety concerns

Critical tasks determine staffing requirements and apparatus needs. These factors are dependent upon the CRA-SOC findings and conditions. Strategies to be utilized are dependent on staffing and apparatus as well. Fire growth and life safety risks combine to establish fire ground priorities to mitigate losses. Fire control and life safety are strongly correlated but can also be two different activities. Fire control applies a suppressant, most likely water, to control and extinguish a fire. Life safety relates to searching and removing victims from an affected area. Fire control activities are accomplished using hose lines that may fall into either handheld or master stream categories. Hose lines are primarily used in interior or offensive operations but can be used quickly, outside first, then inside ("quick hit"). Master streams are designed to be used from stationary or fixed positions. Hand lines can flow up to 250 gallons per minute (GPM), while master streams can exceed 1,000 GPM.

A pre-flashover vs. post-flashover fire shall require different approaches based upon a fire extent. The decision on which strategy to use depends on the fire phase, life safety threat, and several resources, among other factors. **The District recognizes two types of strategies: offensive and defensive**. These strategies align with staffing and response levels established through risk assessment and historical patterns. The District usually responds with two (2) to three (3) certified personnel on each suppression unit and two (2) cross-trained firefighter/medics on each ambulance, providing a range of strategies that can be initiated on arrival.

- **Offensive Strategy i**nvolves interior operations. Interior attacks contain risk and require compliance with OSHA 2 in/2 out unless there is evidence of life safety on arrival or dispatch information. Objectives are to confine the fire to the object or room of origin to minimize life safety risks to civilians and firefighters.
- **Defensive Strategy** attacks are supported from the outside and may involve a structure that is not tenable for offensive operations or deemed to be unsafe in risk/reward assessments.
- **"Quick hit"** is intended to reduce fire volume and spread minimal risk to firefighters. Quick hit attacks are a ***combined exterior then interior*** operation. UL research has found that this technique can be beneficial due to rapid-fire growth and time requirements to deploy interior crews, which can be used to buy time for the arrival of additional personnel.

Critical tasks must be conducted in a timely and appropriate manner to mitigate the incident. Such assignments shall differ based on incident types, severity, and unique circumstances.

In all incidents, firefighter safety remains paramount.

"Task Math" - Moderate risk type-level structure fires

NFPA 1710 FULL ALARM ASSIGNMENT - RESIDENTIAL STRUCTURE FIRE (MODERATE RISK)		
TASK	FIREFIGHTERS REQUIRED	COMPANY TYPICALLY ASSIGNED
INCIDENT COMMAND/SAFETY	2	CHIEF OFFICER
ATTACK LINE	2	ENGINE
BACK-UP LINE	2	ENGINE
ON DECK - RAPID INTERVENTION	2	ENGINE or TRUCK or AMB
PUMP OPERATIONS / AERIAL	2	ENGINEER
SEARCH & RESCUE	2	ENGINE or TRUCK
VENTILATION / UTILITIES	2	TRUCK
WATER SUPPLY	1	ENGINE

NFPA 1710

5.2.3.1 Fire companies whose primary functions are to pump and deliver water and perform basic fire fighting at fires, including search and rescue, shall be known as engine companies.

5.2.3.1.1 These company's shall be staffed with a minimum of four on-duty members.

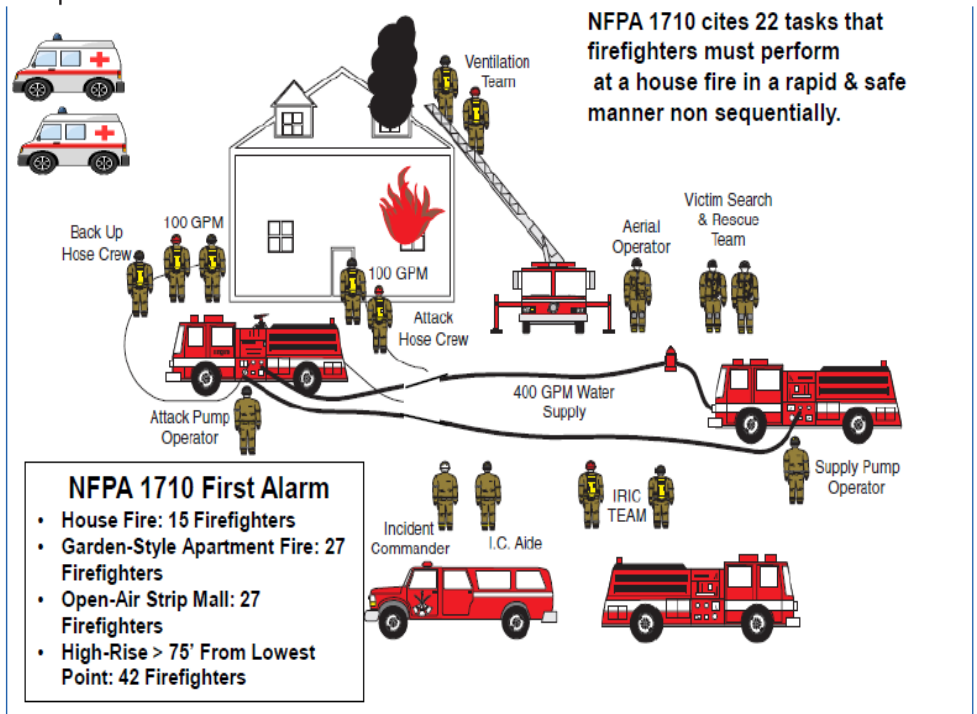


FIGURE 1-1. INITIAL FULL-ALARM ASSIGNMENT CAPABILITY DEPLOYED WITHIN EIGHT MINUTES (480 SECONDS)

TEAMS / TOOLS / TRUCKS

Critical tasks for each service level are identified to establish an Effective Response Force (**ERF**) to meet performance objectives as determined and defined as essential major tasks accomplished to stabilize the incident.

Life safety is a priority in establishing critical tasks. Therefore, ERF determines the minimum staffing and apparatus required to arrive on the scene within an objective-based time frame to accomplish essential tasks.

After the critical **TASKS** are determined and an **ERF** is established indicating the number of personnel needed to accomplish these tasks, a deployment Response Plan is programmed into Dispatch CAD to bring those assigned personnel and apparatus/equipment required.

These plans would automatically escalate if an alarm elevated levels, from a LOW to MODERATE or MODERATE to HIGH.

RESPONSE & DEPLOYMENT PLAN

TYPE	TYPICAL NATURE	TEAMS				TOTAL ERF	TIMES			
EMS RESPONSE	Nature	ENG	TRK	AMB	CHF	# FF	FIRST DUE	ERF		
LOW	Injured / Illness/ Lift Assist	1 - *closest*		1		4-5	6:00	10:00	TRACK	TRACK
MODERATE	Cardiac / Traumatic Arrest	1 - *closest*		2	1	7	6:00	10:00		
HIGH	Multi/Mass Casualty	3	2	6	3	30	6:00	15:00		

FIRE RESPONSE	Nature	ENG	TRK/TKR	AMB	CHF	# FF	FIRST DUE	ERF		
LOW	**OUTSIDE** Grass/Refuse	1 - closest				3	6:20	10:20	TRACK	TRACK
	ALARM*/INVESTIGATION/VEHICLE	1	1	1*	1	7				
MODERATE	**STRUCTURES** - Residential	3	1	1	1	15	6:20	10:20		
HIGH	Large - Mega (R,M,C) **TARGET HAZARDS**	4	3	2	4	29	6:20	15:00		

HAZMAT RESPONSE	Nature	ENG	TRK	AMB	CHF	# FF	FIRST DUE	ERF		
LOW	**OUTSIDE** / Investigation CO (no illness), Fuel Spill, Odor, Wires down	1 - closest				3	6:20	10:20	TRACK	TRACK
MODERATE	**INSIDE** / Static Release CO (with illness), Inside Gas Leak	2	2	1	2	15	6:20	10:20		
HIGH	**DYNAMIC** / Active Release ***Level A Team Response needed**	4	3	2	3	29	6:20	15:00		

RESCUE RESPONSE	Nature	ENG	TRK	AMB	CHF	# FF	FIRST DUE	ERF		
LOW	**Elevator entrapment** Lock In/Out, Flooding, Damage Assess	1 - closest				3	6:20	10:20	TRACK	TRACK
MODERATE	**MVA**	1		2	1	7	6:20	10:20		
	Pin-In/Extrication (Escalated*)	2	1	3	1	14				
HIGH	**SPECIAL OPERATIONS - TRT** Con Space, Collapse, Rope, Trench,Water	3	1	2	2	18	6:20	15:00		

NFPA 1710

Therefore, the District's benchmark time goals coincide with the National Fire Protection Association (NFPA) 1710 – the Standards for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operation, and Special Operations to the Public by Career Fire Districts.

Distribution

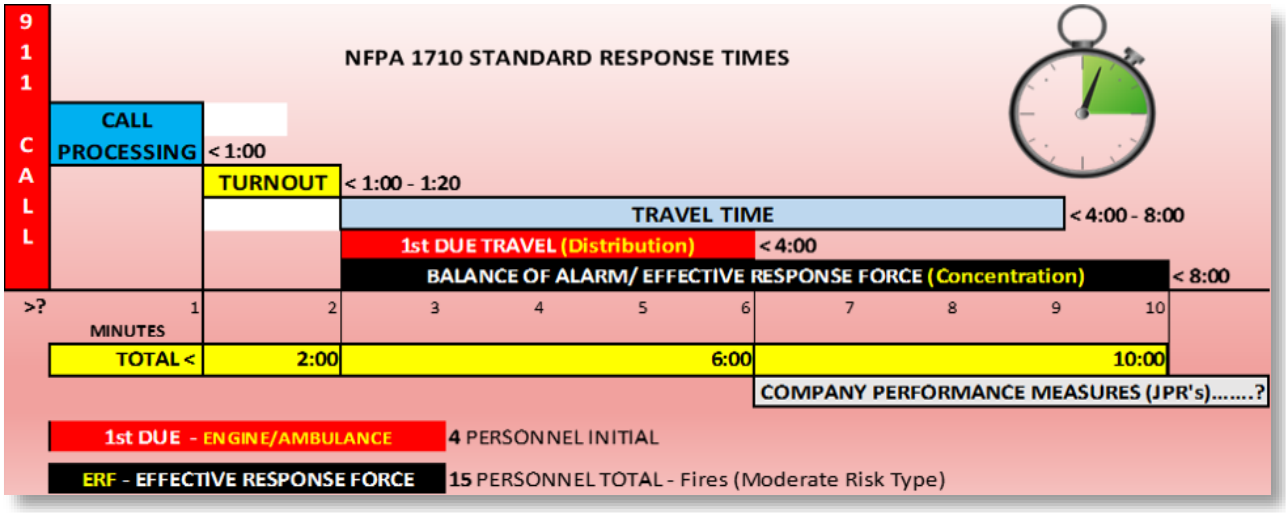
Distribution is the geographic location of all **first-due** resources for initial intervention.

Concentration

Concentration is the spacing of multiple resources arranged so that an initial "effective response force" (ERF) can arrive on the scene within the time frames outlined by the response time and on-scene performance objectives. It is also known as the **"balance" of the alarm.**

NFPA 1710 RESPONSE BENCHMARKS (MODERATE RISK)	
TASK	**TIME (<)**
DISPATCH – CALL PROCESSING	1 MINUTE
TURNOUT TIME (EMS)	1 MINUTE
TURNOUT TIME (NON-EMS)	1 MINUTE 20 SECONDS
ARRIVAL OF FIRST ENGINE COMPANY (TRAVEL TIME)	4 MINUTES
ARRIVAL OF FULL ALARM (ERF) ASSIGNMENT (TRAVEL TIME)	8 MINUTES
CALL TO ARRIVAL OF FIRST RESPONDER UNIT (DISTRIBUTION)	5 MINUTES 20 SECONDS
CALL TO ARRIVAL OF ERF (CONCENTRATION)	10 MINUTES 20 SECONDS

Total Response Time – "Hello to Hello time" – 911 pickup to Firefighter/Paramedic arrival



Benchmark Goal: **90%** of all Emergency Incidents

NFPA 1710

EMERGENCY CALL PROCESSING
- < 1:00

TURNOUT
- < 1:00 EMS
- < 1:20 FIRE

TRAVEL
- < 4:00 (First Due)
- < 8:00 (Balance)

ARRIVAL FIRST DUE
- < 6:00 EMS
- < 6:20 FIRE

ARRIVAL BALANCE OF ALARM
- < 10:20 E.R.F. Effective Response Force
- < 10:00 EMS

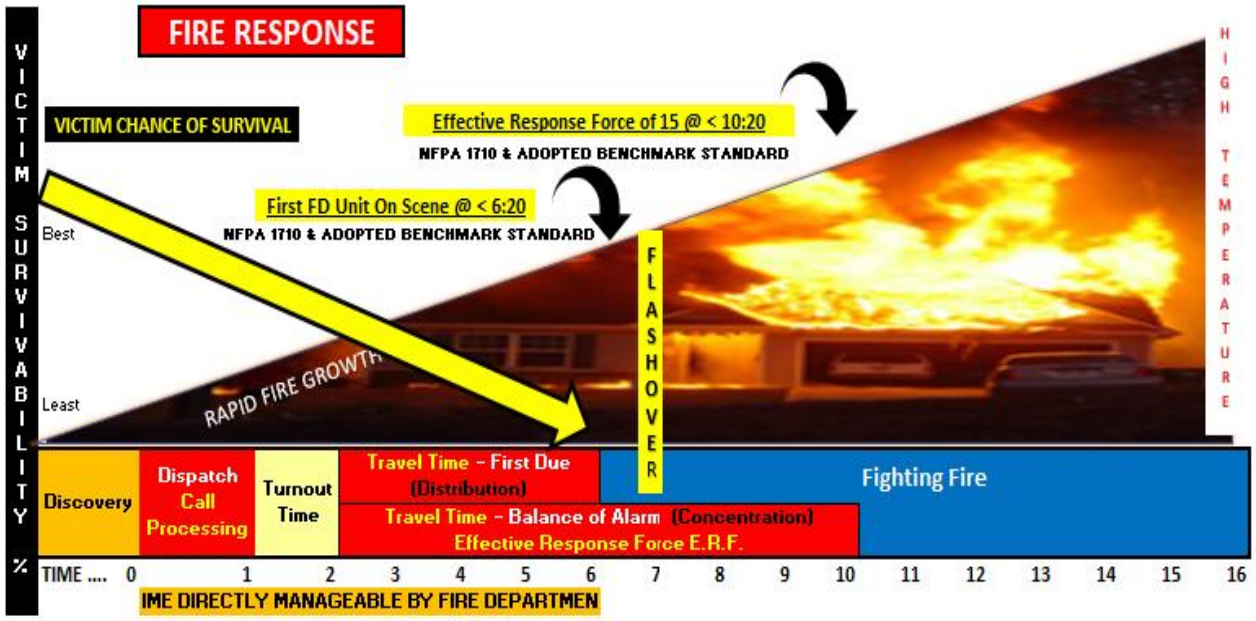
For the general public,

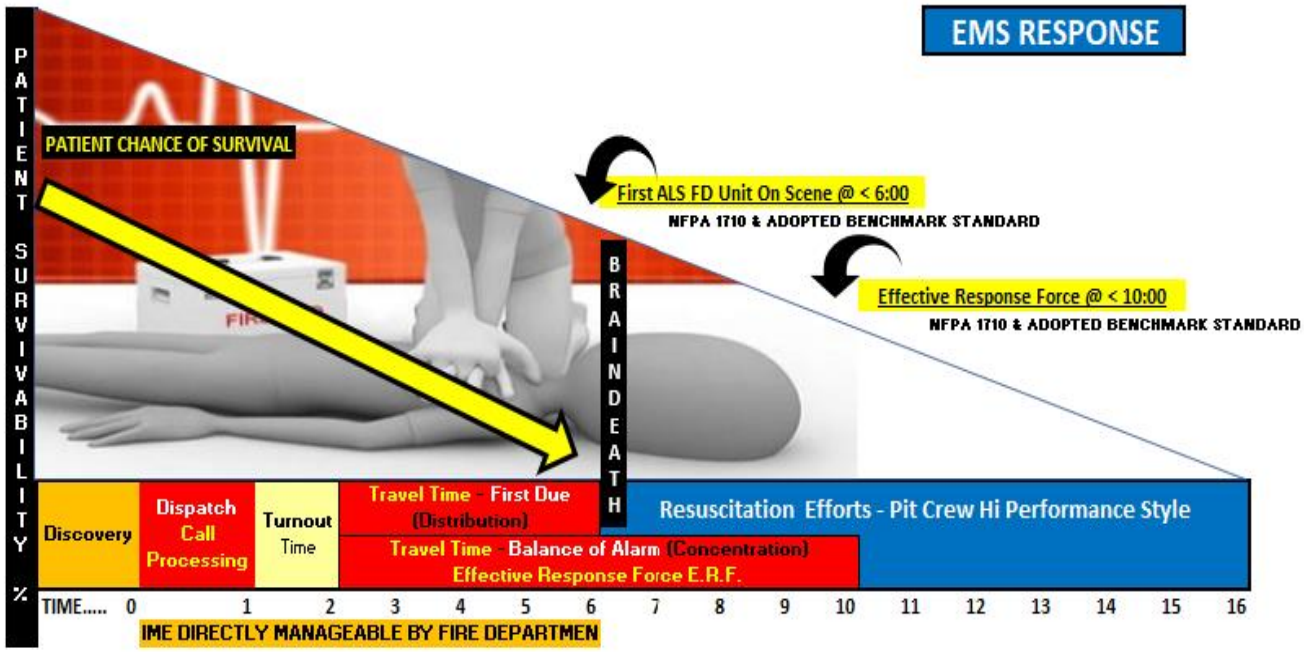
TOTAL RESPONSE TIME
(aka CALL TO ARRIVAL)

is the measurement that matters most.

Comparing Fire Suppression and EMS Capabilities

Arrival within 6 to 7 minutes or less to both types of emergencies is **critical in terms of survivability!**





For every minute delay in access to a defibrillator - chances of survival drop by 7-10 %

SECONDS COUNT
MINUTES MATTER!

TRACK

As part of the ongoing **Continuous Quality Improvement** (**CQ**I) program, we must regularly measure the District's responses and performance to these "Threats" and risks to **ensure efficient and effective delivery of services** rendered that meet or exceed the District's benchmarks.

TRAIN

Additionally, training on the **Critical Task Assignments performance and proficiency** must ensure rapid completion once the units and personnel arrive on the scene. Establishing **Job Performance Requirements** (**JPR'S)** baseline and benchmark times that meet or exceed minimum NFPA standards or goals set by the District shall ensure CQI as the goal.

RISK and RESPONSE – Total Deployment Plan (all combined)

THREAT ASSESSMENT — RISK & RESPONSE PLAN

TYPE OF RISK	TYPICAL NATURE	TASKS & TOTAL - ERF		TEAMS (TOOLS/TRUCKS)					TIMES		TRACK & TRAIN
RISK LEVEL	TYPTICAL Nature	TASKS	# FF	ENG	TRK	AMB	CHF	# FF	FIRST DUE	ERF	
EMS RESPONSE											
LOW	**SINGLE PATIENT** *Injured/Illness*	Command/Safety/Family Liaison	1	1 - *closest* fire company		1		4-5	6:00	10:00	TRACK (PERFORMANCE) TRAIN
		Patient Assessment/Treatment	1								
		Paramedic in Charge/ Documentation	1								
		Patient Movement/Transport	2								
		TOTAL ERF	5								
MODERATE	**SEVERE LIFE THREAT** *Cardiac / Traumatic Arrest*	Command/Safety/Family Liaison	1	1 - *closest* fire company		2	1	7	6:00	10:00	
		Patient Assessment/Treatment	1								
		Paramedic in Charge/ Documentation	1								
		Patient Movement/Transport	2								
		Resuscitation/Stabilization/Extrication	2								
		TOTAL ERF	7								
HIGH	**MASS CASUALTY** *5 or more Pts*	Command	3	4		7	6	32	6:00	15:00	
		Scene Safety	1								
		Medical	2								
		Triage	4								
		Treatment	6								
		Transportation	12								
		Staging	1								
		TOTAL ERF	29								
	BOX ALARM - ADDITIONAL +										

RISK LEVEL TYPE	TYPICAL Nature	TASKS	# FF	ENG	TRK/TNKR	AMB	CHF	# FF	FIRST DUE	ERF	TRACK & TRAIN
FIRE RESPONSE											
LOW	**INVESTIGATIONS, OUTSIDE FIRES** -Grass/Refuse	Command/Safety	1	1 - *closest* Fire Unit				3	6:20	10:20	TRACK (PERFORMANCE) TRAIN
		Fire Attack/Investigation	1								
		Pump Operations	1								
			3								
	ALARMS	ALARM INVESTIGATION									
		Vehicle fires & Alarm Investigations	7	1	1	1	1	7			
		TOTAL ERF	7-9								
MODERATE	**WORKING STRUCTURES** Small to Medium: Residential, Multifamily, Commercial	Command Aide/Safety	2	3	1	1	1	15	6:20	10:20	
		Fire Attack - 2nd (Backup)	2								
		Pump Operations/Aerial	2								
		Search/Rescue	2								
		OnDeck - Rapid Intervention	2								
		Ventilation	2								
		Utilities	1								
		EMS - Medical/Rehab	2								
		TOTAL ERF	15								
HIGH	**TARGET HAZARDS & Large to Mega: Residential, Multifamily, Commercial**	Command/Safety	4	4	3	2	4	29	6:20	15:00	
		Fire Attack - 1st & 2nd (Backup)	4								
		Pump Operations/Aerial	2								
		Forcible Entry	2								
		Search/Rescue & EMS	3								
		OnDeck - Rapid Intervention	4								
		Water Supply	1								
		Ventilation	3								
		Utilities	2								
		EMS - Medical/Rehab	4								
		TOTAL ERF	29								
	BOX ALARM - ADDITIONAL +										

HAZARD / HAZMAT RESPONSE

RISK LEVEL TYPE	TYPICAL Nature	TASKS	# FF	ENG	TRK	AMB	CHF	# FF	FIRST DUE	ERF
LOW	**OUTSIDE / Investigation** *CO (no illness), Fuel Spill, Odor Wires down*	Command/Safety	1	**1 -** *Closest* Fire Unit					**6:20**	**10:20**
		Investigation	1							
		Mitigation	1							
		TOTAL ERF	**3**					3		
MODERATE	**INSIDE / Static Release** *Inside Spill/Gas leak, CO (w/ illness)*	Command/Safety	1	**1**	**1**	**1**	**1**		**6:20**	**10:20**
		Hazmat Sector Officer	1							
		Investigation/Entry	2							
		Backup	2							
		Science/Research	1							
		EMS/Treatment	2							
		TOTAL ERF	**9**					15		
HIGH	**Dynamic/Active release** **Level A Team Response needed*	Command	1	**2**	**1**	**2**	**1**		**6:20**	**15:00**
		Safety	1							
		Hazmat Sector Officer	1							
		Entry	2							
		Backup	2							
		Science/Research	2							
		Decon	3							
		EMS/Treatment	2							
		TOTAL ERF	**14**					14		
	BOX ALARM - ADDITIONAL +									

TRACK (PERFORMANCE / TRAIN)

RESCUE RESPONSE

RISK LEVEL TYPE	TYPICAL Nature	TASKS	# FF	ENG	TRK	AMB	CHF	# FF	FIRST DUE	ERF
LOW	**Elevator entrapment** *Lock Out, Flooding, Damage Assessment*	Command/Safety	1	**1 -** *closest* Fire Company					**6:20**	**10:20**
		Extrication	2							
		TOTAL ERF	**3**					3		
MODERATE	**MVA**	Command/Safety	1	**1**		**2**	**1**		**6:20**	**10:20**
		Rescue Sector Officer	1							
		Medical	2							
		EMS/Treatment/Pt Movement	2							
			6					7		
	MVA w/ Extrication (PIN-IN) Vehicle into building	Stabilization	2							
		Extrication	4	**+1**		**+1**	**+1**			
		EMS/Treatment/Pt Movement	2							
		TOTAL ERF	**14**	2		3	2	14		
HIGH	**SPECIAL OPERATIONS - TRT** ***REQUIRES REGIONAL TEAM** *Confined Space, Trench,* Structure Collapse, Water/Ice Low/High Angle Rope Rescues		MIN.	**2**	**1**	**2**	**2**		**6:20**	**15:00**
		SPEC OP'S TEAM NEEDS	**ERF**							
		Rope (High Angle)	14							
		Water (Ice/Dive)	13							
		Structural Collapse	19							
		Confined Space	19							
		Trench	24							
		TOTAL ERF	**13-24**					18		
	BOX ALARM - ADDITIONAL +									

TRACK (PERFORMANCE / TRAIN)

RESCUE - RISK TYPE

WATER	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Rope Tenders	4
TOTAL ERF	**13**

ROPE	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Rigging / Haul Team	5
TOTAL ERF	**14**

COLLAPSE	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Squad Officers	2
Rescue Specialists	8
Cut Station	2
Equipment Log	1
TOTAL ERF	**18**

CONFINED SPACE	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Ventilation	1
Monitoring	1
Rigging / Haul Team	5
Scribe	1
Attendant	1
Air supply	1
TOTAL ERF	**19**

TRENCH	
Incident Command	1
Rescue Officer	1
Safety	1
EMS / Treatment	2
Rescue Team & Back-up	4
Ventilation	1
Monitoring	1
Rigging / Haul Team	5
Shoring Team	8
TOTAL ERF	**24**


BEECHER

SERVICE DEMAND & PERFORMANCE

5

SECTION 5 --

Why Measure Performance?

In the book *Reinventing Government,* the authors state:

- *"If you do not measure the results of your plan, you can't tell success from failure.*
- *If you cannot see success, you cannot reward it.*
- *If you cannot reward success, you are probably rewarding failure.*
- *If you cannot see success, you cannot learn from it.*
- *If you cannot recognize failure, you cannot correct it.*
- *If you* ***can demonstrate results****, you* ***can win public support****."*

IF YOU DON'T KNOW THE SCORE, THEN HOW DO YOU KNOW YOU'RE **WINNING**?

Success in the modern Fire Service can be measured in lives resuscitated and saved structure fires stopped near their origin, and satisfaction surveys are fact-based metrics. Without these baseline measurements and benchmark goals, we operate on opinion. **Each minute of delay is critical to the occupants' and firefighters' safety and is directly related to property damage.** Reflex and response charts provide emergency responders with a general timeline of events. It highlights significant benchmarks. There are variations of fire growth that must also be considered when developing a response strategy. The **shortest possible response times create the highest probabilities of resuscitation**. Another vital evaluation point lost on most agencies is the time crews reach the patient's side. Often the clock stops when the vehicle arrives or stops at the address. The key to a successful outcome is the point the patient is contacted. When evaluating total response time for EMS calls, this period can be substantial and affect the outcome due to delayed intervention.

Several factors are typically analyzed and measured to review the system's incident deployment and response performance referred to as "Service Demand."

Incident-specific questions such as: ***What, When, Where, Who, and How*** - provide deep insight into multiple levels of analysis for numerous years of data.

- **WHAT:** What type of incident is it?

Fire, EMS, Rescue, Hazard, Service/Other are the main types. Nature of call or NFIRS (National Fire Incident Reporting System) Codes a consistent typing formula.

- **WHEN:** When did the incident occur?

These time measures start MACRO and end MICRO – Year, Month, Day of Week, and Hour of Day

- **WHERE:** Where was the incident location and occupancy?

Actual GIS plotting and occupancy type trends are reviewed

- **WHO:** Who responded to the incident?

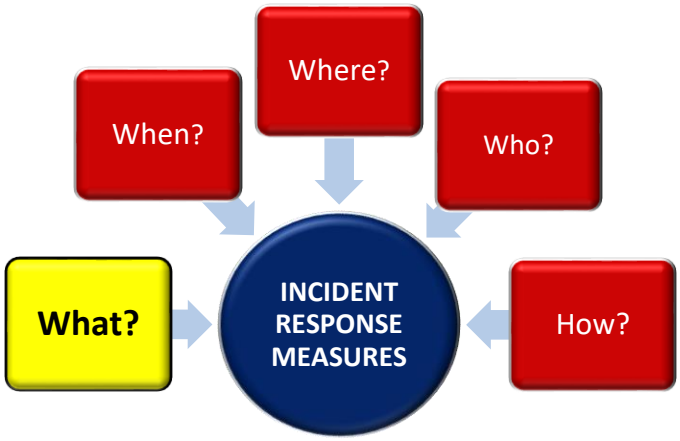
What Shift, what station, what unit(s)

- **HOW:** How well did they perform?

Did the system perform as expected and planned? Did they respond within benchmark times or better?

If not, then why not? The emergency response plans can be predicted and planned by exploring the above metrics and others later in this section.

WHAT - Types

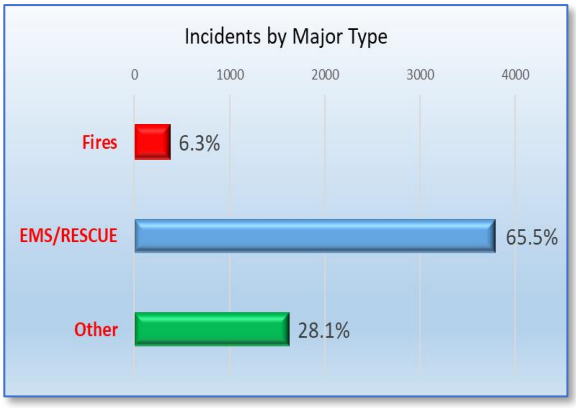


Incident type is defined as the situation found upon arrival by emergency providers. It covers the large varieties of calls the modern fire district responds to daily and is divided into nine (9) series. Within each series are additional codes that define the incident more specifically. Each incident type is listed with the total volume.

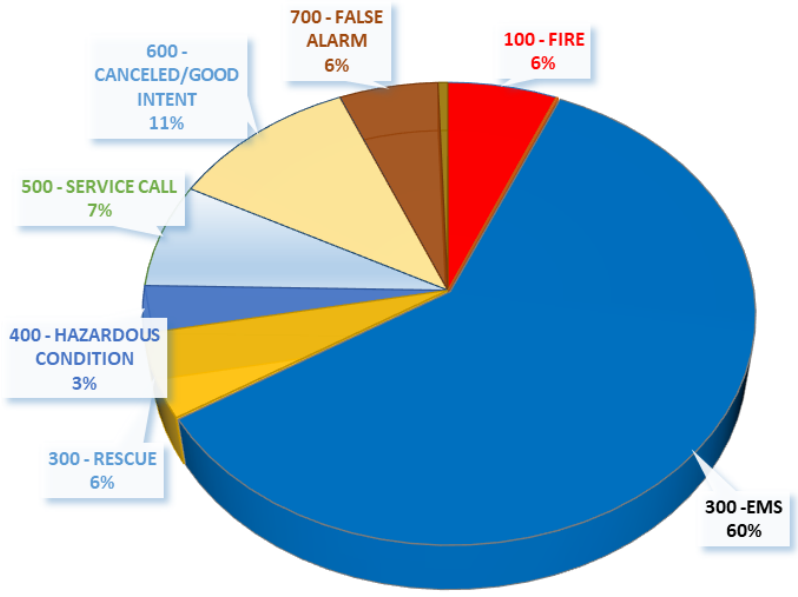
Types of Incidents

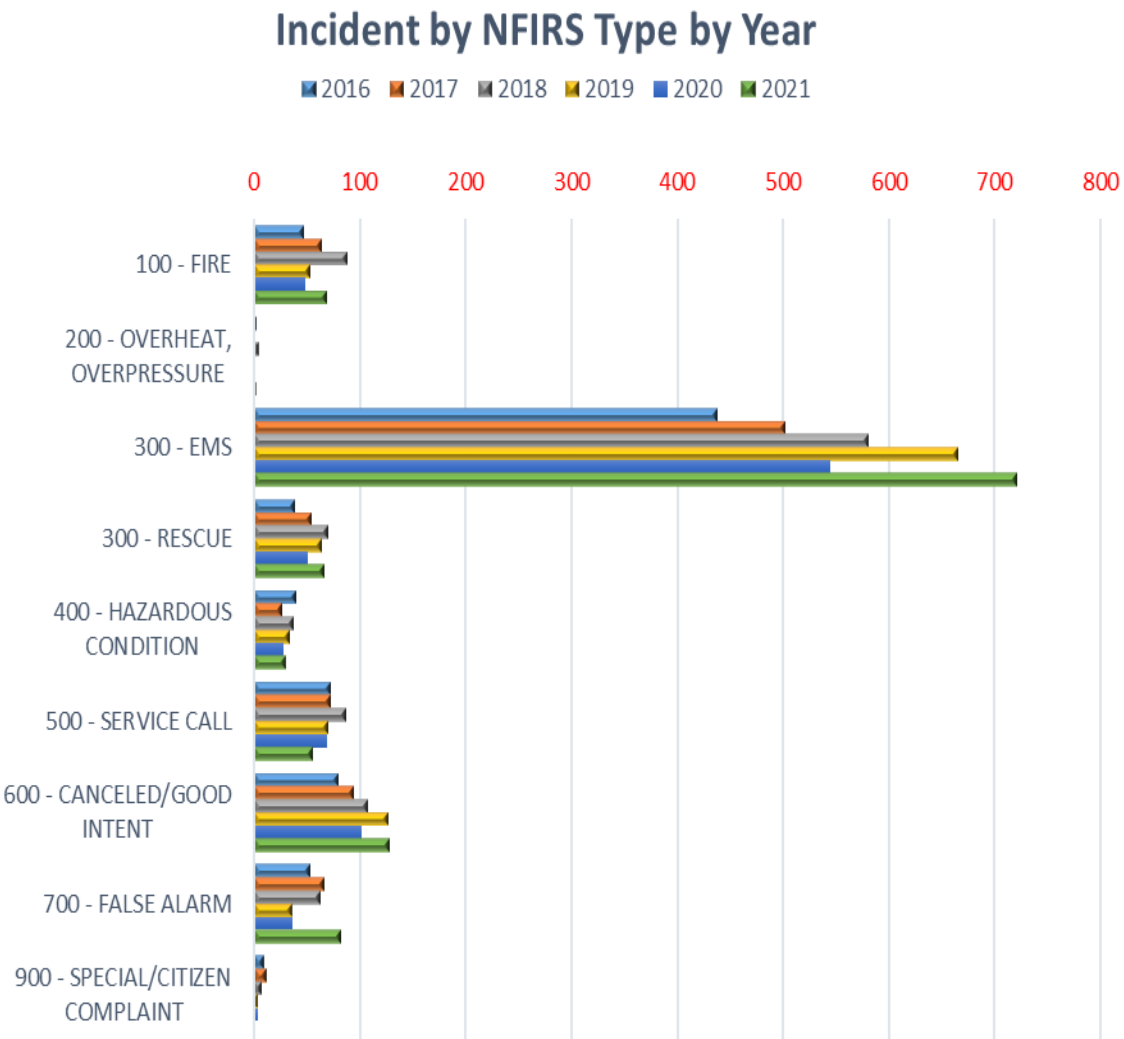
Listed are the types and number of incident responses from 2016 to 2021.

From January 1, 2016, through December 31, 2020 – the Fire District was dispatched to **4,638 incidents** or an average of **928 annually (high of 1048 in 2019)**. Incident types are based on the National Fire Incident Reporting System (NFIRS) standard definition developed through the US Fire Administration, National Fire Data Center.



INCIDENT BY TYPE
2016-2021





NFIRS Code Summary

INCIDENT TYPE	2016	2017	2018	2019	2020	2021	Total	Average	% of Inc
100 - FIRE	47	63	88	53	48	68	**367**	*61*	*6.3%*
200 - OVERHEAT, OVERPRESSURE	2	0	4	0	0	1	**7**	*1*	*0.1%*
300 - EMS	437	501	580	665	544	721	**3,448**	*575*	*59.6%*
300 - RESCUE	38	54	69	63	51	66	**341**	*57*	*5.9%*
400 - HAZARDOUS CONDITION	39	26	37	33	28	29	**192**	*32*	*3.3%*
500 - SERVICE CALL	72	72	87	70	69	55	**425**	*71*	*7.4%*
600 - CANCELED/GOOD INTENT	79	94	107	126	102	127	**635**	*106*	*11.0%*
700 - FALSE ALARM	52	66	62	35	36	82	**333**	*56*	*5.8%*
900 - SPECIAL/CITIZEN COMPLAINT	9	11	7	3	3	0	**33**	*6*	*0.6%*
TOTAL	**775**	**887**	**1,041**	**1,048**	**881**	**1,149**	5,781	*964*	*100.0%*
Change over previous		*14.5%*	*17.4%*	*0.7%*	*-15.9%*	*30.4%*			

WHEN - Service Demand (Incident Frequency)

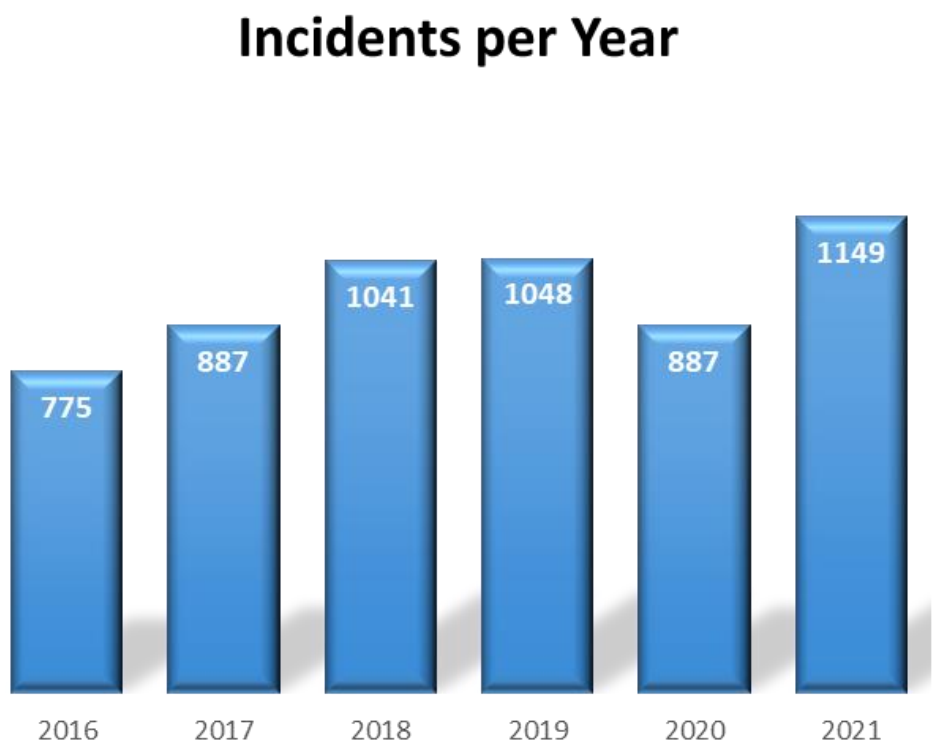
Call volume affects the amount of time a company is available to respond to emergencies within its respective first due area.

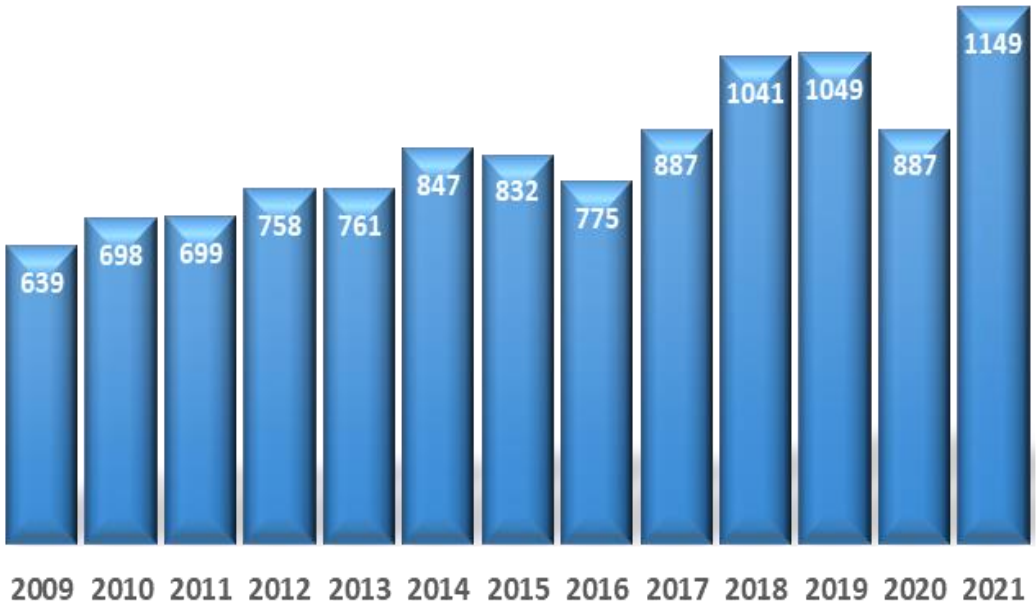
Under optimal conditions, the call volume distribution should be evenly divided when stations are located appropriately. This section focuses on concentration on fundamental workload issues and shall break this volume of incidents down from macro to micro specifics.

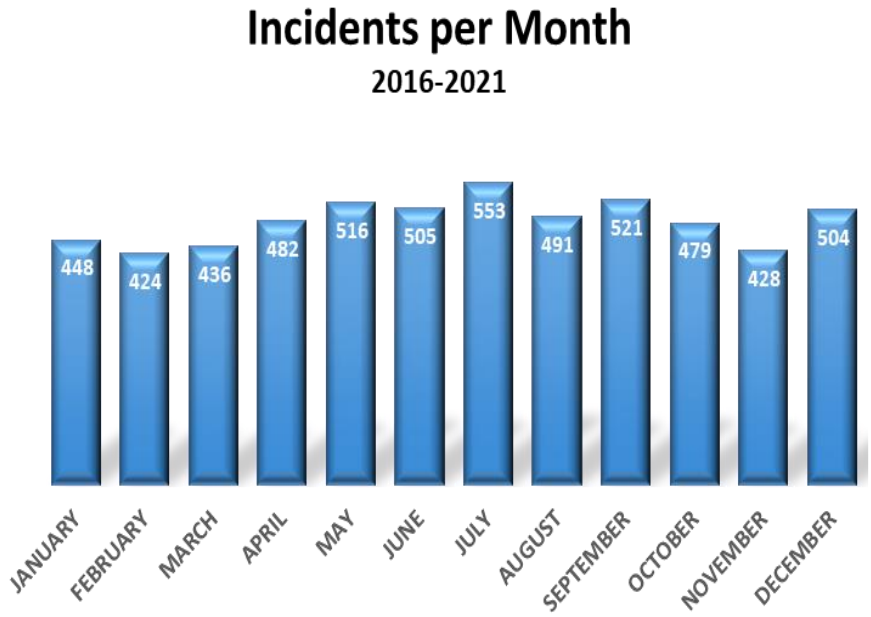
- **YEARLY**
- **MONTHLY**
- **DAY OF WEEK**
- **HOUR OF DAY**

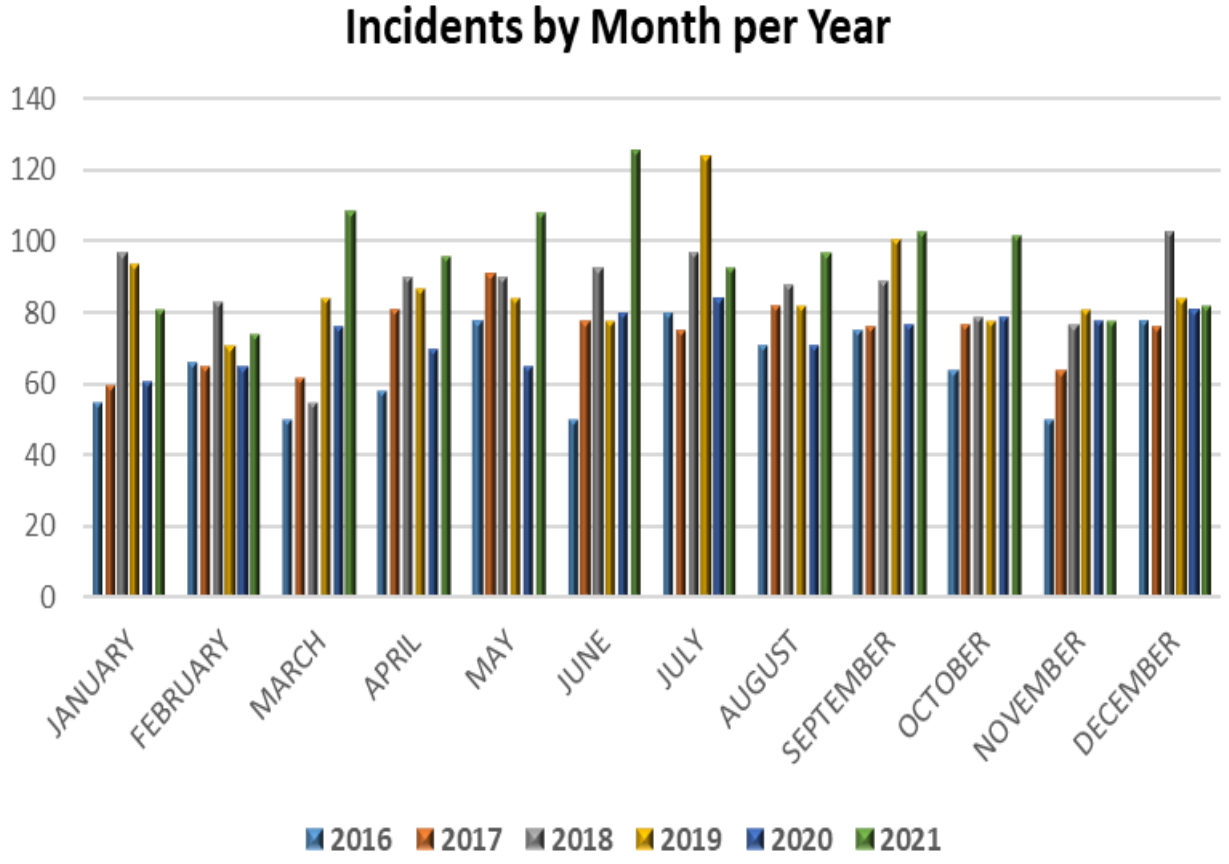
Incidents per:

Year

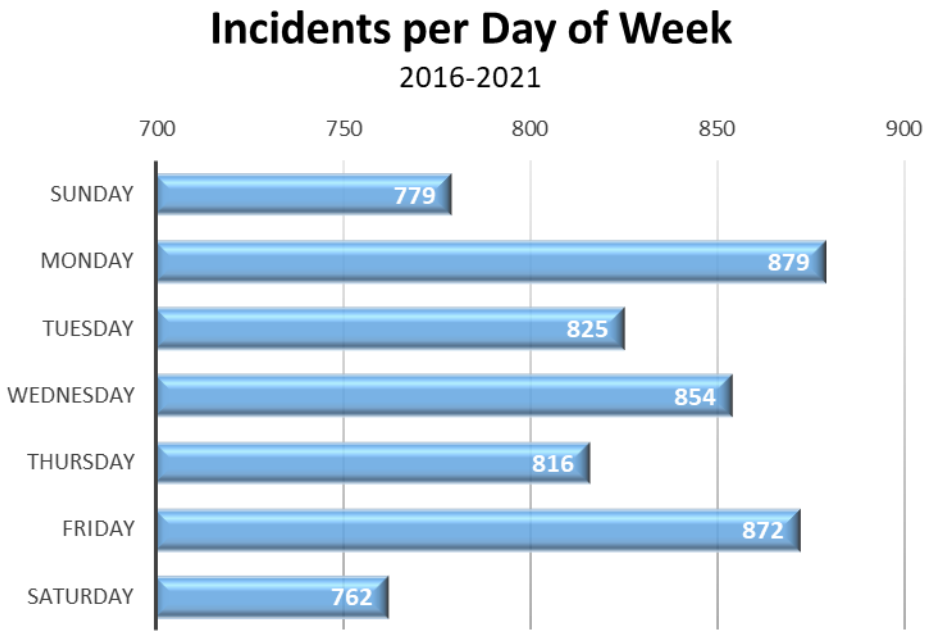


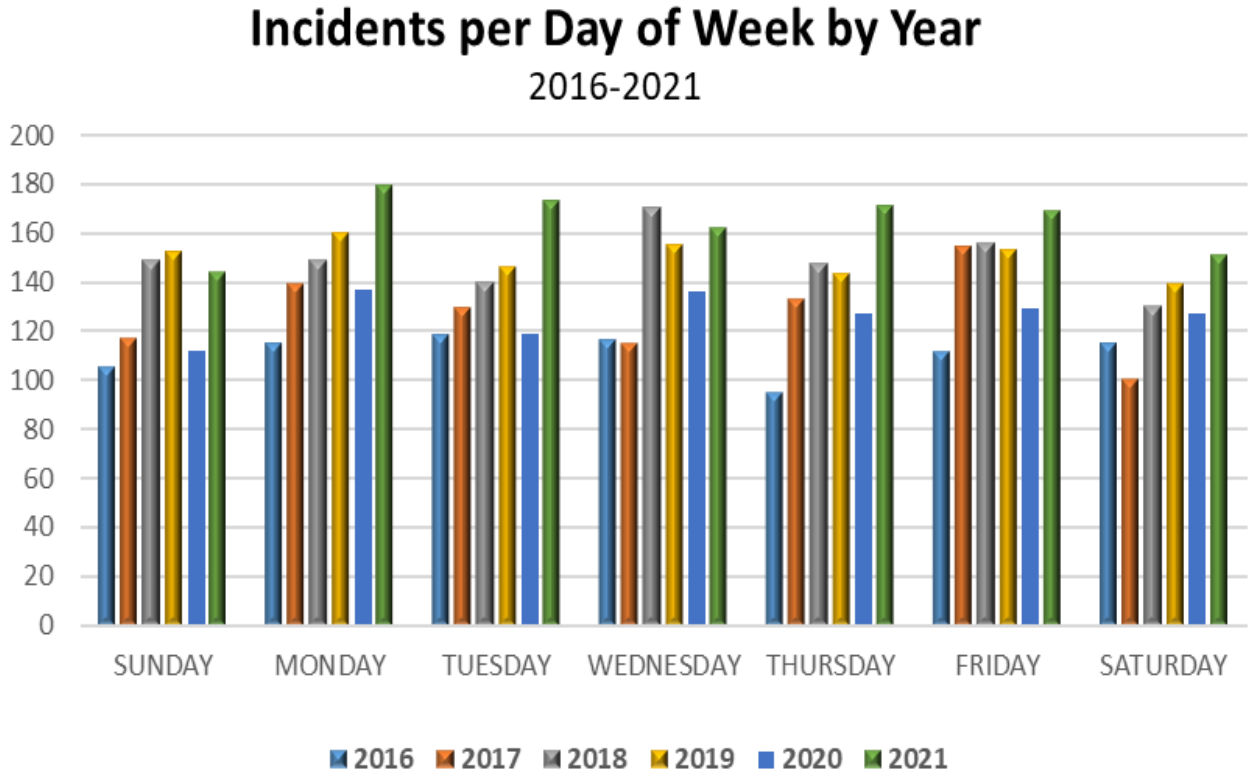



Incidents per Month
2016-2021
448
424
436
482
516
505
553
491
521
479
428
504
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER

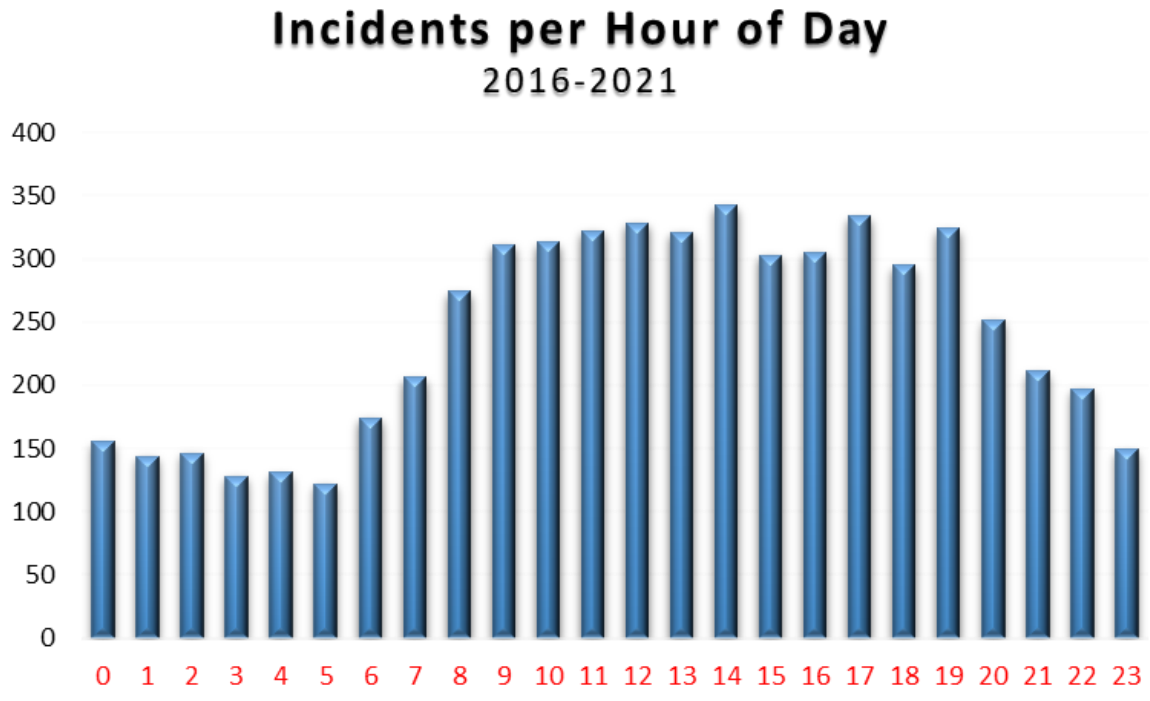

Incidents by Month per Year
140
120
100
80
60
40
20
0
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
2016
2017
2018
2019
2020
2021

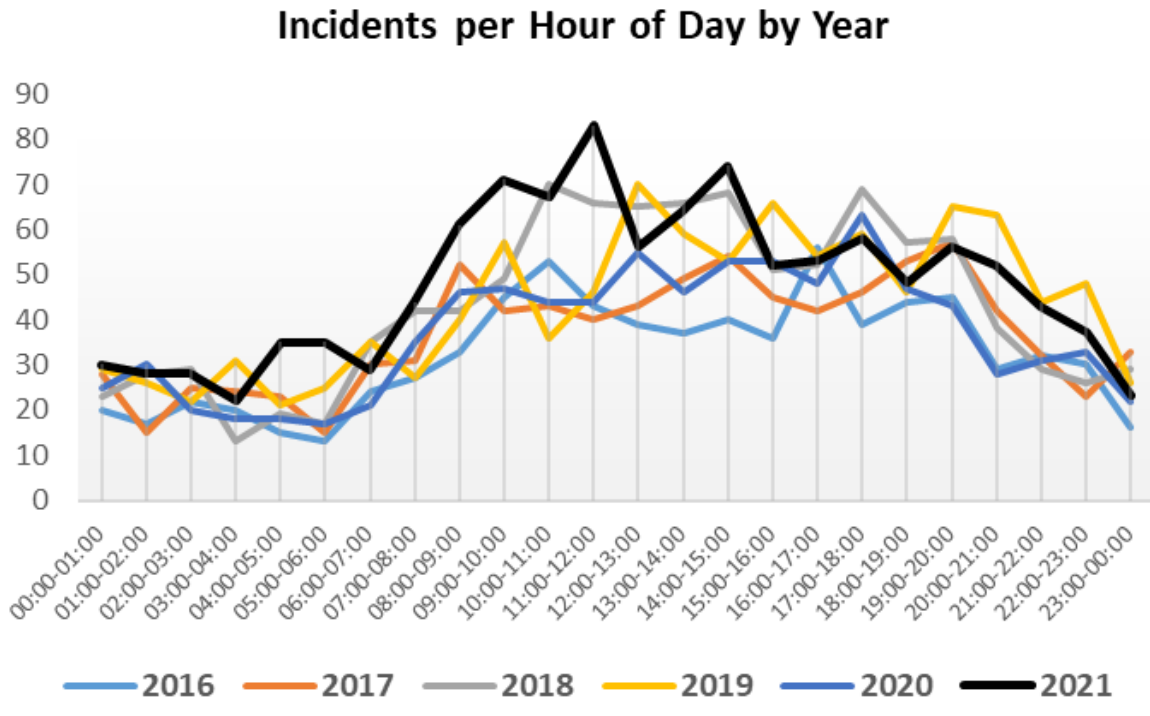
Day


Incidents per Day of Week
2016-2021
700
750
800
850
900
SUNDAY
779
MONDAY
879
TUESDAY
825
WEDNESDAY
854
THURSDAY
816
FRIDAY
872
SATURDAY
762


Incidents per Day of Week by Year
2016-2021
200
180
160
140
120
100
80
60
40
20
0
SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
2016
2017
2018
2019
2020
2021

Hour


Incidents per Hour of Day
2016-2021
400
350
300
250
200
150
100
50
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Incidents per Hour of Day by Year
90
80
70
60
50
40
30
20
10
0
00:00-01:00
01:00-02:00
02:00-03:00
03:00-04:00
04:00-05:00
05:00-06:00
06:00-07:00
07:00-08:00
08:00-09:00
09:00-10:00
10:00-11:00
11:00-12:00
12:00-13:00
13:00-14:00
14:00-15:00
15:00-16:00
16:00-17:00
17:00-18:00
18:00-19:00
19:00-20:00
20:00-21:00
21:00-22:00
22:00-23:00
23:00-00:00
2016
2017
2018
2019
2020
2021

Temporal

Hour of Day by Day of Week

2016-2021

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Total		
00:00-00:59	16	18	22	27	20	26	27	156	2.7%	
01:00-01:59	26	18	16	15	17	18	32	142	2.5%	
02:00-02:59	17	17	22	22	20	19	29	146	2.5%	
03:00-03:59	21	17	22	22	10	15	20	127	2.2%	
04:00-04:59	21	19	25	13	17	17	19	131	2.3%	
05:00-05:59	26	19	17	21	15	10	14	122	2.1%	
06:00-06:59	44	21	36	22	19	18	14	174	3.0%	
07:00-07:59	23	30	40	29	35	28	24	209	3.6%	
08:00-08:59	57	32	41	38	34	32	37	271	4.7%	
09:00-09:59	44	45	39	53	56	34	40	311	5.4%	
10:00-10:59	45	50	54	42	57	33	32	313	5.4%	
11:00-11:59	37	53	49	41	64	46	33	323	5.6%	
12:00-12:59	55	52	44	46	56	40	34	327	5.7%	
13:00-13:59	47	52	55	39	45	38	44	320	5.5%	63.2% 0700-1900
14:00-14:59	47	58	49	37	54	54	43	342	5.9%	
15:00-15:59	56	43	38	43	44	40	39	303	5.2%	
16:00-16:59	32	45	51	44	51	39	44	306	5.3%	
17:00-17:59	42	49	56	49	44	43	50	333	5.8%	
18:00-18:59	34	50	41	47	39	42	40	293	5.1%	
19:00-19:59	49	39	40	37	54	53	51	323	5.6%	
20:00-20:59	35	36	32	43	40	32	35	253	4.4%	73.1% 0700-2100
21:00-21:59	32	18	27	32	34	37	31	211	3.6%	
22:00-22:59	23	27	23	21	31	42	29	196	3.4%	
23:00-23:59	13	23	25	23	17	24	24	149	2.6%	
Total	842	831	864	806	873	780	785	5,781		
	14.6%	14.4%	14.9%	13.9%	15.1%	13.5%	13.6%			

Hour of Day by Month

2016-2021

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals	% of Inc
00:00-00:59	16	8	14	11	14	10	17	12	10	21	8	15	156	2.7%
01:00-01:59	3	13	9	16	9	4	20	17	13	15	8	15	142	2.5%
02:00-02:59	15	9	11	12	12	13	16	15	11	10	10	12	146	2.5%
03:00-03:59	10	12	11	9	24	4	11	7	8	10	7	14	127	2.2%
04:00-04:59	6	16	9	12	10	7	8	13	14	10	11	15	131	2.3%
05:00-05:59	11	10	16	9	18	10	7	4	10	15	5	7	122	2.1%
06:00-06:59	18	20	12	17	13	11	11	14	16	11	13	18	174	3.0%
07:00-07:59	16	20	14	20	13	12	25	18	22	15	11	23	209	3.6%
08:00-08:59	27	27	19	19	20	24	30	19	24	29	17	16	271	4.7%
09:00-09:59	27	25	24	26	17	30	37	30	19	28	23	25	311	5.4%
10:00-10:59	22	27	18	34	35	21	25	24	22	32	24	29	313	5.4%
11:00-11:59	19	23	43	23	27	29	19	33	31	27	24	25	323	5.6%
12:00-12:59	21	25	22	34	34	31	30	31	20	26	26	27	327	5.7%
13:00-13:59	28	28	19	28	14	29	32	27	33	17	28	37	320	5.5%
14:00-14:59	30	26	19	24	32	25	32	34	30	24	25	41	342	5.9%
15:00-15:59	28	21	29	18	22	27	23	20	30	27	39	19	303	5.2%
16:00-16:59	28	22	33	21	21	32	30	24	31	19	22	23	306	5.3%
17:00-17:59	25	13	27	24	31	30	33	30	41	27	26	26	333	5.8%
18:00-18:59	13	17	25	27	28	25	21	23	25	33	28	28	293	5.1%
19:00-19:59	19	12	19	28	39	31	34	25	43	25	18	30	323	5.6%
20:00-20:59	22	12	13	22	29	30	28	18	22	19	17	21	253	4.4%
21:00-21:59	15	15	11	26	20	19	25	18	19	15	15	13	211	3.6%
22:00-22:59	9	16	10	9	20	31	22	21	16	14	12	16	196	3.4%
23:00-23:59	20	7	9	11	12	18	17	14	11	10	11	9	149	2.6%
Total	448	424	436	480	514	503	553	491	521	479	428	504	5781	
	7.7%	7.3%	7.5%	8.3%	8.9%	8.7%	9.6%	8.5%	9.0%	8.3%	7.4%	8.7%		

Simultaneous Incidents

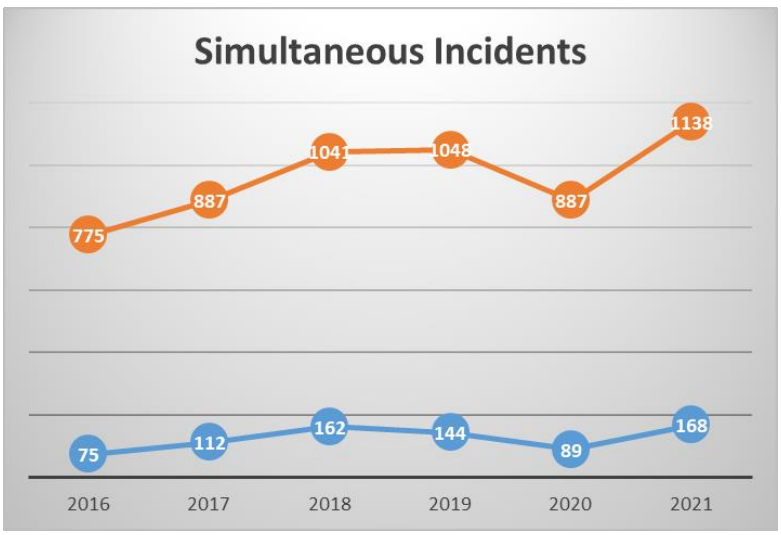
Simultaneous incidents occur when other incidents are underway when a new incident begins. The list below is a proportion of simultaneous incident occurrence by the number of simultaneous incidents, where "1 or more" means at least two incidents open, "2 or more" means there are at least three incidents open. The ability to respond to multiple simultaneous incidents significantly affects response times and "reliability."

13.31% for **1** or more simultaneous incidents.

1.26% for **2** or more simultaneous incidents.

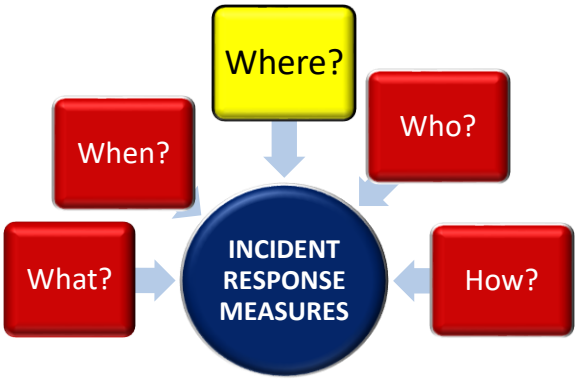
0.11% for **3** or more simultaneous incidents.

Simultaneous Incidents		# change	% change	2016-21
2016	75			
2017	112	37	49%	
2018	162	50	45%	
2019	144	-18	-11%	
2020	89	-55	-38%	
2021	168	79	89%	124%
	750			



	2016-21	% of Inc	2016	% of Inc	2017	% of Inc	2018	% of Inc	2019	% of Inc	2020	% of Inc	2021	% of Inc
TOTAL INCIDENTS	**5329**		**775**		**887**		**1041**		**1048**		**887**		**691**	
Concurrent Incidents														
1 or more	**582**	*12.55%*	75	*9.68%*	112	*12.63%*	162	*15.56%*	144	*13.74%*	89	*10.03%*	168	*24.31%*
2 or more	**54**	*1.16%*	4	*0.52%*	5	*0.56%*	16	*1.54%*	20	*1.91%*	9	*1.01%*	19	*2.75%*
3 or more	**7**	*0.15%*	0	*0.00%*	0	*0.00%*	1	*0.10%*	5	*0.48%*	0	*0.00%*	1	*0.14%*

WHERE - Incident Location

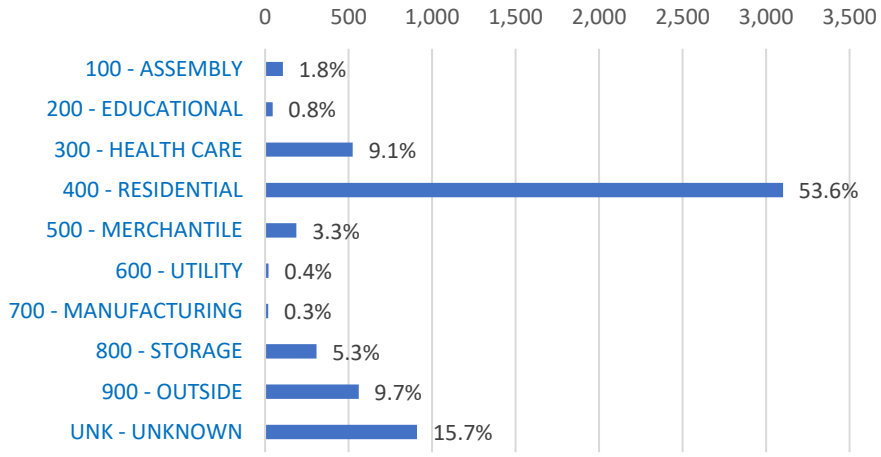


Property Type/Use

The location of an incident can be categorized by the property use type or outside physical setting and is also geolocated by GIS specialists for analysis.

Incident Location by Property Type

2016-2021



PROPERTY USE	2016	2017	2018	2019	2020	2021	Total	Average	% of Inc
100 - ASSEMBLY	11	9	16	24	9	37	**106**	14	*1.8%*
200 - EDUCATIONAL	14	13	12	2	1	3	**45**	8	*0.8%*
300 - HEALTH CARE	63	83	123	75	38	143	**525**	76	*9.1%*
400 - RESIDENTIAL	381	410	468	649	595	598	**3,101**	501	*53.6%*
500 - MERCHANTILE	36	34	35	28	21	34	**188**	31	*3.3%*
600 - UTILITY	0	7	2	3	4	5	**21**	3	*0.4%*
700 - MANUFACTURING	0	0	1	5	2	10	**18**	2	*0.3%*
800 - STORAGE	29	41	46	64	46	81	**307**	45	*5.3%*
900 - OUTSIDE	63	81	124	103	83	106	**560**	91	*9.7%*
UNK - UNKNOWN	178	209	214	95	82	132	**910**	156	*15.7%*
	775	**887**	**1,041**	**1,048**	**881**	**1,149**	**5,781**		
	change over previous	*14%*	*17%*	*1%*	*-16%*	*30%*			

Incidents: Count - Year by Property Use (Frequency by Type)

Year		2016	2017	2018	2019	2020	2021	Totals	Average	% of Inc
100	Assembly, other	1						1	1	0.0%
110	Fixed use recreation places, other				1			1	1	0.0%
111	Bowling alley	1		1	1		3	6	2	0.1%
122	Convention center, exhibition hall						1	1	1	0.0%
123	Stadium, arena		1	1			1	3	1	0.1%
124	Playground						1	1	1	0.0%
129	Amusement center: indoor/outdoor						1	1	1	0.0%
130	Places of worship, funeral parlors				1			1	1	0.0%
131	Church, mosque, synagogue, temple, c	3	2	2	4	4	13	28	5	0.5%
140	Clubs, other						1	1	1	0.0%
142	Clubhouse						2	2	2	0.0%
150	Public or government, other				13	5	1	19	6	0.3%
151	Library						2	2	2	0.0%
160	Eating, drinking places				1		1	2	1	0.0%
161	Restaurant or cafeteria	5	3	7	1		7	23	5	0.4%
162	Bar or nightclub	1	3	4	2		2	12	2	0.2%
182	Auditorium or concert hall			1			1	2	1	0.0%
	SUBTOTAL	11	9	16	24	9	37	106	18	1.8%
	Change over previous		*-18.2%*	*77.8%*	*50.0%*	*-62.5%*	*311.1%*			
200	Educational, other	1						1	1	0.0%
211	Preschool	1						1	1	0.0%
213	Elementary school, including kindergar	5	5	2	1	1		14	3	0.2%
215	High school/junior high school/middle	7	8	10	1		3	29	6	0.5%
	SUBTOTAL	14	13	12	2	1	3	45	8	0.8%
	Change over previous		*-7.1%*	*-7.7%*	*-83.3%*	*-50.0%*	*200.0%*			
311	24-hour care Nursing homes, 4 or mor	53	75	108	67	33	130	466	78	8.1%
340	Clinics, Doctors offices, hemodialysis centers						2	2	2	0.0%
341	Clinic, clinic-type infirmary	1		1				2	1	0.0%
342	Doctor, dentist or oral surgeon's office	2	4	4	3	1	1	15	3	0.3%
361	Jail, prison (not juvenile)				2	1		3	2	0.1%
365	Police station	7	4	10	3	3	10	37	6	0.6%
	SUBTOTAL	63	83	123	75	38	143	525	88	9.1%
	Change over previous		*31.7%*	*48.2%*	*-39.0%*	*-49.3%*	*276.3%*			
400	Residential, other				86	1	7	94	31	1.6%
419	1 or 2 family dwelling	345	376	420	536	559	555	2,791	465	48.3%
429	Multifamily dwellings	35	30	45	26	35	35	206	34	3.6%
459	Residential board and care	1	4	3	1		1	10	2	0.2%
	SUBTOTAL	381	410	468	649	595	598	3,101	517	53.6%
	Change over previous		*7.6%*	*14.1%*	*38.7%*	*-8.3%*	*0.5%*			
500	Mercantile, business, other					1	2	3	2	0.1%
511	Convenience store	6	5	5	4	4	2	26	4	0.4%
519	Food and beverage sales, grocery store	17	15	9	5	9	6	61	10	1.1%
529	Textile, wearing apparel sales			1				1	1	0.0%
539	Household goods, sales, repairs	3	3	1		1		8	2	0.1%
549	Specialty shop	2	2	1	1			6	2	0.1%
557	Personal service, including barber & beauty sl		1		1		2	4	1	0.1%
559	Recreational, hobby, home repair sales, pet store			1	2		2	5	2	0.1%
564	Laundry, dry cleaning					1	1	2	1	0.0%
569	Professional supplies, services	1	2	1			1	5	1	0.1%
571	Service station, gas station	4	6	13	9	2	12	46	8	0.8%
579	Motor vehicle or boat sales, services, r	1		1	2	1	2	7	1	0.1%
580	General retail, other						1	1	1	0.0%
592	Bank						3	3	3	0.1%
599	Business office	2		2	4	2		10	3	0.2%
	SUBTOTAL	36	34	35	28	21	34	188	31	3.3%
	Change over previous		*-5.6%*	*2.9%*	*-20.0%*	*-25.0%*	*61.9%*			
600	Utility, defense, agriculture, mining, other						1	1	1	0.0%
639	Communications center		3	1	2	2	2	10	2	0.2%
648	Sanitation utility					1		1	1	0.0%
655	Crops or orchard		3	1	1	1	1	7	1	0.1%
659	Livestock production		1				1	2	1	0.0%
	SUBTOTAL	0	7	2	3	4	5	19	4	0.3%
	Change over previous		*700.0%*	*-71.4%*	*50.0%*	*33.3%*	*25.0%*			
700	Manufacturing, processing			1	5	2	10	18	5	0.3%
	SUBTOTAL	0	0	1	5	2	10	18	3	0.3%
	Change over previous			*100.0%*	*400.0%*	*-60.0%*	*400.0%*			
807	Outside material storage area	1			2	5		8	3	0.1%
808	Outbuilding or shed	2	1	1	6	3	2	15	3	0.3%
816	Grain elevator, silo						1	1	1	0.0%
819	Livestock, poultry storage			1	2	3	2	8	2	0.1%
881	Parking garage, (detached residential garage)			1	2		1	4	1	0.1%
882	Parking garage, general vehicle				1		2	3	2	0.1%
888	Fire station	24	40	39	49	34	72	258	43	4.5%
891	Warehouse	2		4	2	1	1	10	2	0.2%
	SUBTOTAL	29	41	46	64	46	81	307	51	5.3%
	Change over previous		*41.4%*	*12.2%*	*39.1%*	*-28.1%*	*76.1%*			
900	Outside or special property, other				2	1		3	2	0.1%
926	Outbuilding, protective shelter			1	1		1	3	1	0.1%
931	Open land or field	12	19	27	11	15	14	98	16	1.7%
936	Vacant lot	1	1	1		1	1	5	1	0.1%
938	Graded and cared-for plots of land	2	2	2	4	1	1	12	2	0.2%
940	Water area, other				1			1	1	0.0%
946	Lake, river, stream				2			2	2	0.0%
951	Railroad right of way	1	2	1	1			5	1	0.1%
952	Railroad yard		1	1				2	1	0.0%
960	Street, other				6	8	8	22	7	0.4%
961	Highway or divided highway	21	37	37	49	31	25	200	33	3.5%
962	Residential street, road or residential d	20	15	41	25	23	49	173	29	3.0%
963	Street or road in commercial area	3	1	2		3	5	14	3	0.2%
965	Vehicle parking area	3	3	10			2	18	5	0.3%
981	Construction site			1				1	1	0.0%
983	Pipeline, power line or other utility right of way				1			1	1	0.0%
	SUBTOTAL	63	81	124	103	83	106	560	93	9.7%
	Change over previous		*28.6%*	*53.1%*	*-16.9%*	*-19.4%*	*27.7%*			
UUU	Undetermined	178	209	214	95	82	132	910	152	15.7%
	SUBTOTAL	178	209	214	95	82	132	910	152	15.7%
	Change over previous		*17.4%*	*2.4%*	*-55.6%*	*-13.7%*	*61.0%*			
	TOTAL	775	887	1041	1048	881	1149	5781	964	100.0%
	Change over previous		*14.5%*	*17.4%*	*0.7%*	*-15.9%*	*30.4%*			

Incidents: Count - Year by Property Use

There are 5,781 Incident records being analyzed.

Year	2016	2017	2018	2019	2020	2021	Totals	Column1	% of Inc
419 1 or 2 family dwelling	345	376	420	536	559	555	**2,791**	465	*48.3%*
UUU Undetermined	178	204	211	95	81	130	**899**	150	*15.6%*
311 24-hour care Nursing homes, 4 or more persons	53	75	108	67	33	130	**466**	78	*8.1%*
888 Fire station	**24**	**40**	**39**	**49**	**34**	**72**	**258**	43	*4.5%*
429 Multifamily dwellings	35	30	45	26	35	35	**206**	34	*3.6%*
961 Highway or divided highway	21	37	37	49	31	25	**200**	33	*3.5%*
962 Residential street, road or residential driveway	20	15	41	25	23	49	**173**	29	*3.0%*
931 Open land or field	12	19	27	11	15	14	**98**	16	*1.7%*
400 Residential, other				86	1	7	**94**	31	*1.6%*
519 Food and beverage sales, grocery store	17	15	9	5	9	6	**61**	10	*1.1%*
571 Service station, gas station	4	6	13	9	2	12	**46**	8	*0.8%*
365 Police station	7	4	10	3	3	10	**37**	6	*0.6%*
215 High school/junior high school/middle school	7	8	10	1		3	**29**	6	*0.5%*
131 Church, mosque, synagogue, temple, chapel	3	2	2	4	4	13	**28**	5	*0.5%*
511 Convenience store	6	5	5	4	4	2	**26**	4	*0.4%*
161 Restaurant or cafeteria	5	3	7	1		7	**23**	5	*0.4%*
960 Street, other				6	8	8	**22**	7	*0.4%*
150 Public or government, other				13	5	1	**19**	6	*0.3%*
700 Manufacturing, processing			1	5	2	10	**18**	5	*0.3%*
965 Vehicle parking area	3	3	10			2	**18**	5	*0.3%*
342 Doctor, dentist or oral surgeon's office	2	4	4	3	1	1	**15**	3	*0.3%*
808 Outbuilding or shed	2	1	1	6	3	2	**15**	3	*0.3%*
213 Elementary school, including kindergarten	5	5	2	1	1		**14**	3	*0.2%*
963 Street or road in commercial area	3	1	2		3	5	**14**	3	*0.2%*
162 Bar or nightclub	1	3	4	2		2	**12**	2	*0.2%*
938 Graded and cared-for plots of land	2	2	2	4	1	1	**12**	2	*0.2%*
459 Residential board and care	1	4	3	1		1	**10**	2	*0.2%*
599 Business office	2		2	4	2		**10**	3	*0.2%*
639 Communications center		3	1	2	2	2	**10**	2	*0.2%*
891 Warehouse	2		4	2	1	1	**10**	2	*0.2%*
539 Household goods, sales, repairs	3	3	1		1		**8**	2	*0.1%*
807 Outside material storage area	1			2	5		**8**	3	*0.1%*
819 Livestock, poultry storage			1	2	3	2	**8**	2	*0.1%*
579 Motor vehicle or boat sales, services, repair	1		1	2	1	2	**7**	1	*0.1%*
655 Crops or orchard		3	1	1	1	1	**7**	1	*0.1%*
111 Bowling alley	1		1	1		3	**6**	2	*0.1%*
549 Specialty shop	2	2	1	1			**6**	2	*0.1%*
UUU Undetermined		2	2		1	1	**6**	2	*0.1%*
559 Recreational, hobby, home repair sales, pet store			1	2		2	**5**	2	*0.1%*
569 Professional supplies, services	1	2	1			1	**5**	1	*0.1%*
936 Vacant lot	1	1	1		1	1	**5**	1	*0.1%*
951 Railroad right of way	1	2	1	1			**5**	1	*0.1%*
NNN None		3	1			1	**5**	2	*0.1%*
557 Personal service, including barber & beauty shops		1		1		2	**4**	1	*0.1%*
881 Parking garage, (detached residential garage)			1	2		1	**4**	1	*0.1%*
123 Stadium, arena		1	1			1	**3**	1	*0.1%*
361 Jail, prison (not juvenile)				2	1		**3**	2	*0.1%*
500 Mercantile, business, other					1	2	**3**	2	*0.1%*
592 Bank						3	**3**	3	*0.1%*
882 Parking garage, general vehicle				1		2	**3**	2	*0.1%*
900 Outside or special property, other				2	1		**3**	2	*0.1%*
926 Outbuilding, protective shelter			1	1		1	**3**	1	*0.1%*
142 Clubhouse						2	**2**	2	*0.0%*
151 Library						2	**2**	2	*0.0%*
160 Eating, drinking places				1		1	**2**	1	*0.0%*
182 Auditorium or concert hall			1			1	**2**	1	*0.0%*
340 Clinics, Doctors offices, hemodialysis centers						2	**2**	2	*0.0%*
341 Clinic, clinic-type infirmary	1		1				**2**	1	*0.0%*
564 Laundry, dry cleaning					1	1	**2**	1	*0.0%*
659 Livestock production		1				1	**2**	1	*0.0%*
946 Lake, river, stream				2			**2**	2	*0.0%*
952 Railroad yard		1	1				**2**	1	*0.0%*
100 Assembly, other	1						**1**	1	*0.0%*
110 Fixed use recreation places, other				1			**1**	1	*0.0%*
122 Convention center, exhibition hall						1	**1**	1	*0.0%*
124 Playground						1	**1**	1	*0.0%*
129 Amusement center: indoor/outdoor						1	**1**	1	*0.0%*
130 Places of worship, funeral parlors				**1**			**1**	1	*0.0%*
140 Clubs, other						1	**1**	1	*0.0%*
200 Educational, other	1						**1**	1	*0.0%*
211 Preschool	1						**1**	1	*0.0%*
529 Textile, wearing apparel sales			1				**1**	1	*0.0%*
580 General retail, other						1	**1**	1	*0.0%*
600 Utility, defense, agriculture, mining, other						1	**1**	1	*0.0%*
648 Sanitation utility					1		**1**	1	*0.0%*
816 Grain elevator, silo						1	**1**	1	*0.0%*
940 Water area, other				1			**1**	1	*0.0%*
981 Construction site			1				**1**	1	*0.0%*
983 Pipeline, power line or other utility right of way				1			**1**	1	*0.0%*
Totals	**775**	**887**	**1,041**	**1,048**	**881**	**1,149**	**5,781**		

High-Frequency locations

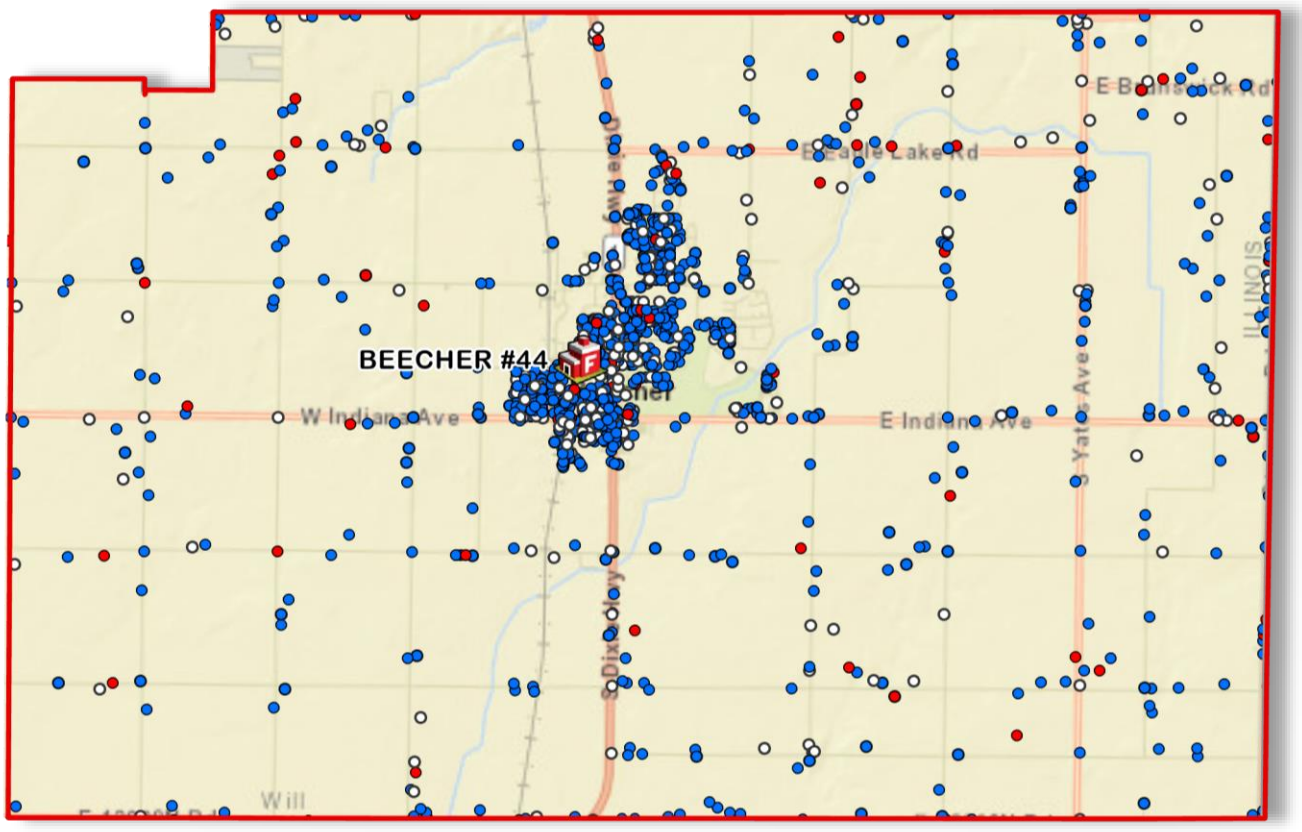
2016-2021

Property Use	Location	Description	# of Incidents	# of EMS	# of FIRE	# of OTHER
Health/Correction	1201 DIXIE HWY	Beecher Manor Nursing Home	**560**	489	2	69
FIRE STATION	711 PENFIELD ST	**Fire Station # 44**	**201**	150	0	51
Residential - Multi	375 WOODWARD ST	Beecher Manor Apartments	**138**	122	1	15
FIRE STATION	7550 W JOLIET RD	**Peotone Fire Station**	**101**	10	0	91
Business	1111 DIXIE HWY	Walt's Food Center	**59**	33	2	24
Other	Dixie	Roadway/Other	**54**	47	2	5
Health/Correction	724 PENFIELD ST	Beecher PD	46	43	0	3
Residential	30112 AUTUMN	Residential Home	**44**	43	0	3
Residential - Multi	1390 SOMERSET	Multi-Family Residence	**40**	39	0	1
Residential	760 INDIANA	Residential Home	**38**	38	0	0
FIRE STATION	9430 133rd	**Cedar Lake Fire Station**	**34**	21	1	11
Other	County Line	Roadway/Other	**34**	31	1	2
Other	INDIANA	Roadway/Other	**34**	25	1	8
Residential	2737 KENTUCKY	Residential Home	**33**	32	0	1
Business	730 DIXIE HWY	Caseys Gas Station	**31**	21	1	9
Other	Dixie	Roadway/Other	**31**	20	5	6
Residential	30452 ASHLAND	Residential Home	**27**	19	0	8
Business	901 DIXIE HWY	Circle K Gas Station	**25**	15	1	9
Business	1350 DIXIE HWY	Shell	**23**	21	1	1
Health/Correction	2681 RT 394	Village Woods Assisted Living	**23**	4	0	19
Residential	463 ORCHARD	Residential Home	**22**	22	0	0
Residential	2047 EAGLE LAKE	Residential Home	**21**	14	1	6
Residential	30514 KEDZIE	Residential Home	**20**	20	0	0
Residential - Multi	734 INDIANA	Multi-Family Residence	**20**	19	0	1
Health/Correction	715 DIXIE HWY	Beecher Clinic	**19**	18	0	1
Storage	449 W CORNING RD	Bernard Welding	**19**	9	0	10
Education	538 MILLER ST	Beecher High School	**17**	7	0	10
Manufacturing	1362 DUTCH AMERICAN WAY	Dutch American Foods	**17**	12	0	5
Residential	611 COUNTRY	Residential Home	**17**	16	0	1
FIRE STATION	15 N. PINE ST	**Momence Fire Station**	**15**	0	0	15
Other	EAGLE LAKE	Roadway/Other	**15**	10	1	4
Residential	516 PASADENA	Residential Home	**15**	15	0	0
Residential	27936 WESTERN	Residential Home	**14**	8	0	6
Assembly	1407 CHURCH ST	St Pauls Lutheran Church	**13**	3	3	7
Assembly	502 DIXIE HWY	Princess Cafe	**13**	12	0	1
Assembly	540 OAK PARK AVE	Zion Lutheran Church	**13**	6	1	6
Education	101 E CHURCH RD	Beecher Jr High School	**13**	9	0	4
FIRE STATION	12624 RT 1-17	**Grant Park Fire Station**	**13**	1	0	12
Other	YATES	Roadway/Other	**13**	9	2	2
Residential	1384 TRAIL SIDE	Residential Home	**13**	12	0	1
Residential	312 ORCHARD	Residential Home	**13**	10	0	**3**
Education	605 NORTH	Peotone High School	**12**	0	0	12
Residential	30548 ASHLAND	Residential Home	**12**	8	0	4
Residential	32652 STONEY ISLAND	Residential Home	**12**	2	3	7
Residential	632 ELLIOT	Residential Home	**12**	12	0	0
Business	701 GOVERNORS HWY	Pearl Chrysler Jeep	**11**	0	0	11
Residential	290 HUNTERS	Residential Home	**11**	9	0	2
Residential	434 PRAIRIE	Residential Home	**11**	7	0	4
Residential	537 WILLOW	Residential Home	**11**	10	0	1
Residential	603 ORCHARD	Residential Home	**11**	10	0	1
Residential	633 REED	Residential Home	**11**	10	0	1
Residential	714 GOULD	Residential Home	**11**	9	1	1
Business	422 GOVERNORS	Sunset Plaza	**10**	0	0	10
FIRE STATION	5500 MAIN	**Monee Fire Station # 55**	**10**	1	0	9
Industrial	743 PENFIELD ST	AT&T	**10**	0	0	10
Residential	286 WOODWARD	Residential Home	**10**	9	0	1
Residential	31560 DIXIE	Residential Home	**10**	9	0	1
Residential	32045 ASHLAND	Residential Home	**10**	7	0	3
Residential	519 MELROSE	Residential Home	**10**	9	0	1
Residential	653 MELROSE	Residential Home	**10**	9	0	1
Residential	636 INDIANA	Residential Home	**9**	6	0	3
Assembly	643 DIXIE HWY	Pin & Tonic Bowling Alley/Bar	**7**	1	0	6
Business	1277 S Dixie HWY	CVS Pharmacy	**7**	3	0	4
Education	629 PENFIELD ST	Beecher Elementary School	**5**	3	0	2

Geolocation – GIS Mapping Visualizations

District-wide (Geographic Information System – GIS) Plottings

Incident Locations (Color Coded Dot)

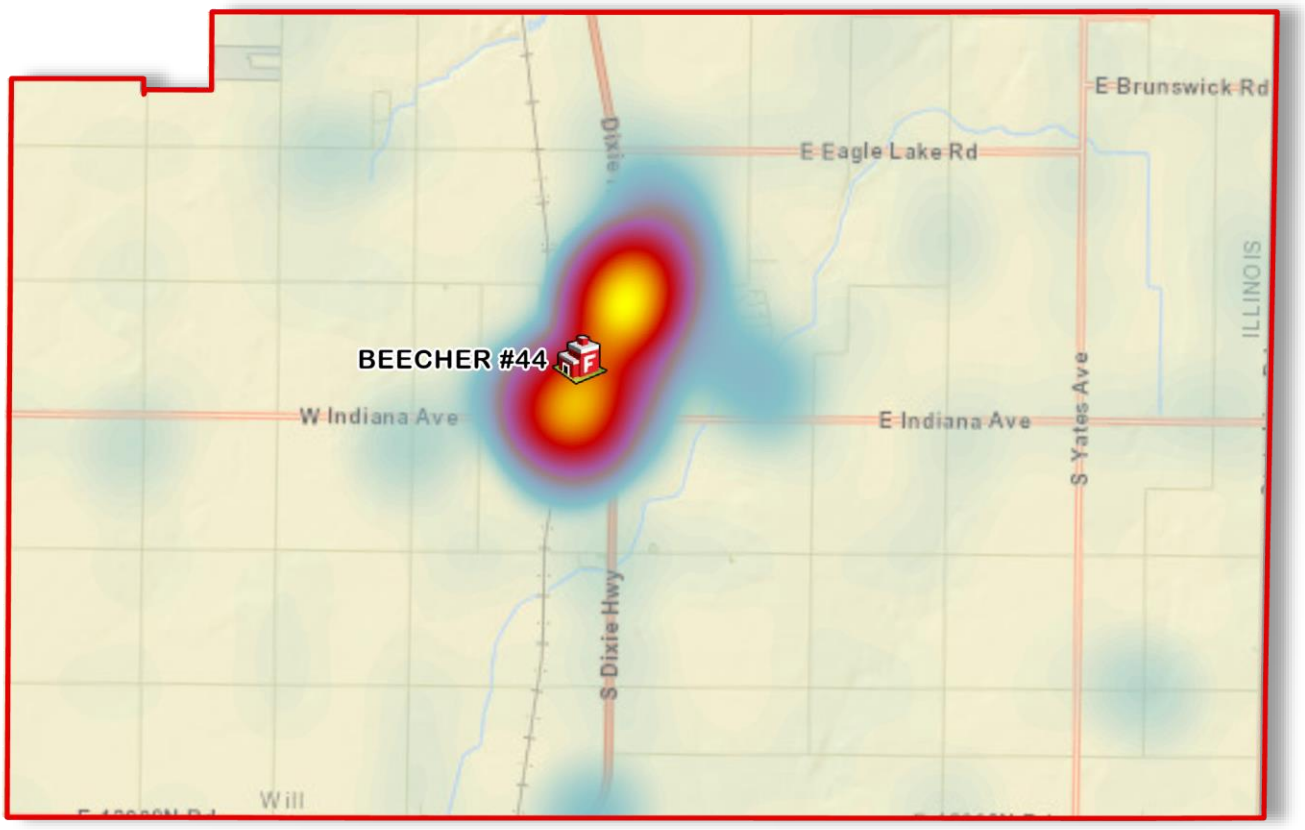


2016 - 2021 NFIRS INCIDENTS

Total Incidents: 4,671

- 300s (EMS)
- 100s (Fire)
- Other

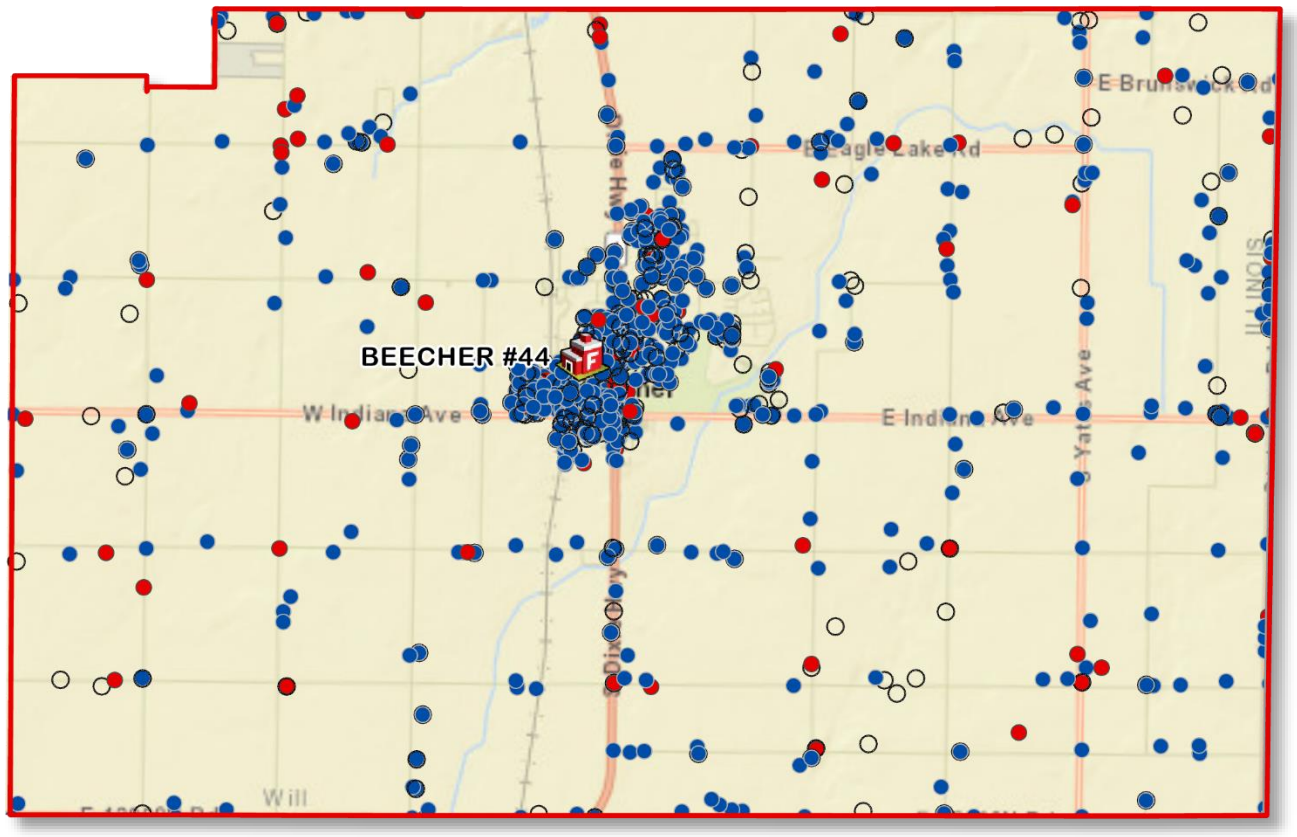
Incident Frequency (Heat Map)



2016 - 2021 NFIRS
INCIDENTS: All Incidents

Sparse

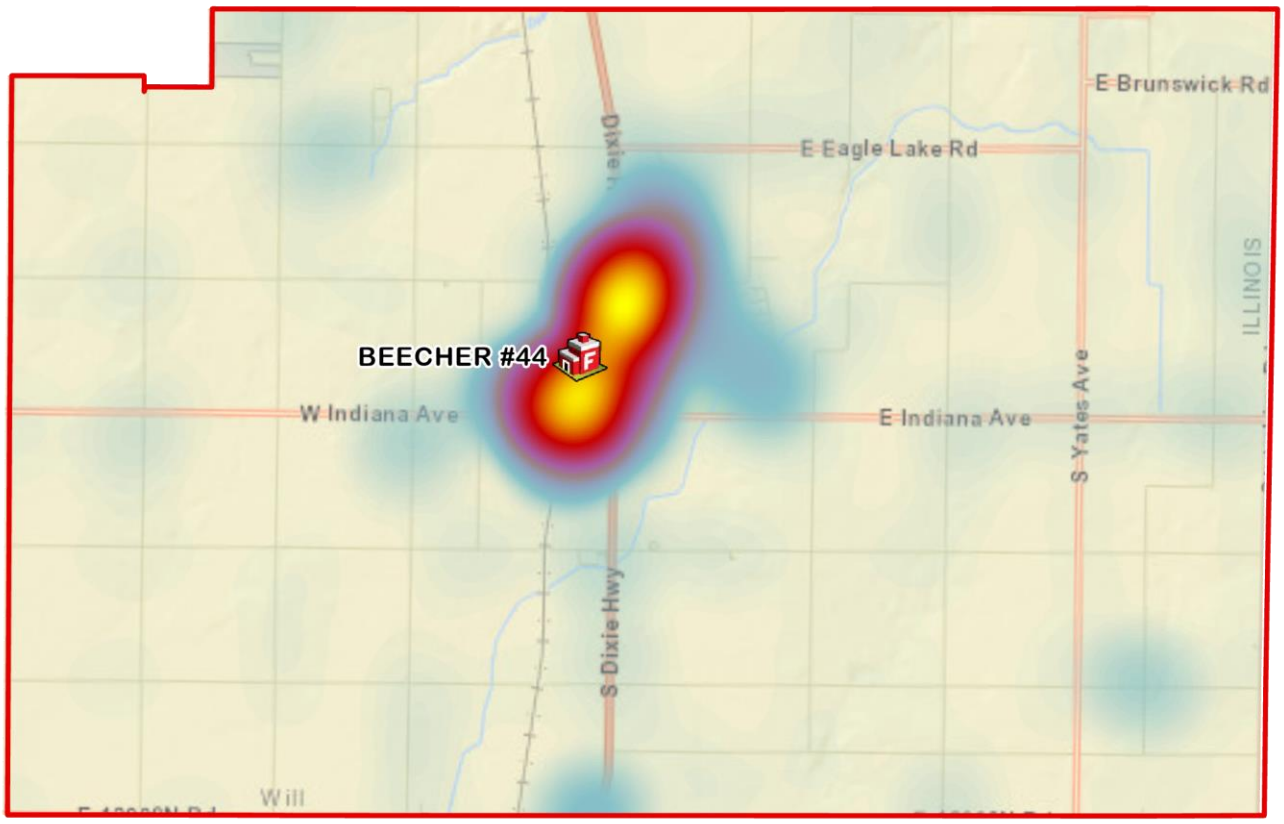
Dense



2016 - 2021 NFIRS
INCIDENTS: Day Time Hours

Total Incidents: 2,942

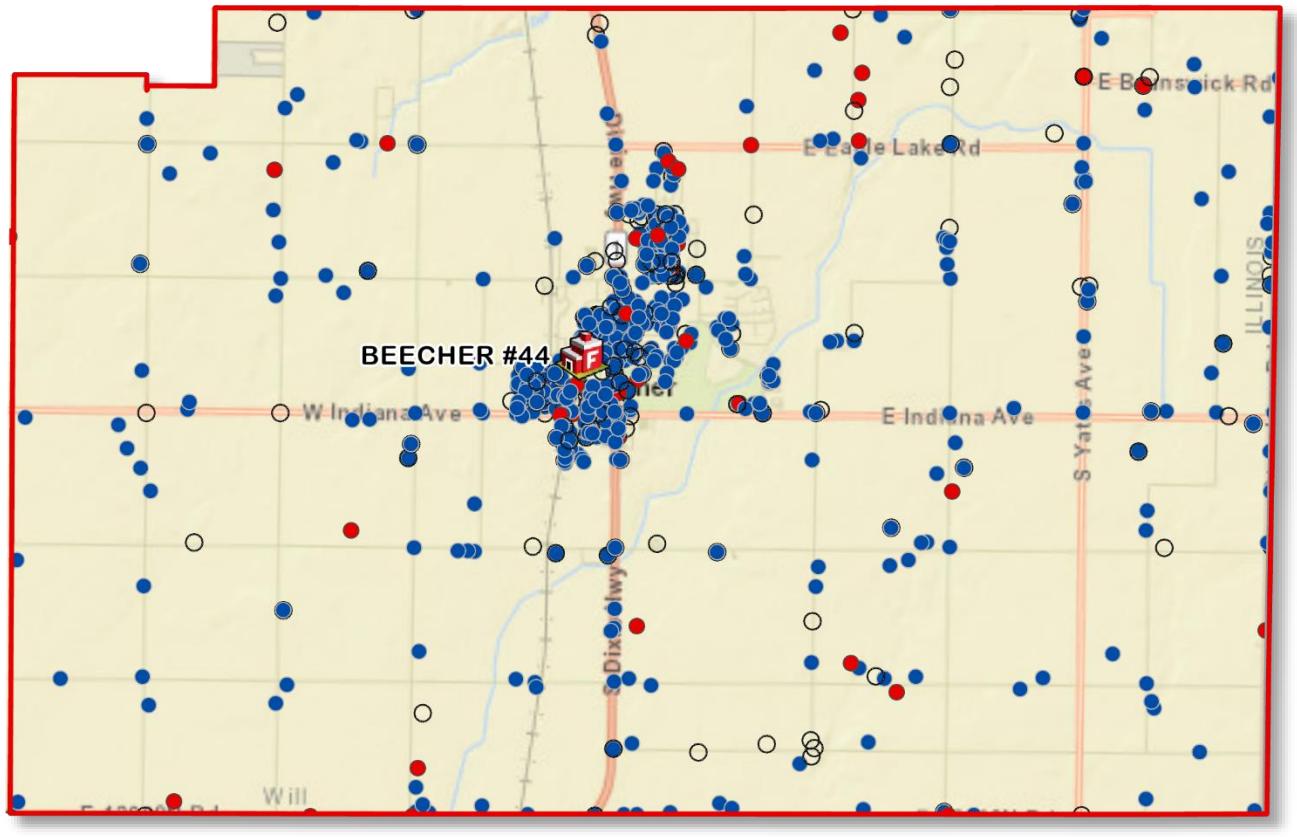
- 300s (EMS)
- 100s (Fire)
- Other



2016 - 2021 NFIRS
INCIDENTS: Day Time Hours

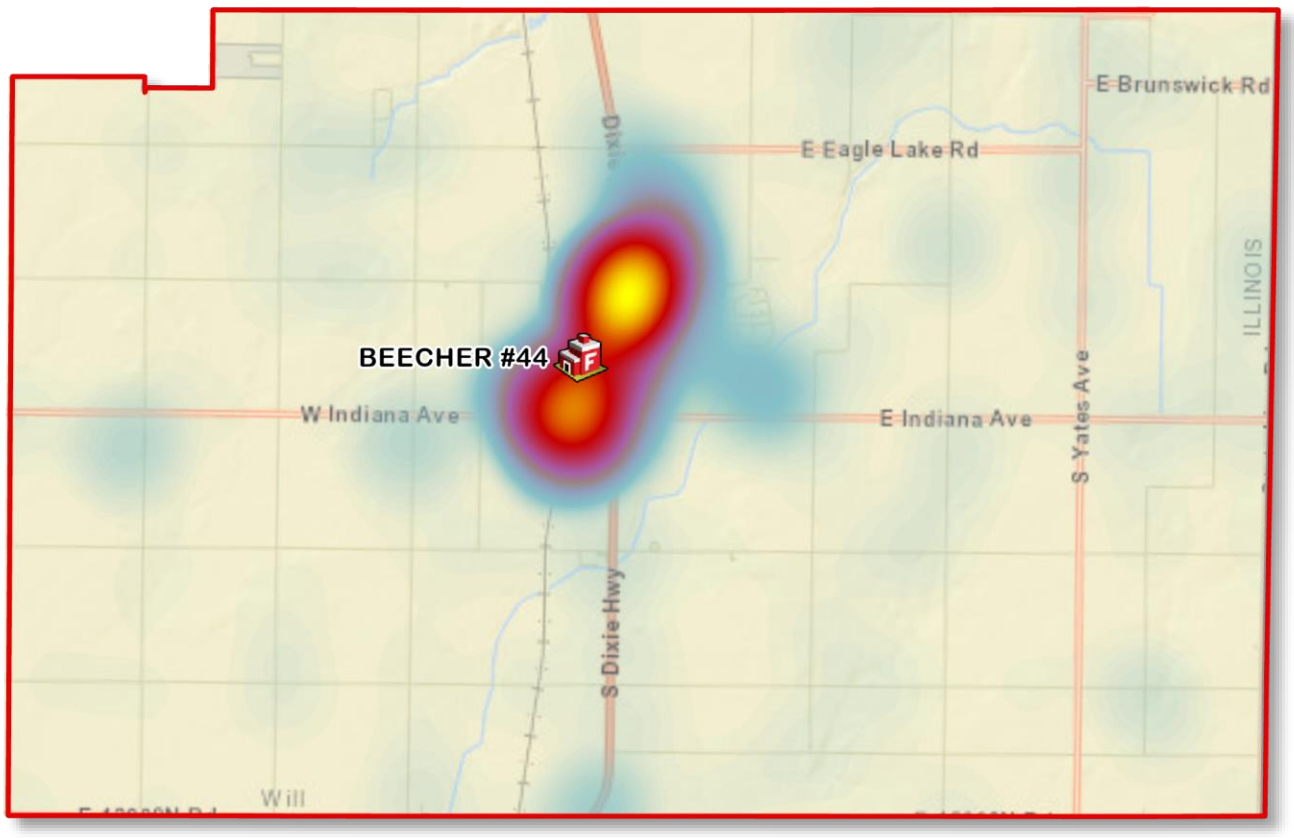
Sparse

Dense



2016 - 2021 NFIRS
INCIDENTS: Night Time Hours
Total Incidents: 1,729

- 300s (EMS)
- 100s (Fire)
- Other

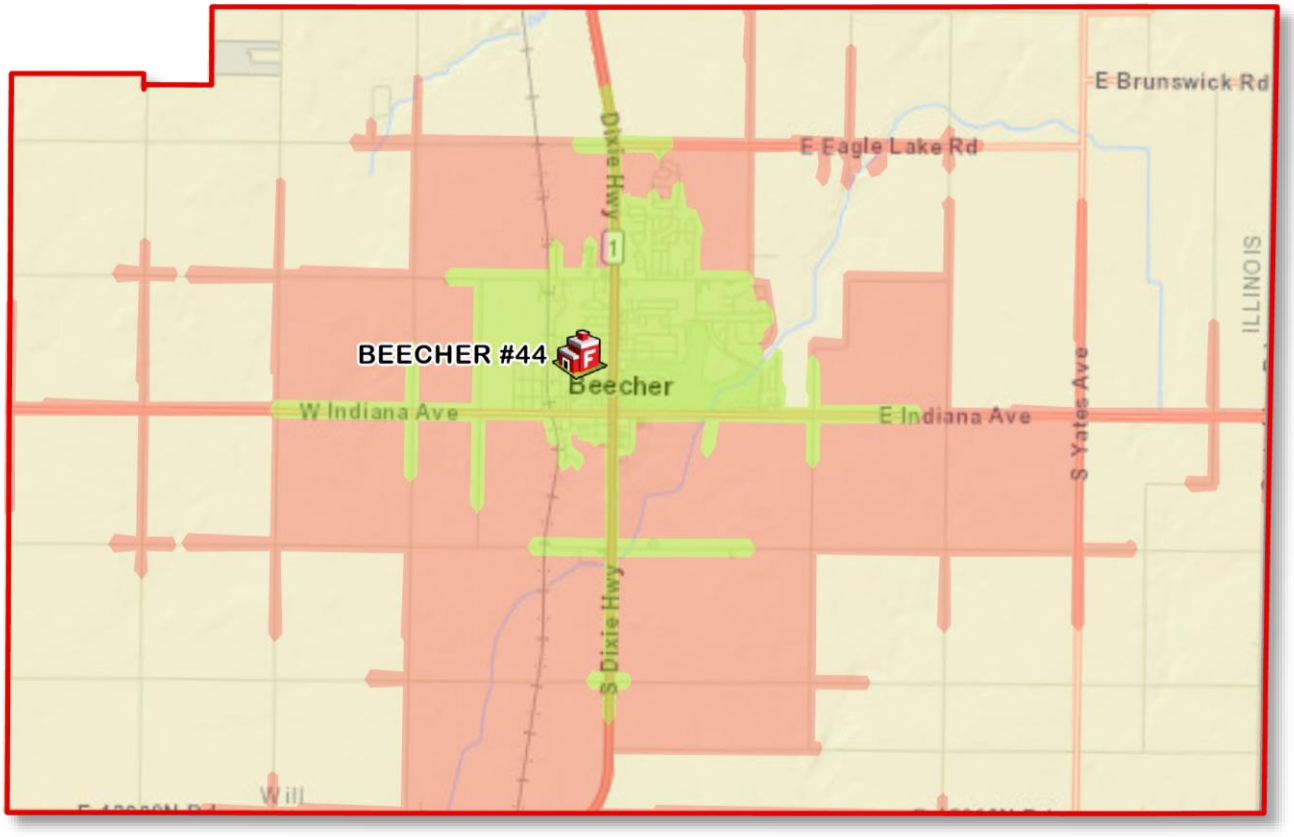


2016 - 2021 NFIRS
INCIDENTS: Night Time Hours

Sparse

Dense

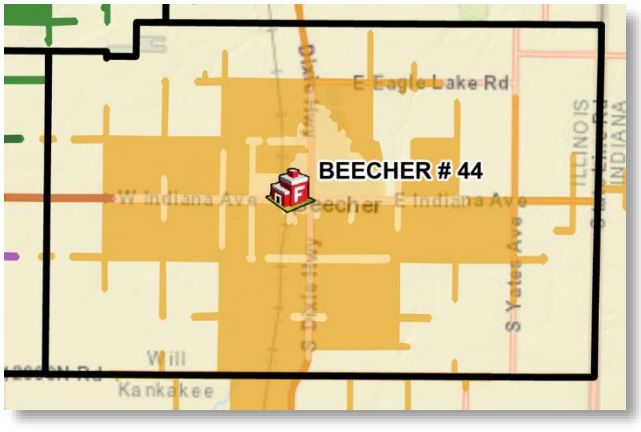
TRAVEL TIME - 4/8-min Coverage Area



STATION DRIVE TIMES

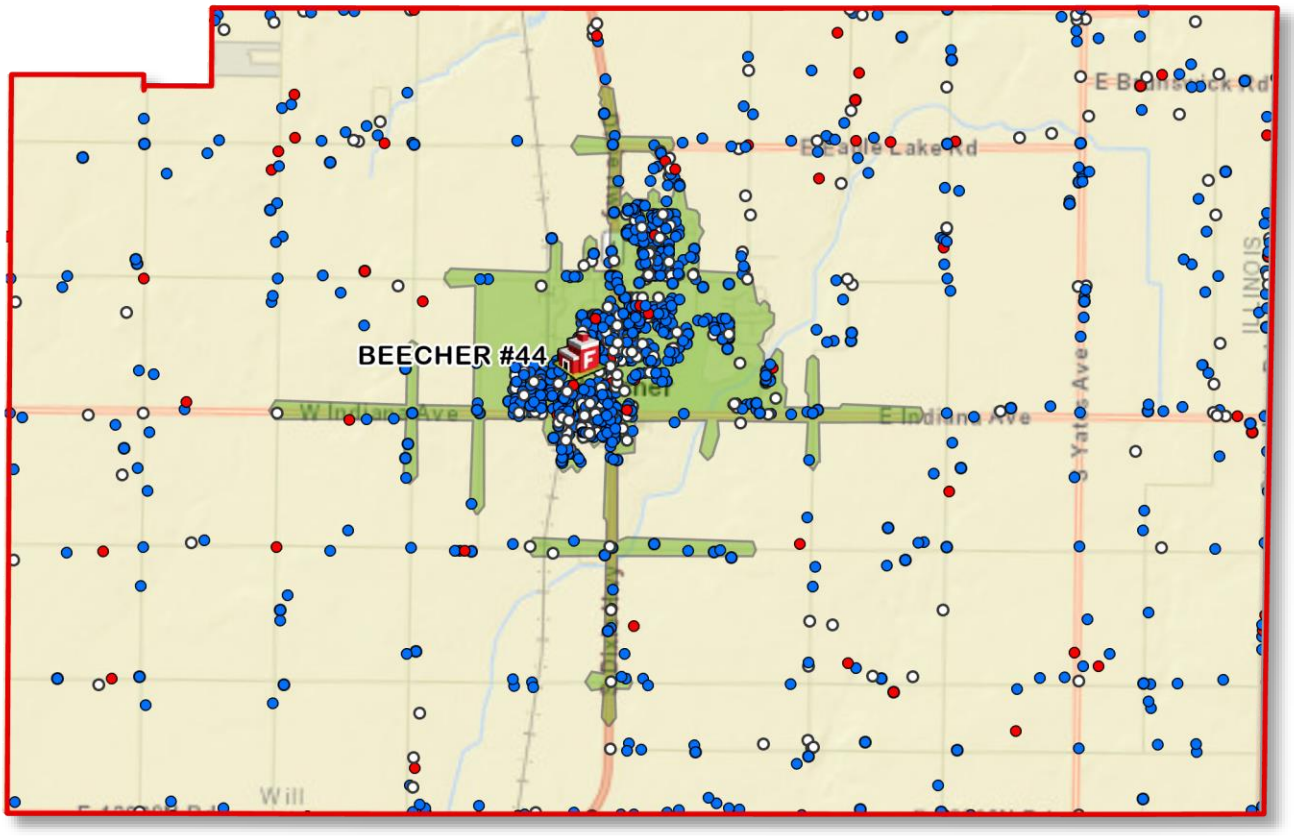
<4 Minutes

4 - 8 Minutes



STATION DRIVE TIMES

<4 Minutes



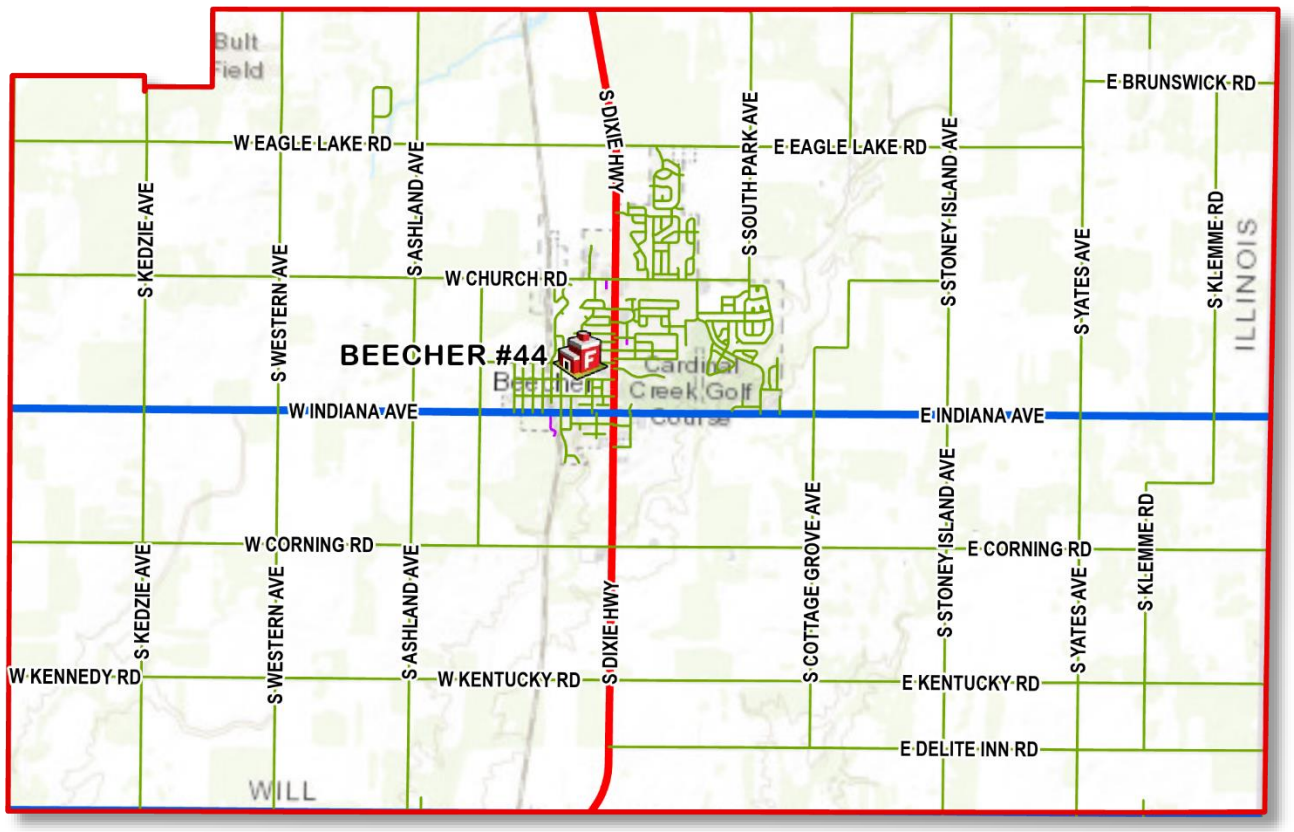
2016 - 2021 NFIRS INCIDENTS:

- 300s (EMS)
- 100s (Fire)
- Other

Station Drive Times

- <4 Minutes

Streets Network

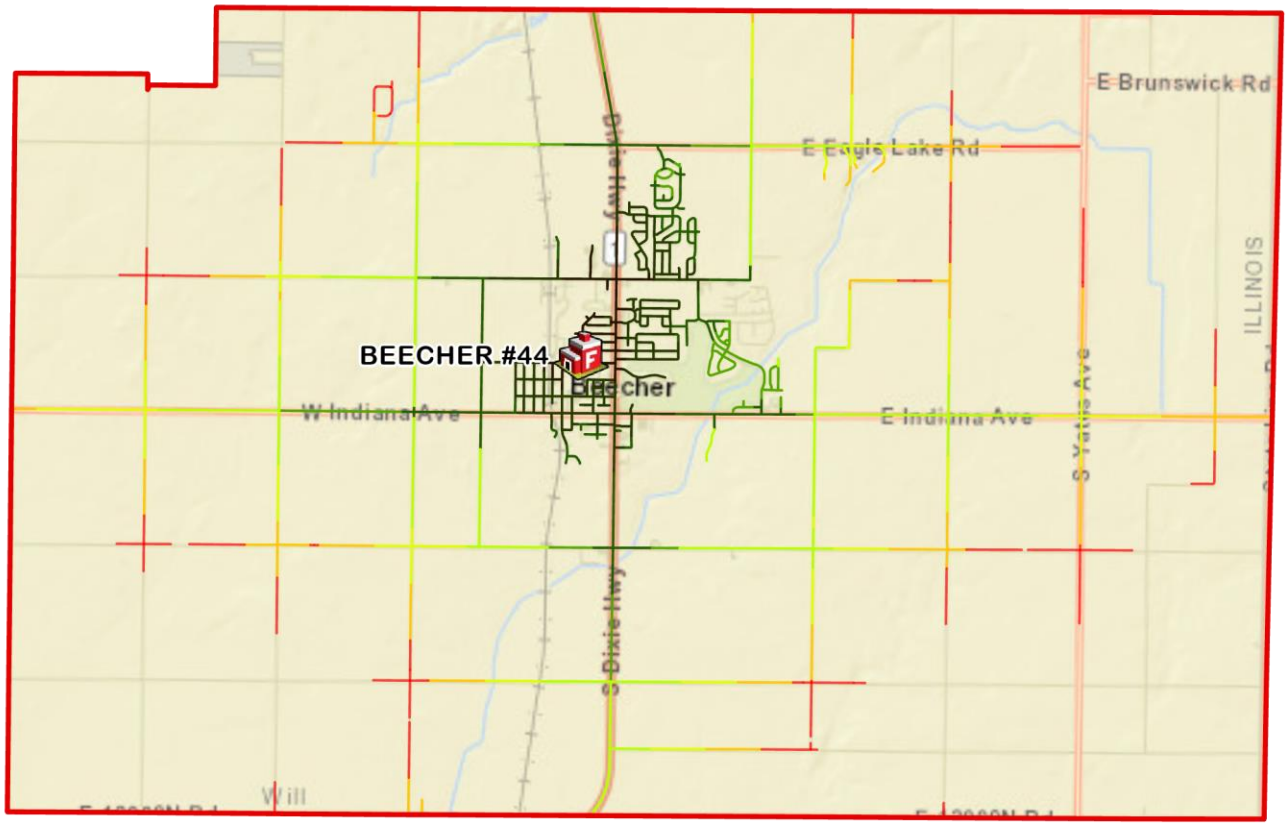


ROAD NETWORK

Street Mileage Total: 164.51

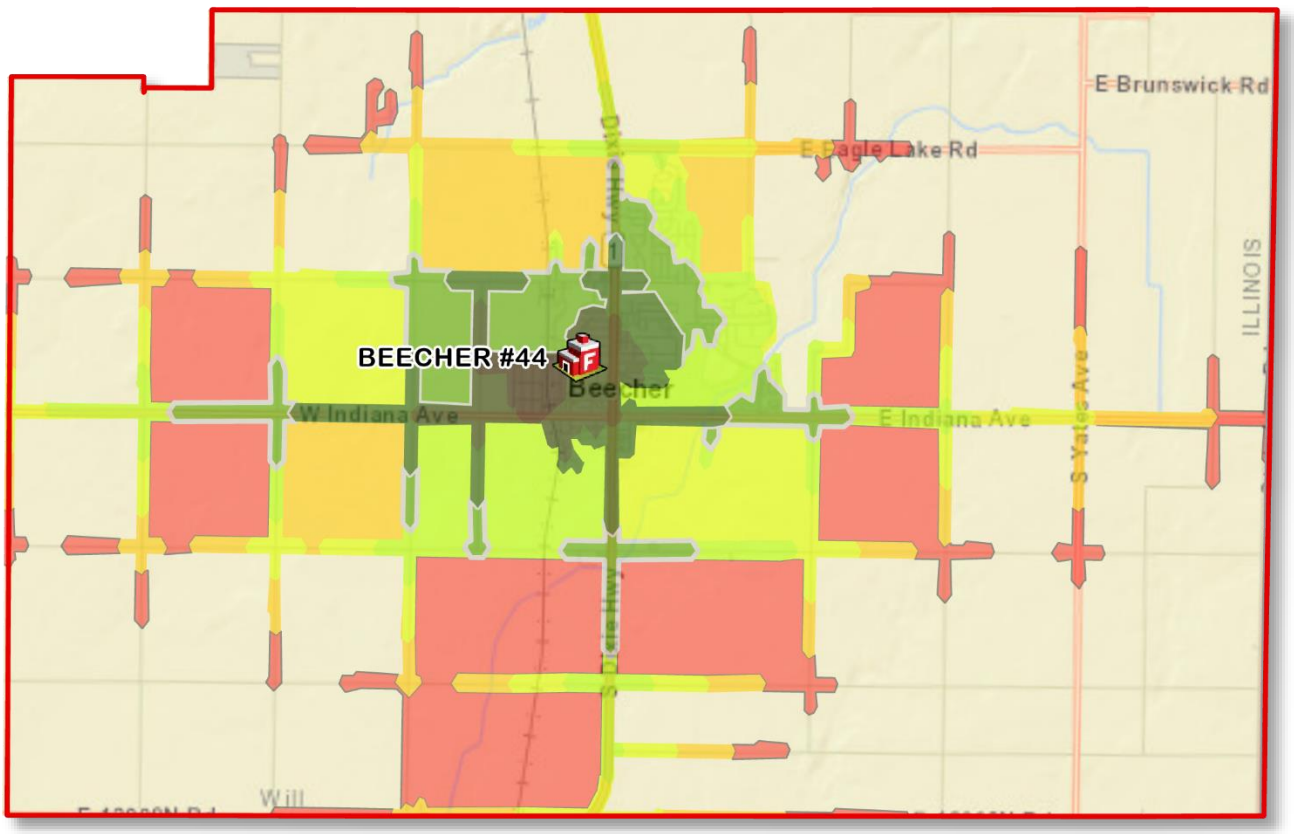
- State (42)
- County (59)
- Local (555)
- Other (3)

Drive Time by minute



STATION DRIVE TIMES

- <1 Minute
- 1 - 2 Minutes
- 2 - 3 Minutes
- 3 - 4 Minutes
- 4 - 5 Minutes
- 5 - 6 Minutes
- 6 - 7 Minutes
- <8 Minutes

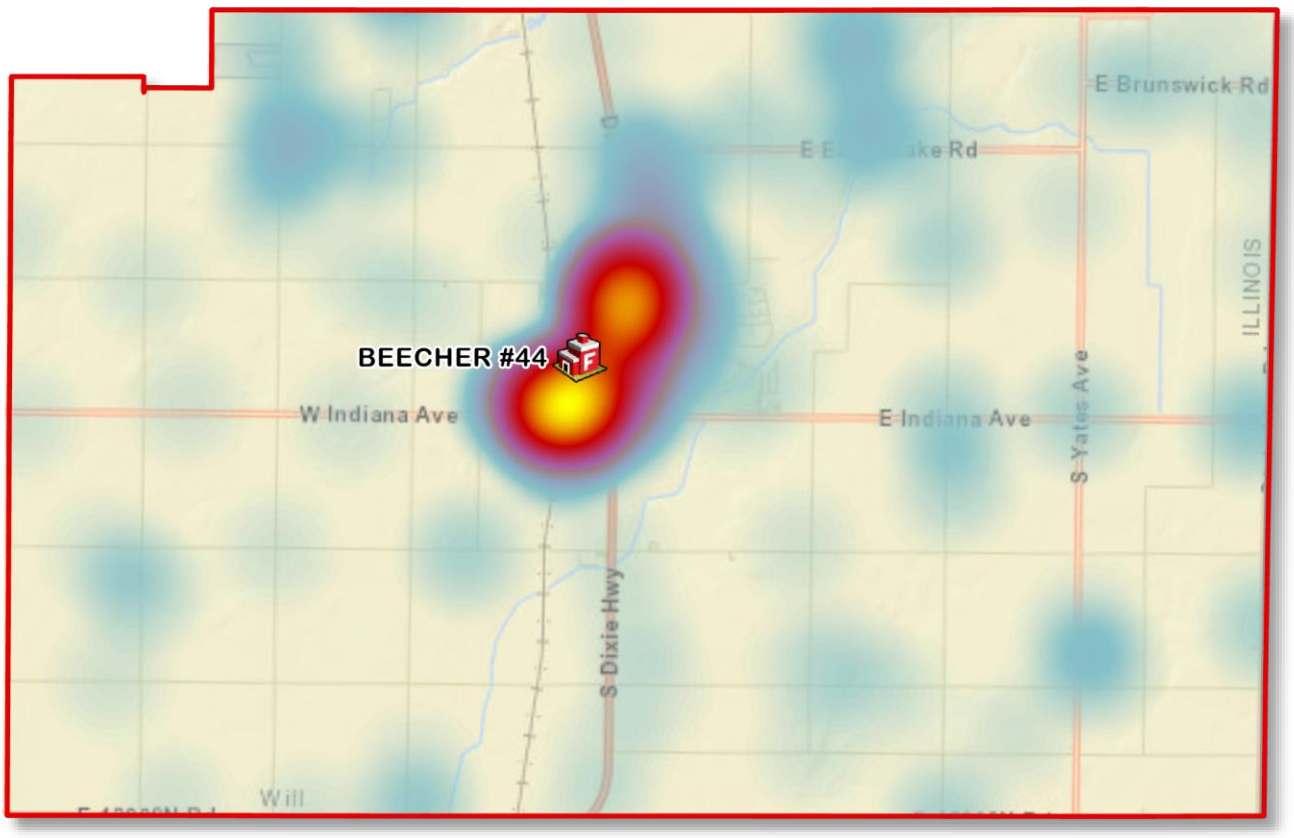


STATION DRIVE TIMES

- <1 Minute
- 1 - 2 Minutes
- 2 - 3 Minutes
- 3 - 4 Minutes
- 4 - 5 Minutes
- 5 - 6 Minutes
- 6 - 7 Minutes
- 7 - <8 Minutes

NFIRS Type Coded [100-900] Incident Frequency (Heat Maps)

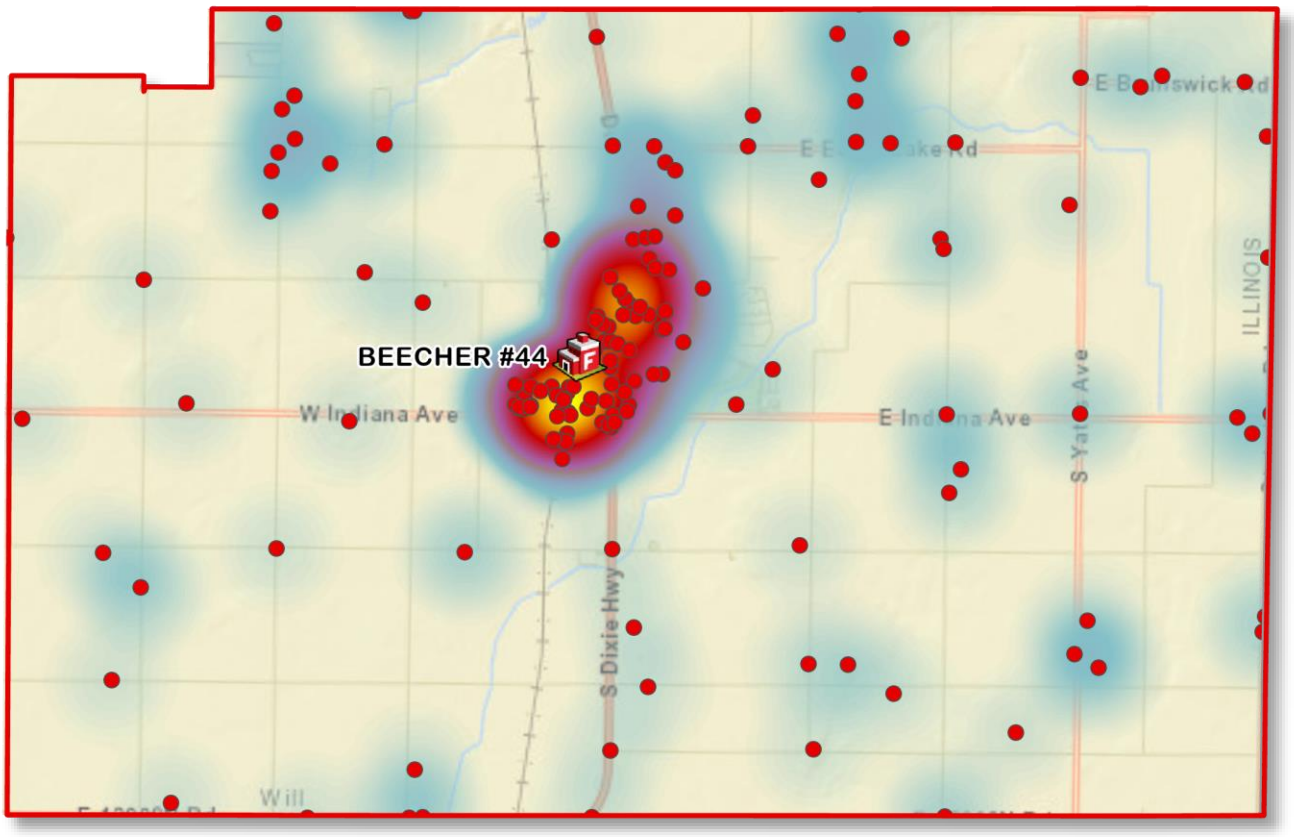
NFIRS 100 – FIRES



2016 - 2021 NFIRS
INCIDENTS: 100s (Fire)

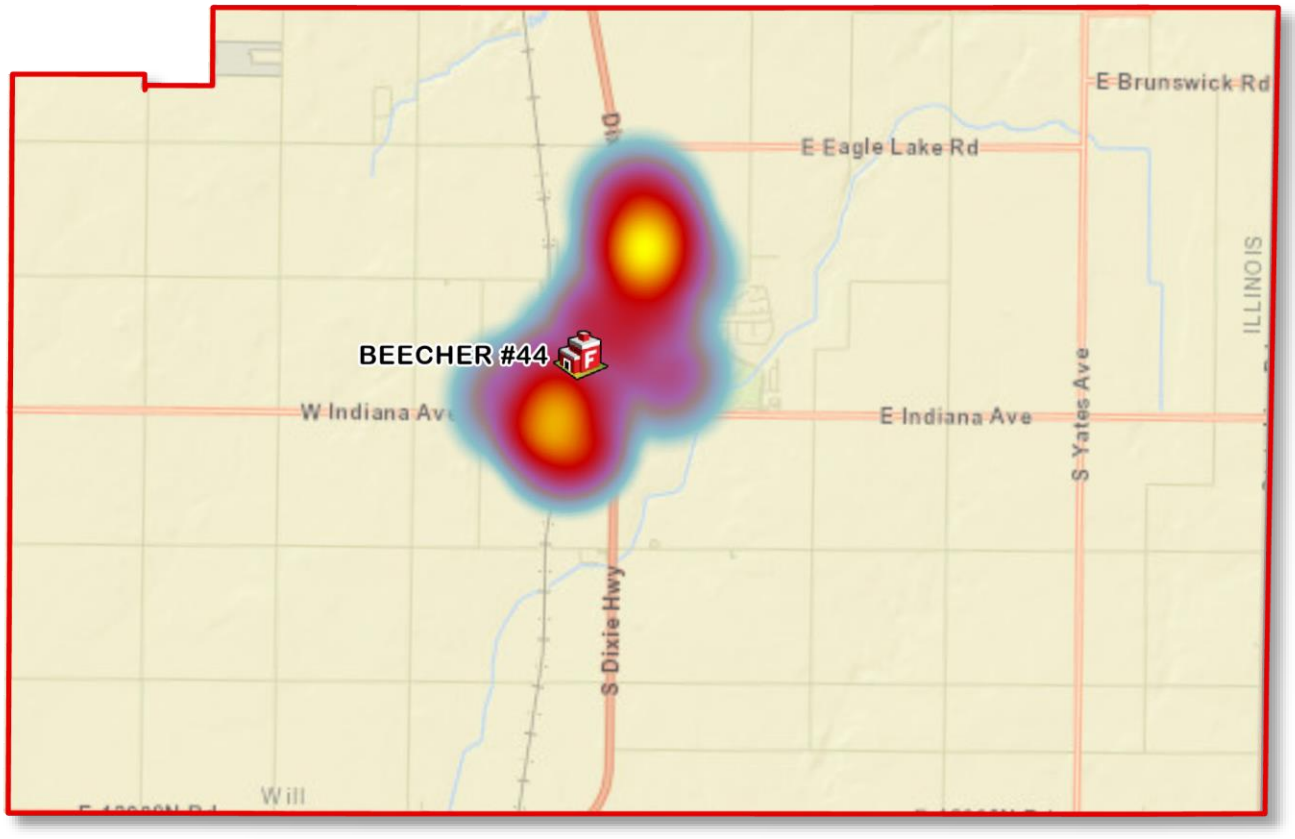
Sparse

Dense



2016 - 2021 NFIRS
INCIDENTS: 100s (Fire)
Total Incidents: 303

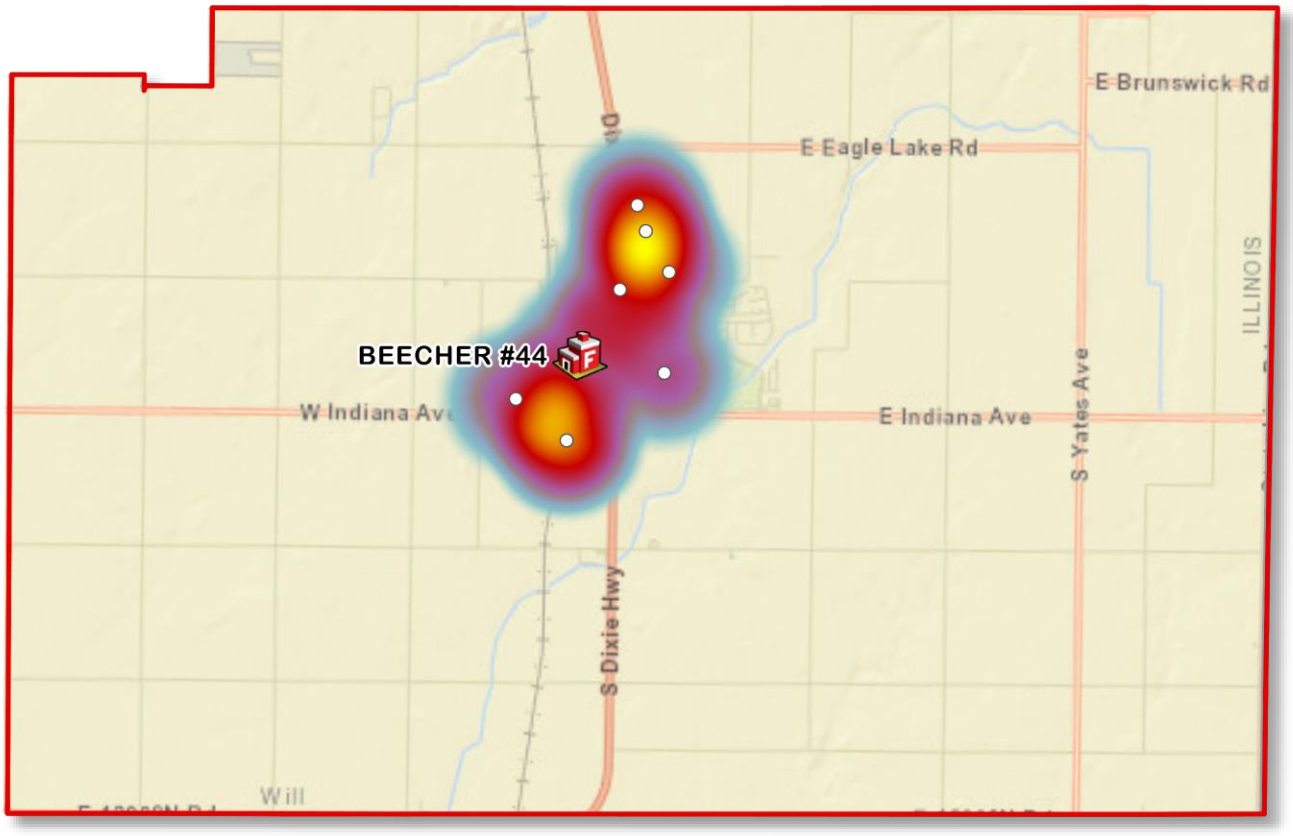
Sparse
Dense



2016 - 2021 NFIRS
INCIDENTS: 200s

Sparse

Dense

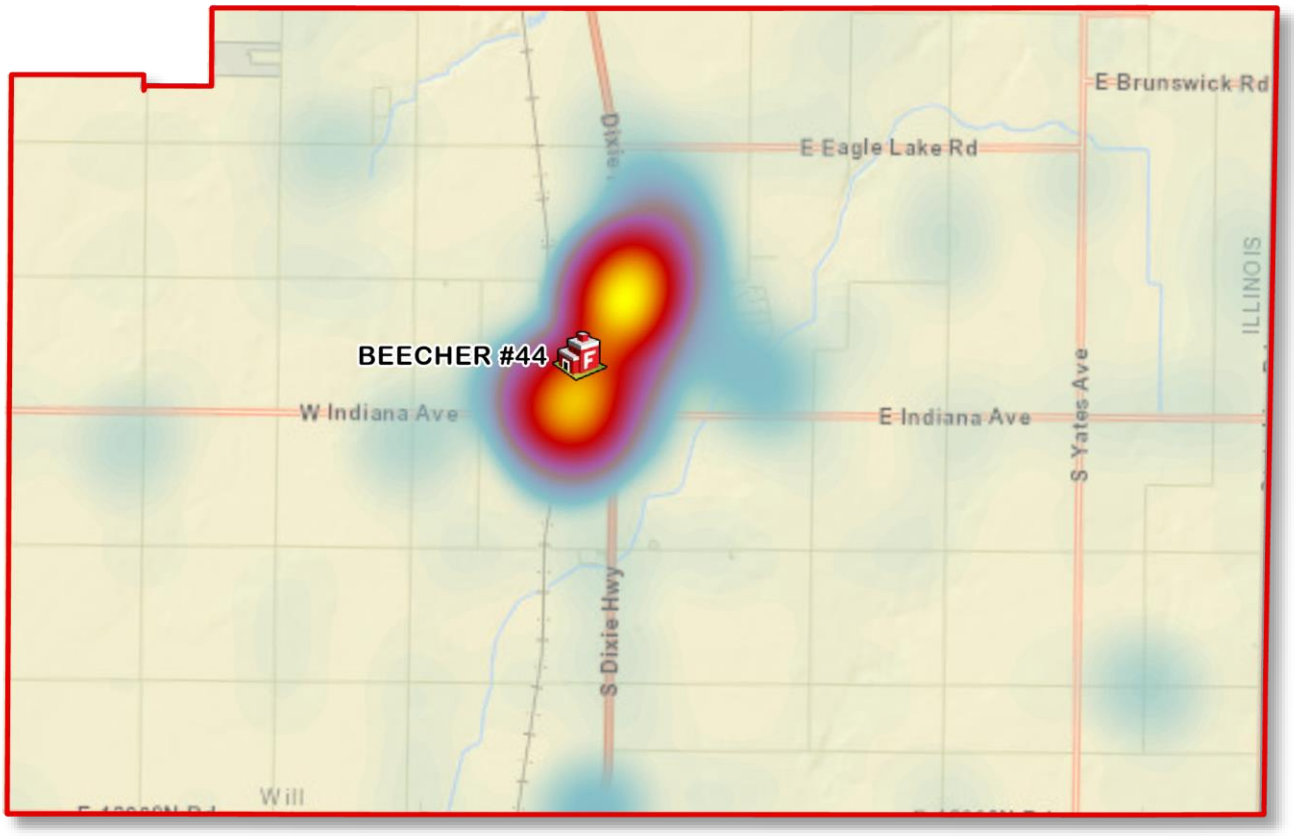


2016 - 2021 NFIRS
INCIDENTS: 200s

Total Incidents: 9

Sparse

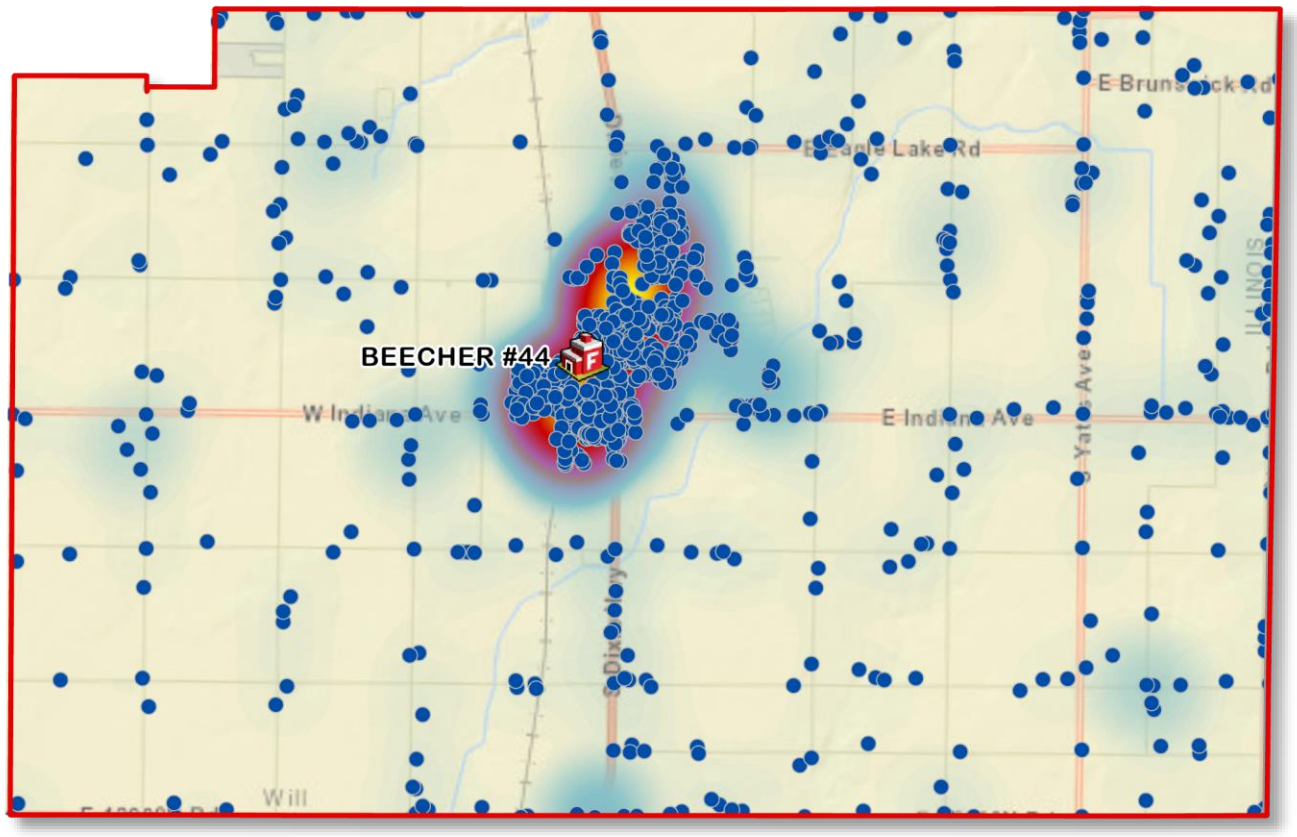
Dense



2016 - 2021 NFIRS
INCIDENTS: 300s (EMS)

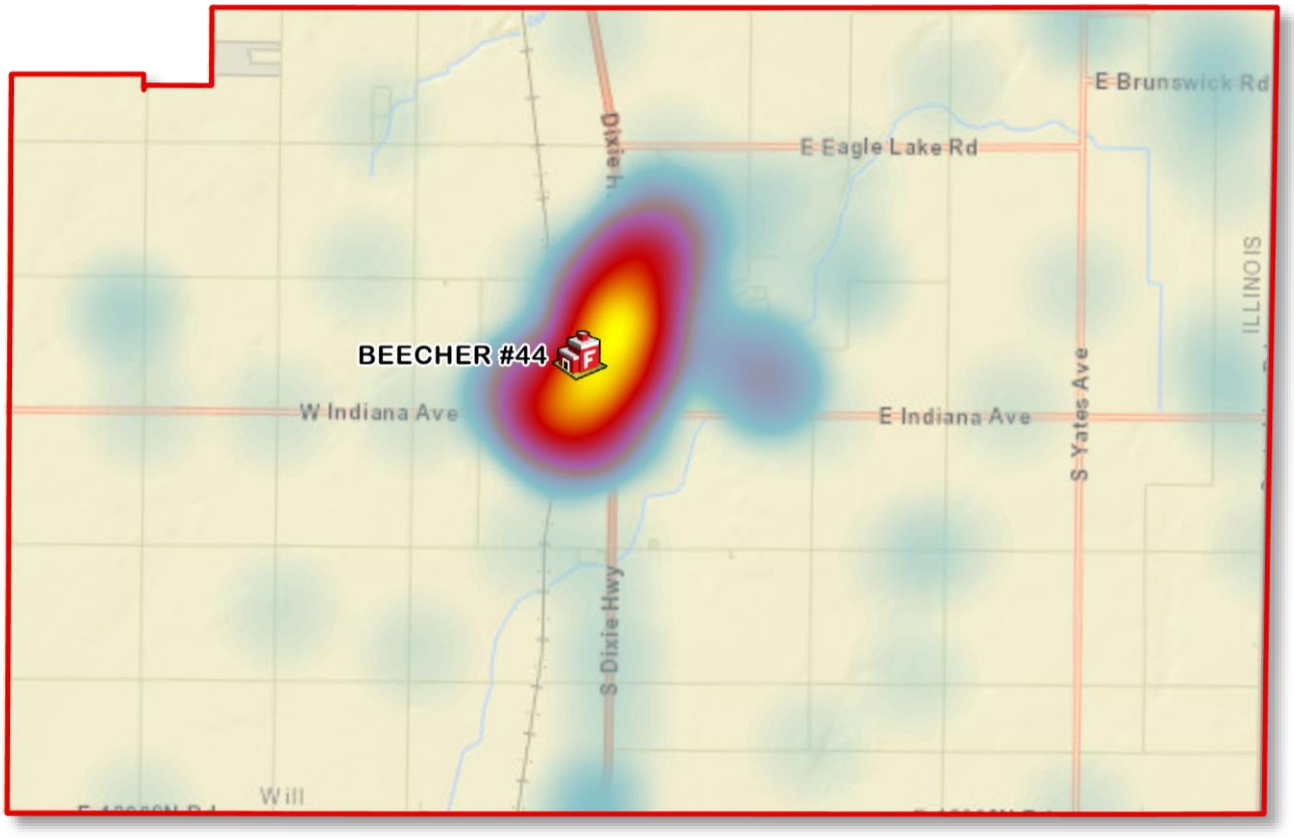
Sparse

Dense



2016 - 2021 NFIRS
INCIDENTS: 300s (EMS)
Total Incidents: 2,920

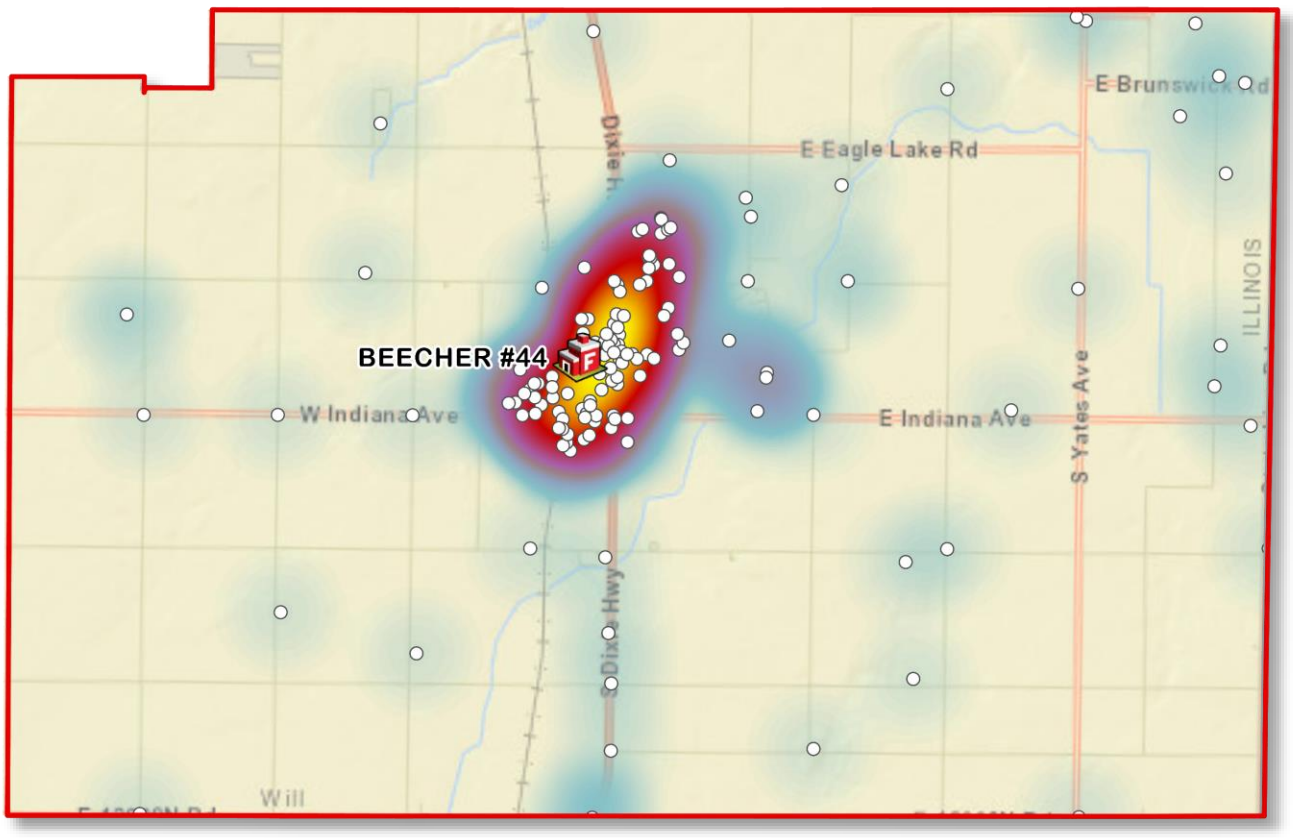
Sparse
Dense



2016 - 2021 NFIRS
INCIDENTS: 400s

Sparse

Dense

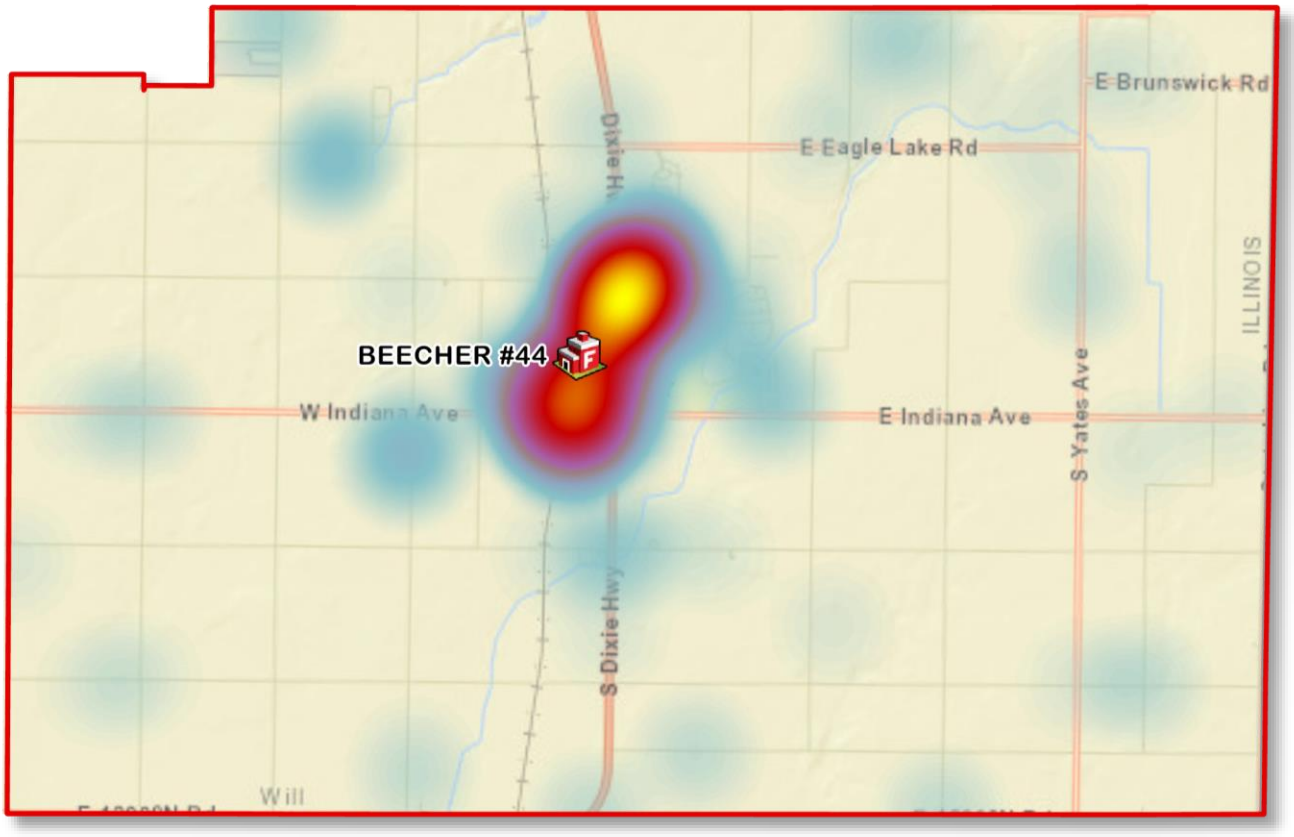


2016 - 2021 NFIRS
INCIDENTS: 400s

Total Incidents: 171

Sparse

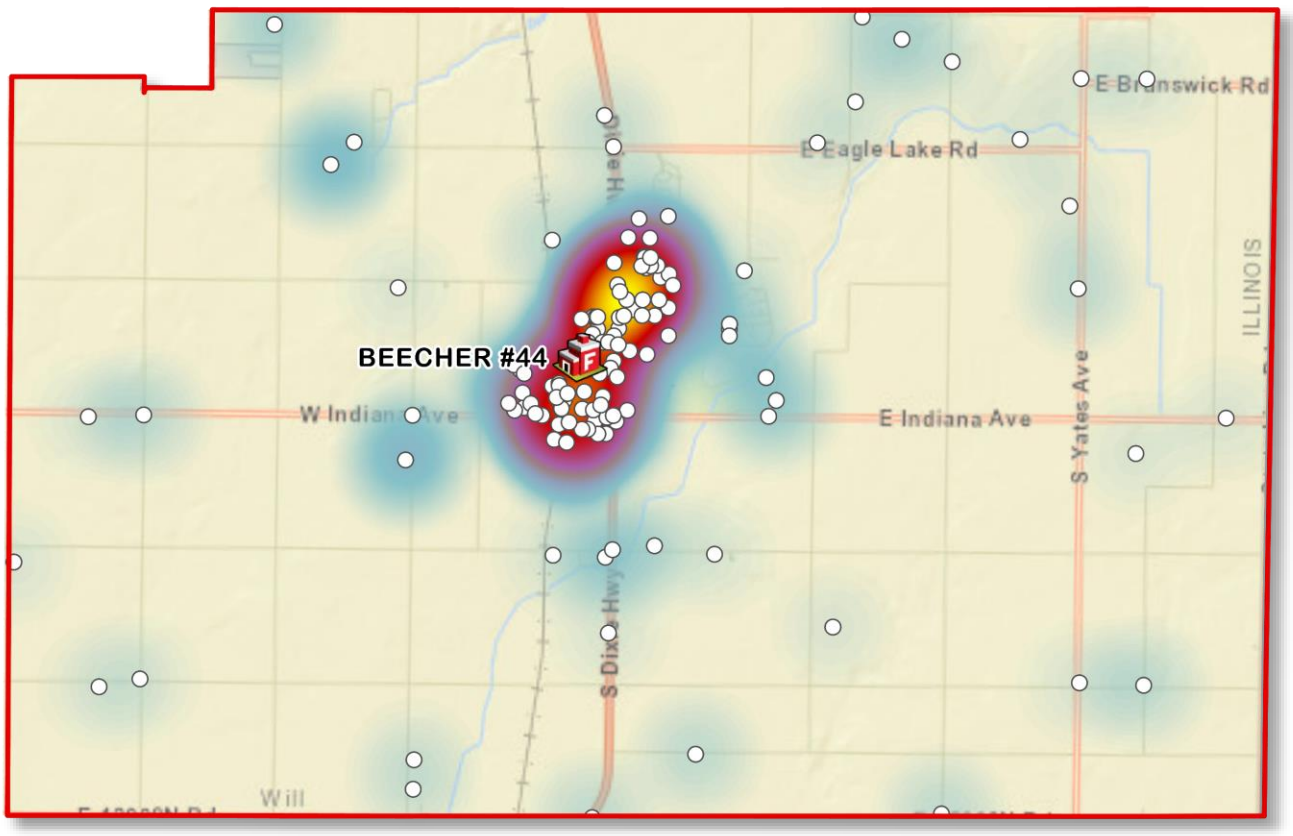
Dense



2016 - 2021 NFIRS
INCIDENTS: 500s

Sparse

Dense

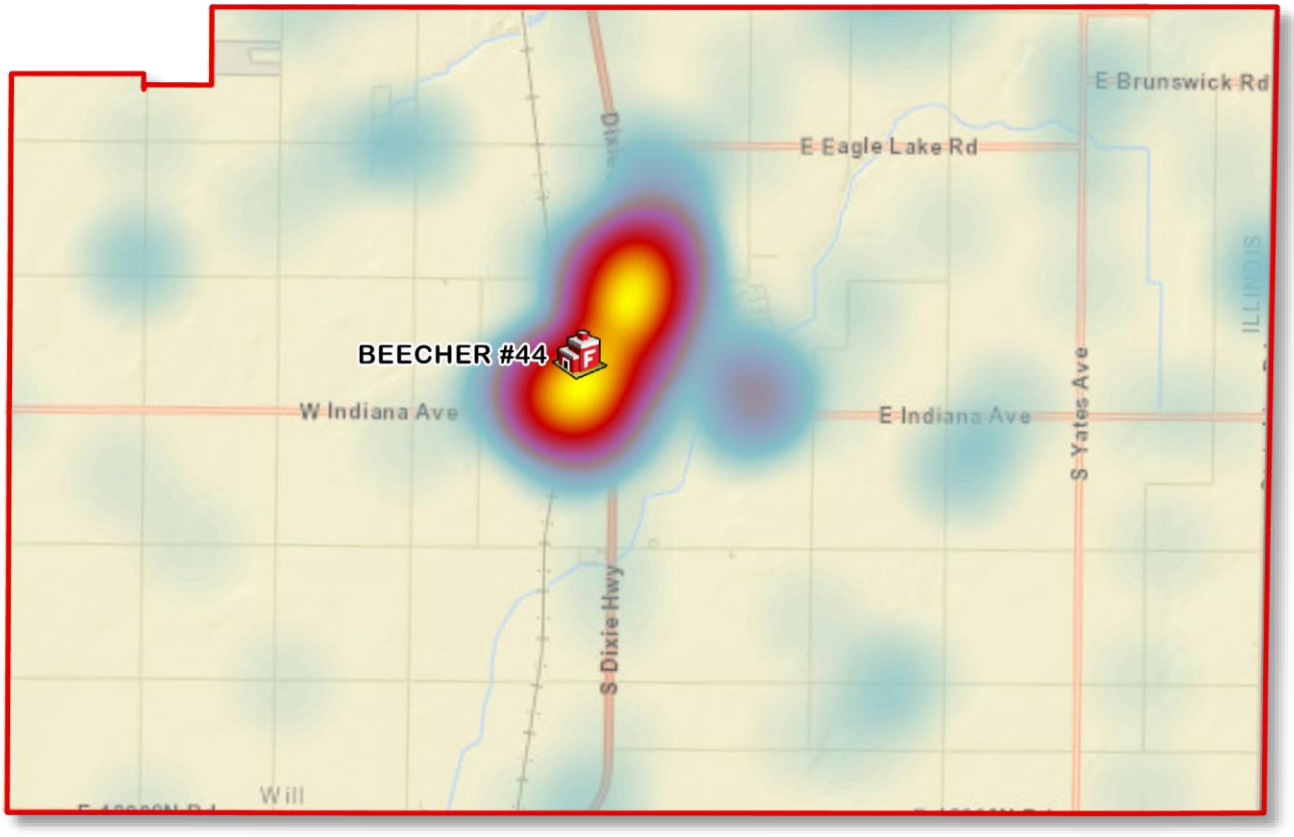


2016 - 2021 NFIRS
INCIDENTS: 500s

Total Incidents: 315

Sparse

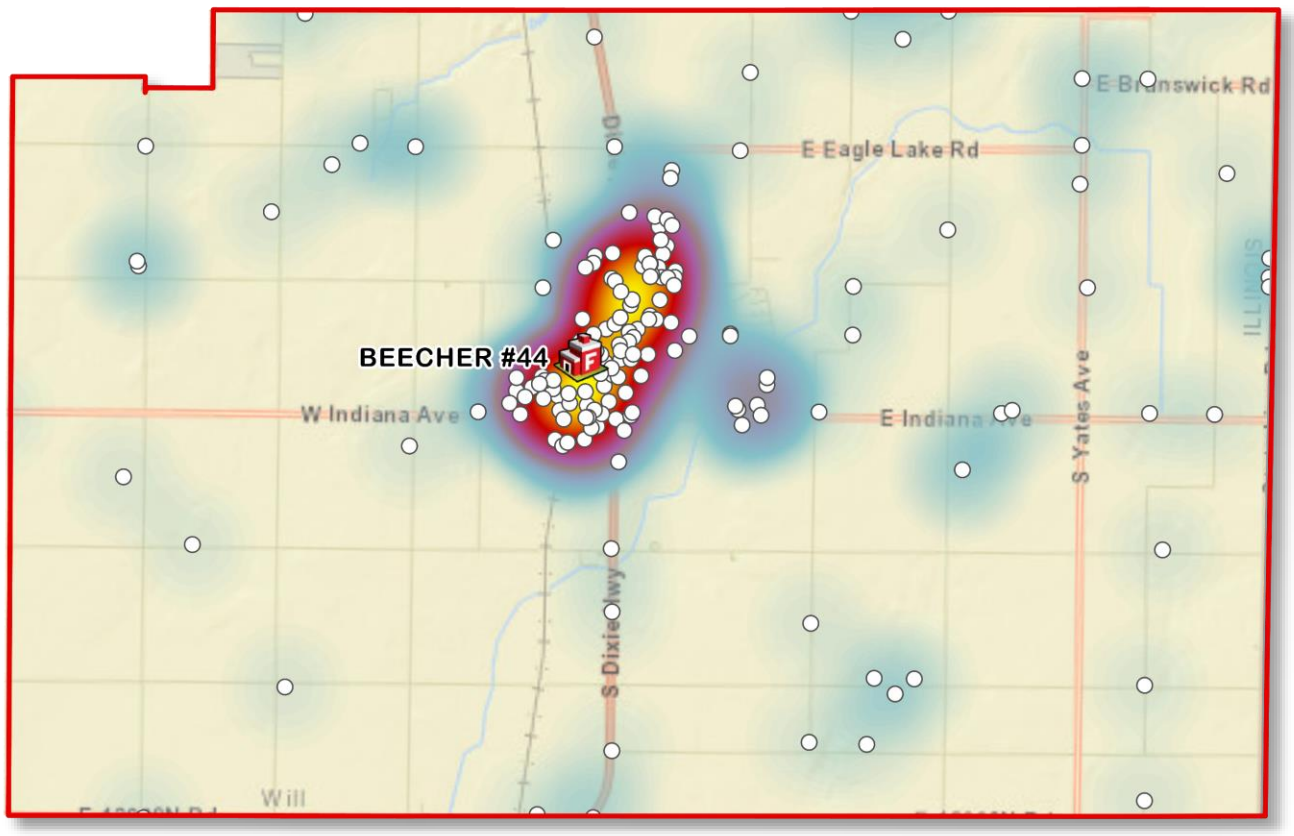
Dense



2016 - 2021 NFIRS
INCIDENTS: 600s

Sparse

Dense



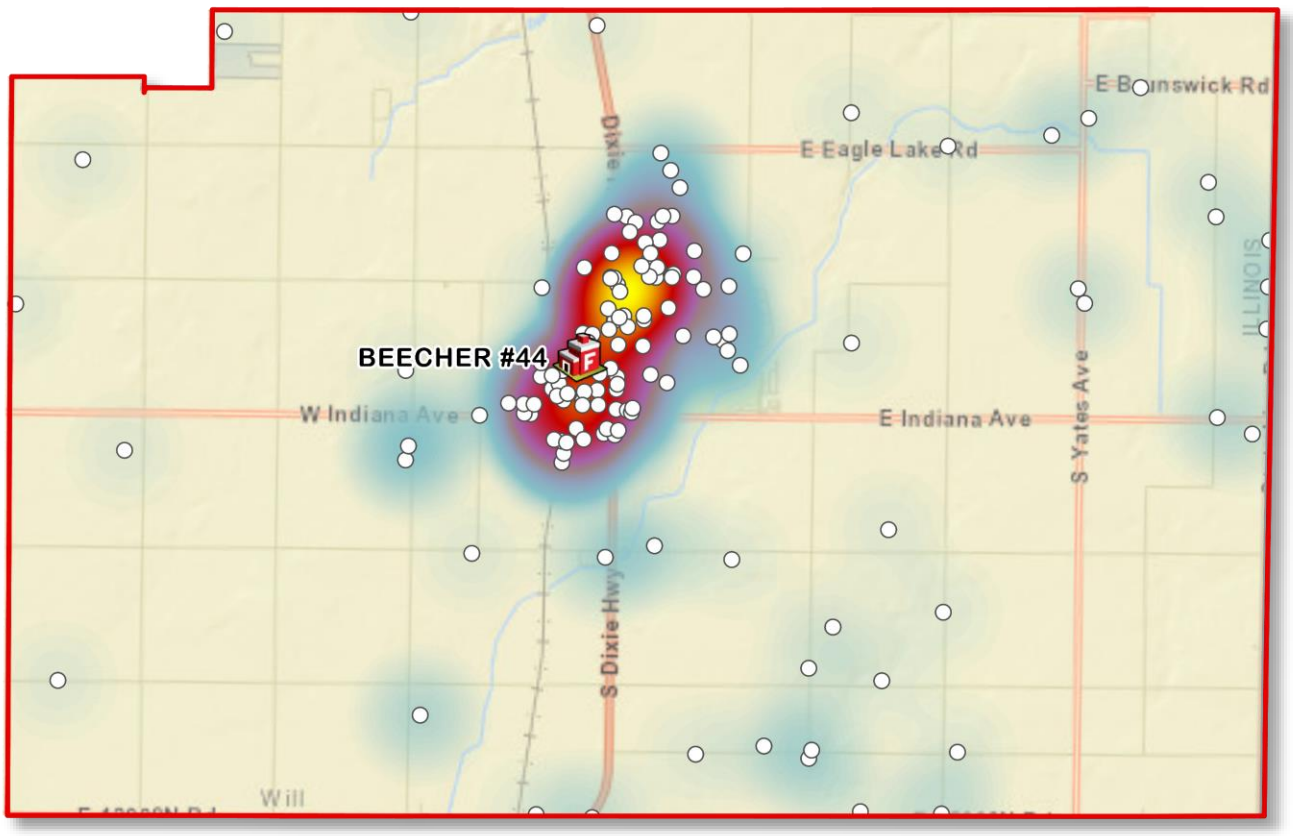
2016 - 2021 NFIRS
INCIDENTS: 600s
Total Incidents: 508

Sparse
Dense

2016 - 2021 NFIRS
INCIDENTS: 700s

Sparse

Dense

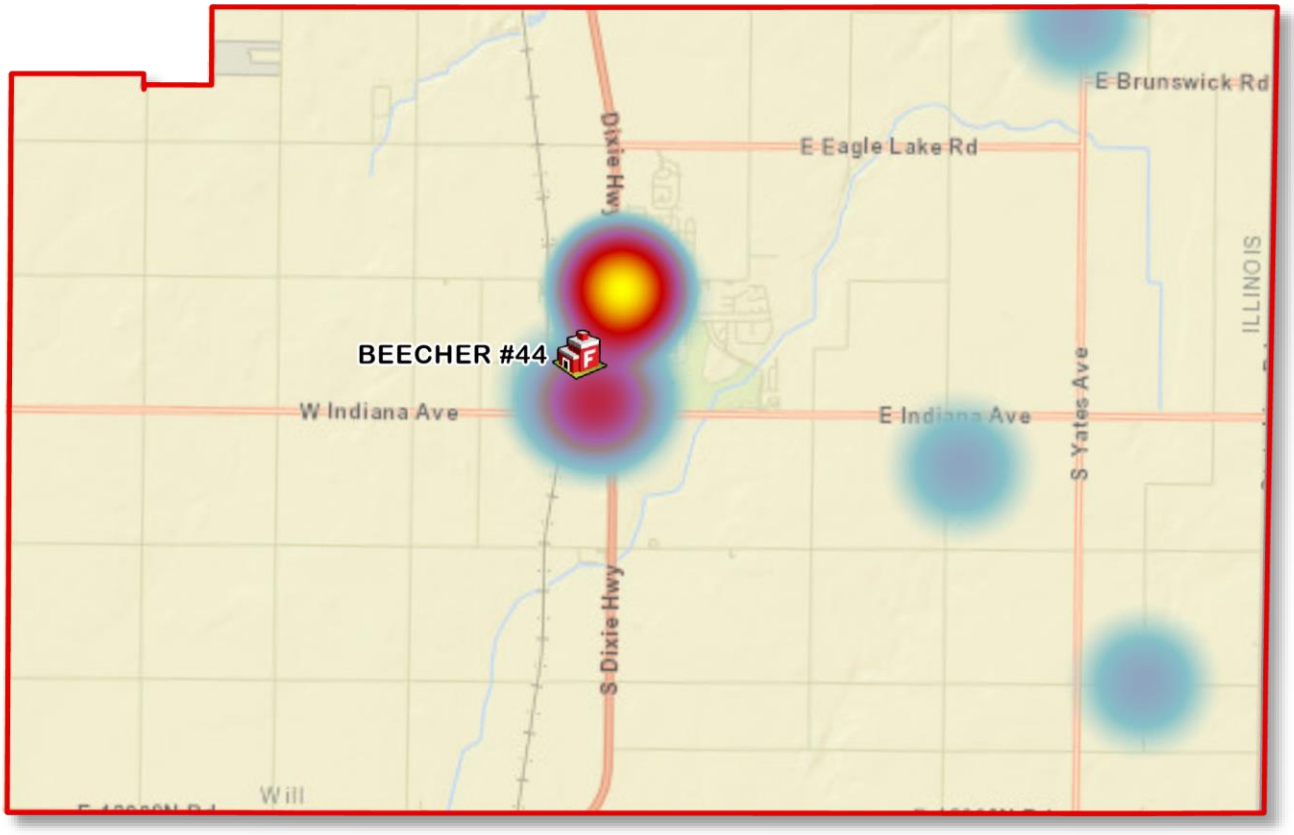


2016 - 2021 NFIRS
INCIDENTS: 700s

Total Incidents: 274

Sparse

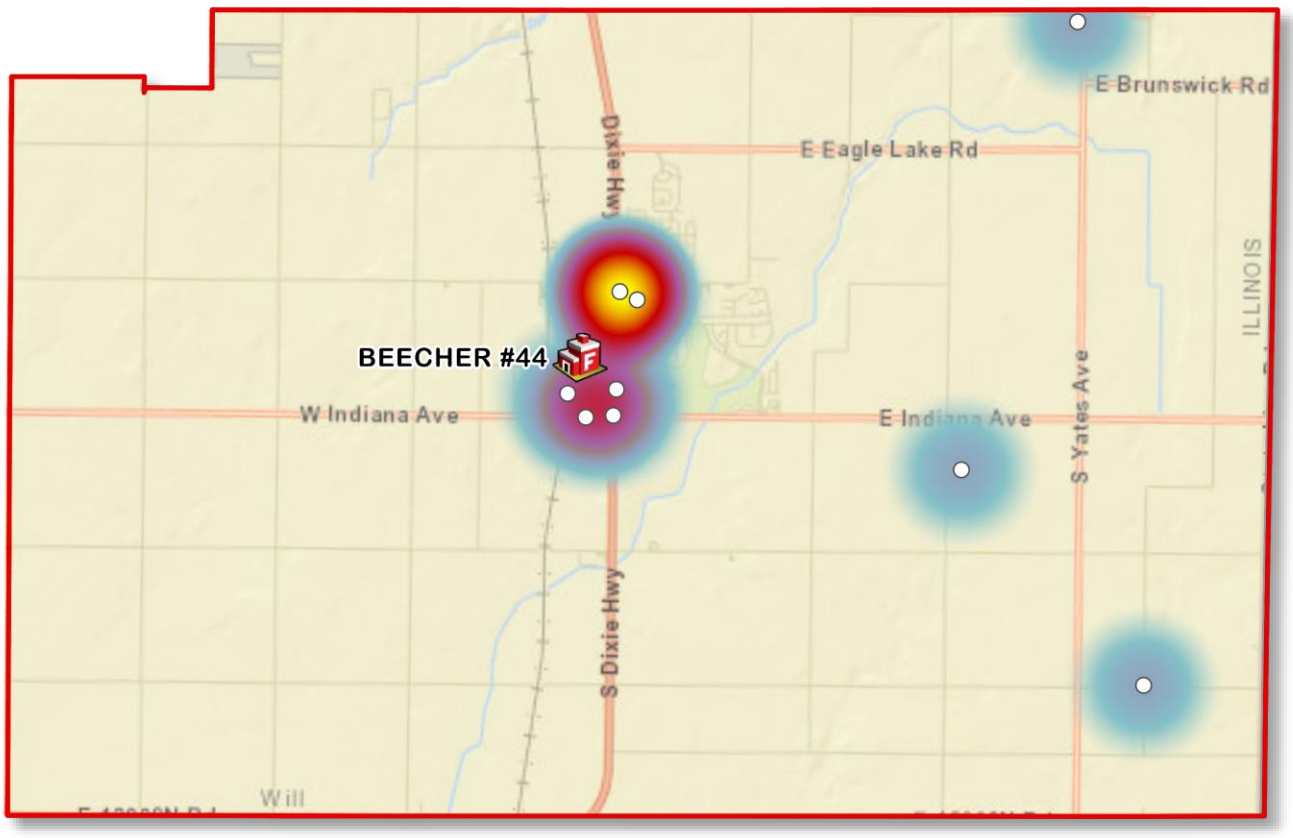
Dense



2016 - 2021 NFIRS
INCIDENTS: 900s

Sparse

Dense



2016 - 2021 NFIRS
INCIDENTS: 900s

Total Incidents: 28

Sparse

Dense

WHERE - Jurisdictions (Aid Agreements)

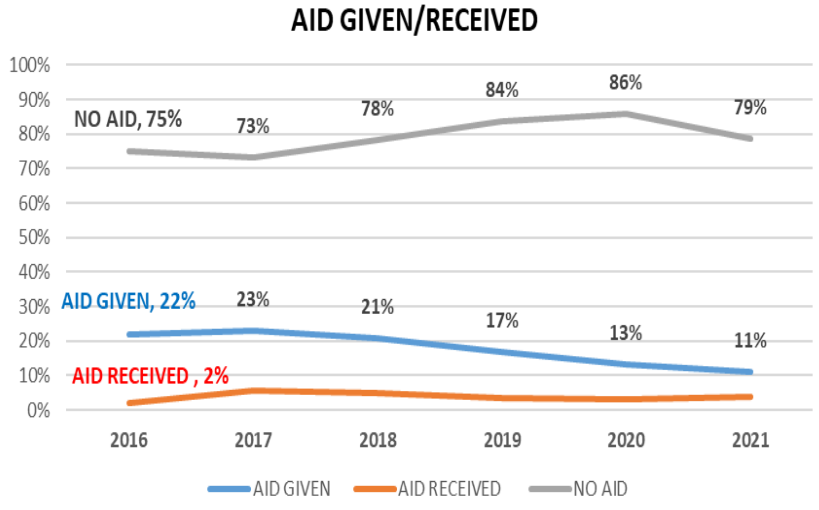
Mutual & Automatic Aid

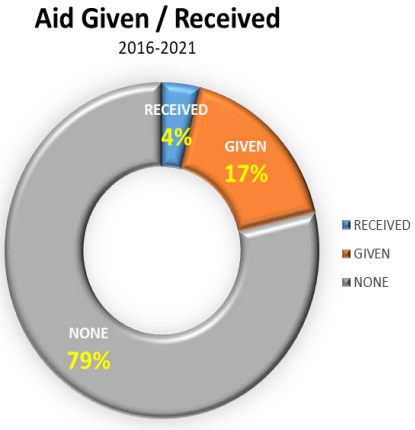
Incidents: Count - Year by Aid Type

Aid Type	2016	2017	2018	2019	2020	2021	Totals	Averag	% of Inc
1 Received	22	11	42	37	12	24	148	25	*3%*
2 Automatic Aid Received	10	8	18	16	17	13	82	14	*1%*
RECEIVED	**32**	**19**	**60**	**53**	**29**	**37**	**230**	**39**	***4%***
change over previous		-40.6%	215.8%	-11.7%	-45.3%	27.6%			
3 Given	109	115	155	132	78	94	683	114	*12%*
4 Automatic Aid Given	61	81	62	44	37	31	316	53	*5%*
5 Other Aid Given		7	1		1	1	10	3	*0%*
GIVEN	**170**	**203**	**218**	**176**	**116**	**126**	**1009**	**177**	***17%***
change over previous		19.4%	7.4%	-19.3%	-34.1%	8.6%			
NONE	**573**	**665**	**763**	**819**	**736**	**986**	**4542**	757	*79%*
Totals	**775**	**887**	**1041**	**1048**	**881**	**1149**	**5781**	**926**	
change over previous		14.5%	17.4%	0.7%	-15.9%	30.4%			

Incidents: Count - Year by Aid Type

Year	2016	2017	2018	2019	2020	2021	Totals	Averag	% of Inc
RECEIVED	**32**	**19**	**60**	**53**	**29**	**37**	**230**	39	***4%***
change over previous		-40.6%	215.8%	-11.7%	-45.3%	27.6%			
GIVEN	**170**	**203**	**218**	**176**	**116**	**126**	**1009**	177	***17%***
change over previous		19.4%	7.4%	-19.3%	-34.1%	8.6%			
NONE	**573**	**665**	**763**	**819**	**736**	**986**	**4542**	**711**	*79%*
Totals	**775**	**887**	**1041**	**1048**	**881**	**1149**	**5781**	**926**	
change over previous		14.5%	17.4%	0.7%	-15.9%	30.4%			



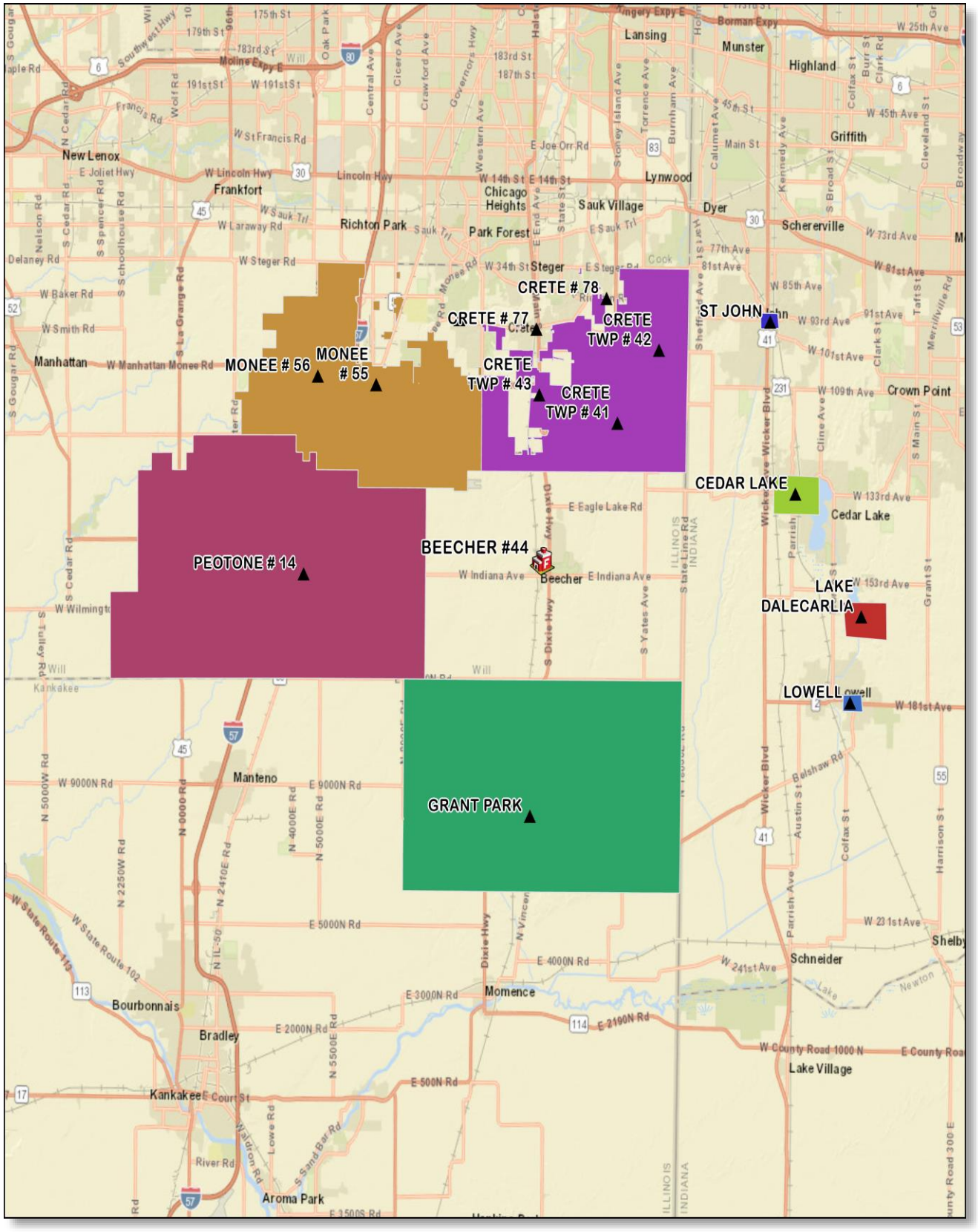


Incidents: Count - Year by City

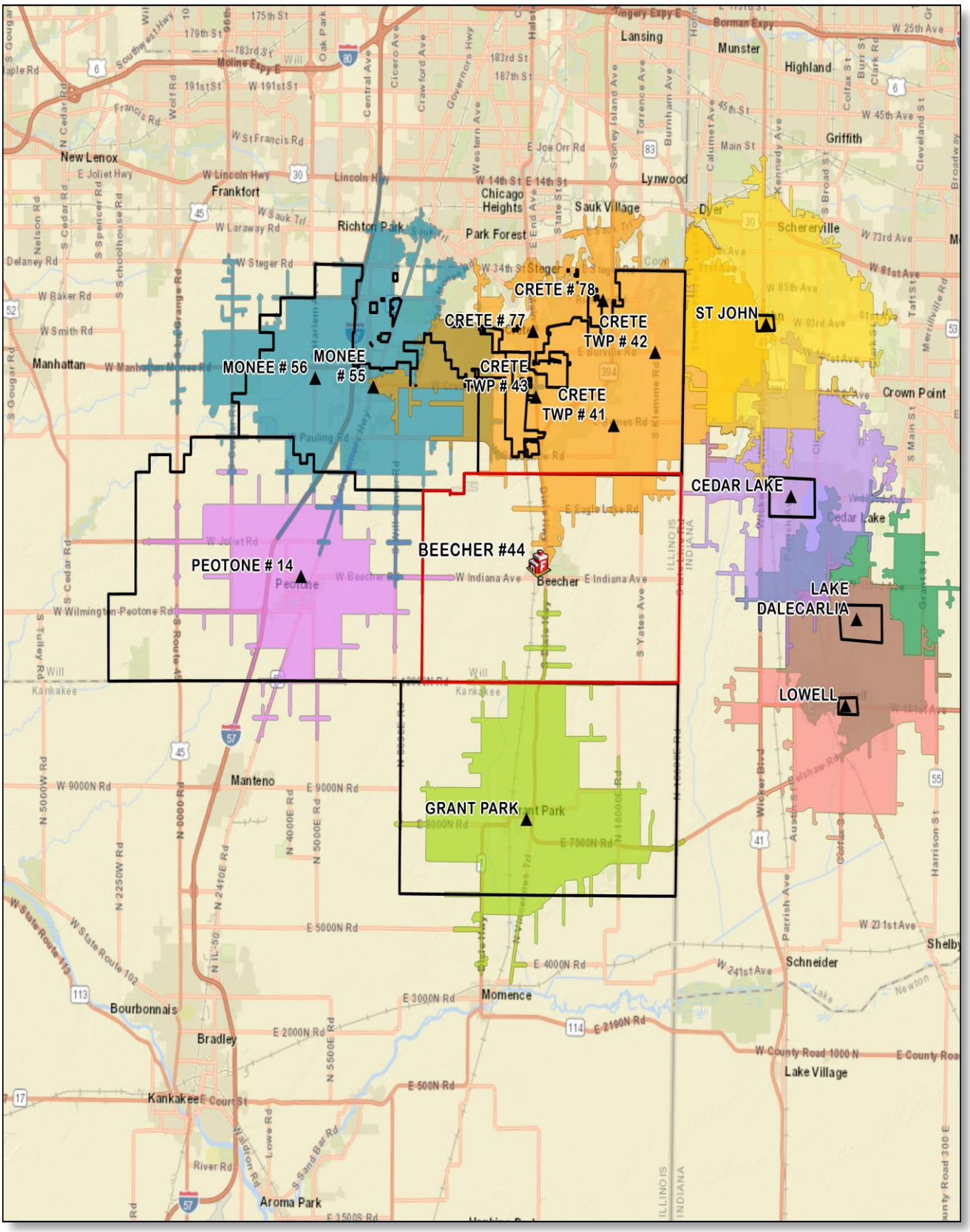
There are 5,781 Incident records being analyzed.

Year	2016	2017	2018	2019	2020	2021	Totals	Average	% of Inc
BEECHER	**594**	**682**	**814**	**830**	**718**	**952**	**4,590**	**765**	*79.4%*
PEOTONE	65	72	72	74	56	68	**407**	68	*7.0%*
CRETE	29	32	44	39	24	35	**203**	34	*3.5%*
GRANT PARK	29	18	29	15	25	18	**134**	22	*2.3%*
CEDAR LAKE	3	15	19	20	11	12	**80**	13	*1.4%*
MONEE	8	12	10	11	4	10	**55**	9	*1.0%*
PARK FOREST	5	10	12	6	2	3	**38**	6	*0.7%*
SAUK VILLAGE	3	2	4	6	9	9	**33**	6	*0.6%*
UNIVERSITY PARK	8	6	3	4	2	5	**28**	5	*0.5%*
MANTENO	3	1	4	3	5	5	**21**	4	*0.4%*
MOMENCE		2	4	9	3	3	**21**	4	*0.4%*
SOUTH CHICAGO HEIGHT	2	3	4	4		4	**17**	3	*0.3%*
BOURBONNAIS	1	2	1	2	5	1	**12**	2	*0.2%*
MATTESON		2	2	3	4	1	**12**	2	*0.2%*
RICHTON PARK	4	3	1		3	1	**12**	2	*0.2%*
FORD HEIGHTS	2		1	4		4	**11**	3	*0.2%*
KANKAKEE	3	3	2	1	1	1	**11**	2	*0.2%*
LOWELL	1	2	2	1	1	4	**11**	2	*0.2%*
FRANKFORT	2	3	1	2		2	**10**	2	*0.2%*
STEGER	2	1	2	1	2	2	**10**	2	*0.2%*
CHICAGO HEIGHTS	1	4	1	3			**9**	2	*0.2%*
BRADLEY	2	1	3		1	1	**8**	2	*0.1%*
DYER		2		2		2	**6**	2	*0.1%*
PEMBROKE	2		1	2			**5**	2	*0.1%*
PEMBROKE TOWNSHIP				2		2	**4**	2	*0.1%*
HOPKINS PARK	1	1	1				**3**	1	*0.1%*
LYNWOOD	1				2		**3**	2	*0.1%*
OLYMPIA FIELDS	1			2			**3**	2	*0.1%*
ST. ANNE		2	1				**3**	2	*0.1%*
MANHATTAN						2	**2**	2	*0.0%*
AURORA			1				**1**	1	*0.0%*
BURNHAM	1						**1**	1	*0.0%*
CALUMET PARK		1					**1**	1	*0.0%*
CRETE TOWNSHIP					1		**1**	1	*0.0%*
DOLTON					1		**1**	1	*0.0%*
ELWOOD		1					**1**	1	*0.0%*
FLOSSMOOR			1				**1**	1	*0.0%*
HARVEY			1				**1**	1	*0.0%*
HOMEWOOD		1					**1**	1	*0.0%*
JOLIET				1			**1**	1	*0.0%*
LAKE HILLS	1						**1**	1	*0.0%*
MOKENA	1						**1**	1	*0.0%*
MORRIS						1	**1**	1	*0.0%*
NEW LENOX				1			**1**	1	*0.0%*
PALOS PARK		1					**1**	1	*0.0%*
ST. JOHN						1	**1**	1	*0.0%*
SCHNEIDER		1					**1**	1	*0.0%*
SOUTH HOLLAND					1		**1**	1	*0.0%*
WILMINGTON		1					**1**	1	*0.0%*
Totals	**775**	**887**	**1,041**	**1,048**	**881**	**1,149**	**5,781**	964	

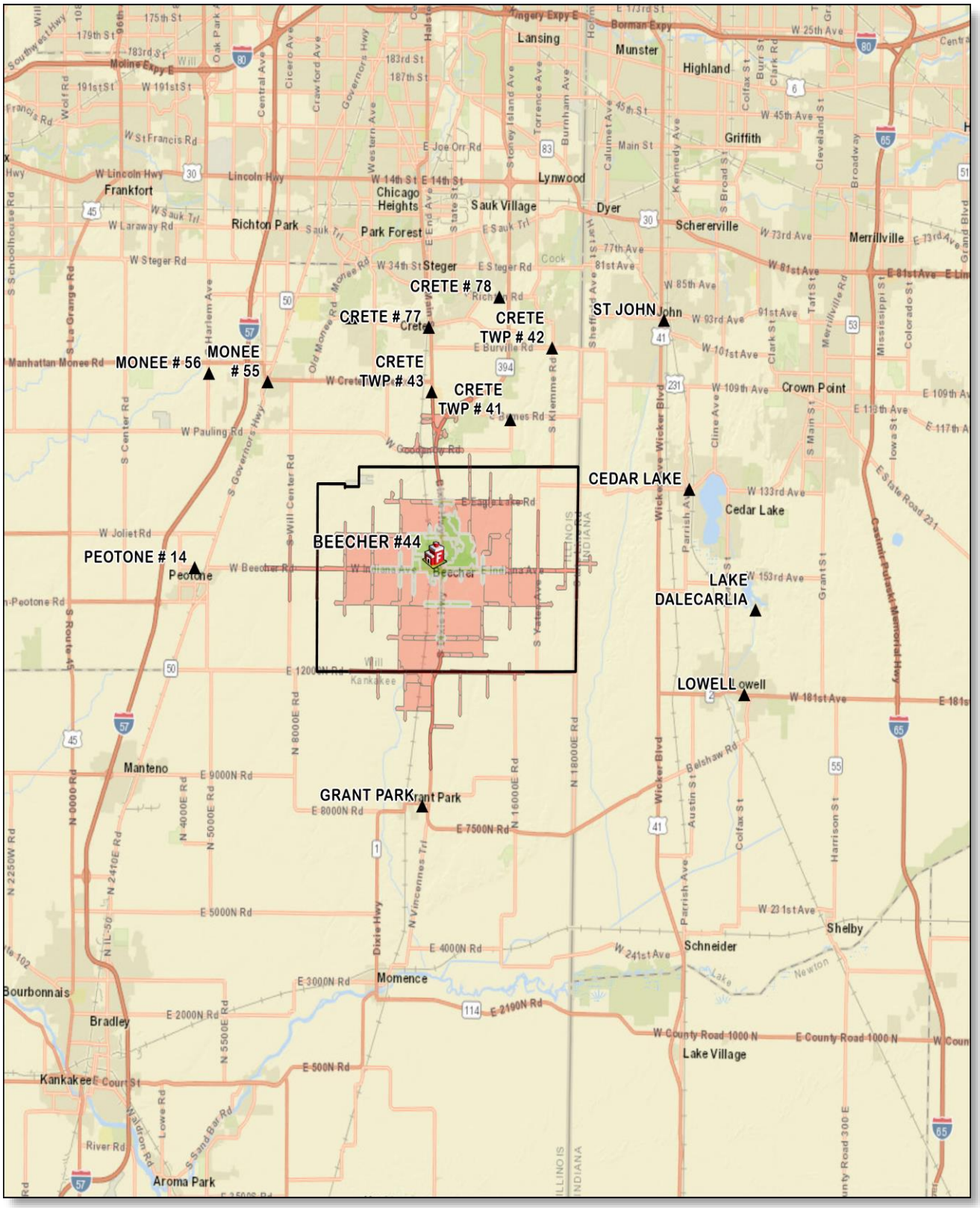
Surrounding Fire Districts



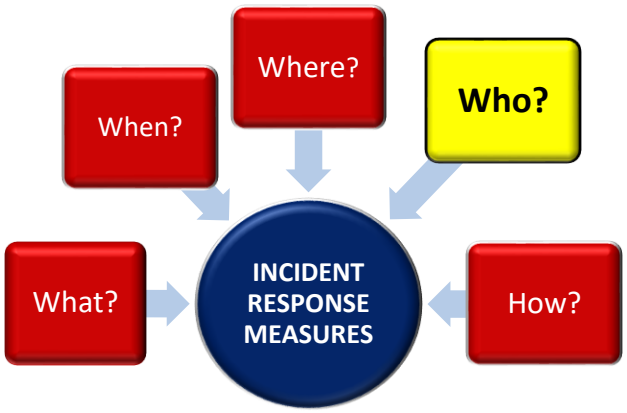
Surrounding Towns 8-minute Travel Time potential



Beecher 4/8-minute Travel Time potential (outside of District)



WHO - Response Resources



Unit Workload

An essential workload indicator is the number of responses per unit **and** the time spent on those responses. The amount of time a unit is unavailable is crucial in analyzing concentration and reliability.

One workload issue is the number of calls that a unit services within its first due area versus the number it responds to outside its first due area, known as reliability.

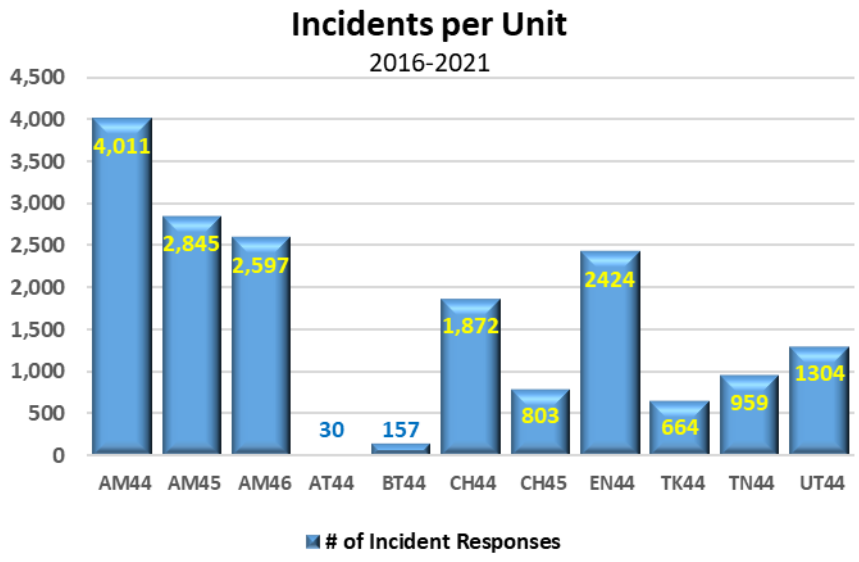
There are, generally, three (3) reasons for **responses** outside of the first due area:

- Concurrent calls outside a unit "still" district or area of responsibility
- Calls requiring multiple units
- Special capabilities of the unit are required in another area of the District or aid given outside the District.

Fire, Rescue, HazMat, and EMS calls routinely require adjacent units and shall be discussed further in this section. This section analyzes the Station, the Shifts, and the Units that responded to the Incidents.

Incidents by:

Unit Responses



UNIT	AM44	AM45	AM46	AT44	BT44	CH44	CH45	EN44	TK44	TN44	UT44	UT45	TOTAL	Average
# of Incidents	4,011	2,845	2,597	30	157	1,872	803	2424	664	959	1304	417	18,083	1,507
% of Inc - FIRES	2.8%	3.0%	3.3%	60.0%	69.4%	18.9%	18.1%	9.4%	18.8%	36.5%	2.5%	3.8%		21%
% of Inc - EMS	79.0%	81.7%	76.8%	23.3%	3.8%	35.2%	44.5%	37.5%	21.5%	6.9%	89.0%	86.6%		49%
% of Inc - OTHER	18.2%	15.3%	19.9%	16.7%	26.8%	45.9%	37.5%	53.1%	59.6%	56.6%	8.6%	9.6%		31%
RESPONSES per DAY	1.8	1.2	1.2	0.0	0.1	0.9	0.4	1.1	0.3	0.4	0.6	0.2		68%
# of 1st Arrivals	1,709	804	837	8	36	296	111	542	108	172	197	79		408
Staff Hours	8,410	3,151	4,889	82	311	1350	493	4792	1613	2213	1051	300	28,655	2,388
EMS	3,170	2,340	1,995	7	6	659	357	914	143	66	1142	361	11,160	930
Non-Vehicle EMS	2922	2180	1862	7	3	421	246	550	88	45	55	353	8,732	728
Vehicle EMS	248	344	133		3	238	111	364	55	21	55	8	1,580	144
FIRES	111	79	86	18	109	354	145	226	125	350	32	16	1,651	138
Bldg Fires	45	36	30			231	90	138	102	220	25	10	927	93
Wildland Fires	30	15	29	18	93	62	35	25	8	75	6	5	401	33
Vehicle Fires	17	14	16		4	25	10	33	1	26	1	1	148	13
HAZMAT	113	72	90			98	27	296	34	65	23	5	823	82
RESCUE - TECHNICAL	4	8	2			7	1	8	5	1			36	5
OTHER	393	205	265	3	31	581	230	499	295	380	47	19	2,948	246
Cancelled Enroute	128	45	32	2	13	296	65	247	99	152	8	5	1,092	91
False / Good Intent	265	160	233	1	18	285	165	252	196	228	39	14	1,856	155

90% PERFORMANCE MEASURES

Call Processing	1:38	2:40	1:53	4:54	2:35	3:48	2:44	3:14	3:57	3:29	2:57	4:43	3:12
Turnout	2:31	2:21	2:06	0:06	2:58	2:19	2:06	2:40	3:13	2:50	0:11	0:09	1:57
Travel	7:58	6:56	8:02	3:51	8:25	9:59	9:20	7:56	12:03	11:41	6:51	4:27	8:07
CTA - Call to Arrival	10:39	9:04	10:22	11:47	14:05	11:40	11:44	11:19	15:59	15:53	8:34	9:56	11:45
DTA - Disp to Arrival	9:46	8:33	9:55	11:47	16:31	11:08	10:53	9:49	16:37	16:08	6:57	4:57	11:45

Unit Hour Utilization / UHU

Unit workload is an essential measure in the analysis. Unit Hour Utilization (UHU) is an accepted measurement tool to evaluate response workloads. UHU considers the number of incidents and time committed against the available time. The following formula is utilized:

$$\frac{\text{(number of incidents) * (time committed per incident)}}{\text{Time}}$$

UHU is limited because only emergency response incidents are considered in the calculation. **Other activities such as training, inspections, and others are not considered in calculations.** UHU is a technical measure of commitment time. UHU can be calculated on various periods per day, month, or year. The estimates provided below are based on a year to avoid short-term fluctuations. UHU calculations result in a number that is percentages and is expressed as a decimal. A UHU of .25 would represent that 25% of the period is committed to incidents. It is generally accepted that a UHU over .35 illustrates an overcommitted unit.

Resource types may experience differing levels of workload based on commitment time. Suppression units may see a shorter commitment time, while ambulances may see more time due to transport and turnaround time. IDPH regulations require a written EMS report completed and submitted before an ambulance can return to service. This process is now completed digitally and can take 20-40 minutes for a detailed report. Hospital location is another factor in commitment time. Transport hospitals are in nearby communities and not within the District, which prolongs time commitment as units may not be available due to transport requirements.

Shift operations and activities such as mandatory training, physical fitness, inspections, and others, should be calculated to estimate total work time. Total Committed Time could add an aggregate of four to six hours daily of non-emergency UHU required actions; vehicle checks/maintenance, meals/shopping, training and fire prevention activities, fitness, and return time from incidents as per this example list.

Sample - DAILY ACTIVITY	Average Time
Roll Call	
Operations Review	0.25
DQD - Daily Quick Drill	
EMS & Fire Topics	0.5
Apparatus & Small Tools	
Operations/Functions/Review	1
Meal Shopping	0.5
Department Directed Training	
Daily Scheduled Drill	1
[1,2,4, or 8 hrs - class dependent]	
LUNCH	1
Preplan/Building Familiarization	1
Physical Fitness	1
Public Education/Relations	0.5
Company Directed Training	
Per Company Officer	varies
Average Daily Hours	**6.75**

Unit-Hour Utilization Spreadsheet

Report based on 18,554 apparatus response records from 1/1/2016 to 12/30/2021

Vehicle	BEAM44	BEAM45	BEAM46	BEEN44	BECH44	BETN44	BETK44	BEUT44	BECH45	BEUT45	BEBT44	BEAT44
0:00	8.08%	2.03%	3.05%	3.71%	1.32%	1.71%	0.76%	1.21%	0.82%	0.21%	0.00%	0.00%
1:00	6.20%	1.73%	1.20%	2.11%	1.33%	1.72%	0.89%	0.64%	0.13%	0.16%	0.00%	0.00%
2:00	9.48%	2.54%	3.07%	1.67%	1.49%	1.97%	0.93%	0.33%	0.70%	0.37%	0.00%	0.00%
3:00	4.89%	1.91%	1.96%	2.26%	2.26%	1.42%	0.17%	0.81%	0.43%	0.65%	0.00%	0.00%
4:00	5.00%	2.19%	2.36%	1.24%	1.50%	1.49%	0.99%	0.74%	0.24%	0.33%	0.00%	0.00%
5:00	6.11%	1.93%	1.49%	4.34%	1.54%	1.37%	1.02%	0.87%	0.96%	1.34%	0.00%	0.00%
6:00	6.90%	4.41%	4.36%	2.23%	1.16%	0.54%	0.25%	1.07%	0.26%	0.33%	0.52%	0.00%
7:00	12.00%	3.31%	3.10%	3.24%	2.46%	0.98%	2.75%	1.12%	0.46%	0.44%	0.02%	0.00%
8:00	12.00%	4.68%	4.18%	2.54%	1.59%	1.46%	1.41%	1.54%	0.70%	0.46%	0.11%	0.00%
9:00	15.28%	5.89%	5.57%	5.27%	3.63%	2.80%	1.87%	1.70%	1.67%	0.69%	0.64%	0.01%
10:00	13.90%	5.96%	4.98%	5.63%	3.55%	1.66%	1.33%	2.63%	0.33%	0.44%	0.62%	1.28%
11:00	14.56%	4.25%	4.49%	6.12%	3.19%	2.74%	2.04%	1.62%	1.85%	0.45%	0.96%	0.05%
12:00	13.52%	4.90%	4.50%	4.63%	3.74%	1.99%	2.43%	1.07%	1.43%	0.23%	0.93%	0.11%
13:00	11.19%	4.97%	4.15%	4.59%	5.89%	3.33%	2.58%	1.92%	1.47%	1.65%	0.51%	0.00%
14:00	11.40%	5.50%	3.49%	3.90%	4.64%	3.17%	1.28%	1.30%	0.97%	1.55%	0.64%	0.15%
15:00	12.40%	5.13%	4.95%	5.29%	3.67%	1.20%	1.16%	1.76%	0.54%	0.50%	0.31%	0.11%
16:00	11.72%	5.13%	5.88%	5.83%	3.73%	4.03%	1.00%	2.73%	1.66%	0.94%	0.72%	0.03%
17:00	12.07%	5.22%	4.11%	5.08%	3.78%	2.37%	1.21%	1.71%	1.39%	0.60%	0.71%	0.18%
18:00	8.77%	4.15%	5.50%	3.38%	2.82%	2.46%	0.82%	2.31%	0.85%	0.40%	0.05%	0.02%
19:00	10.68%	5.52%	4.96%	3.09%	2.80%	1.35%	1.27%	1.53%	1.47%	0.62%	0.22%	0.05%
20:00	8.13%	4.73%	4.34%	2.94%	3.02%	1.62%	2.19%	1.25%	1.35%	0.38%	0.25%	0.00%
21:00	7.20%	3.60%	3.77%	3.34%	2.74%	0.95%	2.18%	1.22%	1.04%	0.56%	0.09%	0.01%
22:00	6.15%	2.54%	2.40%	3.85%	3.08%	1.41%	2.56%	1.28%	0.60%	0.13%	0.08%	0.03%
23:00	3.95%	1.96%	3.00%	1.03%	0.93%	0.76%	0.25%	0.83%	0.33%	0.15%	0.00%	0.16%
Overall	9.65%	3.92%	3.79%	3.64%	2.74%	1.85%	1.39%	1.38%	0.90%	0.56%	0.31%	0.09%
Runs	4,018	2,641	2,607	2,318	1,887	966	665	1304	808	417	157	30

*NOTE: AMB46 can run first-out, in place of AMB44, when AMB44 is out of service or for other reasons. Therefore, it is necessary to combine AMB44 and AMB46 to determine first-out Ambulance responses and activity.

It is recommended that when this occurs, the unit id of AMB44 is always used to improve data analysis and reduce Dispatch confusion and delay.

Temporal Activity

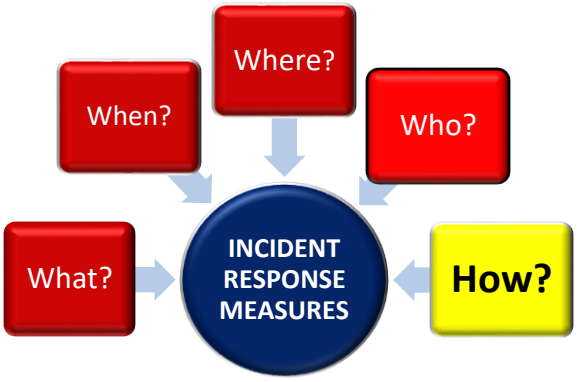
Apparatus Responses

2016-2021

**** INCLUDES AID RECEIVED UNITS***

	1 Mon	2 Tue	3 Wed	4 Thu	5 Fri	6 Sat	7 Sun	Total
00:00-00:59	47	48	72	82	60	94	103	**506**
01:00-01:59	65	43	48	42	44	55	100	**397**
02:00-02:59	52	41	69	72	78	55	81	**448**
03:00-03:59	86	47	65	64	24	56	60	**402**
04:00-04:59	61	71	56	41	38	61	51	**379**
05:00-05:59	102	99	52	61	54	46	37	**451**
06:00-06:59	144	78	122	62	86	70	65	**627**
07:00-07:59	80	101	135	108	102	79	66	**671**
08:00-08:59	222	102	131	114	104	101	128	**902**
09:00-09:59	148	150	112	202	208	121	133	**1074**
10:00-10:59	140	165	170	142	192	133	118	**1060**
11:00-11:59	129	186	171	144	230	166	113	**1,139**
12:00-12:59	211	186	148	166	218	142	110	**1181**
13:00-13:59	161	205	220	113	167	131	176	**1173**
14:00-14:59	194	215	169	103	197	164	113	**1155**
15:00-15:59	193	140	114	159	182	165	146	**1099**
16:00-16:59	100	175	196	141	185	141	142	**1,080**
17:00-17:59	127	169	182	172	160	161	230	**1201**
18:00-18:59	140	201	145	147	132	143	155	**1,063**
19:00-19:59	181	149	123	119	208	198	194	**1172**
20:00-20:59	113	133	121	146	159	112	125	**909**
21:00-21:59	105	65	94	134	118	125	99	**740**
22:00-22:59	79	86	95	90	123	138	84	**695**
23:00-23:59	**41**	**78**	**63**	**70**	**58**	**79**	**68**	**457**
Total	2921	2933	2873	2694	3127	2736	2697	**19981**

HOW - PERFORMANCE



There are several ways to measure performance. One of the more critical ways is to measure activities vs. outputs vs. outcomes.

Outcomes are the things that matter most to the community.

Activities show what we have done.

- Training, Inspections, Responding to emergencies

Outputs show how much we accomplish with our activities.

- Completed xx hours of Training, xx % of inspections
- Responded to fires within X minutes, X % of the time

Outcomes show what is in it for the community.

- How likely will their life (or their family) be saved?
- How much of their property shall be saved (value, capabilities, business operations)?
- What shall be their quality of life?
- How much shall this cost them if they support (or do not) my local FD (out of pocket)?

Two outcome performances that can be directly measured include **fires contained to the room** of origin and **cardiac arrest survival rates**

How are we doing?

Fire Loss/Save Rate

An important measure in fireground performance is keeping a fire in the room of origin and not spreading. According to a recent NFPA study, the chances of death in a home fire that is:

Contained to room of origin = 5%, Past Room of Origin = 80%!

Furthermore, studies have shown that the **cost of burn injuries:**

- One year in a Burn Center = $ 2.6 Million
- Average stay = 14 weeks ($700,000)
- Loss of income at work?
- *What is the cost of Pain and Suffering?*

The District has contained

20%

of **working** structure fires to the ROOM or POINT OF ORIGIN

2016-2021

The cost of being displaced by a fire for a year:

- Original mortgage payments
- The insurance deductible and any under coverage costs
- The added cost of a rental and insurance
- Moving costs
- Work and school commutes
- Lost financial records, taxes, ownership documents

The baseline performance measure in the District for **structure fire responses**:

53 % of the time – ALL FIRES IN BUILDINGS were limited to object or room of origin

EMS Cardiac Arrest Survival Rate

Cardiac arrest survival/saves are an excellent "outcome" measure of performance. For cardiac arrest patients since **2016 (64 total)**, the "save rate" for patients in cardiac arrest was **31%** (**20 patients**), in which the patient had Return of Spontaneous Circulation (ROSC) at the time of arrival to the hospital**.** This outcome is above the estimated **national data average of 12%.** However, it is a benchmark area for improvement. In addition, some local Fire Districts are experiencing a much higher rate (40-65%).

The baseline performance measure in the District for **cardiac arrest resuscitation**:

31 % of the time – Cardiac Arrest were "saved" with ROSC upon arrival at the hospital

Performance and Outcome Measures

Performance measures should establish the following characteristics to be considered valid and verifiable:

- Meaningful
- Understandable to internal and external stakeholders
- Based on goals and objectives related to a strategic plan
- Controllable by organizational action
- Useful
- Reliable
- Accurate to assess the performance
- Comparable
- Sustainable
- Value to obtain should not exceed the effort to collect

Performance objectives have been developed based on the community and the District's expectations, risk assessment, critical task functions, and planning zones. Each category of emergency service type was reviewed, and performance times were established. Current performance and goals viewed in the context demonstrate current capabilities and what would be shown in the future. **A baseline is a term used to describe the current performance. Benchmark is used to describe a future performance level objective**.

Community Expectations

This section compares performance to objectives. Community expectations influence performance. Specific conclusions discovered after strategic planning can be summarized in the identification of four Strategic Priority areas:

- Financial Sustainability
- Community Involvement
- Operational Effectiveness
- Workforce Development

Each of these areas dovetails into the focus of a continual process and establishing performance measures.

Deployment Performance

Deployment performance can be measured using three concepts: Distribution (what and where), Concentration (how much), and Reliability (how well). These concepts shall be used to create performance objectives performance measures for response times and determine the District's ability to provide an effective response force for each risk category for each service provided.

Distribution (First Due) Performance

Distribution is defined as the systematic locating of geographically distributed first due resources (stations, apparatus, and personnel) for all-risk initial intervention. Distribution locations, also known as "points of service delivery," are established to ensure the rapid deployment of resources to intervene in routine emergencies and bring them to a successful conclusion. For the most part, this is **time and distance analysis**. The distribution system is set up to provide the appropriate emergency response to the variety of risks identified in the previous section.

The District uses an “all-risk” concept in that each first due station is equipped and staffed to provide a sufficient baseline response. The distribution system's effectiveness is the authority covered by the first due units within adopted public policy response times. Specific performance objectives have been established for each service provided. A distribution network is considered successful when it can provide a resource to the scene of an emergency with the correct apparatus, equipment, and staffing to complete the following:

1. Assessment of the situation and take Command
2. Establishment of a plan of action capable of mitigating the emergency
3. Request for appropriate resources if necessary
4. Intervention to stop/impede the escalation of the emergency

The current distribution of resources for the District can be traced to several events throughout its history. The location and spacing of stations have been dependent on funding, land availability, infrastructure, and expected growth.

Distribution implies that certain risks shall require resources beyond that available on the initial attack. The depth of coverage includes analyzing whether enough resources are available within acceptable time frames to amass staffing, equipment, and apparatus to deal with identified risk levels. Distribution performance measurement emergencies are those incidents that directly impact the placement of fire stations and the resources in the stations. EMS, Rescue incidents, and structure fires are the key measured emergencies or Priority 1 calls. Measurement of incidents are from the Records Management Systems (RMS), GIS, StatsFD database and are reviewed based on incident type codes with outliers removed. Other incidents are not modeled as they do not overly affect deployment but are a sub-set of the total workload. Incidents outside the District areas are not used for analysis.

Measuring the distribution system is typically accomplished using Travel Time or Total Response Time of first due company resources. Travel Time is the interval of time when the emergency unit begins responding to its arrival at the emergency scene. Total Response Time starts when the request for emergency services is received at the dispatch center and extends to the arrival of the first emergency unit at the emergency scene, including turnout from unit notification to the response.

Concentration (Balance of Alarm)

Concentration is defined as the number and spacing of resources needed to achieve an “effective response force” that can be assembled at the scene of an emergency within a specified period for each given risk and level of service. An effective response force is the accumulation of resources necessary to stop the emergency's escalation and bring it to a conclusion. In other words, concentration can place enough resources on a specific call to keep the event from becoming a significant emergency. Thus, concentration considers risk versus cost.

Both factors are variables, thus: **Increased Risk = Increased Concentration**

Concentration can be measured in several ways. The most common approach calculates the community's percentage covered by an effective response force within adopted time frames. A first-alarm assignment is

considered an effective response force for fire incidents. In arriving at a concentration level for the District, the challenge is to balance how much overlap there should be between station response areas. Some overlap is necessary to maintain response times and provide backup for distribution when first-due units are committed. A successful concentration network means that the system can provide the correct equipment, apparatus, and staffing to the scene of an emergency to complete the following:

1. Stop the emergency from continuing to escalate
2. Provide for the safety and security of citizens and emergency workers
3. Complete all critical tasks promptly
4. Provide for Incident Management and transfer of Command

Most of the areas now served started with limited development and minimal risk. As time passed and development continued, both the population base and risk increased. The location and spacing of resources have been dependent on funding, land availability, and infrastructure. Measuring the current concentration is accomplished using calls for service and the system performance of the company resources.

Resiliency

These could be wide-scale and far-reaching events such as severe weather extremes, massive, prolonged power outages, floods, mass casualty events, or multiple concurrent incidents that require a response and resilience. The dictionary definition of resilience is “the capacity to recover quickly from difficulties.” The fire service translates to how well we bounce back from adversity regardless of the cause. Even our Firefighters individually learn to “respond, handle the emotionally challenging scene, then return” to some normalcy.

The District response system is built on reliability, consistency, redundancy, and performance (including speed). There may be times that the system is pushed and stressed. Severe weather incidents such as thunderstorms (or worse – tornado) spread resources thin as altered response levels are instituted. Procedures such as the “Storm Mode” response dispatches the closest fire company to investigation and alarm activations (without tone alerts – just radio notification).

The ability to recover to “normalcy” can include multiple considerations, such as:

- **Capability** – developed early through trained KSA (knowledge, skills, abilities)
- **Capacity** – resources ready state (mechanically sound and properly equipped)
- **Reliability** – the number of times a unit can respond to incidents in-still area as the first due
- **Availability** – use of resources and ability to add units to response or coverage

Response Time Measures

The rapid deployment of resources to emergencies is another distribution factor to consider. The Fire District uses a nationally recognized incident count to inform management better and determine resource allocation and deployment decisions. The use of "incident count" has been the District's raw reference numbers for deployment issues and data collection on response volumes. Incident count data is typically used and reported to describe service demand changes over time. The number and type of resources (i.e., Engines, Trucks, Ambulances) assigned or committed to each event are subject to operational policy. Thus, data that reflect the number of times a resource is "dispatched" to an event are not best suited for performing trend/historical or comparative analysis of incidents.

Response times are the most frequently used measuring system performance related to the overall response time. In reviewing the CAD and RMS data, the Fire District tracks four response elements—turnout-time, travel, on-scene time, and when companies are available. Additionally, call handling time is also measured (the time “Dispatch” picks up the 911 call to the time units are notified or “dispatched”).

Response Time Performance

A chain of events is initiated when an emergency incident occurs or is discovered. Time elements are not controllable but can be enhanced by early recognition and notification. This can be especially critical in structure fires and cardiac arrest events. Due to technological limitations, initial call processing and dispatch may occur from two locations due to cellular tower placement and configuration. The four main components of measuring “Total Response Time” or TRT is from the initial 911 pickup at a Dispatch center – “Processing the call” and notifying the stations/units, the units “turning out” from notification to en route, “travel time” – how long it takes to get to the scene for both the initial responders and the rest/balance of the Effective Response Force.

Due to the community's characteristics, the District utilizes a single demand zone, Urban/Suburban, representing a population density of 2-3,000 per square mile, consisting of single-family, multi-family residential, mixed Commercial, and business occupancies.

Response time performance is shown in the following tables. Performance is demonstrated in structure fires, EMS, HazMat, TRT, and Water incidents. Components of the response continuum are broken down to reflect distinct segments. These include **call processing** time, **turnout** time, **travel** time, and **total response time**.

The District benchmark response goals reflect the National Fire Protection Association (NFPA) – National Standards NFPA 1710.

NFPA 1710 RESPONSE BENCHMARKS – 90% of Emergency Incidents	
Task	**Time (< or equal to)**
Call Processing (Dispatch)	1 minute
Turnout Time (EMS)	1 minute
Turnout Time (FIRE)	1 minute 20 seconds
Travel Time - First Engine or Ambulance	4 minutes
Travel Time - Full Alarm Assignment **(ERF)**	8 minutes
TOTAL RESPONSE TIME (1st EMS/FIRE Company)	**6:00 / 6:20 minutes**
TOTAL RESPONSE TIME (Effective Response Force - ERF)	**10: 00 / 10:20 minutes**

Benchmarks (Goals) Statements

The District has developed objectives for each of the significant services provided: Fire suppression, Emergency Medical Services (EMS), Rescue, and Special Operations. These performance objectives further define the quality and quantity of services. The "Benchmark" performance goals are per risk type. Once baseline (actual) times are determined and benchmarks (goals) are set, the two primary components of a Continuous Quality Improvement program are in place.

FIRES

For **90 percent** of **all** fire incidents, the Fire District shall arrive with a "first due/distribution" total response time in less than **6 minutes 20 seconds with at least three personnel** with enough resources to stop the escalation of the fire and keep the fire to an area of involvement upon arrival. Initial response resources shall be capable of establishing Command, forcing entry if needed, containing the fire, rescuing at-risk victims, performing salvage operations, providing for the responders' safety and the public. Apparatus shall have a minimum pump capacity of 1500 GPM and 750-gallon water tanks for Engines 300+ gallons for Trucks. A positive water supply shall be established, and a hose line deployed attacking the fire flowing a minimum of 150 GPM within 5 minutes of arrival or less.

For **Moderate-risk** type fires, the "balance of alarm/concentration" (or Effective Response Force [ERF]) shall arrive in less than **10 minutes, 20 seconds (*total response time*) with a minimum of 15 personnel.** The ERF can transfer Command/Safety, deploy a backup line, complete forcible entry and search and rescuing at-risk victims, ventilate the structure, control utilities, perform salvage and overhaul, assuming IRIC/RIT in on-deck positions (complying with the Occupational Safety and Health Administration (OSHA) requirements of two-in and two-out), control utilities, other functions as ordered by Command as required, and occupant need services. The District standard operating procedures shall do these operations**.**

High-Risk type classified incidents shall have a minimum of 29 personnel within 15 minutes total response time. "General alarm" deployment of resources shall allow Command to sector/divide/group the structure for a better span of control and accountability as well as to adjust Risk Management Plan and IAP as needed.

EMS

For 90 percent of **all** emergency medical incidents, the Fire District shall arrive "first due/distribution" in less than **6 minutes with at least two personnel** ALS trained, and equipped, capable of assessing scene safety and establishing command, sizing-up the situation, conducting an initial patient assessment, obtaining vitals and documenting patient's medical history, initiating mitigation efforts within one minute of arrival to provide medical services that shall stabilize the situation, provide care and support to the victim and reduce, reverse or eliminate the conditions that have caused the emergency while providing for the safety of the responders, and provide transportation of patient(s) if necessary to appropriate medical facilities in an effective, efficient manner.

Low-risk incidents or **Moderate risk** incidents where resuscitation/rescue of victims is required, the Fire District ERF shall arrive in less than **10 minutes total response time with five personnel minimum (or six personnel for Moderate risks).** The ERF brings resources to stabilize the situation resuscitate/extricate the victim(s) from the emergency or location without causing further harm to the victim, responders, public, and the environment. Simultaneously, completing the patient assessment, providing appropriate treatment, performing defibrillation, initiating cardiopulmonary resuscitation (CPR), and providing intravenous (IV) access-medication administration with positive airway control.

Suppose High-Level responses are necessary for ERF concentration. In that case, they shall arrive in less than **15 minutes with 28 personnel** once dispatched, performing positions and functions directed by Command, including Medical, Triage, and Transport sectors.

RESCUE / SPECIAL OPERATIONS

For 90 percent of all Special Operations incidents (such as Technical Rescue and Water Rescue), the Fire District shall arrive "first due/distribution" in less than **6 minutes 20 seconds total response time (with at least three personnel)** with resources to complete the following functions. Establish Command, stabilize the situation, stop the escalation of the incident, contain the hazard where applicable, initiate an action plan, properly size up to determine if a moderate or high-level technical rescue response is required, request additional resources if needed, provide advanced life support to any victim without endangering response personnel or the public.

ERF Concentration per M**oderate Type level** shall arrive in less than **10 minutes, 20 seconds total response time with nine personnel** necessary to the victim safely and efficiently.

The ERF shall be capable of appointing a site safety officer, establishing patient contact, staging, and apparatus set up, providing technical expertise, knowledge, skills, and abilities during technical rescue incidents, and providing first responder and ALS medical support. High-Risk type-level ERF shall arrive in less than 15 minutes with minimum numbers of personnel ranging from 14-28 once dispatched depending on specialty/situation. Then, a Technician/Team level response is necessary for ERF Concentration.

Hazardous Materials Benchmark Statements:

For 90 percent of all hazardous materials response incidents, the total response time for the first-due unit's arrival, staffed with **three personnel minimum, shall be 6 minutes 20 seconds** for all risk levels. The first-due unit shall be capable of: establishing command, sizing up and assessing the situation to determine the presence of a potentially hazardous material or explosive device, determining the need for additional resources, estimating the potential harm without intervention, and begin establishing a hot, warm, and cold zone.

Moderate risk ERF Concentration level shall arrive in less than **10 minutes 20 seconds with nine personnel minimum** necessary to isolate, identify, and mitigate the hazard safely and efficiently.

For **High-risk** level incidents, the total response time for the arrival of the effective response force (ERF), including the hazardous materials response team, staffed with **15 personnel within 15 minutes** in all areas. The ERF shall be capable of appointing a site safety officer and providing the equipment, technical expertise, knowledge, skills, and abilities to mitigate a hazardous materials incident by District standard operating guidelines.

Response Times PERFORMANCE

Baselines (Actual)

Historically, actual baseline times for the District are as follows, with 90% benchmark goals.

NO AID GIVEN

FIRE and EMS Incidents combined **Demand and Performance:** 2016-2021

PERFORMANCE MEASURES:	BENCHMARK	FIRE/EMS Incidents		ALL Incidents	
		Benchmark Achieved	Baseline Time	Benchmark Achieved	Baseline Time
CALL PROCESSING	1:00	63.9%	2:23	64.1%	2:33
TURNOUT	1:20	63.3%	2:21	62.4%	2:24
TRAVEL	4:00	68.5%	7:00	63..2%	8:07
CTA - CALL TO ARRIVAL	6:20	70.6%	9:11	63.9%	11:10
"TOTAL RESPONSE TIME"		3,779 Incidents		5,781 Incidents	

INCIDENTS - TOTAL	**3,779**	**5,781**
APPARATUS RESPONSES	12,936	19,958
STAFF HOURS	**20,843**	**30,181**
DOLLAR LOSS	$ 4,028,995	$ 4,028,995
INCIDENTS:		
FIRE	**138**	**367**
BUILDINGS	44	234
WILDLAND	44	72
VEHICLE	24	27
EMS	**3641**	**3789**
NON-VEHICULAR	3435	3512
VEHICULAR ACCIDENTS	206	277
RESCUE	**6**	**8**
TECHNICAL		
HAZMAT		**192**
HAZARDOUS CONDITION	--	
OTHER		**1625**
CANCELED ENROUTE	**6**	482
FALSE/GOOD INTENT	--	486

Baseline Performance Charts (Per Threat & Type)

Demand and Performance Summary Charts (EXCLUDES Mutual Aid)

All Incidents - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:25 (3,598)**	02:11 (484)	02:12 (526)	02:27 (421)	02:23 (643)	02:04 (648)	**02:48 (876)**
Turnout	**02:23 (2,723)**	01:48 (405)	02:13 (541)	02:11 (503)	02:15 (524)	02:50 (438)	**02:36 (312)**
Travel-Distribution	**07:09 (2,761)**	06:58 (399)	06:58 (521)	06:48 (506)	06:48 (558)	07:58 (454)	**07:37 (323)**
Travel-2nd Arrival	**07:31 (2,364)**	07:10 (395)	07:00 (523)	07:15 (442)	07:19 (412)	08:28 (277)	**08:03 (315)**
Dispatch to Arrival	**08:33 (4,449)**	08:03 (598)	08:00 (672)	07:58 (791)	08:04 (770)	09:17 (661)	**09:06 (957)**
Call to Arrival-Distribution	**09:27 (4,608)**	**08:50 (601)**	**08:42 (683)**	**08:37 (815)**	**08:50 (838)**	**10:48 (733)**	**10:55 (938)**
Call to Arrival-2nd Arrival	**09:59 (3,418)**	09:03 (582)	09:01 (652)	09:04 (687)	09:11 (600)	11:57 (432)	**12:50 (465)**
Scene Duration	**52:38 (4,599)**	30:41 (587)	29:38 (669)	32:55 (810)	38:25 (826)	34:45 (726)	**95:07 (981)**
Total Duration	**105:02 (4,758)**	91:23 (605)	92:16 (691)	107:31 (822)	109:20 (870)	108:30 (765)	**106:18 (1,005)**

Fire & EMS - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:23 (2,888)**	02:09 (391)	02:10 (421)	02:28 (331)	02:25 (530)	01:59 (508)	**02:42 (707)**
Turnout	**02:21 (2,188)**	01:34 (311)	02:06 (437)	02:09 (392)	02:11 (443)	02:43 (358)	**02:35 (247)**
Travel-Distribution	**07:00 (2,227)**	07:11 (306)	06:52 (419)	06:27 (402)	06:38 (471)	07:54 (371)	**07:20 (258)**
Travel-2nd Arrival	**07:28 (1,911)**	07:24 (304)	07:03 (425)	07:05 (347)	07:15 (348)	08:09 (220)	**07:50 (267)**
Dispatch to Arrival	**08:24 (3,590)**	08:16 (470)	07:59 (539)	07:54 (625)	07:37 (653)	09:03 (532)	**08:51 (771)**
Call to Arrival-Distribution	**09:11 (3,708)**	**08:58 (472)**	**08:48 (545)**	**08:36 (644)**	**08:25 (707)**	**10:10 (594)**	**10:20 (746)**
Call to Arrival-2nd Arrival	**09:49 (2,806)**	09:07 (465)	09:01 (538)	09:04 (553)	09:05 (522)	11:35 (347)	**12:27 (381)**
Scene Duration	**55:51 (3,752)**	28:01 (470)	28:36 (542)	32:55 (645)	35:11 (707)	33:25 (600)	**96:39 (788)**
Total Duration	**107:49 (3,765)**	94:20 (476)	96:26 (548)	110:41 (646)	110:30 (710)	109:04 (600)	**109:47 (785)**

EMS - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:17 (2,342)**	01:59 (367)	02:09 (390)	02:27 (271)	02:17 (437)	01:50 (405)	**02:37 (472)**
Turnout	**02:19 (1,876)**	01:24 (278)	02:12 (395)	02:06 (342)	02:06 (408)	02:42 (305)	**02:35 (148)**
Travel-Distribution	**06:57 (1,895)**	06:58 (275)	06:59 (381)	06:24 (353)	06:33 (427)	07:56 (303)	**07:20 (156)**
Travel-2nd Arrival	**07:15 (1,574)**	06:59 (274)	07:10 (384)	07:05 (299)	06:57 (305)	08:09 (151)	**07:37 (161)**
Dispatch to Arrival	**08:13 (2,955)**	07:53 (437)	07:54 (495)	07:46 (564)	07:29 (534)	09:07 (418)	**08:54 (507)**
Call to Arrival-Distribution	**08:58 (2,969)**	**08:45 (438)**	**08:34 (500)**	**08:03 (577)**	**08:15 (539)**	**10:24 (418)**	**10:08 (497)**
Call to Arrival-2nd Arrival	**09:25 (2,309)**	08:46 (432)	08:54 (493)	08:49 (497)	08:50 (405)	11:16 (256)	**11:39 (226)**
Scene Duration	**54:09 (2,989)**	26:13 (434)	27:07 (498)	29:03 (579)	31:23 (539)	30:03 (424)	**102:00 (515)**
Total Duration	**108:39 (3,003)**	95:18 (441)	95:53 (503)	110:41 (580)	111:38 (541)	114:34 (424)	**111:41 (514)**

All Fires - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:56 (98)**	02:20 (14)	02:01 (17)	02:56 (20)	01:43 (7)	01:48 (18)	**04:13 (22)**
Turnout	**02:37 (85)**	02:24 (15)	02:10 (21)	02:58 (24)	01:48 (6)	03:53 (13)	**02:01 (6)**
Travel-Distribution	**08:09 (92)**	08:21 (14)	07:50 (21)	07:43 (21)	09:41 (10)	08:09 (18)	**07:22 (8)**
Travel-2nd Arrival	**08:30 (94)**	08:21 (14)	07:51 (21)	08:22 (24)	10:36 (9)	09:10 (18)	**08:31 (8)**
Dispatch to Arrival	**10:03 (133)**	08:59 (18)	09:48 (25)	09:51 (35)	09:41 (10)	12:39 (21)	**10:58 (24)**
Call to Arrival-Distribution	**11:40 (136)**	**09:09 (19)**	**10:25 (25)**	**09:58 (36)**	**09:41 (10)**	**12:39 (21)**	**14:45 (25)**
Call to Arrival-2nd Arrival	**12:07 (130)**	09:09 (19)	10:25 (25)	11:12 (33)	10:36 (9)	13:56 (21)	**14:55 (23)**
Scene Duration	**121:50 (138)**	58:39 (19)	67:00 (25)	84:54 (36)	178:38 (10)	163:21 (22)	**52:34 (26)**
Total Duration	**157:44 (138)**	70:19 (19)	74:15 (25)	113:06 (36)	187:49 (10)	168:40 (22)	**65:27 (26)**

Building Fires - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:55 (30)**	00:32 (6)	00:27 (3)	03:17 (5)	01:43 (2)	02:23 (9)	**04:57 (5)**
Turnout	**03:36 (25)**	02:24 (6)	02:05 (3)	01:45 (6)	01:42 (2)	03:53 (7)	**00:09 (1)**
Travel-Distribution	**08:21 (29)**	05:05 (6)	04:35 (3)	07:54 (5)	09:41 (5)	06:46 (8)	**04:10 (2)**
Travel-2nd Arrival	**09:30 (29)**	05:05 (6)	04:35 (3)	08:22 (5)	10:36 (5)	09:30 (8)	**11:32 (2)**
Dispatch to Arrival	**09:41 (41)**	06:22 (7)	06:19 (4)	11:30 (10)	09:41 (5)	09:06 (9)	**09:28 (6)**
Call to Arrival-Distribution	**11:30 (43)**	**06:54 (8)**	**06:46 (4)**	**11:30 (10)**	**09:41 (5)**	**10:00 (9)**	**14:45 (7)**
Call to Arrival-2nd Arrival	**12:24 (40)**	06:54 (8)	06:46 (4)	10:43 (9)	10:36 (5)	13:56 (9)	**18:32 (5)**
Scene Duration	**181:52 (44)**	50:24 (8)	117:30 (4)	181:52 (10)	195:18 (5)	172:08 (10)	**51:11 (7)**
Total Duration	**207:39 (44)**	56:11 (8)	121:48 (4)	207:39 (10)	203:48 (5)	188:53 (10)	**188:59 (7)**

Wildland Fires - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:14 (29)**	00:15 (3)	00:28 (6)	00:37 (8)	00:13 (1)	01:42 (4)	**04:13 (7)**
Turnout	**02:33 (32)**	02:06 (3)	02:22 (12)	02:37 (10)	01:47 (1)	02:17 (3)	**02:07 (3)**
Travel-Distribution	**07:54 (32)**	07:54 (2)	07:50 (12)	07:43 (8)	05:33 (1)	08:09 (5)	**07:36 (4)**
Travel-2nd Arrival	**08:09 (33)**	07:54 (2)	07:51 (12)	08:22 (10)		08:09 (5)	**08:31 (4)**
Dispatch to Arrival	**09:51 (44)**	08:59 (3)	09:48 (13)	09:23 (13)	07:20 (1)	10:26 (6)	**08:19 (8)**
Call to Arrival-Distribution	**11:58 (44)**	**09:09 (3)**	**10:25 (13)**	**09:51 (13)**	**07:33 (1)**	**11:58 (6)**	**14:06 (8)**
Call to Arrival-2nd Arrival	**11:58 (42)**	09:09 (3)	10:25 (13)	11:12 (12)		11:58 (6)	**14:09 (8)**
Scene Duration	**103:15 (44)**	17:18 (3)	62:08 (13)	103:15 (13)	17:30 (1)	49:45 (6)	**34:25 (8)**
Total Duration	**87:58 (44)**	23:51 (3)	69:49 (13)	113:06 (13)	25:03 (1)	57:52 (6)	**34:23 (8)**

Technical Rescue - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:10 (5)**	02:06 (1)		00:18 (2)		00:08 (1)	**02:10 (1)**
Turnout	**03:04 (4)**	00:06 (1)		03:04 (2)		01:06 (1)	
Travel-Distribution	**08:03 (4)**	08:03 (1)		06:20 (2)		03:55 (1)	
Travel-2nd Arrival	**08:03 (4)**	08:03 (1)		06:20 (2)		04:19 (1)	
Dispatch to Arrival	**08:09 (6)**	08:09 (1)		09:24 (2)	00:05 (1)	05:01 (1)	**03:25 (1)**
Call to Arrival-Distribution	**09:42 (6)**	10:15 (1)		09:42 (2)	07:29 (1)	05:09 (1)	**05:35 (1)**
Call to Arrival-2nd Arrival	**09:42 (6)**	10:15 (1)		09:42 (2)	07:32 (1)	05:33 (1)	**05:51 (1)**
Scene Duration	**41:45 (6)**	14:02 (1)		46:37 (2)	25:11 (1)	26:05 (1)	**02:02 (1)**
Total Duration	**51:53 (6)**	24:17 (1)		51:53 (2)	32:40 (1)	85:26 (1)	**07:37 (1)**

Haz Mat - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:41 (142)**	02:41 (28)	02:50 (21)	02:26 (15)	02:24 (28)	01:52 (26)	**02:55 (24)**
Turnout	**02:18 (125)**	02:07 (30)	01:32 (22)	02:00 (22)	02:31 (22)	02:24 (19)	**02:17 (10)**
Travel-Distribution	**06:28 (125)**	04:28 (29)	06:28 (22)	07:58 (21)	07:11 (25)	05:32 (19)	**07:39 (9)**
Travel-2nd Arrival	**07:11 (111)**	04:32 (28)	06:28 (22)	09:36 (21)	06:28 (19)	06:34 (13)	**07:40 (8)**
Dispatch to Arrival	**08:17 (181)**	05:44 (36)	08:26 (24)	08:26 (34)	07:14 (31)	07:36 (27)	**08:17 (29)**
Call to Arrival-Distribution	**09:13 (181)**	**06:45 (36)**	**08:52 (24)**	**08:26 (34)**	**09:17 (31)**	**10:11 (27)**	**09:54 (29)**
Call to Arrival-2nd Arrival	**10:20 (154)**	07:07 (35)	08:52 (24)	08:40 (33)	09:17 (24)	10:22 (21)	**12:05 (17)**
Scene Duration	**60:50 (183)**	70:10 (36)	34:31 (24)	60:52 (33)	60:50 (33)	50:04 (28)	**46:16 (29)**
Total Duration	**70:08 (184)**	74:20 (36)	40:09 (24)	71:14 (34)	65:49 (33)	54:33 (28)	**70:03 (29)**

Demand and Performance Summary Charts (INCLUDES Mutual Aid)

All Incidents 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:33 (4,280)**	02:23 (604)	02:18 (679)	02:31 (548)	02:31 (747)	02:26 (739)	**02:55 (963)**
Turnout	**02:24 (3,066)**	01:47 (449)	02:13 (616)	02:08 (562)	02:18 (595)	02:52 (495)	**02:39 (349)**
Travel-Distribution	**08:07 (2,991)**	07:54 (427)	08:12 (569)	07:28 (540)	07:48 (605)	08:37 (493)	**08:07 (357)**
Travel-2nd Arrival	**08:21 (2,535)**	07:56 (420)	08:03 (563)	07:57 (467)	08:20 (441)	09:05 (299)	**08:36 (345)**
Dispatch to Arrival	**10:20 (5,216)**	10:05 (749)	10:22 (838)	09:49 (967)	09:17 (871)	10:51 (735)	**10:27 (1,056)**
Call to Arrival-Distribution	**11:09 (5,358)**	**10:46 (751)**	**11:04 (847)**	**10:23 (987)**	**10:30 (941)**	**12:16 (810)**	**11:55 (1,022)**
Call to Arrival-2nd Arrival	**11:16 (3,739)**	10:48 (655)	10:40 (724)	10:42 (759)	10:30 (647)	12:27 (469)	**13:02 (485)**
Scene Duration	**74:22 (5,331)**	48:30 (715)	47:54 (821)	59:31 (963)	69:14 (945)	42:03 (810)	**95:49 (1,077)**
Total Duration	**109:11 (5,748)**	96:59 (775)	98:20 (886)	112:03 (1,036)	116:58 (1,044	109:04 (879)	**109:00 (1,128**

Fire & EMS 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:29 (3,111)**	02:14 (412)	02:12 (468)	02:32 (377)	02:34 (572)	02:11 (539)	**02:51 (743)**
Turnout	**02:23 (2,367)**	01:34 (328)	02:06 (477)	02:09 (425)	02:16 (485)	02:44 (391)	**02:45 (261)**
Travel-Distribution	**07:37 (2,358)**	07:48 (319)	07:54 (450)	07:05 (423)	07:19 (499)	08:16 (395)	**08:03 (272)**
Travel-2nd Arrival	**08:00 (2,012)**	07:56 (315)	08:00 (454)	07:20 (362)	07:38 (364)	08:28 (233)	**08:31 (284)**
Dispatch to Arrival	**09:06 (3,900)**	09:05 (515)	09:06 (602)	08:55 (696)	08:30 (705)	10:00 (567)	**09:33 (815)**
Call to Arrival-Distribution	**10:07 (3,997)**	**09:43 (514)**	**10:11 (607)**	**09:30 (713)**	**08:50 (758)**	**10:59 (627)**	**10:55 (778)**
Call to Arrival-2nd Arrival	**10:44 (2,992)**	09:46 (498)	10:19 (586)	10:24 (599)	09:54 (550)	12:07 (367)	**12:52 (392)**
Scene Duration	**72:21 (4,118)**	34:44 (516)	38:32 (609)	49:45 (730)	48:27 (776)	37:21 (643)	**99:00 (844)**
Total Duration	**110:45 (4,139)**	100:29 (522)	100:40 (618)	115:12 (733)	116:14 (781)	112:39 (643)	**114:00 (842)**

EMS 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:17 (2,385)**	01:59 (371)	02:09 (405)	02:27 (277)	02:17 (446)	01:48 (412)	**02:38 (474)**
Turnout	**02:18 (1,909)**	01:24 (281)	02:11 (409)	02:06 (344)	02:06 (416)	02:41 (310)	**02:35 (149)**
Travel-Distribution	**07:08 (1,926)**	06:58 (277)	07:33 (394)	06:25 (355)	06:37 (434)	08:03 (309)	**07:20 (157)**
Travel-2nd Arrival	**07:28 (1,597)**	06:59 (276)	07:54 (396)	07:07 (300)	07:01 (309)	08:15 (153)	**07:37 (163)**
Dispatch to Arrival	**08:26 (3,014)**	08:12 (444)	08:33 (515)	07:49 (576)	07:53 (543)	09:37 (426)	**08:54 (510)**
Call to Arrival-Distribution	**09:10 (3,027)**	**08:57 (445)**	**09:01 (520)**	**08:24 (590)**	**08:24 (547)**	**10:40 (426)**	**10:09 (499)**
Call to Arrival-2nd Arrival	**09:43 (2,351)**	08:57 (438)	09:23 (508)	08:58 (508)	08:59 (411)	11:35 (260)	**11:39 (226)**
Scene Duration	**55:43 (3,053)**	26:21 (441)	28:16 (517)	29:08 (596)	31:52 (549)	30:15 (432)	**101:33 (518)**
Total Duration	**108:49 (3,070)**	95:18 (448)	96:26 (525)	110:41 (597)	111:53 (551)	113:24 (432)	**111:41 (517)**

All Fires 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**03:38 (234)**	02:38 (26)	03:22 (42)	03:27 (49)	02:52 (30)	03:38 (36)	**04:13 (51)**
Turnout	**02:55 (185)**	02:24 (23)	02:10 (38)	02:58 (44)	04:20 (30)	03:32 (33)	**02:51 (17)**
Travel-Distribution	**12:13 (152)**	12:24 (19)	10:42 (33)	11:05 (29)	12:18 (22)	12:18 (30)	**13:38 (19)**
Travel-2nd Arrival	**11:32 (139)**	12:25 (17)	10:42 (31)	08:26 (29)	12:18 (16)	10:53 (25)	**13:38 (21)**
Dispatch to Arrival	**16:27 (308)**	16:26 (45)	11:29 (58)	15:48 (74)	16:52 (37)	16:27 (39)	**17:31 (55)**
Call to Arrival-Distribution	**16:25 (296)**	**15:21 (43)**	**15:26 (58)**	**15:22 (72)**	**17:02 (36)**	**16:45 (39)**	**17:28 (48)**
Call to Arrival-2nd Arrival	**16:11 (225)**	15:21 (36)	16:10 (49)	14:12 (54)	18:39 (24)	17:17 (31)	**16:31 (31)**
Scene Duration	**171:58 (360)**	165:10 (47)	117:30 (63)	166:43 (85)	215:25 (51)	171:26 (48)	**121:07 (66)**
Total Duration	**198:08 (364)**	178:48 (47)	121:48 (63)	178:39 (86)	234:47 (53)	188:53 (48)	**196:20 (67)**

Building Fires 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**03:49 (137)**	02:38 (16)	03:22 (23)	03:48 (32)	02:50 (20)	04:03 (24)	**04:39 (22)**
Turnout	**03:29 (108)**	02:34 (12)	01:44 (17)	02:09 (26)	04:20 (21)	03:32 (23)	**02:55 (9)**
Travel-Distribution	**12:58 (78)**	12:58 (10)	11:32 (13)	11:22 (13)	13:02 (15)	09:50 (17)	**13:40 (10)**
Travel-2nd Arrival	**12:59 (67)**	12:59 (9)	11:32 (11)	11:05 (10)	13:02 (11)	12:18 (14)	**13:40 (12)**
Dispatch to Arrival	**16:49 (185)**	16:26 (32)	14:17 (31)	16:42 (43)	17:21 (30)	16:27 (23)	**18:26 (26)**
Call to Arrival-Distribution	**17:01 (174)**	**15:21 (30)**	**16:35 (31)**	**17:01 (41)**	**18:00 (29)**	**16:45 (24)**	**17:31 (19)**
Call to Arrival-2nd Arrival	**17:17 (123)**	15:54 (24)	18:09 (23)	15:08 (28)	18:39 (19)	14:20 (17)	**17:51 (12)**
Scene Duration	**205:41 (229)**	222:46 (34)	123:39 (35)	209:57 (53)	253:44 (41)	192:22 (32)	**121:45 (34)**
Total Duration	**232:14 (232)**	232:53 (34)	132:21 (35)	225:22 (54)	260:53 (42)	200:06 (32)	**244:00 (35)**

Wildland Fires 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:35 (49)**	02:18 (5)	01:04 (9)	00:40 (9)	02:52 (5)	01:42 (6)	**04:13 (15)**
Turnout	**02:36 (46)**	02:06 (5)	02:22 (14)	02:37 (10)	01:47 (5)	02:47 (6)	**02:07 (6)**
Travel-Distribution	**08:25 (40)**	07:54 (3)	07:50 (13)	07:43 (8)	09:49 (2)	10:53 (7)	**07:36 (7)**
Travel-2nd Arrival	**08:26 (38)**	07:54 (2)	07:51 (13)	08:22 (10)	09:49 (1)	08:09 (6)	**08:31 (6)**
Dispatch to Arrival	**13:23 (64)**	18:16 (5)	09:48 (15)	09:23 (18)	09:57 (2)	16:31 (9)	**13:45 (15)**
Call to Arrival-Distribution	**14:06 (62)**	**18:22 (5)**	**10:25 (15)**	**09:51 (17)**	**10:08 (2)**	**17:57 (8)**	**16:20 (15)**
Call to Arrival-2nd Arrival	**14:05 (49)**	18:22 (4)	10:25 (14)	11:12 (13)	10:08 (1)	17:57 (8)	**14:09 (9)**
Scene Duration	**123:59 (70)**	102:15 (5)	62:08 (16)	113:24 (18)	180:05 (5)	71:28 (9)	**89:11 (17)**
Total Duration	**134:31 (71)**	120:37 (5)	69:49 (16)	119:07 (18)	188:52 (6)	100:25 (9)	**99:40 (17)**

Technical Rescue 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:10 (5)**	02:06 (1)		00:18 (2)		00:08 (1)	**02:10 (1)**
Turnout	**03:04 (4)**	00:06 (1)		03:04 (2)		01:06 (1)	
Travel-Distribution	**08:03 (4)**	08:03 (1)		06:20 (2)		03:55 (1)	
Travel-2nd Arrival	**08:03 (4)**	08:03 (1)		06:20 (2)		04:19 (1)	
Dispatch to Arrival	**08:19 (8)**	08:09 (1)		09:24 (2)	08:19 (3)	05:01 (1)	**03:25 (1)**
Call to Arrival-Distribution	**09:42 (8)**	10:15 (1)		09:42 (2)	08:19 (3)	05:09 (1)	**05:35 (1)**
Call to Arrival-2nd Arrival	**09:42 (6)**	10:15 (1)		09:42 (2)	07:32 (1)	05:33 (1)	**05:51 (1)**
Scene Duration	**83:16 (8)**	14:02 (1)		46:37 (2)	149:44 (3)	26:05 (1)	**02:02 (1)**
Total Duration	**89:22 (8)**	24:17 (1)		51:53 (2)	158:03 (3)	85:26 (1)	**07:37 (1)**

Haz Mat 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:48 (149)**	02:58 (31)	02:50 (22)	01:13 (18)	02:24 (28)	01:52 (26)	**02:55 (24)**
Turnout	**02:17 (127)**	02:07 (31)	01:32 (22)	02:00 (23)	02:31 (22)	02:24 (19)	**02:17 (10)**
Travel-Distribution	**06:28 (126)**	04:28 (29)	06:28 (22)	07:58 (22)	07:11 (25)	05:32 (19)	**07:39 (9)**
Travel-2nd Arrival	**07:11 (111)**	04:32 (28)	06:28 (22)	09:36 (21)	06:28 (19)	06:34 (13)	**07:40 (8)**
Dispatch to Arrival	**08:26 (188)**	05:46 (38)	08:26 (26)	08:39 (37)	07:14 (31)	07:36 (27)	**08:17 (29)**
Call to Arrival-Distribution	**09:17 (188)**	**06:49 (38)**	**08:42 (26)**	**08:39 (37)**	**09:17 (31)**	**10:11 (27)**	**09:54 (29)**
Call to Arrival-2nd Arrival	**10:20 (156)**	07:07 (36)	08:52 (25)	08:40 (33)	09:17 (24)	10:22 (21)	**12:05 (17)**
Scene Duration	**60:52 (188)**	70:10 (38)	34:31 (26)	71:05 (34)	60:50 (33)	50:04 (28)	**46:16 (29)**
Total Duration	**70:12 (192)**	77:35 (39)	40:09 (26)	71:14 (37)	65:49 (33)	54:33 (28)	**70:03 (29)**

Response Segment Breakdown Review

BEECHER - 90% PERFORMANCE Baseline - *NO AID GIVEN*

Call Processing Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**02:25 (3,598)**	**02:11 (484)**	**02:12 (526)**	**02:27 (421)**	**02:23 (643)**	**02:04 (648)**	***02:48 (876)***
Shift B	**02:25 (1,074)**	02:20 (154)	02:14 (171)	02:31 (138)	02:19 (228)	01:49 (207)	***02:46 (176)***
Shift R	**02:17 (1,111)**	02:04 (176)	02:08 (176)	02:16 (152)	02:24 (220)	02:15 (216)	***02:46 (171)***
Shift G	**02:22 (1,100)**	02:14 (154)	02:10 (179)	02:27 (131)	02:34 (195)	01:47 (225)	***03:00 (216)***

Turnout Time Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**02:23 (2,723)**	**01:48 (405)**	**02:13 (541)**	**02:11 (503)**	**02:15 (524)**	**02:50 (438)**	***02:36 (312)***
Shift B	**02:27 (900)**	01:49 (113)	02:16 (183)	02:03 (179)	02:31 (179)	02:50 (145)	***02:43 (101)***
Shift R	**02:23 (963)**	01:47 (166)	02:12 (185)	02:03 (162)	02:18 (197)	03:06 (156)	***02:28 (97)***
Shift G	**02:19 (860)**	01:45 (126)	02:12 (173)	02:32 (162)	01:56 (148)	02:37 (137)	***02:40 (114)***

Travel Time Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**07:09 (2,761)**	**06:58 (399)**	**06:58 (521)**	**06:48 (506)**	**06:48 (558)**	**07:58 (454)**	***07:37 (323)***
Shift B	**07:04 (911)**	07:29 (115)	07:31 (175)	06:02 (178)	06:44 (191)	06:59 (149)	***07:36 (103)***
Shift R	**06:54 (957)**	06:58 (160)	06:50 (179)	06:48 (157)	06:53 (203)	06:40 (157)	***07:03 (101)***
Shift G	**07:25 (893)**	06:48 (124)	06:19 (167)	07:05 (171)	06:38 (164)	08:09 (148)	***07:40 (119)***

Dispatch to Arrival Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**08:33 (4,449)**	**08:03 (598)**	**08:00 (672)**	**07:58 (791)**	**08:04 (770)**	**09:17 (661)**	***09:06 (957)***
Shift B	**08:31 (1,367)**	08:26 (207)	08:29 (225)	07:32 (264)	07:37 (261)	09:06 (218)	***09:54 (192)***
Shift R	**08:30 (1,349)**	07:59 (208)	07:59 (224)	08:19 (245)	08:08 (264)	09:46 (220)	***09:36 (188)***
Shift G	**08:29 (1,390)**	07:36 (183)	07:46 (223)	08:20 (282)	08:13 (245)	09:11 (223)	***09:19 (234)***

Call to Arrival Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**09:27 (4,608)**	**08:50 (601)**	**08:42 (683)**	**08:37 (815)**	**08:50 (838)**	**10:48 (733)**	***10:55 (938)***
Shift B	**09:37 (1,437)**	08:58 (211)	08:52 (227)	07:53 (271)	08:59 (289)	10:40 (251)	***11:25 (188)***
Shift R	**09:22 (1,374)**	08:25 (207)	08:37 (229)	08:52 (249)	09:05 (281)	11:07 (236)	***12:01 (172)***
Shift G	**09:13 (1,445)**	08:57 (183)	08:02 (227)	08:39 (295)	08:42 (267)	10:24 (246)	***10:33 (227)***

Scene Duration Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**52:38 (4,599)**	**30:41 (587)**	**29:38 (669)**	**32:55 (810)**	**38:25 (826)**	**34:45 (726)**	**95:07 (981)**
Shift B	38:06 (1,440)	30:13 (204)	29:46 (223)	30:06 (269)	37:07 (286)	34:45 (250)	**91:28 (208)**
Shift R	44:19 (1,385)	32:51 (204)	30:06 (226)	36:43 (246)	41:36 (274)	35:01 (239)	**87:52 (196)**
Shift G	38:32 (1,426)	29:39 (179)	28:31 (220)	33:10 (295)	37:55 (265)	33:48 (237)	**83:25 (230)**

Total Duration Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**105:02 (4,758)**	**91:23 (605)**	**92:16 (691)**	**107:31 (822)**	**109:20 (870)**	**108:30 (765)**	**106:18 (1,005)**
Shift B	104:16 (1,495)	90:33 (211)	95:17 (231)	106:24 (275)	108:38 (306)	105:32 (262)	**109:55 (210)**
Shift R	106:03 (1,411)	94:06 (209)	96:18 (232)	105:28 (251)	109:40 (286)	107:10 (241)	**107:57 (192)**
Shift G	104:36 (1,487)	86:59 (185)	86:17 (228)	109:23 (296)	108:53 (277)	113:24 (262)	**101:17 (239)**

Travel to Hospital Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**29:30 (1,946)**	**25:11 (290)**	**28:26 (325)**	**31:19 (401)**	**29:58 (417)**	**30:45 (321)**	**29:30 (192)**
Shift B	29:18 (650)	23:33 (102)	26:59 (107)	30:59 (127)	29:58 (138)	31:00 (119)	33:13 (57)
Shift R	29:44 (626)	23:36 (95)	28:05 (100)	31:59 (119)	29:32 (148)	27:40 (107)	32:34 (57)
Shift G	29:30 (670)	27:54 (93)	28:51 (118)	30:16 (155)	29:46 (131)	30:55 (95)	26:49 (78)

Hospital Duration Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**68:06 (1,481)**	**61:59 (139)**	**60:28 (224)**	**74:43 (308)**	**69:33 (378)**	**69:48 (285)**	**63:48 (147)**
Shift B	66:51 (510)	60:14 (53)	56:34 (75)	72:43 (96)	69:15 (131)	65:23 (107)	68:51 (48)
Shift R	70:53 (482)	66:13 (44)	70:53 (74)	85:52 (97)	73:59 (129)	64:12 (91)	63:50 (47)
Shift G	67:36 (489)	57:02 (42)	56:11 (75)	70:27 (115)	67:31 (118)	70:33 (87)	57:25 (52)

Call Processing

BENCHMARK (90% of Incidents)

< 1:04 (1:00)

Illinois established that 911 calls are transferred to the PSAP designated by the law enforcement district's jurisdiction (Laraway Communication Center). NFPA 1221, Standards for Installation, Maintenance, and Use of Emergency Services Communications Systems, 2016 Edition, establishes a PSAP transfer performance standard of ≤ 30 seconds 95% of the time. Transfer times are not currently being tracked at this time.

Call Processing Analysis 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**02:25 (3,598)**	**02:11 (484)**	**02:12 (526)**	**02:27 (421)**	**02:23 (643)**	**02:04 (648)**	***02:48 (876)***
Shift B	**02:25 (1,074)**	02:20 (154)	02:14 (171)	02:31 (138)	02:19 (228)	01:49 (207)	***02:46 (176)***
Shift R	**02:17 (1,111)**	02:04 (176)	02:08 (176)	02:16 (152)	02:24 (220)	02:15 (216)	***02:46 (171)***
Shift G	**02:22 (1,100)**	02:14 (154)	02:10 (179)	02:27 (131)	02:34 (195)	01:47 (225)	***03:00 (216)***

NFPA 1710 requires that 90% of all calls must be "processed" in less than 64 seconds (95% < 106 seconds).

*Times are 90% performance measures with **NO AID** given and outliers removed.

Fire & EMS - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Call Processing	**02:23 (2,888)**	**02:09 (391)**	**02:10 (421)**	**02:28 (331)**	**02:25 (530)**	**01:59 (508)**	**02:42 (707)**

However, there is another time that needs to be reviewed. It is the time before the call is initiated. Per NFPA 1221 & 1710, the time an emergency call is initiated to being answered (ring time) is <15 sec for 95% of all calls and <40 for 99%. If a Primary PSAP (Public Safety Answering Point) is different from the Fire/EMS Dispatcher, that call needs to be transferred in less than 30 seconds. These times, thus far, have not been obtained to validate compliance.

Fire & EMS (Emergency) Incidents – No Aid given

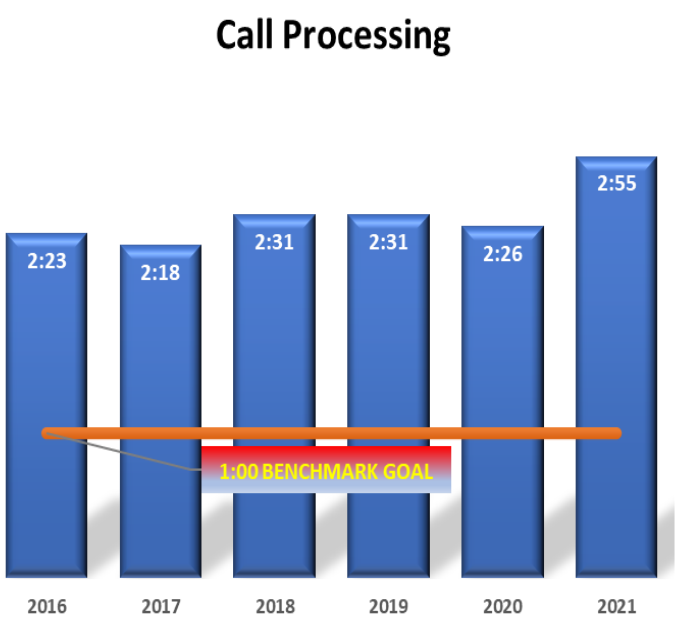
The overall baseline times show **exceeding** this 1:00 benchmark by **1:23 seconds**

Other benchmark times prior to Fire Dispatch picking up 911 call to be processed
(Not analyzed here)

911 Call Answered (**Ring Time**)	**< 15 sec 95%**
	< 40 sec 99%
PSAP 1 transfer to PSAP 2	**< 30 sec 90%**
(If not primary PSAP)	

Call Processing –
("911 – Where and What is your Emergency?")

Call Processing	**< 64 sec 90%**
	< 106 sec 95%



Turnout

BENCHMARK (90% of Incidents)

< 1:00 - EMS

< 1:20 - FIRES

The time when the Stations or Units are notified of the incident until the "wheels are turning" and the unit is heading to the incident. Numerous factors may influence turnout times, including station alerting, physical station configuration, vehicle placement, "jump companies" – reactive response depending on the incident type, day/night calls, crew activity, and more.

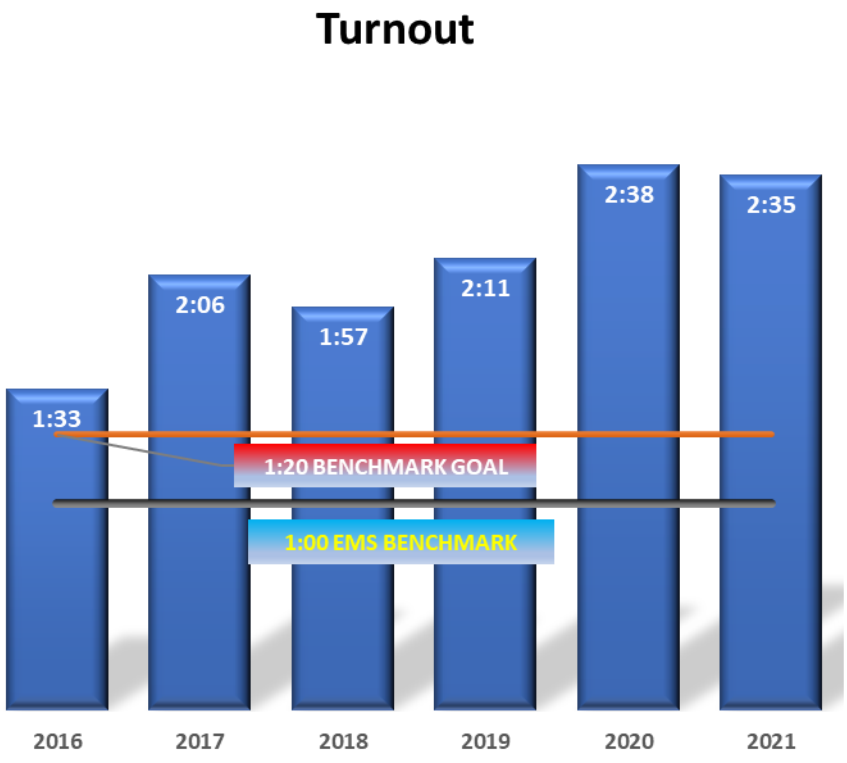
Turnout Time Analysis 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**02:23 (2,723)**	**01:48 (405)**	**02:13 (541)**	**02:11 (503)**	**02:15 (524)**	**02:50 (438)**	***02:36 (312)***
Shift B	**02:27 (900)**	01:49 (113)	02:16 (183)	02:03 (179)	02:31 (179)	02:50 (145)	***02:43 (101)***
Shift R	**02:23 (963)**	01:47 (166)	02:12 (185)	02:03 (162)	02:18 (197)	03:06 (156)	***02:28 (97)***
Shift G	**02:19 (860)**	01:45 (126)	02:12 (173)	02:32 (162)	01:56 (148)	02:37 (137)	***02:40 (114)***

*Times are 90% performance measures with **NO AID** given and outliers removed.

Fire & EMS - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Turnout	**02:21 (2,188)**	01:33 (310)	02:06 (436)	01:57 (290)	02:11 (443)	02:38 (228)	**02:35 (247)**

FIRE & EMS Incidents (Emergency) – No Aid Given

The overall baseline times show **exceeding** this 1:00 benchmark by **1:21 seconds**



Travel

BENCHMARK (90% of Incidents)

< 4:00 – First Due Unit (Engine)

< 6:00 - Second-due Engine (per new 2020 edition NFPA 1710)*

< 8:00 – Effective Response Force (ERF) / Balance of Alarm

The time from the unit responds to when it arrives on the scene. These times are impacted by the distance of the location of an incident from the responding station or unit, street network (configurations, speed limits, etc.), traffic, traffic control devices, construction, train crossings, type of apparatus responding, weather, AVL dispatching, and other.

Travel Time Analysis 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	*2021*
Department-Wide	**07:09 (2,761)**	**06:58 (399)**	**06:58 (521)**	**06:48 (506)**	**06:48 (558)**	**07:58 (454)**	***07:37 (323)***
Shift B	**07:04 (911)**	07:29 (115)	07:31 (175)	06:02 (178)	06:44 (191)	06:59 (149)	***07:36 (103)***
Shift R	**06:54 (957)**	06:58 (160)	06:50 (179)	06:48 (157)	06:53 (203)	06:40 (157)	***07:03 (101)***
Shift G	**07:25 (893)**	06:48 (124)	06:19 (167)	07:05 (171)	06:38 (164)	08:09 (148)	***07:40 (119)***

*Times are 90% performance measures with **NO AID** given and outliers removed.

Fire & EMS - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Travel-Distribution	**07:00 (2,227)**	07:22 (305)	06:52 (419)	06:16 (296)	06:38 (471)	07:02 (244)	**07:20 (258)**
Travel-2nd Arrival	**07:28 (1,911)**	07:24 (304)	07:03 (425)	07:05 (347)	07:15 (348)	08:09 (220)	**07:50 (267)**

All Incidents - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Travel-Distribution	**07:09 (2,761)**	06:58 (398)	06:58 (521)	06:27 (375)	06:48 (558)	07:35 (295)	**07:37 (323)**
Travel-2nd Arrival	**07:31 (2,364)**	07:10 (395)	07:00 (523)	07:15 (442)	07:19 (412)	08:28 (277)	**08:03 (315)**

FIRE & EMS Incidents (Emergency) – No Aid Given

The overall baseline times show **exceeding** this 4:00 benchmark by **3:00**

Call to Arrival

BENCHMARK (90% of Incidents)

< 6:00 - 6:20 – First Due Unit

< 10:00 - 10:20 – Effective Response Force (ERF) / Balance of Alarm

The "**Total Response Time**" or "Hello to Hello" time from the 911 call to the first unit and ERF arrives, including all response segments: from **Call Processing** to **Turnout to Travel** for the **1st Arriving Company**.

Call to Arrival Analysis							
90% Baseline Performance	**Overall**	**2016**	**2017**	**2018**	**2019**	**2020**	***2021***
Department-Wide	**09:27 (4,608)**	**08:50 (601)**	**08:42 (683)**	**08:37 (815)**	**08:50 (838)**	**10:48 (733)**	***10:55 (938)***
Shift B	**09:37 (1,437)**	08:58 (211)	08:52 (227)	07:53 (271)	08:59 (289)	10:40 (251)	***11:25 (188)***
Shift R	**09:22 (1,374)**	08:25 (207)	08:37 (229)	08:52 (249)	09:05 (281)	11:07 (236)	***12:01 (172)***
Shift G	**09:13 (1,445)**	08:57 (183)	08:02 (227)	08:39 (295)	08:42 (267)	10:24 (246)	***10:33 (227)***

Dispatch to Arrival Analysis							
90% Baseline Performance	**Overall**	**2016**	**2017**	**2018**	**2019**	**2020**	***2021***
Department-Wide	**08:33 (4,449)**	**08:03 (598)**	**08:00 (672)**	**07:58 (791)**	**08:04 (770)**	**09:17 (661)**	***09:06 (957)***
Shift B	**08:31 (1,367)**	08:26 (207)	08:29 (225)	07:32 (264)	07:37 (261)	09:06 (218)	***09:54 (192)***
Shift R	**08:30 (1,349)**	07:59 (208)	07:59 (224)	08:19 (245)	08:08 (264)	09:46 (220)	***09:36 (188)***
Shift G	**08:29 (1,390)**	07:36 (183)	07:46 (223)	08:20 (282)	08:13 (245)	09:11 (223)	***09:19 (234)***

*Times are 90% performance measures with **NO AID** given and outliers removed

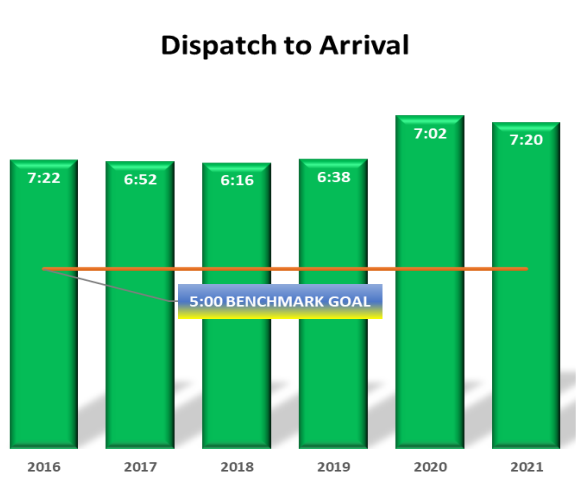
EMS - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Dispatch to Arrival	**08:13 (2,955)**	07:53 (437)	07:54 (495)	07:46 (564)	07:29 (534)	09:07 (418)	**08:54 (507)**
Call to Arrival-Distribution	**08:58 (2,969)**	**08:45 (438)**	**08:34 (500)**	**08:03 (577)**	**08:15 (539)**	**10:24 (418)**	**10:08 (497)**

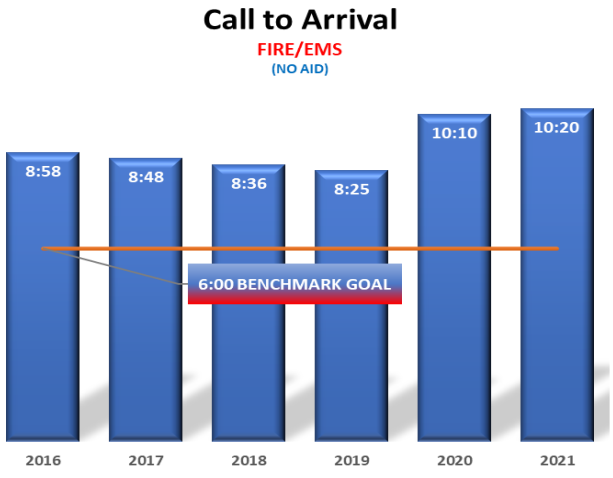
All Fires - Department-Wide 90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Dispatch to Arrival	**10:03 (133)**	08:59 (18)	09:48 (25)	09:51 (35)	09:41 (10)	12:39 (21)	**10:58 (24)**
Call to Arrival-Distribution	**11:40 (136)**	**09:09 (19)**	**10:25 (25)**	**09:58 (36)**	**09:41 (10)**	**12:39 (21)**	**14:45 (25)**

*DISPATCH TO ARRIVAL times EXCLUDE CALL PROCESSING = Turnout + Travel

FIRE & EMS Incidents (Emergency) – No Aid Given

The overall baseline times show **exceeding** this 6:00-6:20 benchmark by **2:13 (EMS) to 3:43 (FIRES)**





Scene Duration

The time from the arrival of the first unit until the last unit leaves the scene. There is no benchmark time; however, the longer the units are committed to the incident, the less likely they can respond to another incident.

Scene Duration Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**52:38 (4,599)**	**30:41 (587)**	**29:38 (669)**	**32:55 (810)**	**38:25 (826)**	**34:45 (726)**	**95:07 (981)**
Shift B	38:06 (1,440)	30:13 (204)	29:46 (223)	30:06 (269)	37:07 (286)	34:45 (250)	**91:28 (208)**
Shift R	44:19 (1,385)	32:51 (204)	30:06 (226)	36:43 (246)	41:36 (274)	35:01 (239)	**87:52 (196)**
Shift G	38:32 (1,426)	29:39 (179)	28:31 (220)	33:10 (295)	37:55 (265)	33:48 (237)	**83:25 (230)**

Time to Hospital (Transport)

The time from the Ambulance departs the scene until it arrives at the hospital.

Travel to Hospital Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**29:30 (1,946)**	**25:11 (290)**	**28:26 (325)**	**31:19 (401)**	**29:58 (417)**	**30:45 (321)**	**29:30 (192)**
Shift B	29:18 (650)	23:33 (102)	26:59 (107)	30:59 (127)	29:58 (138)	31:00 (119)	33:13 (57)
Shift R	29:44 (626)	23:36 (95)	28:05 (100)	31:59 (119)	29:32 (148)	27:40 (107)	32:34 (57)
Shift G	29:30 (670)	27:54 (93)	28:51 (118)	30:16 (155)	29:46 (131)	30:55 (95)	26:49 (78)

Time at Hospital (Turn-around)

The time the Ambulance arrives at the hospital to its departure and the availability potential for another call (dependent on travel time and distance from the various hospitals back into the District).

Hospital Duration Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**68:06 (1,481)**	**61:59 (139)**	**60:28 (224)**	**74:43 (308)**	**69:33 (378)**	**69:48 (285)**	**63:48 (147)**
Shift B	66:51 (510)	60:14 (53)	56:34 (75)	72:43 (96)	69:15 (131)	65:23 (107)	68:51 (48)
Shift R	70:53 (482)	66:13 (44)	70:53 (74)	85:52 (97)	73:59 (129)	64:12 (91)	63:50 (47)
Shift G	67:36 (489)	57:02 (42)	56:11 (75)	70:27 (115)	67:31 (118)	70:33 (87)	57:25 (52)

Total Duration

The total time from the incident creation to the last unit being placed back in service. There is no benchmark time; however, this number ties into reliability and unit hour utilization with commitment time to incidents.

Total Duration Analysis

90% Baseline Performance	Overall	2016	2017	2018	2019	2020	2021
Department-Wide	**105:02 (4,758)**	**91:23 (605)**	**92:16 (691)**	**107:31 (822)**	**109:20 (870)**	**108:30 (765)**	**106:18 (1,005)**
Shift B	104:16 (1,495)	90:33 (211)	95:17 (231)	106:24 (275)	108:38 (306)	105:32 (262)	**109:55 (210)**
Shift R	106:03 (1,411)	94:06 (209)	96:18 (232)	105:28 (251)	109:40 (286)	107:10 (241)	**107:57 (192)**
Shift G	104:36 (1,487)	86:59 (185)	86:17 (228)	109:23 (296)	108:53 (277)	113:24 (262)	**101:17 (239)**

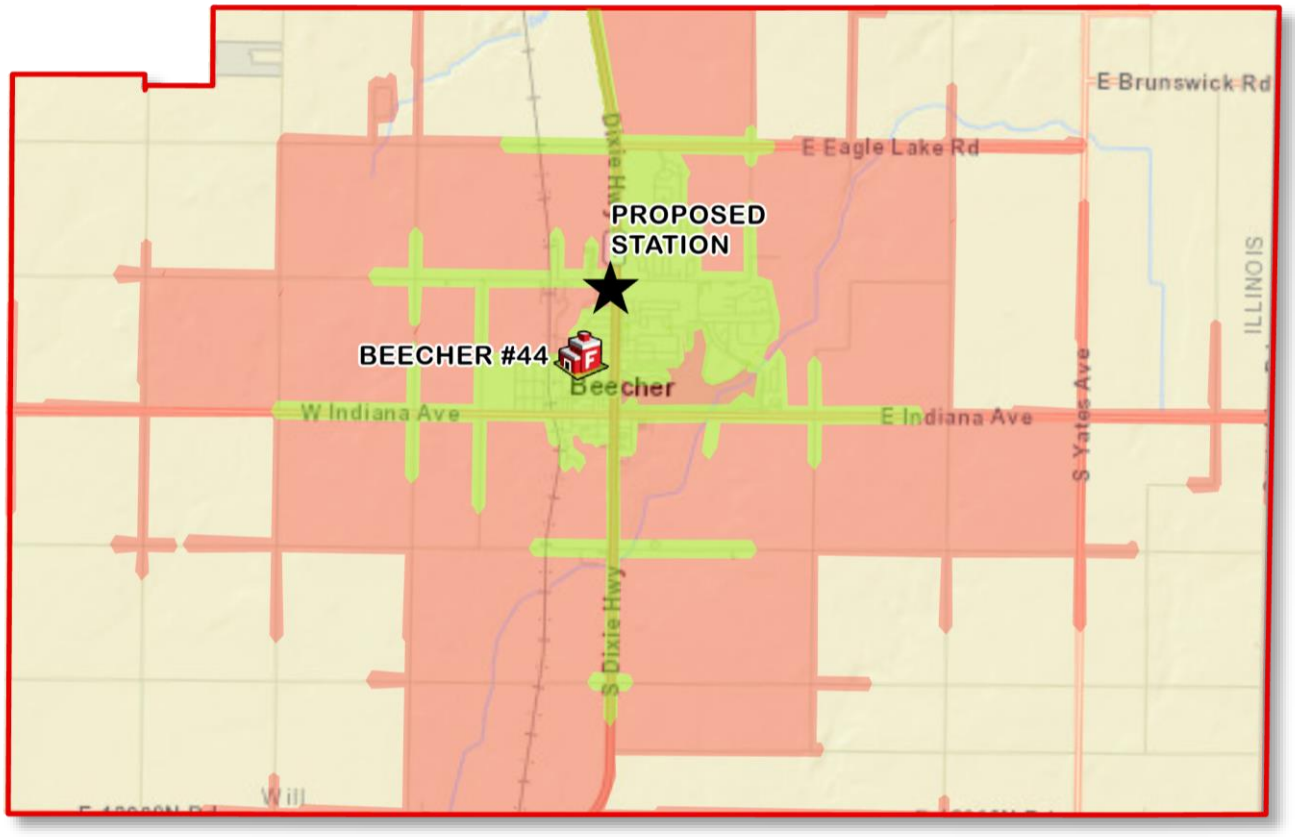
Options

Travel Time Potential - PROPOSED New Station

Potential New Station (2nd)

*Based on historical incident plots

Adding a new 2nd Station near Church Street & Dixie Highway would improve response times to the northern part of the District as a primary first due unit and improve the backup/ERF responses to Stations 44.



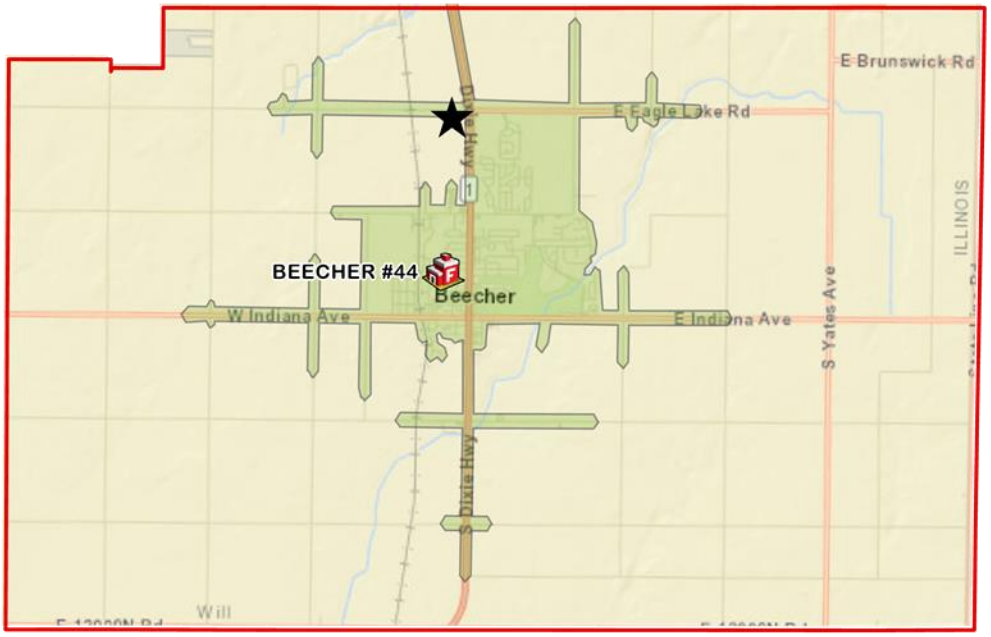
STATION DRIVE TIMES

<4 Minutes

4 - 8 Minutes

Proposed Station


E Brunswick Rd
E Eagle Lake Rd
Dixie Hwy
ILLINOIS
BEECHER #44
Beecher
W Indiana Ave
E Indiana Ave
S Yates Ave
S Dixie Hwy
Will


E Brunswick Rd
E Eagle Lake Rd
Dixie Hwy
ILLINOIS
BEECHER #44
Beecher
W Indiana Ave
E Indiana Ave
S Yates Ave
S Dixie Hwy
Will


E Brunswick Rd
E Eagle Lake Rd
Dixie Hwy
PROPOSED
STATION
ILLINOIS
BEECHER #44
Beecher
W Indiana Ave
E Indiana Ave
S Yates Ave
S Dixie Hwy
Will

PLAN FOR MAINTAINING & IMPROVING CAPABILITIES

6

SECTION 6 -- A Plan for Maintaining and Improving Response Capabilities

Plan for Maintain and Improving Response Capabilities

The plan is to develop, maintain, and improve response capabilities.

Compliance / Review Methodology

Implementing a plan to guide improving and maintaining Standards of Cover (SOC) response capabilities and performance has been a goal for the Fire Protection District. The District is committed to developing the SOC process to continually analyze the data and use the analytics for continual improvement to achieve this goal. Therefore, with the Chief's facilitation, the team shall be assigned to manage the compliance outlined in the following steps.

Step 1 – Establish and Review Performance Objectives to establish performance objectives.

- Identify services provided.
- Defined level of service.
- Identify and categorize levels of risk.
- Developed performance distribution/concentration measures and associated objectives.

While much of this process may remain the same with each CRA-SOC process, it is essential to review the underlying organizational assumptions and ensure they are accurate and relevant. This can be in the form of environmental scanning with an emphasis on community expectations, updating and establishing any new performance measures shall occur when:

- The District delivers changes in the type(s) services.
- New mandated laws or regulations that require a difference in the method of service delivery.
- Significant changes occur within the District boundaries.
- The Board of Trustees or the Fire Chief needs to adjust performance service delivery and associated performance objectives.

Step 2 – Evaluate Performance Objectives at all levels.

Performance as a District-wide level

DAILY	**STATION/UNIT** LEVEL	(including CQI on EMS)
MONTHLY	**SHIFT/ BATTALION** LEVEL	(each/all 3 shifts)
QUARTERLY	**OPERATIONS/ADMIN** LEVEL	(review all shifts)
YEARLY	**OPS/ADMIN/BATTALIONS**	(SOC/Deployments)

Step 3 – Develop Compliance Strategies that shall include, but are not limited to:

- Ensure the maximization of existing resources.
- Evaluation of partnering opportunities.
- Consideration of alternate means of service delivery.
- Create recommendations for allocating additional financial resources to improve service delivery.
- Individual or group actions that can improve service delivery.
- Recommend response performance reporting systems.

Step 4 – Communicate Expectations

This edition of the CRA-SOC clearly outlines service level-response performance objectives. These performance objectives need to be communicated to the operations personnel responsible for service delivery. The methods for communicating objective performance expectations may include, but are not limited to:

- Direct communication with crews by the Chiefs.
- Publish and post the CRA-SOC on the District internet and in-station.
- Exploring near real-time live delivery of response expectations via email alerts.

Step 5 – Validate Compliance

Chiefs shall monitor response performance data each Shift for gross deviance from performance standards:

- Monthly performance reports that include performance data by unit, station, and Shift shall be developed, standardized, and distributed to all personnel through the chain of command.
- Quarterly performance reports shall be developed and delivered at the quarterly meetings.

A comprehensive annual performance report shall be developed. The annual report shall include: all aspects of performance compliance for the previous calendar year, any significant trends identified by analyzing

performance, any new external influences or altered conditions, new growth, development trends, and new or changing risks. The annual report shall be submitted to the Chief and Board of Trustees for their review and comments.

Step 6 – Make Necessary Adjustments

Reviewing the information developed to validate compliance and performance "gaps" can be identified and formulated for improvement developed by the Command Staff.

Annual Review of the CRA-SOC Document

In addition to developing an annual performance report as outlined, the SOC team shall review yearly the entire CRA-SOC to make any necessary adjustments. Following the SOC team's annual review, the CRA-SOC shall be reviewed and adopted annually by the Board of Trustees.

Accreditation Overview

It is recommended that the District achieves Accreditation status. This Community Risk Assessment / Standards of Cover (CRA/SOC) is one of the three components needed. The other two are a STRATEGIC PLAN and SELF-ASSESSMENT MANUAL.

What is Accreditation?

CFAI accreditation is a process of agency self-assessment. The Center for Public Safety Excellence (CPSE) and the Commission on Fire Accreditation International (CFAI) provide the accreditation model, various accreditation publications and training, and access to experienced peer assessors.

Working towards, achieving, and maintaining accreditation shall:

- Raise the profile of your agency with your community.
- Emphasize your agency's dedication to excellence to your stakeholders.
- Establish an agency-wide culture of continuous improvement.
- Assist with communicating your leadership's philosophies.
- Build positive relationships with your labor groups.
- Offer independent verification and validation of your agency's operations.
- Provide accurate, objective data and information for your elected officials.

Accredited agencies are often described as community-focused, data-driven, outcome-focused, strategic-minded, well organized, equipped, adequately staffed, and trained.

Part of the reason for this is the holistic scope of the CFAI model. It includes **eleven categories** with **252 performance indicators** that cover the span of fire and emergency service operations:

- Governance and Administration
- Assessment and Planning
- Goals and Objectives
- Financial Resources
- Programs
- Physical Resources
- Human Resources
- Training and Competency
- Essential Resources
- External Systems Relationship

Category 5 (Programs) covers the whole gamut:

- Community Risk Reduction
- Public Education
- Fire Investigations
- Domestic Preparedness
- Fire Suppression
- EMS
- Technical Rescue
- Hazmat
- Aviation Rescue and Firefighting
- Marine and Shipboard Rescue and Firefighting
- Wildland Firefighting

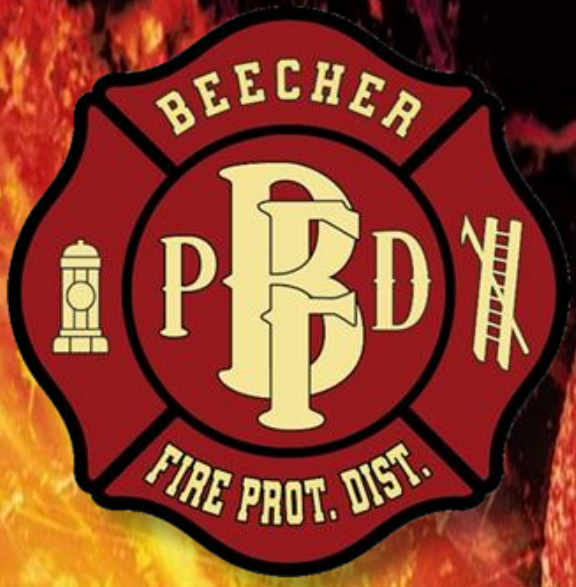
Like many fire and emergency services agencies, you may find yourself living in a world between public service and private demand. Your agency's goals likely include reducing property and life loss and promoting employee safety. However, you often find yourself making choices. Before making choices, wouldn't you want to know your current status? That is where self-assessment is invaluable. Self-assessment is an excellent way of coping with the rise of performance-based budgeting. This type of budgeting requires measuring, benchmarking, and analysis, all of which are in the CFAI model. Government accountability has also been an emerging trend for the last few decades. Self-assessment provides a reliable response to increased oversight by managers and elected officials and potential criticism from the community.

Accreditation – Is it worth it?

Agency accreditation is a voluntary process. Some agencies seek a dollar-for-dollar return on investment before pursuing accreditation. The real investment is agency staff time, and the actual yield is a better-run, higher-performing agency. Accreditation is recognition of achievement Internationally. It shows your community that your agency performs to industry best practices and holds itself accountable through an external peer review. Document review and onsite assessment by CFAI peer assessors are comprehensive. Accreditation reports often include peer recommendations for improvement beyond those your agency may have considered.

KEY FINDINGS

RECOMMENDATIONS



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7

SECTION 7 -- Key Findings and Recommendations

Key Findings & Recommendations

These findings and recommendations result from the Board of Trustees' oversight and efforts to continually examine and improve the most **effective, efficient** emergency services to the entire Fire Protection District. An extensive review of data was conducted from multiple sources: including NFIRS, CAD, RMS, Budgets, Audits, Annual Reports, and more. Data analytics utilizing GIS, StatsFD, and other software were part of this process. Below are several recommendations and observations made during site visits and include discussions with Command Staff. These are *in no particular order*, but all help the District continue to improve and meet its mission.

ADMIN

- Initiate Automatic Vehicle Locator (AVL)/GPS = Closest available resource response
- Lower ISO Rating
- Evaluate Divisional EMS and Rescue Billing levels for possible increased revenue sourcing,
- Pursue additional grant funding and bond/tax reallocation efforts
- Continue and expand Survey Card program and Stakeholder interactions
- Work towards Regionalization/Consolidation efforts for cost savings, elimination of redundancies, with a higher level of service improvements
- Completion of the CPSE Accreditation (including Self-Assessment Manual and Strategic Plan)
- Standardize reporting and utilize data for analysis on a monthly/quarterly basis
- Utilize ***mySidewalk, NFORS, Continuum***, or other performance software resources for interactive monitoring (in addition to continued ***StatsFD*** use internally)
- Work toward meeting Response Benchmarks – plans and processes to monitor compliance
- Continue outcome-based goal setting (patient surveys, cardiac arrest survival rates, etc.)
- Review Organization Chart/responsibilities. Consider additional Admin staff (+1 DC, Training, EMS)

APPARATUS

- Review and continue to implement Fleet Replacement Schedule to meet NFPA standards
- Consider regionalized fleet maintenance facility
- Utilize first due unit ID when reserve apparatus is being used in place of that first due unit

STAFFING

- **Develop regionalized or shared resources/services** (staffing, manning, reserves, etc.)
- Consider implementation of Shift Commander/Battalion Chief positions for 24-hour Command functions
- Consider eliminating Jump Companies for Dedicated Companies (1 Engine, 1 Truck, 1 Ambulance or similar) for improved pro-active responses vs. reactive, reduced turnout times, better coverage within Still Districts (especially in back-to-back call scenarios)
- Consider the use of "peak period" ambulance or other staffing
- Work toward 4-person fire companies (NIST manpower efficiency studies and NFPA 1710)
- Deployment model to fit workload and monitor for maximizing efficiency

STATIONS

- Reduce turnout times (station alerting, layouts, toning procedures, etc.)
- Consider the addition of 2nd Station or "sub-stations"

TRAINING

- **Complete all projects at the Training Tower site asap**
- Expand the use of the Training Tower, including automatic aid departments
- Evaluate Special Operations (Rescue, - Extrication, Water, TRT/CART, HazMat) Technician levels
- Continue Credential Certification for Officers
- **Maximize programs to meet, and exceed minimum ISO training levels**

DISPATCH

- Reduce Call Processing times to meet or exceed benchmarks and national standards
- AVL/GPS Dispatching

Merger and Consolidations

The Fire District has many growth opportunities, especially regarding consolidation and merger potential with neighboring fire protection districts. This entails much discussion and detailed cost/benefit ratio analysis. However, these types of arrangements, either functional or full consolidation, merit a thorough review and deliberations as a cost-effective force multiplier reducing redundant expenses.

ADDITIONAL RECOMMENDATIONS TO FOLLOW upon completion and review of SAM/Strategic Plan

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BEECHER
FIRE PROT. DIST
APPENDIX
8

BEECHER FIRE PROTECTION DISTRICT

OFFICER RESPONSIBILITIES 1/2/2022

ASSIGNMENT	RESPONSIBILITY
TRAINING	
Training Officer	**DC Heusing**
Secretary of State Third Party Sign-Off	**Falaschetti**
OFSM Liason	**DC Heusing**
EMS	
EMS Coordinator	**Lt. Gibson**
Assistant EMS Coordinator	**Lt. Welsh**
CPR Coordinator	**FF/PM Daisy**
Ambulance Maintnenace	**Lt. Gibson**
Quality Assurance	**Lt. Welsh**
APPARATUS	
Fire Apparatus Maintnenance	**DC Heusing**
Small tools and Equipment	**Lt. Zelhart**
Self-Contained Breathing Apparatus	**Lt. Welsh**
Ladder Testing	**Lt. Zelhart**
Hose Testing	**Lt. Zelhart**
Gas Meter Coordinator	**Lt. Anderson**
FACILITY	
Building/Grounds Maintenance	**Lt. Welsh**
Station cleaning supplies/ State Chemical	**Lt. Welsh**
SOFTWARE	
ESO Administrator	**Lt. Gibson**
Check-It Administrator	**DC Heusing**
Website Administrator	**Falaschetti**
FLOWMSP Preplan Administrator	**Inspector Davidson**
Fire Manager Administrator	**Falaschetti**
NFIRS Reporting Officer	**Lt. Gibson**
MISCELLANEOUS	
Quartermaster Uniforms & Turnout Gear	**Lt. Anderson**
Communications Equipment	**Falaschetti**
Fuel ID	**Falaschetti**
Fire Prevention Bureau	**Inspector Davidson**
Public Education	**Lt. Welsh**
Knox Boxes	**Inspector Davidson**
Will County 911 Liason	**Falaschetti**
GSAXCESS Coordinator	**Falaschetti**
Paid-on-Call Division	**Lt. Zelhart**

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BEECHER FIRE PROTECTION DISTRICT

COMMUNITY RISK ASSESSMENT

STANDARDS OF COVER

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