Carlton Fire & Ambulance

Ambulance Optimization Report

November 11, 2022

Prepared by:

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November 11, 2022

Carlton City Council
Mike Soderstrom, Mayor
310 Chestnut Avenue
PO Box 366
Carlton, MN 5718

Mr. Mayor and Council Members,

The City of Carlton has contracted with OakPoint, Inc. to conduct an evaluation of Carlton Fire and Ambulance to determine optimization options for future service delivery. A similar project began at the same time at Cromwell-Wright Area Fire District. OakPoint, Inc. has worked with both organizations to collaborate on the recommendations included in this report.

OakPoint, Inc. is an S-Corporation formed in 2014 to provide professional services to healthcare, emergency management and public safety organizations. The company is owned and operated by Mark T. Jones. Mr. Jones began his healthcare career in 1993 working as a Paramedic and EMT for nearly thirty years in rural EMS systems. A twenty-year career in rural hospital management and operations including fifteen years leading a rural ambulance service has prepared Mark to assist OakPoint's clients plan and prepare for their futures. Mark has a BS in Business Management from the University of Minnesota and is actively involved in numerous community and healthcare industry organizations.

Information was gathered from a variety of employees and stakeholders over a seven-month period in 2022. Administration, management, staffing, operations, and funding were thoroughly evaluated. The current state of each of these areas is detailed in this report. Recommendations for optimization are provided to round out the report.

It has been my honor to work with the City of Carlton on this project. I trust the recommendations included in this report will be used as the foundation for a sustainable ambulance service that will serve the residents and visitors of the City of Carlton and surrounding communities.

Sincerely,

Mark T. Jones
President

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CARLTON FIRE AND AMBULANCE

Ambulance Optimization Report

Executive Summary

This report is the product of a nine-month review of Carlton Fire and Ambulance's past, present and future. Numerous interviews were conducted to gain insight into what's working, what's not, and what ideas are out there in support of a sustainable future. The report includes a history of rural EMS, an overview of Carlton Fire and Ambulance past and present, and recommendations to ensure high reliability of service the community expects and deserves.

HISTORY OF RURAL EMS

The modern model of rural EMS in Minnesota dates back to the early 1970s. It was at this time that the federal government realized the need to develop a system to provide trained EMS providers to all areas of the country. Funding was made available and EMS systems throughout rural Minnesota began to evolve. Unfortunately, the focus of this funding moved away from EMS in the 1980s causing the pace of EMS system development to slow. The 1990s brought a transformation of EMS from transport only to providing healthcare during the transport. Payment for services, led by Medicare, was completely overhauled at the end of the 90s. A payment model of reimbursing for the transport of sick people at a set rate went into effect and remains today. Moving into the 21st century to today, rural EMS has made very little change. Countless studies and reports cite workforce and funding as top concerns with attention needed to avoid crisis. Even with these workings, workforce and funding remain the top issues. Rural EMS has hope but it will take a collaborative approach and strong community support to build a model for the future.

CARLTON FIRE & AMBULANCE OVERVIEW

Carlton Fire & Ambulance (CFA) serves a Primary Service Area of 10,000 residents spread across 160 square miles of Carlton County, MN. Service is provided 24 hours per day, seven days a week by one basic life support ambulance staffed by Emergency Medical Technicians (EMT) and Emergency Medical Responders (EMR). CFA responds to 800 calls per year with over 80% being medical calls serviced by the ambulance. CFA has experienced a 3% increase in ambulance call volume over each of the past four years. The average 911 call lasts 1 hour 23 minutes with interfacility transfers consuming an average of 3 hours and 50 minutes. On-call time, or the time waiting for a call, accounts for 90% of staffs time.

CFA employs an Ambulance Manager for 10 hours/week at a rate of $700/month. The Ambulance Manager reports to the CFA Fire Chief. CFA has 56 employees on its paid on-call roster. 43 of these individuals have been active with the ambulance for five or fewer years. Over the past five years CFA has experienced a 10% turnover rate. Currently the staff roster is made up of 40 EMTs, 14 EMRs, and 2 Cadets. Paid on-call staff wages range from $8 to $14/hour. A $2/hour wage increase for all paid on-call staff was approved in September 2022.

The CFA ambulance budget is set by the City of Carlton in consultation with the CFA Fire Chief. Billing for patient transport is the largest source of revenue at around $500,000 each year. Financial support is received from five townships along with the City of Carlton. In 2022 these five municipalities put forward $59,000 to assist with staffing costs. The remainder of revenue comes from a Medicaid match program administered by the State of Minnesota.

CFA Fiancials			
	2019	2020	2021
Revenues	443,630	485,366	631,721
Expenses	540,224	507,543	459,334
Net Income	(96,594)	(22,177)	172,387

Expenses include overhead, personnel, and operations. Personnel is the largest portion of the annual expenses. 2021 CFA ambulance payroll exceeded $245,000. The bond payment on the

CFA building, vehicle replacement, equipment, contracted services, and supplies all contribute to the remaining expenses. Carlton County contributes $15,000 annually for vehicle replacement.

RECOMMENDATIONS

Administration

- Continue administration of the ambulance as a division of Carlton Fire and Ambulance.
- Reorganize the department to clearly define ambulance and fire authorities and responsibilities.
- Begin planning for a transition to establish the ambulance service as a separate department of the City of Carlton.

Management

- Hire a full-time Ambulance Manager to assume all operational responsibilities for the ambulance division.

Staffing

- Employ a full-time EMT to staff the day shift Monday through Friday.
- Staff the night and weekend shifts not covered by the Ambulance Manager and full-time EMT with paid on-call staff.
- Consider on-call staffing of a second unit during peak utilization times.

Operations

- Establish cooperative agreements with neighboring ambulance services to identify resources and services that can be aligned and/or shared.
- Formalize mutual aid agreements and dispatch procedures.
- Consider implementing an interfacility transfer service line.
- Prepare for an increase in call volume.
- Explore opportunities to increase community engagement

History of Rural EMS

Rural EMS System Design

Emergency Medical Services (EMS) dates back hundreds of years. The Greeks and Romans used chariots to move injured soldiers from the battlefield. In America this model has been used in every war as far back as the Civil War. The first civilian-run, hospital-based ambulance service began in Cincinnati in 1865. The first municipally run ambulance service dates to 1869 in New York City.

In 1910, the American Red Cross began training people in first aid. By the 1950s ambulance services were common in urban areas and had begun forming in rural communities. Some rural ambulance services were hospital or city owned and operated. Most ambulances in smaller rural communities were operated by the funeral home as the hearse was the only vehicle in town capable of transporting a patient in the horizontal position.

In 1965, motor vehicle crashes resulted in nearly 50,000 deaths. 75% of these deaths occurred in rural areas, predominantly sparsely populated rural areas. As a result of this new public health issue, the National Academy of Sciences released a report titled *Accidental Death and Disability: The Neglected Disease of Modern Society*, which would come to be known as "The EMS White Paper". This 1966 report sparks a transformation in Emergency Medical Services by shining light on the shortfalls and providing recommendations for enhancement. The recommendations included:

- Developing federal standards for ambulance design and construction, equipment, and supplies, and for the qualifications and supervision of ambulance personnel.
- State level regulation of ambulance services.
- Providing the ways and means of the provision of ambulance service at the local governmental level.

- Initiating pilot programs to evaluate automobile and helicopter transportation in rural areas.
- Developing a communication system between ambulances and emergency departments.
- Establishment of a single nationwide telephone number for summoning an ambulance.

These recommendations prompted Congress to pass the Highway Safety Act, which led to the formation of the National Highway Traffic Safety Administration (NHTSA) within the Department of Transportation. The act gave authority to NHTSA to fund improvements in the EMS system. These improvements included developing a national EMS education curriculum and model state EMS legislation. The first EMT training standards included a 70-hour basic EMT curriculum followed two years later by more extensive advanced life support training. Most importantly the Highway Safety Act provided grant funding to states with the goal of improving EMS through the development of regional EMS systems.

In 1973, Congress enacted the EMS Systems Act, which created a new grant program to further the development of regional EMS systems. These funds were intended to improve and coordinate care throughout the country. In total, more than $300 million was appropriated to be used for such things as planning, operations, system improvement and research. In today's dollars, this investment would be just over $2 billion. The establishment of rural ambulance services was funded by the Act, but a lack of coordination led to the creation of an unorganized system.

In 1981, the Omnibus Budget Resolution Act (OBRA) eliminated the funding established by the 1973 EMS Systems Act and established block grants to states to support preventive health and health care services. With the discretion on how the money would be spent in the hands of the state government, much of the money was spent on health care needs other than EMS. Throughout the 80's, rural EMS development lagged that of its urban counterparts.

In 1995, NHTSA began to develop a strategic plan for the future of the EMS system. Released in 1996, *Emergency Medical Services Agenda for the Future* outlined an EMS system that would be integrated with the health care system, would provide care in the community, and would be adequately funded. Areas needing to be funded included, workforce, medical direction, education & training, and community awareness. This report and Agenda set the stage for a transformation from EMS 1.0 to EMS 2.0. Over the next decade the care provided on scene and during transport increased greatly. The traditional role of transporting sick people broadens.

In 2001 significant payment changes by Medicare went into effect. In response to these changes the Minnesota Legislature charged the Governor-appointed Rural Health Advisory Committee (RHAC) to complete a study of the workforce and financial challenges facing Minnesota's rural ambulance services and to develop recommendations to the Commissioner of Health to address those challenges. The RHAC convened a 19-member workgroup familiar with EMS in Minnesota. Surveys were sent to all ambulance services gathering information on workforce, operations and finance. *A Quiet Crisis: Minnesota's Rural Ambulance Services at Risk* was released in December 2002 by the Minnesota Department of Health. Highlights from this report included:

- Workforce
    - 77% of rural services utilized volunteers to staff their ambulance
    - 75% of rural services reported needing to add staff
    - 67% of rural services indicated difficulty covering all shifts. Weekends and holidays were the most difficult to staff for.
- Operations & Finance
    - Statewide call volume – 371,944

        - 2021 call volume – 484,237 (30% increase)
    - Rural call volume average - 480
    - Median operating expenses of a rural service
        - BLS - $64,000
        - ALS - $618,000
    - 40% of revenue from Medicare
        - 60% from insurance, private/self-pay, Medicaid and contract services
    - Cost of a rural ambulance response - $415
    - In-kind volunteer contribution estimate @ $10.44/hour for EMTs and Paramedics - $37 million/year
- Workforce issues identified
    - Nature of work – fear of responding to accidents with serious injuries
    - Changing demographics and selective volunteerism – increasing elderly populations, difficulty retaining young families and multiple demands for people's time.
    - Invisibility – difficult for volunteers to share their work with others due to privacy issues.
    - Time and training demands – time commitment to respond to calls along with initial training and continuing education.
        - Initial EMT training – 110 hours
        - EMT refresher training – 48 hours every two years
    - Employment concerns – difficulty leaving a primary job to respond to ambulance calls.

    - Compensation – volunteer pay ranged from no pay to small per-call compensation or a per-hour wage for Paramedics working for hospitals or municipalities.
    - Retirement – Retirement compensation programs do not adequately reflect the volunteer's contribution.
- Financial issues identified
    - Medicare Ambulance Fee Schedule – increasing elderly population may limit the revenue an ambulance service can generate from patient transports.
    - Rising costs – insurance, fuel, training, and supply costs continue to rise.
    - Unloaded miles – long ambulance transport distances are costly with no reimbursement for the portions of the transport before or after the patient in on board.

As shared earlier, the 1996 *EMS Agenda for the Future* set a vision of a system where EMS is fully integrated into the health care system. By 2003 it had become evident that, while the vision for full integration was desirable, progress was slow to non-existent in rural areas. The National Rural Health Association assembled a group of national rural health care and EMS leaders to investigate why this integration was not progressing across rural America. *Rural and Frontier Emergency Medical Services; Agenda for the Future* was published as a result of this rural-focused work. The report sought to arm rural providers with information about future directions their services could take to survive. Workforce and funding were the top concerns outlined with suggestions for recruitment and retention along with a funding system that included reimbursement for service along with subsidies to provide funding for readiness.

In 2015 the Minnesota Ambulance Association with funding through MDH Office of Rural Health and Primary Care hosted a Rural EMS Summit bringing together over seventy rural EMS

leaders to discuss rural EMS sustainability. The Summit was facilitated by nationally recognized rural EMS system design experts. The key findings of the Summit were:

- Funding and staffing over the past 40 years is a major contributing factor to the current crisis.
- Many rural EMS agencies have survived on limited funding by relying on donated labor (volunteers).
- Over the past two decades, volunteerism has begun to decline.

Specific areas to invest in to increase the sustainability of rural ambulance services:

- Strong local EMS leadership – quality leadership must be in place at every ambulance service.
- Workforce Sustainability – There must be a viable and sustainable EMS workforce.
- Community Awareness – The public must recognize and understand EMS as an essential service.
- Funding – The public and elected officials must recognize EMS as a public service and must understand the true cost of providing EMS.

Note from the Facilitators:

"It is possible to create reliable and sustainable EMS systems in rural communities where there are low volumes and limited financial resources by integrating services, finding efficiencies, sharing services, developing local tax subsidies, and creating innovative approaches to staffing. There are many emerging examples across rural America of successful and sustainable EMS systems that fit with local community economics and needs."

The most recent report to shed light on rural EMS in Minnesota comes from the Minnesota Department of Health Office of Rural Health and Primary Care, *2016 Rural EMS Sustainability*

Survey Results. This document reports on a survey that was sent to all rural ambulance services in Minnesota intending to collect data to be used to provide long-term solutions for rural EMS sustainability. Key findings shared in the report include:

- Operations
    - Median call volume – 1/day
    - 40% of Primary Service Areas are greater than 300 square miles
    - >50% of agencies serve a population of less than 5,000
- Workforce
    - 80% of agencies utilize some version of volunteers to staff their operations
    - 50% of agencies experienced a decrease in the number of staff from the prior year
    - Weekday daytime hours are the most difficult shifts to cover
    - 60% of agencies have inadequate staff to cover their schedule without undue burden to the agency
    - 60% of agencies to don't have all shifts covered at least 24 hours in advance
- Recruitment/scheduling
    - 69% of rural EMS managers report difficulty recruiting staff
    - >50% of rural EMS managers report difficulty staffing their schedule

The report reflects on the 2002 report *A Quiet Crisis: Minnesota's Rural Ambulance Services at Risk* and notes that with small exceptions, rural EMS has remained the same in Minnesota. Workforce and funding continue to be areas that cause the greatest difficulty for rural ambulance services.

These difficulties are not specific to rural Minnesota. Rural areas throughout the county share in a scarcity of resources. Ambulances are scattered across large geographic areas that are typically

sparsely populated. In rural areas, volunteers continue to serve a signification portion of the labor force. Recruitment and retention of staff continues to be a significant stressor of the system.

All hope for rural EMS is not lost. Agencies and organizations across the country work tirelessly to share a vision for an EMS system that is sustainable and reliable. In 2017 the National Association of Emergency Medical Technicians shared a new vision of EMS, EMS 3.0. This new vision is based on a system that diversifies the services EMS offers to the community. It places emphasis on value versus volume, much like today's healthcare initiatives. NAEMT believes that value is realized when the right service is provided at the right time and the right place. Care is provided in the community by specially trained EMTs and Paramedics working closely with primary care physicians, home health services, community health workers and others to promote wellness. CMS has taken note of the positive results of these programs, most recently launching a pilot study of treating patients on scene and providing transportation to alternative destinations, such as urgent care centers, clinics, and detox centers. These new alternatives are intended to take care of people where they live thus decreasing the reliance on EMS transport and Emergency Department visits.

Rural EMS Funding

The service ambulances provide has been generally deemed a transportation service by Centers for Medicare and Medicaid Services (CMS). An ambulance service has historically been paid a fee to respond (base rate) and a per mile fee (mileage) for the transport of a patient to an Emergency Department. Up until the early 2000's the payment for these charges was based on a complicated formula which provided little predictability of rate changes from year to year. The Balanced

CMS Ambulance	Fee Schedule	
	BLS Base Rate	Mileage
2002	252.03	7.50
*2002 adjusted**	*422.62*	*12.58*
2022	406.25	12.15
*www.usinflationcalculator.com		

Budget Act of 1997 created the Ambulance Fee Schedule (AFS) for the payment of ambulance transports. The Act also required all ambulance services to accept the payment from CMS as payment-in-full and to not bill the difference to the patient, also known as balanced billing. This fee schedule would be enacted in 2002 and remains in place today.

The Medicare Modernization Act of 2003 (MMA) introduced temporary increases in ambulance payments. These payment increases were based on the zip code of the location where an ambulance patient was transported from. Those transports originating in an urban area would receive an increase of 2%, 3% for rural, and payment for transports originating in super-rural areas would be increased by 22.6%. This temporary increase, known as extenders, remained in place through congressional reauthorization. They are scheduled to end on December 31, 2022.

Current Medicare payment policy includes a 2% reduction of all payments made for fee for service claims, including ambulance bills. This 2% reduction, known as sequestration, was suspended during the COVID-19 public health emergency from April of 2020 through December 31, 2021. During this time, ambulance suppliers and providers received one-time funding support from the federal government as authorized by the American Rescue Plan Act of 2021 (ARP). According to the Pay-As-You-Go Act of 2010 (PAYGO) mandatory spending and revenue legislation, such as the ARP cannot increase the federal budget deficit over a 5 or 10-year period. As a result of PAYGO, the money spent on ARP payments must be recouped. CMS has implemented a 4% reduction in Medicare payments to suppliers and providers to meet this requirement. The 4% PAYGO reduction has been suspended by Congress but is scheduled to go into effect in 2023. The 2023 CMS Ambulance Fee Schedule comes with some good news. An 8.7% inflation factor increase has been factored into payments beginning in 2023. This is the single largest increase in payments based on inflation since 1996.

The CMS Ambulance Fee Schedule is a driving factor in how state Medicaid and private insurance companies set their payment rates for ambulance services. Medicaid closely follows Medicare in Minnesota through a statutory requirement to pay at or above the Medicare rate. Commercial payors, including Medicaid Managed Care Organizations base their payment on corporate policy and payment contracts with suppliers and providers.

Carlton Fire and Ambulance Overview

Demographics and Economy

Carlton Fire and Ambulance (CFA) serves a Primary Service Area (PSA) defined by the Minnesota Emergency Services Regulatory Board. Established by statute in the early 1980s, Primary Service Areas are geographically defined areas where an ambulance license holder must provide service 24 hours a day, 7 days a week. The CFA Primary Service Area spreads over 160 square miles with a population of over 10,000. The PSA includes parts or all the following municipalities:

Municipality	2020 Population	2010 Population
City of Carlton	948	862
City of Wrenshall	428	399
Atkinson Township	400	406
Blackhoof Township	985	893
Mahtowa Township	553	613
Silver Brook Township	614	648
Thomson Township	5465	5003
Twin Lakes Township	2093	2108
Wrenshall Township	443	382
Sawyer Township		
Fond du Lac Reservation		
TOTAL	**11,929**	**11,314**

https://www.census.gov/programs-surveys/decennial-census/about/rdo.html
https://www2.census.gov/library/publications/2012/dec/cph-1-25.pdf
See Attachment A for a detailed map and description of the CFA Primary Service Area.

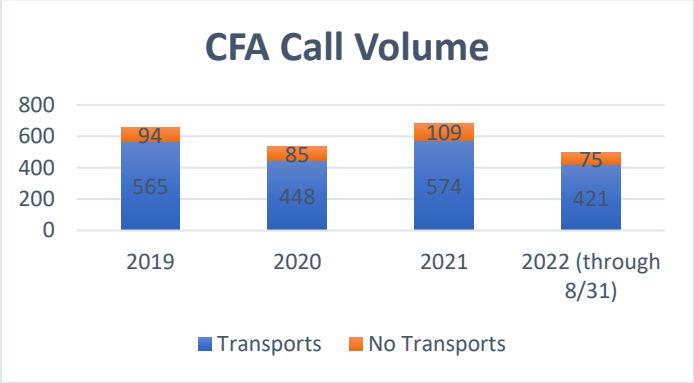
According to the 2020 U.S. Census, 18% of the population of Carlton County is over the age of 65. Residents between the age of 18 and 64 make up 60% of the population and 22% are under the age of 18. The median household income is approximately $66,201. 8.7% of the population live in poverty. 60% of those over the age of 16 are in the civilian labor force.

Carlton Fire & Ambulance Past and Present

Carlton Fire Department has served the City of Carlton and surrounding communities since 1881. While originally serving solely as a fire department, ambulance has been added to the services provided. Carlton Fire and Ambulance (CFA) responds to over 800 calls annually with over 80% of their calls for service being served by the ambulance.

CFA owns two ambulance vehicles with one, the primary unit, being staffed 24 hours/day 7 days/week.

CFA has experienced a 3% increase in call volume annually from 2019 to 2022. This increase is consistent with regional, statewide, and national trends. Should CFA continue to see a consistent increase in volume, by 2025 they could respond to over 800 calls for service yielding 700 transports. CFA has an average of 2.29 calls/day in 2022. This is up from 2.09 call/day in 2021 and 2.04 calls/day in 2019. On occasion CFA receives a call for service while the primary unit is assigned to another call, the doubling up of calls for service are known as "double calls". A double call occurs approximately every eight days.



Note: 2020 data is not used for planning purposes due to the unique impact the COVID-19 pandemic had on CFA call volume and nature of the calls.

CFA Double Calls	
2019	44
2020	19
2021	46
2022 (through 8/31)	14

Duty time per call, or the time from when CFA is dispatched to the time the unit is back in service, averaged 1 hour 11 minutes in 2019, 1 hour 19 minutes in 2021, and in 2022 the average duty time has been 1 hour 23 minutes. Interfacility transfers, transport between healthcare facilities, consume more time than 911 responses. The average duty time for an interfacility

transfer over the past three years is 3 hours 50 minutes. The average 911 response takes 1 hour 17 minutes to complete. From January 1, 2019, to August 31, 2022 (including 2020) CFA, had a total duty time of 3,039 hours 54 minutes.

Call time, calculated by subtracting duty time from total hours, accounts for over 90% of staff time. While "on call" CFA staff are allowed to engage in personal activities, with limitations, but must remain within a distance from the Fire Hall that allows them to respond within an acceptable time frame. Based on a two-person crew, CFA staff spend an average of 21 hours 43 minutes "on call" each day.

Staffing & Leadership

CFA ambulance personnel are considered Paid On-call staff by the City of Carlton. All CFA staff meet the definition of volunteer ambulance attendant as defined in Minnesota Statute 144E.001 subdivision 15. A volunteer ambulance attendant in Minnesota means a person who provides emergency medical services for a Minnesota licensed ambulance service without the expectation of renumeration and who does not depend in any way upon the provision of these services for the person's livelihood. An individual may be considered a volunteer ambulance attendant even though the individual receives an hourly stipend for each hour of actual service provided, except for hours on standby alert, or other nominal fee, and even though the hourly stipend or other nominal fee is regarded as taxable income for purposes of state or federal law, provided the hourly stipend and other nominal fees do not exceed $6,000 annually.

CFA employs a part-time Ambulance Manager at 10 hours/week. The Ambulance Manager reports to the Fire Chief and shares duties with CFA Fire Department officers. The Ambulance Manager does not work a set schedule and has no official office hours. The Ambulance Manager works with the Medical Director on clinical policies and procedures.

CFA staff are paid an hourly wage ranging from $8 to $14. On-call and duty time are compensated for at the same rate. A $2/hour salary increase was approved by the Carlton City Council on September 14, 2022.

2021 salary expenses for CFA, including payroll taxes, exceeded $245,000. This includes salaries for paid on-call staff, the ambulance manger, Carlton Fire Department officers, along with the Carlton City Clerk/Treasurer and Deputy Clerk. The Ambulance Manager is paid $700/month for approximately 43.3 hours of work, equating to $16.17/hour.

CFA currently has 56 individuals on the paid on-call roster (paid on-call staff), of which 28 are cross-trained as Fire Fighters.

CFA Roster Staff	
Emergency Medical Responder (EMR)	14
Emergency Medical Technician (EMT)	40
Cadets	2

Since 2017, 43 new paid on-call staff have joined CFA. Over the same timeframe, 20 individuals have separated from CFA resulting in a 10% turnover rate. The average tenure of the employees who left CFA was 2 years. The longevity of the current CFA employee roster heavily favors those with less than five years of experience. Only one employee has served on the ambulance roster for more than 12 years.

CFA Staff Longevity	
0-2 years	19
3-5 years	24
6-10 years	9
11+ years	4

The average cost for training and onboarding one new EMT is $3500. At a turnover rate of 10%, CFA can expect to spend nearly $20,000 each year on hiring staff.

Funding

The City of Carlton, in consultation with the Fire Chief, sets an ambulance budget each year. Revenues are predominantly comprised of fees collected for services, financial contributions from municipalities served, and a Medicaid match payment facilitated by the State of Minnesota.

CFA Fiancials	2019	2020	2021
Revenues	443,630	485,366	631,721
Expenses	540,224	507,543	459,334
Net Income	(96,594)	(22,177)	172,387

CFA bills for the services it renders. Each patient's transport is billed for in two parts, a base fee and a per mile transported fee (mileage). The base fee charged for residents of the Primary Service Area is $1,100, those who live outside the PSA are billed $2,000. Mileage is billed at a rate of $20/mile for all patients regardless of residency. Only the actual miles that the patient is transported (loaded miles) are reimbursable. In 2021 CFA billed for 596 transports. Gross billables were $1,075,245 with $592,605 collected. A difference between the 2021 City of Carlton Financials and these figures exists due to the timing of billing for services and collections. All ambulance billing is contracted out to a third-party vendor.

Financial contributions to support ambulance staffing are requested from the municipalities served by CFA annually. The request is based on a formula that uses net tax capacity and the number of calls responded to in each municipality the prior year. (See Attachment B for the 2022 formula) In 2022 the following municipalities contributed a total of $59,000; City of Carlton, the townships of Atkinson, Mahtowa, Thomson, Twin Lakes and Sawyer. Carlton County provides $15,000 annually to CFA to be used for vehicle replacement. The City of Carlton allocated $70,000 of its Federal Coronavirus Aid, Relief, and Economic Securities (CARES Act) funding to CFA to be used for vehicle replacement.

Expenses are a combination of overhead, personnel, and operational costs. Total expenses in 2021 were $459,334 or $675 per request for service.

RECOMMENDATIONS

Administration

- Continue administration of the ambulance as a division of Carlton Fire and Ambulance. Reorganize the department to clearly define ambulance and fire authorities and

responsibilities. Begin planning for a transition to establish the ambulance service as a separate department of the City of Carlton.

The City of Carlton is the sole owner and license holder for ambulance services. The ambulance is currently administered as a division of Carlton Fire and Ambulance (CFA). While this is a common model of ownership and administration it can create challenges. Fire Departments are steeped in tradition and led through a formal chain of command. The importance of this chain of command is critical to ensure the safety and effectiveness of the department on a fire scene. A structured approach to management also provides clear lines of communication, authority, and responsibility. Ambulance services began as a provision of public safety and have continued to fill a role as a traditional response agency but are quickly evolving. As healthcare and EMS continue to move toward the EMS 3.0 model shared earlier, the need for a more business-like structure is necessary.

Based on the strong working relationship between the fire and ambulance divisions of CFA, it is recommended to continue with the current administration structure with a few small changes. A reorganization of the organizational structure is needed. Fire Department Officers currently have oversight responsibilities for the ambulance division. While the individuals who currently fill the role of officer within the department are well qualified to assume these responsibilities, the structure leads to a “too many cooks in the kitchen” environment. Full operational authority and responsibility should be assigned to the Ambulance Manager with a reporting responsibility to the Fire Chief.

It is recommended that consideration be placed on transitioning the ambulance division to its own department of the City of Carlton. Separating fire from ambulance will allow each

department to thrive. A three-year plan to transition would be best as this is not an emergent need.

Management

- Hire a full-time Ambulance Manager to assume all operational responsibilities for the ambulance division.

CFA currently employs an ambulance manager in a part-time role. 10 hours/week are allocated for managerial duties at a salary of $700/month. An accounting of manager duties and time spent each month was completed with the current CFA Ambulance Manager. Monthly duties consume 40-50 hours of the manager's time. Other CFA staff along with City of Carlton staff perform duties that fall within the EMS Operations Managers job description. Special projects that are common to the role of an ambulance manager have consumed a great deal of the ambulance manager's time over the past few years. The time spent on these projects is difficult to quantify and is not easily predicted. However, the CFA Ambulance Manger reported spending hundreds of hours over the past three years on grant writing, protocol review and reporting associated with CMS's Cost Data Collection program.

A professionally trained Ambulance Manager would have the time and expertise to assume all ambulance-related administrative, managerial and operational responsibilities for CFA. Administratively, CFA Fire Department Officers and City of Carlton staff would be freed of their ambulance duties providing them more time to complete other tasks. Operationally, CFA ambulance staff would have a leader and manager that had the time afforded to them to support their needs, recruit new staff and ensure a culture that keeps the team strong and motivated. Planning, organizing, and directing the delivery of emergency services would be the responsibility of the Ambulance Manager. Planning for capital purchases, vehicle and equipment

maintenance, and managing supply inventories will be led by the Ambulance Manager. This person would have the knowledge and skills necessary to oversee the billing and collection process including building relationships with payors and keeping up to date on payment policies. Community engagement is an important role of an Ambulance Manager. Involvement in the community provides an opportunity to improve the service, recruit new staff, and identify opportunities for CFA to meet the needs of those it serves.

The full-time Ambulance Manager would have the capacity to staff the primary unit on the day shift Monday through Friday. By doing so, the Ambulance Manager will assume 40 hours of call time each week that is currently covered by paid on-call staff. Employing a full-time Ambulance Manager will have very minimal impact on the ambulance budget. In 2021, CFA ambulance wages were just over $245,000. $218,000 of this was for paid on-call employees who staff the ambulance. The Ambulance Manager salary plus taxes and benefits was $9,000. Salaries, taxes and benefits expenses for CFA officers and City of Carlton staff made up the remaining $18,000. The annual salary for a full-time Ambulance Manager, including benefits, should be in the range of $67k to $87k. A portion of the CFA Fire Chief's salary would continue to be allocated to the ambulance budget, which is not represented in the Model presented. Staffing costs represented in the table to the right are based on an Ambulance Manager wage of $28/hour, and a paid on-call wage of $11.40/hour. Taxes and benefits are calculated as 30% of the Ambulance Manager salary.

CFA Staffing Cost Model - FT Manager	
Current	
Paid On-Call Staff	218,000
Part-time Ambulance Manager	9,000
Officers and City staff	18,000
TOTAL	**245,000**
Proposed	
Paid On-Call Staff	175,000
Full-time Ambulance Manager	76,000
TOTAL	**251,000**

Staffing

- Employ a full-time EMT to staff the day shift Monday through Friday. Staff the night and weekend shifts not covered by the Ambulance Manager and full-time EMT with paid on-call staff. Consider on-call staffing of a second unit during peak utilization times.

CFA currently staffs one ambulance 24 hours per day, 7 days per week. 56 employees are currently on the CFA ambulance roster. Shifts are generally 12 hours in duration with a day shift and a night shift. Paid on-call staff share with the Ambulance Manager their availability to cover shifts for a month at a time. Once everyone's availability is collected the schedule is filled and communicated. There are times when shifts remain unassigned up to the time the shift begins. If the shift is not assigned, no one has the responsibility to cover it. The current staffing model has led to a decrease in the reliability of a CFA ambulance responding to all requests for service.

By employing a full-time EMT, along with a full-time Ambulance Manager, the demand placed upon the paid on-call staff will be eased. The responsibility for staffing weekdays, the most difficult shifts to cover with paid on-call staff, will be taken care of by the full-time employees. Paid on-call will only be responsible for covering night and weekend shifts.

Employing an EMT as a 1.0 FTE in addition to a full-time Ambulance Manager will increase the annual ambulance budget. ambulance staffing expenses in 2021 totaled $245,000. Paid on-call staff, the Ambulance Manager, CFA Chief and Officers, and City of Carlton staff salaries all contributed to this total. The annual salary for a full-time Ambulance Manager, including benefits, would be in the range of $67k to $87k. Staffing costs are based on an Ambulance Manager wage of $28/hour, 1.0 FTE EMT wage of

CFA Staffing Cost Model - FT Manager & 1.0 FTE EMT	
Current	
Paid On-Call Staff	218,000
Part-time Ambulance Manager	9,000
Officers and City staff	18,000
TOTAL	**245,000**
Proposed	
Paid On-Call Staff	152,000
1.0 FTE EMT ($18.50/hour)	50,000
Full-time Ambulance Manager ($28/hour)	76,000
TOTAL	**278,000**

$18.50/hour and a paid on-call wage of $11.40/hour. Taxes and benefits are calculated as 30% of the Ambulance Manager and 1.0 FTE EMT wages.

By employing a 1.0 FTE EMT and a full-time Ambulance Manager who covers day shift, it is expected that the need for new employees will be lessened. Over the past five years, 43 new employees have been added to the paid on-call roster. Each new employee onboarded costs CFA up to $3500. It is expected the need for new employees will drop, as will the costs associated if CFA were to employ a 1.0 FTE EMT and a full-time Ambulance Manager.

Operations

- Establish cooperative agreements with neighboring ambulance services to identify resources and services that can be aligned and/or shared. Formalize mutual aid agreements and dispatch procedures. Consider implementing an interfacility transfer service line.

Rural EMS faces many challenges. Carlton Fire and Ambulance, along with their neighboring ambulance services, share in the challenges of rural ambulance services across the state and across country. The lack of staff and shortfalls in funding stresses everyone and is motivation to look to each other to identify opportunities to collaborate.

Much like CFA, Cromwell-Wright Area Fire District (CWAFD) is experiencing difficulties recruiting and retaining EMTs and EMRs to keep their schedule staffed 24x7x365.

Conversations between the two agencies began months ago and continues today. An Ambulance Optimization Project at CWAFD began when CFA's began and both Projects have a focus on shared services and resources.

CWAFD is a smaller department than CFA. They respond to a fourth of the calls and has a much smaller staff and budget. As a smaller community they have a smaller pool of people to recruit

from. CWAFD has a strong desire to continue operating their ambulance but are uncertain about being able to do it independently.

It is recommended to enter into a mutual aid agreement, as authorized by Minnesota Statute 144E.101 Subd. 11(a)(1) to provide coverage to the CWAFD Primary Service area for up to 12 hours per calendar day. The agreement would need to include authorities and responsibilities along with financial considerations. Covering the CWAFD PSA has the potential to increase the call volume of CFA but is not predicted to cause the need to increase staffing beyond what is recommended in this report. In addition to PSA coverage, additional areas to collaborate with each other exist such as a shared staffing pool, aligned medical direction, collaborative training, and a combined quality improvement program. CFA and CWAFD leadership are encouraged to work together to maximize this collaborative relationship.

Minnesota Statute 144E.101 Subd. 12 requires that licensed ambulance service have a written agreement with at least one neighboring licensed ambulance service for the preplanned and organized response of emergency medical services, and other emergency personnel and equipment, to a request for assistance in an emergency when local ambulance transport resources have been expended, also known as a Mutual Aid Agreements. CFA has mutual aid agreements with each of its neighboring services. These agreements give others the authority to respond to calls for service when CFA is unavailable. The most common case for CFA being unavailable is that the primary unit is assigned to a prior call for service. When this happens, CFA sends a page out to all employees requesting two people to staff the second ambulance. The second ambulance has responded to an average of 37 calls annually over the past three years. If a second unit is not able to be staffed the mutual aid agreement goes into effect and a neighboring ambulance service is requested to respond.

It is recommended that CFA discontinue paging staff to respond with the second ambulance and summons a neighboring ambulance service to respond to the call for service. The alternative to this is to have a second team comprised of an EMR and EMT on call which is cost prohibitive and unnecessary.

CFA has provided interfacility transfers for area hospitals sporadically over the past few years. Interfacility transfers are an important service for rural healthcare as the system is designed to deliver specialty and intensive care services at centralized regional centers. Patients who present to rural hospitals that require a level of care beyond what is available are transferred to these regional centers. Prior to the pandemic the rural EMS system was able to support the needs of the hospitals. Today this is no longer true. Staffing issues have led to decreased availability of ambulances that were once readily available to do transfers. Rural hospitals have reported calling up to ten services before finding an ambulance that is staffed and available. An opportunity exists to create an interfacility transfer service line. This may not be an immediate need but one that a full-time Ambulance Manager would have the time and expertise to develop.

- Prepare for an increase in call volume. Explore opportunities to increase community engagement

As noted earlier in the report, CFA has experienced an annual increase in call volume of 3% over the past few years. This increase is in line with regional and statewide trends and should be expected to continue at a similar rate. If an agreement were to be reached with CWAFD to provide coverage of their PSA an increase in call volume should be expected. The third factor that could increase CFAs call volume would be a change in PSA boundaries. Since their establishment in 1970, PSA boundaries have been quite static. Changes in population, roadways and economic development have had little or no influence on these boundaries. In recent years,

Minnesota's PSA laws have gained a good deal of attention from policymakers at the state and local levels. It would not be unexpected to see efforts to allow PSA boundary changes to come forward soon. The possibility of an increase in call volume due to a change in the CFA PSA boundary should be planned for.

It is recommended that planning begin to prepare for increases in call volumes of 50, 150 and 300 calls for service. Overhead, personnel, and operational resource needs should be identified along with revenue and expense considerations.

Future opportunities exist in the transition of healthcare from a volume-based system to a value-based system. The healthcare system of tomorrow will be one that provides patient-centered care that rewards providers on wellness. Opportunity exists for EMS to play a significant role in a value-based system with Community Paramedics (CP) and Community EMTs (CEMT). These specially trained healthcare professionals work alongside primary care, home care, community health workers, social services, and public health, among others, to care for patients in their beyond the walls of the hospital. They meet the patient where they live to manage chronic illness, educate on wellness and identify health and social needs before they lead to costly Emergency Department and Hospital admissions. A CP/CEMT program offers an opportunity to support the wellness of the community, decrease ambulance responses and increase agency revenues. The Ambulance Manager is encouraged to explore the opportunity to develop a CP/CEMT program in and around Carlton.

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ATTACHMENT A

CARLTON FIRE AND AMBUALNCE PRIMARY SERVICE AREA

EMS#: 0045

Region: Northeast

Service Level: Basic

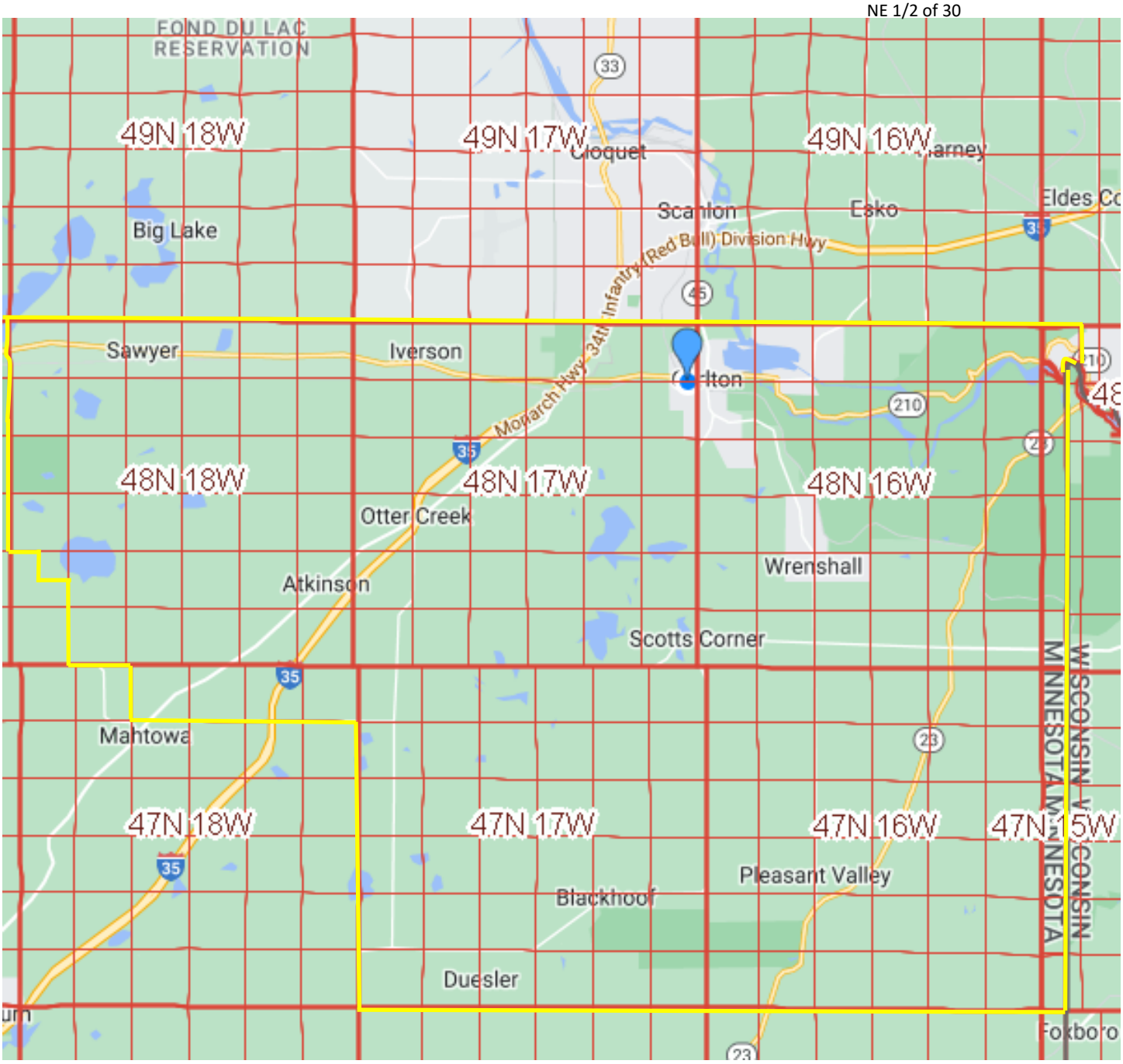
The Primary Service area is within the following County or Counties: Carlton

The Primary Service includes the following Cities: Carlton, Thomson, Wrenshall

Townships:

In Carlton County:

T47N R15W—sections 6, 7, 18, 19, 30, 31
T47N R16W
T47N R17W
T47N R18W—sections 1 through 4
T48N R15W—sections 6, 7, 18, 19, 30, 31
T48N R16W
T48N R17W
T48N R18W—sections 1 through 29, 32 through 36, NE 1/2 of 30



Revised: 1/95, 5/14/10

CARLTON FIRE AND AMBULANCE SERVICE - 0045_tcm1116-366240.pdf

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ATTACHMENT B

Carlton Fire & Ambulance Municipal Funding Request Formulas

Current request for funding to support CFA ambulance wages: $87,000

2022 CFA AMBUALANCE FUNDING REQUEST FORMULA							
Municipality	**2020 Net Tax Capacity**	**Percentage**	**Billable Amount**	**2020 # of Calls**		**Billable Amount**	**TOTAL**
Carlton, City of	663,239.00	7.86%	3418.55	202	41.82%	18,192.55	21,611.10
Wrenshall, City of	340,559.00	4.04%	1755.35	28	5.80%	2,521.74	4,277.09
Atkinson Township	368,000.00	4.36%	1896.79	13	2.69%	1,170.81	3,067.60
Blackhoof Township	768,305.00	9.10%	3960.09	36	7.45%	3,242.24	7,202.33
Mahtowa Township	95,000.00	1.13%	489.66	12	2.48%	1,080.75	1,570.41
Silver Brook Township	2,019,527.00	23.93%	10409.30	10	2.07%	900.62	11,309.92
Thomson Township	534,000.00	6.33%	2752.41	4	0.83%	360.25	3,112.66
Twin Lakes Township	2,948,962.00	34.94%	15199.91	117	24.22%	10,537.27	25,737.17
Wrenshall Township	346,838.00	4.11%	1787.72	12	2.48%	1,080.75	2,868.46
Sawyer Township	355,086.00	4.21%	1830.23	23	4.76%	2,071.43	3,901.66
Black Bear Casino	-			26	5.38%	2,341.61	2,341.61
	8,439,516.00	**100.00%**	**43,500.00**	**483**	**100.00%**	**43,500.00**	**87,000.00**

Model request for funding to support CFA ambulance wages which include a full-time Ambulance Manager: $251,000

FT MANAGER STAFFING MODEL							
Municipality	**2020 Net Tax Capacity**	**Percentage**	**Billable Amount**	**2020 # of Calls**		**Billable Amount**	**TOTAL**
Carlton, City of	663,239.00	7.86%	9862.71	202	41.82%	52,486.54	62,349.25
Wrenshall, City of	340,559.00	4.04%	5064.29	28	5.80%	7,275.36	12,339.65
Atkinson Township	368,000.00	4.36%	5472.35	13	2.69%	3,377.85	8,850.20
Blackhoof Township	768,305.00	9.10%	11425.10	36	7.45%	9,354.04	20,779.13
Mahtowa Township	95,000.00	1.13%	1412.70	12	2.48%	3,118.01	4,530.71
Silver Brook Township	2,019,527.00	23.93%	30031.42	10	2.07%	2,598.34	32,629.76
Thomson Township	534,000.00	6.33%	7940.86	4	0.83%	1,039.34	8,980.20
Twin Lakes Township	2,948,962.00	34.94%	43852.60	117	24.22%	30,400.62	74,253.22
Wrenshall Township	346,838.00	4.11%	5157.66	12	2.48%	3,118.01	8,275.67
Sawyer Township	355,086.00	4.21%	5280.31	23	4.76%	5,976.19	11,256.50
Black Bear Casino	-			26	5.38%	6,755.69	6,755.69
	8,439,516.00	**100.00%**	**125,500.00**	**483**	**100.00%**	**125,500.00**	**251,000.00**

Model request for funding to support CFA ambulance wages which include a full-time Ambulance Manager and 1.0 FTE EMT: $278,000

FT MANAGER & 1.0 FTE EMT STAFFING MODEL							
Municipality	**2020 Net Tax Capacity**	**Percentage**	**Billable Amount**	**2020 # of Calls**		**Billable Amount**	**TOTAL**
Carlton, City of	663,239.00	7.86%	10923.64	202	41.82%	58,132.51	69,056.14
Wrenshall, City of	340,559.00	4.04%	5609.05	28	5.80%	8,057.97	13,667.03
Atkinson Township	368,000.00	4.36%	6061.01	13	2.69%	3,741.20	9,802.21
Blackhoof Township	768,305.00	9.10%	12654.09	36	7.45%	10,360.25	23,014.34
Mahtowa Township	95,000.00	1.13%	1564.66	12	2.48%	3,453.42	5,018.08
Silver Brook Township	2,019,527.00	23.93%	33261.89	10	2.07%	2,877.85	36,139.74
Thomson Township	534,000.00	6.33%	8795.05	4	0.83%	1,151.14	9,946.19
Twin Lakes Township	2,948,962.00	34.94%	48569.81	117	24.22%	33,670.81	82,240.62
Wrenshall Township	346,838.00	4.11%	5712.47	12	2.48%	3,453.42	9,165.89
Sawyer Township	355,086.00	4.21%	5848.32	23	4.76%	6,619.05	12,467.36
Black Bear Casino	-			26	5.38%	7,482.40	7,482.40
	8,439,516.00	**100%**	**139,000.00**	**483**	**100%**	**139,000.00**	**278,000.00**