ICN™

Iowa Communications Network

Annual Report FY2019

Providing High Speed Internet, Voice,
Video, & Security Services

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IOWA TELECOMMUNICATIONS AND TECHNOLOGY COMMISSION

ICN

| Barb Kniff McCulla | Timothy L. Lapointe | Robert F. Holz | Kelly Dolan Lange |
| CHAIR | Steven Olson | Annette Dunn | Rob Sand |

Philip Groner, Executive Director

Governor Kim Reynolds   Lt. Governor Adam Gregg

November 22, 2019

The Honorable Governor Kim Reynolds
Governor, State of Iowa
State Capitol
Des Moines, Iowa 50319

Dear Governor Reynolds:

It is my pleasure to have the opportunity to submit the Fiscal Year 2019 Annual Report on behalf of the Iowa Telecommunications and Technology Commission (ITTC) overseeing the Iowa Communications Network (ICN). Throughout the report you will find highlights explaining our services, agency partnerships, and recent network upgrades, which include:

- Partnering with the Iowa Department of Transportation to establish a new network facility replacing an existing structure in Tiffin, IA. The new facility enhances network redundancy, provides a diverse fiber path, improves disaster recovery operations for all users of the network, and facilitates the offering of new services to ICN customers.
- Investing $1.7 million to upgrade fiber/copper cabling and power on the Capitol Complex. This infrastructure upgrade increases bandwidth capabilities that benefit all state agencies.
- Partnering with the Iowa Department of Homeland Security and Emergency Management (HSEMD) to merge the existing wireline carrier network onto HSEMD's Next Generation 911 (NG911) IP Network. In addition, ICN is providing two data centers and transport for a hosted solution that has the ability to reduce equipment expenses for the 113 public safety answering points.

The Commission and ICN supports the Empower Rural Iowa initiative of addressing broadband connectivity. In Fiscal Year 2020, we have a number of broadband priorities that support our users and the Empower Rural Iowa initiative. Those priorities include:

- Completing an IP network upgrade with Ethernet as a carrier-grade technology. This advancement will enable the Network to operate at 100GB, with an upgrade path of up to 200GB.
- Partnering with Iowa Hospital Association to replace legacy equipment. This equipment upgrade will enhance the redundancy to hospitals and rural clinics, along with increasing bandwidth enabling improved access to specialists and records. The ICN serves 283 hospitals and clinics throughout Iowa providing critical broadband and Internet services.
- Finishing the multi-year Managed Voice Service migration to an IP platform. The migration removes legacy equipment, provides relocation benefits during disaster recovery, no long distance or 800 expenses, and voice encryption for protection of sensitive data.
- Providing security services and tools to support our customers via our public/private partnerships.

As we look to the future, ICN will stay true to its mission of providing strong, flexible, and fast broadband to its users. On behalf of the Commission and all ICN employees, we appreciate the opportunity to be of service.

Sincerely,

Barb Kniff McCulla
Chair
Iowa Telecommunications and Technology Commission

Iowa Communications Network

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BROADBAND STRONG
STRONG FLEXIBLE FAST

Annual Report FY2019

Contents

This annual report highlights agency information between July 1, 2018 - June 30, 2019.

Iowa Telecommunications and Technology Commission

Barb Kniff McCulla, Chair

Robert Holz

Kelly Dolan Lange

Timothy L. Lapointe

Steven Olson

Rob Sand, ex officio
State of Iowa Auditor

Annette Dunn, ex officio
Chief Information Officer

Executive Team

Phil Groner
Executive Director

Deb Evans
Chief Financial Officer

Mark Johnson
Chief Operating Officer

About the Iowa Communications Network

A state-of-the-art fiber optic network providing telecommunications services to authorized users.

Services: High Speed Internet • Data • Voice • Security • Consultation

Authorized Users

Operating under the authority provided in Iowa Code chapter 8D. Currently serving nearly 1,000 users.

Education

- 300+ Locations
- Public and Private K-12 Schools, Area Education Agencies, Community Colleges, Public and Private Colleges, Libraries

Homeland Security & Emergency Management

- Connections to 113 Public Safety Answering Point (PSAPs) locations. These connections are critical to providing NG911 services to Iowans.

Public Safety

- 185 Locations

Healthcare

- 280+ Locations (Hospitals and Clinics)
- 350+ Billing Circuits

Government

- 75 Customers - Individual customers have multiple locations. (e.g. Judicial Branch is one customer with connections to every county courthouse.)
- State, Federal, and Miscellaneous Government

Network Overview

30 Years of Commitment: Providing telecommunications services to authorized users since the early 1990s.

Network Backbone: The Network is comprised of approximately 3,300 miles of state-owned fiber reaching at least one point of presence in each county with primarily leased connections from those county points of presence to end user locations.

The Early Years: The primary purpose when the Network was originally established was to provide two-way interactive video for education that required the commitment of rooms by the host entity (schools, libraries, etc.).

Common Carrier: The ICN is a Common Carrier under federal law, which enables the educational and healthcare users of the Network to benefit from funding provided through FCC programs, thereby reducing the cost of eligible services to the users.

Greater Broadband Demands: The ICN has matured as a network services provider as our user needs have changed. Those changing needs continue to increase the demand for greater levels of broadband.

Looking Towards the Future: The ICN is nearing completion of its third major upgrade over the life of the Network. This Network enhancement will further the standing goals of:

- Improving network security and redundancy.
- Meeting the broadband demands of our users.
- Providing flexible solutions and quality services.

Agency Overview

Administrative and operational functions of the ICN are performed by the Carrier Services and Agency divisions. The ICN is composed of four bureaus: Network Services, Engineering and Operations, Finance, and Business Services.

Network Services
Carrier Services Division

Provides functions from cybersecurity monitoring to managing business applications; from installing and repairing infrastructure wiring to mapping fiber routes.

Responsibilities

- Cybersecurity: DDoS mitigation, firewall, security monitoring, and incident response, other.
- Fiber locate requests, fiber installation for customers, fiber relocates in connection with the Iowa Department of Transportation or other construction projects, mapping geographic information systems (GIS), and providing computer aided designs (CAD).
- Application integration and database development.
- Cable services: Vertical and horizontal inside plant and cable plant services. Includes design, install, troubleshoot, from wiring closets to inside wiring of fiber and copper infrastructures.

Engineering & Operations
Carrier Services Division

Manages cutting-edge technology, monitors and maintains the Network, and provides in-depth knowledge to stabilize and secure the statewide fiber optic network environment.

Responsibilities

- Develops, designs, installs, and supports infrastructure/systems.
- Upgrades technology, reduces legacy infrastructure, and facilitates automation.
- Maintains high network availability with minimal disruptions.
- Focuses on presale and transport designs.
- Oversees vendor managed services.
- Network Operations Center staffed 24 hours a day, 7 days a week.

Finance
Agency Division

Ensures the agency has the resources available to carry out its operational and strategic goals, while following applicable federal and state accounting rules and policies.

Responsibilities

- Accounts Payable
- Accounts Receivable and Collections
- Auditing
- Billing
- General Ledger and Inventory Reporting
- Contracting
- Purchasing / Warehouse / Asset Management
- Work Orders

Business Services
Agency Division

Offers telecom consulting to customers, project & order management, customer service, as well as visual presence, media, and public relations.
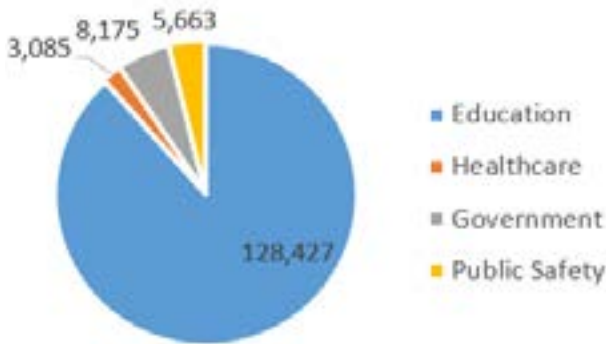
Responsibilities

- Account Consultants (Sales)
- Project Management
- Customer Support
- Universal Service Fund Administration for K-12 Schools and Libraries (E-rate), and Healthcare (Healthcare Connect Fund)
- Marketing and Outreach

Services Update

Internet

Internet Purchased by Sector by Mb:

Education: 128,427
Healthcare: 3,085
Government: 8,175
Public Safety: 5,663

Service Increased:
Sixty-two (62) educational sites increased either Internet or Ethernet services.

Voice

Centurylink, Managed Service Provider

VoIP platform is hosted from a cloud environment.
- To date, there are 146 active customer groups*, with over 6,777 employee seats activated.
  *One building can incorporate multiple customer groups.

Customer Platform Benefits
- Removes legacy equipment
- Provides relocation capabilities
- No long distance or 800 expenses
- Encryption for protection of sensitive data

Customer Highlight: The Iowa Department of Revenue is maximizing staff efficiencies by integrating ICN's automatic call distributor (ACD). Call center agents can interact with multiple customers simultaneously either by phone or online chat.

Security

Distributed Denial-of-Service (DDoS) Mitigation
ICN mitigated 8,228 DDoS attacks.

Customer Type Subscribed to Mitigation Protection

Community College	K-12	Library	AEA	Private College	Executive
9	18	1	9	2	1

Managed Firewall

22	11
Customers subscribers	Cyber Threat Assessments completed

Colocation Customers: Iowa Dept. of Transportation & Homeland Security and Emergency Management.

Additional Security Services

Increased security tools to support customers via our public/private partnerships.

CenturyLink
- Encryption: Managed Voice

LightEdge
- Managed Firewall
- Internet Access Service with Basic Firewall
- Unified Threat Management (UTM)
- Cyber Threat Assessment Program (CTAP)

Pratum
- Security Information & Event Management
- Breach Investigation
- Incident Response
- Digital Forensics

root9B
- Network Assessment
- Penetration Testing
- Remediation Planning

Network Enhancements

Power Upgrade

ICN embarked on a statewide power upgrade of 21 Core sites located on our fiber optic Network. This project provides a positive impact on a number of other initiatives including the ICN Core upgrade, the Iowa Rural Healthcare Telecommunications Program (IRHTP) upgrade, and the Iowa Homeland Security & Emergency Management 911 initiative.

Equipment upgraded during this project included: site hardware, breaker boxes, grounding, buses, surge protection, fuse panels, hardware power, generators, HVAC for cooling. In addition, a commercial utility power upgrade included transformers, breaker panels, breakers, and batteries for backup services.

Value: By upgrading the power, ICN removed legacy equipment to facilitate our Core network upgrade.

Core Network Upgrade

ICN is upgrading its core IP infrastructure/Network. This project involves implementing and maintaining a native 100GB network, which is easily scalable up to 200GB as needed. At the state network level, the ICN will provide a highly resilient, scalable, secure, and high-capacity wide area network (WAN) with the ability to meet the needs of the State of Iowa and all ICN users in a cost effective way. This upgrade also enables the ICN to proactively manage the ever increasing current and future bandwidth needs of our users. The upgrade will provide sufficient capacity at the core of the Network to securely carry the state's voice, video, Internet and data traffic as needed, without degradation. In addition to the primary service benefits (increased capacity and security) that will be realized as a result of this upgrade, the ICN also anticipates a reduction of its internal transit/transport costs. It is anticipated that this initiative will be completed by July 2020.

Value: Enables ICN to meet increasing bandwidth demands of current users, as well as support new initiatives.

Infrastructure Relocation (Disaster Recovery Location)

Partnership with the Iowa Department of Transportation

A major infrastructure project consisting of relocating a Point-of-Presence within ICN's fiber optic Network was successfully completed on August 26. ICN built a network facility replacing an existing structure. Establishing a disaster recovery site enhances network redundancy, provides a diverse fiber path, and enhances disaster recovery operations for all users of the network.

To ensure services continued to run at the time of transition, temporary circuits were designed and implemented to protect connectivity to critical infrastructure such as hospitals and 911 facilities. The project took a year and a half of planning with 421 fiber splices moved and over 1,000 jumper cables installed within a 15 hour period.

Value: Greater geographic diversity and redundancy. In addition, it facilitates the offering of new services.

Capitol Complex Telecommunications Infrastructure

Infrastructure on the Capitol Complex required to be updated to support upgraded Voice technology. ICN invested $1.7 million to upgrade fiber, copper cabling, and power. The infrastructure upgrade increased bandwidth capabilities that benefit all State government agencies. This upgrade equaled approximately 58 miles of new cable installed on the Capitol Complex. This project has been completed.

Value: Increases bandwidth capabilities that benefit all state government agencies.

Agency & Customer Initiatives

Homeland Security, 911 Merger

Partnership with Iowa Homeland Security and Emergency Management (HSEMD)

The ICN currently provides a closed secure infrastructure for 911 wireless calls. Through an RFP process the ICN was awarded a contract by Homeland Security to provide additional infrastructure and services related to HSEMD's initiative to merge the existing wireline carrier network, consisting of all the State's wireline providers on Homeland's Next Generation 911 Emergency Services IP Network (ESInet).

ICN is also collaborating with HSEMD's other two partners to provide a geographically redundant multi-node hosted E911 platform. The ICN is providing colocation facilities and transport services for a Hosted Public Service Answering Point (PSAP) solution. This project will result in the consolidation of equipment expenses associated with the existing 113 PSAP locations and result in a significant savings for the State.

As of June 2019:

20	4	5	11
PSAP Sites Committed to Move to Hosted Cloud Solution	Operational PSAP Sites on Hosted Solution	PSAP Sites Engineered and Ready to be Migrated to Hosted Solution	Additional Orders Received

Healthcare Network Upgrade (IHA)

Partnership with Iowa Hospital Association

The ICN has been the technical, engineering, and maintenance provider of the Iowa Hospital Associations' (IHA) network program called the Iowa Rural Healthcare Telecommunications Program (IRHTP) since 2008. Project management and deployment of a complete network upgrade on behalf of the IHA. The ICN is working with IHA to replace legacy equipment at 191 locations. This project enhances the redundancy to hospitals and rural clinics, along with increases bandwidth to enable improved access to specialists and records.

Public Private Partnerships

Our managed services incorporate premium partnerships with the private sector.

- Fiber Network Services, network maintenance provider (Iowa based)
- CenturyLink, voice provider
- LightEdge, firewall provider (Iowa based)
- Pratum, security provider (Iowa based)
- root9B, security provider
- Private Sector Telecommunications, ICN partners with the private sector for leased fiber connections.

Statewide Youth Broadband Advisory Council (SYBAC)

The SYBAC engages high school students on a variety of broadband related topics, where they identify trends and strategies to improve broadband connectivity. SYBAC discussion topics: Cybersecurity, digital devices, broadband dead zones, coding, virtual reality, and Wireless.

2018-2019 Council

FY 2019 Code of Iowa Information

Contracts Exceeding $1 Million

ICN contracts exceeding $1 million during FY 2019, as required by the Code of Iowa, Section 8D.3(3)(f).
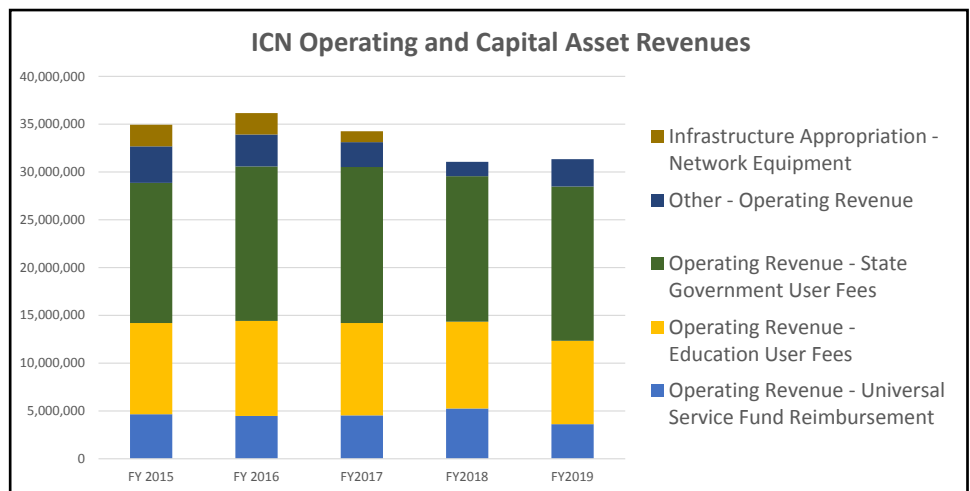
- None

2019 Legislative Session Code Change

Regional and Educational Telecommunication Councils Elimination

2019 Iowa Acts, Senate File 367 - An Act eliminating the education telecommunications council and regional telecommunications councils established under the ICN. The Act strikes Code section 8D.5, and was signed by the Governor on March 21, 2019.
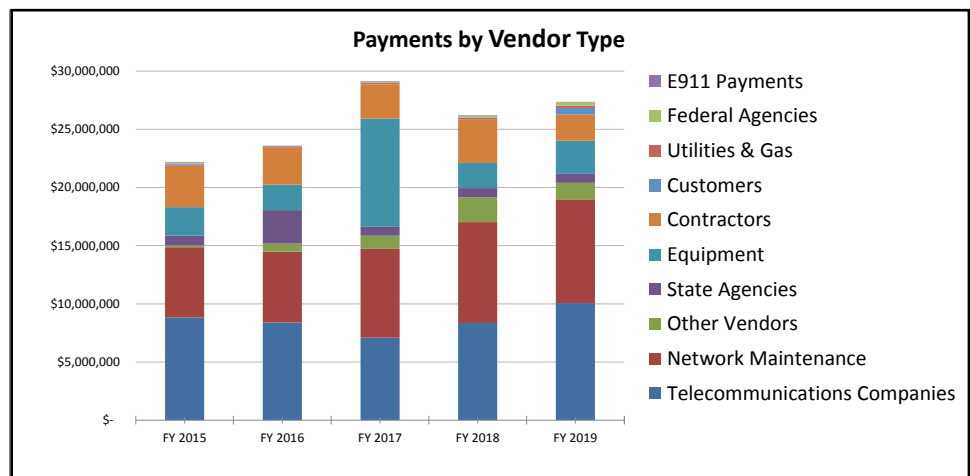
FY 2019 Financial Charts

The "ICN Operating and Capital Asset Revenues" graph shows generated over $31M in revenues from billed services to authorized users. The ICN did not request or receive appropriated funds from the State for fiscal year 2019.

ICN Operating and Capital Asset Revenues

Legend:
- Infrastructure Appropriation - Network Equipment
- Other - Operating Revenue
- Operating Revenue - State Government User Fees
- Operating Revenue - Education User Fees
- Operating Revenue - Universal Service Fund Reimbursement

The "Payments by Vendor Type" graph shows how the revenue generated is used in supporting the network.

The largest ICN expenses in FY19 were the network maintenance agreements and payments to vendor telecommunication companies supplying voice, data transport and internet services. Payment for the cost of the "last-mile" connections that are leased from telecommunications companies is directed back to Iowa's private sector providers.

Payments by Vendor Type

Legend:
- E911 Payments
- Federal Agencies
- Utilities & Gas
- Customers
- Contractors
- Equipment
- State Agencies
- Other Vendors
- Network Maintenance
- Telecommunications Companies

Expenses to outside vendors only. Excludes payroll and employee reimbursements.

ICN's financial statements are shown using Generally Accepted Accounting Principles (GAAP). As a government entity in a fee-for-service environment, ICN uses accrual accounting with a measurement focus emphasizing the matching of revenues with costs of services including depreciation of assets such as network equipment and fiber. Most other State of Iowa agencies use the modified accrual accounting method with a measurement focus emphasizing control and accountability over the raising and spending of public monies.

Operating Budget Proposal & Capital Plan For Fiscal Year Ending June 30, 2020

	FY 2019 through January 31, 2019 Actuals	FY 2019 through June 30, 2019 Projected Actuals	FY 2019 Budget	FY 2020 Budget Proposal
REVENUE				
Voice Revenue	4,304,510	7,259,342	6,386,517	7,437,345
Video Revenue	105,447	160,472	239,018	146,391
Transport Revenue	8,824,935	14,863,634	16,177,774	14,910,130
Internet Revenue	3,258,457	5,581,172	4,644,014	5,398,531
Security Revenue	195,074	334,831	250,760	362,980
Colocation Revenue	754,877	807,007	1,501,975	336,912
Outside Plant Revenue	428,764	668,792	1,100,798	1,950,847
Network Professional Services Revenue	23,116	39,627	84,000	148,294
Interest Revenue	90,920	155,863	100,000	152,300
Other Revenue	6,652	8,117	18,815	8,765
Gross Revenues	17,992,752	29,878,857	30,503,671	30,852,495
DIRECT EXPENSES				
Toll	972,594	1,667,304	1,370,145	1,373,120
Switched Access	176,277	302,189	190,871	260,712
Managed Voice Service	1,311,394	2,245,731	1,454,243	2,142,133
Other Voice Direct Expenses	639,516	1,076,844	447,114	560,668
Video Direct Expenses	66,501	114,001	102,115	117,304
Transport Expenses	3,011,831	4,894,359	6,016,860	5,693,110
Internet Expenses	358,101	445,568	547,731	411,977
Security Expenses	130,719	227,080	83,050	368,634
Colocation Expenses	-	-	865,852	29,228
Outside Plant Build Out Expenses	10,824	10,824	554,192	804,000
Network Professional Services Expenses	16,587	28,435	74,500	108,095
Total Direct Expenses	$ 6,694,344	$11,012,335	$11,706,673	$11,868,981
Gross Margin	$11,298,408	$18,866,522	$18,796,998	$18,983,514
OPERATING EXPENSES				
System Maintenance and Technical Support	$3,935,128	$6,745,934	$6,742,455	$6,998,695
Outside Plant Maintenance Expenses	621,161	1,258,292	983,053	1,466,016
Operating Professional Fees	289,224	495,813	557,769	509,408
Other Operating Expenses	557,931	956,453	585,947	756,375
Total Operated Expenses	$5,403,444	$9,456,492	$8,869,224	$9,730,494
Net Margin	$5,894,964	$9,410,030	$9,927,774	$9,253,020
GENERAL AND ADMINISTRATIVE				
Personnel Services	5,814,958	9,968,499	9,986,229	9,648,426
Travel	67,684	116,030	93,203	93,444
Other General & Administrative Expenses	562,368	964,059	965,596	1,035,228
Professional Fees	156,158	267,699	70,200	70,200
Total G, S, and A Expenses	$6,601,168	$11,316,287	$11,115,228	$10,847,298
Net Cash (Deficit) from Operations	$(706,204)	$(1,906,257)	$(1,187,454)	$(1,594,278)
CAPITAL BUDGET				
Capital Expenditures	828,540	1,420,354	170,207	682,914
Net Equipment Purchases	$828,540	$1,420,354	$170,207	$682,914
Net Cash (Deficit)	$(1,534,744)	($3,326,611)	(1,357,661)	($2,277,192)

FY19 Financial Information

Balance Sheet (Statement of Net Assets)
For the Thirteen Months Ending June 30, 2019

ASSETS

Cash & Cash Equivalents	$6,439,664.00
Accounts Receivable	$4,189,264.20
Interest Receivable	$43,532.64
Inventory	$1,483,158.78
Prepaid Expenses	$1,082,818.22
Total Current Assets	$13,238,437.84
Unexpended Appropriations	$0
Fixed Assets(Net)	$14,732,261.06
Total Deferred outflows of resources	$1,902,064.18
TOTAL ASSETS	**$29,872,763.08**

LIABILITIES

Accounts Payable & Accruals	$2,602,206.08
Sick Leave Incentive Program - Retirees	$599,530.10
Unearned Revenue	$2,039,345.68
Short-Term Compensated Absences	$900,119.05
Sick Leave Incentive Program - Employees	$114,250.91
Total Current Liabilities	$5,668,293.72
LT Sick Leave Incentive Program - Retirees	17,986.00
Long-Term Compensated Absences	0.00
LT Sick Leave Incentive Program - Employees	599,530.10
Accrued Sick Leave	73,482.85
Other Post-Employment Benefits	882,000.00
Net Pension Liabilities	6,273,124.00
Total deferred inflows of resources	$534,614.41
Total Long-Term Liabilities	$8,380,737.36
TOTAL LIABILITIES	**$ 14,049,031.08**

FUND EQUITY

Retained Earnings	$15,823,732.00
TOTAL FUND EQUITY	**$15,823,732.00**
TOTAL LIABILITIES & FUND EQUITY	**$29,872,763.08**

FY19 Financial Information

Statement of Changes in Net Position
For the Thirteen Months Ending June 30, 2019

	June Fiscal Year 2019	June Fiscal Year 2018
Operating Revenues		
Sales, rents & services	$31,578,021	$$30,904,594
TOTAL OPERATING REVENUES	$31,578,021	$30,904,594
Operating Expenses		
General & Administrative	$10,898,528	$11,350,890
Depreciation	$3,363,278	$3,626,502
Direct	$12,896,300	$14,395,354
Operations	$10,648,458	$10,851,497
TOTAL OPERATING EXPENSES	$37,806,565	$40,224,244
OPERATING INCOME/(LOSS)	($6,228,544)	($9,319,650)
Non-Operating Revenues (Expenses)		
Interest Income	$172,760	$196,791
NET NON-OPERATING REVENUES	$172,760	$196,791
INCOME/(LOSS) BEFORE CONTRIBUTIONS & TRANSFERS	(6,055,784)	(9,122,860)
Transfers Out		
CHANGE IN NET POSITION	(6,055,784)	(9,122,860)
NET POSITION - JULY 1	$21,879,516	31,159,286
PRIOR PERIOD ADJUSTMENT		(156,910)
NET POSITION - MAY 31	$15,823,732	$21,879,516

This report is used as an internal cash management tool and is not based on full accrual accounting. It includes only revenues from operating activities plus some revenue from non-operating activities that are deposited in operating cash such as interest income. It does not contain any non-cash expenses such as depreciation. All revenues and expenses from appropriated monies and grant awards have been excluded.

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