Fiscal Year 2021 Annual Report
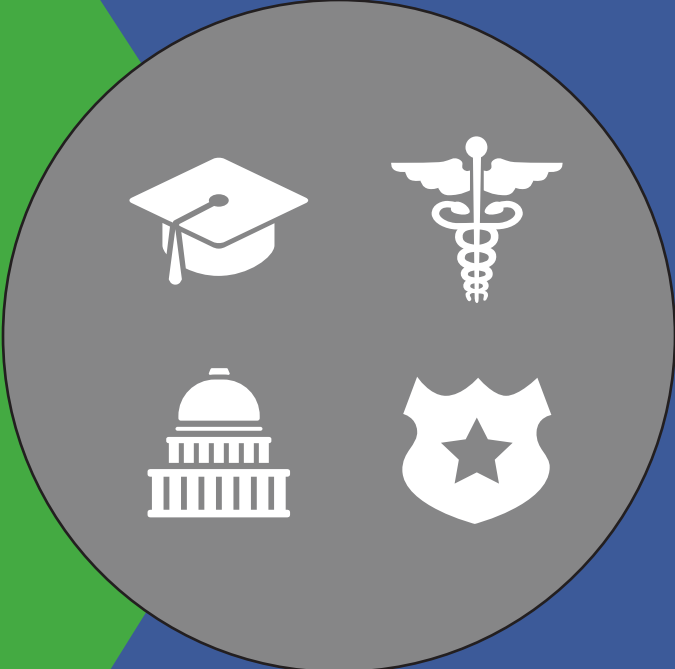
ICN™

Iowa Communications Network

Providing High Speed Internet, Data, Voice, Security, & Consulting Services

Contents

This annual report highlights agency information between July 1, 2020 - June 30, 2021.

- Fiscal Year 2021 Budget
- Statement of Net Assets
- Statement of Changes in Net Position

Mission

Provide a statewide, innovative, secure, reliable network, and technology solutions for education, healthcare, public safety, and government.

Iowa Telecommunications and Technology Commission

Barb Kniff McCulla, Chair | Robert Holz | Krista Wenzel | Timothy Lapointe | Steven Olson

Rob Sand, ex officio, State of Iowa Auditor | Dr. Matt Behrens, ex officio, Chief Information Officer

ICN Executive Team

Randy Goddard, Executive Director

Deb Evans, Chief of Staff | Mark Johnson, Chief Operating Officer | Scott Pappan, Chief Technology Officer

November 18, 2021

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

Dear Governor Reynolds:

I am pleased to submit the Fiscal Year (FY) 2021 Annual Report on behalf of the Iowa Telecommunications and Technology Commission (ITTC) overseeing the Iowa Communications Network (ICN).

In FY 2021, the ITTC and the ICN were proud to support our education, healthcare, government, and public safety customers. This publication reviews major accomplishments, but some of the most important work is highlighted here.

- ICN finalized our partnership with FirstNet, built with AT&T, on behalf of the Iowa Department of Homeland Security and Emergency Management to use FirstNet as the backup connection for Iowa-based Public Safety Answering Points located across the state providing 9-1-1 services to Iowans.

- Iowa State University announced receiving a national federal grant to study the use of wireless technology to expand available broadband coverage across a three-county area. ICN is a valued partner for this initiative and work will begin in FY 2022.

- ICN successfully minimized its legacy footprint and migrated to IP in order to streamline a more efficient network. To achieve this goal, the Network had 420+ DS3 circuits that needed to be removed that were tied to our earlier TDM and ATM infrastructures.

As we look to FY 2022, we have a number of priorities that support our customers' broadband needs.

- Completing a multi-year network refresh to our core IP infrastructure, which incorporates Ethernet technology. This advancement will enable the Network to operate at 100GB, with an upgrade path of up to 200GB.

- Finalizing the Iowa Hospital Association's equipment upgrade for the Iowa Rural Health Telecommunications Program's consortium network. ICN is replacing legacy equipment at 191 locations across the State, which will benefit from enhanced redundancy, along with increased bandwidth.

- Enhancing infrastructure for Iowa-based Public Safety Answering Points (PSAPs), which will benefit from ICN delivering both wireless and wireline 9-1-1 services.

- Continuing to implement advanced security measures that enhance and protect our critical network infrastructure.

- Working towards launching new services for our customers.

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

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

Who We Are

A State government agency, that administers a state-of-the-art fiber optic network providing broadband and telecommunications services to authorized users.
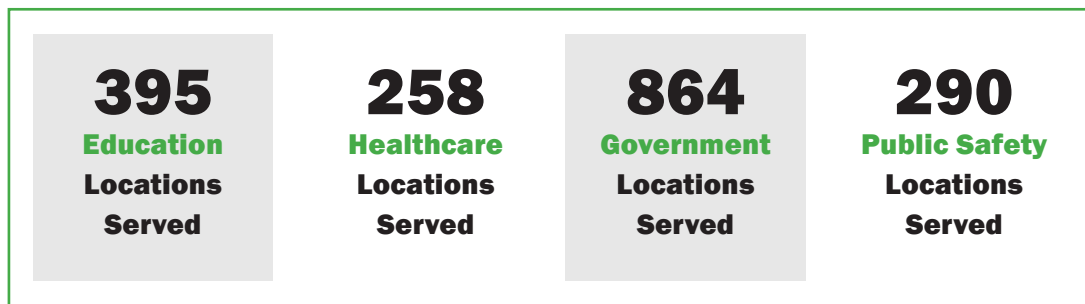
Our business offices are located on the State Capitol Complex in Des Moines, and our hub and Network Operations Center are located at the Iowa National Guard Joint Forces Headquarters (JFHQ) in Johnston.

Services

- Internet
- Ethernet
- Security
  - DDoS Mitigation
  - Firewall
- Cloud Connect
- Voice
- Colocation
- Structured Cabling
- Consultation

Authorized Users

The ICN is statutorily limited, by the Code of Iowa, Chapter 8D, in who is permitted to utilize the Network. ICN's authorized users include: K-12 schools, higher education, hospitals and clinics, public safety, state and federal government, National Guard armories, and libraries.

395	**258**	**864**	**290**
Education Locations Served	Healthcare Locations Served	Government Locations Served	Public Safety Locations Served

FY 2021 Legislative Session Recap

Iowa Telecommunications and Technology Commission (ITTC) Update:
Randy Goddard was confirmed as ICN's executive director by the full Senate on April 21.

ICN Session Highlights:
Billing Services: A bill for an act relating to the services provided by the ITTC was signed by the Governor on April 30, 2021. This new billing process had an effective date of July 1, 2021.

Contracts Exceeding $1 Million, Code of Iowa Reference

ICN contracts entered into during FY 2021 exceeding $1 million, as required by the Code of Iowa, Section 8D.3(3)(f).

- 20-033 Juniper (Network equipment) - signed 9-21-2020
- 20-078 WorldWide Technologies (Lanner Whitebox) - signed 4-12-2021
- 20-083 Ventraq (Financial Billing System) - signed 3-26-2021

Public / Private Partnerships

In FY 2021, ICN reinvested a total of $23M back into the private sector with $9.44M of that going to private telecoms.

Looking Ahead to Fiscal Year 2022

New Products

Our goal is to develop services that meet the needs of our customers. We are preparing two products:

- Hotspots for our education sector through a partnership with AT&T.
- Cloud Connect for all sectors to have a direct connection to content providers.

Grants for Critical Infrastructure and Cybersecurity

ICN will begin the enhancement to our security operations. In FY 2022, ICN received five Homeland Security grants. The funding received will be used to support:

- A power upgrade to enhance ICN's lab environment and facilitate the state firewall service.
- Installation of security cameras and access controls at the three main core Network sites.
- Adding a disaster recovery site, which includes a fiber build and equipment purchase.
- Installation of a patch management software for internal systems.
- Performing an external vulnerability scan on the Network.

Virtualization

Our approach will be based on a white-box application, which combines the traditional data center elements (storage, compute, networking, and management) in a single automated platform. We plan to leverage services layered on top of the IP infrastructure to be flexible and adapt to the needs of our customers.
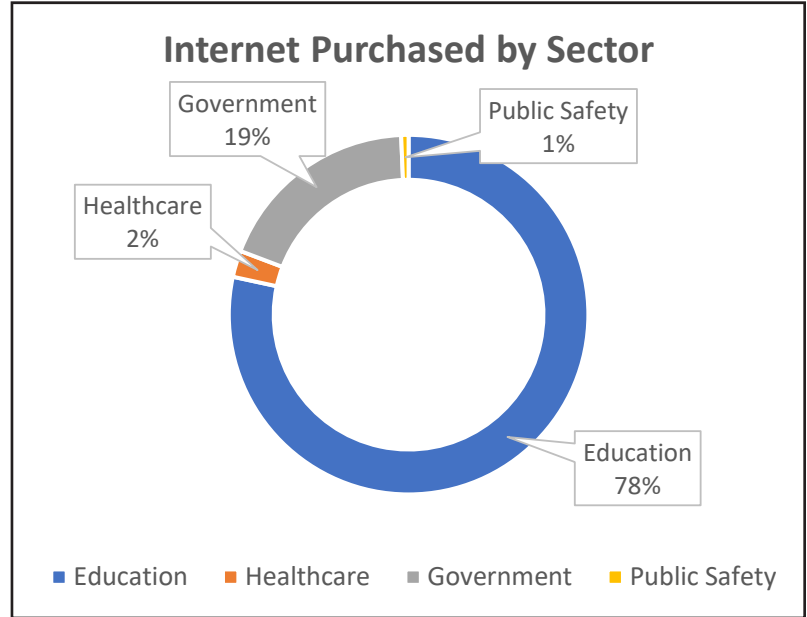
Internet

Internet Purchased by Sector
- Education 174.490Gb
  - Higher Education 47.685Gb
  - K-12 107.375Gb
  - AEA 16.400Gb
  - Libraries 3.030Gb
- Healthcare 5.295Gb
- Government 41.357Gb
- Public Safety 1.47Gb

Total Internet Purchased: 222.61Gb

Internet Purchased by Sector

Government 19%
Public Safety 1%
Healthcare 2%
Education 78%

■ Education ■ Healthcare ■ Government ■ Public Safety

Voice

Our VoIP platform is hosted from a cloud environment. To date, there are 167 active customer groups*, with 7,478 employee seats activated. The service provides relocation benefits during disaster recovery situations, no long distance or 800 expenses, and call encryption.
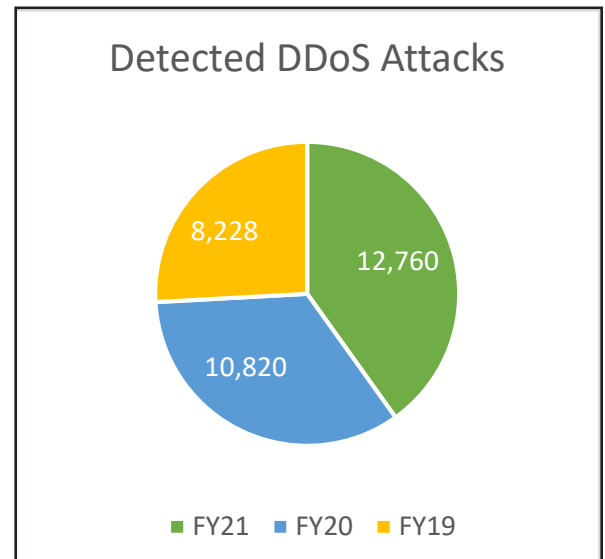*One building can incorporate multiple customer groups.*

Security

Distributed Denial-of-Service (DDoS) Mitigation

During the Last 12 Months:
- Detected 12,760 DDoS attacks on the State's Network.
- Longest DDoS attack was 11 hrs, 59 mins, 35 secs.
- Largest DDoS attack was 2.23TB (Terabyte).

Detected DDoS Attacks

8,228
12,760
10,820

■ FY21 ■ FY20 ■ FY19

Customer Support

COVID-19 Support

COVID-19 forced many of our customers to reevaluate their network connectivity to support remote users and statewide telehealth requirements. ICN had the capability to meet our customer needs.

Continuity of Government

New 10Gb Internet Connection

Government Teleworkers: Installation of new 10Gb Internet connection for the additional VPN bandwidth needed for government teleworkers to connect back to their network resources from remote locations.

Ethernet Connection

Regular Press Conference Updates: ICN supplied the Ethernet connection between Iowa Public Broadcasting Service (PBS) and Joint Forces Headquarters (JFHQ) for the Governor's press conferences.

Service Support by Sector

Healthcare

Bandwidth Increases for Telehealth: Due to the FCC rule change during the COVID-19 pandemic, ICN provided free temporary bandwidth increases for two months to 13 hospitals. Orders were completed within 48 hours.

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Government

Bandwidth Increases: At least 16 government agencies requested bandwidth increases.

Voice Mobility: Business Communicator app enables flexibility to support teleworking State employees.

Data and Voice Support:

- Tested & validated phones used for Emergency activation for the Governor and her team.
- Reconfiguration and relocation of MVS phones.
- Increased Voice conference calling accounts.
- Installed cabling & switches to support data and voice.

Education

Bandwidth Increases: Twenty-four (24) K-12 school districts requested increases in bandwidth during a special funding session through the FCC's E-rate Schools and Libraries program in October 2020.

Public Wi-Fi at Community Colleges: ICN assisted Eastern Iowa Community College to enable public Wi-Fi connections at their Bettendorf and Clinton campuses by setting up Wi-Fi connections in parking lots for students to access online assignments.

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County Services

Emergency Connectivity: ICN is providing services to 3 county emergency management agencies per the Governor's State of Public Health Disaster Emergency Proclamation and Iowa Code section 8D.9.

ICN Added as Member of Automated Transportation Council

ICN was added as a member of the Iowa Advisory Council on Automated Transportation (ATC), which is chaired by the Iowa Department of Transportation (DOT). ICN also holds a subcommittee seat on the infrastructure readiness (IR) team.

Current Major Projects

Network Connectivity & Redundancy

The ICN continued work on the Network upgrade to our core IP infrastructure, which is anticipated to be completed in 2022, and will incorporate Ethernet technology. This upgrade involves implementing and maintaining a native 100GB network, throughout the State, which is scalable up to 200GB as needed. At the State network level, the ICN will provide a highly resilient, secure, and high-capacity wide area network (WAN). This upgrade also enables the ICN to proactively manage the ever increasing bandwidth needs of our users. The upgrade will provide sufficient capacity at the core of the Network to securely carry the state's voice, Internet and data traffic as needed, without degradation. ICN anticipates a reduction of our internal transit/transport costs.

Firewall / Security Updates

ICN is working towards decentralizing the State Firewall using virtualization, to build network efficiencies to further increase IP security.

- Firewall & DDoS Mitigation Appropriation: ICN received a $2,071,794 appropriation in FY 2021 from the Governor's original budget request for Firewall & DDoS Protection. This appropriation will ensure the continuation of critical cyber protection for State government agencies currently receiving these services at no cost.

Healthcare

Healthcare facilities are connected to either the ICN or the Iowa Hospital Association's (IHA) network.

- ICN is serving 253 hospitals and clinics; providing critical broadband and Internet services.
- Iowa Hospital Association partner (since 2008): ICN is the technical, engineering, and maintenance provider of the Iowa Rural Health Telecommunications Program.
  - The ICN is working with IHA to replace legacy equipment at 191 locations for a complete network upgrade. This project enhances the redundancy to hospitals and rural clinics, along with increases in bandwidth to enable improved access to specialists and records.
  Anticipated to be completed in FY 2022.

Public Safety and 911 (Wireless & Wireline)

ICN continues to have a strong partnership with the Iowa Department of Homeland Security & Emergency Management (HSEMD).

- ICN, FirstNet, and AT&T: ICN is partnering with FirstNet to provide backup connection for Iowa-based Public Safety Answering Points (PSAPs) providing 9-1-1 services to Iowans.
- Providing a closed secure network for 911 wireless calls.
- Providing infrastructure and services for merging the existing wireline carrier network.
  - *Nine remaining locations to complete.*
- Providing colocation facilities and transport services for a hosted PSAP solution.

GCN The Technology that Drives Government IT

Iowa taps into FirstNet for 911 backup

MissionCritical | RadioResource
COMMUNICATIONS | INTERNATIONAL

Iowa Public-Safety Network Selects FirstNet Service as PSAP Backup Connection

ICN Partnering with FirstNet to Deliver Backup Connections

The ICN is partnering with FirstNet on behalf of the Iowa HSEMD to use FirstNet as the backup connection for Iowa-based Public Safety Answering Points (PSAPs) providing 9-1-1 services to Iowans.

- The ICN is used as the primary network provider for HSEMD and the 113 Iowa based PSAPs.
- If the primary route for 9-1-1 calls is damaged, the PSAPs connections will reroute to the FirstNet network to wirelessly connect redundant routers back to the PSAPs.
- ICN established a separate virtual private network within the FirstNet infrastructure. This provided redundant connections for wireless and wireline 9-1-1 services.

telecompetitor

Latest PAWR Testbed to Focus on Rural Broadband

RADIO IOWA

ISU lands grant to study wireless technology for internet access in 3 counties

MeriTalk
Improving the Outcomes of Government IT

NSF Announces Rural Broadband Test Site in Ames, Iowa

ISU Receives Grant to Study Wireless Technology

ICN and the Iowa DOT are partnering with Iowa State University (ISU) to study wireless technology. ISU received notification that they will lead a $16M research project on the use of wireless technology to provide Internet access in 3 counties.

NATIONAL GOVERNORS ASSOCIATION

Governors Lead On Expanding Access To Affordable Broadband For Telehealth Services

In **Iowa,** the Iowa Communications Network (ICN) completed network equipment upgrades at 71 hospital and clinic sites to provide increased bandwidth, and at the outset of the pandemic, ICN provided temporary free service upgrades to 13 hospitals to accommodate increased telehealth services. The ICN is an independent state agency governed by five Governor-appointed commissioners that operates a statewide fiber optic network, and provides internet, data, phone and security services to Iowa's K-12 schools, higher education institutions, hospitals and clinics, state and federal government agencies and libraries. ICN serves over **280 hospitals, clinics, and other health care providers** across the state.

The "Operating and Capital Asset Revenues" graph shows ICN generated over $32M in revenues from billed services to authorized users.

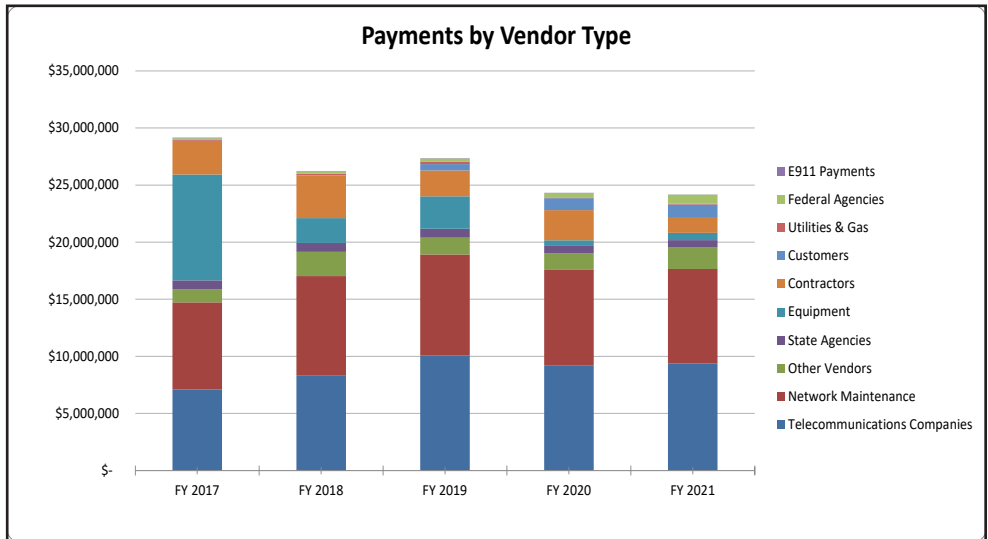**Operating and Capital Asset Revenues**

Legend: Universal Service Fund | Education | State Government | Other
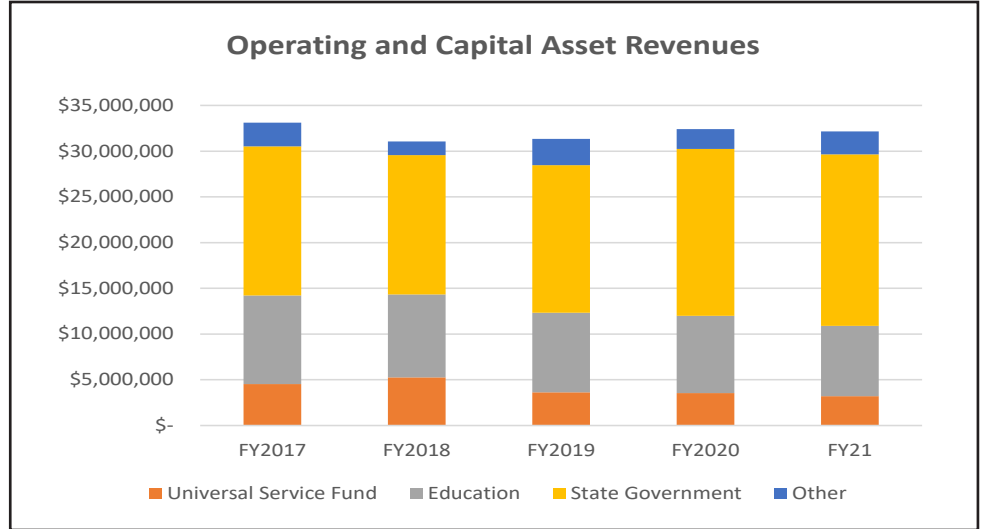
The "Payments by Vendor Type" graph shows how the revenue generated is used in supporting the network.

The largest ICN expenses in FY21 were the network maintenance 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.

REVENUE	FY2021 Actuals	FY21 Budget	FY22 Proposal
Voice Revenue	8,901,813	7,370,030	7,113,925
Transport Revenue	13,905,624	15,086,412	13,933,004
Internet Revenue	6,609,437	6,538,400	7,120,112
Security Revenue	361,899	520,114	427,701
Colocation Revenue	196,992	154,636	226,880
Outside Plant Build Out/Maintenance Revenue	1,747,064	1,853,052	2,018,638
Network Professional Services Revenue	35,469	134,000	31,200
Structured Cabling Revenue	-	-	25,440
Interest Revenue	17,642	153,000	92,000
Other Revenue	111,258	12,265	32,515
Gross Revenues	**$31,887,198**	**$31,821,909**	**$31,021,415**
DIRECT EXPENSES			
Voice Direct Expense	5,789,827	5,236,692	5,227,674
Transport Expenses	4,690,869	5,605,206	5,056,107
Internet Expenses	744,540	560,413	757,972
Security Expenses	255,482	335,068	91,624
Colocation Expenses	-	-	3,000
Outside Plant Build Out Expenses	169,928	483,304	348,088
Network Professional Services Expenses	14,541	74,050	19,000
Structured Cabling Expense	77,794	-	19,200
Total Direct Expenses	**$11,742,981**	**$12,294,733**	**$11,522,665**
Gross Margin	**$20,144,217**	**$19,527,176**	**$19,498,750**
OPERATING EXPENSES			
System Maintenance and Technical Support	6,511,143	6,164,666	6,545,557
Outside Plant Maintenance Expenses	2,144,453	2,222,254	1,746,654
Operating Professional Fees	245,022	218,775	375,000
Other Operating Expenses	568,350	560,006	623,295
Total Operating Expenses	**$9,468,968**	**$9,165,701**	**$9,290,506**
Net Margin	**$10,675,249**	**$10,361,475**	**$10,208,244**
GENERAL AND ADMINISTRATIVE			
Personnel Services	9,573,623	9,358,179	9,653,372
Travel	56,981	102,644	129,141
Other General & Administrative Expenses	659,815	930,392	802,305
Professional Fees	61,600	133,340	30,000
TOTAL G, S, and A EXPENSES	**$10,352,019**	**$10,524,555**	**$10,614,818**
NET CASH (DEFICIT) from OPERATIONS	**$323,230**	**$(163,080)**	**$(406,574)**
CAPITAL BUDGET			
Capital Expenditures	636,140	1,263,000	837,000
NET EQUIPMENT PURCHASES	**$636,140**	**$1,263,000**	**$837,000**
NET CASH (DEFICIT)	**$(312,910)**	**$(1,426,080)**	**$(1,243,574)**

Operating
Budget
Proposal
Fiscal Years Ending
June 30, 2022
and
June 30, 2023

Statement of Net Assets
For the Year Ending Wednesday, June 30, 2021

			Increase (Decrease)	
ASSETS	Fiscal Year 2021	Fiscal Year 2020	Amount	Percent
Cash & Cash Equivalents	8,424,025.63	7,431,911.61	992,114.02	13.35%
Accounts Receivable	3,765,690.36	3,876,506.86	(110,816.50)	(2.86%)
Interest Receivable	4,084.20	15,192.97	(11,108.77)	(73.12%)
Inventory	1,059,725.40	1,359,325.18	(299,599.78)	(22.04%)
Prepaid Expenses	914,537.90	706,044.66	208,493.24	29.53%
Total Current Assets	14,168,063.49	13,388,981.28	779,082.21	5.82%
Fixed Assets(Net)	8,998,680.85	11,628,304.53	(2,629,623.68)	(22.61%)
Total Deferred Outflows of Resources	1,498,903.96	1,500,945.18	(2,041.22)	(0.14%)
TOTAL ASSETS	24,665,648.30	26,518,230.99	(1,852,582.69)	(6.99%)
LIABILITIES				
Accounts Payable & Accruals	2,642,636.94	3,340,769.86	(698,132.92)	(20.90%)
Sick Leave Incentive Program - Retirees	25,721.00	6,185.00	19,536.00	315.86%
Unearned Revenue	1,532,440.11	1,766,265.40	(233,825.29)	(13.24%)
Short-Term Compensated Absences	1,053,023.52	761,803.99	291,219.53	38.23%
Sick Leave Incentive Program - Employees	80,255.87	101,820.83	(21,564.96)	(21.18%)
Other Post-Employment Benefits	44,858.30	44,858.30	0.00	0.00%
Total Current Liabilities	5,378,935.74	6,021,703.38	(642,767.64)	(10.67%)
LT Sick Leave Incentive Program - Retirees	54,428.00	21,103.00	33,325.00	157.92%
Long-Term Compensated Absences	84.48	177,397.48	(177,313.00)	(99.95%)
LT Sick Leave Incentive Program - Employees	691,551.37	575,675.46	115,875.91	20.13%
Accrued Sick Leave	71,423.27	68,895.93	2,527.34	3.67%
Other Post-Employment Benefits	831,454.85	822,141.70	9,313.15	1.13%
Net Pension Liabilities	6,182,152.00	5,432,060.00	750,092.00	13.81%
Total Deferred Inflows of Resources	781,905.68	1,268,259.45	(486,353.77)	(38.35%)
Total Long-Term Liabilities	8,612,999.65	8,365,533.02	247,466.63	2.96%
TOTAL LIABILITIES	13,991,935.39	14,387,236.40	(395,301.01)	(2.75%)
FUND EQUITY				
Retained Earnings	10,673,712.91	12,130,994.59	(1,457,281.68)	(12.01%)
TOTAL FUND EQUITY	10,673,712.91	12,130,994.59	(1,457,281.68)	(12.01%)
TOTAL LIABILITIES & FUND EQUITY	24,665,648.30	26,518,230.99	(1,852,582.69)	(6.99%)

Statement of Changes in Net Position
For the Year Ending Wednesday, June 30, 2021

	Fiscal Year 2021	Fiscal Year 2020	Increase (Decrease) Amount	Percent
OPERATING REVENUES				
Sales, rents & services	32,094,053	32,219,025	(124,972)	(0.39%)
TOTAL OPERATING REVENUES	32,094,053	32,219,025	(124,972)	(0.39%)
OPERATING EXPENSES				
General & Administrative	10,601,610	10,843,183	(241,574)	(2.23%)
Depreciation	2,848,253	3,155,516	(307,263)	(9.74%)
Direct	13,987,718	14,217,063	(229,345)	(1.61%)
Operations	8,203,190	7,808,506	394,684	5.05%
TOTAL OPERATING EXPENSES	35,640,771	36,024,268	(383,498)	(1.06%)
OPERATING INCOME (LOSS)	(3,546,718)	(3,805,244)	258,526	(6.79%)
Non-Operating Revenues (Expenses)				
Interest Income	17,642	112,506	(94,864)	(84.32%)
NET NON-OPERATING REVENUES	17,642	112,506	(94,864)	(84.32%)
INCOME (LOSS) BEFORE				
CONTRIBUTIONS & TRANSFERS	(3,529,076)	(3,692,737)	163,662	(4.43%)
Transfers in	2,071,794		2,071,794	0.00%
Transfers out				
CHANGE IN NET POSITION	(1,457,282)	(3,692,737)	2,235,456	(60.54%)
NET POSITION - JULY 1	12,130,995	15,823,732	(3,692,737)	(23.34%)
NET POSITION - MARCH 31	10,673,713	12,130,995	(1,457,282)	(12.01%)

Fiscal Year 2021
Annual Report

ICN™

Iowa Communications Network
Grimes State Office Building
400 E. 14th Street
Des Moines, Iowa 50319

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