THE EDGE INITIATIVE IN NORTH CAROLINA: FY15/16

Executive Summary

Public libraries continue to struggle to meet the technology needs of their communities in an environment of rapid change and slowly rising budgets. In an effort to identify areas of needed improvement, the State Library of North Carolina (SLNC) has been an early adopter of the Edge Initiative, serving as a pilot state in 2013 and implementing the project statewide in 2014. Developed by a national coalition of library and local government organizations, the Edge Initiative is a suite of tools including a self-assessment to help public libraries identify areas for improvement in technology and digital literacy. The Edge Initiative helps libraries evaluate their technology in three strategic areas: Community Value, Engaging the Community and Decision Makers, and Organizational Management. In 2014, 94% of North Carolina's public libraries completed the assessment. The results showed a need for improvement in strategy and evaluation, devices and bandwidth, and technology inclusiveness.

In FY15/16, the SLNC offered the Edge Initiative assessment to public libraries throughout the state for the second time. Fifty-nine, or 73%, of libraries participated in the second round of Edge. Again, NC libraries showed a need for improvement in strategy and evaluation, devices and bandwidth, and technology inclusiveness; however, libraries scored on average 8% higher in these three categories than in the first assessment. Overall total scores were 9% higher than last year showing that demonstrable change is possible even in today's challenging environment.

Overall Score

The Edge Initiative assessment was available to public libraries for 4.5 months from, October 1, 2015 to February 15, 2016. Fifty-nine libraries completed the assessment within this time frame representing 73% of NC public libraries. The libraries that
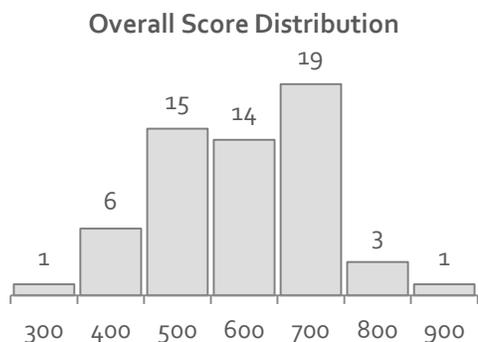
Overall Score Distribution

participated vary in size with the smallest serving just under 5,000 people with a staff of 4.38 full-time equivalents and the largest serving a community of 1,012,539 with a staff of over 400. Additionally, participants varied by structure with 12 regional, 39 county and 8 municipal library systems represented. As shown in figure 1, overall scores vary widely among the libraries with the lowest scoring participants receiving approximately 30% of possible points and the highest over 90%. While significant variation in scores was seen, scores trended higher overall with the median score up to 675 from 590 in FY13/14.

Figure 1

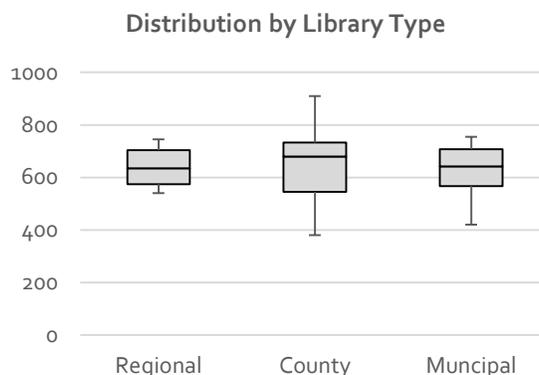Box plots were used to discover if more variation in score was seen for certain library types. Figure 2 shows the distribution of total scores according to library type. County libraries showed the most variation in total score followed by municipal and regional systems all of which had very similar scores. The median score ranged from 635 for regional systems to, 642.5 for municipal and 680 for regional systems.

Figure 3 shows there is significant variation when libraries are compared by legal service population size. By far the most variation was seen in libraries serving between 200,000-249,999 residents with those serving 150,000-199,000 showing the least variation.

Distribution by Library Type

Figure 2

Distribution by Legal Population Size
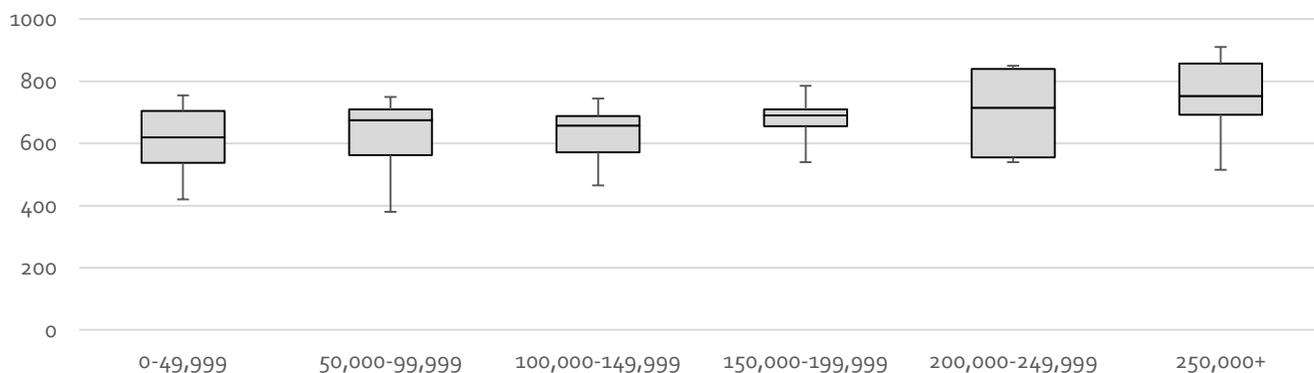
Figure 3

Community Value

As noted previously, NC libraries scored highest in the strategic area of Community Value, an assessment of the programs and services libraries offer to ensure their community is able to enjoy the full value of public access technology. The services evaluated include the availability of one-on-one patron assistance, technology classes, and software availability, among many others.
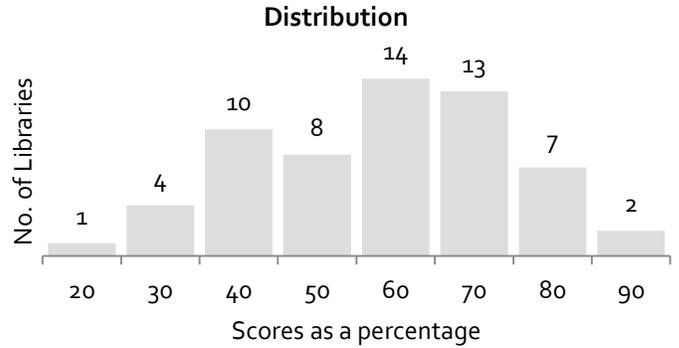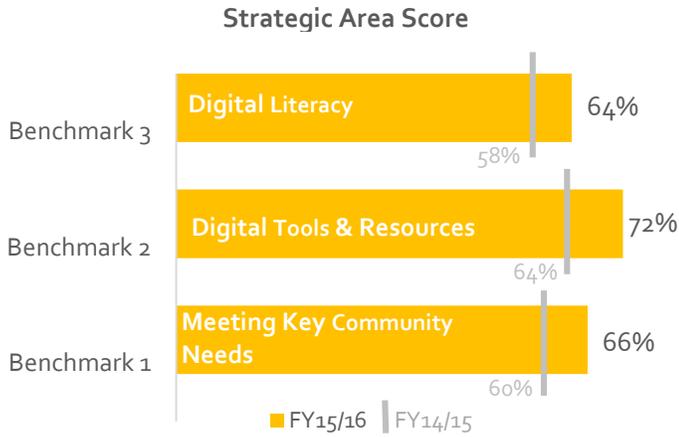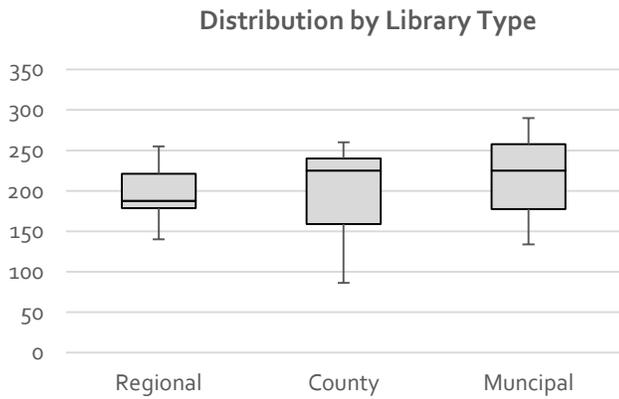
Strategic Area Score

- Benchmark 3 — Digital Literacy: 64% (FY15/16), 58% (FY14/15)
- Benchmark 2 — Digital Tools & Resources: 72% (FY15/16), 64% (FY14/15)
- Benchmark 1 — Meeting Key Community Needs: 66% (FY15/16), 60% (FY14/15)

Legend: ■ FY15/16 | FY14/15

Figure 4

Distribution

No. of Libraries vs Scores as a percentage:
- 20: 1
- 30: 4
- 40: 10
- 50: 8
- 60: 14
- 70: 13
- 80: 7
- 90: 2

Figure 5

Distribution by Library Type

Regional, County, Muncipal

Figure 6

Distribution by Legal Service Population

0-49,999; 50,000-99,999; 100,000-149,999; 150,000-199,999; 200,000-249,999; 250,000+

Figure 7

Benchmark 1

Benchmark 1, scores by indicator

Indicator 1.2. Individual assistance for digital literacy at all locations — 68%

Indicator 1.1. Provides regular digital literacy training in 7 areas — 64%
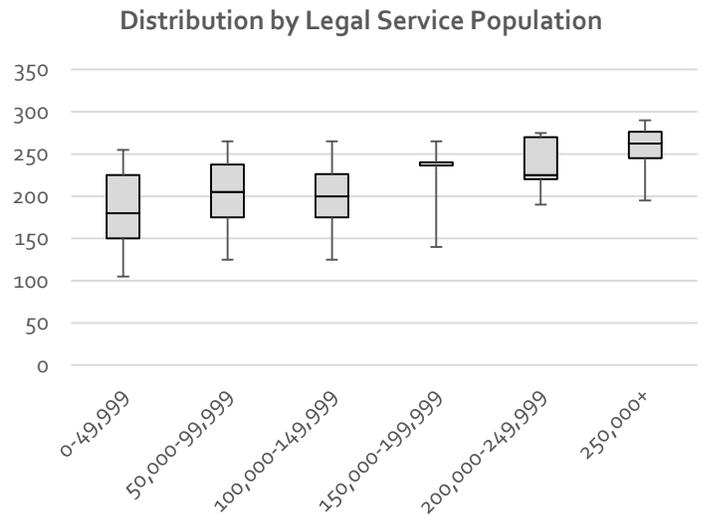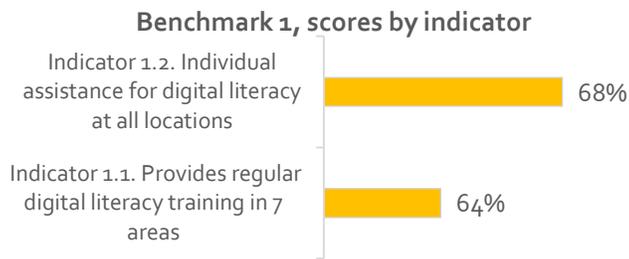
Figure 8

NC libraries scored 66% of possible points for benchmark 1: digital literacy. 64% of libraries offer regular digital literacy training of some type with 83% of libraries offering basic computer skills classes, 76% offering productivity software training, and 75% offering internet searching classes. Additionally, 73% of libraries offer training classes for patron owned devices. 86% of libraries offer on-demand or by-appointment assistance for patron owned devices.

Benchmark 2

Benchmark 2, scores by indicator

Indicator 2.3 Provides access to information resources through website — 82%

Indicator 2.2 Monitors its service delivery of online content — 75%

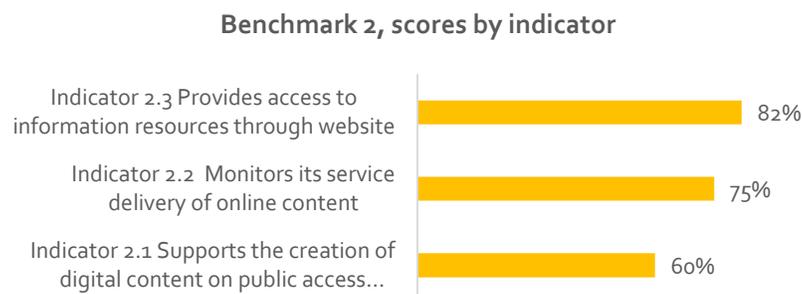Indicator 2.1 Supports the creation of digital content on public access... — 60%

Figure 9

Benchmark 2 measures the library's support for access to and creation of digital content on public access computers. NC received 72% of all possible points in this area. The availability of NC Live resources as well as other e-resources consortia such as e-INC and NCDL are reflected in high scores for access to digital content across the state with nearly all libraries offering ebooks (92%) audiobooks (92%). Libraries also received high scores for monitoring online content with

81% of libraries regularly checking links, and monitoring usage reports.

Offering access to tools needed to create digital content is an area of possible growth for NC libraries. Only 29% of libraries offer access to video/audio recording and editing software and a more limited number offer access to photo-editing software (20%), and web development software (12%).

Benchmark 3

Benchmark 3, scores by indicator

Indicator 3.4 Supports technology technology for health and wellness purposes — 63%

Indicator 3.3 Supports use of technology for patrons pursuing educational opportunities — 72%

Indicator 3.2 Supports use of public technology for eGovernment or legal purposes — 48%

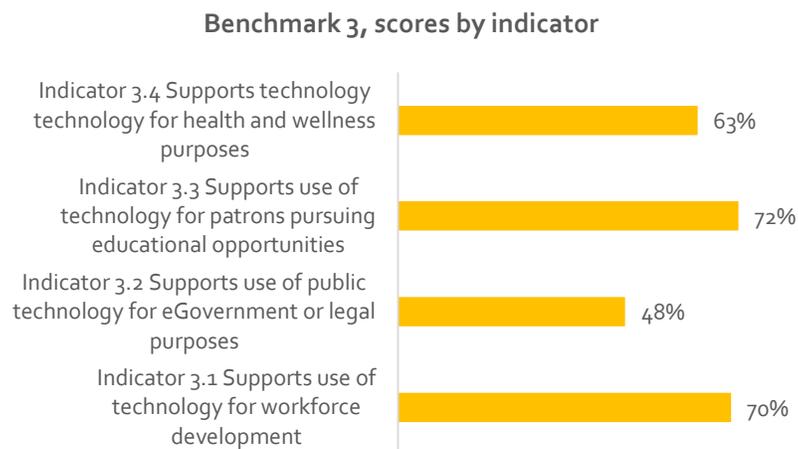Indicator 3.1 Supports use of technology for workforce development — 70%

Figure 10

NC libraries scored 64% of total points for benchmark 3: providing technology resources to help patrons meet important needs related to personal goals and community priorities. Libraries scored highly for providing access to materials such as test preparation tools (100%) early literacy tools (81%), and online tools for job seekers or career advancement (81%). Areas for improvement include eGovernment tools and assistance (39% and 7%), classes on navigating educational resources (20%), and workforce development classes (47%).

Engaging the Community & Decision Makers

Strategic area 2, Engaging the Community and Decision Makers, measures the methods and frequency libraries work with their communities and local funders to solicit feedback about library technology. While this area showed an 18% increase from FY13/14, this area is still the lowest scoring area with NC libraries achieving 61% of possible points. It is also the area where most variation is seen both in overall scores and when libraries are compared by type and size.
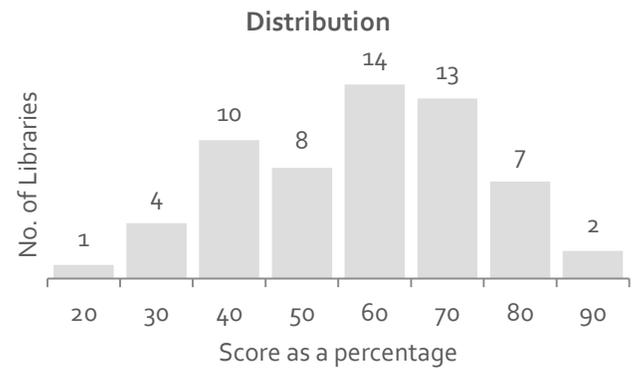
Strategic Area Score

Benchmark 6	Strategy & Evaluation	67%
	56%	
Benchmark 5	Strategic Partnerships	63%
	53%	
Benchmark 4	Sharing Best Practices	59%
	50%	

■ FY15/16 ▮ FY14/15

Figure 11

Distribution

Figure 12

Distribution by Library Type
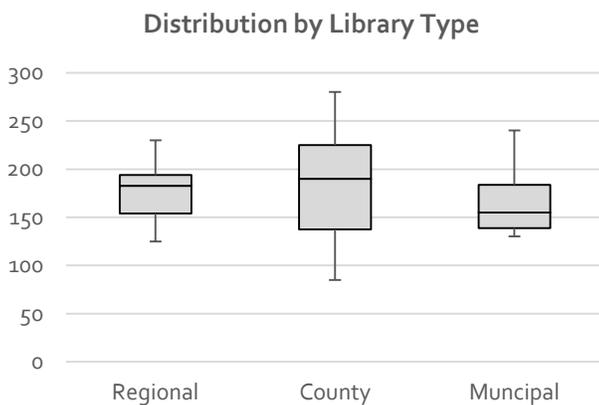

Figure 13

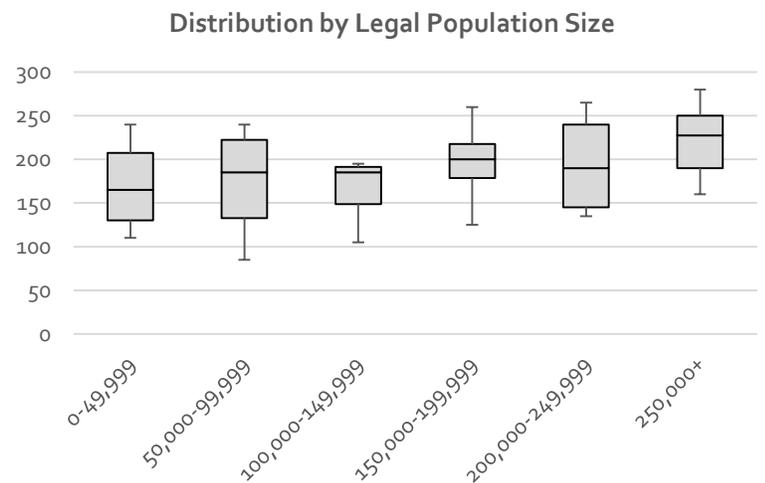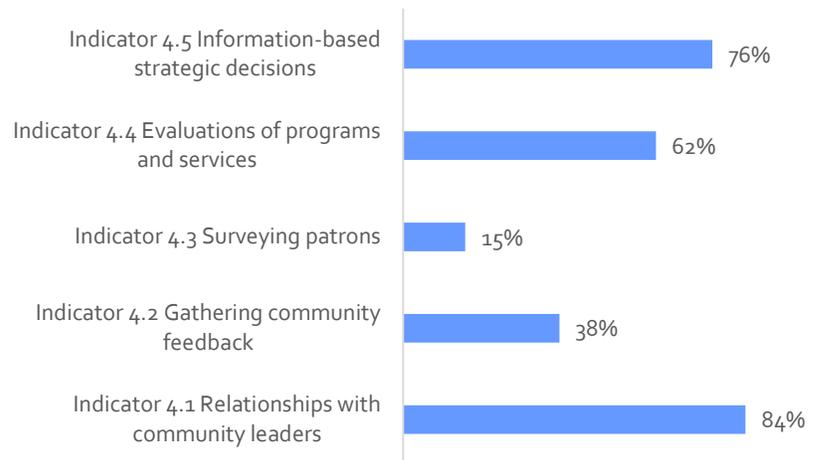### Distribution by Legal Population Size

Figure 14

Benchmark 4

Libraries scored 59% of possible points for benchmark 4: making strategic decisions based on community priorities for digital inclusion and innovation. Libraries scored highest in this area for relationships with community leaders. All libraries reported attending local government meetings and nearly all libraries make presentations about library technology to local organizations such as the Chamber of Commerce. Although libraries have developed strong relationships with local funders, there is significant room for improvement when it comes to soliciting feedback from the wider community. 53% of libraries ask for patron feedback on technology as part of their needs assessment procedure; however, only 14% of libraries reported hosting a community focus group on technology and 7% have held an advertised forum on technology while conducting their

needs assessments. Libraries also fall short when soliciting feedback from non-English speaking community members (10%) and as well as those with disabilities (5%). NC libraries also scored low on questions pertaining to surveying the community on specific areas of technology needs including: workforce development (22%), eGovernment (12%), education (17%), health and wellness (17%). Over 40% of libraries expressed a desire to improve in this area but said they cannot at this time due to various reasons.

Benchmark 4, scores by indicator

Indicator 4.5 Information-based strategic decisions — 76%
Indicator 4.4 Evaluations of programs and services — 62%
Indicator 4.3 Surveying patrons — 15%
Indicator 4.2 Gathering community feedback — 38%
Indicator 4.1 Relationships with community leaders — 84%

Figure 15

NC libraries scored much higher when it comes to evaluating the technology services they are offering. 81% of libraries use web analytics to evaluate the use of library resources and nearly 60% said digital literacy programs and outreach activities are evaluated annually. Additionally, 81% of libraries said digital inclusion is included in their strategic plan and 59% said they regularly evaluate progress in this area.

Benchmark 5

NC libraries scored 63% of possible points for building strategic relationships to maximize public access technology and services available to the community. This area saw the third highest increase over scores in FY13/14. NC libraries have worked to form partnerships to offer services in the areas of workforce development (78%), social services or local government (80%), education (93%), and health & wellness (64%). 80% of libraries have shared technology or space with a local organization to provide programs and 76% of libraries have partnered with a local organization to obtain grant funding. While our libraries excel at forming partnerships, many libraries express a desire to improve their outreach activities such as maintaining a list of local organizations that also offer technology services and tracking emerging technology trends and applications in the community.
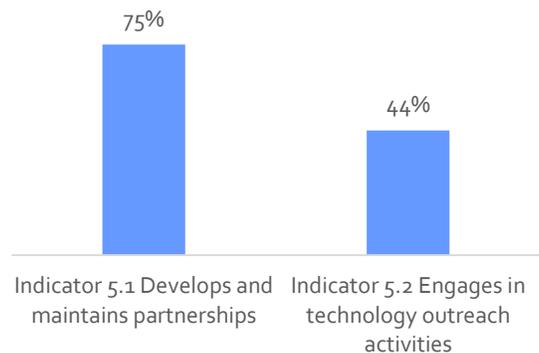
Benchmark 5, scores by indicator

Indicator 5.1 Develops and maintains partnerships — 75%
Indicator 5.2 Engages in technology outreach activities — 44%

Figure 16

Benchmark 6, scores by indicator

Indicator 6.1 Participation in a community of practice — 78%
Indicator 6.2 Gathering feedback — 37%

Figure 17

Benchmark 6

Benchmark 6 measures the libraries role in sharing expertise and best practices with other digital inclusion organizations. Libraries scored 67% of points in this area. Libraries scored highly for using existing resources to improve technology management (97%), sharing training
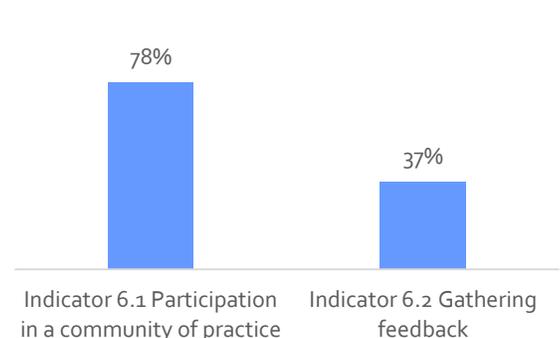
resources with other libraries and organizations (78%), and participating in peer learning opportunities (98%). Libraries scored poorly in gathering feedback though many expressed a desire to improve. Only 41% of libraries ask patrons about their satisfaction with technology and 36% gather feedback on the importance of library technology to patrons.

Organizational Management

NC libraries gained 10 percentage points in Strategic area 3 over FY13/14 scoring 65% of possible points. Overall, the lowest amount of variation was seen in this area with 71% of libraries earning 70% or more of possible points. The median score for regional, county and municipal systems were all in the 260 range although more variation can be seen when comparing libraries by service population size.
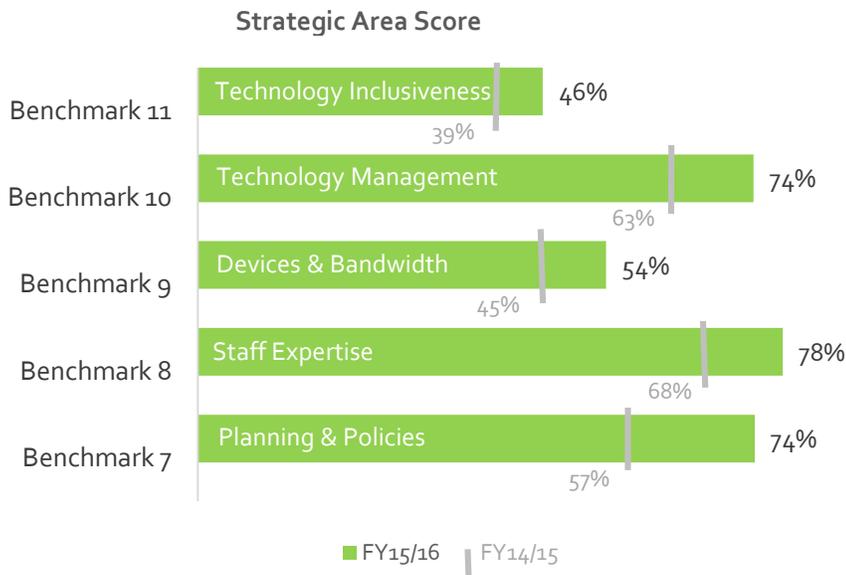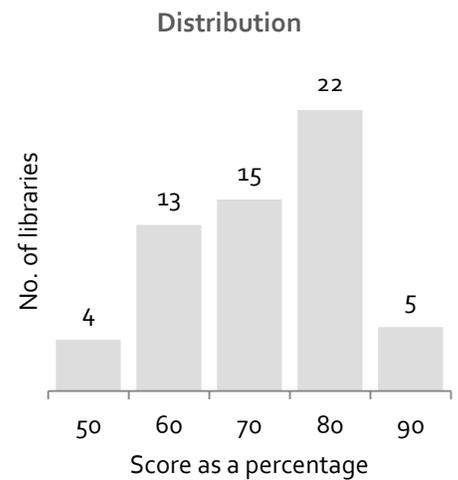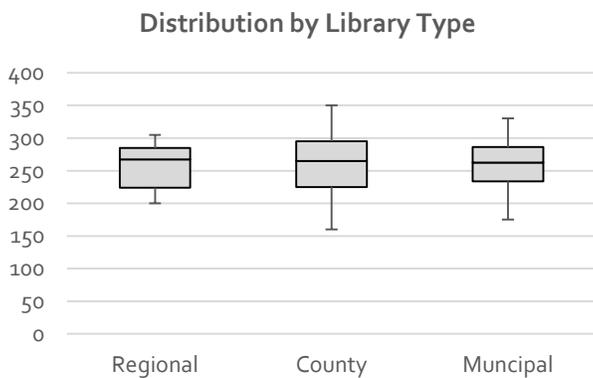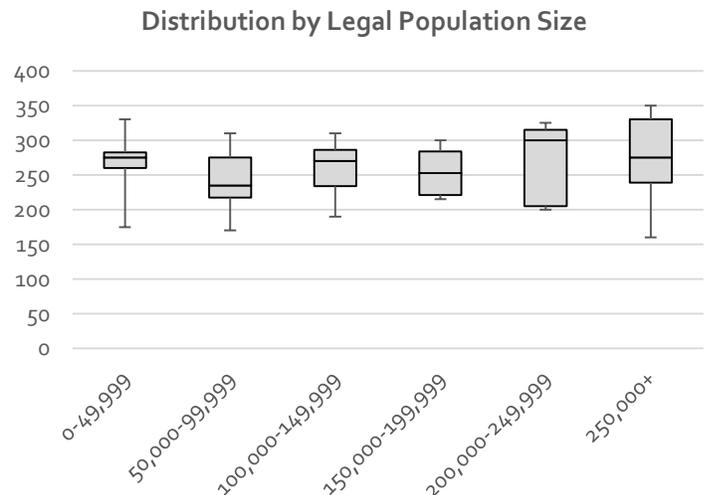

Figure 18

Figure 19

Figure 20

Figure 21

Benchmark 7

Benchmark 7 consists of one indicator measuring how libraries maintain technology and patron data management policies. NC libraries scored highly in this area, earning 74% of possible points. Over 75% of libraries indicated they currently replace hardware between 3-5 years, have procedures in place to ensure internet browsers and web applications such as Adobe Flash and Java are updated regularly, and take measures to ensure patron privacy such as clearing all browsing history and other data between patron sessions. Over 20% of libraries indicated they are currently working on technology management plans to maintain services in an event of a technology failure and 64% of libraries have a current plan.

Benchmark 8

Benchmark 8, staff expertise, continues to be NC's highest ranking benchmark with libraries earning 78% of all possible points. 97% of libraries provide work time for staff to participate in training opportunities and 90% of libraries provide time to work hands-on with new devices, software and other technology. Relatively low scores were received for specific training areas such as egovernment (64%) and education resources (69%). NC Libraries scored relatively low in incorporating technology competencies into employee reviews with only 56% of libraries saying they currently do so.
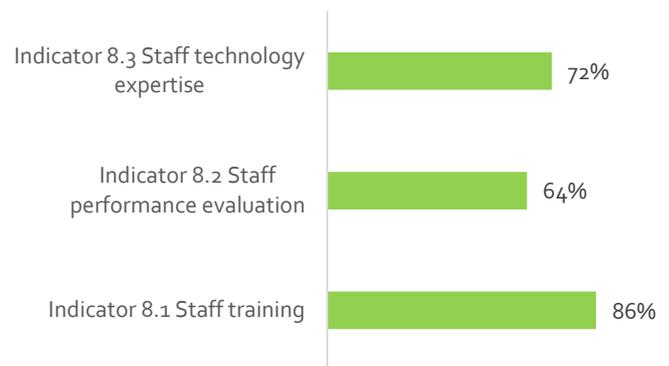
Benchmark 8, scores by indicator
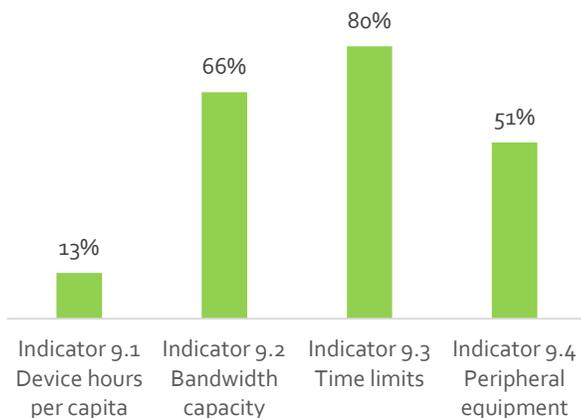

Figure 22

Benchmark 9, scores by indicator

Figure 23

Benchmark 9

NC libraries scored 54% of possible points for benchmark 9: having sufficient bandwidth and devices to accommodate user demand. Device hours is a measure that includes the total hours libraries are open and number computers or laptops available to determine the number of device hours available to each resident per year. Libraries in North Carolina are open on average 42 hours a week but offer far fewer weekend hours. In fact 46% of NC libraries are open 4 or less hours on the weekend. The total number of public computers available at libraries is 6,237 with the average library having 16 computers and 3 laptops. Both hours and devices increased slightly from last year moving NC device hours up slightly to 2.1 hours from 1.8 in 2014.

Adequate bandwidth capacity continues to be a problem for most NC libraries though significant improvement has been made. In 2014, 26% of libraries did not meet the minimum requirements meaning patrons could not count on library

43%

33%

14%

| Bandwidth Level 1 | Bandwidth Level 2 | Bandwidth Level 3 |
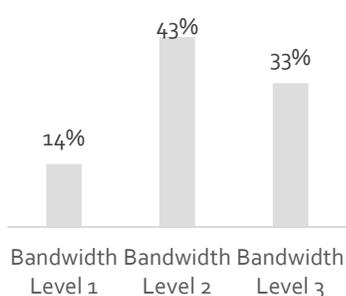
broadband to complete basic online tasks. This year, no library fell below the minimum and only 14% of libraries were ranked as level 1. However, 23% fewer libraries met requirements for level 3, the highest of the level, meaning the majority of NC libraries received a level 2 ranking.

Mean and median upload and download rates are displayed in figures 26 and 27. In both instances the advertised rates are significantly higher than the rates seen when libraries tested their networks.
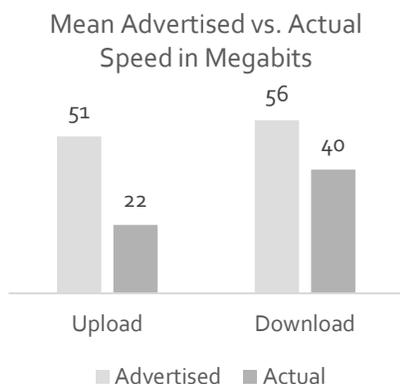
Figure 24

Mean Advertised vs. Actual Speed in Megabits

51   56   22   40

Upload   Download

■ Advertised ■ Actual

Figure 25

Median Advertised vs. Actual Speed in Megabits

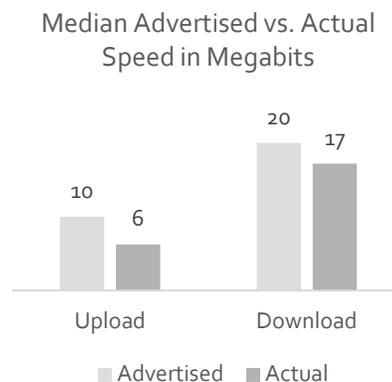20   10   6   17

Upload   Download

■ Advertised ■ Actual

Figure 26

Indicator 9.4 includes measures taken to ensure patron privacy. With the rise of eGovernment and other services moving online, the need for privacy when conducting sensitive transactions is great, however, NC libraries score low on all privacy measures. Only 34% of libraries have partitions between computer workstations and 25% of libraries have screens positioned so that they can't be viewed by other patrons.

Benchmark 10

Benchmark 10 measures how libraries manage technology resources to maximize quality. NC libraries score relatively high in this category earning 74% of total possible points. Libraries scored highly for monitoring connectivity issues with 86% of libraries receiving alerts in real-time. One area for improvement is keeping spare hardware in stock to be able to replace downed devices which only 41% of libraries currently report doing. There is also room for improvement in tracking technology service metrics. Only 32% of libraries monitor wait times for devices and just 66% of libraries are able to track wireless sessions. With more and more personal devices being used in libraries, tracking wireless sessions is critical to show to the full impact of public access broadband.
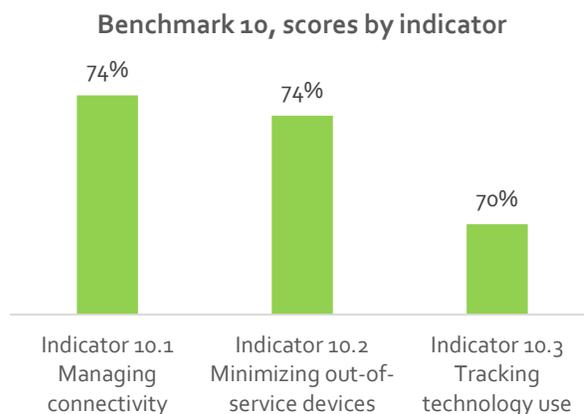

Benchmark 10, scores by indicator

74%   74%   70%

| Indicator 10.1 Managing connectivity | Indicator 10.2 Minimizing out-of-service devices | Indicator 10.3 Tracking technology use |

Figure 27

Benchmark 11

NC libraries continue to score low on benchmark 11, accommodating users with disabilities, receiving 46% of possible points. 44% of libraries have at least one workstation with assistive technology at all locations and 42% of libraries have a website that is compliant with World Wide Web Consortium accessibility standards. 22% of libraries include accessibility goals in their strategic plan. NC libraries did score highly in one area with 93% of libraries having at least one workstation in each location that is wheelchair accessible.

Conclusion

NC libraries participating in Edge have shown significant improvement in all three strategic areas over the previous fiscal year. These improvements could be linked to many factors, including perhaps changes in leadership, increases in funding, and emphasis in the profession on community engagement; however, the process of assessing a library's technology, creating action plans based on assessment results, and utilizing federal funding to implement action items have clearly had an impact on library scores. Bringing awareness to a need for improvement both empowers library leaders and has the potential to persuade library funders.

Continued improvement is needed in technology inclusiveness, with libraries scoring low on accommodating users with disabilities. Libraries are not doing a good enough job soliciting feedback from the disabled, nor from NC's non-English speaking communities, on their technology needs.   There is also need for improvement in surveying and training customers on specific needs that can be served by access to technology, including workforce development, access to government information, education, and health and wellness.

The results of the FY 15-16 Edge assessment clearly show improvement in NC public libraries' ability to serve their communities' technology needs, with a 10% increase in scores over all. The assessment also shows there is more work to be done.