## FY 2020-24 Information & Communication Technology (ICT) Plan
*Department Survey Summary*

*Overview:*

The Information and Communication Technology (ICT) Plan is a 5-year strategic plan for the City's technology. The purpose of a strategic plan is to create a vision of the future, and then organize City actors towards reaching that vision.

In the process of developing a strategic vision, COIT staff will provide leadership with information on current trends and problems within the City. This information on the current state in intended to help identify appropriate citywide goals.

*Survey Details:*

The Department Survey gathers performance feedback on City technology to help identify issues and trends at a department level. Data will be used to roughly measure IT organizational maturity.

The Department Survey collects information on the following issues:

- Department Practices
- Emerging Technology & Innovation
- IT Hiring
- Strategic Sourcing & Procurement
- Shared Services
- Data Management Practices
- Risk Management

The Department Survey was administered from August 21 to September 7. Each department is required to submit a single response.

*Response Summary:*

Submitted:

| | | | | | Absent: |
|---|---|---|---|---|---|
| 311 | CSC | ENV | PAB | SCI | CSS |
| ADP | CON | ETH | POL | TIS | HSS |
| AIR | CON Systems | FAM | PRT | TTX | HOM |
| ART | DAT | FIR | PUC | WAR | HRC |
| AAM | DEM | GSA | REC | WOM | PDR |
| ASR | DCYF | DHR | REG | | RET |
| BOS | DBI | HSA | RNT | | |
| CAT | DPA | JUV | SFMTA | | |
| CFC | DPH | MOHCD | SFPL | | |
| CPC | DPW | OEWD | SHF | | |

# Department Technology Practices

1.1 - What are the top 3 major initiatives your department will be focusing on in the next five years? Please clarify how technology will be used to support the initiatives.

*Top most common responses*

- *Risk management projects – cybersecurity, disaster preparedness (12 departments)*
- *Network & telecommunication infrastructure projects (11 departments)*
- *Development of a customer/case management System (10 departments)*
- *Data integration project (8 departments)*
- *Digital services & websites (8 departments)*
- *Document management system (7 departments)*

1.2 - What are three major service accomplishments in your department in the last 18-24 months? These do not have to be technology specific

*Some very interesting responses but no discernible trends.*

1.3 - Have any technologies been critical to these accomplishments?

*General awareness technology is critical to department accomplishments.*

1.4 - What are three general challenges that your department is facing?

*Top most common responses*

- *Staffing*
- *Procurement*
- *Resources*
- *Coordinating with other departments*

1.5 - What are three technology challenges your department is facing?

*Common responses*

- *Lack of internal IT staff*
- *Technology procurement*
- *Data sharing and establishing data standards*
- *Cybersecurity*
- *Legacy technology*
- *Learning & working with F$P*
- *Training*
- *Lack of funding to text new technology*

1.6 - Which department leaders are represented in department governance decisions? Please identify roles by title.

| | |
|---|---|
| Strategic Planning | Director, Deputy Director |

*In general, it appears the CIO/IT Manager is only sometimes included in strategic planning. In smaller departments, staff are asked to participate in multiple activities and seem to have a higher inclusion rate.*

| | |
|---|---|
| Security & Risk Mitigation | IT Manager |

*A minority of departments identified a specific security professional. Most departments identified IT managers or related IT staff.*

| | |
|---|---|
| Program & Project Oversight | Deputy Directors, Chief Financial Officers, Program Managers |
| Budgeting, Asset Mgmt, & Cost Optimization | Director, Deputy Director |
| Performance Accountability | Deputy Directors, Chief Financial Officers |

1.7 - My department's technology investments and strategy are explicitly aligned to business goals
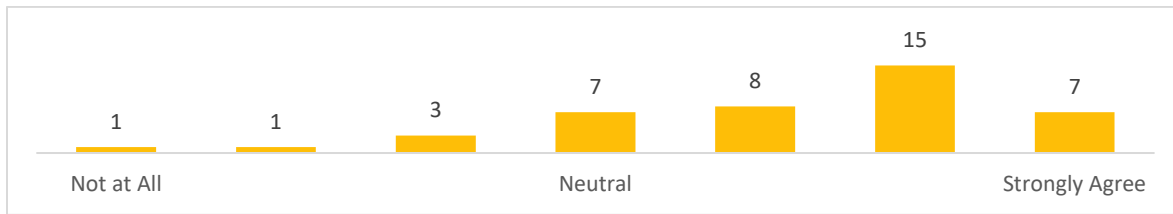


Not at All — 1, 1, 5, 6 (Neutral), 14, 15, 0 — Strongly Agree
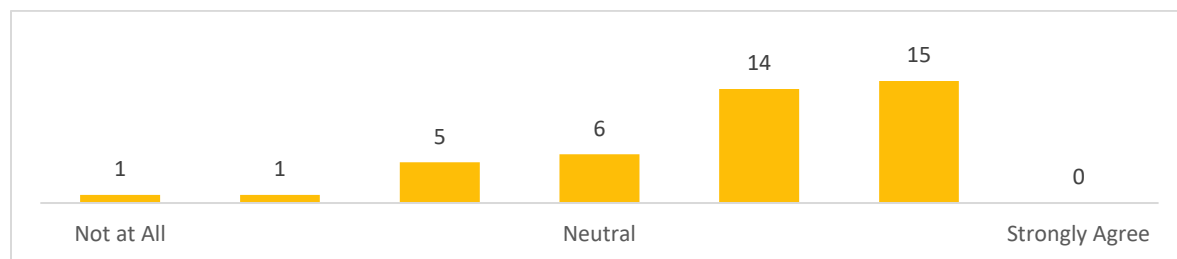
1.8 - To what extent does your department use technology to pursue new opportunities and achieve strategic goals?



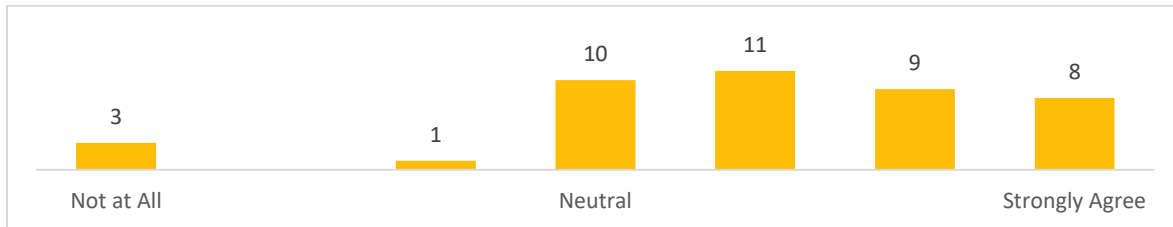Not at All — 0, 2, 2, 12 (Neutral), 14, 11, 0 — Strongly Agree
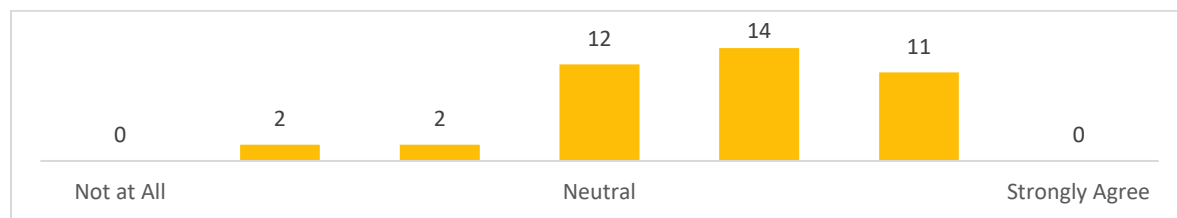
1.9 - How well does this describe your department: IT is a separate function from the business, and are primarily focused on maintaining equipment.



Not at All — 10, 11, 4, 13 (Neutral), 2, 2, 1 — Strongly Agree
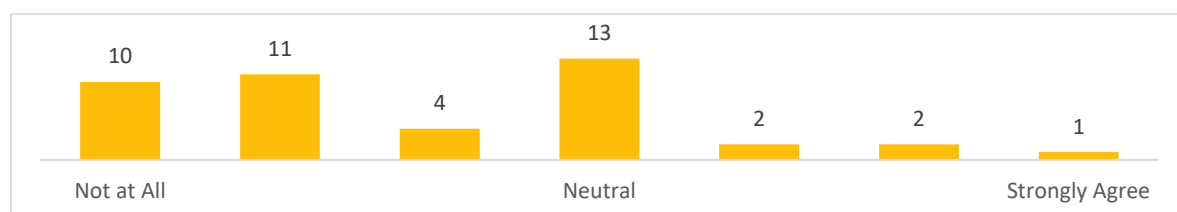
1.10 - How often do senior business leaders solicit advice from IT leaders?

Bar chart (left to right: Not at All … Neutral … Strongly Agree):
1, 1, 3, 7, 8, 15, 7

1.11 - How often does IT participate in the design of products or services?

Bar chart (left to right: Not at All … Neutral … Strongly Agree):
3, 1, 10, 11, 9, 8

1.12 - My department's information technology enables, rather than impedes, the way people work.

Bar chart (left to right: Not at All … Neutral … Strongly Agree):
1, 1, 3, 8, 15, 14
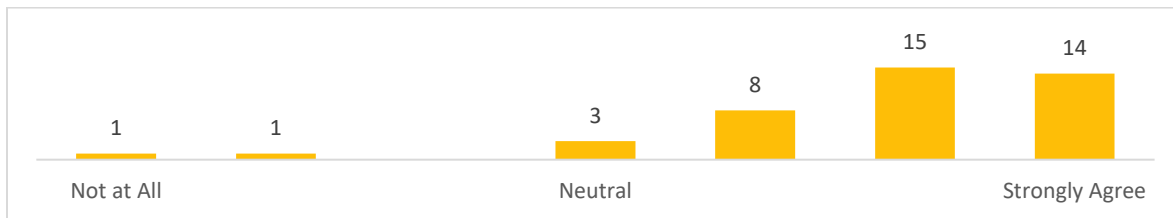
1.13 - My department continually monitors performance indicators to improve operations.

Bar chart (left to right: Not at All … Neutral … Strongly Agree):
1, 2, 5, 13, 8, 11
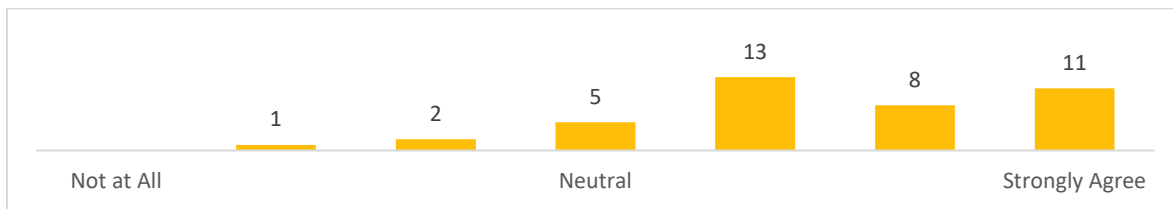
1.14 - What are the primary mechanisms your department uses to receive feedback from your customers? Please specify by customer type.

> Residents & Businesses: most common response by far is surveys. After surveys, many departments listed emails, 311, and social media.
> Departments: most common response is meetings and email.

1.15 - Feedback from residents and our customers are regularly incorporated into decisions to improve our services.

Bar chart (left to right: Not at All … Neutral … Strongly Agree):
1, 1, 5, 9, 12, 11
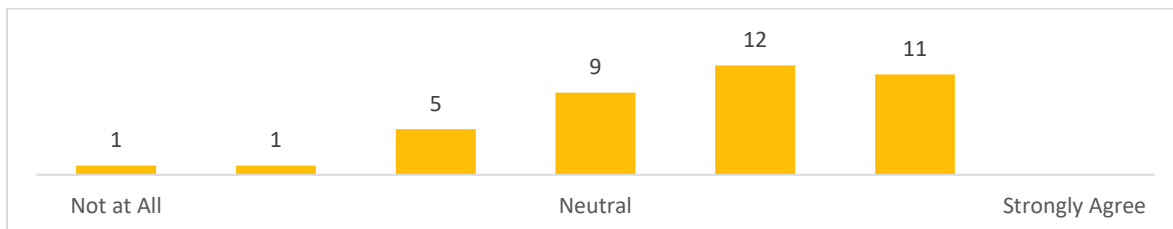
1.16 - What is an example of your department using feedback provided to redesign or improve a service?

*Various examples. Some are really great!*

## Emerging Technology & Innovation

2.1 - To what extent do you agree: My department deliberately experiments with people, processes, structure, and technologies to enhance our innovation capabilities, adaptability, and capacity for change.
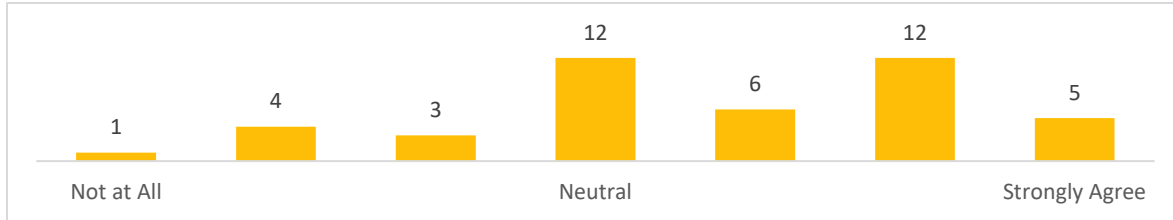


2.2 - What formal or informal structures exist to develop and drive forward change and innovation in your Department, including service redesign, technology, and/or policy change?

> *Some interesting findings:*
> *- Some departments have formal committees to experiment (SCI, AIR, AAM, DPH, PUC)*
> *- A few departments have dedicated staff for innovation (AIR, CON, ENV, HSA, TIS)*

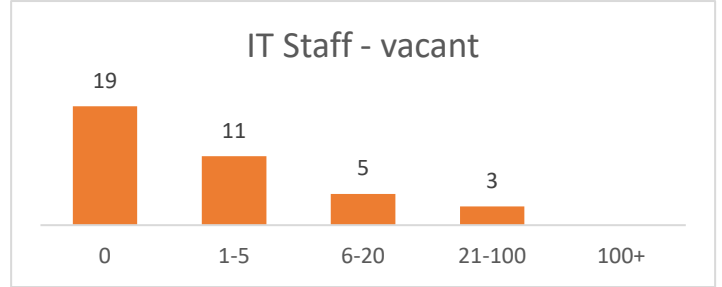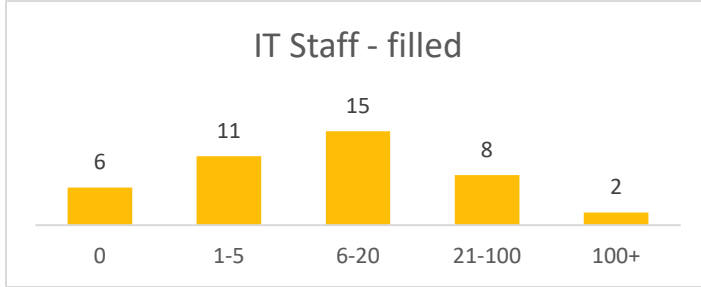2.3 - Who in your organization leads change? Please identify roles.

| | *Positive Responses* | *Total # Departments* | *Percent (%)* |
|---|---|---|---|
| *Leadership Team* | 32 | 45 | 71 |
| *CIO or CTO* | 24 | 45 | 53 |
| *Innovation Team 5* | 5 | 45 | 11 |
| *Multi-Disciplinary Team* | 13 | 45 | 28 |
| *Program or policy staff* | 23 | 45 | 51 |
| *No formal function* | 5 | 45 | 11 |

2.4 - Does your department have any other examples of deliberate experimentation with innovative practices? Please share!
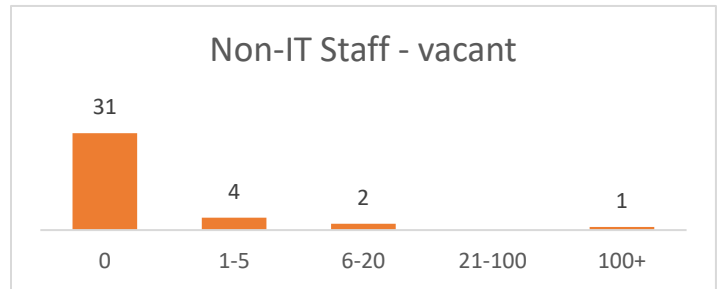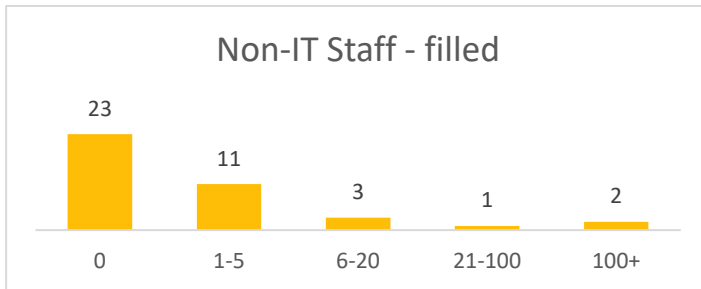
> *Various answers.*

# IT Hiring

3.1 - How many IT Staff do you currently have?

**IT Staff - filled**

| Range | Count |
|-------|-------|
| 0 | 6 |
| 1-5 | 11 |
| 6-20 | 15 |
| 21-100 | 8 |
| 100+ | 2 |

**IT Staff - vacant**

| Range | Count |
|-------|-------|
| 0 | 19 |
| 1-5 | 11 |
| 6-20 | 5 |
| 21-100 | 3 |
| 100+ | |

3.2 - How many IT staff do you currently have in non-IT classifications?

**Non-IT Staff - filled**

| Range | Count |
|-------|-------|
| 0 | 23 |
| 1-5 | 11 |
| 6-20 | 3 |
| 21-100 | 1 |
| 100+ | 2 |

**Non-IT Staff - vacant**

| Range | Count |
|-------|-------|
| 0 | 31 |
| 1-5 | 4 |
| 6-20 | 2 |
| 21-100 | |
| 100+ | 1 |

3.3 - Please check off which of the following programs you have taken advantage of in the past 12 months?

|  | *Positive Responses* | *Total # Departments* | *Percent (%)* |
|--|---------------------|----------------------|---------------|
| *Cat12* | 6 | 45 | 13 |
| *Flex Select* | 12 | 45 | 26 |
| *Extended Ranges* | 12 | 45 | 26 |

3.4 - In your opinion, have the recent hiring practices changes improved your ability to hire skill IT professionals?

| Response | Count |
|----------|-------|
| Not at All | 5 |
| | 4 |
| | 2 |
| Neutral | 19 |
| | 4 |
| | 3 |
| Strongly Agree | 1 |
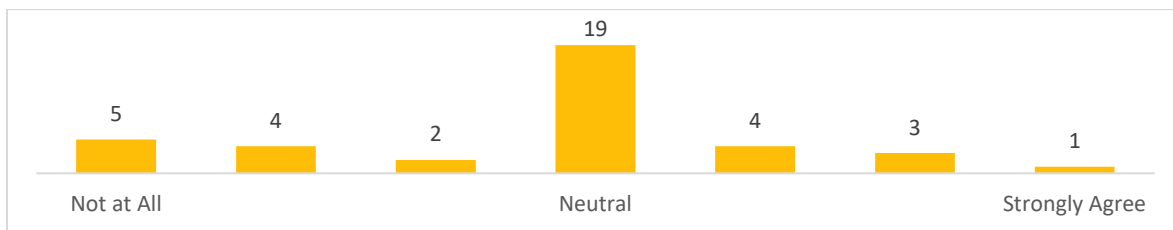
3.5 - What are your other IT hiring needs that are not currently being addressed?

*Common responses:*
- *Attracting talent & compensation*
- *Hiring takes too long*
- *Classifications don't match modern skill sets*
- *Need more skilled staff to support enterprise systems (like SharePoint)*

# Strategic Sourcing & Procurement

4.1 - In your opinion, has procurement of technology products and services gotten easier in the last 2 years?



| Not at All | | | Neutral | | | Strongly Agree |
|---|---|---|---|---|---|---|
| 4 | 1 | 2 | 16 | 7 | 6 | 5 |
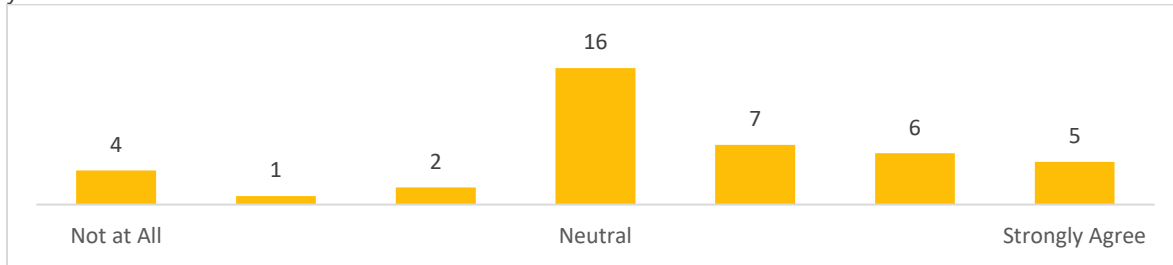
4.2 - What is your experience working with the Tech Marketplace?



| Not at All | | | Neutral | | | Strongly Agree |
|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 15 | 9 | 7 | 5 |
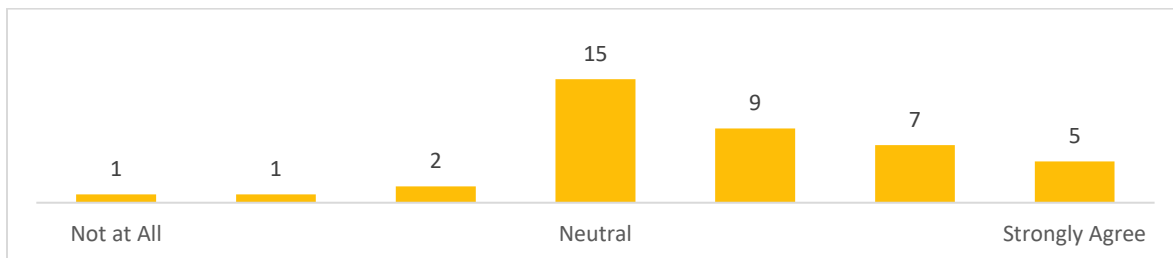
4.3 - Please rank the value of the Tech Marketplace in comparison to other procurement options.



| Not at All | | | Neutral | | | Strongly Agree |
|---|---|---|---|---|---|---|
| 2 | 2 | 1 | 13 | 9 | 8 | 5 |
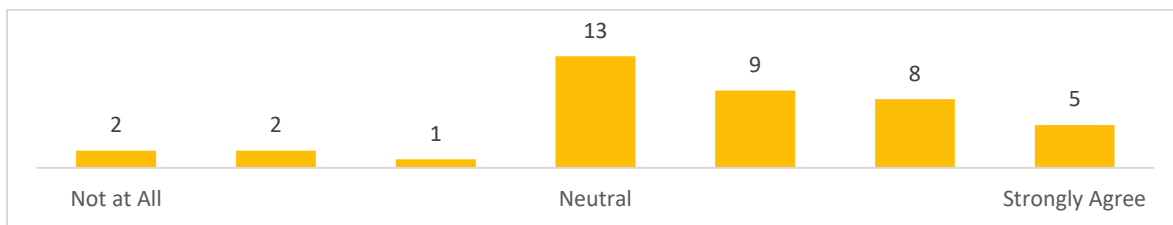
4.4 - What should the City do to make procurement easier?

*Some good answers:*
- *Identify and remove bad vendors*
- *expand catalog of pre-approved technology items. Create a commodity "warehouse"*
- *"Update terms and conditions, social provisions, insurance requirements; allow for the ability for a best and final offer process; replicate the Chapter 6 design / build procurement process for IT procurement; allow project managers who work on drafting solicitations to be a part of the panel that evaluates vendors"*

4.5 - Are you aware the City has multiple enterprise agreements for a variety of technology products?

*Only two departments said no: CSC and SFPL*

4.6 - In general, how satisfied are you with the terms of the existing enterprise agreements?



| Not at All | | | Neutral | | | Strongly Agree |
|---|---|---|---|---|---|---|
| | 2 | 2 | 16 | 6 | 13 | 3 |
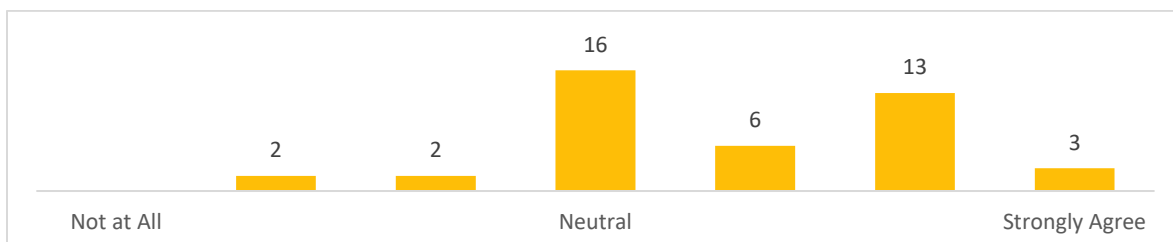
4.7 - What Enterprise License Agreements should the City pursue?

*Generally very supportive comments to have more ELA's. Additional products departments are interested in: Oracle, Tableau, Adobe, Cisco, AutoCAD*
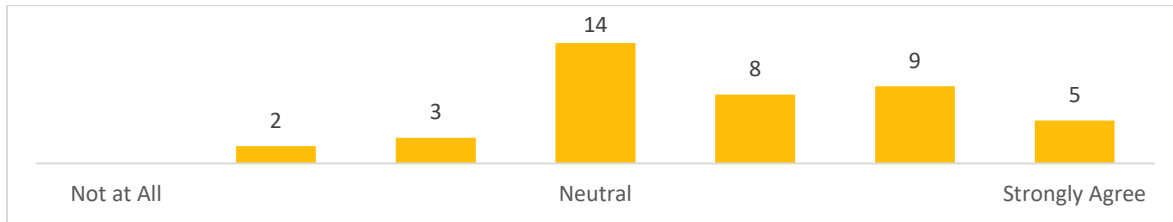
*Some additional comments*
- *EA's should include HIPAA Business Associate Agreement*
- *Limited awareness of a central source to view EA's*
- *Need help tracking who is using products*
- *Need better forecasting when contracts end.*

4.8 - In your view, how could the City make better use of DocuSign to improve internal procurement processes?

*Various answers but high support for digital signatures with F$P.*
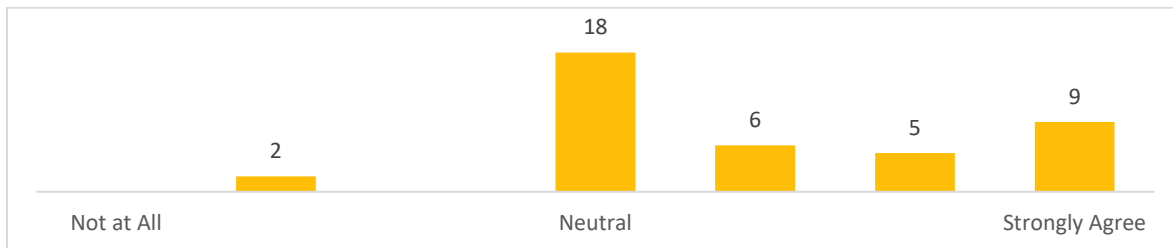
# Shared Services

5.1 - How satisfied are you with the City's network services?



*Some comments on the scores*

- *General agreement network services have improved over the last 2 years.*
- *#SFWiFi needs additional support to be effective*
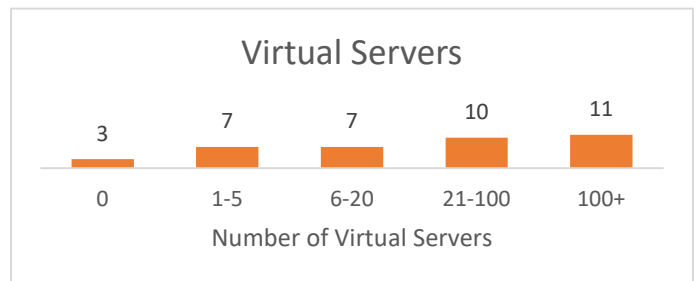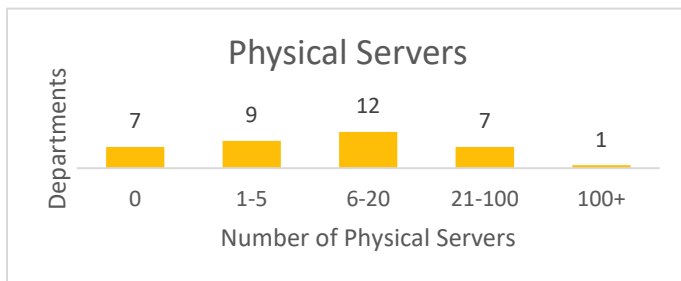- *Requests for an Service Level Agreement*

5.2 - How satisfied are you with the City's data center services?



*Some comments on the scores*

- *Very positive feedback on virtual machines*
- *Recognition DT is more responsive and helpful.*
- *Desire for Service Level Agreements and a strategic plan*

5.3 - How many physical and virtual servers do you support and maintain?



5.4 - Do you subscribe to any external cloud services? Please list your major providers.

*Various. Common providers are Microsoft Azure, AWS, Dropbox, Box*

# Data Management Practices

6.1 - Roughly speaking, how much of each data integration type your department is currently doing?
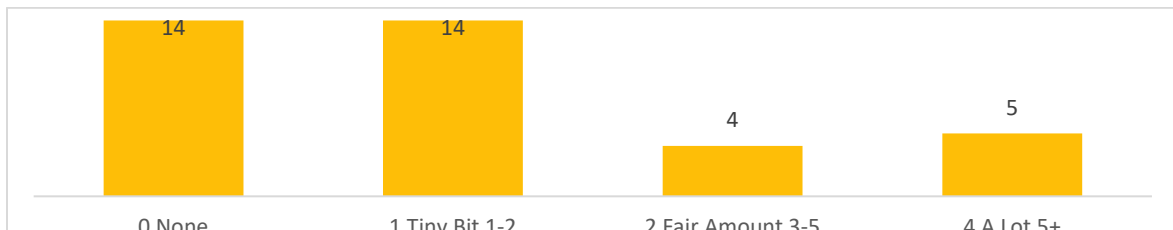
*Event-driven*: data is propagated to other systems or applications based on an event (e.g., a record created in one system triggers creation of another record)

| None | Tiny Bit 1-2 | Fair Amount 3-5 | A Lot 5+ |
|------|--------------|-----------------|----------|
| 7 | 12 | 9 | 10 |
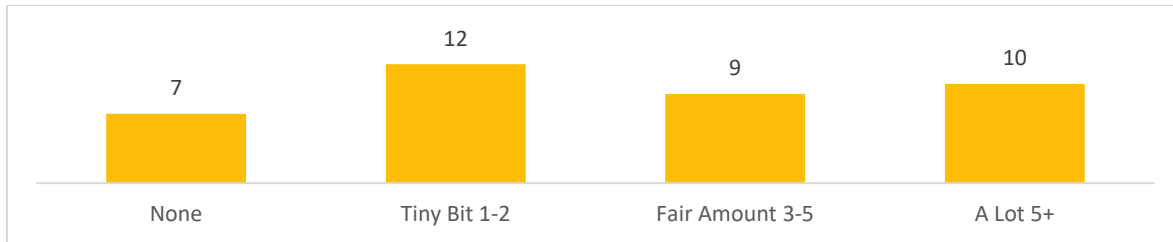
*Batch*: data is consolidated and moved to another data source normally on a schedule, it may be cleaned or transformed in the process

| None | Tiny Bit 1-2 | Fair Amount 3-5 | A Lot 5+ |
|------|--------------|-----------------|----------|
| 7 | 7 | 14 | 9 |
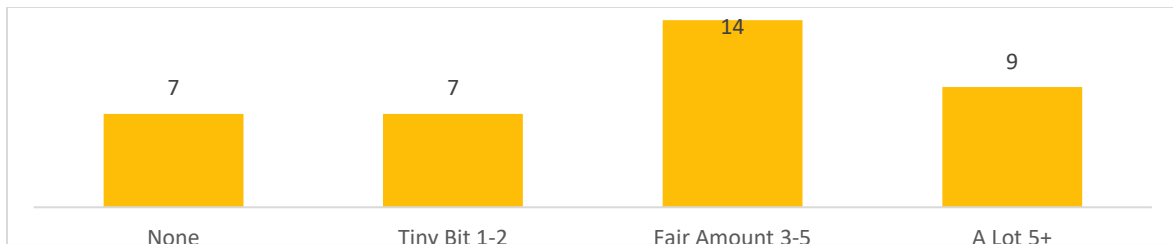
*Streaming*: data is loaded on a real-time or near real-time basis from a data collection source

| 0 None | 1 Tiny Bit 1-2 | 2 Fair Amount 3-5 | 4 A Lot 5+ |
|--------|----------------|-------------------|------------|
| 14 | 14 | 4 | 5 |

*Virtualization:* data is materialized to an end user from multiple sources without extraction or copying, often using a specialized virtualization platform

| 0 None | 1 Tiny Bit 1-2 | 2 Fair Amount 3-5 | 4 A Lot 5+ |
|--------|----------------|-------------------|------------|
| 23 | 6 | 4 | 5 |
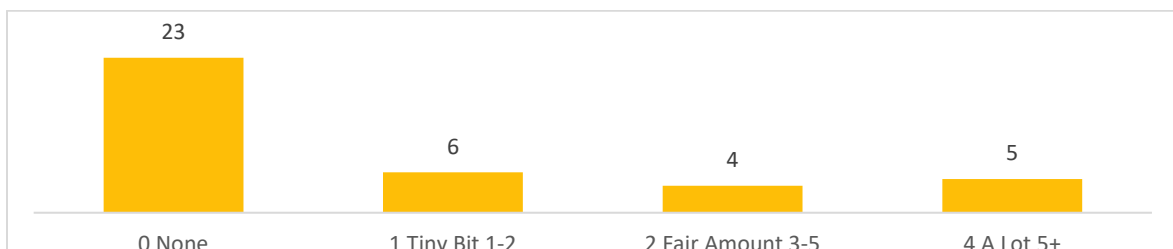
6.2 - If you indicated that you do any of the integration approaches above, list the tools you use to implement extraction, transformation and/or loading of data.

*Various tools.*

6.3 - Is there an integration project you wish your department had time to get to?

*Top wishes:*
- *Email marketing with CRM*
- *Integration with F$P*
- *PowerBI integrations*
- *311 integration*

6.4 - What main blockers do you see to getting this project done? (check all that apply)

|  | *Positive Responses* | *Total # Departments* | *Percent (%)* |
|---|---|---|---|
| *Skills* | *16* | *45* | *35* |
| *Technology* | *11* | *45* | *24* |
| *Complexity* | *16* | *45* | *35* |
| *Prioritization* | *13* | *45* | *29* |
| *Other* | *5* | *45* | *11* |

6.5 - Is your department using a data warehouse?

*18 departments are using a data warehouse.*

6.6 - Is your department using a data lake?

*No department is using a data lake.*

6.7 - Has your department developed custom Application Programming Interfaces (API) either through staff or contractor?

*Yes, 17 departments have created API's.*

6.8 - Do you have APIs (either custom or from another application) accessible in the following ways:

|  | *Positive Responses* | *Total # Departments* | *Percent (%)* |
|---|---|---|---|
| *Internal (gated)* | *13* | *16* | *81* |
| *Internal (open)* | *6* | *16* | *37* |
| *External (gated)* | *8* | *16* | *50* |
| *External (open)* | *2* | *16* | *12* |

6.9 - Does your department manage an API portal or similar gateway for accessing API endpoints?

*Yes, 5 departments manage an API portal.*

# Risk Management

7.1 - Do you have sufficient cybersecurity resources to meet compliance requirements and keep ahead of cyber threats?
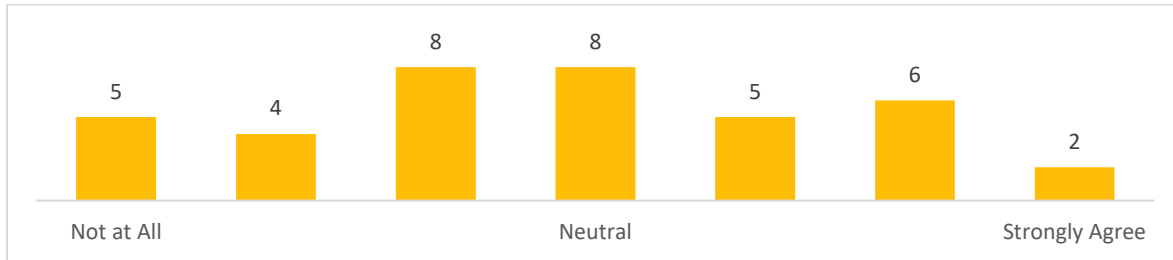


7.2 - In FY 2017-18, departments were required to update their Continuity of Operations Plans (COOP) to include an IT component. To support this work, a monthly working group was set up to help departments. Did your department attend any of the monthly meetings?

*30 departments responded yes, they did attend.*

7.3 - How helpful was the COOP working group?
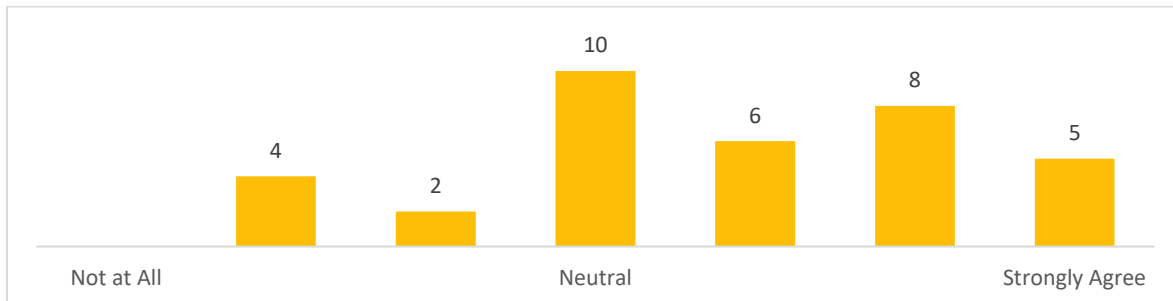


7.4 - Please rate the value of the DT template to refresh your department's Continuity of Operations Plan.
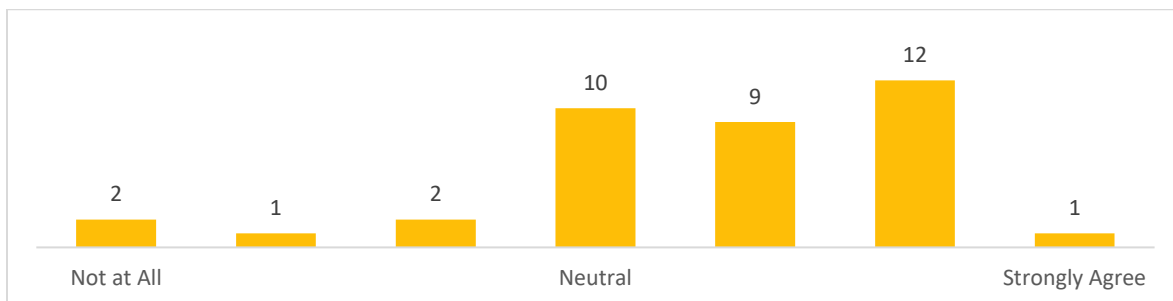


7.5 - How frequently does your department run training exercises using your COOP?

*Generally, departments answered annually.*

7.6 - What materials would be helpful to support regular training exercises in your department?

*Some general comments include:*

- *Having regular cross department training exercises.*
- *More training resources, especially online*