



Department of Forensic Science Report to the Senate Finance Committee

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Virginia Department of Forensic Science
October 19, 2017

Case Receipt and Completion Statistics



Section	FY16			FY17		
	Received	Completed	% Completed	Received	Completed	% Completed
Controlled Substances	29,078	28,406	97.7%	31,002	27,339	88.2%
Toxicology	8,814	8,377	95.0%	8,804	9,272	105.3%
Digital & Multimedia Evidence (DME)*	-	-	-	103	101	98.1%
Forensic Biology (DNA)	4,273	4,140	96.9%	4,925	4,260	86.5%
Firearms	6,773	5,480	80.9%	7,563	6,334	83.8%
Latent Prints*	2,763	2,862	103.6%	2,840	3,043	107.2%
Trace Evidence	767	790	103.0%	773	862	111.5%
Questioned Documents (discontinued 1/1/2017)	318	286	89.9%	64	105	164.1%

*DME was included with Latent Prints until FY17.

Note: A 100% Completion rate indicates the capacity to complete what is received, but not improve case turnaround times or reduce case backlogs.

DFS Backlog and Average Turnaround Times (TAT)

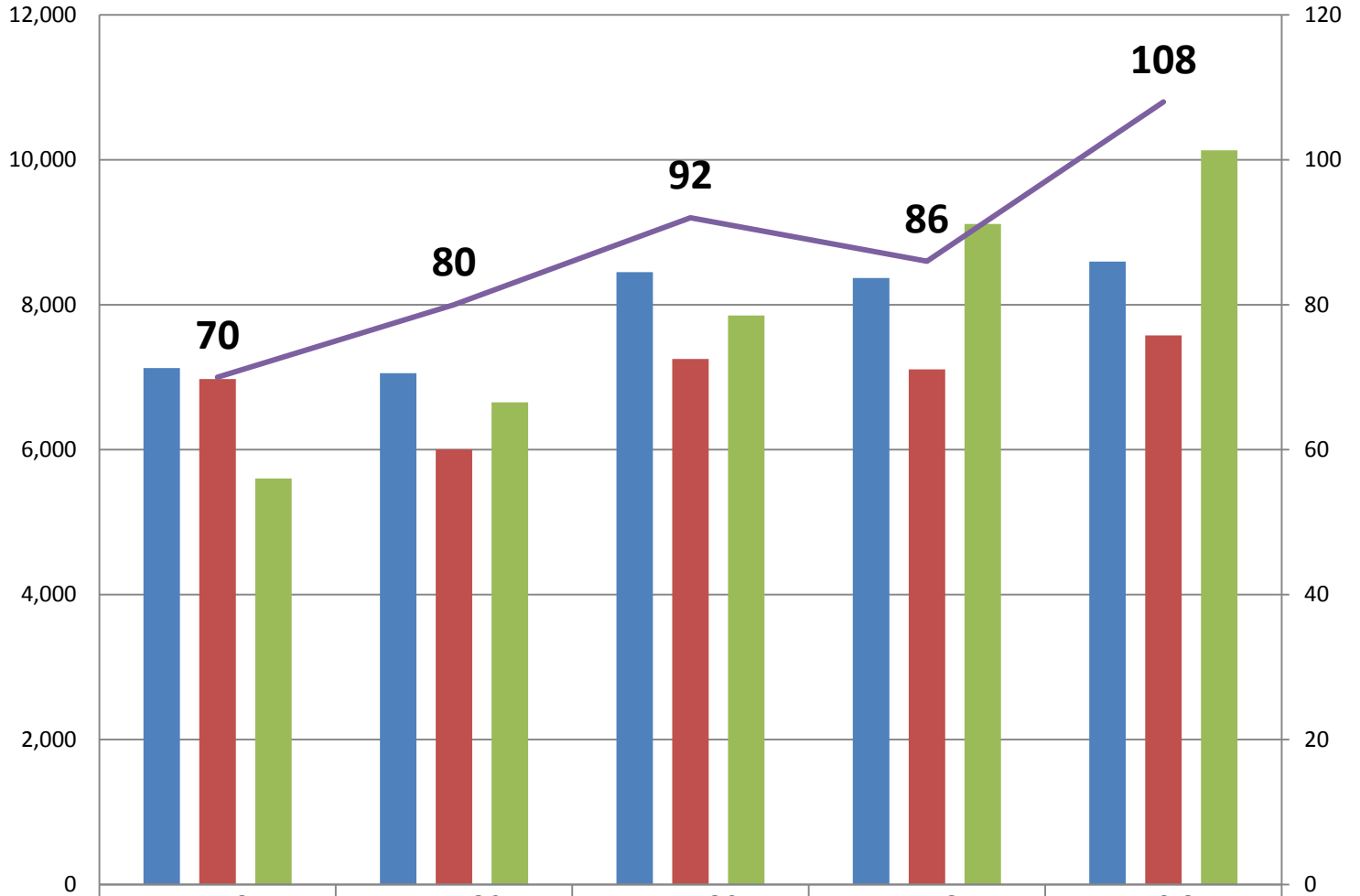


Discipline	Ending Backlog As of 10/1/17	Average TAT (in Days) FY18 Q1	Average TAT (in days) October 2017
Controlled Substances	10,132	108	116
Toxicology	1,204	49	46
Digital & Multimedia Evidence (DME)	113	480	440
Forensic Biology (DNA)	2,158	152	159
Firearms	3,165	151	141
Latent Prints	452	56	56
Trace Evidence	108	59	58

Controlled Substances

Number of Cases

Number of Days

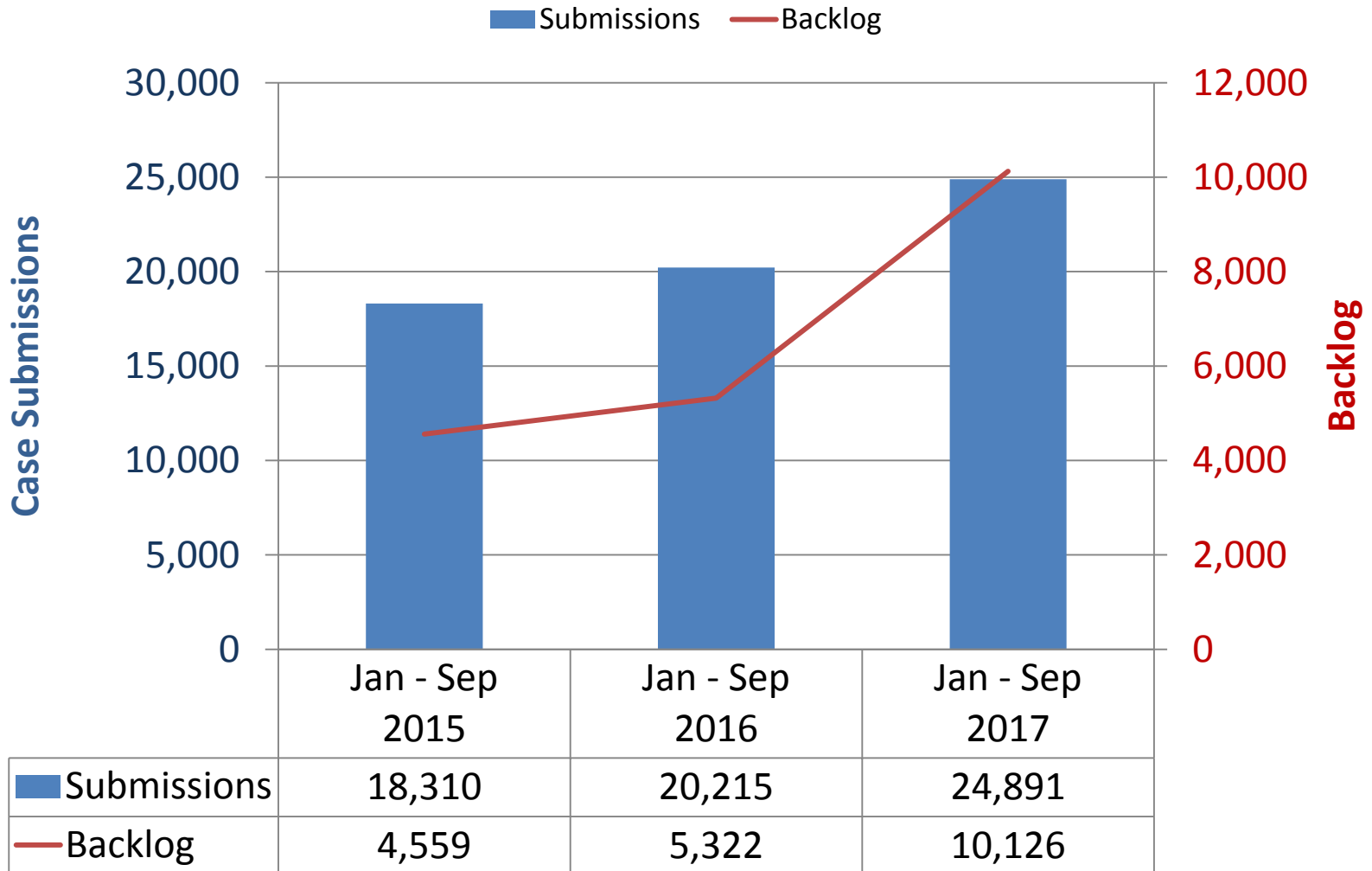


■ Cases Received*	7,126	7,056	8,450	8,370	8,596
■ Cases Completed	6,974	6,005	7,252	7,108	7,578
■ Caseload	5,603	6,654	7,852	9,114	10,132
— Average Days in System	70	80	92	86	108

Controlled Substances Cases Increasing

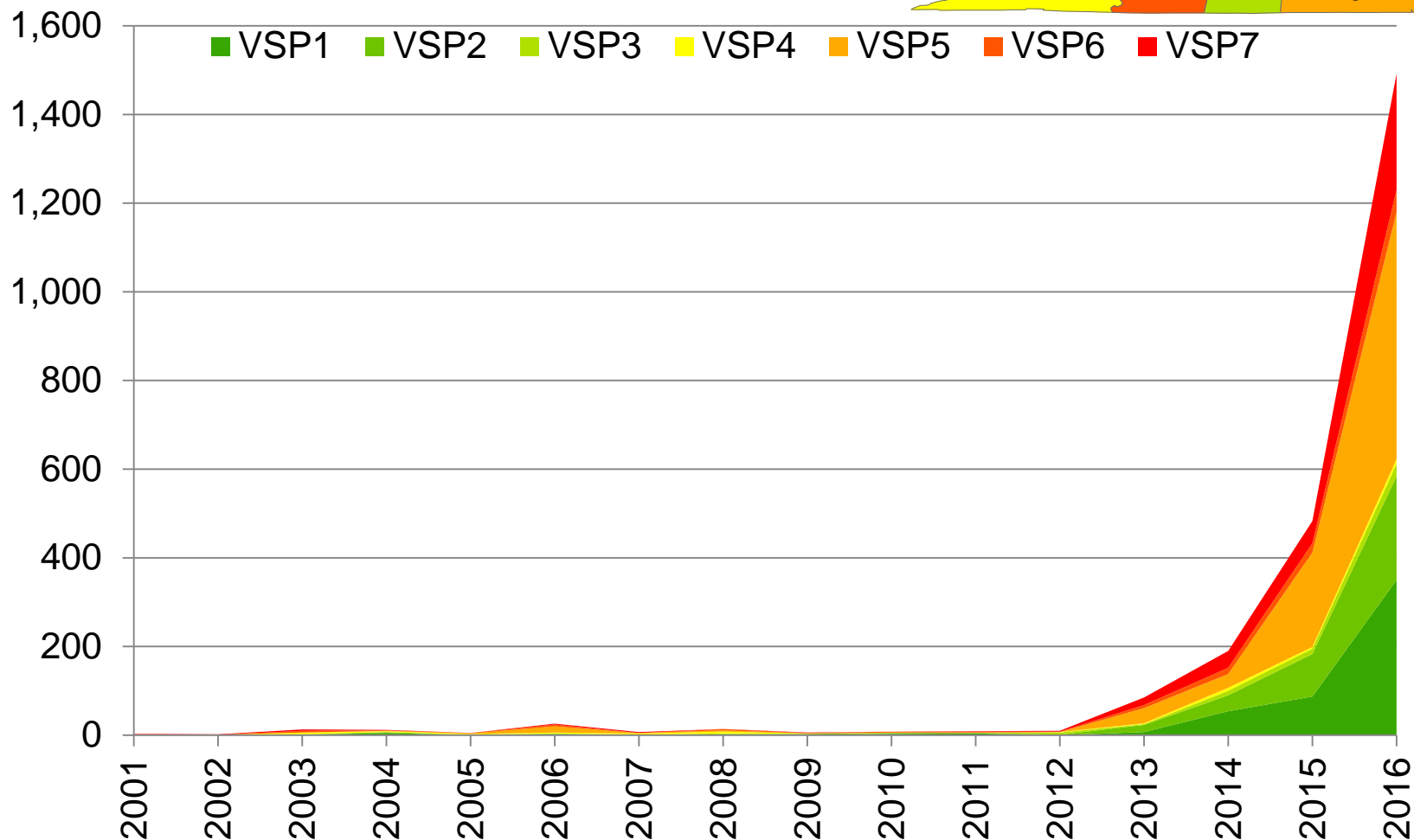
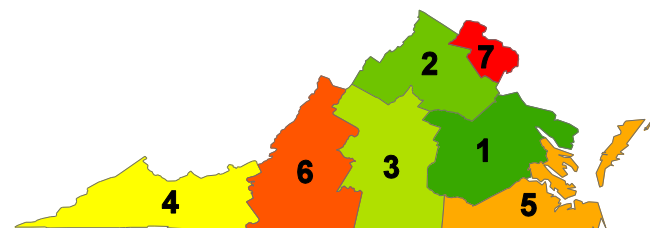
36%
Increase
from 2015

Drug Case Submission Comparison



Illicit Fentanyl* Submissions

Cases submitted to DFS, calendar years 2001-2016

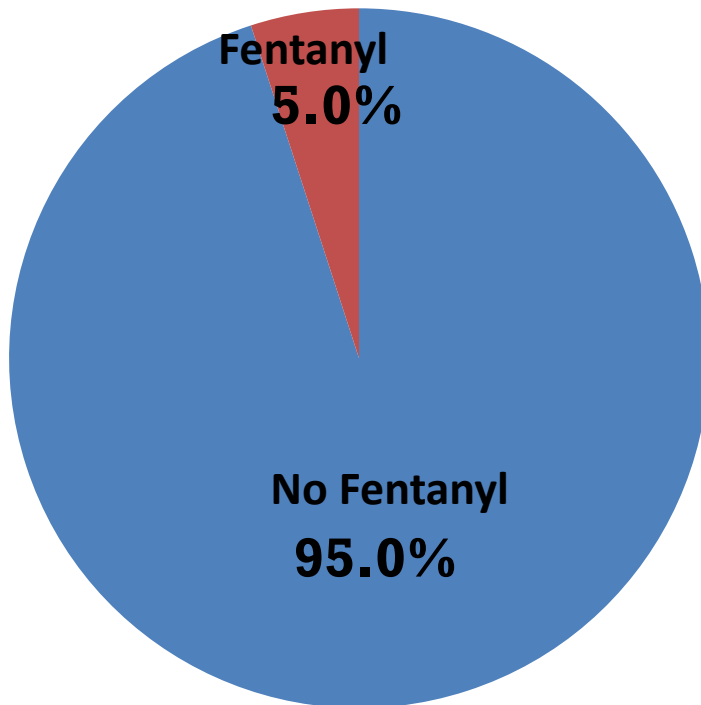


*Fentanyl submissions identified as being in the form of a transdermal patch are counted with other prescription opioids. All other forms of fentanyl and fentanyl derivatives are counted as "illicit" for purposes of this report.

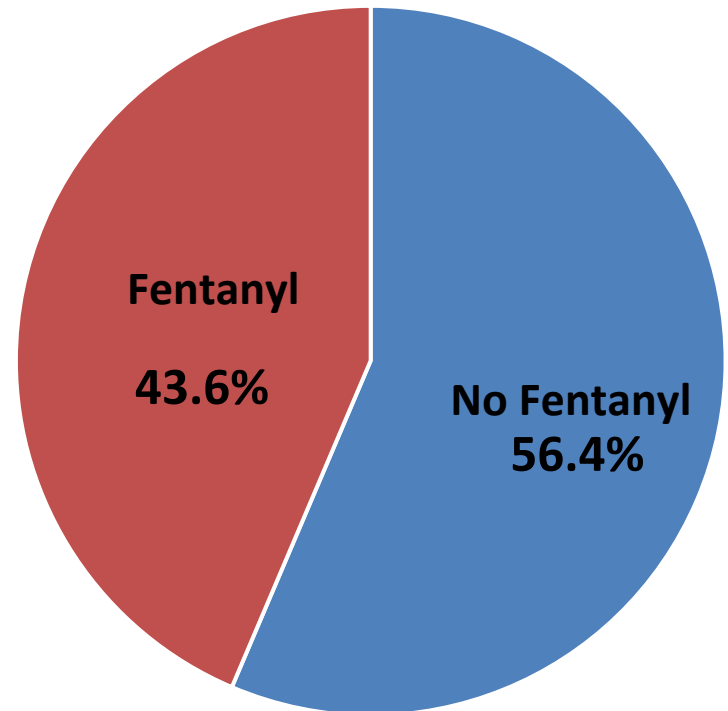
Fentanyl Seizures vs. Fentanyl Deaths, 2016



Percent of All Drug Seizures with Illicit Fentanyl and Fentanyl Analogs Compared to All Drug Seizures, 2016



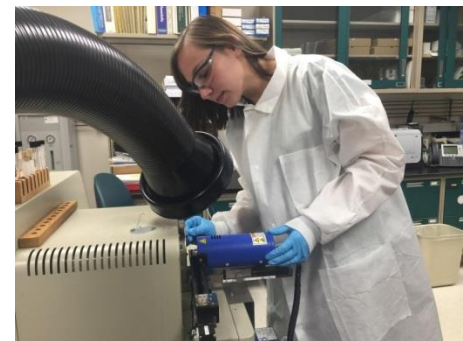
Percent of All Drug Deaths with Fentanyl (Rx, Illicit, or Analogs) Causing Death Compared to All Drug Deaths, 2016



Controlled Substances – Safety Measures Implemented



- Naloxone training and Narcan provided
- N95 and PAPR respirators available, which required:
 - Medical Screening for use
 - Purchase of respirator fit test equipment
 - Performing the fit test for each examiner
- Installed new exhaust equipment
- Updated evidence handling guide for law enforcement
- New specific safety protocols
 - Examiners may not perform work alone in the lab
 - Powders must be manipulated under exhaustive safety devices



Controlled Substances - Response to Growing Backlog



- Received funding for 2 new examiners beginning in FY15, but because of budget cuts, funding for 1 was delayed to FY16
- Expanded use of more efficient technology to all locations in FY15 using asset forfeiture funds
- Reallocated funds from the elimination of Questioned Documents to create 3 new examiner positions effective 7/1/17
- Reallocated other agency funds to create 2 wage lab support positions effective 7/1/17
- Implemented mandatory overtime for all examiners and support staff (24 hours between September 24 - December 2, 2017)
- Hosted stakeholder meeting in October 2017 to discuss potential policy changes regarding submissions and analytical process

Note: Currently 4 examiners in training and 3 in final stage of hiring process.

Controlled Substances - Staffing



- Based on capacity calculations, 6 additional examiners are needed to keep the backlog from continuing to grow

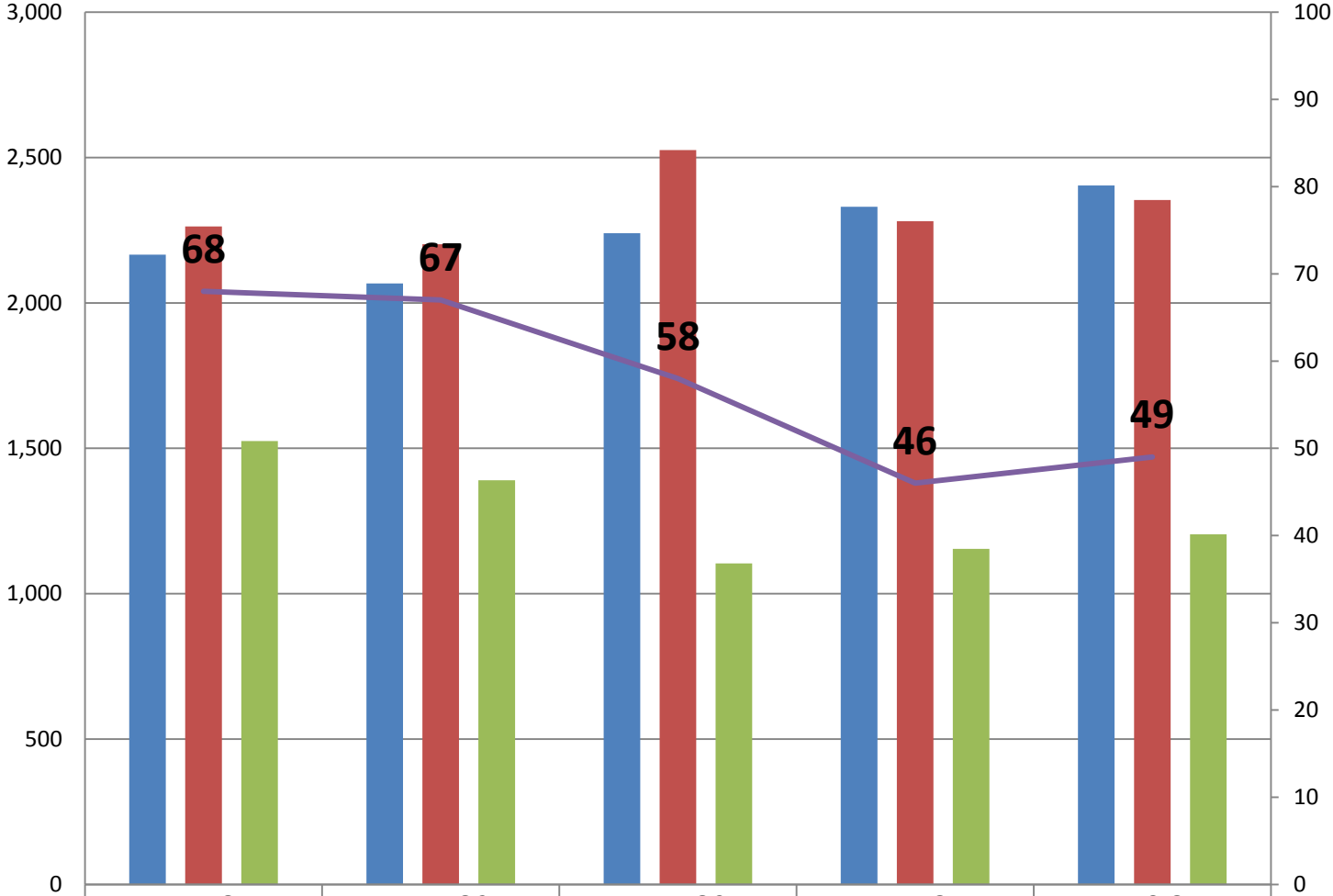
Analysis	Monthly Case Capacity
Full Staff Capacity (if all 49 FTE's are filled and trained)	2,701
Current Capacity (42 filled and trained positions)	2,267
General Examiner* case completion expectation (average per month)	62
Anticipated capacity with 5 FTE turnover & vacancy (T&V) rate	2,391
January through August 2017 average monthly submissions	2,763
Average monthly submissions in excess of anticipated capacity	372
Number of chemists needed to keep up with current submission level	6

*Supervisors have a reduced case completion expectation.

Toxicology

Number of Cases

Number of Days



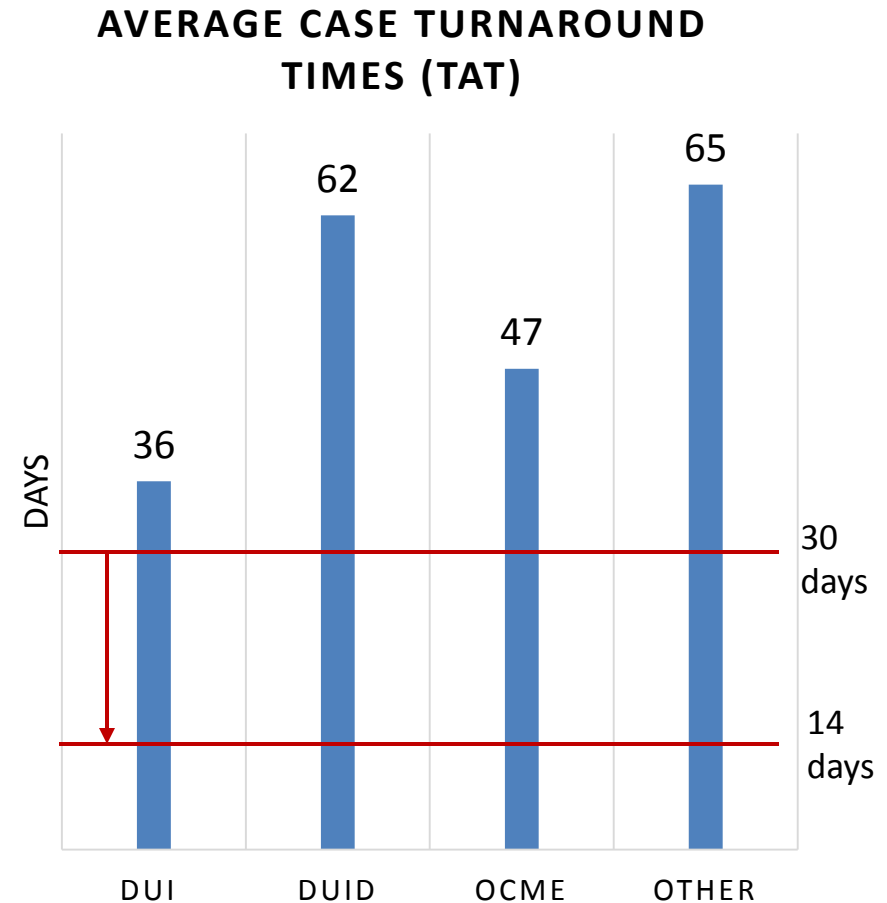
■ Cases Received*
■ Cases Completed
■ Caseload
— Average Days in System

	FY17 Q1	FY17 Q2	FY17 Q3	FY17 Q4	FY18 Q1
Cases Received*	2,166	2,067	2,240	2,331	2,404
Cases Completed	2,263	2,202	2,526	2,281	2,354
Caseload	1,525	1,390	1,104	1,154	1,204
Average Days in System	68	67	58	46	49

Toxicology



- 6 new Forensic Scientist positions in FY17/18 budget
- 7 Forensic Scientists/ Toxicologists in training, 1 in hiring process
- Reduced avg. TAT from 68 to 49 days through staffing and new methodology
- To reduce to an average TAT of 2 weeks, additional instrumentation (and potentially additional staff) will be needed
- 4 LC/MS/MS instruments (~\$1.2M, MELP eligible)



Digital and Multimedia Evidence



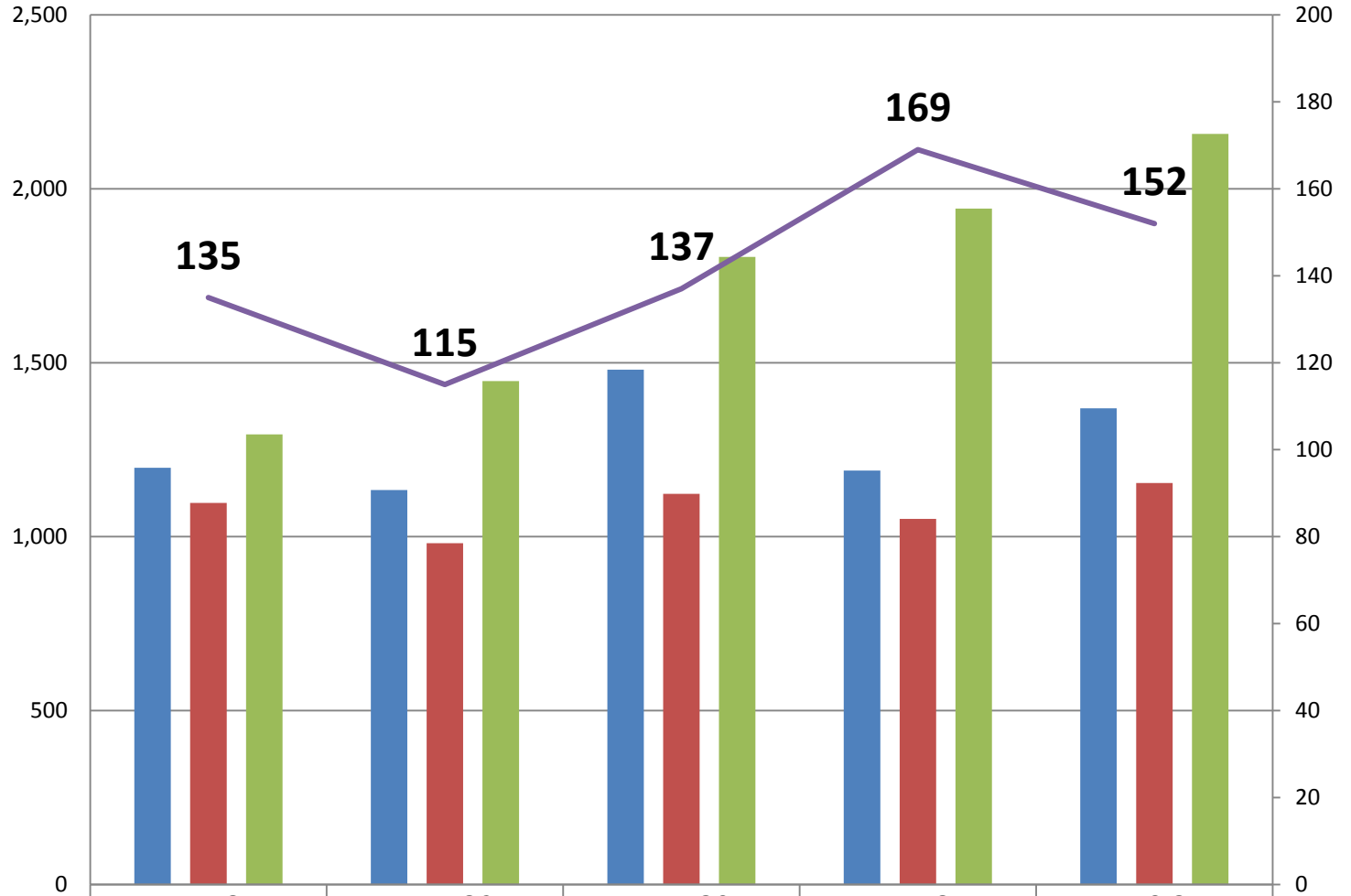
- Currently the section has a backlog of 100 cases, requesting analysis of 138 evidence items
- Average case turnaround times are greater than 1 year
- 5 examiner positions in section for computer, mobile device and video examinations (1 position is in hiring process)
- Timely investigative information in cases involving gangs and child pornography needed
- Additional examiner required to reduce case turnaround times



Forensic Biology (DNA)

Number of Cases

Number of Days



■ Cases Received*	1,198	1,134	1,480	1,190	1,369
■ Cases Completed	1,097	981	1,123	1,051	1,154
■ Caseload	1,294	1,447	1,804	1,943	2,158
— Average Days in System	135	115	137	169	152

PERK Submissions and Biology Turnaround Times

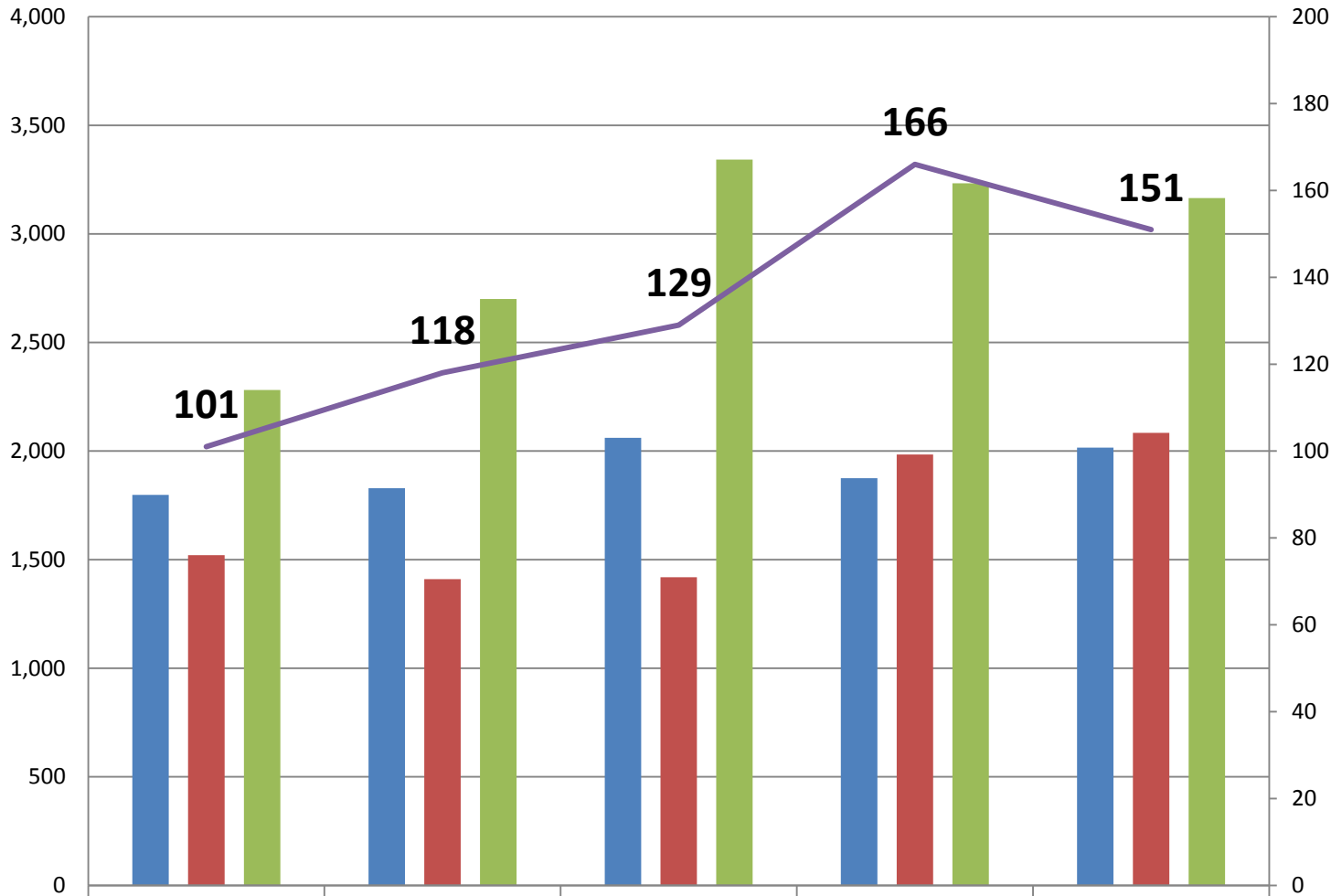


- 7/1/16 - 6/30/17
 - 995 PERKs submitted
 - ~ 39% increase, as predicted
- Will continue to see increases in TAT
 - Large training effort (12 positions in recruit or in training; represents ~20% of DNA examiner staff)
 - Fusion (analysis of 24 instead of 16 areas of DNA) takes more time to review
 - Statistics take longer to calculate
 - PERK data analysis and CODIS upload/searching for PERK grant cases analyzed by private laboratory

Firearms

Number of Cases

Number of Days

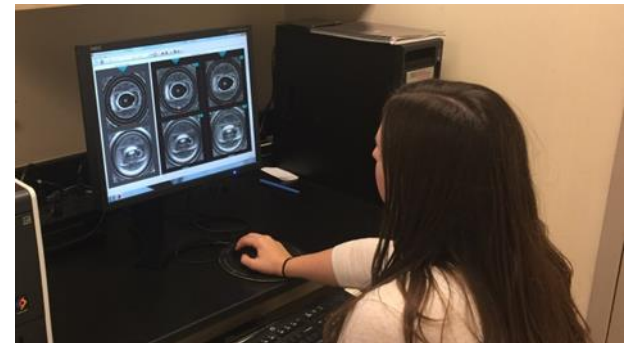


■ Cases Received*	1,798	1,829	2,061	1,875	2,016
■ Cases Completed	1,521	1,410	1,419	1,984	2,084
■ Caseload	2,281	2,700	3,342	3,233	3,165
— Average Days in System	101	118	129	166	151

Firearms - Response to Growing Backlog



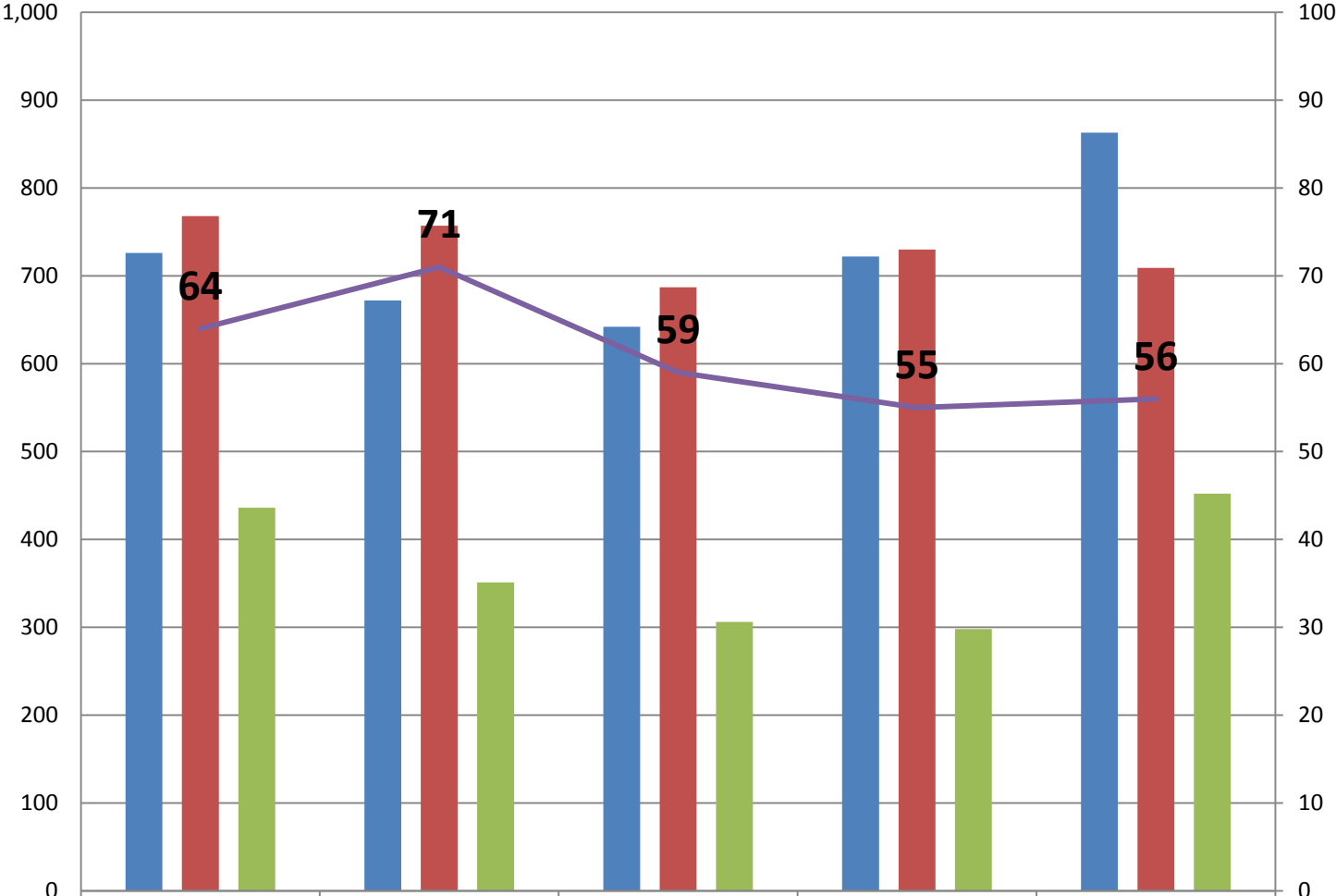
- FY17 budget provided ~\$600,000 in funding for positions and equipment
- Created new Forensic Scientist (FS) NIBIN positions
 - Limited scope examiner performing NIBIN testing
 - Training: ~ 6 months (regular FS - ~24 months)
 - 8 NIBIN positions statewide
- Purchased equipment to provide full NIBIN capability in all 4 laboratories



Latent Prints

Number of Cases

Number of Days



■ Cases Received*	726	672	642	722	863
■ Cases Completed	768	757	687	730	709
■ Caseload	436	351	306	298	452
— Average Days in System	64	71	59	55	56

Equipment Replacement Plan



- NIJ DNA Backlog Reduction and Capacity Enhancement grant funding continues to be available to assist with purchasing/replacing equipment in DNA/Biology
- Future plans for funding the replacement of major scientific equipment include a rotating schedule and utilization of the Master Equipment Lease Program (MELP)

Major Equipment Replacement Plan



FY19

- **Planned replacements (Approximately \$1.14M – Master Equipment Lease Program cost is \$167,750/year for 7 years)**
 - Breath Alcohol Instruments (\$540K)
 - Toxicology Headspace GC for Blood Alcohol analysis x4 (~400K)
 - Controlled Substances DART-TOF-MS x1 (~200K)
- **Unplanned replacements are often required**

FY20

- **Planned replacements (Approximately \$1.6M– Master Equipment Lease Program cost is \$235,500/year for 7 years)**
 - Toxicology 4 UV-VIS Spectrometers (~50K)
 - Toxicology 4 LC/MS/MS (~1.1M)
 - Controlled Substances 3 GC-MS (~300K)
 - Forensic Biology DNA Data Bank Robot (~150K)



Central Facility Update

- Biotech 2 houses both DFS and OCME
 - Both DFS and OCME lease additional space
- Project Funded through Detailed Planning
 - 2014 Chapter 2 and 2016 Chapter 759/769
 - Total Approved Budget \$137,954,186
 - Approved Scope
 - 145,700 SF Expansion
 - 134,100 SF Renovation
 - 134,000 Parking Structure (351 Spaces)
- Construction Manager at Risk
 - SFCS selected as Project Architect
 - Skanska selected to provide Construction Management
- Currently in discussion with DGS/BCOM
 - Seeking change in Approved Scope



WWW.DFS.VIRGINIA.GOV