

Fire and EMS Staffing Study

Executive Briefing to Council 7-6-23



Project Background



FITCH Background with City of Burleson

In 2021, Burleson engaged with Fitch & Associates to undertake the development of a Master Plan for the department. The objective was to evaluate the department against industry best practices, National Fire Protection Association (NFPA) standards, and other applicable laws and regulations. To meet this intent, three basic questions were asked: 1) Where is the organization in the present?; 2) What demands for service can be anticipated based on future growth?; and 3) How can the department best prepare for the future?



Major Findings of First Engagement

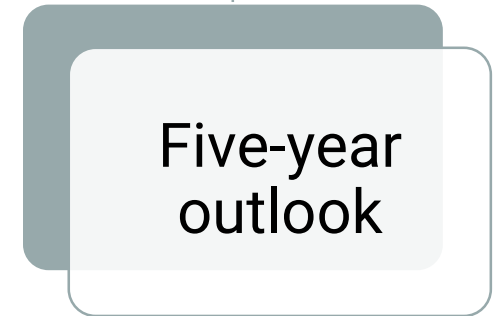
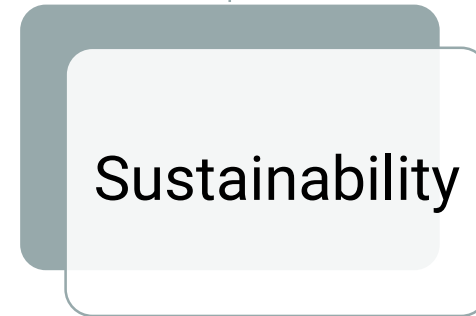
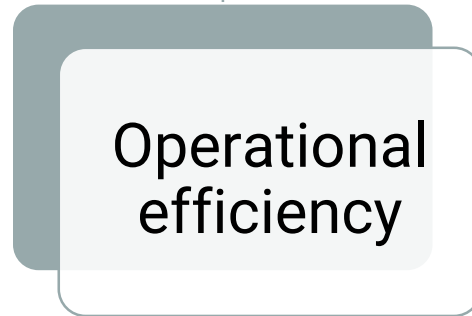
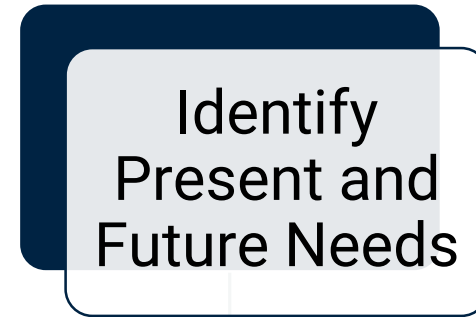
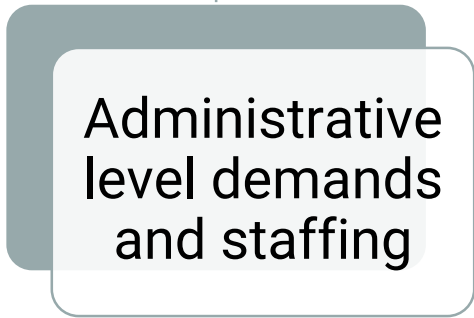
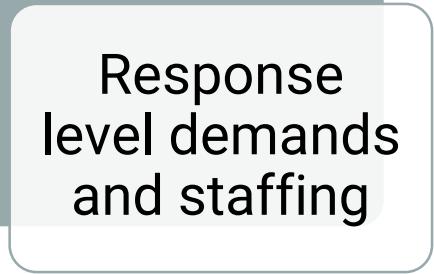
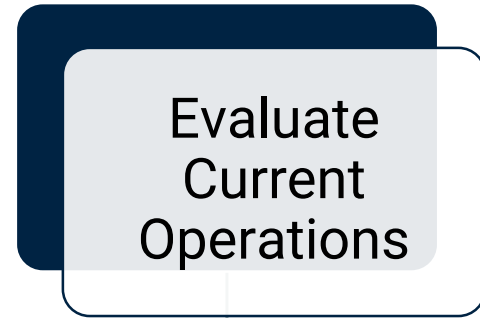
The Master Plan resulted in several organizational and administrative recommendations, however, two major themes emerged. The first major recommendation was for BFD to begin the assumption of ambulance transport services while achieving that goal in a fiscally responsible manner. The second major recommendation is associated with managing growth for the future and specifically the justification for a fourth-fire station in the Chisolm development area.



Current Engagement

Evaluate the current state of operations and make recommendations for operational and administrative staffing to prepare for a fiscally and operationally sustainable future. This evaluation is necessary due to increased demand for services, planning for the opening of Station 4, changes in the negotiated benefits associated with employee leave, and assessing staffing needs to inform the SAFER grant.

Project Scope of Work



About Fitch & Associates

We've designed, developed, and managed some of the world's most innovative Fire and EMS systems.



We approach every decision as a collaboration because we understand the value of successful partnerships and we bring the energy, focus, and credentials that drive decision-making and action.



FITCH has earned credibility for nearly forty years by implementing innovative, customized solutions in the public safety and healthcare arenas, providing consulting services in thousands of communities in 50 states, all Canadian provinces, and 12 other countries.

Project Approach

Inputs

- Five years of payroll data
- Staffing data and policies
- Budget data – FTE counts, Compensation, Overtime
- Job Descriptions
- Department and City policies
- Future land use development plans

Analysis

- Hours worked, earned, and leave time
- Overtime utilization and correlation
- Utilization and impacts of leave
- Staffing levels – resiliency, reliability, influence
- Optimized operational staffing levels
 - Staffing multipliers
 - Shift based minimum staffing
- Future fire station deployment
- Administrative staffing levels

Four Main Themes

The most substantive items identified during the assessment can be summarized into four main themes:

- 1) FTE Allocations with Staffing Multipliers
- 2) Minimum Daily Operational Staffing
- 3) Administrative Staffing Levels
- 4) Future Capital and Resource Investment

The main themes are highly interconnected.

2022 - Payroll Hours

- **Hours Worked**

- Regular time accounted for 90.5% of all sweat hours
- Overtime accounted for the remaining 9.5%
 - 68.3% was vacancy overtime
 - Work in addition to normally scheduled hours.
- Overtime - increased 134.1% since 2018

- **Scheduled Leave**

- Vacation and Holiday time account for 65.5% of all leave
- Vacation - increased 20% since 2018

- **Unscheduled Leave**

- Sick and Worker's Comp time account for 31.9% of all leave
- Sick - increased 108.7% since 2018

Weighted - % Year-over-Year Change by Type and Category - All BC, LT, AO, FF						
Hours Description	2018	2019	2020	2021	2022	2018-2022
Worked						
Regular Hours	n/a	7.2%	3.8%	-4.9%	3.3%	9.4%
Overtime	n/a	23.6%	105.5%	1.0%	-8.8%	134.1%
Light Duty	n/a	n/a	n/a	n/a	n/a	n/a
Worked Total	n/a	7.9%	9.3%	-4.3%	2.0%	15.2%
Earned						
Assignment Pay	n/a	-3.8%	13.9%	15.3%	-18.8%	2.5%
Holiday Pay	n/a	4.0%	39.4%	173.1%	-24.2%	200.3%
Comp. Time Accrual	n/a	-10.4%	-100.0%	n/a	n/a	-100.0%
On-Call	n/a	n/a	n/a	n/a	n/a	n/a
Earned Total	n/a	-3.5%	14.7%	25.3%	-19.5%	11.7%
Leave						
Vacation Used	n/a	-16.2%	-15.4%	43.9%	17.7%	20.1%
Vacation Overage	n/a	n/a	n/a	n/a	614.0%	n/a
Holiday Used	n/a	9.4%	-22.2%	23.5%	-34.4%	-31.1%
Sick Leave (FMLA, Short, Long-term)	n/a	22.7%	-28.8%	251.3%	-32.0%	108.7%
Miscellaneous (Funeral, Court, Military, Emergency, Parental, etc.)	n/a	-82.1%	940.3%	-63.4%	-77.4%	-84.6%
Worker's Compensation (if separate from Sick Leave)	n/a	7500.0%	211.4%	27.4%	35.5%	40764.8%
Wellness	n/a	-43.7%	26.8%	53.3%	-44.1%	-38.8%
Comp. Time Used	n/a	-60.5%	-65.4%	-99.6%	254.7%	-99.8%
Leave Total	n/a	-10.8%	-0.5%	49.1%	-12.4%	16.0%

Overtime

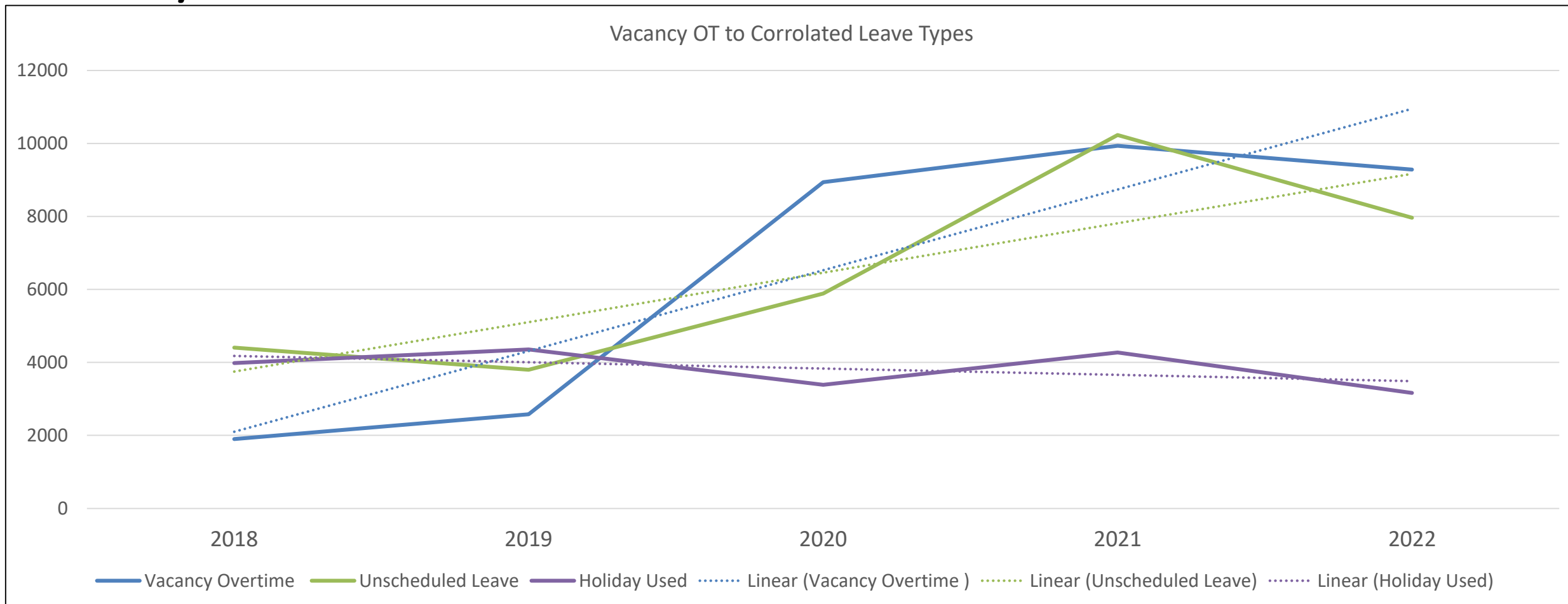
- **2022**
 - 13,600 OT hours in 2022 – 9,283 vacancy and 4,318 FLSA
 - Firefighter rank accounted for largest sum of vacancy OT
- **2018 thru 2022**
 - Vacancy OT/FTE has increased 324%
 - Associated cost has increased 417%

Weighted % Year-over-Year Change in Overtime Quantity - All BC, LT, AO, FF

Overtime Category-Weighted	2018	2019	2020	2021	2022	2018-2022
Vacancy OT Year-over-Year Change	n/a	36%	247%	9%	-17%	324%
FLSA OT Year-over-Year Change	n/a	16%	6%	-17%	16%	19%
Total Year-over-Year Change	n/a	24%	106%	1%	-9%	134%

Overtime Correlation Analysis

- Unscheduled leave – Highest positive correlation to vacancy OT
 - Operational staffing levels increase organization's sensitivity to impacts



Leave Accrual

Leave Accrual Policy Effective 4-4-21			
Vacation			
Years of Service	Ann-Accr/hrs	Cap/hrs	Payout/hrs
0-9	180	360	360
10-19	240	480	480
20+	300	600	600

- Leave is accrued by hours worked in relation to years-of-service and benefit awards
 - Three accrual levels for vacation
 - 120hrs of Holiday earned annually; 50.6% is utilized for time-off
- Modified leave policy (4/2021) capped vacation leave banks
 - Observed increase in vacation/FTE leave following policy change – 18% from 2021 to 2022

- 72% of Agency accrues at lowest level; 17% at mid-level; 10% at max
- Vacation accrual liabilities will remain very stable through 2027 - ~8% increase

Hours Accrued	CY23	CY24	CY25	CY26	CY27	CY23-CY27 Average
0-9	7560	7560	7200	7020	5580	6984
10-19	2400	2400	2640	2640	3840	2784
20+	1800	1800	2100	2400	3300	2280
Total Accrued	11760	11760	11940	12060	12720	12048
% Annual Change	n/a	0.0%	1.5%	1.0%	5.5%	8.2%

Vacation Slots

- Two (2) 24-hour vacation slots per shift are sufficient for personnel to use accrued leave
 - Accruals consume 87% of total scheduled leave capacity
 - Up to Six (6) additional FTEs could be added with 7% scheduled leave capacity remaining
- Restricting the use of Holiday time for leave would introduce another 20% of scheduled leave capacity to the two-slot space.
 - Introduces capacity for up to 80 FTEs while maintaining a 10% buffer

Scheduled Annual Leave	
Category	Hours
Leave Slot Capacity	17520.0
Vacation Earned	11760.0
Holiday Used	3521.9
Total Scheduled Leave	15281.9
Total Hours Delta	2238.1
Ratio of Earned to Available Time	87%

Staffing Multipliers

- Mathematical formula based on average annual hours scheduled versus worked to determine the FTEs required per seat deployed 24/7/365
 - Leanest approach to calculation; no surge capacity
- 2022 staffing multiplier value is **3.54** for a total of 53 FTEs
 - 2022 was allocated for 51 FTEs – two less than required.
 - October 2023 FTE requirement - 60 with at least 11 being paramedics (PM)
 - Currently allocated for 58 FTEs
 - Agency has sufficient PMs to meet minimum requirement

Unit	Unit Count	Min Staff	Seat Count	FTE Count	ALS Seats	PM Count
Engine	2	3	6	21.2	0	0.0
Truck	1	4	4	14.1	0	0.0
Squad/Amb	2	2	4	14.1	2	7.1
Battalion	1	1	1	3.5	0	0.0
FY23	6	10	15	53.0	2	7.1
Ambulance	1	2	2	7.1	1	3.5
FY24	7	12	17	60.1	3	10.6

Alternative Staffing Multipliers

Alternative methods provide additional capacity to absorb unscheduled leave.

- Stabilizes deployment model, reduces vacancy OT, and provides a more programmatic and predictable fiscal liability.

Alternative 1 – Calculations based on average value accrued annually.

- Resulting staffing multiplier of – **3.62**
- October 2023 FTE requirement - **61.5** with 11 being paramedics

Alternative 2 – Calculations based on maximum accrual value.

- Resulting staffing multiplier of – **3.77**
- October 2023 FTE requirement - **64.1** with 12 being paramedics

Impacts of Leave Taken

- “FTE Balance/Shift” value shows the remaining FTEs after accounting for slots and minimum staffing.
 - The closer the value to zero, the more sensitive the deployment is to the effects of unscheduled leave.

FTE Balance/Shift after Minimum staffing + Vaca Slots						
Category	2022	2023	2024	2024 Option 1	2024 Option 2	2024 Option 3
FTE Count	52.0	58.0	58.0	60.1	61.5	64.1
Count/Shift	17.3	19.3	19.3	20.0	20.5	21.4
Vaca Slots	2.0	2.0	2.0	2.0	2.0	2.0
Min Staffing	15.0	15.0	17.0	17.0	17.0	17.0
FTE Balance/Shift	0.3	2.3	0.3	1.0	1.5	2.4

- 2022 Scheduled and Unscheduled leave equated to 2.63 FTEs/day
 - Scheduled Leave accounted for 1.72 FTEs/day
 - Unscheduled Leave accounted for 0.91 FTEs/day
- “Vacancy OT” occurs when “FTE Balance/Shift” value is exceeded by leave taken
- 2022 FTE equivalent of Vacancy OT per shift was 1.06

2022 - Daily FTE Value of Leave and OT					
Category	Vaca/Hol	SL	Misc	Vacancy OT	Total
Hours/Shift Annually	-5031.33	-2451.00	-202.92	3094.17	-4591.08
Hours/Shift Daily	-41.35	-20.15	-1.67	25.43	-37.73
FTE Daily Equivalent	-1.72	-0.84	-0.07	1.06	-1.57
Whole FTE Equivalent	-2.0	-1.0	0.0	1.0	-2.0

Evaluation of NFPA 1710

NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* provides minimum recommendations for the provision of emergency services by career fire departments.

This elective standard addresses the structure and operations of professional fire departments.

- Response Time:
 - **NFPA 1710** – 4-min 1st unit fire/BLS; 8-min ALS and full alarm at 90th percentile;
 - **BFD** – 7.7-min 1st unit fire/ALS;
 - Meets ALS unit performance; unable to meet first-due or full alarm performance for structure fires.
 - Ten (10) stations are needed to respond to 90.28% of calls within 4-minutes travel time.
- Staffing:
 - **NFPA 1710** – recommends 4-person Engine/Truck
 - **BFD** – Deploys 3-person Engine and 4-person Truck
 - There are ISO-1 and Accredited agencies that deploy 3-person staffing; local policy choice.
 - Investment that enhances availability, response time, and system resiliency would provide a greater system benefit than adding additional costs to existing resources.
- Effective Response Force
 - **NFPA 1710** – ERF of 17 to single family dwellings <2,000 sq. ft.
 - **BFD** – Daily minimum staffing is 15; October 2023 daily minimum will be 17
 - BFD would need to commit all its daily deployed resources to a structure fire in order to assemble an ERF of 17.
 - Increasing daily minimum staffing to 19 would require 69 to 72 FTEs.

Fourth Station Deployment



Imagine Burleson Comprehensive Plan

2020

- Chisholm Development
 - Thousands of high-density residential units
 - Hooper Business Park– Large-scale professional campuses, office parks, medical centers
- Anticipated resource needs
 - 30-year fix fire station facility capable of housing three units
 - Initial deployment of an BLS Quint with phased in strategy for additional capabilities as needed

Fiscal Year	Action	Required Daily Seats	Previously Added Seats	New Daily Seats	New FTE Count	Cumulative FTE Count	Year-over-Year Cost Increase	Annual Totals
FY24	Daily Minimum to 19	2	0	2	7.54	7.54	\$809,578.09	\$809,578.09
FY26	BLS Engine	3	2	1	3.77	11.31	\$690,592.92	\$1,500,171.01
FY27	ALS Engine	4	3	1	3.77	15.08	\$477,160.88	\$1,977,331.89
TBD	BLS Engine + Amb.	5	4	1	3.77	18.85	\$463,288.02	\$2,440,619.91
TBD	ALS Engine + Amb.	6	5	1	3.77	22.62	\$967,841.38	\$2,945,173.27



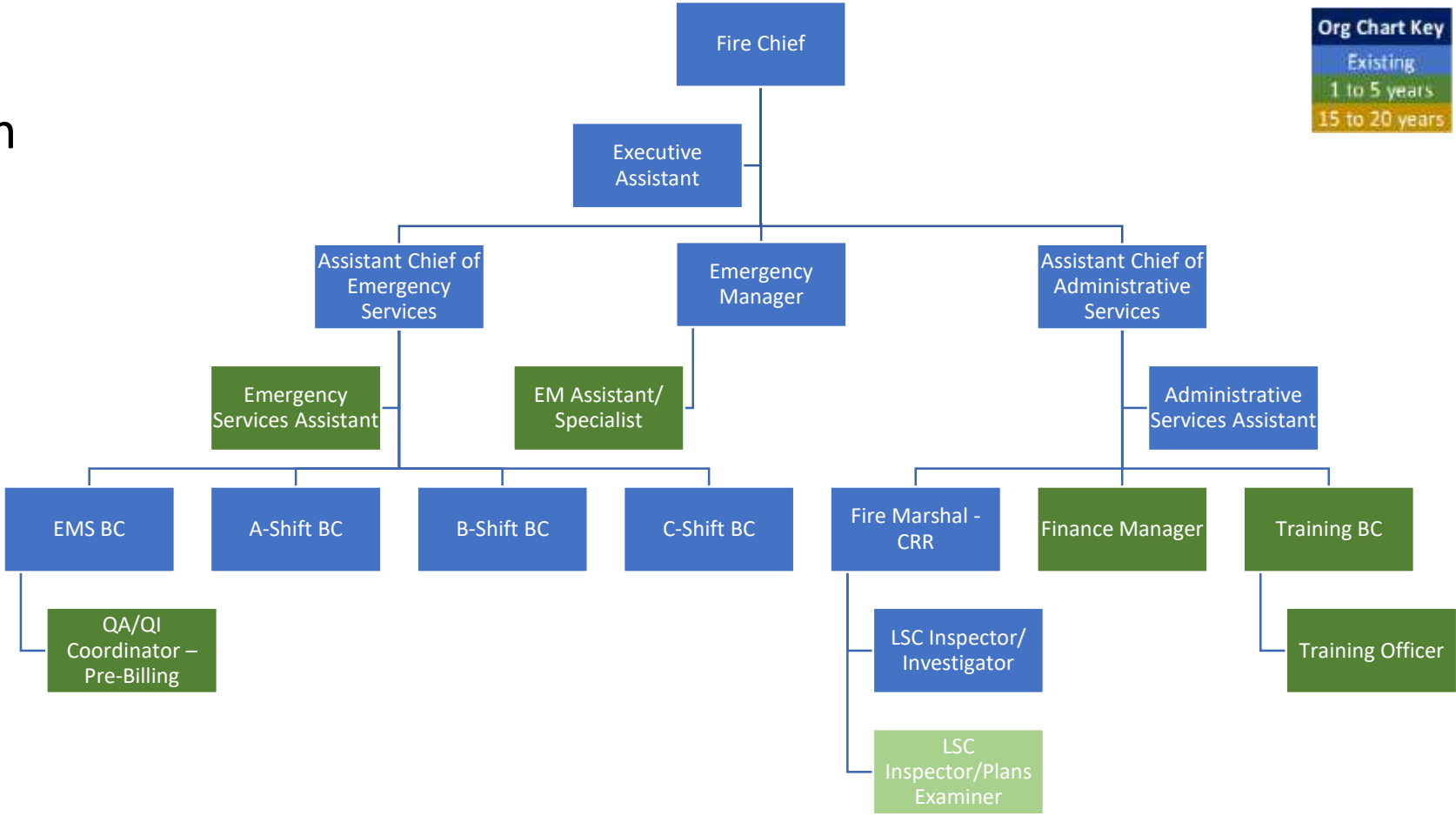
Administrative Staffing

- BFD currently operates with a lean, but functional administration
 - Ten (10) administrative FTEs
- Reliance on field personnel to fulfill administrative responsibilities
 - Ten (10) field personnel responsible for administrative functions
- Additional Administrative capacity should be considered over the next five (5) years.

Administrative Roles Delegated to Operational Personnel	FTE Count
Compliance for TCFP, DSHS, ISO	1
PPE, SCBA, hose testing, ladder testing, special projects, SLATE software manager	1
Uniforms, Special Projects	1
Assist with ImageTrend truck checks and SIMUSHARE training software	1
Assist with Training	1
IT needs, Radios	1
Manages AED Program for the City	1
Manages ISD fire academy	1
Assist Training and EMS	1
Assist Arson Investigation	1
Grand Total	10

Future Administrative State – 1-5 Year

- Six (6) new administrative positions
 - One (1) adjusted position
- City should evaluate options for future administrative capital needs
 - Additions to existing spaces
 - New FD Administrative offices
 - Partnering for share Public Safety Complex



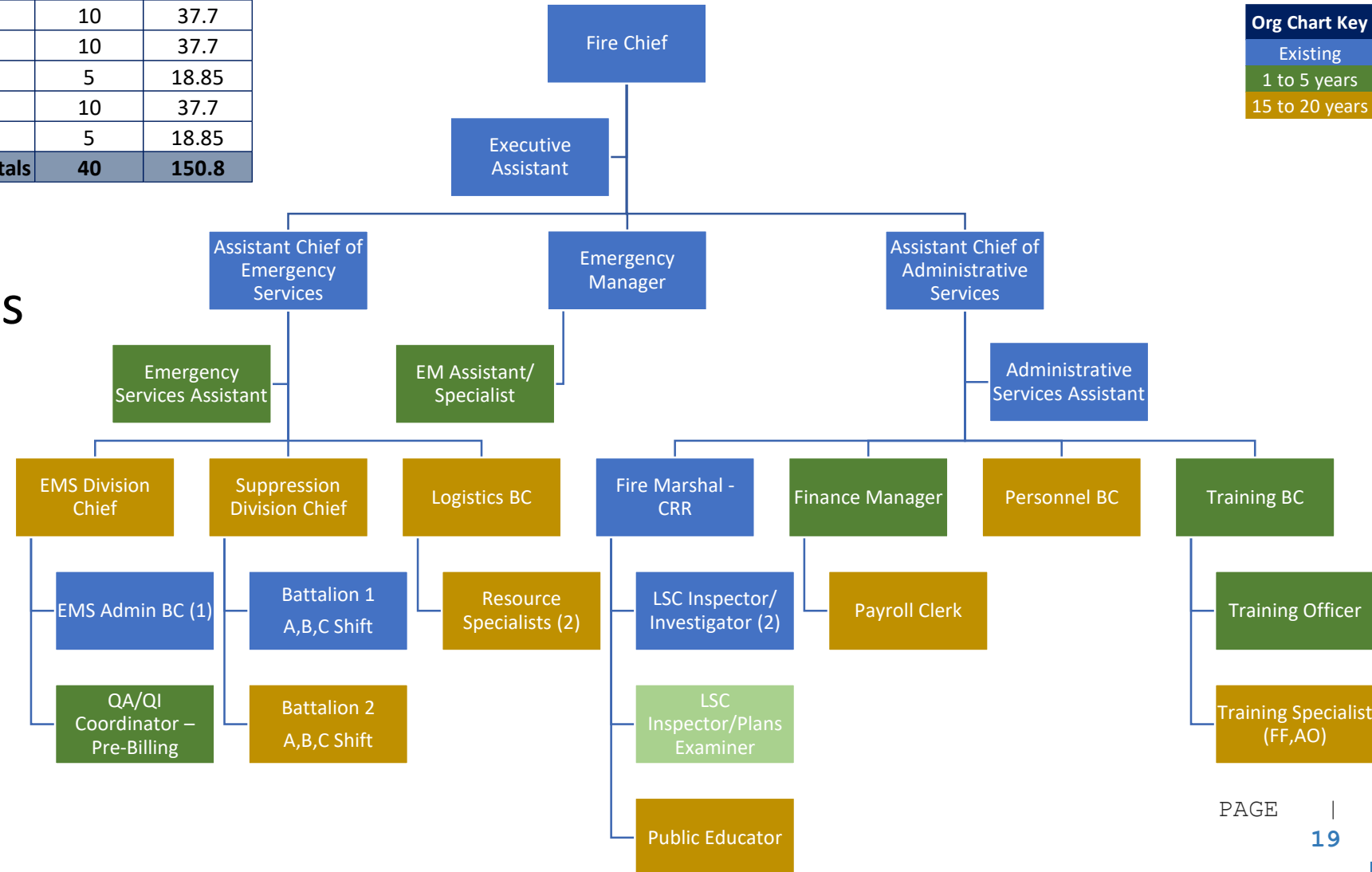
Future Administrative State – 15-20 Year

Location	Seats per Unit					Total Seats	FTE Count
	Engine	Truck	Ambulance	BC	Light/Air		
Station 1	3	4	2		1	10	37.7
Station 16	3	4	2	1		10	37.7
Station 3	3		2			5	18.85
Station 4	3	4	2	1		10	37.7
Station 5	3		2			5	18.85
Totals						40	150.8

Org Chart Key

Existing
1 to 5 years
15 to 20 years

- Staff provided deployment assumptions
- Following 5-year Admin:
 - 8-10 new administrative positions
- Total Administrative FTE allocation – 24 to 26
 - Resource Specialist and LSC Inspector added as needed



Major Findings and Recommendations

1

The City should consider increasing the FTE allotment to a level that is not dependent on vacancy OT to meet daily minimum staffing needs.

2

The City should consider utilizing one of the two alternative staffing multiplier methodologies to stabilize the deployment model and reduce vacancy OT while enabling a more programmatic and foreseeable fiscal liability.

3

Given the potential future fiscal constraints, it is recommended that the department invests in deployment that enhances availability, response time, and system resiliency which would provide a greater system benefit than adding additional costs to existing resources.

4

The City should consider a phased strategy that builds incrementally to the required staffing levels for its fourth fire station over the next four (4) fiscal years

5

Added administrative capacity should be considered over the next five-year planning period which might include up to six (6) new positions and one (1) adjusted position.

6

The City should evaluate the Fire Department's emerging administrative space needs with options for adding to existing spaces, building new administrative offices, or partnering with public safety citywide to build a shared Public Safety Complex.

Thank You

Questions...?

