



STAFF REPORT

DATE: July 25, 2023

TO: The Honorable Mayor and City Council

FROM: Nathan Cherpeski, City Manager

SUBJECT: Discussion Regarding Police Structure, Guiding Policies, and Potential HCSEA Tax Increase

RECOMMENDATION:

N/A – this item is for discussion only.

ISSUE BEFORE COUNCIL:

How would the proposed property tax increase for the HCSEA impact current HPD operations and future anticipated growth modeling?

BACKGROUND/SUMMARY:

The modeling in this report is a work in progress. Staff will continue to refine it prior to the truth in taxation hearing. However, it may have gaps at the time this report is published.

Following the City Council’s decision to notice for a Truth in Taxation hearing regarding the HCSEA property tax rate, several questions have been raised by members of the Council regarding the current operations of the Herriman City Police Department, what impact a potential increase in the HCSEA mill levy would have on those operations, and how the HPD incorporates its strategic planning for future growth within the district and service needs of the Department. This report is a summation of those various discussions and questions.

DISCUSSION:

Section 1 – Current Operations, HPD Staffing, and Crime Data

How many officers per capita does Herriman have in comparison to other cities? What kind of crime rates and crime types do cities with a higher number of officers per capita have in comparison to Herriman? How many calls per shift do our officers handle? Is that at a maximum capacity or could they handle more? What would be the impact of more calls with fewer officers? Has the nature/type of crimes occurring in Herriman changed over time?

Specifically, do we see any increase of any particular crime statistic in our higher density areas of the city?

While we have discussed in the past that the sole use of number of officers per 1000 population is not an ideal metric to determine police staffing, the chart below shows that Herriman currently operates at 0.64 officers per 1000 population, which is the lowest of any agency in the surrounding area. The chart also describes crime statistical data rates by category for persons, property, and society crimes, and traffic.

	Per 1,000 Population				
	Officers	Crimes against Persons	Crimes against Property	Crimes against Society	Traffic Incidents
Herriman	0.64	5.59	16.84	2.70	7.23
Saratoga Springs	0.65	6.73	16.81	10.88	7.42
Bluffdale	0.68	5.57	14.82	8.52	15.05
Riverton	0.81	3.98	20.85	3.31	11.75
Lehi	0.81	6.28	17.77	7.17	18.89
South Jordan	0.85	5.38	25.28	4.38	4.12
Draper	0.94	7.37	26.98	3.82	24.44
West Jordan	1.10	10.84	41.12	11.74	6.91
Cottonwood Heights	1.24	6.56	38.28	7.58	8.40
Sandy	1.29	9.80	43.41	14.76	19.24
West Valley	1.59	15.98	54.89	14.36	10.92
Murray	1.62	18.27	83.66	13.49	42.37
Salt Lake City	2.80	35.55	109.09	22.76	8.79
South Salt Lake	2.94	9.66	36.44	23.92	51.32

	Per Officer					
	Total Officers	Calls for Service	Crimes against Persons	Crimes against Property	Crimes against Society	Traffic Incidents
Herriman	42	568.24	8.69	26.17	4.19	11.24
Saratoga Springs	30	741.67	10.37	25.90	16.77	11.43
Bluffdale	15	N/A	8.20	21.80	12.53	22.13
Riverton	36	533.14	4.94	25.89	4.11	14.58
Lehi	65	514.86	7.71	21.82	8.80	23.18
South Jordan	72	531.97	6.31	29.64	5.14	4.83
Draper	51	518.06	7.86	28.76	4.08	26.06
West Jordan	127	517.15	9.83	37.31	10.65	6.28
Cottonwood Heights	39	425.77	5.31	30.95	6.13	6.79
Sandy	120	550.32	7.60	33.65	11.44	14.92
West Valley	218	496.17	10.04	34.48	9.02	6.86
Murray	78	589.26	11.26	51.54	8.31	26.10
Salt Lake City	567	455.20	12.68	38.92	8.12	3.13
South Salt Lake	76	573.17	3.29	12.41	8.14	17.47

While the statistics shown in the charts offer comparisons to other communities, HPD internally tracks several metrics to measure the call load of our officers. In patrol, this is calculated using the number of assigned calls as well as the duration of each call and whether or not a second officer was required. Those metrics are then balanced against the total number of staff hours available for each 24-hour period. We also factor in a duty-loss assumption of 20%. Duty loss occurs due to the fact that although the officer works a 12-hour shift, not all 12 hours are spent responding to calls or patrolling. Mealtimes and breaks, as well as training and secondary assignment responsibilities, are all factored into the 20% duty loss.

HPD applies the ICMA Center for Public Safety Management’s rule of 60 Guidelines plus one additional for geography.¹

These guidelines are as follows:

1. There should be approximately 60 percent of the total number of sworn officers in a department assigned to the patrol function.

¹ McCable, J., Ph.D. (2013, November 21). *An analysis of police department staffing: How many officers do you really need? A Review of 62 Police Agencies Analyzed by the ICMA / CPSM*. Center for Public Safety Management. Retrieved July 31, 2023, from https://icma.org/sites/default/files/305747_Analysis%20of%20Police%20Department%20Staffing%20_%20McCabe.pdf

- “ICMA recommends that approximately 60 percent of all sworn officers should be assigned to patrol in a CFS response function. This benchmark will be different for different communities and will likely increase as the department (and community) gets larger. In general, however, this is a useful benchmark to evaluate the personnel allocation in the department. Departments with patrol allocations much greater than 60 percent might indicate an over-investment in patrol (or under-investment in other areas of the organization).”
2. The average workload for patrol staffing should not exceed 60 percent.
“ICMA suggests that no more than 60 percent of available patrol officer time be spent responding to the service demands of the community. The remaining 40 percent of the time is discretionary time for officers to be available to address community problems and be available for serious emergencies... This ratio of dedicated time compared to discretionary time is referred to as the saturation index (SI). It is ICMA’s contention that patrol staffing is optimally deployed when the SI is slightly less than 60 percent. An SI greater than 60 percent indicates that the patrol manpower is largely reactive, and overburdened with CFS and workload demands. An SI of somewhat less than 60 percent indicates that patrol manpower is optimally staffed SI levels much lower than 60 percent, however, indicate patrol resources that are underutilized and signal an opportunity for a reduction in patrol resources or reallocation of police personnel.....The SI at 60 percent is intended to be a benchmark to evaluate service demands on patrol staffing. If SI levels are near or exceed 60 percent for substantial periods of a given shift, or at isolated and specific times during the day, decisions should be made to reallocate or realign personnel to reduce the SI to levels below 60. Lastly, this is not a hard-and-fast rule, but a benchmark to be used in evaluating staffing decisions.”
 3. The Total Service Time (officer-minutes) should not exceed a factor of 60. i.e. The mean total time per call should not exceed 60 minutes.
 4. Herriman adds a fourth category of priority one calls response times of 6 minutes to address our unique geography.

The chart below shows the calculated percentages from the month of July (up to July 18th). The data shows an average of 5.1 calls per officer per day. We’ve seen averages fluctuate higher and lower than this value, but typically are between 3 and 7. This is the data set that we utilize to evaluate the potential patrol staffing trigger points as discussed below when considering our benchmark of 60% committed time in patrol.

Calls Generated	Calls Assigned	Calls Generated Assigned	Response Staff On-Duty	Total Shift Hours / Percentage	
1310	973	74%	191	2292:00:00	100%

Calls Unassigned	Calls Generated Unassigned	Average Per Officer	Duty Loss Assumption at 20%	
337	26%	5.1	458:24:00	1833:36:00

Primary Officer Total Hours Committed / Percentage	
569:58:09	31%

Officer Total Hours Uncommitted / Percentage	
1263:37:51	69%

Secondary Officer Assumptions at 30%		>/
Officer w/ Secondary Total Hours Committed / Percentage		60%
740:57:36	40%	

Average Time On Call		>/
26:06		60:00

Officer w/ Secondary Total Hours Uncommitted / Percentage		40%
1092:38:24	60%	

Calls Longer than 60 Min	
161	12%

Longest Call	
5:11:44	

HPD operates with a minimum staffing level for officer safety and response times. Due to our large geographic area, three per shift is our minimum. While we are not seeing committed times above the 60%, we are seeing times of saturation. This may be an opportunity to shift resources, to the saturation times. However, maintaining minimum staffing at all times must also be accounted for in our staffing model.

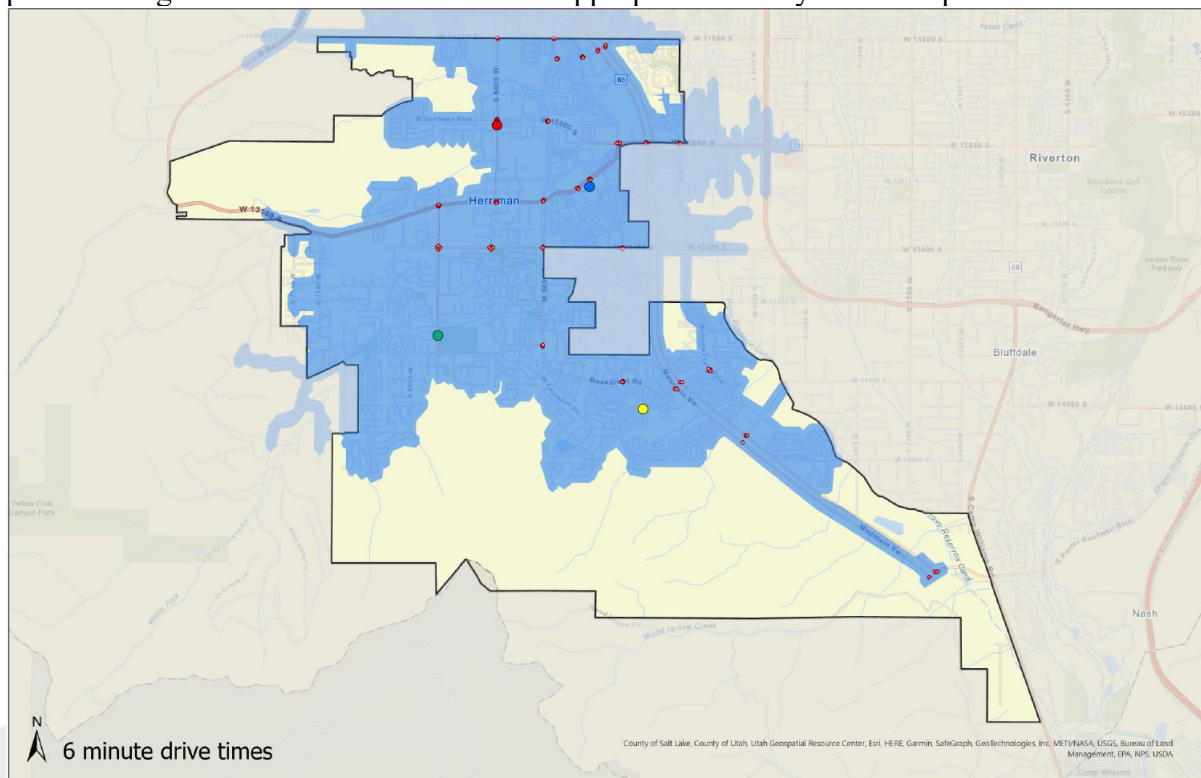
Section 2 – Growth Modeling

How does HPD determine staffing needs? What are the key metrics used? Using those key metrics as a measuring stick, how do we compare to other jurisdictions in these same metrics?

As part of the 5-year Strategic Plan being developed at the direction of the City Manager, HPD Command Staff have identified growth silos for each area of operations within the Department. Rather than basing staffing needs analysis on population or total calls for service, the HPD Growth Modeling plan goes a step further and identifies key metrics based on unit-specific needs. The full Growth Modeling plan is included as an attachment to this report and identifies targeted specifics such as total committed time in patrol, number of cases assigned to each detective, and number of hours spent on administrative and support tasks, with data-driven trigger points to identify when new allocations should be discussed or considered.

It is difficult to utilize these same metrics to compare HPD to other jurisdictions as we do not track data for other agencies. This could be done in a broader comparison, but it would likely be a significant project requiring extensive staff time. However, based on a comparison of total calls for service versus total number of sworn officers, HPD handles more calls per officer than any surrounding jurisdiction except for South Salt Lake, Murray, and Saratoga Springs.

One of the primary drivers of staffing requirements is the Priority 1 Call response time. As indicated in the Growth Silo Model, due to challenging geography in Herriman City, patrol districts are established to ensure that from any extent point in the city, a 6-minute response time for a Priority 1 call is achievable. The blue areas on the following map are those that can be covered in the 6-minute response time. As the city grows, district boundaries are adjusted, and peak staffing becomes critical to ensure an appropriate Priority 1 Call response.



Section 3 – Officer Salaries / Compensation

What is the distribution of salary ranges for HPD? Are we skewed either too high or low on our internal ranges? What might be some good reasons to accept the skew one way or the other? How does our HPD compensation compare to other cities? Where do we rank in SL County? For those that have substantially higher rates of pay, is there a difference in workload, crime types, etc. that might justify those higher rates? Has our ranking changed over time?

Our internal pay range is based on an 11-step merited pay scale. Steps within the scale are based on years of police experience. Officers who are in the step plan and not at the top step would be

those with fewer than 11 years' experience. Sergeants also have a 3-step pay scale for newly promoted sergeants to grow through their first few years of experience in supervision. In 2018, when the HPD was built, we recruited officers with many years of experience who were already at the top step in the step plan to increase the agency's overall competence and be able to effectively respond to any type of incident from the first day. Over time, HPD has focused on recruiting and hiring newer officers with less experience to create more balance within the agency and to plan for the future. During the FY2024 budget amendment, of the 38 sworn members who are not in an appointed position, 17 officers and 4 sergeants received a merited step advancement. This means that of the 30 officer allocations (excludes sergeants) within HPD, 17 officers have 11 or fewer years of experience. This represents a very balanced approach to personnel management within a small agency.

The charts below show how HPD compares with surrounding agencies. These surrounding agencies represent the most likely market comparators for Herriman. At the high end of the salary seven agencies pay more than Herriman and six pay less. At the starting rate Herriman pays less than ten comparators but more than three. Of the 14 agencies represented, 9 are within +/- of \$1 of Herriman. Herriman is just over \$0.50 below the median pay for starting salaries and \$0.04 below the median on the high end of salaries.

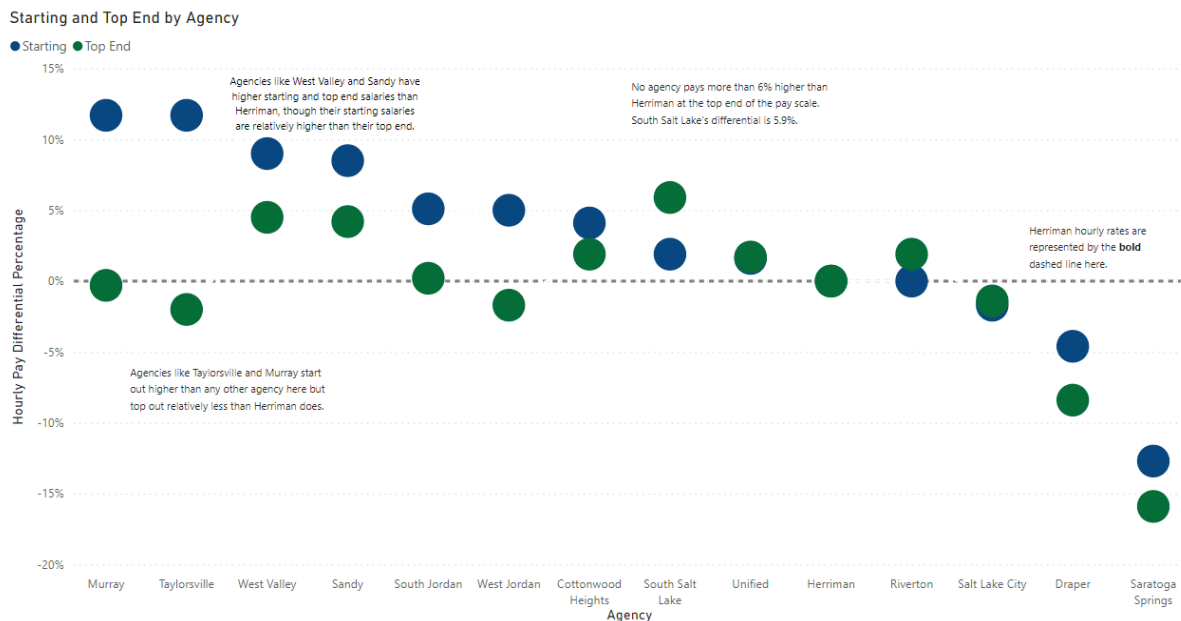


Figure 1 Differences in starting and ending salary by percentage for our comparator cities

Salary Ranges of Local Agencies

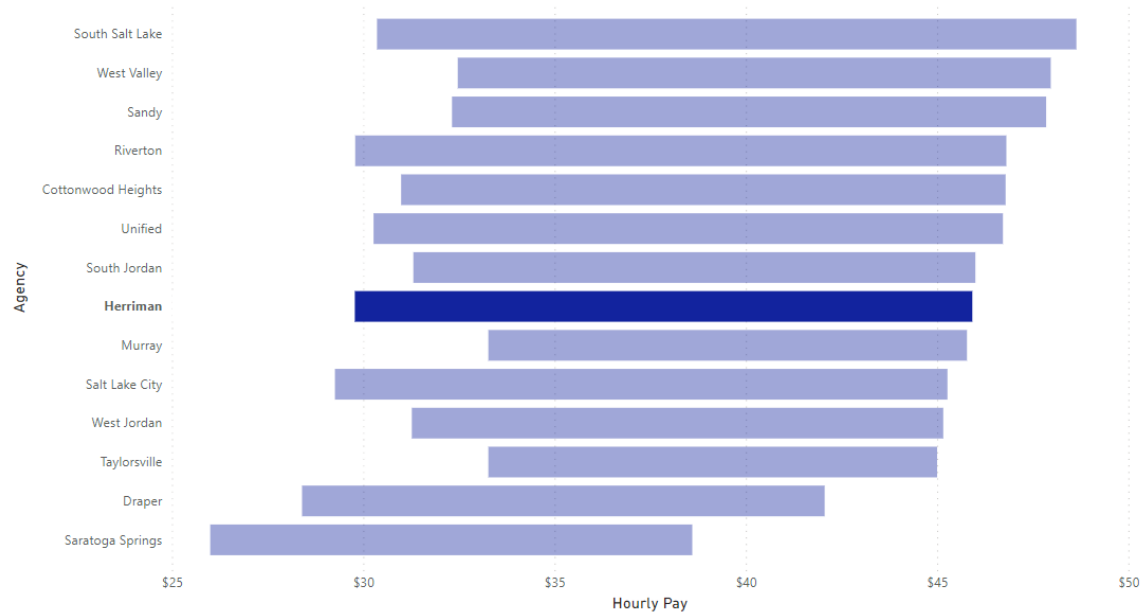


Figure 2 Salary ranges sorted by highest ending salary



HERRIMAN CITY POLICE DEPARTMENT

2023-2024 Sworn Step Plan

Grade	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11		
Police Officer P14	Days												
	Hourly	\$ 29.78	\$ 31.57	\$ 32.51	\$ 33.49	\$ 34.50	\$ 38.12	\$ 39.26	\$ 40.45	\$ 41.65	\$ 42.90		
	Annual	\$ 61,942.40	\$ 65,665.60	\$ 67,620.80	\$ 69,659.20	\$ 71,760.00	\$ 79,289.60	\$ 81,660.80	\$ 84,136.00	\$ 86,632.00	\$ 89,232.00		
	Afternoons 2.5%												
	Hourly	\$ 30.52	\$ 32.36	\$ 33.32	\$ 34.33	\$ 35.36	\$ 39.07	\$ 40.24	\$ 41.46	\$ 42.69	\$ 43.97		
	Annual	\$ 63,490.96	\$ 67,307.24	\$ 69,311.32	\$ 71,400.68	\$ 73,554.00	\$ 81,271.84	\$ 83,702.32	\$ 86,239.40	\$ 88,797.80	\$ 91,462.80		
	Graves 5%												
	Hourly	\$ 31.27	\$ 33.15	\$ 34.14	\$ 35.16	\$ 36.23	\$ 40.03	\$ 41.22	\$ 42.47	\$ 43.73	\$ 45.05		
	Annual	\$ 65,039.52	\$ 68,948.88	\$ 71,001.84	\$ 73,142.16	\$ 75,348.00	\$ 83,254.08	\$ 85,743.84	\$ 88,342.80	\$ 90,963.60	\$ 93,693.60		
	Master Officer P15	Days											
		Hourly					\$ 39.61	\$ 40.80	\$ 42.02	\$ 43.28	\$ 44.58	\$ 45.92	
		Annual					\$ 82,388.80	\$ 84,864.00	\$ 87,401.60	\$ 90,022.40	\$ 92,726.40	\$ 95,513.60	
Afternoons 2.5%													
Hourly						\$ 40.60	\$ 41.82	\$ 43.07	\$ 44.36	\$ 45.69	\$ 47.07		
Annual						\$ 84,448.52	\$ 86,985.60	\$ 89,586.64	\$ 92,272.96	\$ 95,044.56	\$ 97,901.44		
Graves 5%													
Hourly					\$ 41.59	\$ 42.84	\$ 44.12	\$ 45.44	\$ 46.81	\$ 48.22			
Annual					\$ 86,508.24	\$ 89,107.20	\$ 91,771.68	\$ 94,523.52	\$ 97,362.72	\$ 100,289.28			
Sergeant P16	Days												
	Hourly	\$ 48.71	\$ 50.42	\$ 52.19									
	Annual	\$ 101,316.80	\$ 104,873.60	\$ 108,555.20									
	Afternoons 2.5%												
	Hourly	\$ 49.93	\$ 51.68	\$ 53.49									
	Annual	\$ 103,849.72	\$ 107,495.44	\$ 111,269.08									
Graves 5%													
Hourly	\$ 51.15	\$ 52.94	\$ 54.80										
Annual	\$ 106,382.64	\$ 110,117.28	\$ 113,982.96										

Section 4 – Police Fleet

We want to better understand the need for a particular make/model of vehicle as opposed to other makes/models. What are the pros/cons of extended warranties and longer usage versus more frequent replacement? Does every officer need a 4WD truck versus an AWD sedan? What would be the cost savings?

Following prior discussions on this topic, Deputy Chief Stromberg produced an in-depth analysis on current and projected HPD fleet operations and protocols. That analysis is attached to this report for reference and discussion.

The analysis produced the following recommendations for the Council’s consideration:

- Capitalized purchasing should still be the primary method for acquiring police fleet vehicles, with the use of the new capital fleet fund.
- HPD should continue to purchase the Ford F-150 as the standard marked vehicle for uniformed patrol and other call-response based units. However, this analysis should be updated, at least every two years, to ensure that the type/make/model of vehicle purchased meets industry standards for capability, operation, and officer safety, and continues to provide a justifiable return on investment for Herriman City taxpayers.
- Beginning in FY2025, consideration should be made for purchasing other vehicle types (Ford Explorer SUV or similar) for detectives, Command Staff, and other areas of HPD operations not directly tied to first-line emergency response.
- Total engine hours and engine idle hours should be accounted for and identified in future fleet surplus requests.
- Beginning in FY2024, a vehicle-by-vehicle analysis should be done for newly purchased vehicles to consider adding a multi-year extended warranty to help balance the immediate budgetary needs of the department.

Section 5 – Long-Range Financial Planning

If a tax increase is approved, what would the funds be used for specifically? How long will these funds meet the needs of the city when combined with new growth?

The FYE2024 budget is balanced today. However, to bring it in balance the City removed three new officers, left vacant the mental health specialist position, and purchased all 2024 vehicles in the 2023 budget. The Fund has operated with a deficit due to missing personnel allocations and a rapid increase in police salaries since its inception. In order to bring the Fund to balance, \$3.9 million in General Fund dollars were used. That transfer takes away from other needs such as roads, stormwater facilities, parks etc.

If there is an increase in the tax revenue, staff proposes that those funds be used to cover costs in the following priority:

- Maintain Fleet/Vehicle replacement – replacing existing vehicles as required by our fleet replacement plan. Staff believes we will need to look at extending the life of existing vehicles to sustain this level of investment.
- Mental health specialist – we see numerous calls each week that are mental health related and we are using police in a way they are not best suited.
- officers required to cover demand – based on growth plan this is likely a few years out.
- fund balance. – the City needs a reasonable balance in this fund to account for unexpected costs and to smooth out inflationary demands.

Given the nature of Utah’s property tax rules, it is likely future increases will be necessary to address inflation. While growth is assumed in the model, that growth comes from new construction and not future tax increases. Growth is not a windfall for the City, as new residents also require services. Since there is not an inflationary mechanism in property tax, in order to address increases in costs in the future, tax increases may be necessary. A future discussion about an appropriate police facility will also need to be held.

Several models have been created to provide Council insight. To model the impact of the proposed 15% increase in property tax on HPD, the following assumptions were made:

- New officer hires will be modeled at Step 5.
- The mental health specialist hire will be modeled at the rates given in previous budget documents.
- Staffing in the department remains steady state – no other changes over the life of the projection unless indicated.
- A vehicle charge smoothing mechanism will be utilized (along with a separate fleet fund not modeled here) to mitigate the volatility of vehicle replacement costs. The vehicle charges will fall under capital expenditures pending reclassification. The average amount needed for HPD vehicles given the above assumptions is approximately \$1.2M per year. This assumes an aggressive replacement policy that will likely need to be further evaluated.
- All current HPD vehicles will be replaced at the appropriate time according to department policy. However, no vehicles will be added to the overall HPD fleet except if a modeled new hire requires a vehicle pursuant to their responsibilities within the department. Based on costs of vehicles we need to get more years out of each vehicle to be sustainable.
- Assume new growth property tax rates will follow the following schedule:

2025	2026	2027	2028	2029	2030	2031	2032	2033	Yearly Average
5.06%	4.76%	4.46%	4.16%	3.86%	3.56%	3.26%	2.96%	2.96%	3.89%

- Growth in personnel expenses will be modeled according to the following rate schedule:

Expense Type	2025	2026	2027	2028	2029	2030	2031	2032	2033	Yearly Average
Salaries & Wages	5%	5%	4%	4%	4%	3%	3%	3%	2%	3.7%
Payroll Tax Benefit	5%	5%	4%	4%	4%	3%	3%	3%	2%	3.7%
Overtime	4%	6%	5%	5%	5%	4%	4%	4%	4%	4.6%
Insurance Benefit	2%	5%	5%	5%	5%	8%	8%	6%	6%	5.6%
Retirement Benefit	5%	5%	4%	4%	4%	3%	3%	3%	2%	3.7%
Retirement Match Benefit	5%	5%	4%	4%	4%	3%	3%	3%	2%	3.7%

- All other revenues and expenses besides property tax, personnel, and vehicle charges will be subject to a 5% annual inflation rate.

Based on the above assumptions, a 10-year financial model was created to assess the impact of the proposed tax increase. The following tables summarize the impact on the police department over a 10-year period. These models will require further refinement.

Herriman City										
Police Department 10-Year Financial Model: No Tax Increase, Fleet Replacement, No New Hires, No New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	8,619,156	9,055,285	9,486,317	9,909,407	10,321,638	10,720,053	11,101,687	11,463,602	11,802,925	12,152,291
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	9,651,688	10,139,444	10,624,683	11,104,691	11,576,687	12,037,855	12,485,379	12,916,478	13,328,445	13,754,087
Expenditures										
Personnel	7,929,079	8,375,803	8,893,374	9,313,065	9,767,145	10,185,732	10,578,280	10,979,426	11,356,556	11,634,201
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	946,235	975,117	1,079,366	1,093,208	1,146,537	1,164,884	1,298,464	1,307,774	1,426,003
Grand Total	9,770,639	11,080,746	11,715,134	12,331,407	12,896,277	13,469,989	13,987,771	14,634,727	15,139,009	15,658,617
Rev Over/(Under) Exp	(118,951)	(941,302)	(1,090,450)	(1,226,715)	(1,319,590)	(1,432,134)	(1,502,392)	(1,718,248)	(1,810,564)	(1,904,530)

Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, No New Hires, No New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,319,119	10,810,309	11,292,448	11,762,214	12,216,236	12,651,134	13,063,561	13,450,242	13,848,369
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	10,854,651	11,403,277	11,948,675	12,487,733	13,017,263	13,534,037	14,034,825	14,516,437	14,975,762	15,450,165
Expenditures										
Personnel	7,929,079	8,375,803	8,893,374	9,313,065	9,767,145	10,185,732	10,578,280	10,979,426	11,356,556	11,634,201
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	946,235	975,117	1,079,366	1,093,208	1,146,537	1,164,884	1,298,464	1,307,774	1,426,003
Grand Total	9,770,639	11,080,746	11,715,134	12,331,407	12,896,277	13,469,989	13,987,771	14,634,727	15,139,009	15,658,617
Rev Over/(Under) Exp	1,084,013	322,531	233,541	156,327	120,986	64,048	47,055	(118,290)	(163,247)	(208,452)

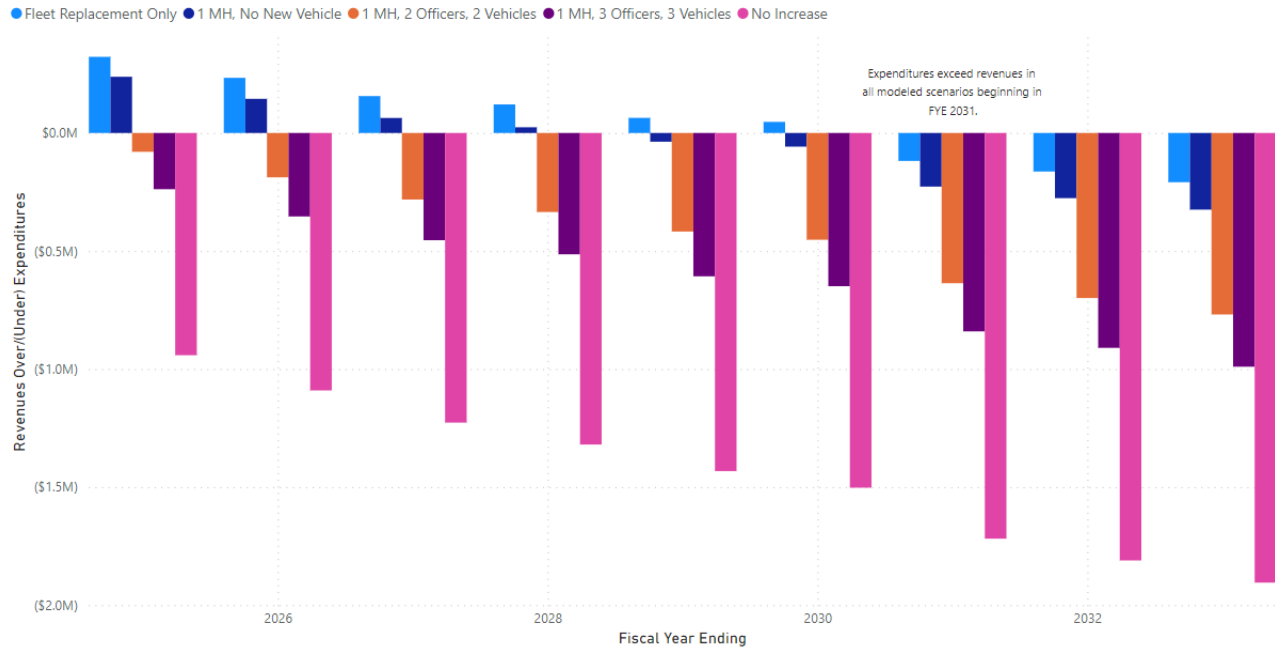
Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, 1 MH Specialist, No New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,319,119	10,810,309	11,292,448	11,762,214	12,216,236	12,651,134	13,063,561	13,450,242	13,848,369
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Expenditures										
Personnel	7,929,079	8,460,209	8,982,219	9,405,788	9,863,916	10,286,731	10,683,107	11,088,249	11,469,304	11,750,333
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	946,235	975,117	1,079,366	1,093,208	1,146,537	1,164,884	1,298,464	1,307,774	1,426,003
Grand Total	9,770,639	11,165,151	11,803,979	12,424,129	12,993,049	13,570,989	14,092,598	14,743,549	15,251,757	15,774,749
Rev Over/(Under) Exp	1,084,013	238,126	144,696	63,604	24,214	(36,951)	(57,772)	(227,112)	(275,995)	(324,583)

Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, 1 MH Specialist, 2 Officers, 2 New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,319,119	10,810,309	11,292,448	11,762,214	12,216,236	12,651,134	13,063,561	13,450,242	13,848,369
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	10,854,651	11,403,277	11,948,675	12,487,733	13,017,263	13,534,037	14,034,825	14,516,437	14,975,762	15,450,165
Expenditures										
Personnel	7,929,079	8,744,150	9,280,809	9,717,364	10,189,050	10,626,020	11,036,395	11,456,238	11,851,219	12,144,362
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	980,124	1,009,006	1,113,256	1,127,098	1,187,750	1,206,097	1,339,677	1,348,988	1,476,081
Grand Total	9,770,639	11,482,982	12,136,458	12,769,595	13,352,073	13,951,491	14,487,099	15,152,753	15,674,885	16,218,856
Rev Over/(Under) Exp	1,084,013	(79,705)	(187,783)	(281,862)	(334,809)	(417,453)	(452,273)	(636,316)	(699,123)	(768,691)

Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, 1 MH Specialist, 3 Officers, 3 New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,319,119	10,810,309	11,292,448	11,762,214	12,216,236	12,651,134	13,063,561	13,450,242	13,848,369
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	10,854,651	11,403,277	11,948,675	12,487,733	13,017,263	13,534,037	14,034,825	14,516,437	14,975,762	15,450,165
Expenditures										
Personnel	7,929,079	8,886,121	9,430,103	9,873,152	10,351,617	10,795,664	11,213,039	11,640,233	12,042,176	12,341,377
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	996,583	1,025,465	1,129,714	1,143,557	1,207,749	1,226,096	1,359,676	1,368,987	1,500,391
Grand Total	9,770,639	11,641,412	12,302,212	12,941,842	13,531,098	14,141,134	14,683,741	15,356,746	15,885,841	16,440,181
Rev Over/(Under) Exp	1,084,013	(238,135)	(353,537)	(454,109)	(513,835)	(607,097)	(648,916)	(840,309)	(910,079)	(990,015)

The following bar chart compares the revenues over/under expenditures for the various scenarios given above (all these scenarios assume one Truth in Taxation hearing in FYE 2024 and no future Truth in Taxation hearings):

Revenues Over/Under Expenditures for Various HPD Staffing Scenarios - FYE 2025 through FYE 2033
Assuming 1 Truth in Taxation hearing in FYE 2024



The following scenarios assume a Truth in Taxation hearing every fiscal year resulting in a 2% increase in the tax rate:

Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, No New Hires, No New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,515,561	11,226,413	11,951,639	12,687,860	13,431,369	14,178,153	14,923,924	15,664,150	16,441,092
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	10,854,651	11,599,720	12,364,779	13,146,924	13,942,909	14,749,170	15,561,845	16,376,800	17,189,670	18,042,888
Expenditures										
Personnel	7,929,079	8,375,803	8,893,374	9,313,065	9,767,145	10,185,732	10,578,280	10,979,426	11,356,556	11,634,201
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	946,235	975,117	1,079,366	1,093,208	1,146,537	1,164,884	1,298,464	1,307,774	1,426,003
Grand Total	9,770,639	11,080,746	11,715,134	12,331,407	12,896,277	13,469,989	13,987,771	14,634,727	15,139,009	15,658,617
Rev Over/(Under) Exp	1,084,013	518,974	649,646	815,517	1,046,632	1,279,181	1,574,074	1,742,073	2,050,661	2,384,271

Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, 1 MH Specialist, No New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,515,561	11,226,413	11,951,639	12,687,860	13,431,369	14,178,153	14,923,924	15,664,150	16,441,092
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	10,854,651	11,599,720	12,364,779	13,146,924	13,942,909	14,749,170	15,561,845	16,376,800	17,189,670	18,042,888
Expenditures										
Personnel	7,929,079	8,460,209	8,982,219	9,405,788	9,863,916	10,286,731	10,683,107	11,088,249	11,469,304	11,750,333
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	946,235	975,117	1,079,366	1,093,208	1,146,537	1,164,884	1,298,464	1,307,774	1,426,003
Grand Total	9,770,639	11,165,151	11,803,979	12,424,129	12,993,049	13,570,989	14,092,598	14,743,549	15,251,757	15,774,749
Rev Over/(Under) Exp	1,084,013	434,568	560,801	722,795	949,860	1,178,182	1,469,247	1,633,251	1,937,913	2,268,140

Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, 1 MH Specialist, 2 Officers, 2 New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,515,561	11,226,413	11,951,639	12,687,860	13,431,369	14,178,153	14,923,924	15,664,150	16,441,092
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	10,854,651	11,599,720	12,364,779	13,146,924	13,942,909	14,749,170	15,561,845	16,376,800	17,189,670	18,042,888
Expenditures										
Personnel	7,929,079	8,744,150	9,280,809	9,717,364	10,189,050	10,626,020	11,036,395	11,456,238	11,851,219	12,144,362
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	980,124	1,009,006	1,113,256	1,127,098	1,187,750	1,206,097	1,339,677	1,348,988	1,476,081
Grand Total	9,770,639	11,482,982	12,136,458	12,769,595	13,352,073	13,951,491	14,487,099	15,152,753	15,674,885	16,218,856
Rev Over/(Under) Exp	1,084,013	116,737	228,321	377,329	590,837	797,680	1,074,746	1,224,047	1,514,785	1,824,032

Herriman City										
Police Department 10-Year Financial Model: 15% Tax Increase, Fleet Replacement, 1 MH Specialist, 3 Officers, 3 New Vehicles										
Revenue Category	Budget 2024	Projected								
		2025	2026	2027	2028	2029	2030	2031	2032	2033
Property Tax	9,822,119	10,515,561	11,226,413	11,951,639	12,687,860	13,431,369	14,178,153	14,923,924	15,664,150	16,441,092
All Other Revenues	1,032,532	1,084,159	1,138,367	1,195,285	1,255,049	1,317,802	1,383,692	1,452,876	1,525,520	1,601,796
Grand Total	10,854,651	11,599,720	12,364,779	13,146,924	13,942,909	14,749,170	15,561,845	16,376,800	17,189,670	18,042,888
Expenditures										
Personnel	7,929,079	8,886,121	9,430,103	9,873,152	10,351,617	10,795,664	11,213,039	11,640,233	12,042,176	12,341,377
Operating	1,674,960	1,758,708	1,846,643	1,938,976	2,035,924	2,137,721	2,244,607	2,356,837	2,474,679	2,598,413
Capital (Vehicles)	166,600	996,583	1,025,465	1,129,714	1,143,557	1,207,749	1,226,096	1,359,676	1,368,987	1,500,391
Grand Total	9,770,639	11,641,412	12,302,212	12,941,842	13,531,098	14,141,134	14,683,741	15,356,746	15,885,841	16,440,181
Rev Over/(Under) Exp	1,084,013	(41,692)	62,568	205,082	411,811	608,036	878,103	1,020,054	1,303,829	1,602,707

The following bar chart compares the revenues over/under expenditures for the various scenarios given above (all these scenarios assume one Truth in Taxation hearing in FYE 2024 requesting a 15% rate increase and subsequent annual Truth in Taxation hearings requesting 2% increases starting FYE 2025 through FYE 2033):

Revenues Over/Under Expenditures for Various HPD Staffing Scenarios - FYE 2025 through FYE 2033
Assuming annual Truth in Taxation hearings requesting annual 2% increases from FYE 2025 through FYE 2033



Under the assumption of an annual 2% rate increase via Truth in Taxation hearings, all modeled scenarios have revenues in excess of expenditures over the next 10 years. It should be noted that there are no additional personnel modeled. If they are added it would change this trajectory, but it appears that resources would exist to add some staff in the future.

ALTERNATIVES:

N/A – this item is for discussion only

FISCAL IMPACT:

New revenues would allow the department to cover vehicle capital needs, needed staff, and create a fund balance. Over the life of HCSEA, the General fund has provided more than \$3.9 million in direct funding. HCSEA is not charged for any of the internal service departments (i.e. HR, Finance, etc.) representing an indirect contribution of the general fund. Those contributions by the General Fund means road projects and maintenance, staffing, and other needed items covered by the General Fund have not been covered.

Given the demands placed upon the General Fund, such a high level of subsidy is not sustainable.

Staffing and vehicles are the two largest drivers of cost in this fund. Staff will work to further refine the modeling prior to the truth-in-taxation hearing.

ATTACHMENTS:

Calls for Service Growth
Herriman City Police Department Growth Modeling Plan
Herriman City Police Department Fleet Analysis Report

GROWTH MODELING

Herriman City Police Department

Population-based growth models in policing often do not equally assess the disciplines within the field of policing related to demand for increased personnel. It is not uncommon for a policing model to need growth in one area but not another due to changes in service demand.

The Herriman City Police Department has developed a method by which responsible and necessary growth of the department can be measured and projected in different silos.

Growth modeling in law enforcement is complex in rapidly evolving communities such as Herriman City and needs to contemplate the many factors beyond just officers on the street.

This model is called the Growth Silo Model and addresses the need for growth by silo and sub-silo to address the individual and differing needs for growth in the various Divisions and Units among sworn and civilian allocations.

Herriman City's growth point has largely been determined and projections for housing units, commercial locations, and roadways have, at least initially, been considered. As this is more recent, the ability to begin to understand population and service needs has become clearer.

This earlier state of unknown is among the reasons that the Police Department had asked to not build a dedicated facility. This must now be considered, and as such, a hub and spoke facility system would best fit the non-typical land boundaries that creates extent policing, or policing based on geographical challenges, in Herriman City.

**ADMINISTRATION
DIVISION**

GS 1

Professional Standards

Internal Affairs | Projects | Analytics
Training | Secondary Employment

GS 1.1

Support Services

Records | Office Operations | Property
IT | Fleet | Armory

GS 1.2

Court Services

Court Operations | Security

GS 1.3

Community Information

PIO | Social Media | Website

GS 1.4

GROWTH SILO ONE

DESCRIPTION

The Administration Division growth modeling is in Growth Silo One (GS 1) which has four sub-silos designated as GS 1.1 Professional Standards, GS 1.2 Support Services, GS 1.3 Court Services, and GS 1.4 Community Information.

GS 1.1 is a primary and secondary assignment internal operation unit.
Funded: HCSEA

GS 1.2 is a primary and secondary assignment internal operation unit.
Funded: HCSEA

GS 1.3 is a part-time internally staffed externally budgeted primary assignment unit for court security services.
Funded: General Fund for personnel
HCSEA for equipment

GS 1.4 is a secondary assignment internal operation unit.
Funded: HCSEA

GROWTH SILO ONE

Metrics and Trigger For Increased Allocations

PROFESSIONAL STANDARDS

GS 1.1 METRIC

GS 1.1 is a primary and secondary assignment internal operation unit. The primary metric for growth is a combination of (1) a statistical data pull of assigned Internal Affairs cases measured yearly, (2) a statistical data pull of secondary employment contracts managed, (3) an annual assessment of the total time spent managing all department training, and (4) an assessment of the number and types of projects assigned to the unit.

Internal Affairs – 160 work hours annually

Secondary Employment – 30 contracts scheduled/managed annually

Training – 9,200 annual training hours department-wide tracked, scheduled, monitored, and submitted for approval

Projects – 1,000 work hours annually

GS 1.1 TRIGGER

Data indicating a 50% or greater increase in one category in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year.

Data indicating a 50% or greater increase in two categories or more in a calendar year initiates personnel needs and analysis meeting with Command Staff and the City Manager in January of the following year.

Any single large-scale project (ex. Agency Accreditation) initiates a review meeting with Command Staff and the City Manager prior to commencement of the project.

SUPPORT SERVICES

GS 1.2 METRIC

GS 1.2 is a primary and secondary assignment internal operation unit. The unit currently comprises three civilian allocations plus one additional civilian and one sworn supervisor that are shared across GS 1.1 and GS 1.3. The primary metric for growth is a combination of statistical data pull of completed daily operational tasks combined with a subjective assessment of unit saturation in support operations, armory, property, IT, and fleet. This assessment will vary each year depending on current projects.

Office Operations Tasks – 1480 work hours annually

Records Functions – 5,000 work hours annually

GRAMA Requests – 85-100 per month; 7-day average standard response time

Fleet – 260 work hours annually

GS 1.2 TRIGGER

Data indicating a 50% or greater increase in one category in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year.

Data indicating a 50% or greater increase in two categories (50% of the total of four categories) or more in a calendar year initiates personnel needs and analysis meeting with Command Staff and the City Manager in January of the following year.

Due to statutory fulfillment obligations, an increase of 20% or greater in the total average number of GRAMA requests received per month in a calendar year, or any single month where the average response time exceeds 8 days, initiates personnel needs and analysis meeting with Command Staff and the City Manager in January of the following year.

COURT SERVICES

GS 1.3 METRIC

GS 1.3 is a part-time internally staffed and externally budgeted primary assignment unit for court security services. Primary assigned officers are part-time with sworn officers from other units covering absences and duties requiring greater staffing (ex. jury trials). The minimum court staffing is funded at two officers with three officer allocations available to meet this demand including duty loss. The unit shares a sworn supervisor with GS 1.2, GS 1.2, and GS 1.4. The primary metric for growth is the number of hours per week the court is in session.

Current Court Regular Session Hours Per Week – 15

GS 1.3 TRIGGER

An increase of 33% or greater in the total average regular session court hours per week in a calendar year initiates a review meeting with Command Staff, the City Recorder and the City Manager in January of the following year.

COMMUNITY INFORMATION

GS 1.4 METRIC

GS 1.4 is a secondary assignment internal operation unit. Duties of GS 1.4 are shared between one sworn supervisor, one sworn officer, and the Communications Department of the City. The primary metric for growth is a statistical data pull of the number of media requests received by the unit annually combined with the time spent on media and community outreach projects.

Average Number of Media Requests Received Monthly – Between 5 and 10
Media/Community Outreach Projects – 100 work hours annually

GS 1.4 TRIGGER

An increase of 100% or greater in the total average number of media requests received monthly or number of hours spent on media/community outreach projects in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year.

OPERATIONS DIVISION

GS 2

Community Safety

Patrol | K9 | Traffic | Motors | CRASH
SAR | Trail Patrol | Bike Patrol

GS 2.1

Community Services

Community Involved Policing
Animal Services | Parking Services
Code Enforcement |

GS 2.2

Communications

VECC | Towing Services

GS 2.3

Emergency Management

Emergency Management | CERT
Be Ready Herriman

GS 2.4

GROWTH SILO TWO

The Operations Division growth modeling is in Growth Silo Two (GS 2) which has four sub-silos designated as GS 2.1 Community Safety, GS 2.2 Community Services, GS 2.3 Communications, and GS 2.4 Emergency Management.

GS 2.1 Primary and secondary assignment internal operation unit.
Funded: HCSEA

GS 2.2 Primary and secondary assignment internal operation unit.
Funded: General Fund – Animal Services/Parking/Code Enforcement
HCSEA – CIP / Events / Honor Guard / Community Programs

GS 2.3 Contracted external unit for dispatching services.
Funded: HCSEA

GS 2.4 Primary assignment internal operation unit.
Funded: General Fund – Part-time EM Coordinator
HCSEA – City EM Division Commander

GROWTH SILO TWO

Metrics and Trigger For Increased Allocations

COMMUNITY SAFETY

GS 2.1 METRIC

GS 2.1 is a primary and secondary internal operation unit. The primary metric for growth is based on a statistical data pull measured daily, monthly, and yearly. Data analyzed on a one calendar year average of 50% or greater.

STAFFING - 60% of personnel are assigned in a response capacity.

CALL TYPE - 60% of CFS take no more than one hour per officer.

AVAILABILITY - 60% of an officer's time is committed on CFS.

GEOGRAPHY – 60% of Priority 1 calls for service with a response time of 6-minutes or less.

GS 2.1 TRIGGER

Data indicating 50% or greater average in one category in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year.

Data indicating 50% or greater average in two categories (50% of the total of four categories) or more in a calendar year initiates personnel needs and analysis meeting with Command Staff and the City Manager in January of the following year.

COMMUNITY SERVICES

GS 2.2 METRIC

GS 2.2 is a primary and secondary internal operation unit. The primary metric for growth is based on a statistical data pull measured daily, monthly, and yearly. Data analyzed on a one calendar year average of 50% or greater. Workload associated in community services is also partially citizen-initiated for both traffic and code enforcement. This unit also manages a caseload associated with the administrative enforcement and administrative law judge processes.

STAFFING - 60% of personnel are assigned in a response capacity.

CALL TYPE - 60% of CFS take no more than one hour per officer.

AVAILABILITY - 60% of an officer's time is committed on CFS/caseload.

GEOGRAPHY - 60% of Priority 1 calls for service with a response time of 6-minutes or less. (Injury Traffic Accidents primarily)

GS 2.2 TRIGGER

Data indicating 50% or greater average in one category in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year.

Data indicating 50% or greater average in two categories (50% of the total of four categories) or more in a calendar year initiates personnel needs and analysis meeting with Command Staff and the City Manager in January of the following year.

COMMUNICATIONS

GS 2.3 METRIC

GS 2.3 is a contracted external unit for dispatching services. This external unit is managed at multiple levels by the Tech Users committee, the Operations committee, and the Board of Trustees. These systems work in concert with all stakeholders to determine staffing and costing. The current metric for costing is number of sworn allocations and cases numbers generated (stripped for duplicates).

GS 2.3 TRIGGER

Greater or different service can be requested but is considered and determined by the administration of the center and presented to the Board of Trustees.

EMERGENCY MANAGEMENT

GS 2.4 METRIC

GS 2.4 is an internal unit with high external partnership responsibilities. Emergency Management has state and federal requirements and by statute must name an individual as the city's Emergency Manager. This assignment is that of the Operations Division Commander aided by a part-time coordinator. The primary metric for growth in Emergency Management is generally associated with jurisdictional population and geographical challenges.

GS 2.4 TRIGGER

A workload/needs analysis will be reviewed by the Operations Division Commander at least every two years to evaluate the need for GS2.4 staffing, based on total population growth in the city.

**SPECIAL SERVICES
DIVISION**

GS 3

Investigations

Detectives | Forensics | Evidence

GS 3.1

Community Youth

SRO | Crossing Guards | Peer Court
Youth Academy | Cadets

GS 3.2

Special Operations

SWAT | Negotiators | Task Forces

GS 3.3

Community Wellness

Victim Services | ~~Mental Health~~
Peer Support | Chaplain

GS 3.4

GROWTH SILO THREE

The Special Services Division growth modeling is in Growth Silo Three (GS 3) which has four sub-silos designated as GS 3.1 Investigations, GS 3.2 Community Youth, GS 3.3 Special Operations, and GS 3.4 Community Wellness.

GS 3.1 Primary assignment internal operation unit
Funded: HCSEA

GS 3.2 Primary assignment internal operations/external partnership unit
Funded: HCSEA
General Fund – Crossing Guards

GS 3.3 Secondary assignment internal operation unit
Funded: HCSEA

GS 3.4 Primary and secondary assignment internal operation unit
Funded: HCSEA

GROWTH SILO THREE

Metrics and Trigger For Increased Allocations

INVESTIGATIONS

GS 3.1 METRIC

Investigations is a primary assignment internal operations unit. The primary metric for growth is a statistical data pull of the average total number of cases assigned per detective per month. As case investigations are generally uniform in nature across jurisdictions, this metric has a reliably established industry standard against which we can measure. Of the six sworn allocations added since 2018, two of them have been placed in this unit. Despite this, we are still seeing an increase in the average number of cases assigned per detective per month (15.5 in 2020, 19.7 in 2021, 22.1 in 2022).

GS 3.1 TRIGGER

Data indicating a 10% or greater increase in the average total number of cases assigned per detective per month in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year. Data indicating a 20% or greater increase in the average total number of cases assigned per detective per month in a calendar year initiates personnel needs and analysis meeting with Command Staff and the City Manager in January of the following year.

COMMUNITY YOUTH PROGRAMS

GS 3.2 METRIC

Community Youth Unit is a primary assignment internal operations/external partnership unit requiring growth statutorily and contractually.

GS 3.2 TRIGGER

Increased allocations in this sub-silo are initiated by the creation of schools within the City of Herriman for both SRO and crossing guards. Secondary schools require an officer to be assigned. Primary schools require crossing guards to be assigned as determined by the school safety council in coordination with the City Engineer. There is no exact number as many factors combine to determine new crossings such as creation, change in safe walk route, and boundary changes.

SPECIAL OPERATIONS

GS 3.3 METRIC

GS 3.3 is a secondary assignment internal operation unit and includes SWAT, hostage negotiators, and inter-agency task force participation. The primary metric for growth in Special Operations is a statistical analysis of the number of high-risk warrants and incidents responded to by the unit in a calendar year. Additionally, participation in an inter-agency task force is evaluated on a case-by-case basis and primarily driven by the return benefit to the citizens of Herriman City for participation in the task force and is often grant-funded.

GS 3.3 TRIGGER

Data indicating 50% or greater average increase in total number of SWAT operations conducted in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year.

COMMUNITY WELLNESS

GS 3.4 METRIC

GS3.4 is a primary and secondary assignment internal operation unit. The primary metric for growth in Victim Services is a statistical data pull of the average number of victims of crime and caseload assigned for follow-up per month. The Mental Health Specialist position was created primarily for case management of mental health services to reduce the burden on patrol staffing in providing follow-up and community resources to Herriman residents. The primary metric for growth in Mental Health case management is a statistical data pull of the average number of cases assigned for follow-up per month.

GS 3.4 TRIGGER

Data indicating 50% or greater average increase in number of victims assisted or average number of cases assigned per month in a calendar year initiates a review meeting with Command Staff and the City Manager in January of the following year.

Data indicating 100% or greater average increase in number of victims assisted or average number of cases assigned per month in a calendar year initiates personnel needs and analysis meeting with Command Staff and the City Manager in January of the following year.

AN ANALYSIS OF CAPITAL, OPERATIONAL, AND SURPLUS COSTS OF POLICE FLEET VEHICLES

Cody W. Stromberg, Deputy Chief of Police, Herriman City

July 27, 2023

INTRODUCTION

The following is an analysis of the costs associated with the purchase, equipping, operation, maintenance, and surplus of police fleet vehicles. This analysis was conducted as part of the strategic plan development of the Herriman City Police Department and at the direction of the City Council following several discussions on the costs associated with police fleet vehicles. This analysis includes a description of current police fleet practices in Herriman City as well as a broad evaluation of industry-specific best practices associated with the purchase, upfit, operation, maintenance, and surplus of police fleet vehicles in various vehicle type categories. The scope of this analysis does not include government fleet practices and vehicle types outside of law enforcement operations, nor does it include specialized police vehicles such as motorcycles, ATV's, armored vehicles, or utility vehicles and trailers.

BACKGROUND

The Herriman City Police Department was formed in 2018 following the City Council's decision to terminate the contract of its previous law enforcement services provider. At the time of separation, several assets were transferred to Herriman City by the previous service provider. These assets, which included a number of fleet vehicles, were purchased under the previous contract using funds paid to the service provider by Herriman City. These transferred fleet assets included twenty-three (23) pickup trucks and six (6) SUV's. Three of the SUV's were received from Herriman's share of "pooled services" assets and were immediately surplus. The remaining twenty-six (26) vehicles, with model years ranging from 2014 to 2018, were rebranded and placed in service with the newly formed HPD.

In government fleet operations, there are multiple methods of determining the optimal replacement schedule for a vehicle. These practices include utilizing metrics such as vehicle age, mileage, service and maintenance costs, and surplus value, among others. The current General Services Administration (GSA) Federal Government vehicle replacement guidelines, for example, identify the minimum replacement standard for non-diesel light trucks at 7 years or 65,000 miles (Annex I). Replacement analyses are often modified based on the use of the vehicle. Police operations usually result in a higher impact to the normal operations of a fleet vehicle due to quick starts and stops, fast cornering, higher-than-average idle times, and high-speed operations for emergency response/pursuit driving. This is especially true of marked patrol vehicles, which typically see a higher degree of wear and tear than unmarked vehicles utilized by detectives or administrators.

At the time of the HPD's creation, Herriman City had a robust fleet replacement analysis program that incorporated a numerical scale, ranked from 1 to 5, in multiple categories, including age of the vehicle, total mileage, service and maintenance cost, reliability, and overall vehicle condition. The numerical rankings in each category are added together to determine the total vehicle ranking. The higher the total number, the sooner a replacement vehicle is considered (Annex II). As the total number score associated with a vehicle increases, the vehicle is more at risk for catastrophic failure or major maintenance needs. We saw this in model year 2014-2019 F-150's, where the turbos frequently needed to be replaced at about

4 years of operation or around 50,000 miles. Using multiple metrics allows us to account for a vehicle that perhaps is a manufacturer lemon (which we've seen) or has been crashed and is unreliable, rather than replacing vehicles solely based on age or mileage. It is important to note that the same replacement analysis is used for all departments in the city. Due to 911 response in public safety, fleet managers feel less comfortable pushing the boundary of catastrophic failure with a police vehicle than we might with a similar vehicle in another city department, resulting in faster rotation of police vehicles.

The initial replacement cycle of the vehicles received from the separation has been challenging, as we received no maintenance records for any of the vehicles and had to rely solely on the previous driver's accounting of the vehicle's history (if that person became a Herriman City employee). The decision was made at the time to plan for a tentative replacement of the transferred fleet vehicles based on vehicle age at approximately three years for a marked patrol vehicle and five years for an unmarked vehicle.

Part of the historical practice for fleet replacement also includes a consideration for the surplus value of the vehicle. The most recent vehicle surplus resulted in an average return value to Herriman City taxpayers of \$21,320 per truck sold. Factoring in the new vehicle total cost of approximately \$78,617, the revenue returned to the city for the sale of these vehicles covers approximately 27% of the cost of a new vehicle (total cost includes purchase and upfitting). The surplus value also becomes relevant in determining the type and make of vehicle the department chooses to purchase, as discussed below.

This approach is similar to what industry experts identify as an "economic lifecycle analysis" (Bibona, 2015). In this type of analysis, we attempt to identify the "total ownership and operating costs throughout the vehicle's life to estimate the optimum point in time or usage to replace the vehicle." (Bibona, 2015). Essentially, we accept that there is an initial purchase and upfit cost for a vehicle as necessary equipment for police operations. We track annual expenses such as fuel consumption and repairs/maintenance, and we also try to estimate the vehicle's depreciation value over time. As the total cost of ownership rises, the residual surplus value of the vehicle declines. At some point in time, those two points on the graph intersect, and consideration should then be made for replacing the vehicle. The difference in our approach versus the standard economic lifecycle analysis is that we are not necessarily attempting to extract the full depreciation value of the asset prior to surplus. Rather, we are using the intersecting point of depreciated value versus annual operating cost as a trigger point to evaluate whether or not surplus value of the vehicle at that time will return the highest and best value to the taxpayer.

At the beginning of budget discussions, the Operations Director meets with the police department to review the fleet replacement schedule and determine which vehicles will need to be replaced in the upcoming budget. The addition of new vehicles for any new FTE's is also discussed and budgeted. The final decision for ordering a vehicle is made by the Deputy Chief of Police.

VEHICLE TYPES

The question has been posed "Why does HPD drive F-150's?" The answer is multi-faceted. First and foremost, the incorporated area of Herriman City includes the large open space in the urban interface of the south mountain. This area, which is rugged and remote in many places, creates unique public safety challenges for access and response. From wildfires to illegal hunting and other public safety issues, the geography of the urban interface area resulted long ago in the decision to implement 4WD vehicles for police officers in Herriman. In evaluating available 4WD vehicles, the primary concern when considering the urban interface area is off-road capability. A primary driver of off-road capability is the ground clearance of the vehicle. As noted in Annex III, the Ford Expeditions and Ford F-150's currently in use

by HPD have a higher standard ground clearance rating than other vehicles within their class, and pickup trucks in general have a higher ground clearance rating than other types of 4WD vehicles. Current HPD officers who worked in Herriman prior to the creation of HPD and drove other types of 4WD vehicles have recounted poor experiences during off-road operations due to ground clearance issues.

In evaluating vehicle types, vehicle resale valuation becomes relevant. As government entities, we have a statutory obligation to return the highest and best value to the taxpayers upon surplus. Utilizing MotorTrend's online tool, the resale value after five years for the Ford F-150 is at least 7% higher than the closest SUV rating and 9% higher than the closest sedan rating. MotorTrend also rates the F-150 resale value higher than both the Chevrolet Silverado and the Ram 1500. However, JD Power rates both the Silverado and the Ram higher than the F-150 (Annex IV). Although the F-150 held the top spot for resale value among light duty pickup trucks for many years, the landscape may be shifting and merits additional evaluation moving forward.

The class of light duty truck to which the F-150 belongs consistently brings a higher return on the taxpayers' investment through surplus over other classes of vehicles such as SUV's and sedans (Annex V). However, when considering the lower initial purchase price and reduced upfit costs as will be discussed below, there is an argument that could be made for purchasing an SUV rather than a pickup for administrators, detectives, and other positions that do not necessarily need to have off-road response capabilities all the time. Most major manufacturers are moving away from sedans as a police package.

Furthermore, the purchase of stock models such as the XLT or STX F-150 has distinct advantages over the police packages of those same vehicles. Every auto manufacturer has a law enforcement package available for each popular vehicle model. In addition to pursuit ratings, the benefit to these police package vehicles comes in several purpose-built features, which can include additional safety features such as cameras and integrated technology, pre-installed operational features such as dark modes and key-free idle systems, and factory-installed ballistic protections. In our operations, the type of enforcement action taken by HPD officers rarely calls for performance capabilities beyond what the stock model vehicle can offer. Additionally, police package vehicles on average return less value upon surplus than stock models as there is a significantly smaller market demand for surplus police package vehicles (Annex VI).

Every year, the Michigan State Police Department conducts a series of road tests published as the Police Vehicle Evaluation. These tests are used as an industry standard to compare different types and models of commonly used police vehicles. Many assessments are done both by comparing manufacturer specifications and conducting live driving operations. Areas evaluated include acceleration and top speed, braking, fuel economy, ergonomics, performance, and safety features. The model year 2023 Police Vehicle Evaluation included the Chevrolet Tahoe, Chevrolet Silverado, Dodge Durango, Ford Interceptor Utility, and Ford F-150 Police Responder, among others. Currently, Ford is the only manufacturer that mandates a 75MPH rear-impact crash test rating for its police vehicles. Test results for the various vehicle types for the 2023 model year can be viewed in Annex VII as well as the full MSP report available online. These tests indicate that the Ford F-150 is a logical selection for police operations in Herriman City.

PURCHASING

Up until FY2022, fleet purchasing in Herriman City for most vehicles was done using a three-year lease option through our partner financial institution. The loan for the full value of the vehicle was shown as

capital revenue and there was an exact corresponding expense for the payment to the dealership in the same budget. Then that loan was amortized over three separate payments, and after three years, the vehicle would become a capitalized asset owned by Herriman City. This allowed the city to purchase capitalized vehicles without having to expend available cashflow. As the city has grown, the issue of cashflow has become less prohibitive in capital purchasing. Beginning with FY2023, police fleet vehicles have been capitalized and purchased outright without the involvement of a financial lender.

When ordering fleet vehicles, major dealerships in Utah provide state contract pricing for vehicles. It is important to note that the state contract price is a percentage calculated using the base MSRP of each vehicle and can fluctuate depending on model, style, trim, or additional features added. For example, each police F-150 is ordered with an onboard 400-watt power outlet to assist with the additional power demands of the upfit package. The addition of the 3.5L V6 EcoBoost motor alone adds approximately \$3000 to the base MSRP. Automobile manufacturers also create “ordering banks” for fleet vehicles every year, meaning that they designate a certain percentage of a vehicle model that they will allow to be sold to fleet purchasers, and the balance goes to retail sales. Once the total number of fleet orders exceeds the allotted “bank,” no further fleet orders for that model year are accepted. To receive the state contract pricing, orders must be done through the fleet bank and not the dealership’s retail side. This is another reason why changing makes may be difficult. If HPD were to decide to move to Ram or Chevrolet, both have indicated that new customers will be placed at the bottom of the priority list for fleet orders due to the current supply chain issues and manufacturing delays. Since we already have a pre-existing and long-standing relationship with our Ford dealership, we receive priority status on most of our fleet orders.

In the wake of the COVID-19 pandemic, the decision was made in FY2021 to not purchase police vehicles. The resulting “fleet creep” caused a higher number of vehicles to be purchased in FY2022. Additionally, due to concerns surrounding significantly long wait times on fleet orders and supply chain challenges resulting from the pandemic, the City Council approved the advance ordering of FY2024 police F-150’s with the FY2023 order. These vehicles, although ordered separately, arrived together with the FY2023 vehicles and the city elected not to refuse possession of them for fear that additional vehicles would not become available. This resulted in the Council approving the expenditure of fleet funds in FY2023 that were originally approved for FY2024 as part of the biennial budget.

In response to the significant cost of capitalized fleet assets, many government agencies have adopted lease options with private corporations, who own and facilitate the rotation of vehicles on a contractual basis. Essentially, the private company purchases a vehicle and upfits based on the agency’s specifications. A “residual value” is calculated based on the expected surplus value of the vehicle following the expiration of the lease term (usually 1-3 years). The residual value is the difference between the initial purchase and upfit cost and the surplus value of the vehicle. This residual value is then divided over the term of the lease and an annual payment per vehicle is calculated. The agency pays only the annual lease cost for the vehicle, resulting in potential reductions in annual fleet expenditure.

The major drawback to lease programs for public safety is that the assets are not owned by the agency. Should the private company suffer some sort of catastrophic event, the assets could become subject to repossession and/or other court action beyond the city’s control. Although the lease programs usually result in lower annual expenditures (up to approximately \$11,000 per year per vehicle), the department would be making that payment on every leased vehicle, every year. Once a capitalized vehicle is paid for, no additional annual payments are necessary. There is certainly an articulable financial benefit to lease programs, but the decision to adopt leasing should be deliberate and informed.

The city's Finance Director has begun establishing capital fleet funds for vehicle replacement, allowing the department to allocate money in each annual budget for fleet replacement, regardless of whether vehicles are purchased in that budget year or not. This will reduce one-time costs during years when a higher number of vehicles need to be replaced.

The primary driver of capital fleet increases over the last few years has been substantial changes in the market. Since FY2018, we have seen a 49% increase in patrol vehicle cost and a 44% increase in detective vehicle cost, without any substantial changes to the build package or vehicle trim and features (Annex VIII). Although the data we have is from Ford, supply chain issues were global in nature, and in our discussions with neighboring cities, the same significant price increases were seen across other manufacturers as well. In some cases, bulk fleet orders were simply cancelled by the manufacturer.

UPFITTING

The purchase price of a vehicle is only part of the total vehicle cost. As indicated previously, each police vehicle has an associated upfit package that includes several equipment items necessary for contemporary policing. The police radio, prisoner cage, wiring harnesses for additional power needs, emergency lights and sirens, storage compartments, video cameras, printer, vehicle wrap, and many other items are included as part of this upfit package. Differences in upfit packages exist depending on the use of the vehicle. The standard patrol build package is the most extensive, with upfits for detectives and administrative vehicles being simpler and less expensive. The equipment in the upfit packages has also not been immune from recent market inflation, particularly for electronic items such as radios and cameras (Annex VIII).

As mentioned in the Michigan State Police report, vehicle ergonomics is a significant concern for today's police officers. We ask them to spend several hours on end operating out of their assigned vehicle, and elements of the upfit packages are directly tied to ergonomics, officer comfort, and officer safety. These concerns have become prevalent enough that they are included every year in the MSP vehicle evaluation.

The evolution of technology has had significant impacts on police vehicle upfitting in recent years. Historically, police vehicles needed little more than emergency lights and sirens and a police radio. We now utilize automated vehicle locating GPS devices for officer safety. We have computers and printers in every vehicle (due in part to statewide mandates). Officers carry additional equipment items to be able to properly respond safely and effectively to various emergency situations. These technological advances have wrought great benefits for law enforcement operations and public trust and transparency, but they have also placed additional demands on police vehicles.

Through surplus, we have also begun cycling out vehicle upfit equipment that was acquired through the separation process in 2018. Upfit equipment that was newly purchased by HPD in 2018 is now being re-installed in new vehicles. We should see reductions in vehicle upfit costs in the future as equipment items are able to be re-used through multiple vehicle replacement cycles (Annex IX). Upfit equipment is a primary factor when considering changing the make or type of vehicle purchased as upfit equipment is built specific to the make and model of vehicle in which it is to be installed. If the department were to change the make, model, or type of vehicle used by officers, it would eliminate the cost savings of re-using certain upfit equipment items. Considerations for changes can and should be made in the future, but in order to maximize the efficient use of taxpayer dollars, potential changes should be carefully timed, ideally following two or three cycles when upfit equipment items would need to be replaced anyway. The majority of upfit equipment items owned by HPD are currently still in their first cycle of use.

OPERATION

Manufacturer specifications and intended uses are only half of the equation. Once a vehicle is purchased and upfitted, the actual operation and use of the vehicle has major implications on surplus and replacement decisions.

One of the primary costs during operation is that of ongoing vehicle maintenance. Although all new vehicles have a manufacturer warranty period, many small repairs are done once the vehicle warranty expires or for items not covered by the manufacturer warranty (such as issues with upfit equipment items). Herriman City fleet mechanics have extensive experience in these types of repairs and provide tremendous service to the police department. When these questions were discussed with them, they indicated they are willing to accommodate whatever direction the city decides is best, but they did express some concerns. For one, having a mixed fleet or adding different types of vehicles would require additional training, software, and certification for our mechanics. They are very familiar with the “quirks” of our Ford F-150’s and it would take some time to get used to new issues with different makes/models. Also, the currently available warehouse space is stocked with Ford parts and if additional parts were required, storage would become a concern. Having all repairs done by the dealership typically results in higher costs and delayed repair time, even for warranty repairs.

Extended warranties may be considered as a response to maintenance concerns. A comprehensive extended warranty for the anticipated replacement cycle of our Ford F-150’s is estimated at \$2500 - \$3500 per vehicle (Annex X). Adding this additional amount to the cost of a new police vehicle and extending the replacement cycle is something that should be considered. However, when the Operations Director reached out to other fleet managers in the area, none of the three larger cities in the county that responded to the inquiry are currently purchasing extended vehicle warranties, and the common consensus was that the cost of the warranty was not worth the reduction in the vehicle’s surplus value caused by keeping the vehicle longer (Annex XI).

Historically, fleet managers have tracked vehicle mileage as the key indicator for scheduling maintenance and evaluating the life cycle of a fleet vehicle. As technology has evolved, we have found that tracking both total engine hours and engine idle hours in addition to miles driven has provided a much more accurate picture of how the vehicle is being used. Police vehicles typically see a higher percentage of idle hours than other types of fleet vehicles. The industry standard indicates that one idle hour is equivalent to approximately 30 miles driven. A police vehicle with 60,000 miles but an additional 1,000 hours of idle time over that same life cycle should actually be assessed as a vehicle with 90,000 miles in terms of wear on the engine and components.

Fuel is another market-driven cost factor that is outside the city’s control. Over the past few years, we’ve seen significant increases in fuel prices that have ultimately resulted in budget amendments. Although anticipating fuel cost is a challenge, we have taken steps to mitigate the potential effects of higher-than-average fuel price increases. In March of 2022, when fuel prices surpassed \$4.00 per gallon for the first time since 2011, HPD Command Staff issued a special order regarding fuel usage, vehicle idling, and public perception of excessive fuel consumption, indicating that vehicle idling should only occur in necessary circumstances and directing HPD supervisors to monitor their employees’ fuel usage. A multi-stage plan was developed to impose additional vehicle use restrictions should fuel prices exceed certain benchmark points. Although fuel prices remain unusually high, they stabilized enough that the additional restrictions were not implemented but remain available for the future if needed.

Related to fuel is the use of the police vehicle by members while off duty. Since 2018, HPD has maintained a permissible use policy allowing members to drive their assigned police vehicle while off-duty. There are limitations on use, transportation, and passengers which serve to preserve the intended public use of the vehicle for public safety. Members must also carry with them the equipment necessary to respond to an emergency, and they are expected to do so when operating an HPD vehicle. In addition to this policy serving as a “fringe benefit” and a recruitment tool, there are articulable benefits to the city as well. For one, there are a number of HPD employees who reside in Herriman City. Their off-duty use of an HPD vehicle provides a greater number of available response personnel for emergencies, both in Herriman and in our surrounding communities. Several HPD members also have secondary assignments for SWAT, major crash team, and others that frequently require a callback to duty. Permitting our members to use their police vehicles off-duty reduces their response time during callback. Restricting off-duty use of the vehicle is/was part of the above-mentioned plan to mitigate rising fuel costs.

Police departments in some other areas of the country (mainly the east and west coast) do not maintain assigned vehicles. Rather, they use pooled vehicles, meaning that the vehicle is assigned to the unit by purpose and runs 24/7. Officers change in and out of the vehicle daily, referred to by many as “hot seating.” The benefit to this type of system is that it requires fewer vehicles in the fleet to accomplish the service demands. However, vehicles that run constantly tend to deteriorate much faster and would require more frequent cycling. Every department that we are aware of in Utah assigns vehicles per employee. Pooling vehicles remains an option in any case but would be a significant departure from the industry standard across the intermountain west and would have employee impacts.

In addition to having an assigned vehicle for each member, police fleet operations require us to maintain a certain number of pooled vehicles, which we refer to as “line units.” Because of our obligation to respond to 911 calls and preserve staffing requirements, when a vehicle is in need of repair, the officer drives the line unit while his/her vehicle is down. The industry standard is to carry one line unit for every ten assigned vehicles in a police fleet. HPD maintains a minimum of five line units at any one time. The line units are typically older vehicles that are soon due for replacement.

One evolving area of police fleet operations is the use of hybrid and electric vehicles. Although the MSP test has included hybrid vehicles in the past, 2022 was the first year an electric vehicle was tested and pursuit rated (Ford Mustang Mach-E). Although this technology is rapidly advancing, it has not yet been proved entirely effective for policing. For example, EV’s on the market currently will not allow the officer to turn off the headlights while driving, making stealth approaches on some calls difficult. Many police departments have incorporated EV’s into their fleet chasing fuel savings or by legislative mandates, but some have experienced significant increases to upfitting costs and installation of charging stations. Assigned vehicles also complicate the use of EV’s as the question of charging the vehicle at the officer’s home must be considered. EV’s are now being tested and evaluated constantly across the country and undoubtedly will have an impact on future fleet operations. The general consensus at this time is that they may be a good option for administrators or detectives, but not as the sole patrol vehicle.

ANALYTICS

As technology has evolved, so has our ability to monitor the use and needs of our fleet vehicles. Ford recently released a new database system called Ford Telematics, which we are currently piloting in addition to the newly purchased fleet software system. While most major manufacturers have developed mobile apps to track your vehicle’s basic security and service needs, Ford Telematics was developed

specifically for fleet managers to track multiple vehicles simultaneously. Telematics allows us to remotely monitor engine hours and idle time in addition to fuel usage and regular miles. The system will generate alerts whenever a vehicle throws a code, allowing managers to schedule maintenance in advance instead of waiting for the driver to notify us that a warning occurred. Additionally, being able to monitor usage and driving habits may result in us transferring vehicles from one employee to another in order to balance out a vehicle with others that were purchased at the same time. For example, if we have an officer that lives in Herriman and one that lives in Spanish Fork, one vehicle will inevitably be driven more than the other over the same period of time. At some point during the vehicle's life cycle, we may choose to switch those two vehicles, balancing the miles driven and allowing us to better anticipate the surplus timing of both vehicles.

Fleet purchasing and surplus decisions in the past have been based on generalizations of use that have resulted in industry standards and assumptions. Using analytics and data tools in the future will allow us to make decisions based on an individual vehicle's history and performance and achieve a greater use benefit for the taxpayers' investment.

RECOMMENDATIONS

- Capitalized purchasing should still be the primary method for acquiring police fleet vehicles, with the use of the new capital fleet fund.
- HPD should continue to purchase the Ford F-150 as the standard marked vehicle for uniformed patrol and other call-response based units. However, this analysis should be updated, at least every two years, to ensure that the type/make/model of vehicle purchased meets industry standards for capability, operation, and officer safety, and continues to provide a justifiable return on investment for Herriman City taxpayers.
- Beginning in FY2025, consideration should be made for purchasing other vehicle types (Ford Explorer SUV or similar) for detectives, Command Staff, and other areas of HPD operations not directly tied to first-line emergency response.
- Total engine hours and engine idle hours should be accounted for and identified in future fleet surplus requests.
- Beginning in FY2024, a vehicle-by-vehicle analysis should be done for newly purchased vehicles to consider adding a multi-year extended warranty to help balance the immediate budgetary needs of the department.

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ANNEX I

GSA Minimum Replacement Standards 2022



Minimum Vehicle Replacement Standard

Passenger Vehicles

Gas or AFV	Replace in 5 years or 60,000 miles
Hybrid / Electric	Replace in 5 years and 60,000 miles OR 7 years and any miles OR any years and 85,000 miles

Light Trucks 4x2/4x4

Non-diesel	Replace in 7 years or 65,000 miles
Diesel	Replace in 8 years or 150,000 miles
Hybrid / Electric	Replace in 7 years or 90,000 miles

Medium Trucks 4x2/4x4

Non-diesel	Replace in 10 years or 100,000 miles
Diesel	Replace in 10 years or 150,000 miles

Heavy Trucks (4x2/4x4/6x4/6x6)

Non-diesel	Replace in 12 years or 100,000 miles
Diesel	Replace in 12 years or 250,000 miles

Ambulances

Non-diesel	Replace in 7 years or 70,000 miles
Diesel	Replace in 7 years or 100,000 miles

Buses

Conventional School and Adult Work Buses	Replace in 10 years or 250,000 miles
Light Duty Shuttle	Replace in 7 years or 100,000 miles
Medium Duty	Replace in 8 years or 150,000 miles
Heavy Duty Shuttle	Replace in 20 years or 1,000,000 miles
Intercity Coach	Replace in 15 years or 1,000,000 miles

ANNEX II

Herriman City Fleet Replacement Schedule Example

Replacement Analysis																	
	7/30/20																
		Driver	Department	Year	Avg Miles	Mileage	Service	Reliability	M&R Costs	Condition	Total	2019	2020	2021	2022	2023	2024
HPD100	Ford F-150		HPD PATROL	2018		31,379	5	1		1	12	7	12	15	18		
HPD101	Ford F-150		HPD PATROL	2018		15,099	5	1		1	10	7	10	15	18		
HPD102	Ford F-150		HPD PATROL	2018		26,861	5	1		1	11	7	11	15	18		
HPD103	Ford F-150		HPD PATROL	2018		24,710	5	1		1	11	7	11	15	18		
HPD104	Expedition		HPD ADMIN	2016	14,142	55,044	4	2		1	16	12	16	19			
HPD105	Ford F-150		HPD PATROL	2016		51,431	5	2		2	18	15	18				
HPD106	Ford F-150		HPD PATROL	2014	8,999	89,602	5	3		2	25	18					
HPD107	Ford F-150		HPD PATROL	2016	15,681	62,074	5	2		2	19	14	19				
HPD108	Ford F-150		HPD DET.	2018		28,799	5	1		1	12	9	12	17			
HPD109	Ford F-150		HPD PATROL	2018		19,694	5	1		1	11	9	11	13	17		
HPD110	Expedition		HPD ADMIN	2018		21,868	4	1		1	10	8	10	15	18	21	
HPD111	Expedition		HPD ADMIN	2018		33,550	4	1		1	11	8	11	15	18	21	
HPD112	Expedition		HPD ADMIN	2018		9,830	4	1		1	9	8	9	15	18	21	
HPD113	Expedition		HPD K9	2018		26,861	5	1		1	11	9	11	17	20		
HPD114	Expedition		HPD K9	2018		20,010	5	1		1	11	9	11	17	20		
HPD115	Ford F-150		HPD UM	2016	23,182	63,185	5	2		2	19	16	19				
HPD116	Ford F-150		HPD DET.	2017	21,845	36,379	5	1		2	14	11	14	18			
HPD117	Ford F-150		HPD PATROL	2014	12,000	58,174	5	3		2	22	19					
HPD118	Ford F-150		HPD DET.	2014	17,249	74,973	5	3		3	24	21					
HPD119	Expedition		HPD UM	2015	16,000	56,578	5	3		3	21	19					
HPD120	Ford F-150		HPD PATROL	2015	18,800	73,364	5	3		2	22	19					
HPD121	Ford F-150		HPD PATROL	2016	25,230	75,852	5	2		2	20	16	20				
HPD122	Ford F-150		Animal Services	2016	21,115	59,428	5	2		2	19	15	19				
HPD123	Ford F-150		HPD PATROL	2016	19,182	55,507	5	2		2	18	15	18				
HPD124	Ford F-150		HPD PATROL	2016	20,281	67,003	5	2		2	19	15	19				
HPD125	Ford F-150		HPD PATROL	2016	22,317	66,466	5	2		2	19	15	19				

ANNEX III

2023 Vehicle Ground Clearance

Type	Make	Model	Min. Ground Clearance
SUV	Ford	Expedition	9.7 inches
Truck	Ford	F-150	9.4 inches
Truck	Chevrolet	Silverado 1500 Z71	9.2 inches
Truck	Ram	1500	8.3 inches
SUV	Dodge	Durango	8.1 inches
SUV	Ford	Explorer	7.9 inches
SUV	Chevrolet	Tahoe	7.9 inches
SUV	Ford	Interceptor Utility	7.2 inches
Sedan	Ford	Interceptor	7.2 inches
Sedan	Toyota	Camry	5.7 inches
Sedan	Dodge	Charger	5.1 inches

Sources: <https://CarandDriver.com>
<https://www.Edmunds.com>

Michigan State Police Model Year 2023 Police Vehicle Evaluation Report

ANNEX IV

MotorTrend Resale Value @ 5 Years

Ford F-150	64%
Chevrolet Silverado 1500	63%
Dodge Ram 1500	58%
Chevrolet Tahoe	57%
Dodge Durango	55%
Toyota Camry	55%
Ford Expedition	54%
Chevrolet Malibu	53%
Ford Explorer	51%
Ford Taurus	51%

JD Power Resale Ratings

	2023	2018
Chevrolet Tahoe	88	85
Chevrolet Silverado 1500	87	94
Dodge Ram 1500	84	91
Ford Explorer	82	76
Ford Expedition	82	88
Ford F-150	81	89
Dodge Durango	79	72

Ford F-150 Resale Depreciation

	Age in Years	Auction Value	Depreciation	KBB Value	Depreciation
2022	1	-	-	\$46,148	-
2021	2	-	-	\$41,565	11.0%
2020	3	-	-	\$36,295	14.5%
2019	4	-	-	\$32,215	12.7%
2018	5	\$23,500	-	\$29,843	7.9%
2017	6	\$20,000	17.5%	\$25,594	16.6%
2016	7	\$19,500	2.6%	\$23,428	9.2%
2015	8	\$18,750	4.0%	\$20,171	16.1%
2014	9	\$14,200	32.0%	\$15,887	27.0%
2013	10	\$11,100	27.9%	\$14,280	11.3%

*85,000 to 95,000 miles
or 12,000 miles per year

ANNEX V

TNT Auction Best Value 2022-2023

Model Year	2018	2017	2016	2015	2014	2013
Top Selling Vehicle	Ford F-150	Ford F-150	Ford F-150	Ford F-150	Ford F-150	Chevrolet 1500
Highest Value Truck	Ford F-150	Ford F-150	Ford F-150	Ford F-150	Ford F-150	Chevrolet 1500
HV Truck Mileage	53,139	62,962	65,117	85,860	95,104	58,350
HV Truck Value	\$26,500	\$28,000	\$23,500	\$18,750	\$14,200	\$16,750
Highest Value SUV	Chevrolet Traverse	Ford Explorer	Ford Explorer	Ford Interceptor SUV	Ford Explorer	Ford Explorer
HV SUV Mileage	68,802	113,048	87,069	113,357	90,778	126,469
HV SUV Value	\$17,250	\$15,250	\$15,000	\$7,400	\$13,100	\$11,100
Highest Value Sedan	N/A	N/A	Ford Taurus	Ford Taurus	Ford Interceptor Sedan	Ford Interceptor Sedan
HV Sedan Mileage	N/A	N/A	78,408	73,620	74,850	63,644
HV Sedan Value	N/A	N/A	\$9,400	\$8,800	\$9,800	\$7,600

Average Value Increase Truck over SUV 50.6%

Average Value Increase Truck over Sedan 107.1%

ANNEX VI

TNT Auction Stock Model vs. Police Package 2022-2023

Model Year	2017	2016	2015	2014	2013
Stock Truck Value	\$28,000	\$23,500	\$18,750	\$14,200	\$13,600
Stock Truck Mileage	62,962	65,117	85,860	95,104	118,169
Police Truck Value	N/A	N/A	N/A	N/A	N/A
Police Truck Mileage	N/A	N/A	N/A	N/A	N/A
Stock SUV Value	\$15,250	\$15,000	N/A	\$13,100	\$11,100
Stock SUV Mileage	113,048	87,069	N/A	90,778	126,469
Police SUV Value	\$13,700	\$10,900	\$7,400	\$1,850	N/A
Police SUV Mileage	75,265	78,963	113,357	133,874	N/A
Stock Sedan Value	N/A	\$9,400	\$8,800	N/A	\$7,400
Stock Sedan Mileage	N/A	78,408	73,620	N/A	78,330
Police Sedan Value	N/A	\$5,600	\$7,800	\$9,800	\$7,600
Police Sedan Mileage	N/A	121,177	99,560	74,850	63,644

*Manufacturers introduced police-model pickup trucks after 2019

ANNEX VII

MICHIGAN STATE POLICE

2023 Model Year Police Vehicle Evaluation Program

	Chevrolet Tahoe 5.3L 4WD	Chevrolet Silverado Z71 4WD	Dodge Durango 5.7L AWD	Ford Police Interceptor Utility 3.0L EcoBoost AWD	Ford F150 Police Responder 3.5L EcoBoost
Horsepower	355	355	360	400	400
Torque	383 ft/lbs.	383 ft/lbs.	390 ft/lbs.	415 ft/lbs.	500 ft/lbs.
Turning Radius	19.5 ft	23.2 ft	41.0 ft	40.4 ft	47.8 ft
Ground Clearance	7.1 inches	9.2 inches	8.1 inches	7.2 inches	9.4 inches
Trunk Volume	70.3 ft ³	62.9 ft ³	43.3 ft ³	52.0 ft ³	52.8 ft ³
Max Payload	1600 lbs.	1850 lbs.	1700 lbs.	1670 lbs.	2030 lbs.
EPA MPG (Combined)	16	15	17	19	18
Top Speed	124 mph	112 mph	130 mph	148 mph	120 mph
Average Deceleration Rate	29.76 ft/s ²	27.58 ft/s ²	28.12 ft/s ²	29.44 ft/s ²	23.87 ft/s ²
Average Stopping Distance from 60mph	130.1 ft	140.4 ft	137.7 ft	131.5 ft	162.2 ft
Total Ergonomics Score	8.33	8.16	7.92	7.87	8.40
Standard Off-Road Shocks/Skid Plates	No	Yes	No	No	Yes

Green Highlight = Best Score in Category

Red Highlight = Worst Score in Category

ANNEX VIII

HPD Fleet Cost Table FY2018-FY2023

POLICE FLEET TOTAL COST FY2018-FY2023

	FY2018	% over prior year	FY2019	% over prior year	FY2020	% over prior year	FY2021*	% over prior year	FY2022	% over prior year	FY2023	% over prior year	Total % Increase 2019-2023
Ford F-150 Patrol													
Purchase Price (State Contract)	\$ 33,117.59	-	\$ 33,604.68	1.47%	\$ 39,842.22	18.56%	-	-	\$ 46,224.75	16.02%	\$ 49,756.37	7.64%	48.06%
Upfit Cost	\$ 17,217.00	-	\$ 18,869.84	9.60%	\$ 20,692.12	9.66%	-	-	\$ 24,369.38	17.77%	\$ 28,861.13	18.43%	52.95%
TOTAL F-150 Patrol	\$ 50,334.59	-	\$ 52,474.52	4.25%	\$ 60,534.34	15.36%	-	-	\$ 70,594.13	16.62%	\$ 78,617.50	11.37%	49.82%
Ford F-150 Detective													
Purchase Price (State Contract)	-	-	\$ 33,604.68	-	\$ 39,837.22	18.55%	-	-	\$ 46,224.75	16.03%	\$ 49,076.37	6.17%	46.04%
Upfit Cost	-	-	\$ 13,532.90	-	\$ 15,096.74	11.56%	-	-	\$ 16,897.00	11.92%	\$ 19,076.27	12.90%	40.96%
TOTAL F-150 Detective	-	-	\$ 47,137.58	-	\$ 54,933.96	16.54%	-	-	\$ 63,121.75	14.90%	\$ 68,152.64	7.97%	44.58%
Ford Expedition SSV (K9)													
Purchase Price (State Contract)	-	-	\$ 38,350.64	-	\$ 40,105.01	4.57%	-	-	-	-	\$ 49,665.84	23.84%	29.50%
Upfit Cost	-	-	\$ 21,336.75	-	\$ 23,925.61	12.13%	-	-	-	-	\$ 26,536.41	10.91%	24.37%
TOTAL Expedition SSV	-	-	\$ 59,687.39	-	\$ 64,030.62	7.28%	-	-	-	-	\$ 76,202.25	19.01%	27.67%
Ford Expedition Admin													
Purchase Price (State Contract)	-	-	\$ 58,295.38	-	-	-	-	-	\$ 55,097.39	-5.49%	\$ 60,607.13	10.00%	3.97%
Upfit Cost	-	-	\$ 9,254.10	-	-	-	-	-	\$ 12,225.80	32.11%	\$ 14,626.00	19.63%	58.05%
TOTAL Expedition Admin	-	-	\$ 67,549.48	-	-	-	-	-	\$ 67,323.19	-0.33%	\$ 75,233.13	11.75%	11.37%

*No vehicles purchased in FY2021

ANNEX IX

Model Year 2024 Vehicle Purchase and Upfit Cost Comparison

Year	Vehicle	State Contract Purchase Price	Police Radio	Prisoner System	Vehicle Wrap	Truck Shell	Additional Upfit	Total Cost
2024	Ford F-150 XLT	\$51,883	\$3,579	\$1,324	\$2,332	\$2,054	\$19,571	\$80,743
2024	Ford F-150 STX	\$48,503	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$77,292
2024	Ford F-150 Lariat	\$60,675	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$89,464
2024	Ram Tradesman	\$49,887	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$78,676
2024	Ram Bighorn	\$56,443	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$85,232
2024	Ram Laramie	\$62,984	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$91,773
2024	Silverado Trailboss	\$51,309	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$80,098
2024	Silverado LT	\$54,417	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$83,206
2024	Silverado LTZ	\$60,573	\$3,579	\$1,324	\$2,332	\$2,054	\$19,500	\$89,362
2024	Chevrolet Tahoe	\$51,859	\$3,579	\$1,324	\$2,500	\$0	\$20,500	\$79,762
2024	Ford Explorer	\$48,824	\$3,579	\$1,324	\$1,900	\$0	\$20,500	\$76,127

Components Used in Multiple Vehicle Cycles:

Truck Shell*	\$2,054
Police Radio	\$3,579
Prisoner System*	\$1,324
Cargo Storage System	\$2,600
Control Console	\$765
Laptop Mount	\$650
Push Bumper*	\$1,020
	\$11,992

*Some components are subject to changes in body style/dimensions

ANNEX X

Ford PremiumCare Warranty Information

Model: **2023 FORD F-150 SUPER CREW
STYLESIDE 4X4**

Vehicle ZIP Code: **84096**

Ownership Until: **2028**

VIN: **1FTFW1E89PFA31719**

Odometer: **1500**

Snowplow: **No**

My Car Is: **Purchased**

Avg Miles Per Year: **12000**

Commercial: **Yes**

BASED ON YOUR DRIVING HABITS, FORD RECOMMENDS THE FOLLOWING SELECTIONS:

Coverage depends upon whether selected year or mileage is reached first.

Coverage until

OR

Odometer reads

Deductible

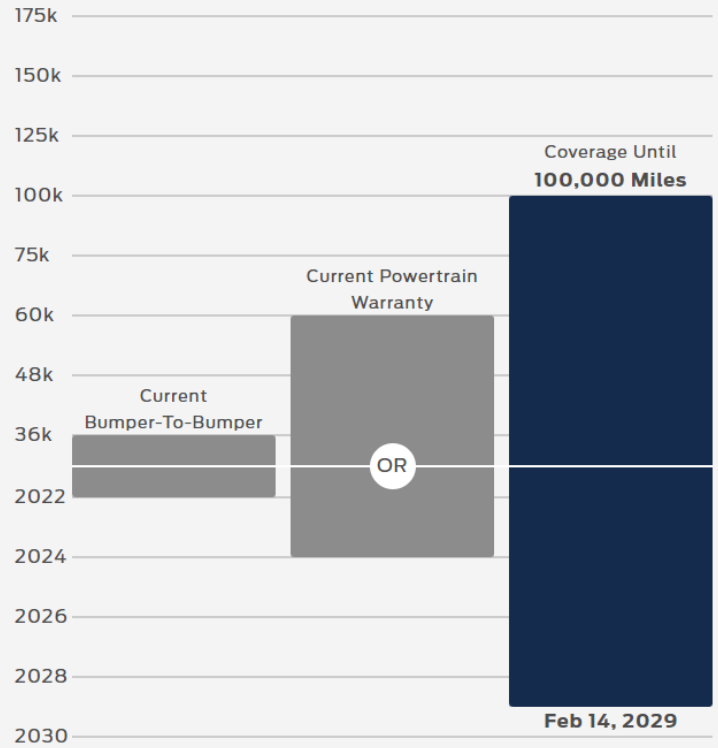
Financed over



Total

Your payment will be
\$3,233.59 total
(includes \$218.59 in
estimated taxes)

Purchase This Plan



ANNEX XI

The Operations Director reached out informally to area fleet managers to inquire about their general police fleet practices. Responses were received from a few of the larger cities in the county. Below is a summary of the information received.

WEST JORDAN CITY

- 25% Ford Explorers; 75% Ford F-150 (now ordering the F-150 Police Responder)
- Not purchasing Extended Warranties
- F-150 Police Responder
 - Better visibility compared to a small SUV
 - Better in deep snow
 - Can be left idling without key but cannot be driven
 - Responder has higher top speed than stock F-150
 - Better off-road capability
- Explorer Police Interceptor Utility (SUV)
 - 75MPH rear crash rated
 - Rear vehicle approach warning system
 - Fits in smaller parking spaces than an F-150
- After upfitting, WJ pays approximately \$1000 - \$1500 more for an Explorer than an F-150

SOUTH JORDAN CITY

- Dodge Charger & Ford F-150 (Dodge is dropping the Charger – SJ going to all F-150's)
- Not purchasing Extended Warranties
- F-150 XL is approximately \$10,000 more than the Charger 5.7L AWD

DRAPER CITY

- Ford F-150 STX & Ford Explorers
- Not purchasing Extended Warranties
- F-150 is better in snow; Draper PD had poor response experience with SUV's on bad snow days

SANDY CITY

- Chevrolet Impala & Ford F-150
- Not purchasing Extended Warranties
- Going away from Impalas b/c they aren't reliable & have a high ownership cost
- Switching to F-150 Police Responder & Ford Explorer PIU
- Upfront cost for both is similar, but Explorer is slightly higher
- F-150 Responder
 - Better visibility
 - Better access to bench areas of Sandy during snowstorms
 - F-150 allows for more gear storage compared to SUV's
- Explorer Police Interceptor Utility
 - Better gas mileage than Chevrolet Impala
 - Explorer PIU has a hybrid model option for less idle hour wear
 - Lower cost of ownership over lifecycle than Chevrolet Impala

POLICE SERVICE DEMAND SINCE 2018

HPD

	2018*	% over prior year	2019	% over prior year	2020	% over prior year	2021	% over prior year	2022	% over prior year	2023**	% over prior year	Total % Increase 2019-2023
Total Calls for Service	3679	-	14239	-	16953	19.06%	21209	25.10%	23859	12.49%	27494	15.24%	93.09%
Average CFS per Day	35.62	-	38.99	-	46.10	18.24%	58.02	25.86%	65.14	12.27%	74.38	14.18%	90.77%
Domestic Violence	100	-	400	-	455	13.75%	575	26.37%	657	14.26%	742	12.94%	85.50%
Assault (non DV)	37	-	147	-	162	10.20%	245	51.23%	230	-6.12%	312	35.65%	112.24%
Sex Offenses	23	-	91	-	99	8.79%	150	51.52%	123	-18.00%	166	34.96%	82.42%
Alarm Response	54	-	216	-	446	106.48%	456	2.24%	468	2.63%	374	-20.09%	73.15%
Traffic Violations	723	-	3349	-	1180	-64.77%	1988	68.47%	3985	100.45%	4126	3.54%	23.20%
Traffic Crashes	135	-	543	-	428	-21.18%	660	54.21%	717	8.64%	804	12.13%	48.07%

*3 months of data

**Estimated on 6 months data January - June