## **Citizens' Advisory Committee** Meeting 2 September 19, 2022

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.



## **Welcome from your Superintendent**

Dr. Jamie Wilson Superintendent Denton ISD





## Agenda

- WELCOME
- PROCESS REVIEW
- DEMOGRAPHICS
- FACILITY NEEDS ASSESSMENT
- SAFETY & SECURITY
- TECHNOLOGY & INFRASTRUCTURE
- CLOSING







Collaboration | Communication | Critical Thinking | Creativity

Dr. Lizzy Johnson Facilitator

lizzy@transcend4.com

940.595.0251

## **Charge to Committee**

To help the district plan for the future, the Citizens' Advisory Committee is charged to:

- Assess and prioritize the district's current and long-term facility needs, including, but not limited to:
  - District growth and capacity
  - Building age, safety and condition
  - Land acquisition
  - Evolving educational delivery and programs
  - Energy efficiency and sustainable features
- Develop and prioritize potential projects, including new construction, renovations/additions, technology, and other areas that may arise from community input
- Consider the educational needs of all students and align recommendations with the district's mission, vision and goals
- Represent the entire school district community, values and perceptions, and seek input from other residents
- Consider the district's current financial position and funding methods to develop a recommendation that is fiscally sound
- Make a recommendation to the Board of Trustees that addresses the district's growth and facility needs based on the Committee's identified priorities



## Housekeeping

- All relevant materials and information will be distributed to you as handouts.
- Due to time constraints, no breaks have been scheduled. Please take care of your personal needs on your own.
- The Denton ISD Leadership Team is here to serve you and to be a resource. Ask questions.
- Your attendance at every meeting will help yield optimum results for this committee and your community.





## **Ground Rules**

- Only one speaker at a time
- Respect the person who is speaking
- Listen with a desire to contribute & learn
- Engage in the ENTIRE meeting





## **Q&A Process**

- Each table will discuss the information presented and select one question to ask.
- Unanswered questions or concerns will be placed on the 'parking lot' to be answered later via email or website post.





### **Consensus & Gradients of Agreement Model**

ENDORSEMENT "I like it."	ENDORSEMENT WITH A MINOR POINT OF CONTENTION "Basically, I like it."	AGREEMENT WITH RESERVATIONS "I can live with it."	ABSTAIN "I have no opinion."	STAND ASIDE "I don't like this, but I don't want to hold up the group."	FORMAL DISAGREEMENT, BUT WILLING TO GO WITH THE MAJORITY "I want my disagreement noted in writing, but I'll support the decision."	FORMAL DISAGREEMENT, WITH REQUEST TO BE ABSOLVED OF RESPONSIBILITY "I don't want to stop anyone else, but I don't want to be involved in implementing it."	BLOCK "I veto this proposal."

This scale makes it easier for participants to be honest. Using it, members can register less-than-whole hearted support without fearing that their statement will be interpreted as a veto.

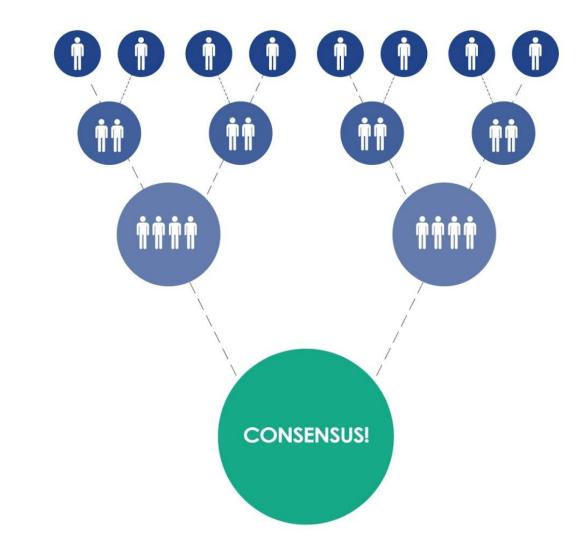


### **Dynamics of Group Decision-Making**





### **Consensus Building Model**





## **Meeting Overview**

#### Meeting #1

Process, timeline, vision, end goal Charge from Board of Trustees School Finance 101 Overview of 2018 Bond Projects

#### Meeting #2

Demographic Report Facility Needs Assessment Safety & Security Technology & Infrastructure

#### Meeting #3

Athletics Child Nutrition & Transportation CTE & Fine Arts Video Facility Tours

#### Meeting #4

Land Overview Project Priority Presentation Priority Worksheet

#### Meeting #5

Financial Advisor Presentation Priority Worksheet and Mock Vote

#### Meeting #6

Bond Package Development with CoVoice SWOT Analysis regarding potential bond



CAC Information Link <a href="https://www.dentonisd.org/cac2022">https://www.dentonisd.org/cac2022</a>

### Construction/2018 Bond Projects Link www.dentonisd.org/construction

l global community.

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.





### Denton Independent School District

2Q22

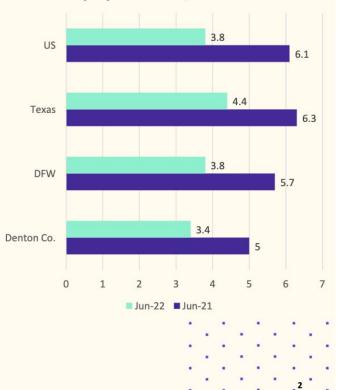
**Demographic Report** 



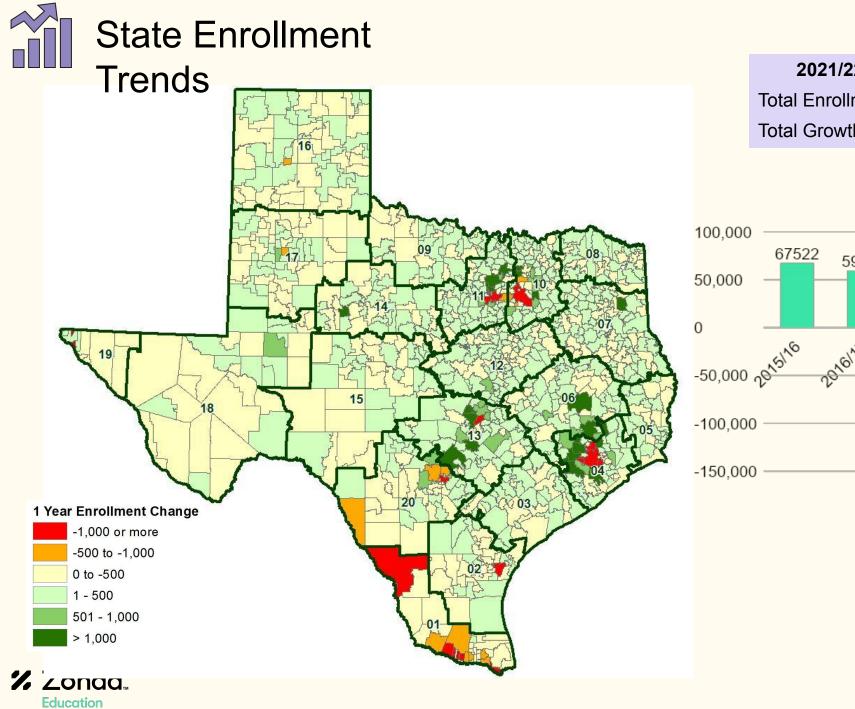
Unemployment Rate, June 2019 – June 2022 14.0 12.0 10.0 8.0 6.0 3.8 4.0 3.2 2.0 0.0 11112 41813 OCT DECT FED & ADL JULY AVE OCT DECT FED J ADL JULY AVE J OCT FED J ADL J IN J -DFW -Texas



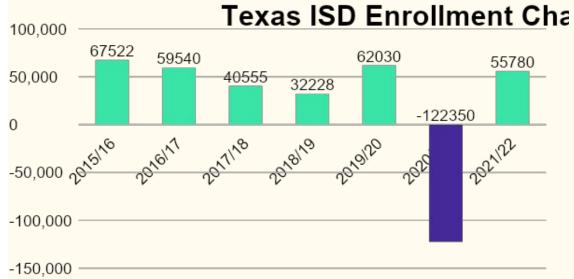
**Unemployment Rate, Year Over Year** 



#### % Zonda.

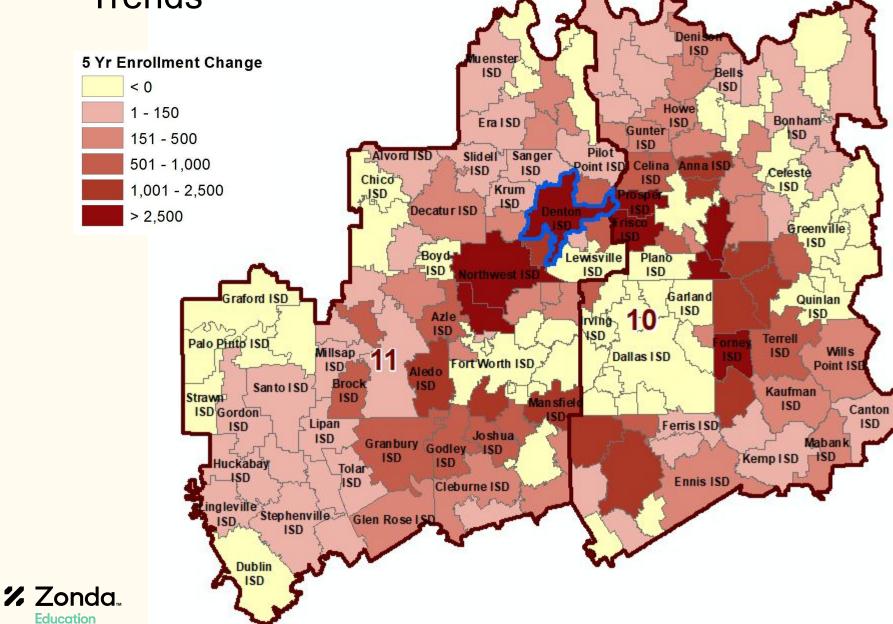


2021/22 Stat	e Enrollment	
otal Enrollment	5,427,370	
otal Growth	55,780	



### Region 10 & 11 Enrollment

Trends



 Denton ISD enrollment increased by 3,323 students between 2016/17 and 2021/22, an increase of 11.6%

 Denton ISD is the second fastest growing district in Region 11



### DFW New Home Ranking Report

ISD Ranked by Annual Closings – 2Q22

Develo	District Norma	Annual	Annual			Frederica	
Rank	District Name	Starts	Closings	Inventory	VDL	Futures	•
1	NORTHWEST ISD	4,519	3,608	2,508	3,040	38,878	
2	DENTON ISD*	3,303	2,834	2,550	3,367	31,645	
3	FORNEY ISD	2,484	2,712	1,109	2,412	30,175	•
4	PROSPER ISD	2,844	2,630	2,323	3,032	21,195	
5	FRISCO ISD	1,590	1,799	1,291	1,339	9,749	
6	DALLAS ISD	2,031	1,614	1,834	2,128	6,257	
7	PRINCETON ISD	2,434	1,557	1,609	1,826	9,571	
8	ROYSE CITY ISD	1,812	1,312	1,348	1,929	8,515	
9	MIDLOTHIAN ISD	1,341	1,157	916	1,037	20,949	
10	CROWLEY ISD	1,334	1,154	796	2,130	16,373	
11	CRANDALL ISD	1,486	1,138	890	1,021	13,856	
12	WAXAHACHIE ISD	1,030	1,072	540	1,172	26,958	
13	LEWISVILLE ISD	1,242	1,015	989	1,208	2,504	1
14	EAGLE MT-SAGINAW ISD	1,225	987	820	2,277	16,479	
15	ROCKWALL ISD	1,411	942	1,214	2,369	8,989	
16	MCKINNEY ISD	1,146	940	883	1,512	14,761	
17	ANNA ISD	1,164	913	732	880	7,162	ر <sub>ک</sub>
18	CELINA ISD	1,330	880	1,035	765	33,549	
19	AUBREY ISD	1,590	841	1,154	680	5,737	//
20	COMMUNITY ISD	1,245	835	895	706	8,679	



\* Based on additional Templeton Demographics housing research \*\*Includes Age-Restricted subdivisions

### 

### District Housing Overview by Elementary Zone

Elementary	Annual Starts	Quarter Starts	Annual Closings	Quarter Closings	Under Construction	Inventory	Vacant Dev. Lots	Futures	· · · ·
ADKINS	28	5	13	9	20	21	23	343	
ALEXANDER	55	13	28	24	77	77	53	338	
BELL	15	0	83	15	9	16	70	0	* * * *
BLANTON	33	7	16	7	24	26	2	0	• • • •
BORMAN	42	4	0	0	42	42	311	15,376	
CROSS OAKS	39	1	79	16	22	28	3	251	
EP RAYZOR	0	0	0	0	0	0	0	0	
EVERS	394	166	166	42	310	335	240	657	
GINNINGS	73	1	167	17	36	41	174	649	
HAWK	51	14	19	9	31	32	23	85	
HODGE	4	0	11	0	3	6	194	2,158	
HOUSTON	0	0	0	0	0	0	151	95	
MCNAIR	146	82	0	0	146	146	37	156	
N RAYZOR	0	0	0	0	0	0	5	37	
NELSON	0	0	0	0	0	0	0	4	
PALOMA CREEK	23	0	32	2	17	23	1	0	
PECAN CREEK	1	0	3	0	0	0	7	46	
PROVIDENCE	309	52	286	75	194	216	129	3,837	
RIVERA	79	21	0	0	79	0	0	327	
RYAN	151	24	131	35	119	123	174	245	' ار ، ' ار
SANDBROCK RANCH	655	57	851	214	364	425	396	1,384	ر کر کر
SAVANNAH	30	8	18	7	25	29	14	16	ر کړ کړ
SCHULTZ	1	0	23	0	0	0	1	0	$\int \int \int \int \int dx$
STEPHENS	36	24	40	8	42	43	225	532	
UNION PARK	677	142	544	139	553	590	732	1,287	
GRAND TOTAL	2,842	621	2,510	619	2,113	2,219	2,965	27,823	
*Does NO	Tincludo			Hi	ghest activity in the cate	egory			



\*Does NOT include age-restricted communities

Second highest activity in the category

Third highest activity in the category

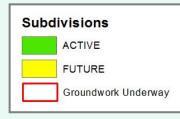


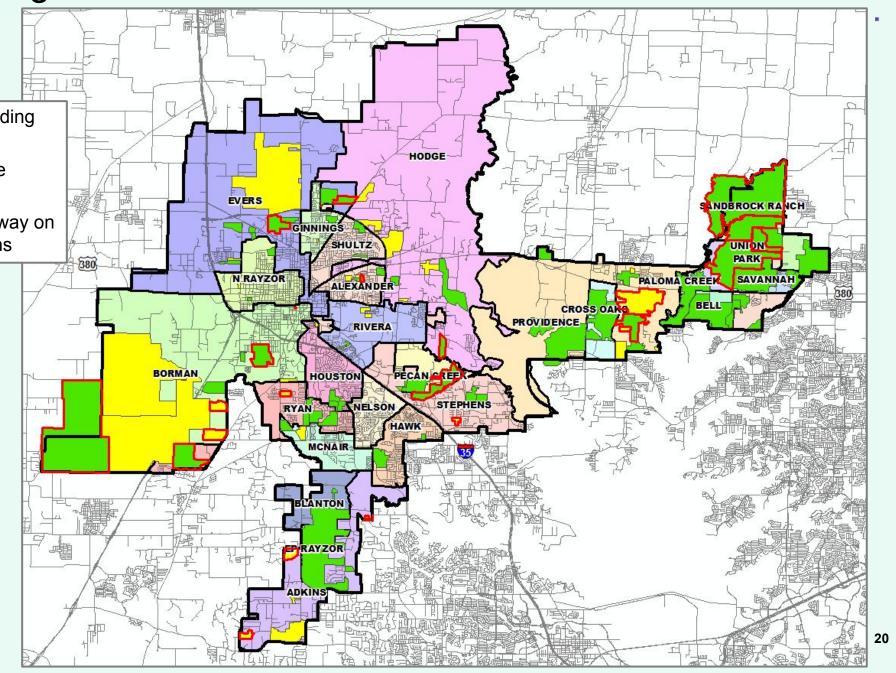
**%** Zonda...

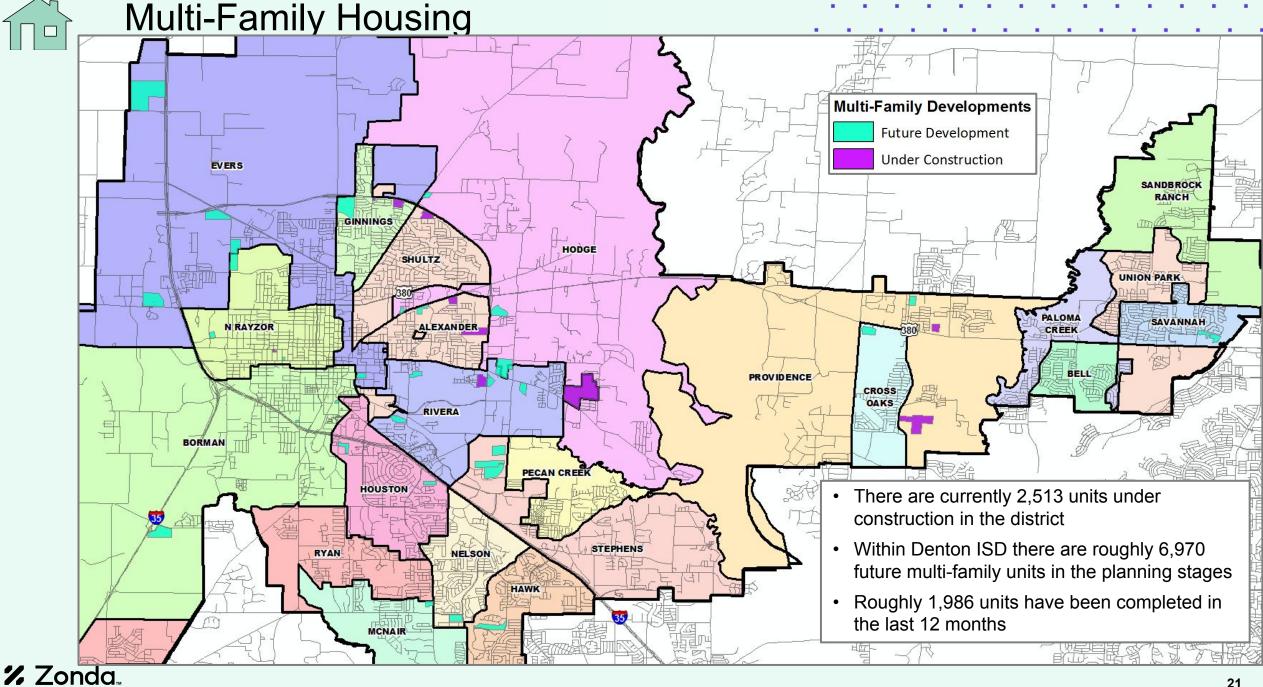
Education

### District Housing Overview

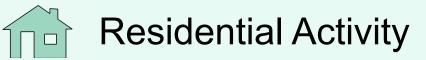
- The district has 67 actively building subdivisions
- Within DISD there are 38 future subdivisions
- Of these, groundwork is underway on 4,034 lots within 23 subdivisions







Education

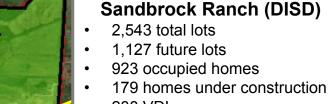


#### Winn Ridge

- 1,741 total lots
- 253 future lots
- 1,326 occupied homes
- 134 homes under construction
- 9 VDL
- 124 homes closed 2Q22
- Streets being paved in 258 lots in Sec 3
- \$195K \$330K

#### **Union Park**

- 2,944 total lots
- 816 future lots
- 1,400 occupied homes
- 245 homes under construction
- 460 VDL
- 67 homes started 2Q22
- Streets being paved fore 243 lots in Sec 7
- \$250K \$4450K



SANDBROCK

RANCH

SANDBROCK RANCH ELEM

UNION PARK

UNION PARK ELEM

SAVANNAH ELEM

PALOMA CREEK

PALOMA CREEK ELEM

- 288 VDL
- 67 homes closed 2Q22
- Equip on site for 242 lots in Sec 11 & 12; groundwork underway on 147 lots in Sec 10
- \$250K \$4450K

#### ArrowBrooke (Union Park)

- 1,041 total lots
- 213 future lots
- 579 occupied homes
- 182 homes under construction
- 58 VDL

380

- 59 homes started 2Q22
- Groundwork underway on 173
   lots in Sec 7
- \$235K \$365K



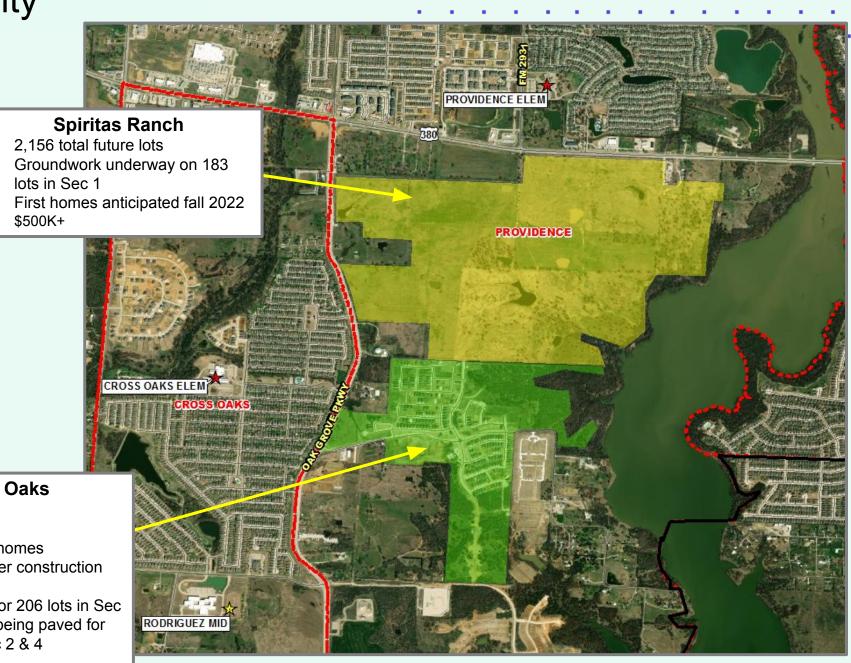


% Zonda...

Education

### **Residential Activity**





#### Prairie Oaks

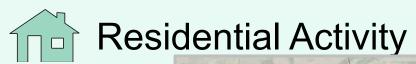
٠

٠

٠

- 985 total lots
- 536 future lots
- 303 occupied homes
- 80 homes under construction
- 59 VDL
- Equip on site for 206 lots in Sec 2 & 3; streets being paved for 222 lots in Sec 2 & 4
- \$500K+





#### **Cole Ranch**

- 8,600 total future lots
- Phase 1 Prelim plat under review with Denton P&Z
- Spans approx. 720 acres
- Includes 663 single family lots, 48 townhome lots, and 1 multi-family lots
- Anticipate groundwork begin on single family lots in 2023

BORMAN

35

#### Hunter Ranch

BORMAN ELEM

- 7,100 total future lots
- In joint development plan with Cole Ranch
- Groundwork estimated begin end of 2022; first homes anticipated early 2024





### Ten Year Forecast by Grade Level

																	Total	
Year	EE	PK	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total	Growth	Total %
2017/18	98	1,048	2,081	2,100	2,119	2,230	2,251	2,300	2,264	2,232	2,204	<b>2,346</b>	2,245	2,018	1,887	29,423		
2018/19	78	1,082	2,177	2,117	2,182	2,136	2,274	2,303	2,335	2,328	2,312	2,371	2,313	2,173	1,988	30,169	746	2.5%
2019/20	90	1,099	2,157	2,279	2,155	2,222	2,179	2,323	2,333	2,409	2,403	2,543	2,385	2,220	2,111	30,908	739	2.4%
2020/21	92	978	2,062	2,115	2,213	2,092	2,198	2,120	2,273	2,319	2,402	2,455	2,402	2,324	2,222	30,267	-641	-2.1%
2021/22	77	1,205	2,341	2,291	2,256	2,380	2,225	2,312	2,237	2,385	2,443	2,615	2,516	2,434	2,289	32,006	1,739	5.7%
2022/23	77	1,317	2,441	2,511	2,407	2,361	2,498	2,318	2,373	2,330	2,463	2,667	2,644	2,546	2,427	33,380	1,374	4.3%
2023/24	77	1,350	2,525	2,623	2,653	2,539	2,494	2,625	2,375	2,475	2,395	2,679	2,692	2,678	2,549	34,728	1,348	4.0%
2024/25	77	1,432	2,646	2,716	2,760	2,784	2,651	2,634	2,669	2,467	2,558	2,615	2,691	2,739	2,673	36,112	1,383	4.0%
2025/26	77	1,495	2,760	2,806	2,853	2,909	2,907	2,789	2,684	2,760	2,539	2,783	2,626	2,734	2,740	37,462	1,350	3.7%
2026/27	77	1,565	2,865	2,923	2,921	2,970	3,044	3,038	2,841	2,777	2,837	2,761	2,812	2,668	2,738	38,837	1,375	3.7%
2027/28	77	1,621	2,950	2,977	3,015	3,006	3,081	3,149	3,090	2,930	2,848	3,073	2,779	2,855	2,669	40,121	1,284	3.3%
2028/29	77	1,661	2,980	3,089	3,081	3,126	3,119	3,201	3,201	3,173	2,993	3,089	3,100	2,820	2,859	41,569	1,448	3.6%
2029/30	77	1,688	3,060	3,114	3,227	3,187	3,231	3,227	3,258	3,285	3,243	3,244	3,125	3,146	2,821	42,934	1,364	3.3%
2030/31	77	1,731	3,130	3,192	3,232	3,328	3,286	3,329	3,279	3,346	3,355	3,516	3,279	3,173	3,147	44,400	1,466	3.4%
2031/32	77	1,756	3,158	3,266	3,310	3,331	3,432	3,404	3,387	3,368	3,421	3,636	3,543	3,328	3,174	45,592	1,192	2.7%

Yellow box = largest grade per year

Green box = second largest grade per year





### Ten Year Forecast by Elementary Campus

		HISTORY	Fall	ENROLLMENT PROJECTIONS									
Campus Name	Capacity	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2030/32
Alexander Elementary School	740	580	600	592	600	613	621	636	650	654	669	681	692
Adkins Elementary School	740	435	444	454	474	495	487	513	513	517	520	514	511
Bell Elementary School	740	653	714	718	715	717	713	713	716	718	724	733	738
Blanton Elementary School	740	479	492	504	508	512	514	520	517	515	515	524	534
Borman Elementary School	740	434	432	430	473	587	742	879	1,013	1,151	1,284	1,401	1,518
Cross Oaks Elementary School	740	668	720	728	730	756	772	786	799	803	802	813	813
E P Rayzor Elementary School	740	311	310	313	306	305	310	319	322	333	341	350	359
Evers Park Elementary School	740	543	621	680	771	827	925	996	1,004	1,023	1,049	1,087	1,117
Ginnings Elementary School	740	583	665	717	752	778	812	822	818	803	792	783	774
Hodge Elementary School	740	618	658	680	737	828	905	1,014	1,057	1,087	1,126	1,172	1,195
Sam Houston Elementary School	740	530	532	534	537	540	568	563	568	573	585	594	609
Nelson Elementary School	740	577	569	553	579	576	595	594	607	616	608	611	615
McNair Elementary School	740	534	533	515	511	542	550	562	565	573	576	592	609
Hawk Elementary School	740	568	595	582	598	589	571	613	622	632	634	649	660
Olive Stephens Elementary School	740	379	421	487	556	626	701	771	777	782	786	801	813
Paloma Creek Elementary School	740	648	685	718	742	785	843	858	885	904	915	936	953
Pecan Creek Elementary School	740	643	663	658	664	657	666	673	668	662	663	653	651
Providence Elementary School	740	554	656	760	889	1,025	1,134	1,242	1,289	1,339	1,393	1,454	1,514
Newton Rayzor Elementary School	740	614	632	640	644	641	653	663	670	677	682	686	683
Rivera Elementary School	740	540	625	673	691	706	756	777	754	743	743	738	728
Sandbrock Ranch Elementary School	740	0	0	631	789	855	944	995	1,052	1,102	1,166	1,212	1,256
Savannah Elementary School	740	641	778	807	843	868	860	879	879	871	871	856	847
Ryan Elementary School	740	544	560	561	587	585	578	570	603	637	670	709	734
Union Park Elementary School	740	727	962	649	801	849	885	900	961	1,027	1,092	1,131	1,168
Schultz Elementary School	740	567	642	669	684	703	725	744	737	739	746	737	740
Ann Windle School For Young Child	740	252	307	344	358	374	388	404	420	431	436	447	457
Gonzalez School For Young Child	740	248	270	333	347	363	377	393	409	420	425	436	446
ELEMENTARY TOTALS	19,980	13,870	15,086	15,929	16,885	17,699	18,595	19,402	19,875	20,333	20,810	21,304	21,733
Elementary Absolute Change		-631	1,216	843	956	815	895	807	473	458	477	493	429
Elementary Percent Change		-4.35%	8.77%	5.59%	6.00%	4.82%	5.06%	4.34%	2.44%	2.30%	2.35%	2.37%	2.01%

Yellow box = over capacity





### Ten Year Forecast by Secondary Campus

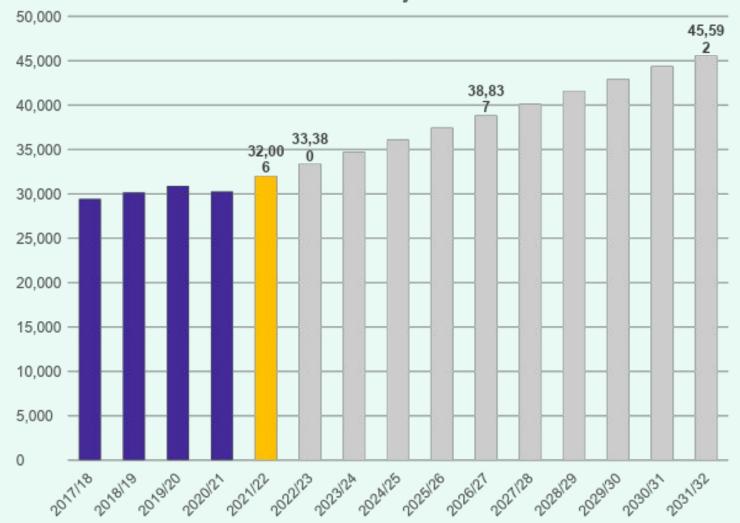
		HISTORY	Fall	ENROLLMENT PROJECTIONS							•		
Campus Name	Capacity	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2030/32
Calhoun Middle School	1,268	664	700	712	701	768	772	818	859	958	1,016	1,043	1,078
McMath Middle School	1,181	804	812	795	790	812	810	880	924	1,036	1,094	1,171	1,232
Navo Middle School	1,181	1,025	1,063	1,124	1,191	1,301	1,363	1,478	1,514	1,544	1,553	1,573	1,592
Crownover Middle School	1,181	874	813	820	732	771	755	777	745	739	782	793	804
Strickland Middle School	1,334	901	975	992	1,012	1,025	1,051	1,101	1,191	1,269	1,336	1,361	1,388
Harpool Middle School	1,181	875	867	818	798	769	795	781	820	813	853	844	851
Rodriguez Middle School	1,323	961	988	1,070	1,186	1,352	1,500	1,661	1,796	1,904	1,990	2,049	2,083
Bette Myers Middle School	1,323	880	834	822	822	883	924	946	1,006	1,091	1,149	1,133	1,135
MIDDLE SCHOOL TOTALS	9,972	6,984	7,052	7,153	7,232	7,681	7,970	8,442	8,855	9,354	9,773	9,967	10,163
Middle School Absolute Change		-139	68	101	79	449	289	472	413	499	419	194	196
Middle School Percent Change		-1.95%	0.97%	1.43%	1.10%	6.21%	3.76%	5.92%	4.89%	5.64%	4.48%	1.99%	1.97%
Braswell High School	3,350	2,446	2,728	3,020	3,173	3,351	3,523	3,701	4,029	4,433	4,736	5,043	5,300
Denton High School	2,460	2,023	1,924	1,996	2,046	2,069	2,113	2,116	2,176	2,180	2,295	2,458	2,600
Fred Moore High School		68	56	56	56	56	56	56	56	56	56	56	56
John Guyer High School	3,200	2,621	2,626	2,597	2,617	2,521	2,478	2,376	2,317	2,345	2,292	2,382	2,397
Ryan High School	2,340	2,197	2,226	2,286	2,364	2,370	<b>2,360</b>	<b>2,380</b>	2,443	2,491	2,580	2,782	2,926
The LaGrone Academy		0	202	237	237	0	0	0	0	0	0	0	0
HIGH SCHOOL TOTALS	11,350	9,355	9,762	10,192	10,493	10,367	10,530	10,629	11,021	11,505	11,959	12,721	13,279
High School Absolute Change		185	407	430	301	-126	163	99	392	484	454	762	558
High School Percent Change		2.02%	4.35%	4.41%	2.95%	-1.20%	1.57%	0.94%	3.69%	4.39%	3.95%	6.37%	4.39%
Denton J J A E P		8	4	4	4	4	4	4	4	4	4	4	4
Juvenile Detention CTR		43	50	50	50	50	50	50	50	50	50	50	50
Lester Davis School		7	52	52	52	52	52	52	52	52	52	52	52
ALTERNATIVE SCHOOL TOTALS		58	106	106	106	106	106	106	106	106	106	106	106
DISTRICT TOTALS	41,302	30,267	32,006	33,380	34,716	35,853	37,201	38,579	39,857	41,298	42,648	44,098	45,281
District Absolute Change		-641	1,739	1,374	1,336	1,137	1,347	1,378	1,278	1,441	1,350	1,449	1,183
District Percent Change		-2.1%	5.7%	4.3%	4.0%	3.3%	3.8%	3.7%	3.3%	3.6%	3.3%	3.4%	2.7%

Yellow box = over capacity



## Key Takeaways

**Enrollment Projections** 



- 2022/23 enrollment in position to exceed 33,000 students
- Multifamily likely to play a larger role with enrollment growth
- Groundwork is underway on roughly 4,034 lots within 25 subdivisions
- Enrollment approaching 39,000 by the fall of 2026 and over 45,000 students fall of 2031

### Denton ISD: 20- Year Growth Scenarios – <u>Student Growth</u>

LOW (~1800 SF/MF homes per year)

48,062 Total students

- 7,036 additional Elementary students (9-10 campuses)
- 3,287 additional Middle School students (2-3 campuses)
- 4,363 additional High School students (1-2 campuses)

14,686 Total Additional Students

Current Forecast (~2,700 SF/MF homes per year)

#### 55,603 students

- 10,322 additional Elementary students (13-14 campuses)
- 5,232 additional Middle School students (3-4 campuses)
- 6,673 additional High School students (1-2 campuses)

22,227 Total Additional Students

HIGH (~3,600 SF/MF homes per year)

#### 63,396 students

- 14,383 additional Elementary students (19-20 campuses)
- 6,719 additional Middle School students (4-5 campuses)
- 8,918 additional High School students (2-3 campuses)

#### **30,020 Total Additional Students**



## Table Talk Q&A Process

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.



## **DENTON ISD**

LRFP Committee Meeting No. 2 Facilities Assessment September 19, 2022



Our Mission : Empowering lifelong learners to be engaged citizens who positively impact their local and global community.

### AGENDA

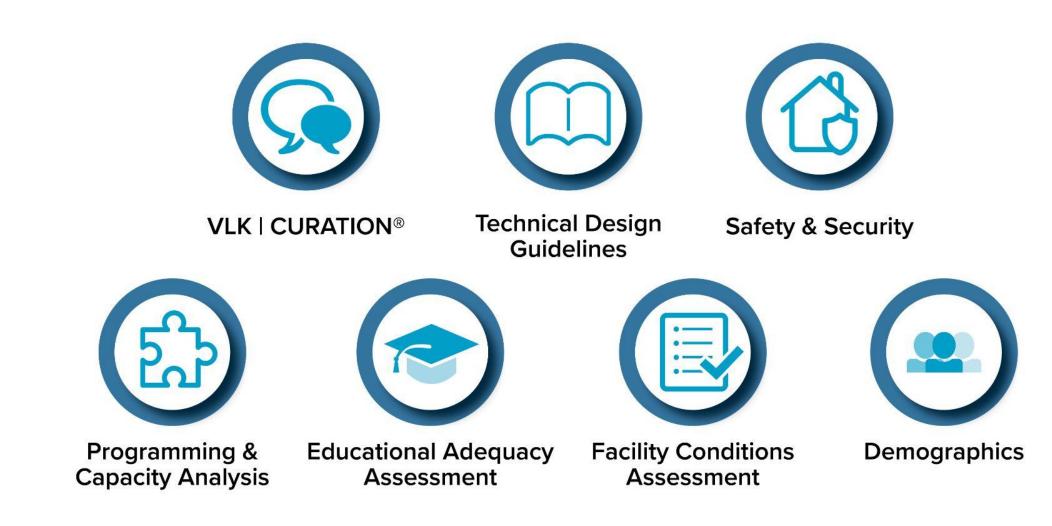
Process Overview Campus Overview



# PROCESS OVERVIEW



### **PROCESS OVERVIEW -** VLK | LINK®





### **PROCESS OVERVIEW**



### **Technical Design Guidelines**

Technical Design Guidelines define the established materials and systems to be used by the district to guide new facility construction and make decisions regarding the renovation of existing buildings. The guidelines are established in order to create and maintain physical environments which support the district's learning goals.

 This will be an evolving document as TEA requirements are continually being updated and as the performance of current systems is evaluated.



### **PROCESS OVERVIEW -** CAPACITY STUDY

#### ▲VLK ARCHITECTS

#### **Borman Elementary School Capacity**

		1	Maximum	0.9 Functional	Current
Space	Quantity	TEA Ratio	Capacity	Capacity	Enrollment
Pre-K	1	1:22	22	20	
Kindergarten	5	1:22	110	99	
1st	5	1:22	110	99	
2nd	5	1:22	110	99	
3rd	5	1:22	110	99	
4th	5	1:22	110	99	
5th	5	1:25	125	113	
Classrooms used for c	ther purposes				
Flex	2	1:22	44	40	
Totals	33	1	741	667	
	The spaces belo	w do not contri	bute to the scho	ol's capacity	
EXPO	1				
ESL	1				
READ 180	1				
Art	1				
Music	1				
Reading Recovery	1				
Computer Lab	2				
ALS	1				
Literacy Library	1				
Science	- 1				· · · · · · · · · · · · · · · · · · ·
Totals	44	L	741	667	_
Cafeteria	3,539 sf will suppo	rt 705 students w	ith 3 lunch period	s@15.sf/student	
	3,539 sf / 7 sf per p				
Library	3,696 sf will serve (	632 students			
	Formula: 3,000 sf +	3 sf / student ove	er 500		
Gymnasium	Gym: 3,600 SF				
	TEA minimum size	- 2 000 cf			

A capacity study determines the available number of seats in a school.

- Existing capacity will be compared with developed programs needed for each facility.
- By evaluation of campus floor plans and class schedules, the capacity study determines the functional capacity of the academic spaces and the operational capacity of the core areas (Dining, Library, Media Center)



## **PROCESS OVERVIEW -** FACILITY CONDITIONS ASSESSMENT



A facility Condition Assessment is conducted in order to evaluate the current condition of building systems, finishes, materials, and site conditions. This information is used to formulate plans for not only current maintenance/repair needs, but also to prepare a long term plan for the buildings evaluated.

- VLK staff and engineers conducted a facility walk through to verify TAS Facility Assessment and document existing conditions. Life safety, maintenance items, life cycle replacement items, sub-standard education conditions, safety and security, non-compliant conditions were reviewed.
- Cost information was identified for each deficiency and is used to determine future needs.



## **PROCESS OVERVIEW -** DISTRICT CAPITAL NEEDS

### **PRIORITIZATION MEASURES**

PRIORITY	DESCRIPTION
1	Items that address deficiencies related to Life Safety, campus security, and/ or accessibility. O-1 Years
2	Items that address deficiencies related to building envelop (roofing and windows), building systems (HVAC or lighting), or other near term major maintenance needs. 2-5 Years
3	Items or systems which are likely to require attention within the next ten years, or would be considered an enhancement to the instructional environment. The enhancements may be aesthetic or may provide greater functionality (ceiling or flooring replacement, roofing, walls and doors.) 5-10 Years
4	Items that address deficiencies related to maintenance items addressable directly by Denton ISD staff.



### **PROCESS OVERVIEW**

### **ELEMENTARY SCHOOLS**

- Alexander Elementary
- Blanton Elementary
- Borman Elementary
- EP Rayzor Elementary
- Evers Park Elementary
- Ginnings Elementary
- Hawk Elementary
- Hodge Elementary
- Houston Elementary
- McNair Elementary

- Nelson Elementary
  - Newton Rayzor Elementary
  - Paloma Creek Elementary
- Pecan Creek Elementary
- Providence Elementary
- Rivera Elementary
- Savannah Elementary
- Stephens Elementary
- WS Ryan Elementary

### MIDDLE SCHOOLS

- Calhoun Middle School
- Crownover Middle School
- Harpool Middle School
- McMath Middle School
- Navo Middle School
- Strickland Middle School



## **PROCESS OVERVIEW**

### **HIGH SCHOOLS**

- Guyer High School
- Ryan High School
- LaGrone ATC
- Fred Moore High School

### SUPPORT FACILITIES

- Norm Sisk Annex
- Virginia Gallian CDC
- Central Services Building
- Communications Building
- Davis School
- Fred Moore Nursery Day School
- Professional Development Center
- Publications/ Wellness Center
- West Transportation Center
- C.H. Collins Complex

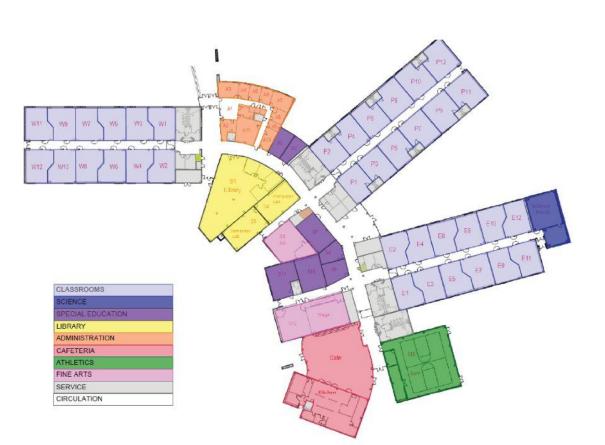


# SELECT CAMPUS OVERVIEW



## CAMPUS OVERVIEW- WS RYAN ELEMENTARY SCHOOL

2002 - Orginal Construction 2011 - Addition









### CAMPUS OVERVIEW- WS RYAN ELEMENTARY SCHOOL

#### DENTON ISD CAPITAL IMPROVEMENTS Architectural and MEP

Suilt: 2002 Orig.			Dote Review			
fotal Building A		77,725	No. Floors 1		Surveyor-Plumb	
TYPE	RANK	DESCRIPTION	QUANTITY	MIOU	UNIT COST	TOTAL
SITE	2	Updale morque sign	1	EA	and the second second	0.340.000
SITE	1	Restripe parking lot and drive as needed	2,328	55	14	
SITE	2	Remove/replace joint sealant	15,990	57	C 2.2	
SITE	3	Resod lawn areas around building	73,711	SF		
SITE	2	Repaint entry railings	_	UF		
SITE	1	Replace domages curbs and walks	11,089	SE	5	
SITE	1	Provide safety fencing around playgrounds and play fields	1,885	UF		
SITE	3	Trim Itees and relandscape courtyards	73,711	<u>Se</u>		
EXTERIOR	3	Replace window systems	47	EA		1
EXTERIOR	1	Repaint hollow metal doors/frames with new hordware	3	EA		
EXTERIOR	3	Replace entry/vestibule ourtainwal/doors/hardware	4	EA	S	
EXTERIOR	1	Repaint window lintels	47	US		
EXTERIOR	3	Replace exterior olum. Door/frames/hordware	16	EA		
ROOFING	1	Tear off and replacement with 20 yr, CTEM raal system	1	LS		
INTERIOR	3	Replace the floaring (dated)	13,897	e		-
INTERIOR	3	Replace viry! tie flooring (dated)	58,790	55	-	-
INTERIOR	2	Replace ACT celling lies/grids	71,416	55		-
INTERIOR	2	Repaint walls and door trames	3,280	8		-
INTERIOR	3	Replace wall hies (dated)	3,280	6		-
INTERIOR	2	Replace carpeling (dated)	6.540		-	-
NTERIOR	3	Renovate tailet rooms (dated)	4.284	5		
INTERIOR	2	Replace casework (dated)	1,200	LE		
INTERIOR	2	Refinish sloge floor	977			
INTERIOR	2	Refinish wood tready risers to stope	172	9	-	-
INTERIOR	1	Replace stoge curtain	40	U	-	
INTERIOR	2	Replace kitchen/serving line finishes	2,824	55		-
INTERIOR	2	Replace door hardware as needed.	160	EA		
INTERIOR	2	Repaint gym, including callings	3,060	SE		
INTERIOR	2	Replace gym flooring	3.871	55		
		Benderer and bedre and				
MECHANICAL	1	Replace celling louvers	77,725	SE		
MECHANICAL	1	Replace select water coolers	8	A3		
LECTRICAL	1	Upgrade parking lot lighting to LED	8	EA		-
LECTRICAL	1	Upgrade Interior lighting/cantrols to LED	77,725	5		-
LECTRICAL	2	Upgrade stage lighting and controls	1 206	55		-
LECTRICAL	2	Upgrode stage sound system	40	LF	2	
LECTRICAL	1	Upgrade soffit lighting to LED	1.367	SE		
LECTRICAL	1	Update emergency lighting	77,725	Sf		
KITCHEN	1	COLD STORAGE SHELVING	1	EA	-	-
UTCHEN	1	ICE MAKER W/ BIN	1	EA		
KITCHEN	1	FIRE PROTECTION SYSTEM	1	EA	1	
UTCHEN	1	TWO BURNER RANGE	1	EA		
TCHEN	1	CONVECTION STEAMER	2	EA		
KITCHEN	1	COMBI OVEN- SINGLE	1	EA		
UTCHEN	1	SERVING COUNTER	1	EA	S	
KITCHEN	1	THREE COMPARTMENT SINK	51	EA.		
ITCHEN	1	MOBILE UTENSIL SHELF	1	EA		
ITCHEN	1	COLD STORAGE REFRIGERATION SYSTEM	1	EA	S	
UTCHEN	1	DISPOSER-CONE MOUNT	1	EA		

#### DENTON ISD CAPITAL IMPROVEMENTS Architectural and MEP

WS Ryan Elementary Bull: 2002 Orig., Additions 2011 Total Building Area: 77.725	321001	Date: Date Reviewed: 6/1/22 Surveyor-Arch, Surveyor-Mech, Surveyor-Bac, No, Floars: 1 Surveyor-Planto	August 1, 202
TYPE RANK	DESCRIPTION	QUANTITY U of M UNIT COST	TOTAL
site		A CONTRACTOR OF A CONTRACTOR O	- 1000000 - 114
3. 4			\$
2			\$
3 4			
		Site Subtotal	5 5 5 5
EXTERIOR			
1		8.6	\$
2			ŝ
3 4			
4		Exterior Subtotal	5
INTERIOR			
1			\$
2			
3 4			
4		Interior Subtotol	\$ 5
ROOFING			
1			\$
2		5 S	\$
3			
4		Roofing Subtotal	5 0 0 0 0
MECHANICAL		kooning sources	
1 1			\$
2			\$
3		2 S	5
4		Mechanical Subtotal	5
ILECTRICAL		mechanical solition	
1			\$
2		202 C	\$
3			5
4		Bectrical Subtotal	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
PLUMBING		decirical subrotal	
1			\$
2			\$
3			0 0 0 0
4		Flumbing Subtolal	
Klichen		nomong sociolog	
1			5
2			\$
3			\$
4		Kitchen Subtotal	5
		COMBINED TOTAL	5) 50 50 50 50 50 50 50 50
ALL RANK 1		1 1	5
ALL RANK 2			\$
ALL RANK 3 ALL RANK 4			ŝ
nu south ?		COMMINED TOTAL	\$
		COMPRED TOTAL	







## CAMPUS OVERVIEW- WS RYAN ELEMENTARY SCHOOL

### EDUCATIONAL ADEQUACY

Some portions of classroom casework
 are outdated for current technology

### FACILITY REPAIR / UPGRADE

- Roofing Replacement
- Ceiling Replacement
- Renovate all group restrooms
- Renovate all single restrooms
- Replace classroom casework in select areas
- Replace select kitchen equipment
- Replace finishes in kitchen serving

## MECHANICAL / ELECTRICAL / PLUMBING

- Replace lighting throughout with LED
- Replace Fire Alarm System
- Replace plumbing fixtures as a part of restroom renovations

### **OTHER ISSUES**

- Add chain link fencing to secure playground
- Repair/replace select portions of sidewalk and curbs







## CAMPUS OVERVIEW- GENERAL ASSESSMENT OBSERVATIONS

### HVAC REPAIR & REPLACEMENT

- Life cycle repairs or replacement of HVAC systems needed at 23 facilities
- HVAC controls system is at end of life at 18 facilities and must be replaced

### FOOD SERVICE EQUIPMENT REPLACEMENT

 Needs have been identified for select equipment replacement at 25 facilities

### **ROOF LIFE CYCLE REPLACEMENT**

 Roof replacement is needed at 16 facilities totaling more than 1,043,600 SF of roof surface

### ENERGY RELATED UPGRADES

 Opportunities exist to replace interior/exterior lighting at many assessed facilities with LED fixtures delivering energy savings to the district

### INTERIOR FINISH REPLACEMENT

 Many finishes in the assessed facilities are approaching end of life

### ACCESS CONTROL

 Controls system is at end of life at 13 facilities and must be replaced



# Table Talk Q&A Process

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.



# **Safety and Security**

September 19, 2022 Dr. Jeff Russell Area Superintendent jrussell2@dentonisd.org

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.



## **Philosophy**

Continue to make our schools the safest place for staff and students using best practices and current technology

## IN AN EMERGENCY **TAKE ACTION**



#### HOLD! In your room, office or area. Clear the halls.

#### OCCUPANTS

Clear the hallways and remain in room or area until the "All Clear" is announced Do business as usual

Close and lock door Account for occupants and staff Do business as usual



### SECURE! Get inside. Lock outside doors.

OCCUPANTS Return inside Do business as usual

### STAFF

STAFF

Bring everyone indoors Lock outside doors Increase situational awareness Account for occupants and staff Do business as usual



### LOCKDOWN! Locks, lights, out of sight.

STAFF

Lock interior doors Turn out the lights Move away from sight Do not open the door Maintain silence Account for occupants and staff Prepare to evade or defend



#### EVACUATE! (A location may be specified) STAFF

STAFF

Evacuate to specified location Lead evacuation to specified location Instructions may be provided Account for occupants and staff about retaining or Notify if missing, extra or injured leaving belongings people

### SHELTER! Hazard and safety strategy.

Use appropriate safety strategy for the hazard

Hazard Safety Strategy

Tornado Evacuate to shelter area Seal the room Hazmat Earthquake Drop, cover and hold Get to high ground Tsunami

Lead safety strategy Account for occupants and staff Notify if missing, extra or injured people











Bring your phone

### 2018 Bond Safety & Infrastructure Projects - *COMPLETE*

- Restricted Access-Add restricted access control system at main entrance of all schools
- Security Replace all analog security cameras and increase the number of HD cameras
- Secure Vestibules Add security features at Davis & Ann Windle
- Technology Replace fiber
- Building Control Systems Replace climate control systems at 22 facilities





## Safety and Security Upgrades

2020 TEA Grant Provided installation of impact resistant film to all campus exterior doors and entryways -\$500,000





## Needs: Hardening of Interiors

Additional Impact Resistant Film within the interior of buildings - beyond the front door

Evaluation of campus front office design and the development of safe rooms based upon campus design, needs

Opaque or one-way treatments for visibility reduction for intruders





## Needs: Technology

**Camera Upgrades** to increase communication between first responders and the district

Vape Detectors for all Secondary Campuses

Mass Remote Lock Down capability for each campus





# Key Points & Takeaways

- Continue to harden exteriors of each campus where needed
- Harden campus interiors using impact resistant film
- Improve the district's camera technology for enhanced communication and greater responsiveness



## Dr. Jeff Russell Area Superintendent jrussell2@dentonisd.org

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.



# **Technology Division**

September 19, 2022 Robert Pierce Chief Technology Officer rpierce@dentonisd.org 940-369-0185



Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.

# **Technology–Definition**



- A critical, **strategic** investment in the education and future of students
- **Potentially anything that uses electricity**
- Includes smart devices, tablets, phones, and any other Internet of Things (**IoT**) device (e.g. doorbell cameras, smart lighting)
- Indispensable in the **3rd decade** of the 21st century.
- DISD is a **Fortune-500**-equivalent organization in technology infrastructure
  - 40,000 internal users



# Technology–Needs



## 20-year Refresh Plan

- Calculated per year based on
  - Device Lifecycle
  - Projected Student Count
  - Projected School Count
  - Projected Employee Count
  - Projected E-rate Funding
- Covers
  - Equipment Refreshes
  - Construction
  - New Standards/Best Practices
  - Safety & Security (Cybersecurity, too)



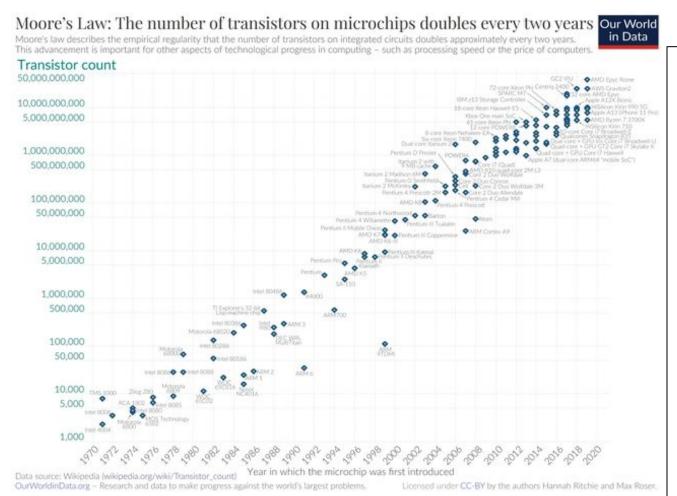
## Technology–20-Year Plan

e Equipment	Prior Benertment Colonom	- Trope	· Liferaria · Ferr	202	3	024	2025	2025	20.27	2028 - 1	- 6602	2030 - 2	W 1	x .	9033	2034 - 2	AA	AP	2037 -	AD	2039	16 2040 -	2041 -	AH	AI
Aueres Learr Suilabra	A Heluerk lafeasles Equiparal Referal	lafeaslesslare	T LIFECOCIE T E-FR	202			\$2,311,111.11	\$ 2,50,00.0	\$2,10,00.0	\$2,311,111.11	\$ 2,500,000.00		\$2,311,111.11 \$	2,510,000.00		\$2,311,111.11	11.111,111,112	\$ 2,310,000.00		\$2,111,111.11	\$2,511,111.11	\$2,511,111.11	11111111	42,111,111.11	42,511,111.11
Admin Didy AV Penhan Terard	<ul> <li>Tenhanlagg Serainen Egnipment Referet</li> <li>Saulema Infectionaler Egnipment Referet</li> </ul>	A/V Infrastrastarr			n,m.n ş	1 S.	6 20,00.0	6 20,00.0		s 0,00.0 4		6 211,111,11	6 201,001.00			s 11,111.11	200,000,00	4 201,000.00		\$ 0.00.0		6 200,000,00	6 201,001,01		
Campan Carr Suilabre	8 Heluark Infrastrustas Equipment Referat	Infrastrastare	,	•	50,00.0 \$	22,111.11	\$ 22,00.01	6 22,00.01	\$ 72,00.01	6 72,00.01 4	s 22,00.00	6 72,00.00 ·	\$ 72,00.00 \$	72,00.01	\$ 22,00.01	\$ 72,00.01	22,00.00	\$ 22,00.01	\$ 72,00.01	\$ 72,00.00	\$ 72,00.01	6 22,00.00	\$ 72,00.00	• 72,00.00	4 72,00.00
Campan HDF/IDF UPS [Raferah] Campan HDF/IDF UPS [Calab Up]	P Heluark lafeasleaslas Equiparal Referal P Heluark lafeasleaslas Calak Up	Safely & Searcily Safely & Searcily	10	- :	311,111,111					\$ 251,00.01															
Campan Slaff Denine Referab	A Trabuslage Seraiara Equipment Referat		1							\$1,587,591															
Campan Value Galencan Cell phone bounders	A Helwark lafe aslesslar Egyipural Referal B Helwark lafe aslesslar Calak Up	Safela & Semarila	,	1	1 451 111 11	13,111.11	\$ 13,00.00	\$ 10,00.00	\$ 10,00.00	s 10,00.00 s	s 19,00.00	s 13,00.00 ·	s 13,00.00 s	o,m.n	4 10,00.00	s 10,00.00	, o,m.n	s 10,00.00	s 0,00.0	\$ 10,000.00	6 19,111.11	\$ 13,00.0	\$ 9,00.0	s 0,00.0	4 19,00.0
Chronobash	A Trabaalayy Secalara Eysipment Referat	Indendianal	ŝ	- 10 P.		4,333,533.85	\$4,487,597.58	\$4,535,581.44	\$4,785,897.22	\$5,187,681.12	\$5,537,753.55	\$5,483,888.88	45,643,658.86	45,797,922.24	45,352,423.31	\$5,185,335.33	29.299,125,24	\$5,415,358.53	\$5,578,657.58	45,724,354.57	45,873,471.75	\$7,835,378.82	\$7,101,405.05		
Cines Canves Replacentel Classes R/V	P Helwork lafe solesales Calak Up R Traksalagg Seraiara Egaipural Referal	Safely & Searcily Instructional			310,00.0					s 31,00.0 4															
Canalenslins lafe aslenslave ATC	R Helwark Infrastration Constraition	Indendinad			1,311,111,111 <b>5</b>	sn,m.n	\$2,00,00.0	• ~~,	• •••,	• si,m.n •	, 1,151,111.11		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1,151,111.11		\$1,151,111.11 ·	,	• 1,151,111.11		\$1,150,000.00	91,150,111.11	91,151,111.11		91,151,111.11	\$1,131,111.11
Canalesalius Infectionalese EE	8 Helwark Infrastructur Construction	Indendianal							\$7,00,00.0					1.01.18.5						\$2,00,00.0					
Canalynalian lafe calenalare ES Canalynalian lafe calenalare HS	R Heluark lafeasteastas Canatensiin R Heluark lafeasteastas Canatensiin	Indensities at			•	1,511,111.11	6 250,000.00 62,500,000.00	\$ 231,00.01	\$1,500,000.00	§ 751,111.11 §	\$ 251,00.01	\$ 251,00.00	,	2,251,111.11	\$ 751,00.00	\$ 251,00.01	, 251,111.11	\$ 251,00.01		\$ 251,001.00	\$ 251,00.01	62,510,010,01		\$ 251,001.00	4 231,00.00
Canalenalian Infeculenalare HS	8 Helwerk Infrastrustes Canalrustica	Indendianal					\$1,588,888.88			\$1,511,111.11								\$ 1,500,000.00				\$1,510,000.00			\$1,500,000.00
Capiera DataCenter Switzken (Henne and Tap of Rank)	A Trabaslagg Seraiara Egaiparal Referal A Helwark lafecaleaslas Egaiparal Referal			1	\$197,184.19	\$141,555.95	\$147,855.51	\$152,258.85	\$157,828.48	\$162,117.75 \$ 14,588.88 \$	\$157,285.84	6171,877.58	\$177,387.45	\$181,771.38	\$185,578.51	\$151,571.55	\$135,477.14	4281,385.38	\$215,251.41	\$211,214.88	\$216,135.25	4221,853.85	\$225,588.81	\$238,522.25	\$235,868.45
DalaCraire UPS	P Systems Infrastenslar Equipment Referat	Safely & Semerily	5 01		\$11,111.11					\$ 25,00.00					§ 151,111.11					§ 25,00.00					4 151,111.11
DC /DR Corrouilabre	A Helwark lafrauleunlas Equipment Referal	Infrankanlare	,		81,111.11 \$	51,111.11	\$ 51,000.00	\$ 31,111.01	\$ \$1,111.11	\$ 51,00.01	\$ \$1,00.01	\$ \$1,00.00	\$ 51,011.01 \$	51,01.0	\$ 51,00.01	\$ \$1,00.00	5 51,111.11	\$ \$1,111.11	\$ 51,001.01	\$ 51,00.01	s si,iii.ii	\$ \$1,00.00	\$ 51,00.01	\$ \$1,111.11	\$ 51,00.00
DCUPS DR/BHSUPS	<ul> <li>B Helsark lafeasleaslas Equipment Referat</li> <li>B Systems lafeasleaslas Equipment Referat</li> </ul>		15 C1				6 61.00.01	\$163,000				\$ 121,00.01	\$41,111				6,00.0	475,III				\$ 121,111.11	<b>\$163,000</b>		
DR Paure	P Systems lafe antenniar Engineent Referat	Safely & Secondly	ŝ				6 61,001.01					\$ 111,00.00				1	61,001.01					\$ 121,111.11			
FFE Trabalage Pailding	R TrabaslageServiers Cambradian	Infrastrastare			•	211,461.11	62.917.901.01																		
PPE End Uner 1 High Sabaul PPE End Uner 1 Elema	A Trabaalagy Services Canalization A Trabaalagy Services Canalization	Indendinal Indendinal				1,411,121.11	\$ 201.05.0			\$ 70,05.0															
PPE End Uner ATC Iger Familily fur DHS Zour	A Trabuslage Seraiara Canalesalian	Indenalizad				1,210,351.00																			
Firmull Grandar Revision-Elementary	<ul> <li>B Systems Infectionalue Equipment Referal</li> <li>B Santema Infectionalue Calub Un</li> </ul>	lafeadeadare Safela BSearila	5 61		3,311,111.11			\$ 231,111.11		\$3,643,466.65			\$ 225,011.01							\$4,441,355.52					\$4,585,525.41
Generalar Track-Elementary	D Systems Infeaster Salah Up	Safely & Semerily	21		10,00.0																				
Hab Sile UPS [for Optical Ring]	P Helwark Infrastrustas Equipment Referat	Safely & Searcily	\$	•						6 21,111.11 4						\$ 21,00.01				s 21,00.01					
Illania arlaark organalalise aaflaare Lak / Likrang Desiar Referak	B Systems Informiter Services     A Technology Services Excitoned Refered	Infrastrusture Instructional	1							6 111,00.00															
Larar Years 8Y	D Trabaslage Seraiara Equiparal Referal	8/1		*	\$1,111.11 \$	51,111.11	5 51,111.11	5 51,111.11	5 58,888.88																
Lorge Venne RV-Elem Cafe	D Trabaalagy Seraiara Equipment Referat	A/Y			231,111.11 5	231,000.00	6 231,000.00	6 231,000.00	5 231,000.00	6 175,343.51 4						6 214,255.51									
Lorge Venne AV-Elen Gyn PA - Elen	P Trabalag Seraiara Equiparal Referal R Trabalan Seraiara Engineral Refera		11	5	115,111.11 \$	155,510.01	5 135,888.88	6 515,181,18	6 515,888,88	6 128,847.18 4	6 152,858.48	6 115,875,68	6 136,554.56 6	145,555.25	4 411.125.14	6 448,812,81	452,848,54	6 426,266,35	5 155,524.84	6 174,482.25	6 123,348.66	6 512 212 44	6 546.258.48	5 133,314.53	6 124,222.58
PA-HS	A TrabulageServiers Equipment Referat	Safely & Semerily			112,111.11 5	112,888.88	6 112,000.00	\$ 112,000.00	6 112,000.00	\$ 77,448.55 4	6 81,818.75	\$ 85,122.48	6 38,585.24 6	13,814.75	\$ \$2,418.51	\$ 35,815.45	\$ \$7,522.57	\$ 188,228.25	5 182,854.15	6 185,648.82	6 100,045.10	6 118,551.78	\$ 113,257.65	6 115,853.54	\$ 118,453.45
PA-HS Larar Years AV-Fiar Arl Andilarian	A Testaslag Services Equiparal Referal P Testaslag Services Estimatel Referal	Safely & Secorily	1		\$100,000.02	\$166,002.00	\$101,000.00	\$164,882.88	\$114,000.00	\$118,187.57	\$121,727.51	\$124,547.81	\$138,284.32	\$151,878.65	\$125,883.88	\$138,381.18	\$141,512.32	\$144,723.55	\$147,334.75	\$151,145.37	\$154,357.13	\$157,558.48	\$153,223.52	\$153,338.84	\$157,282.85
Lorge Venne AV-Pine Arl Redilarium Lorge Venne AV-HS Fine Arl Husin, Dand, Chair	P Trabalage Seraiara Equiparal Referal R Trabalage Seraiara Equiparal Referal				10.00.013 6					6 138,534.18 4		-	4 412 225 28 4		4 - 455 942 98	6 158,348,33	454 292 25		4 429 592 58	4 422 558 85	4 482 922 45	4 485 224 88	4. 494 422 58	4 485 548 28	4 199 942 45
Larar Years BY-HS Cafe	P Tenhanlang Seculara Equipment Referat	A/Y		5	33,888.88 5	35,888.88	5 33,888.88	5 33,111.11	5 33,888.88	\$ \$1,387.57 9	5 32,557.87	\$ 33,758.78	\$ 35,333.18 9	\$5,747.44	4 35,585.84	\$ 37,455.55	38,326.25	\$ 33,135.36	5 41,155.55	\$ 48,335.37	5 41,815.87	5 42,574.78	5 43,544.48	\$ 44,414.13	4 45,283.83
Lorge Venne AV-HS Cofe	D Trakaalagy Seraiara Equipment Referat	A/V		. 6	(()III.II <sup>*</sup> 5	0,00.0	6 44,000.00	6 44,000.00	\$ 44,000.00	6 55,245.74 4 6 256,547.67 4	\$ \$5,755.33	\$ \$5,228.28	6 62,225.84 6	\$1,748.75	\$ \$3,592.25	\$ \$5,525.84	67,445.38	\$ 58,385.32	6 78,631.47	\$ 72,438.81	\$ 74,281.55	\$ 75,873.18	6 77,854.54	\$ 73,656.49	6 81,447.75
Lorge Venne AV-Sennadorg Gym Generalara-Sennadorg	D Trabaslagg Seraiara Egaipural Referal D Systems Infectionaler Calab Up	B/V Safely & Semerily	11	:	212,000.00 6	212,000.00	6 212,000.00	6 242,111.11	\$ 212,000.00	4 256,547,67 4	\$ 258,533.51	\$ 285,535.71	\$ 233,881.55 \$	257,478.45	6 385,118.14	6 514,742.12	5 323,574,48	\$ 552,885.85	6 348,638.87	\$ 343,228.85	\$ 357,382.84	\$ 355,534.82	\$ 175,155.88	4 383,737.55	4 332,425.52
Hisrasoft SES AS Lisrase Agereraral Jisslades Paure DI	Systems Infectionalue Services	Infrastrustare				417,555.25	\$ \$11,133.21	\$ \$25,542.52	\$ 545,512.12	6 555,884.74 4					• •			• •		• •	• •	• •		• •	• •
HDF/IDF HVAC	P Helwerk Infrantroniae Caluk Up	Infrankranker	31	4	2,511,111.11									·		641.553.71					1	1		*********	
Lorge Venne AV - HS Alklelin Weight Russes Pressnard	<ul> <li>P Trabaalagg Seraiara Egaiparal Referal</li> <li>P Administration Personal</li> </ul>	A/V Infrankanlarr			221.00.00 \$	455,001,00	6 771.00.00	465,500.51	\$65,419.27	\$33,113.65	\$35,411.71	\$37,685.58	\$33,536.48	\$33,283.57	\$41,425.64	\$41,563.71	\$42,713.75	\$0,10.15	\$44,313.33	\$46,138.81	\$0,21.0	\$41,411.15	\$43,558.23	\$51,631.31	451,818.97
Lorge Years BY - HS Biblelin Weight Rasan	D Trabaslage Seraiara Equiparal Referal	A/Y			21,000.00 5	21,111.11	5 21,888.88	5 21,111.11	5 21,888.88	6 51,672.24 4	\$ \$9,255.78	\$ 54,535.42	4 57,185.16 4	\$2,636.92	4 53,181.82	§ \$8,585.75	6 61,511.64	4 \$3,315.55	5 \$4,721.45	\$ \$5,125.35	4 \$7,551.27	\$ \$8,555.18	5 78,241.88	4 71,745.55	4 73,458.58
Phanes Printers	B Helwork Infrantiscular Equipment Referent     A Traduction Services Equipment Referent	Safely & Semerily								5 12,157,72 9	4 121,111.11	\$ 121,00.00	\$ 120,000.00 \$	121,00.00	\$ 121,000.00	\$ 121,00.01	121,111.11	\$ 121,000.00	\$ 121,001.00	\$ 121,001.01	\$ 121,111.11	\$ 121,00.00	\$ 121,001.00	\$ 121,001.00	\$ 121,001.00
Pristres SAN	R Trabaalagy Seraiara Equiparal Referal D Systems Infeculeuralar Equiparal Referal		;		2.121.141.12 6	70,756.75	6 115.111.11	6 115.111.11	\$ 75,62.51	\$ 12,157.72 4 \$ 335,111.11	5 19,552.15	6 116 251.00	6 114.251.01 6	114.251.00	6 116.251.01	\$ 334,228.84	114.251.00	4 114,422.35	6 101.152.10	6 107,503.00	6 111.152.10	6 112,772.54	6 111,157,11	4 117,373.03	6 111.152.11
Servers	D Systems Infrastenslar Equipment Referat	Infrastrustare	,		2,371,341.52 \$	555,111.11	\$ 135,000.00	\$ \$55,000.00	\$ 115,000.00	\$ 355,000.00 (	\$ \$25,000.00	\$ 154,258.88	\$ 334,258.88 \$	334,251.01	4 114,258.88	\$ 114,251.01	114,251.11	4 114,258.88	\$ 183,357.58	4 183,557.58	4 183,357.58	\$ 383,557.58	\$ 181,357.58	4 183,357.58	\$ 183,357.58
DalaDenain Hear 8X Divid Spole Initiation (Caleb Up)	<ul> <li>B Systems Information Equipment Referat</li> <li>B Helmark Information Calub Un</li> </ul>	lafe ale salare		1	63,00.01 2.01.01.0					\$ \$15,522.15				515,00.0	4 585,748.55					\$ 551,623.35					4 747,213.41
Severillaner Cameran Endpoints Referab	P Helwerk Infrastructus Catab Up P Helwerk Infrastructus Equipment Referent				5,200,000.00			6 121,111,11	6 121,111.11	6 121,00.01	121,111,11	• • • • • • • • •	, sis,m.n ,	515,00.0	• s15,00.0	• • • • • • • • •	515,00.0	• • •••, <b>•••</b> .••	• 515,00.0	• 515,III.II	• • •••, <b>•••</b> .••	• • •••,m.n	• • • • • • • • • • • • • • • • • • •	• 515,III.II	• <b>515,111.11</b>
Trak Pailding	D Administration Equipment Referat	Infrankraharr	51																						
Trak Dala Craler Trak Offiana	D Administration Support D Administration Equipment Referent	lafe ale salare		1	2,000,000.00																				
TeakWarehour	D Administration Summer	lafe calculary		-																					
TeakWarehouse/Slaging/Lak/Classeson	Administration Equipment Referal	Infrastrusture	51																						
TV's far digilal signage UCS Environment	C Tenhanlayy Serniara Equipment Referat D Systems Infectionalus Equipment Referat				20,201.01 \$	21 111 11	6 54,211.11	6 64,200.00 6 20 00 00	6 14,211.11	\$ 21,007.54	6 IS,464.57	6 21.01.01	6 31,347.63 6 6 21 11 11 6	11,611.45	4 35,424.33	\$ 21,000.00	21 112,143.11	4 104,792.62	6 117,555.17	4 110,555.74	4 113,113.26	4 115,006.00	6 111,001.54	4 121,455.65	4 124,282.45
UPS.	P Helwork Infrastrustas Equipment Referat	Safely & Semerily	10		251,00.01 \$	251,111.11	\$ 251,001.01	\$ 231,001.01	\$ 231,001.01	\$ 231,001.01 4	\$ 251,111.11	\$ 251,001.00	\$ 251,001.00 \$	251,111.11	\$ 251,000.00	\$ 231,001.01	251,111.01	\$ 251,111.11	\$ 251,111.11	\$ 251,001.00	\$ 251,111.11	\$ 251,111.11	\$ 251,001.01	\$ 251,001.00	\$ 231,001.01
Vekiatea Video Hanarenel Santeo (VHS)	<ul> <li>Administration Equipment Referrat</li> <li>Belluurk lafe astronomy Excitored</li> </ul>	Infrankranlare								6 25,00.00 4		6 25,00.00 ·				6 25,00.00 ·				§ 25,00.00					
Video Hanageneral System (VHS) Wifi Campbellan	B Helwork Infrasten Equipment Referat     A Helwork Infrastentia Calab Up	Safely & Senerily			5.111.111.11	8,00.0	s a,m.n	s a,m.n	s a,m.n	• a,m.n •	s a,m.n	• a,m.n •	, a,m.n ,	a,m.n	s a,m.n	• a,m.n •	, a,m.n	s a,m.n	s a,m.n	, a,m.n	s a,m.n	s a,m.n	s a,m.n	s a,m.n	s a,m.n
Wireless APs	A Helwark lafe caleaslas Equipment Referat	Infrantrantare	5 0		200000000000000000000000000000000000000		\$1,210,000.00	\$ 1,200,000.00	\$1,200,000.00	61,201,001.01	4 1,200,000.00		\$1,211,111.11 §	1,210,000.00		\$1,200,000.00	1,211,111.11	6 1,200,000.00		\$1,200,000.00	\$1,211,111.11	\$1,201,001.01		\$1,200,000.00	\$1,211,111.11
Wireless Suilskes	9 Helwark lafraslas Egaiparal Referal		1		2,511,111.11 \$	\$11,111.11	\$ \$11,111.11	\$ 50,00.0	\$ \$11,111.11	\$ 511,111.11	\$ 511,111.11	\$ 511,111.11	\$ 511,111.11 \$	30,01.0	\$ 50,00.0	\$ 50,00.0	\$ \$11,111.11	\$ 511,111.11	\$ 511,111.11	\$ 50,00.0	\$ 50,00.0	\$ 50,00.0	\$ 50,00.0	\$ \$10,000.00	\$ 50,00.0
ZeraEgen Data Center Referat	<ul> <li>B Helmark Infrantenstar Equipment Referat</li> <li>B Administration Equipment Referat</li> </ul>				an, man is	an, man	s annin	, ai,iii.ii	, m.m.n																
2H Daar laleraam	8 Helwark Infrastrustas Equipment Referat	Safely & Semerily	1																						
DAS againes - Criti Passier HDF/IDF Draissied HVAC	<ul> <li>B Heluark lafeasleaslas Equiparal Referal</li> <li>C Heluark lafeasleaslas Equiparal Referal</li> </ul>		11																						
HDF/IDF Dedicated HVAC Elem - Pause - Teamfer Suilab/ Emergenny Pauel / Gene	C Helwork Infrastrustus Equipment Referat ratur F C Helwork Infrastrustus Equipment Referat		4 U																						
See - Poure - Transfer Suilab/ Emergency Paul / Gener	lar PF C Helwark Infrastrustar Equipment Referat	Infrastrastore	28																						
Sreedurg Campas Grarralare	C Helwark lafraslas Equipment Referal		21																						
Fiber Is and Sakasla Larar Venue AV - HS Band/ Husis / Chair / Orakeslas / P	A Heluark lafeaslenslas Equipment Referat 2000 B Tenhantana Secuinea Ensignent Referat			4	151.00.01 6	155.111.11	6 155.00.00	6 155.111.11	6 155.00.01	6 135.332.45 4		6 142.825.52				4. 151.471.11				4 173.101.13			4 184.225.55	6 107.505.17	4 121.585.52
Talal					72.555.214.55									21.232.515.54											
Band Cynle Erale Cynle				•	2,123.11			2825		\$ 2,121.11			2021		4 2,133.11			2835		\$ 2,01.0			2041		4 2,143.00
								2025																	
Earallaral																									
ES Excelland HS Excelland					15,685	15,411	47,486	18,874	13,844	15,754	28,975	20,000	21,868	22,424	25,174	25,528	24,665	25,415	26,168		27,557			23,515	
HS Earalland HS Earalland					7,245	11,627	7,761	11,323	11,113		11,131	12,122	12,711	12,125	10,177	10,454	10,751	11,11	11,525	11,612	11,855	12,186	12,475	12,755	15,268
Olker Escallaral					58	51	58	58	51	58	51	58	58												
Telal Caralleral					32,368	54,555 1.841656555	55,747 1,84118485	17,145	31,62		41,285	42,514	43,014	45,195	46,485	47,633	45,482	58,594	51,000		54,577			51,625	
						1.041656555	1.14111411	1.05010205	1.030115005	1.035624204		1.0150202	1.00505057	1.031401552	1.123111235	1.123113136	1.828135765	1.127422561	4.026530542	1.825336772	1.165331164	1.824711512	1.824115361	1.123541171	1.023006324
···· Peraral Difference																									
····P·····IDiff·······																									
··· Person Difference Saland Canal ES Canal					25	22	21	8	11	32	11	14		17							6	6	a		51
··· Proval Difference Salaral Caral ES Caral HS Caral					8	<i>u</i>	ä	21	31	52 18	n i	34 11	11	97 11	11 12 1	55 12	41 12	41 13	11	4	65 14	45 14	41 14 7	a 11	51 15 7
··· Person Difference Saland Canal ES Canal					25 1 4 2	27	28 5 5 2	23 5 7	34 3 5 3	12 11 5 1	11 4 5 7	54 11 5 1	34 11 5	57 11 5 1	11 12 1	13 12 1 1	a 12 1 1	41 13 1 1	11 11 1 1	4 13 1 1	6 14 1 1			4 11 1	51 15 7
Presal Difference Sobard Count ES Count HS Count HS Count EE Count ALT Count					25 8 4 2	27 1 1 2	28 5 5 2	23 5 5 2	31 5 5 3	32 18 5 3	11 11 1 1	34 11 5 3	34 41 5 3	97 11 5 9	11 12 1 1	33 12 1 1	4 12 1 1 3	41 15 5 3	(1 15 1 1 1	44 15 1 1	45 14 5 4	40 19 7	40 14 7 4	61 14 7 4	51 15 7 4
Preval Difference Subard Canal ES Gual HS Gual ES Canal ES Canal Alt Canal OS Canal					25	27 1 1 1 1 1	28 5 2 1	2 2 1 1	31 3 3 3 3	12 11 1 1 1 1		54 11 5 5 5	34 11 3 3 3 5	57 11 5 3	11 12 1 1 1 1	11 12 1 1 1 1 1	41 12 1 1 1	44 13 1 1 3	0 11 1 1 1	44 13 1 1 1 1 2	45 14 1 1 1 22	40 14 7 4	4 14 7 4 1	41 14 7 4 1	51 15 7 4 1 3
Person Bidferense Sabard Causal ES Causal HS Causal HS Causal ES Causal ES Causal					25 4 2 3 43	22 1 1 1 1 1 1 1	20 5 2 5 47	23 3 2 1 1 4	31 3 3 3 3 51	52 18 5 3 52	11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	34 11 3 3 55	34 11 5 5 5 57	57 11 5 1 5 5 53	31 12 1 1 1 1 1 1 1	33 12 5 3 5 5 5	41 42 1 1 1 15	44 13 1 3 1 1	43 13 1 1 1 1 1 1	44 15 1 1 1 1 1	6 14 1 1 1 1 22	45 19 7 4 5 74	4 14 7 4 3 25	0 14 7 4 1 7	58 45 7 4 3 73
FreedBilleraar Sebad Caral Ciccuit II Coul II Coul II Coul II Coul II Coul II Coul II Coul II Coul					25 4 2 5 43	27 1 2 1 1 2 1 4	21 5 2 5 42	23 3 2 1 6	31 3 3 3 3 51	52 18 5 3 5 52	11 11 1 1 1 1 1 1 1 1	34 11 3 3 55	14 11 5 5 5 57	37 11 5 3 3 53	11 12 1 1 1 1 11	33 12 5 3 5 5	4 12 1 1 15	44 19 1 1 1 1 1 1	41 11 1 1 1 1 1	44 15 1 1 1 1 2	65 14 1 1 1 22	45 19 7 4 3 74	41 14 7 4 3 75	0 9 7 4 1 7	58 45 7 4 3 73
Preval Difference Sabard Canal ES Coul HS Coul US Coul ES Coul Alt Coul DIS Coul					25 4 2 43 4,733	27 4 2 3 4 4 4 4 4 5 5 5 4 5 5 5 5 5 5 5 5 5 5	28 3 5 2 47 5,285	23 3 5 2 3 43 63 5,334	34 3 3 3 3 54 5,533	92 18 5 3 52 52 5,799	33 41 5 1 3 3 34 5,001	34 11 5 3 55 55 5,113	34 11 3 3 57 5,378	97 11 5 3 59 6,572	11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	33 12 5 3 5 5 5 5 5 5	41 12 5 3 55 2,464	41 19 5 5 5 5 5 5 5 5 5 5 5 5 5 7 ,357	0 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	() 15 1 1 1 1 7 7 7 7	45 14 5 4 3 72 7,345	46 14 7 7 7 7 7 8	41 14 7 4 3 75 1,333	0 14 7 4 1 77 1,315	58 15 7 4 3 29



## **Equipment Refreshes**



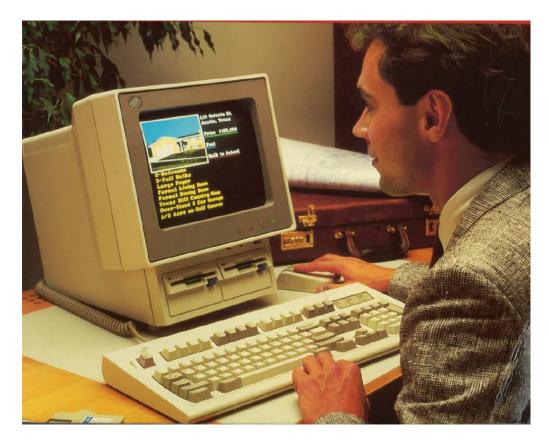


Moore's Law

- Moore's Law states that the number of transistors on a microchip doubles about every two years, though the cost of computers is halved.
  In 1965, Gordon E. Moore, the co-founder of Intel, made this observation that became known as Moore's Law.
- Consider a computer generation to be 2 years



**Moore's Law, Logarithmically** https://en.wikipedia.org/wiki/Moore%27s law



Windows 7 was our computer operating system in 2009. Today we use Windows 10.

	Processor Cores	RAM	Hard Drive	VRAM
Windows 7 (2009)	Single	<b>1</b> GB	16 GB	
Windows 10 (2015)	Dual	<b>4</b> GB	64 GB	
Adobe Creative Cloud 2018 (just Photoshop)		2 GB	2.6 GB	512 MB
Adobe Creative Cloud 2022 (just Photoshop)		8 GB	4 GB	1.5 GB



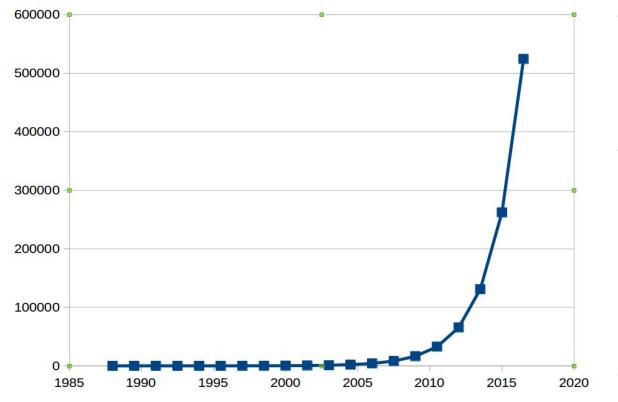
**Desktop Computer–1988** 



Smartphone-2022

- 65,000 End-User Devices
- 4,500 Phones
- 4,400 Wireless Access Points
- 2,000 Surveillance Cameras
- 1,000 Network Switches
- 1,500 Promethean Panels
- TVs
- Redundant Backup Systems
- UPSs (Uninterruptible Power Supply)
- · Firewalls
- Printers/Copiers
- Large Venue A/V
- Classroom A/V
- Public Address Systems





**Moore's Law, Arithmetically (What it really looks like)** https://homepages.cwi.nl/~steven/Talks/2016/01-08-internet/#L587

- 20,000,000 documents processed per day for authentication/event logs
- 3 TB of data to maintain 1 month of monitoring data
  - ~3,900 filing cabinets full of paper documents
  - ~600,000 songs
- Near real-time reporting and alerts on suspicious activity





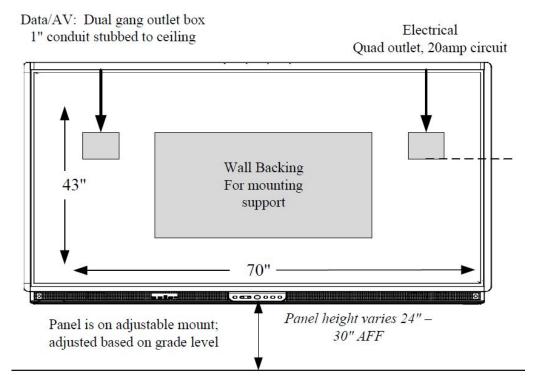
A hacker in his native dress & environment

- Why are equipment refreshes important?
  - Old equipment (i.e. >5-years old) is vulnerable and dangerous!
  - Old software (i.e. >2 versions old) is vulnerable and dangerous!



## Construction



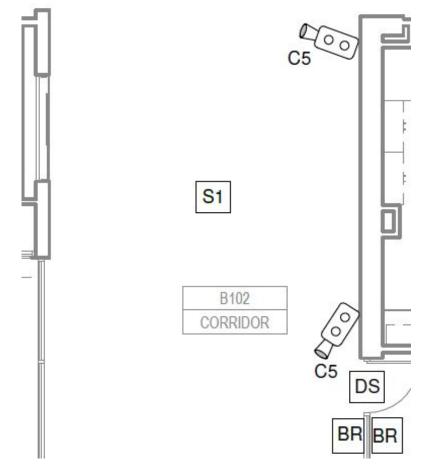


**Classroom Teaching Wall Design** 

## Classroom & Role-based Standards

- 75" Promethean Panel
- Extron Control System
- Integrated Public Address
- Document Camera
- Teacher Desktop



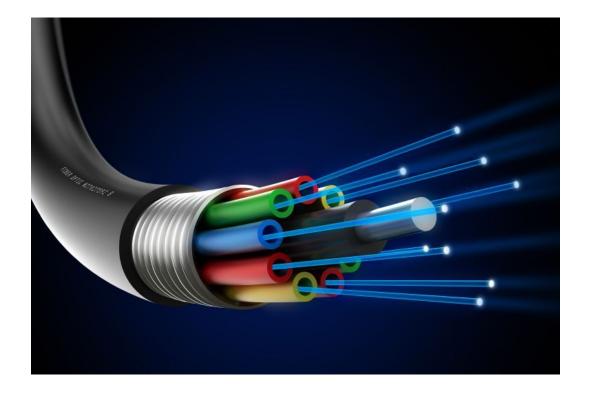


## Surveillance Cameras

- Everywhere!
- Hi-Def
- Low Light



Surveillance in an Elementary Entry Corridor



## Fiber Optic Connectivity

- It is significantly cheaper for us to install fiber optics ourselves rather than leasing lines if the line is used for more than 2 years.
- That connection to our wide-area network will last more than 20 years.
- Many of our sites have multiple links





### Equipment

- Example: The new Denton High School has
  - 3,600 Wired Connections
  - 2,300 Chromebooks
  - 546 Desktop Computers
  - 234 Webcams
  - 156 Laptops
  - 130 Promethean Panels
  - 125 Document cameras
  - 75 Network Switches
  - 21 Printers
  - 15 MDFs/IDFs (Data Closets)
  - 15 Copiers





## **Business Continuity Power**

- Devices
  - UPS
  - On-site Generators (secondary schools only)
  - Generator truck with building umbilical (elementary)
- Purpose
  - A UPS will keep connected equipment alive for 20 minutes or so
  - A generator will keep connected devices alive for as long as it has fuel.





## HVAC in MDF/IDF

 Computing equipment is very sensitive to heat and can react to high heat by behaving erratically or having a greatly reduced lifespan.



## **New Standards/Best Practices**





#### Ubiquitous WiFi 6

- WiFi with sufficient capacity for the number of users in a space and WiFi in every space both inside and outside, including playgrounds and parking lots.
- Parents, students, staff, and visitors expect high performance from our WiFi





#### Ubiquitous WiFi 6

- Everyone has 2 or 3 devices on them at all times.
- Chromebooks are the "textbook" for digital resources for ALL 32,000 students. Chromebooks are wireless and get their data almost exclusively through that connection





#### Ubiquitous WiFi 6

- WiFi 6 is a recently released standard and supports 50% more connections per access point.
- WiFi 6 allocates bandwidth more efficiently
- Improved wireless speeds for all users

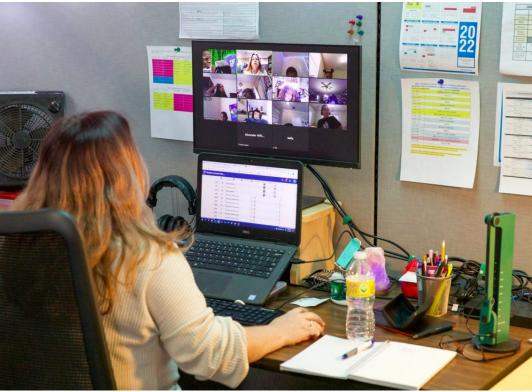




#### **Near-Zero Blind Spots**

 Surveillance coverage of every possible angle in every possible space both outside and inside, including playgrounds and parking lots, using a minimum number of strategically placed, high-definition cameras. Not classrooms





#### Essential Technology Provided Centrally

- Campus budgets are fixed, based on student count.
- Handling those expenses centrally frees up that fixed budget for other classroom needs.



### **Safety & Security**



# Technology–Safety & Security



- Cell Phone Boosters
- AI-based Monitoring
- Ubiquitous Video Doorbells
- •UPSs
- Generators (secondary)
- Generator Truck (elementary)
- Generator & UPS Rewiring
- Near-Zero Blindspot Surveillance
- Redundant Systems & Infrastructure



# Key Points & Takeaways

- Technology is a critical, strategic investment in the education and future of students
- In addition to refreshing the equipment we have, we need to meet new standards and best practices in existing facilities and new construction.
- Technology ages out, on average, after about five years
- The Technology Division is working from a twenty-year plan because most of these expenses are known and predictable.
- DISD's infrastructure is equivalent to that of a fortune 500 company with just under 40,000 internal users.





Robert Pierce Chief Technology Officer <u>rpierce@dentonisd.org</u> 940-369-0185

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.



# Table Talk Q&A Process

Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.





### **Telling the Story**





5:30pm Dinner 6pm-8pm Meeting

Curtis Ramsey Professional Development Center





Our Mission: Empowering lifelong learners to be engaged citizens who positively impact their local and global community.