Investor Day
December 9, 2021
Remarks by Timothy O'Shaughnessy
Chief Executive Officer
Graham Holdings Company

Thank you all for joining our 2021 Investor Day. I am coming to you along with several members of our team from our offices in Arlington, VA and several of our other managers will be joining us from their offices. I am also pleased to announce that we are currently planning for our Annual Meeting of Shareholders to be restored to in-person status. The meeting will take place on May 5, 2022 at The Hamilton Live in downtown Washington, DC. I hope you're able to come by, see one of the premier locations of Clyde's Restaurant Group, and meet some of our business leaders.

DISCLAIMER

These presentations at this meeting contain certain forward-looking statements that are based largely on the Company's current expectations. All public statements made by the Company and its representatives that are not statements of historical fact, including certain statements in this presentation, the Company's Annual Report on Form 10-K, its Current Reports on Forms 8-K, the Company's 2020 Annual Report to Stockholders, and the Forms 10-Q for the first, second and third quarter are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995.

Forward-looking statements are subject to certain risks and uncertainties that could cause actual results and achievements to differ materially from those expressed in the forward-looking statements. Actual results may differ materially from those projected as a result of certain risks and uncertainties, including but not limited to the duration and severity of the COVID-19 pandemic and its effects on the Company's operations, financial results, liquidity and cash flows. Other forward-looking statements include comments about expectations related to acquisitions or dispositions or related business activities, including the TOSA, the Company's business strategies and objectives, anticipated results of license renewal applications, the prospects for growth in the Company's various business operations and the Company's future financial performance. As with any projection or forecast, forward-looking statements are subject to various risks and uncertainties that could cause actual results or events to differ materially from those anticipated in such statements. Accordingly, undue reliance should not be placed on any forward-looking statement made by or on behalf of the Company. The Company assumes no obligation to update any forward-looking statement after the date on which such statement is made, even if new information subsequently becomes available.

For more information about these forward-looking statements and related risks, please refer to the section titled "Forward-Looking Statements" in Part 1 of the Company's Annual Report on Form 10-K, the Company's Current Reports on Forms 8-K, and its Forms 10-Q for the first, second and third quarter and the section titled "Corporate Governance/Risk Factors" under "Investor Relations" on the Company's website, www.ghco.com.

In addition to the results reported in accordance with accounting principles generally accepted in the United States (GAAP) included in this presentation, the Company is providing certain non-GAAP financial measures. The most directly comparable GAAP financial measure and a reconciliation of such non-GAAP financial measures to the most directly comparable GAAP financial measures can be found in the appendix of this presentation.

Table Of Contents

Topic	Presenter(s)	
GH Graham Holdings Operations & Performance	**Timothy J. O'Shaughnessy** Chief Executive Officer Graham Holdings Company	
Graham Media Group	**Emily L. Barr** Chief Executive Officer Graham Media Group	
Kaplan	**Andy S. Rosen** Chief Executive Officer Kaplan, Inc.	
GH Graham Holdings Pension Update	**Wallace R. Cooney** SVP-Finance and Chief Financial Officer Graham Holdings Company	**Sandra M. Stonesifer** VP-HR and Chief Human Resources Officer Graham Holdings Company

GH Graham Holdings 3

Today, we have five speakers for you. I will kick off with a brief summary of financial results year-to-date, comments on capital allocation, and thoughts on our "other businesses". Emily Barr will talk through the trends of the local broadcast business and our continued evolution to a local media operation. Andy Rosen will update you on our Kaplan business, as well as our navigation of COVID and travel restrictions in our international operations. And finally, Wally Cooney, our CFO, and Sandy Stonesifer, our CHRO, will tag team a presentation about our pension plan.

Following the presentations, we will host a Q&A session. Thanks to those who sent questions in advance. We will also be answering questions in real time submitted through the chat in the presentation portal. We'll take as many questions as time allows.

Graham Holdings Financial Results

$ in millions

	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD	% Change
Education	$329	$340	$336	$1,005	$992	*1%*
Television broadcasting	114	120	126	360	350	*3%*
Manufacturing	116	141	100	357	303	*18%*
Healthcare	50	55	55	160	147	*9%*
Automotive	68	90	85	243	182	*33%*
Other Businesses	36	56	108	199	129	*55%*
Eliminations	(1)	(1)	(1)	(2)	(1)	*N/A*
Total Revenues	**$712**	**$801**	**$809**	**$2,323**	**$2,102**	***11%***

	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD	% Change
Education	$24	$19	$14	$57	$45	*27%*
Television broadcasting	34	37	42	113	116	*(3%)*
Manufacturing	16	19	(7)	28	31	*(10%)*
Healthcare	8	9	6	23	24	*(1%)*
Automotive	1	4	5	9	0	*N/A*
Other Businesses	(19)	(19)	(20)	(58)	(55)	*(5%)*
Corporate and Other	(15)	(15)	(13)	(43)	(34)	*(25%)*
Adjusted Operating Income (Loss)*	**$49**	**$55**	**$26**	**$130**	**$127**	***3%***

GRAHAM HOLDINGS

** Non-GAAP measure – see reconciliation in appendix*
Note: the sum of certain amounts may not equal the total due to rounding

4

Our financial results for the first three quarters of 2021 reflect a partial recovery from COVID. As the year progressed, both Kaplan International and Clyde's Restaurant Group's operations improved, but have not yet fully recovered to 2019 trends. Dekko remains challenged as large end markets in commercial real estate and hospitality remain challenged.

Revenue through Q3 grew 11% and adjusted operating income grew 3%. As a reminder, 2020 contained meaningful political revenue at Graham Media Group that did not repeat in 2021.

Operating Cash Flow

Operating income before depreciation, amortization and impairment charges, and pension expense — *$ in millions*

	2016	2017	2018	2019	2020
Operating Income	$223	$136	$246	$145	$100
Add: Depreciation	65	63	57	59	74
Add: Amortization	27	41	47	53	57
Add: Impairment	2	10	8	9	30
Add: Pension Expense[1]	20	19	18	20	23
Operating Cash Flow[2]	**$336**	**$268**	**$377**	**$287**	**$284**
Less: Capital Expenditures	(70)	(57)	(98)	(94)	(66)
Free Cash Flow[2]	**$266**	**$211**	**$279**	**$193**	**$218**

	Q3 '21 YTD	Q3 '20 YTD
Operating Income	$55	$54
Add: Depreciation	52	58
Add: Amortization	44	43
Add: Impairment	32	30
Add: Pension Expense[1]	17	17
Operating Cash Flow[2]	**$199**	**$202**
Less: Capital Expenditures	(141)	(52)
Free Cash Flow[2]	**$59**	**$149**

GH GRAHAM HOLDINGS [1] Operating portion of pension expense [2] Non-GAAP measure Note: the sum of certain amounts may not equal the total due to rounding 5

Operating cash flow declined 1% from 2020, while free cash flow declined much more substantially, from $149 million to $59 million. The reason for this is simple. In Q3 we acquired two properties (one at Kaplan and one in our automotive group) for approximately $95 million in cash, all of which was classified as CapEx. In both cases, we expect acquiring these properties to improve the cash flow profiles of the operating businesses that made the acquisitions.

In Q4, operating cash flow will likely be down as compared to 2020. We haven't figured out how to have elections occur annually, but we'll keep trying.

Our balance sheet and liquidity remain strong. As of Q3, our cash and securities totaled $913 million against $556 million in debt.

In 2021, capital has been allocated more broadly than in previous years. We acquired a new business at the parent level (Leaf Group), we completed or are in the process of completing what we call "bolt-on" acquisitions at several of our operations, we purchased a new campus to create a long-term home for our MPW operations in London, we funded or continued to fund several internal organic initiatives, we increased the dividend; and, through November 30, we have repurchased 62,198 shares of the Company.

It is unlikely next year will have as much variety in capital deployment.

While not foreclosed to the possibility of an additional transaction at the parent level, we believe the most bang for our buck will come from helping several of our managers seize opportunities to increase the earning power of their businesses. In the immediate future, we plan to prioritize time and effort towards helping grow the earning power of our existing operations.

In addition to maintaining our dividend, our primary near-term capital allocation priorities will be:

- Continuing to fund promising internal initiatives such as Framebridge.
- Repurchasing shares. As evidenced by our recent repurchases, we believe there is a substantial delta between share price and our view of intrinsic value. If that gap persists, we are likely to continue to be a buyer.
- Evaluating bolt-on opportunities primarily at Kaplan and Graham Healthcare Group, as well as on a case-by-case basis at other operations.

We believe our current balance sheet and liquidity allows us to fund these priorities.

Before Emily and Andy walk through two of our bigger engines, Graham Media Group and Kaplan, let’s spend some time talking about our group of companies, creatively called “Other Businesses”.

Our Other Businesses group houses a varied set of businesses, currently numbering 10. Some make money, others lose money. Collectively in 2021, this group will lose a substantial sum.

I would like to share how we think about this group of businesses. First, a little background.

The Other Businesses group is relatively new to the Company, really only becoming meaningful in aggregate scale within the last decade. While financial reporting shows the aggregate revenue and expense sums for the group on a year-in, year-out basis, the businesses within the group have not remained constant. This requires a bit more detailed financial analysis for those looking to make multi-year comparisons of trends, although the Company generally discloses reclassified comparisons going back at least 2 years when a business is moved in or out of a segment.

We have identified four scenarios that exist in the long-term for our businesses within this group:

1) A business reaches a scale where it "graduates" and becomes a broken-out segment within our financials. This has happened with Manufacturing, Graham Healthcare Group, our Automotive, and SocialCode (now Code3). In the case of SocialCode, operations became challenged and the business was re-absorbed back into the group.
2) It produces steady cash flow that can be used to allocate elsewhere.
3) It gets shut down. This was the case with Trove, a digital news operation.
4) It is sold. This can be a happy occurrence, such as with Megaphone, or it can be an attempt to achieve some amount of capital recovery, as with The Root.

We manage every business with an eye toward achieving the first two outcomes with reasonable returns on invested capital. If we no longer think that possible, we will look to exit or sell. Our business leaders know and understand it is not an inalienable right to be owned by Graham Holdings.

In aggregate, this has been a very successful strategy for shareholders. We believe that the value realized from Megaphone, when combined with conservative views of value of our "graduated" businesses, Graham Healthcare Group and our automotive dealerships, far outweighs the cumulative capital invested in this category.

There are obviously no guarantees the current set of businesses will generate similar results, but we work with our managers with the same level of rigor and expectations as in the past.

So where does that leave us today with this group?

- For the set of businesses currently in Other Businesses, we expect 2021 will be a peak investment year and losses should be reduced in 2022.
- We expect revenue to grow next year. Some of this will be from the addition of a full year of Leaf Group, and a sizeable chunk of it should be organic growth.
- Leaf Group is now the largest business by revenue within the set of Other Businesses. We are still early in our ownership of the business, but we are optimistic about the long-term return profile. Future growth at Leaf should drive meaningful flow-through to the operating income line.

One of the more frequent questions I am asked is, “How should we value the group of Other Businesses?” Unfortunately, I don’t have a magic formula to unveil. If I did, I am certain it would be called “too aggressive” by some and “too conservative” by others. But it is a fact that there is hundreds of millions dollars of invested capital in this set of businesses. We believe attractive returns are a realistic possibility; and, if we were to sell these businesses today (which, as a group, we have no interest in doing), we would expect to recover an amount greater than our invested capital.

At this point, I'd like to bring in my colleague, Emily Barr, who I've asked to provide an update on the local broadcast landscape, as well as Graham Media Group's ability to grow its local presence beyond traditional broadcast. But before I do that, I would like to toot Emily's horn for a moment. As close followers of the Company may already be aware, Emily was recently named CEO of the year by the industry publication TV News Check. This comes on the heels of being named 2020 CEO of the year by the other major industry publication, Broadcasting and Cable. If you have a chance to check it out, TV News Check did a series of in-depth articles on Emily and her team; it will be worth your time. You'll come away with a greater understanding of why our business has had the success it has and a deep appreciation for the leadership Emily has provided through a tumultuous few years.

Tooting complete, I'd like to turn it over to her now. Emily?

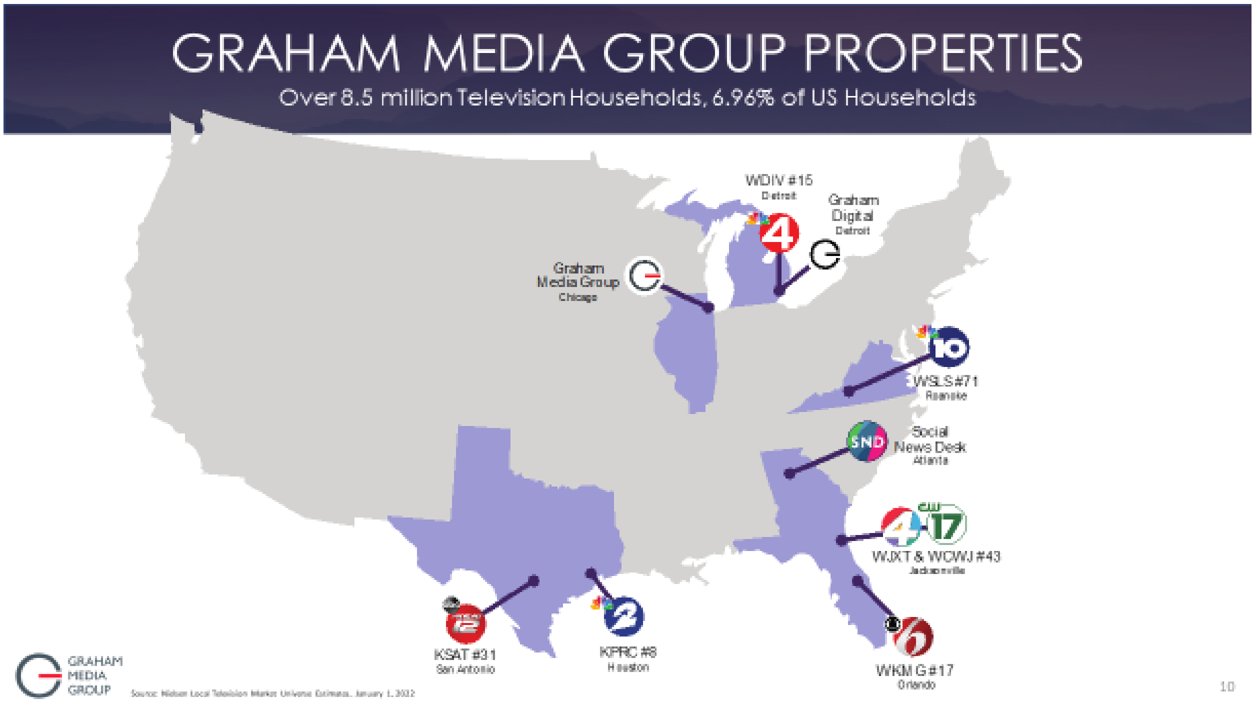
Investor Day
December 9, 2021
Remarks by Emily L. Barr
Chief Executive Officer
Graham Media Group

Thank you Tim, for those incredibly kind words. I am so humbled and grateful to be leading Graham Media Group. I am also delighted to have the opportunity to provide you with an overview and update on the company, as well as delve into the overall broadcast landscape. We are living in interesting times, to say the least.

The growth of digital and social media and myriad of streaming and on-demand platforms continues to swirl around us at a breathtaking pace. It is not uncommon to hear that television stations are relics of a bygone era - irrelevant in our mobile and digital age. Yet, our ability to navigate this new world order requires us to operate nimbly across all of these platforms without losing sight of our core mission: to provide extensive, trusted local news reporting that informs, investigates, uplifts and celebrates the communities in which we live and work. Our relentless focus on transforming our local newsrooms into multi-media hubs is paying off in greater usage, greater revenue and broader brand exposure that is connecting with users and viewers across the demographic spectrum. Just last week, immediately following the horrific school shooting tragedy in suburban Detroit, our website, Click-On-Detroit, garnered over one million users in less than 24 hours from individuals seeking detailed, nuanced information from a trustworthy source. And, as local newspapers continue to struggle and disappear, local television media has emerged as the most trusted source of unbiased news - no small feat given our country's increasing polarization and fixation on the concept of "fake news".

Politicians on both sides of the aisle do not agree on much these days but they remain anxious to connect with their constituents who, in turn, flocked to our television, web, social and mobile platforms throughout the COVID crisis, desperate for news they could trust. Our network partners, ABC, NBC and CBS, have a renewed appreciation for our authenticity and are leveraging our local goodwill to enhance their own national coverage. In turn, we are demanding and receiving significant involvement with their nascent streaming platforms that we believe will bear financial fruit for us moving forward.

Our ability to connect the dots for the communities we serve is not only essential to our relevancy but, underpins our democracy which absolutely depends on free, vibrant and independent local media.



As a reminder, we comprise seven local media hubs covering just under 7% of the U.S. – over 8.5 million households in primarily top 50 markets with Houston as our largest market at number 8 and Roanoke our smallest market at number 71. We operate three NBC affiliates covering Houston, Detroit and Roanoke, one ABC affiliate in San Antonio, one CBS affiliate in Orlando and a fully local independent station plus a CW affiliate in Jacksonville, Florida. In addition, we own and operate Social News Desk, a SaaS-based company headquartered in Atlanta, that currently serves over 2,700 television, newspaper and radio newsrooms world-wide, making it easier and more efficient for them to write, edit, post and curate news on social media platforms. Also based in Detroit, Graham Digital oversees all of our digital, mobile and OTT strategy and implementation for all of our properties and is considered a leader in the field of broadcast digital operations.

2021 OPERATING RESULTS

($ Millions)

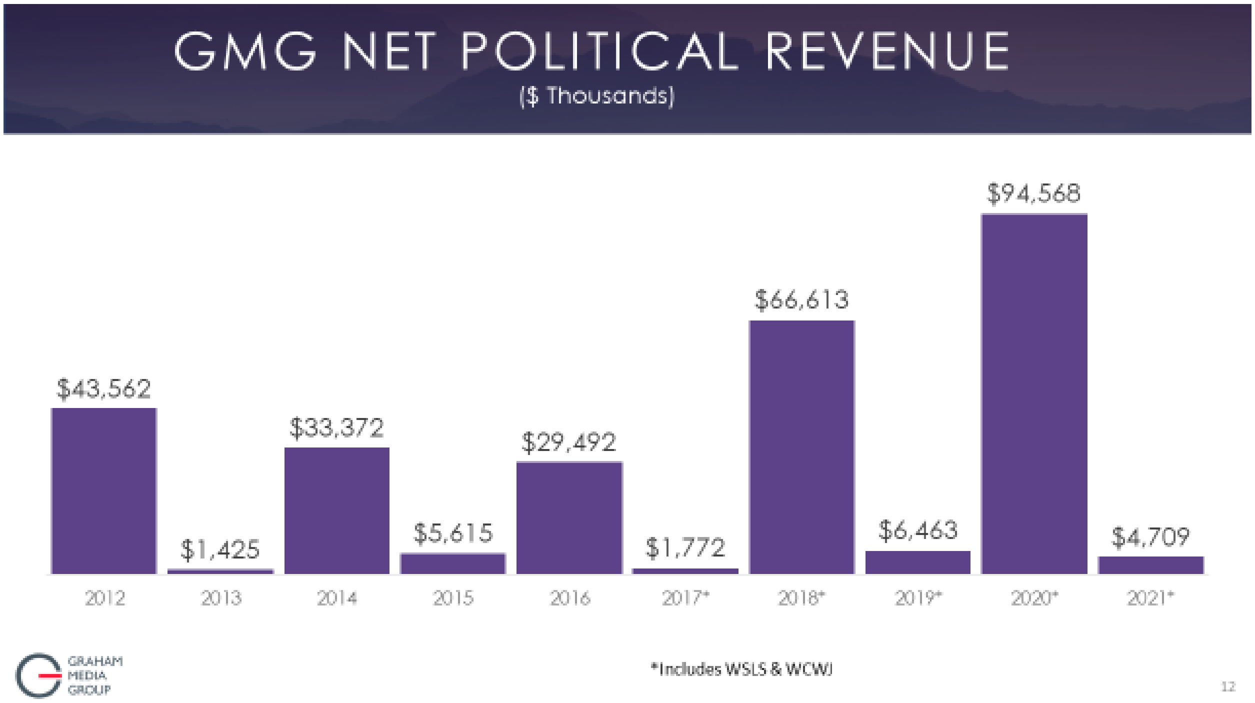
	2020 Jan- Sept Actual	2021 Jan-Sept Actual	% Change
Total Revenue	$350	$360	3
Total Expense, Excluding Amortization of Intangible Assets	234*	247*	6
Operating Income before Amortization	$116*	$113*	(3)
Operating Cash Flow	$126*	$123*	(2)
Operating Margin	33.2%*	31.4%*	
Operating Cash Flow Margin	36.0%*	34.3%*	

GRAHAM MEDIA GROUP

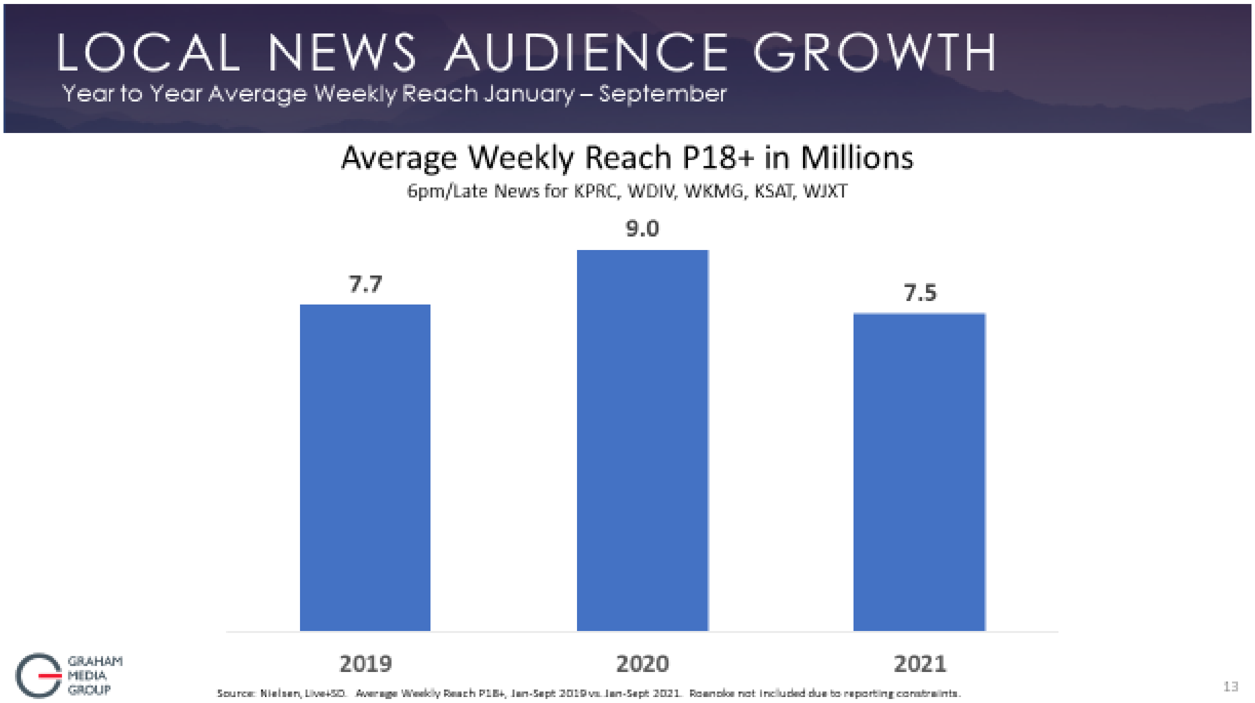
*Non-GAAP measure – see reconciliation in appendix

11

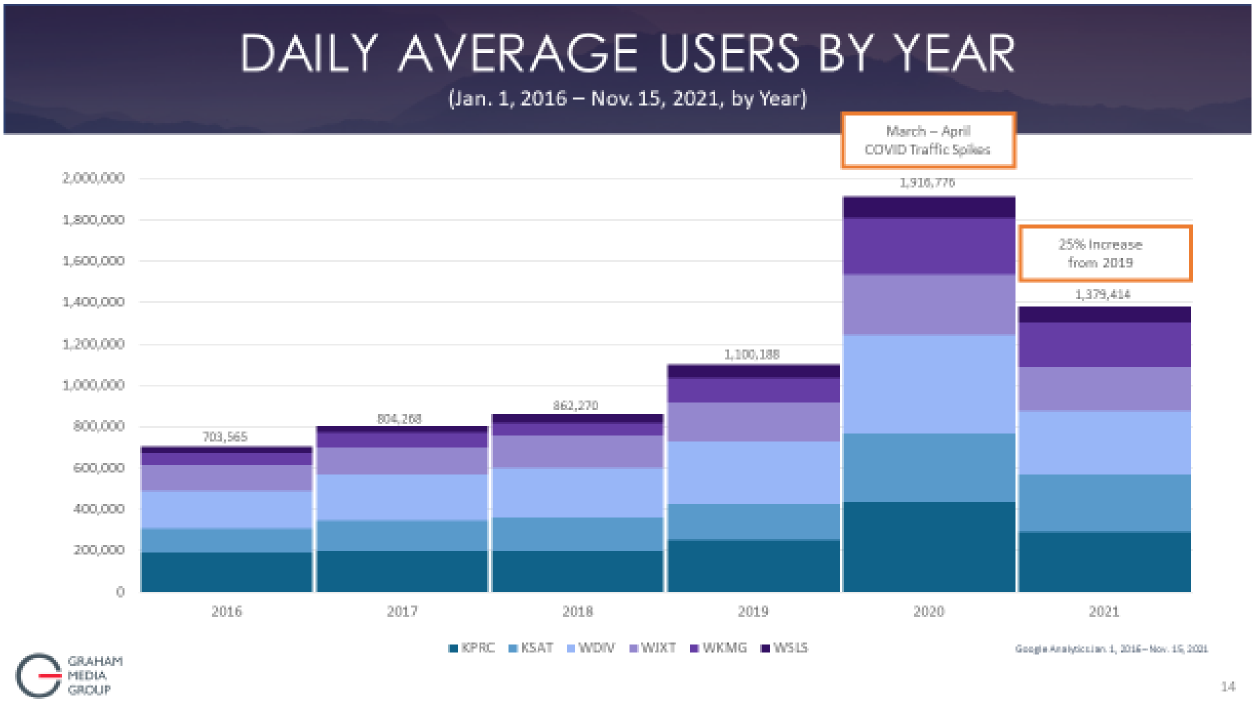
With the continued specter of COVID still dominating the news cycle both locally and nationally, the first three quarters of 2021 have proven to be resilient with total revenue increasing modestly over 2020. This is especially significant because 2020 saw an enormous amount of political advertising flood into our markets, particularly in the late 3rd and 4th quarters of the year due to the November elections. With no real political spend to speak of in 2021, we did experience a surge of sports gambling advertising in two of our markets, primarily in Detroit, as well as a much-improved presence from categories such as Home Improvement, Health and Fitness, and Professional Services. Operating Income before amortization decreased by $3 million in the first nine months of 2021 due, in part to expense increases in network and 3rd party digital fees, as well as higher sales expense due to increased revenue.



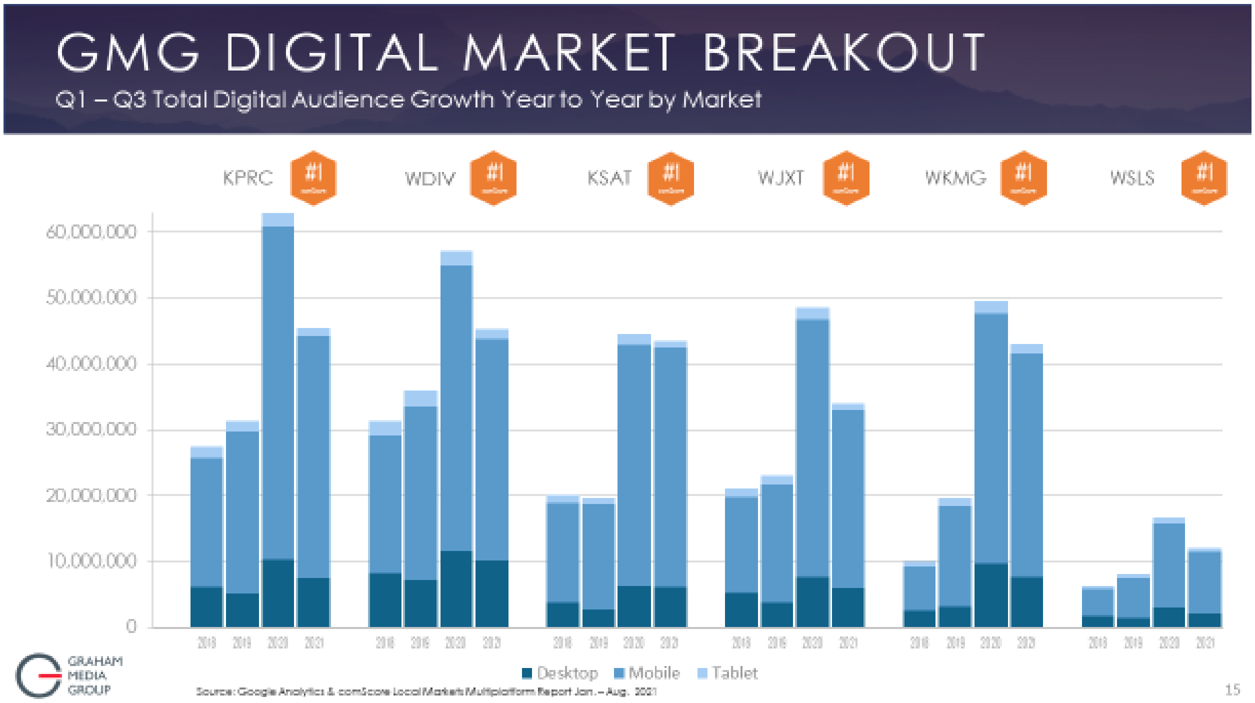
As I just mentioned, 2020 saw a record amount of political spend pour into our markets throughout the year and that meant the absence of some $95 million in 2021. By contrast, this past year has been relatively quiet in terms of political and is completely consistent with the odd/even years of broadcast political advertising.



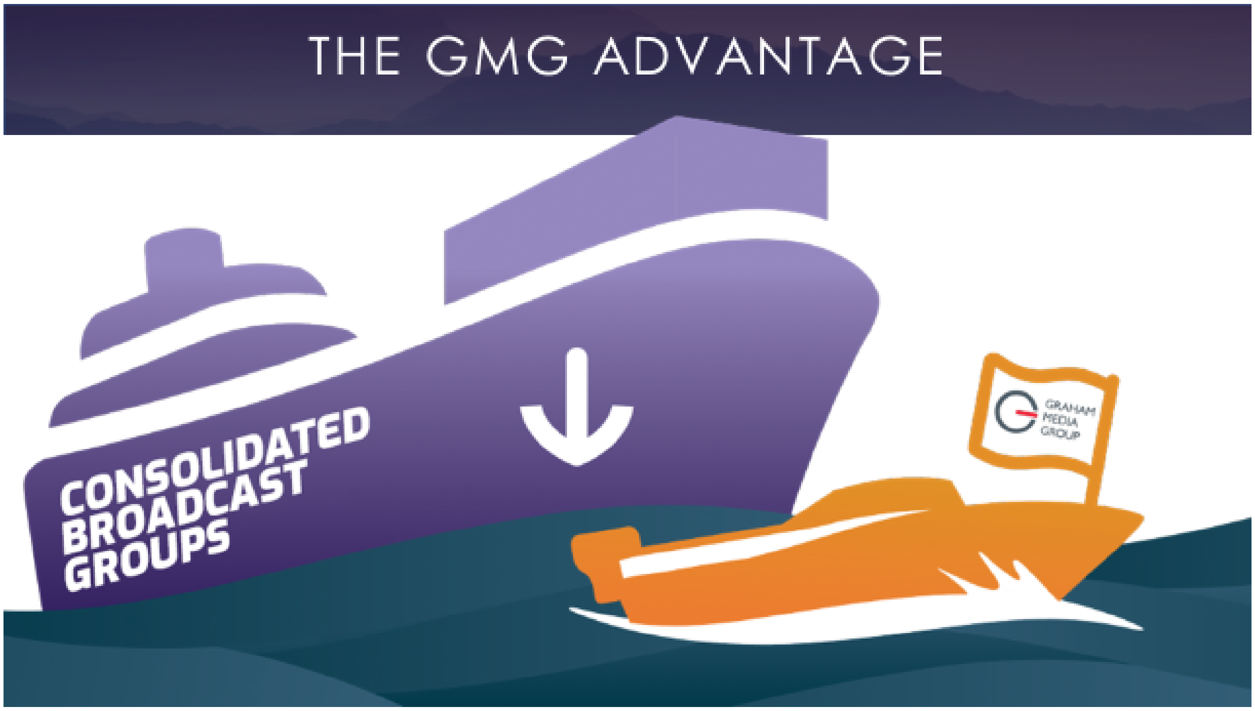
Our 2021 average weekly reach during our 6pm TV newscasts has returned to pre-pandemic levels and is roughly in line, though slightly below 2019 levels.



We have experienced a marked increase in our average daily digital users when comparing 2021 to 2019. As you can see here, 2020 experienced a significant spike in digital traffic brought on by our COVID coverage. This 25% increase from 2019 to 2021 is the result of a concerted and focused effort to reach younger users where they live: on line and on their mobile devices. Each of our station's websites and mobile platforms have experienced significant growth over 2019 despite the obvious decline from the height of the pandemic last year.

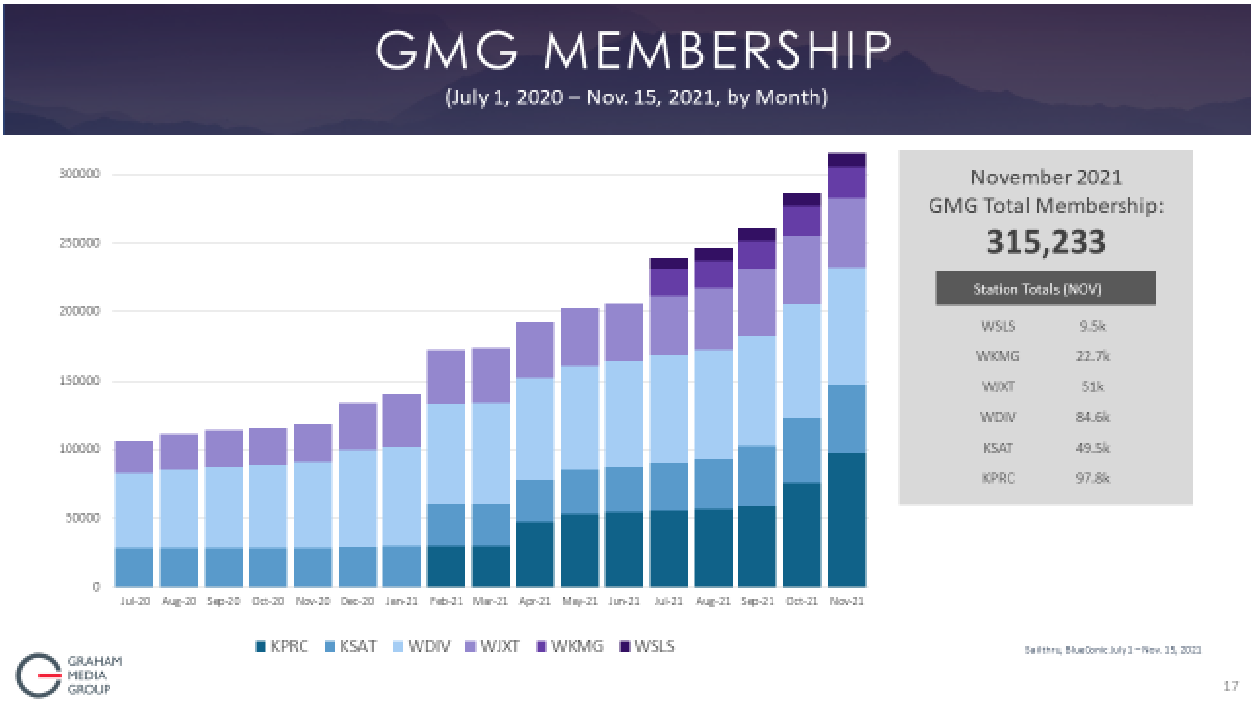


We are particularly proud of the fact that every single one of our stations is number one in their respective markets according to Comscore and has shown significant growth in mobile usage. We continue to focus much of our attention on our mobile strategy as we firmly believe our future depends on our success in the digital and mobile arenas.

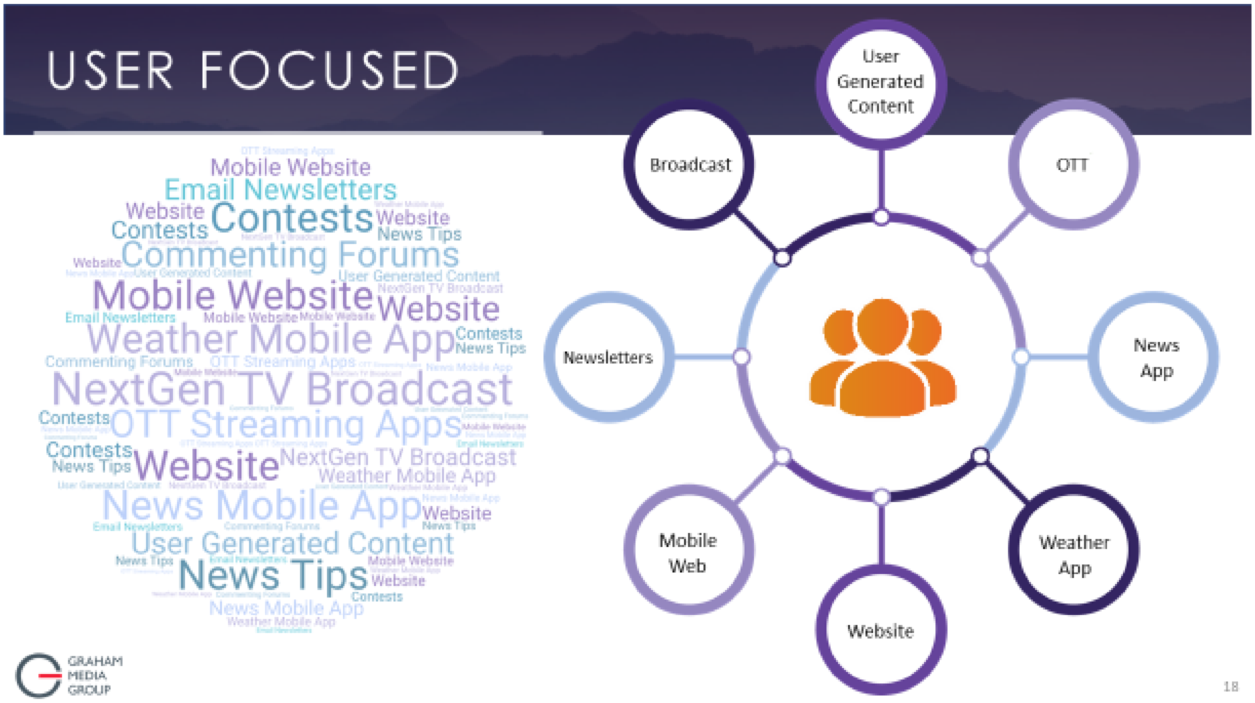


When we measure our success, it is critically important that we recognize the impact of local news as it continues to be the driver of what we do in creating and distributing local media in our markets. Local news is 100% of our image and a significant driver of our advertising revenue both on-air and online. Our stations' strong positions in relatively large markets have allowed us to function much like a speed boat passing an ocean liner in that we remain nimble and flexible in setting our course. We are not burdened by corporate overhead or the challenge of assimilating different company cultures into our organization as some of our competitors have experienced as they have acquired other broadcasters and grown very large in scale, but are still wrestling with the best way to manage and grow their assets.

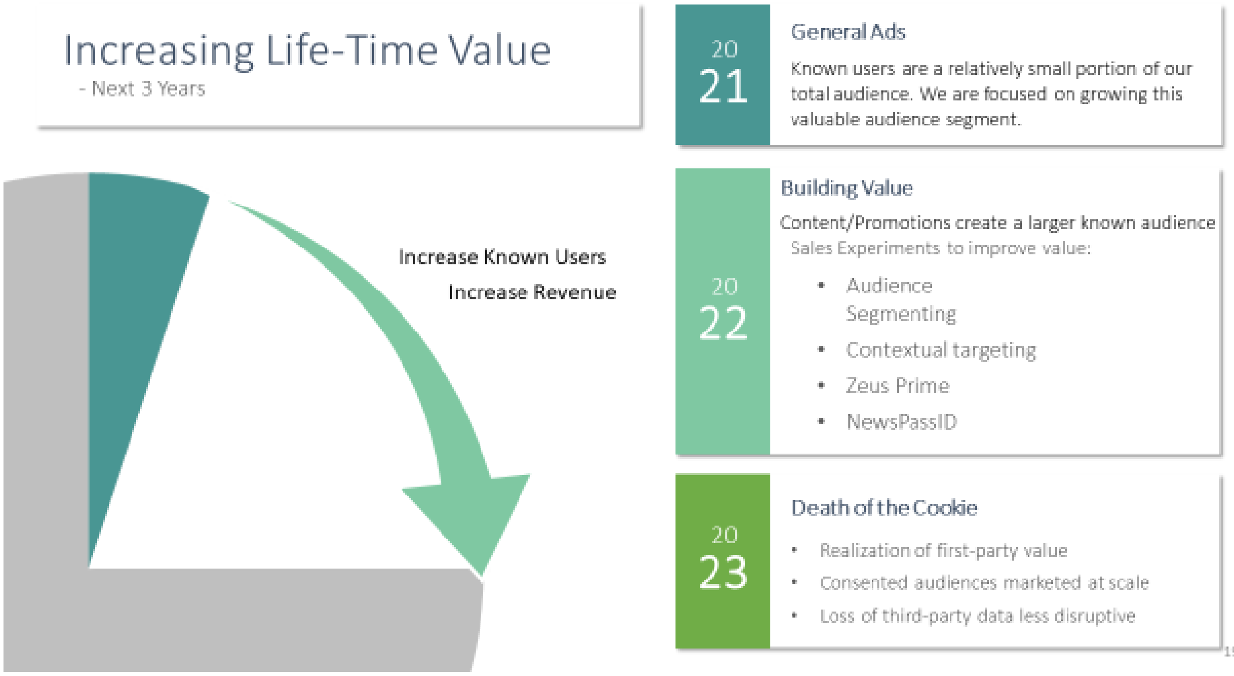
In addition, our network partners are finding themselves splitting their focus between broadcast and streaming and we are discovering opportunities abound for us to engage in the streaming space on a local level that we believe will prove profitable over time. For example, we have developed several over-the-top applications in many of our local markets focusing on hyper-local programming, weather and community events.



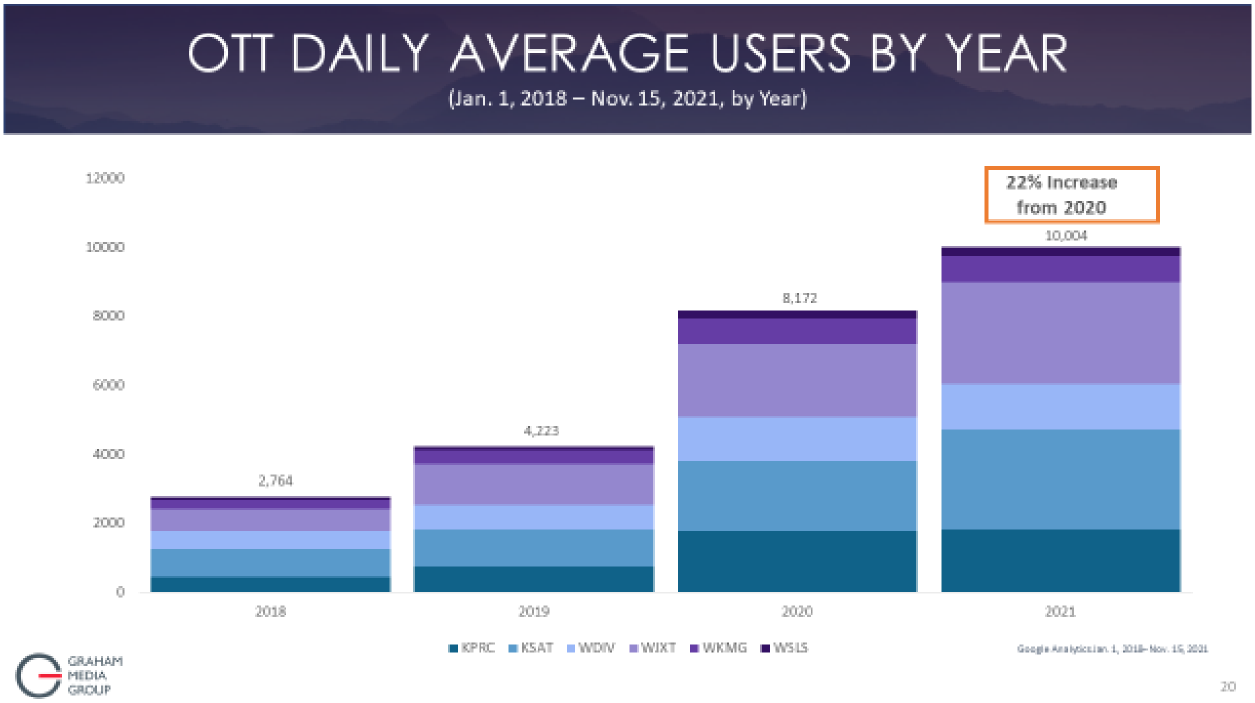
One area of growth we are delighted with is in what we call, “Insiders”. Each of our stations has launched a membership-focused program that allows users and viewers to sign up for a special connection to their local station and website; and this, in turn, gives us valuable insight into exactly who is connecting with us and what is driving their usage. We began the program a little over a year ago and have been extremely pleased with its growth and the potential for revenue growth to follow from it.



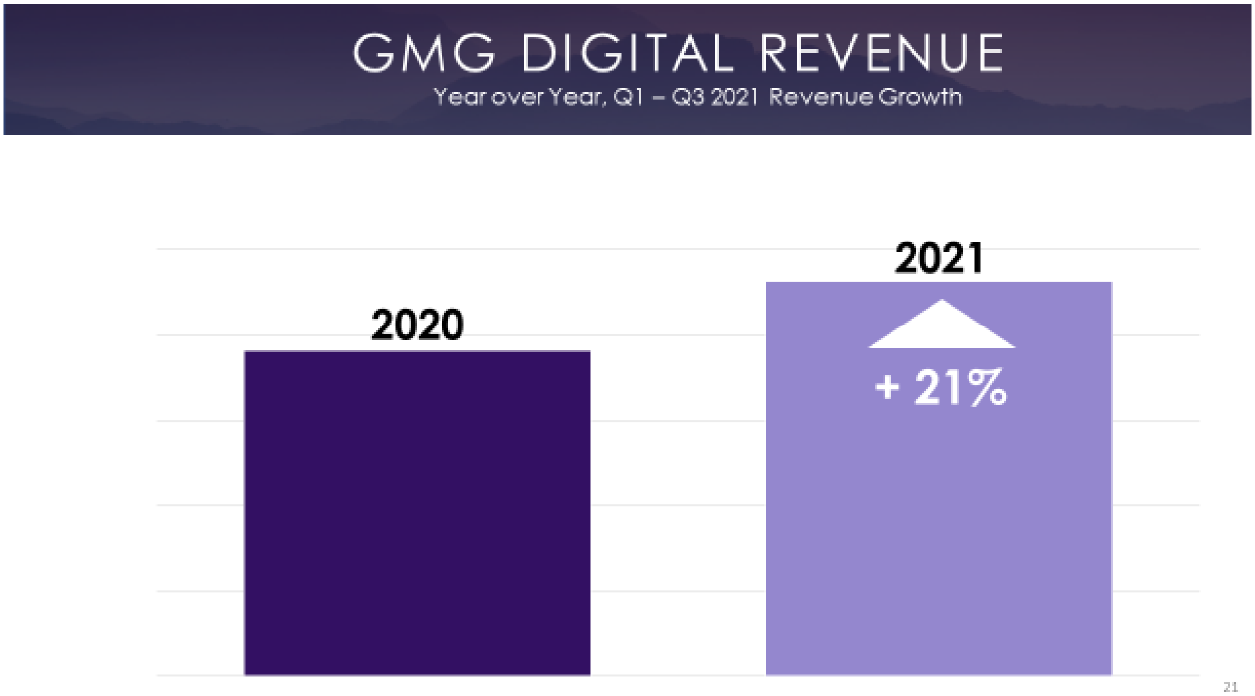
Every effort we are currently engaged in is laser-focused on our users, ensuring that their experience is valuable, useful and locally-oriented. We have built newsletters, weather and news applications and utilized user-generated content both online and via our own OTT apps that connect with users and viewers in a meaningful way that has kept them coming back for more. The aforementioned “Insiders” program allows our most ardent fans to connect with us through in-person and on-line events designed to enhance their relationship with our media hubs. These “insiders” are deeply loyal to our news content and are a valuable audience for our advertisers.



As a result of this laser focus on users, we believe our deeper connection and relationship with our viewers and customers, along with a unified user experience on all platforms, will increase the lifetime value of these known audiences. This will ultimately drive better, actionable user data and become an increasing share of our advertising revenue over time.

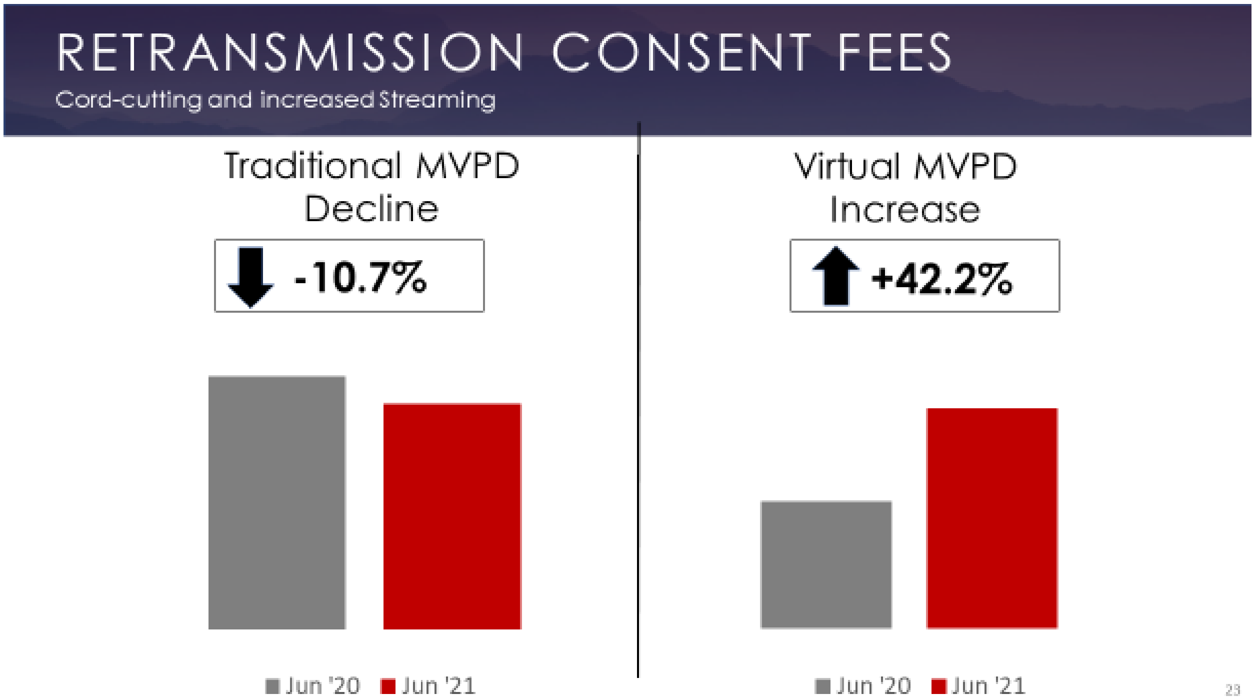


On the OTT side, we have increased our average users by 22% over 2020 and see much more opportunity for significant growth in the years ahead.



Overall digital revenue for GMG is up 21% over 2020 as a result of our relentless focus on this end of our business.

We now have three of our markets launched on the Next Generation or ATSC 3.0 platform and are working with Google on targeting advertising to those early-adopters who are already purchasing ATSC-capable TV sets. We are also one of only a handful of companies that have already launched a 3.0 interface (seen here on the left side of your screen) that allows viewers to call up local stories and clips as they are watching our air. ATSC 3.0 is in its infancy but also has the potential to allow us to data-cast and that could become a whole new revenue stream in the years ahead.



As streaming and cord-cutting continue to impact our over-the-air broadcast viewership, we have seen an almost 11% decline in traditional cable and satellite viewing and an increase of 42% in the use of virtual providers such as You Tube TV and Hulu Live. While we are grateful for the growth of the virtual providers, they are not making up for the loss of traditional cable and satellite which continues to adversely impact our overall retransmission revenue.

Finally, I just want to recognize the quality and variety of local news content we are developing and producing across all of our platforms, as we believe this is essential to maintaining and growing our viewer and user relationships: Solutionaries takes a deep dive into some of our communities' most vexing issues and presents solutions that are playing out in the real world and making a positive difference right now. Our Trust Index has helped viewers and users dissect fact from fiction in a straightforward, apolitical manner. Something Good is a regular series of specials available over the air, digitally and on OTT. It is designed to celebrate and uplift our local communities with positive stories that can sometimes be drowned out by the daily onslaught of hard news. And, Forecasting Change is GMG's group-wide initiative to tackle the impact and real-world consequences of climate change on our communities.

Television news ratings, digital access and the beginnings of Next Generation television access across the GMG footprint remain strong and are a meaningful reflection of the critical role we play in informing, uplifting and celebrating our communities. As we all continue to grapple with the enormity of COVID and the impact it continues to have on every aspect of our lives, local news has never been more relevant and remains the most highly trusted source of news and sought-after information for a large portion of the news-consuming public.

Thank you very much for your time today. I am happy to answer any questions you may have during the Q&A. Now, I will turn it over to Andy for an update on Kaplan.

Investor Day

December 9, 2021

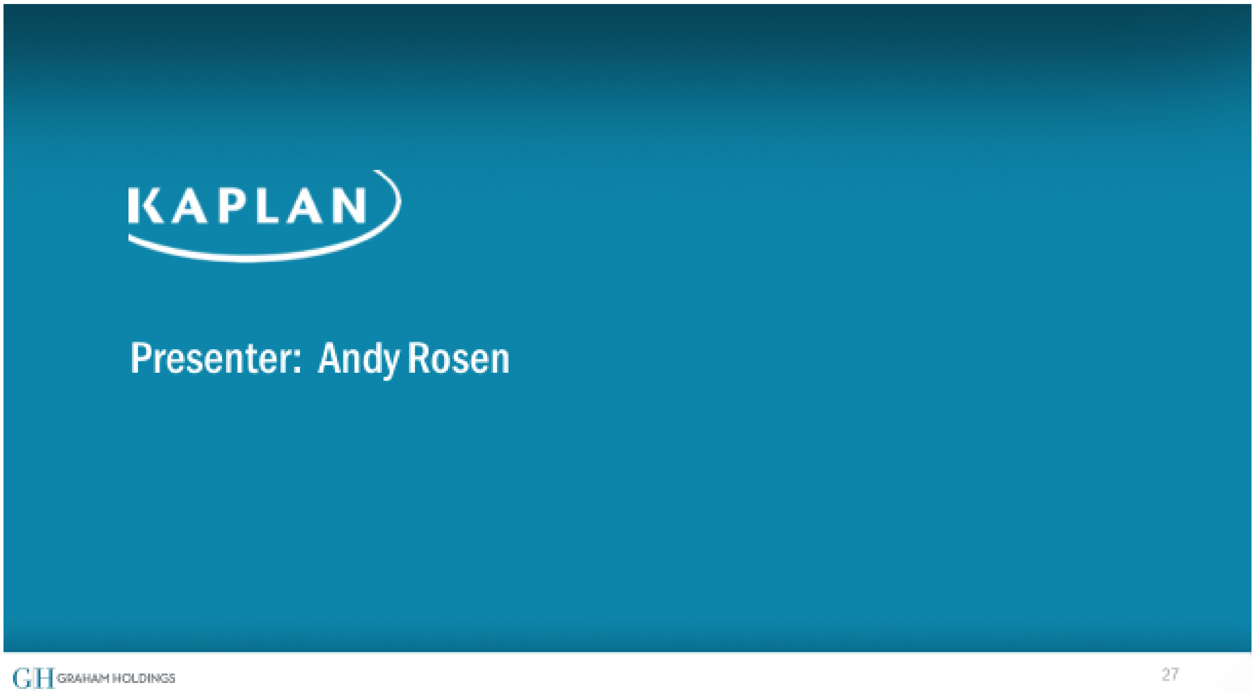
Remarks by Andrew S. Rosen

Chief Executive Officer

Kaplan, Inc.

GRAHAM HOLDINGS COMPANY – INVESTOR DAY

December 9, 2021



Andy thanks Emily and greets shareholders.

Like almost every organization around the world, Kaplan continued to face COVID-related challenges in 2021 that were truly unprecedented. Those challenges, which we started seeing with our Wuhan students in January, 2020, began fully impacting our business by March, 2020 and continue, to a greater or lesser degree, today. In most areas we've been able to navigate well to the new reality, though in some the constraints of the pandemic remain significant.

There are some positives for Kaplan that have come about in the wake of the pandemic:

1) We've used this period to build upon our assets and technical expertise, adding capabilities that have not only helped us to navigate the "new normal," but have also meaningfully strengthened the earning power of our businesses for years to come. Examples of this are the migration of many of our classroom courses to online, significant enhancement of our digital products, and deeper development of student and client support systems, particularly in an all-digital environment.

2) In 2020, we undertook a number of strategic changes, including the reorganization and integration of our three primary US units into a single division; and the consolidation of our Languages Group, with fewer centers and offices in strategic locations. In 2021, this has resulted in a more streamlined organization, with lower fixed costs and greater operating efficiencies. You'll see that play out in our results.

3) And finally, across Kaplan our team showed immense dedication in supporting our students, partners, suppliers, employees and shareholders. I'm confident the care and quality we showed our partners and customers during this difficult period will pay forward, as it became even more clear to our stakeholders that when the chips are down, you want a partner like Kaplan.

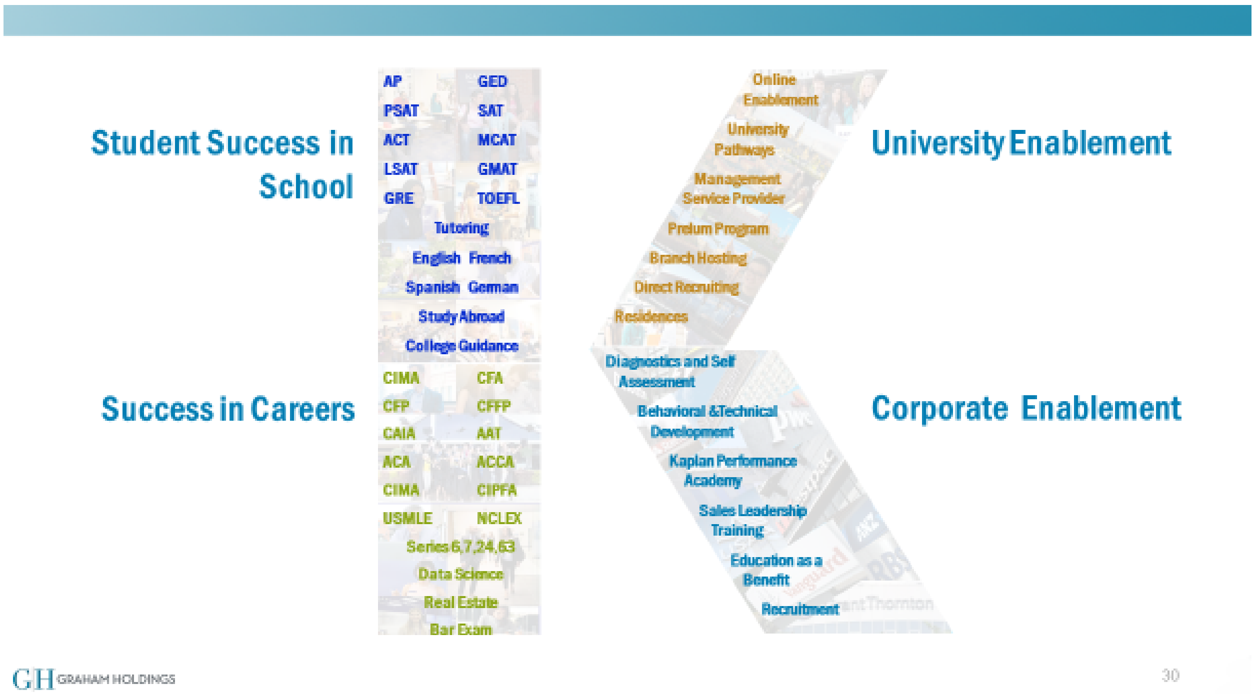
To re-cap, Kaplan has four key priority areas, which include:

1. Helping students qualify for, access and succeed in school -- from high school through graduate and professional school.

2. Helping students and working professionals qualify for and succeed in jobs.

3. Helping universities achieve their goals, including attracting and serving students, and ensuring those students become successful and ready for work.

4. Helping companies identify and employ highly qualified candidates, and ensure employees are equipped to succeed.



Kaplan has an exceptionally wide range of programs and services we offer for students, universities and companies.

We believe the depth and diversity of our programs and services provide us with two distinct advantages: first, we have a large, global base of students whom we can serve at multiple points throughout their learning journeys. Second, our deep relationships with universities and businesses enable us to create a holistic learning ecosystem connecting all three segments. Each segment supports the others. We're working hard across Kaplan to capitalize on these advantages.

Financial Results

Nine Months Ended - Sep	Revenue		Operating Income [1]	
($ in millions)	2020	2021	2020	2021
Kaplan international	488	521	21	23
US Higher education	244	240	22	18
US Supplemental education	254	238	13	33
Kaplan corporate and other	9	11	(11)	(17)
Intersegment elimination	(3)	(5)	0	0
Total	**992**	**1,005**	**45**	**57**

[1] Excludes amortization of intangible assets and impairment of long-lived assets. Non GAAP measure – see reconciliation in appendix.

Note: the sum of certain amounts may not equal the total due to rounding.

GH GRAHAM HOLDINGS 31

From a financial perspective, the first nine months of 2021 have been solid, with most of our underlying businesses demonstrating improved or at least stable results.

Our U.S. Supplemental Education businesses, which benefited from cost reductions achieved during the North America integration, led the operating income improvement. The number of test takers has trended down for many of our major exams during the pandemic, impacting our revenues. However, our market leadership positions us well for when exams resume normal schedules and demand levels.

We are also optimistic about the capability leverage the North American integration brings to our competitive strength in these markets. As we continue to make progress integrating technology platforms and sales, marketing and customer service capabilities, I expect that our exam preparation businesses will increasingly bring the scaled power of Kaplan's portfolio to bear, providing a competitive edge through lowered costs, enhanced delivery and bundled offerings.

U.S. Higher Education has a range of partners, but the financial results continue to be driven primarily by the performance of Purdue Global. Purdue Global's results have been stable despite some cash flow timing items that impacted our fee recognition. Through the first nine months of 2021, Purdue Global served an average of 34,000 students, essentially even with the average number of students served during the pandemic bump of 2020 and about 20% more than at the time of the sale of Kaplan University to Purdue. As we have reported previously, Purdue has taken a long-term approach to the growth of Purdue Global, investing steadily in academic support, new policies, and academic outreach. While these decisions are Purdue's to make, they are consistent with our own long-term philosophy and we think will serve the institution well over time. The institution's key metrics have continued to improve since Purdue assumed control in 2018; retention rates are up, academic preparedness is improved, and overall student degree profile higher. We are proud to provide support for Purdue Global as it continues to improve its academic and financial metrics.

In addition, Kaplan has continued to add new programs and partners to its overall portfolio across a range of program types, including new partnerships this year with, among many others, Georgetown, Columbia Business School, Brandeis, the University of Connecticut, Newcastle University and Massey University, plus businesses like Keller Williams Real Estate, Roche, Wells Fargo, Prudential and Azets.

Overall, the decision to integrate our U.S. divisions into a single North America division has proved to be a good one, and Kaplan North America CEO Greg Marino and his strong leadership team have done an excellent job setting the table for growth.

At Kaplan International, meanwhile, CEO David Jones and his extraordinary group of leaders around the world have navigated the pandemic minefield with tremendous dexterity and skill, resulting in far better outcomes than we might have expected. Our improved results were driven mostly by our UK Professional and Pathways businesses, and lower losses at Languages.

Financial Results

Significant Covid-disruption losses at Languages

Nine Months Ended - Sep	Revenue		Operating Income[1]	
($ in millions)	2020	2021	2020	2021
Kaplan international	488	521	21	23
US Higher education	244	240	22	18
US Supplemental education	254	238	13	33
Kaplan corporate and other	9	11	(11)	(17)
Intersegment elimination	(3)	(5)	0	0
Total	**992**	**1,005**	**45**	**57**

[1] Excludes amortization of intangible assets and impairment of long-lived assets. Non GAAP measure – see reconciliation in appendix.

Note: the sum of certain amounts may not equal the total due to rounding.

GH GRAHAM HOLDINGS

31

Again, it is important to highlight that included in these 2021 results were significant losses in our Languages business. Like many of our businesses, Languages is entirely dependent upon the ability of students to travel to destination countries for short-term immersive language and cultural experiences. Students in some of our transnational businesses — notably Pathways, but others as well — were willing to shift their studies online as they pursued long-planned degrees overseas. In our Pathways programs, we help deliver the first year of a university education for international students in our partner universities. Of course, some students who dreamed of attending a top Western university in person decided to postpone their starts until they can come to campus, and we had fewer students in our Kaplan-owned student residences. But overall, our Pathway and international recruitment businesses proved remarkably resilient through a pandemic that might have crushed them.

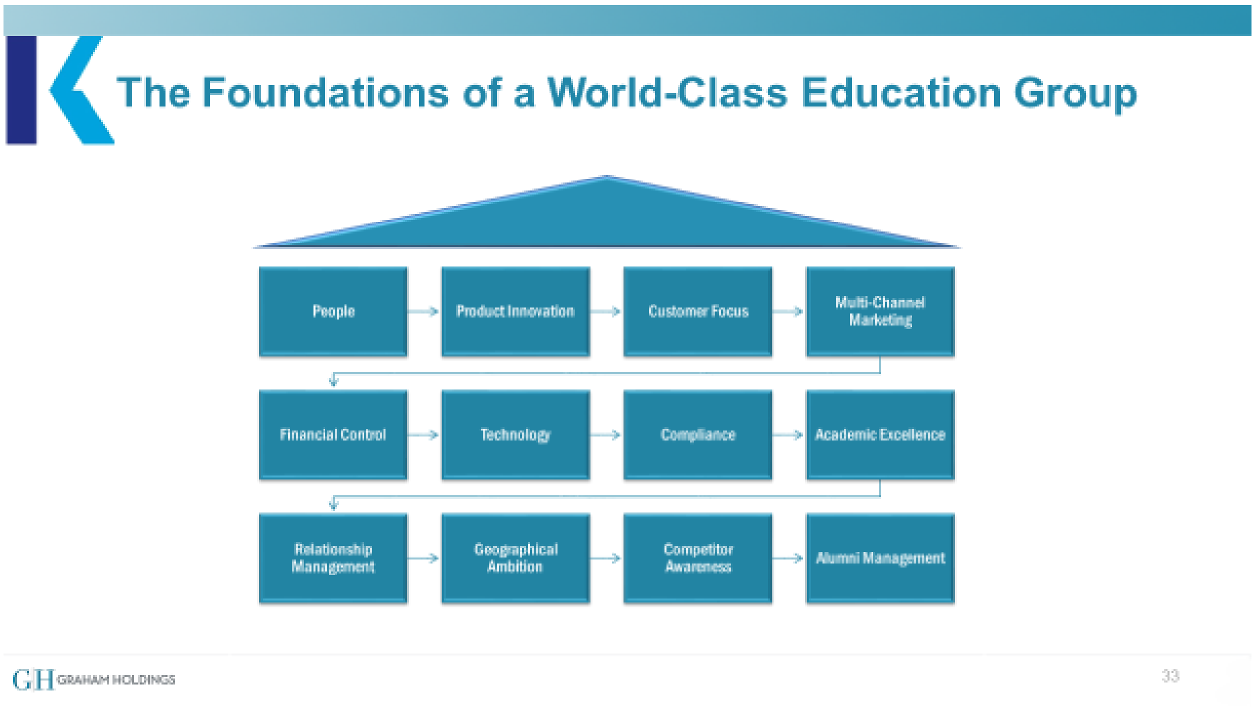
Languages is different. That business offers short-term, immersive, experiential programs for international students who want to spend a month or two living in a dynamic Western city, making new friends from all over the world, and learning a new language. For this kind of experience, online is not a substitute. The flow of new students went nearly to zero when global travel halted and borders closed. We made the decision to stick with the business, and while we narrowed our portfolio, we maintained the global infrastructure that has created enormous goodwill and good earnings over the years, with the goal of reaping the benefits when international travel resumes.

Through the first nine months of 2021, the pandemic-induced losses for our Languages businesses totaled $31 million. We had hoped that the grip of the pandemic would loosen this year, allowing us to capture a decent portion of our usual summer enrollment; however, the Delta variant choked most of the peak season. We *have* so far seen improvement in the fourth quarter, as student bookings have risen to a level greater than the pre-pandemic fourth quarter of 2019, and our hope is that this will continue – although the arrival of the Omicron variant is a good reminder that the course of the pandemic is hard to predict.

Subject to the evolving news of this and other new variants, we currently plan to persevere through this adversity, as we believe doing so will be rewarded with improved market share, competitive advantage and future returns. There is no guarantee we'll be right, but we believe that despite the significant short-term pain, this is in the best long-term interests of shareholders, not to mention the students who depend on us. I would note, though, that because of our restructuring activities, we now require 35% fewer students to break even than we did in 2019, which bodes well if demand returns.

Adjusting for the losses in Languages - $31 million for the first nine months of 2021 and $36 million for 2020, you can see the relative strength and accomplishment of the remainder of the business. Many of our international businesses - notably Pathways and UK Professional — are moving into 2022 with earnings momentum. We've launched a new on-campus pathway college with the University of Newcastle, a global top 200 university, commenced operations of a Melbourne campus for the University of Adelaide, and expanded into New Zealand with the launch of Massey University College on their Auckland campus, signing a direct recruitment agreement with the University whereby Kaplan is responsible for all of Massey's international student recruitment through the education agent channel. We anticipate seeing some relief from the COVID challenges in Australia (where the borders have been shut since the start of the pandemic), and MPW (our sixth-form college in the UK that also got hit by the disappearance of international students). We'll face some headwinds in Singapore in 2022 arising from regulatory challenges that led us to halt new enrollments for under 10% of our total program offerings. We are far along in making changes necessary to seek restoration of these programs, and are hopeful we'll be able to do so in 2022. It's important to us as these programs are integral to our offerings in Singapore, where we like our long term position.

Assuming the global restrictions imposed in response to the pandemic continue to abate, and new variants don't drive major parts of the world back into lockdown, I'm optimistic about our position entering into 2022. The reduction in Language losses should help a lot, alongside the momentum of many of our other businesses.



I've been pleased with the resilience of Kaplan through the challenges of the past eighteen months. We've spoken in the past about the strength that our diversification provides. Fundamentally, though, the ability of our overall business to persevere, compete and thrive over the long term is derived from the foundational strength upon which each of our underlying businesses has been built. Our aim is to add competitive effectiveness and earning power to each of these underlying businesses, and to bolster that strength with the power and capabilities of our adjacent businesses. More specifically, each year our goal is to:

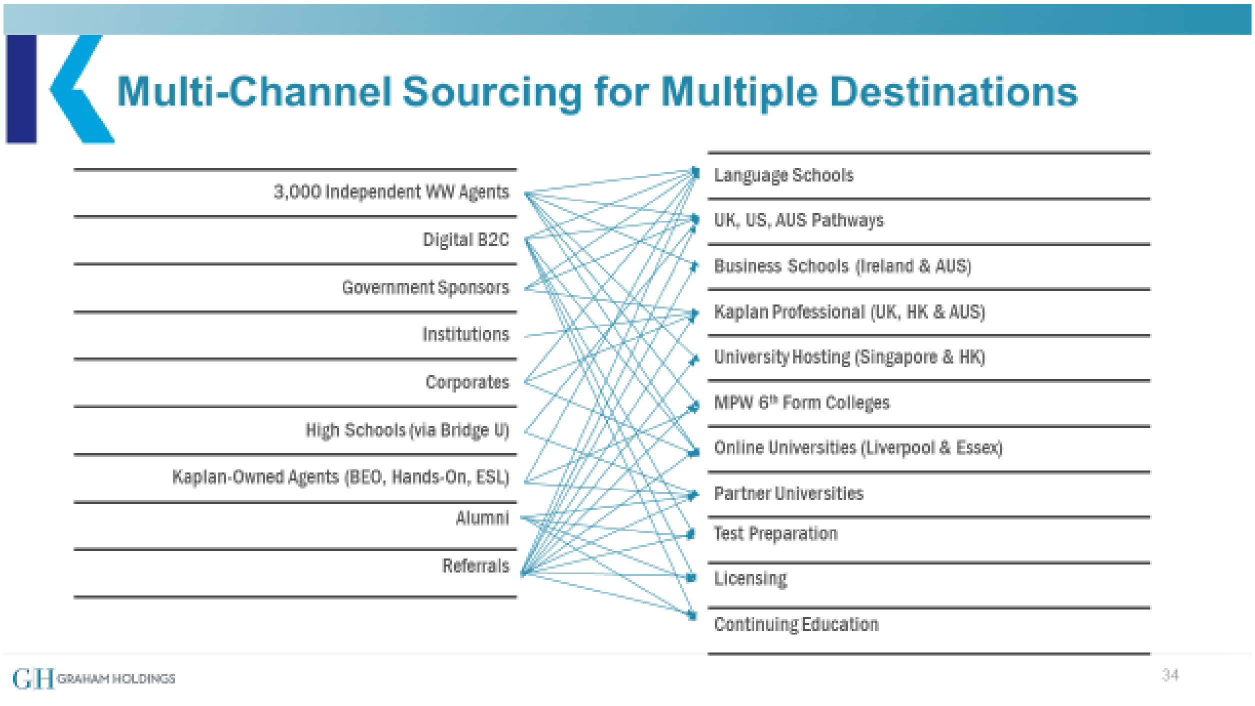
- Improve operationally through new technologies and better processes.

- Expand programmatically within our existing markets and into adjacent markets – consciously staying within our sphere of expertise — and invest in good businesses that extend our reach.

· Add scale by sharing capabilities developed in one unit across our portfolio.

· And, most importantly, continue to add to our perpetually growing base of tens of millions of successful, enthusiastic and grateful alums, and hundreds of institutional and corporate partners, which furthers our brand and referral base.

We steadily apply this formula to add incremental earning power each year – building layers of protection from threats and disruptions as we go.



Kaplan has long been somewhat unique in the education marketplace, because we have that decades-long history of working with a broad range of individual customers, universities, businesses and governments – across the globe.

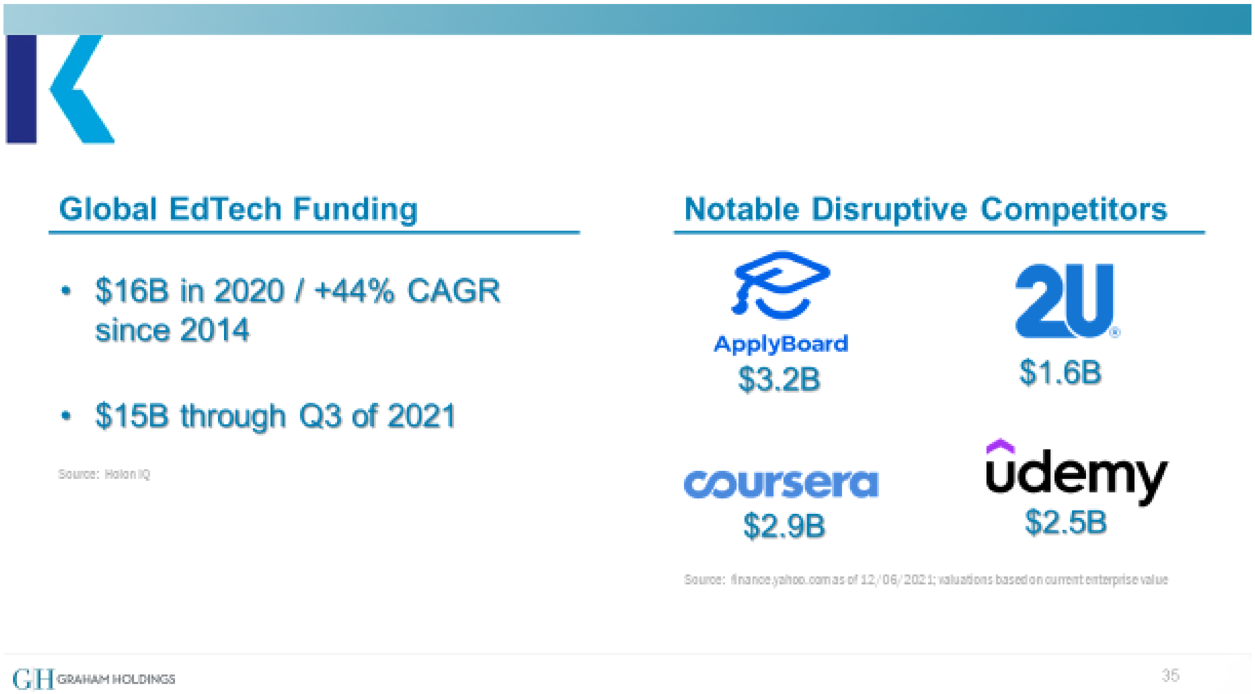
This uniquely positions us with an ability to globally source qualified students from a very wide range of channels to serve a similarly wide range of programmatic destinations.

It starts with the ability to recruit a highly diversified group of qualified students, at scale, at reasonable expense. We recruit through multiple channels for the benefit of our stand-alone programs, programs we offer in connection with our university partners, and programs offered directly by universities. In the U.S. alone the power of our brand and our marketing efforts attract some 800,000 students per year across these programs. Most of this recruitment occurs in highly contested digital channels where sophisticated technology and analytic expertise is a key determinant of the results. Scale matters in this arena – and we believe Kaplan's scale and capabilities in this area are unparalleled.

On the university level, we have partnerships with nearly 50 universities globally - and this year alone we launched more than 150 new degree and online programs with our university partners. Our publishing unit sells more than 2 million books annually.

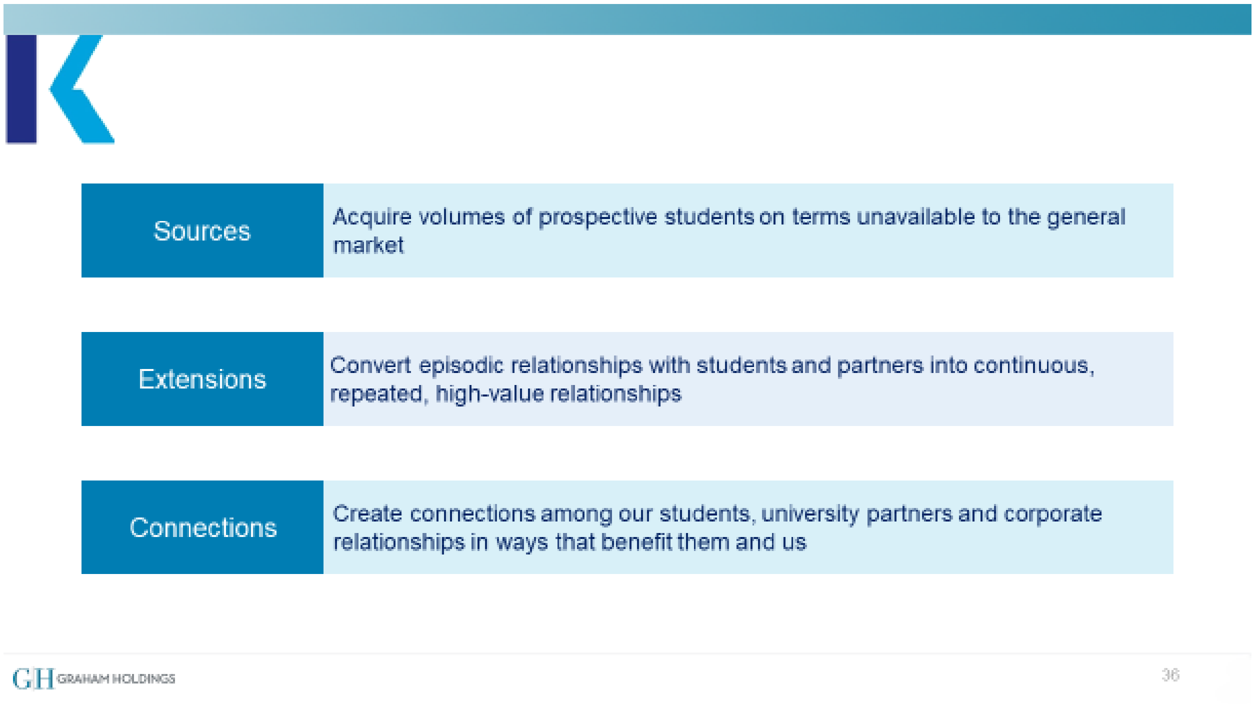
By delivering high-quality programs that help students achieve their educational goals, we make it more likely that students will keep returning to us for their education needs throughout their lives. Corporate boardrooms, government agencies, nonprofits and universities are filled with Kaplan graduates who are our most important advocates. To professionals around the world — wealth managers in Australia, accountants in the UK, financial planners in Singapore, doctors, lawyers, financial professionals in the U.S. — Kaplan is the best known and most respected path to licensure.

We believe we recruit more international students to come to study in a Western country than any other company in the world. We serve around 250,000 students in our international businesses in a normal year, a large percentage of whom travel overseas to study. We have close to 80 sales offices strategically placed around the world, a substantial direct recruiting function, and more than 3,000 agent relationships distributed across just about every country in the world. Kaplan has a very strong reputation in the agent community; agents know if they recommend our programs to a student, those students will have a high-quality, valuable experience that reflects positively on the agent, and the interactions the agent has with us — including getting paid — will be timely, accurate, and without hassle.



Our markets continue to be competitively dynamic. The past few years have seen record levels of investment in Ed Tech companies aimed at disrupting education segments around the world. In 2020, an estimated $16 billion was invested in Ed Tech companies, representing a 44% compound annual growth rate since 2014. We expect that number will keep rising this year, as investors see an education world permanently changed by the pandemic.

This money is being spent around the globe – with the US, Europe, India and China accounting for most. Investors in education are familiar with companies like 2U, Coursera, Apply Board, and Udemy that have achieved high market valuations for their efforts to aggregate large numbers of prospective students on behalf of university partner programs or their own programs. Though these companies are currently unprofitable, the market is enthusiastic about companies that embody a future in which education takes place digitally. In the meantime, the pressure these companies and many others are under for growth drives up competition, and marketing costs, for the whole market.



Kaplan has focused its growth plan around three key areas we refer to as *Sources*, *Extensions* and *Connections*. We discussed these strategic areas last May, but as a reminder:

- For *Sources*, our aim is to continue to expand our database of prospective students, already more than 40 million, in ways that make us less dependent on increasingly expensive traditional media.

- For *Extensions*, our ambition is to convert episodic relationships with students and partners into continuous, repeated, high-value relationships. And,

- For *Connections*, we create connections among our students, university partners and corporate relationships in ways that benefit them, and through that value add benefits us as well.

We spent a fair bit of time in the annual meeting this May talking through these strategic initiatives. Since then, we've made good progress advancing the technology, data, analytic, sales and marketing infrastructure at KNA and KI to support these initiatives, while simultaneously investing in early stage business models with high *Sources, Extensions, and Connections* potential. Further development of these models could have a meaningful impact on Kaplan's economics over time.

We believe that at the end of the day, Kaplan will continue to be distinguished by the quality of its offerings. We will thus keep investing heavily in the quality of our curriculum, instructors, technologies and support systems, among other areas. We believe that Kaplan has remained a leader in education because we prioritize our customers' experience and learning outcomes.

We have a highly unusual process at Kaplan. My senior team and I lead a regular cadence of "learning reviews" for each of our underlying academic units, presented by both academic and operational leaders within each unit. These learning reviews function much like financial reviews, with each academic unit detailing its results, metrics, targets, plans and commitments designed to continuously improve the learning outcomes and experience for our students.

Our approach seems to be working. Our institutions around the world continue to lead the industry in academic recognition. Kaplan Business School in Australia, for example, continues to outrank every public university on the metric deemed most important by the regulator in the federal government's annual Quality Indicators of Learning and Teaching (QILT) surveys: "quality of entire educational experience". Dublin Business School in Ireland ranked above the average of all higher ed institutions, in all measures of teaching and learning, and ranked substantially above the branded public universities in a 2021 national survey administered on behalf of the Irish Higher Education Authority. Our partnership with University of Essex for online programs in the UK did even better, where we achieved a 95% student satisfaction rating on the National Student Survey, putting us at the very top of the UK compared to other mainstream universities. The Essex program also won Studyportal's Global Student Satisfaction award for online classroom experience, based on a survey of more than 100,000 students across 4,000 institutions. Kaplan Financial in the UK earned PQ Magazine's 2021 Award for Private Sector Accountancy College of the Year, for how we managed to keep students learning during the pandemic. In the U.S., our exam prep business continues to lead the industry, with our SAT, GMAT and MCAT books earning the "Best of the Best" accolades from the Best Reviews consumer review site, while Wealth Management Magazine named Kaplan's College for Financial Planning the #1 Instructor-led Online Certificate Program for the CFP exam. And so on.

Excellent academic outcomes are core to Kaplan's long-term strategy, and we will invest in that long-term again and again, even when it costs us near-term margins. We think that's what has helped make us one of the very few education companies that has been consistently profitable for decades, as competitors burst onto the scene like fireworks and then flame out.

And I should add, being a great place to work helps as well. We were pleased when Newsweek selected Kaplan to be on its Most Loved Workplace list for 2021, recognizing us as among the top 100 companies for employee happiness and satisfaction at work. Kaplan also received a Top Workplace award from the South Florida Sun Sentinel, where Kaplan is headquartered, and various other such awards across our global footprint.

Taking advantage of Kaplan's geographic and programmatic diversity isn't automatic, and we still have a lot of work to do. But the stakes make it worth it. The education world is shifting more rapidly than ever, with the pandemic vastly accelerating an already-underway shift to digital. The winners will enjoy disproportionate returns, which is why so much new money is flowing into the space. Our strategy is to lead with quality and student outcomes, which may not be glamorous but is what our customers expect from us. We think the strength that comes from the diversity of our businesses, our marquee partners and clients, our exceptional talent around the world, and a steady, patient approach to our markets is enabling us -- more than many others in our market -- to ride out the challenges of the last two years and emerge with our competitive advantages enhanced.

I will now turn it over to Wally and Sandy for thoughts on our pension asset.

Investor Day
December 9, 2021
Remarks by Wallace R. Cooney
SVP-Finance and Chief Financial Officer
Remarks by Sandra M. Stonesifer
VP-HR and Chief Human Resources Officer
Graham Holdings Company

Thanks Andy.

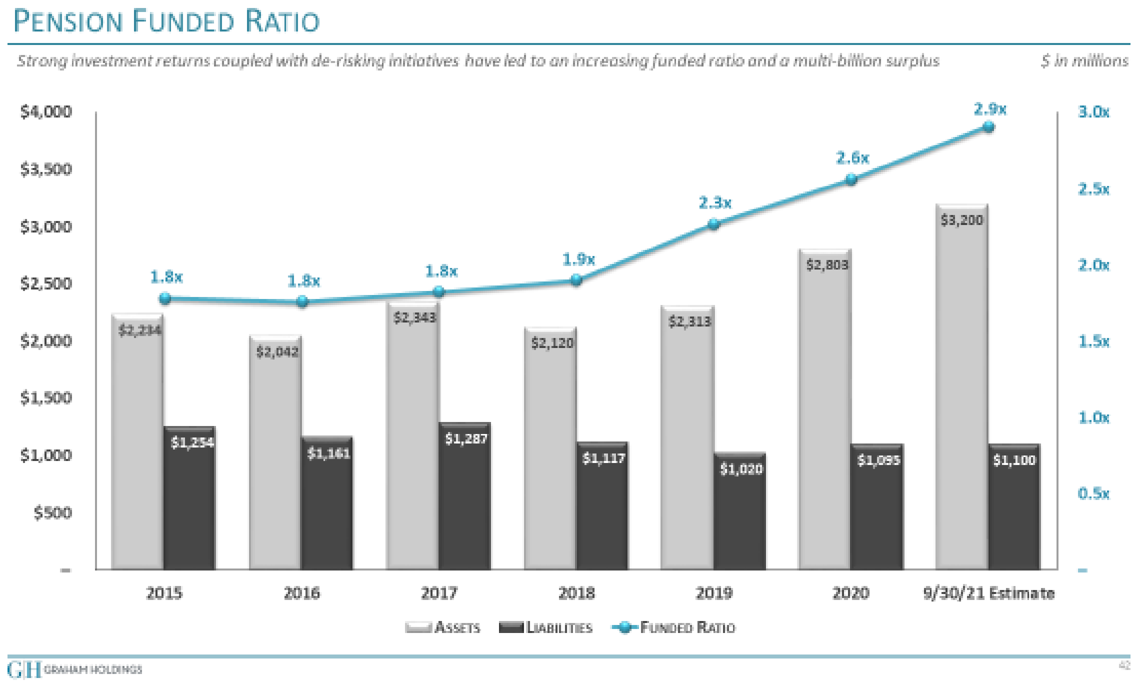
Sandy and I are pleased to have the opportunity to discuss our pension plan with you today. First, I'll give an update on the funding status of our pension and highlight how it flows through our financial statements. As I think you'll see, the update on that front is quite positive. Second, I'll provide an overview of the various ways the pension surplus has been utilized historically, and provide an update on some fresh thinking on this front as well. The pension surplus is not just an abstract number on our balance sheet, but rather has a tangible impact on our business in a variety of positive ways. Finally, I'll turn it over to Sandy to discuss the ways we think the pension can continue to help differentiate Graham Holdings in the increasingly competitive human capital marketplace in which all our businesses participate.

Tim spoke earlier about GHC's strong balance sheet, and as we've reported for many years, a key component of our strong balance sheet is the Company's significantly overfunded pension plan. Importantly, the cost of pension benefits has been self-funded by the plan. GHC has not made any meaningful cash contribution to its pension fund since the 1980s and it is unlikely that it will make any cash contribution in the foreseeable future – this puts us in a highly enviable position. Our future operations should greatly benefit from this as we expect to provide attractive retirement benefits to our employees going forward, just as we have for decades. Current management deserves no credit for this. All the credit goes to Katharine Graham and the wisdom she had to ask Warren Buffett for his advice, and take it, back in 1978. Mr. Buffett recommended that we invest our pension assets in equities and hire smart advisors to manage those funds – and that is exactly what Mrs. Graham did in hiring Ruane, Cunniff & Goldfarb and First Manhattan, both of which have put forth remarkable investment performance for our pension fund for over 40 years.

Pension Plan Review

- Pension funds are not assets of the Company. Pension funds are held in trust for the benefit of employees, former employees, and retirees.
- Plan administrators have fiduciary obligations to the plan and its participants
- External legal counsel and actuarial professionals advise the Company on numerous pension matters
- ERISA, DOL, and IRS regulations must be carefully adhered to and monitored

It’s important to highlight certain fundamentals with respect to the Company’s pension plan. First and foremost, pension funds are not assets of the Company, but rather pension funds are held in trust for the benefit of current employees, former employees, and retirees. Plan administrators have fiduciary obligations to the plan and its participants. Further, there are a multitude of ERISA, DOL and IRS regulations and guidance that must be carefully adhered to and monitored on an ongoing basis. So as you would expect, the Company carefully manages these obligations and has trusted external legal counsel and actuarial professionals that fully vet all significant actions with respect to employee benefits and The Graham Holdings Company Retirement Plan; and, this will continue in the future.



We have also undertaken certain de-risking actions in the last five years that have resulted in higher relative pension overfunding levels. The pension funds continue to be managed by Ruane and First Manhattan, along with more recent diversification with investments managed by Durable Capital, and investments in Berkshire Hathaway stock, a U.S. stock index fund and short-term fixed-income securities. As of September 30, 2021, the Company had $3.2 billion in pension assets and roughly $1.1 billion in pension obligations. This has taken the plan from 1.8 times overfunded at the end of 2015 to approximately 2.9 times overfunded at the end of the third quarter of 2021.

Pension P&L Impacts

$ in millions

	2016	2017	2018	2019	2020	Q3 '21 YTD
Operating						
Pension Expense	$20	$19	$18	$20	$23	$17
Non-Operating						
SIPs / VRIPs expense	–	2	–	6	14	1

From an income statement standpoint, we report the service cost component of pension expense in our operating results. It is important to note this is a noncash charge, as pension benefits have not been funded from operations, but rather from the overfunded pension plan. Noncash pension expense included in operating income results totaled $17 million in the first nine months of 2021 and $23 million in 2020. Here's a summary of noncash pension expense included in operating results that has been funded by the Company's pension fund over the last five years. Going back to 2013, service cost of The Washington Post Company hit an all-time high of $46 million which included many businesses no longer owned by the Company. The pension plan has also funded substantial early retirement and other employee-reduction related incentive programs over the years – these totaled $14 million for 2020. These expenses are also noncash and are included in the Company's non-operating results. Finally, we have reported a substantial noncash pension credit each year due to the significant overfunding of the pension plan, along with other items related to certain de-risking actions, as detailed in our financial filings.

Operating Cash Flow

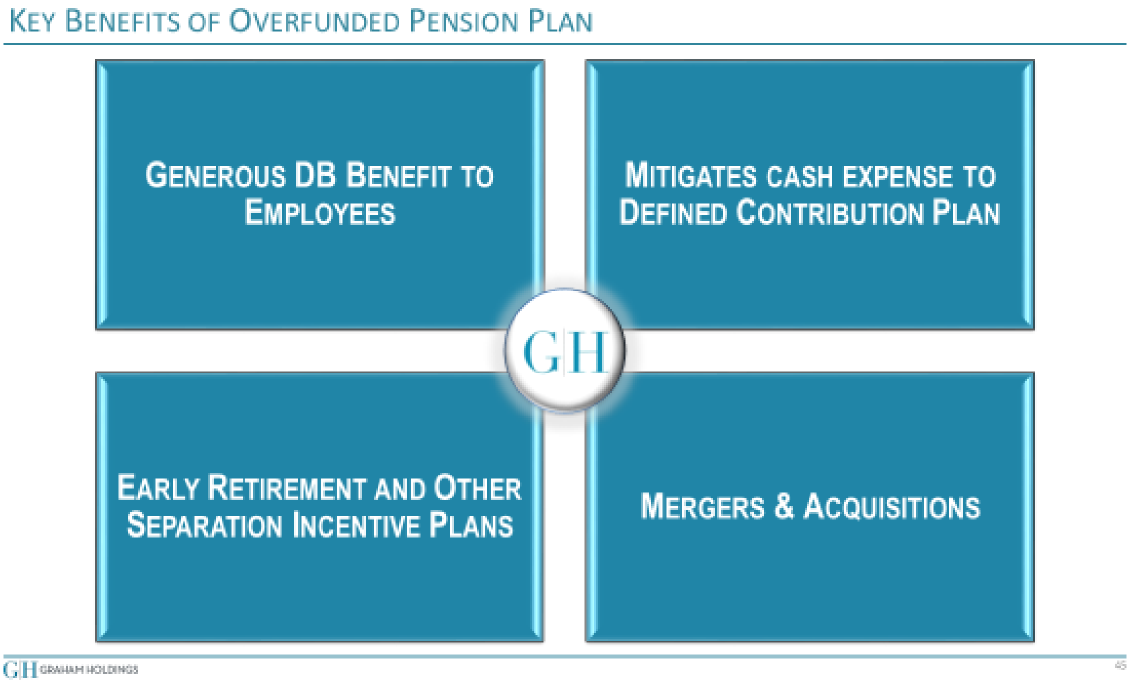
Operating income before depreciation, amortization and impairment charges, and pension expense — *$ in millions*

	2016	2017	2018	2019	2020
Operating Income	$223	$136	$246	$145	$100
Add: Depreciation	65	63	57	59	74
Add: Amortization	27	41	47	53	57
Add: Impairment	2	10	8	9	30
Add: Pension Expense[1]	20	19	18	20	23
Operating Cash Flow[2]	**$336**	**$268**	**$377**	**$287**	**$284**
Less: Capital Expenditures	(70)	(57)	(98)	(94)	(66)
Free Cash Flow[2]	**$266**	**$211**	**$279**	**$193**	**$218**

	Q3 '21 YTD	Q3 '20 YTD
Operating Income	$55	$54
Add: Depreciation	52	58
Add: Amortization	44	43
Add: Impairment	32	30
Add: Pension Expense[1]	17	17
Operating Cash Flow[2]	**$199**	**$202**
Less: Capital Expenditures	(141)	(52)
Free Cash Flow[2]	**$59**	**$149**

GH GRAHAM HOLDINGS [1] *Operating portion of pension expense* [2] *Non-GAAP measure* *Note: the sum of certain amounts may not equal the total due to rounding*

In recent years, at meetings like this, the Company has reported its operating cash flow which is income before depreciation, amortization and impairments, and excludes noncash pension expense – we believe this is a meaningful way to review our operating results given the overfunded pension status. Our operating cash flow for the last five years includes about $100 million in noncash operating pension expense from 2016 to 2020.



I think it is fair to say that our situation is unique since there are very few companies like us with such a substantially overfunded pension plan. We, of course, view this as both a great thing and a unique challenge, as there simply are not that many playbooks out there for exactly how to best to manage our overfunded pension. That said, it is a key focus area of the current management team, and we're excited to have the opportunity today to update you on some of our current thinking in this important area.

As Don and Tim have discussed over the years, the pension plan is valuable to the Company and its current employees and retirees in many ways:

- It provides a generous defined benefit to employees that can reach over 8 percent of annual salary.
- It allows the Company to provide a pension benefit in lieu of a higher 401(k) match that would be funded with cash.

- The plan has been used to provide enhanced early retirement and other separation benefits to employees in times when staffing levels have been reduced.
- The Company assumed pension obligations in a 2017 transaction - Graham Media Group acquired two additional television stations and assumed $59 million in pension obligations that made up a meaningful part of the deal.

Utilization of Surplus Pension Assets

- M&A activity
  - We continue to pursue transactions similar to the broadcast stations acquired in 2017
- Studying the possibility of using a Qualified Replacement Plan (“QRP”)
  - May allow for existing Defined Contribution benefits to be paid through QRP
    - ✓ Future acquired companies’ Defined Contribution benefits may also be permitted to be paid through QRP funds
  - Could also serve as a replacement for existing defined benefits via enhanced defined contribution benefits
  - Funds must be expended within 7 year period
  - Potential QRP size of $150-$250 million
    - ✓ Assumes $5 to 10 million in defined contribution benefits paid annually
    - ✓ Assumes $15 to 20 million of existing annual defined benefit service cost is replaced via enhanced defined contribution benefits
- Expense Replacement
- Workforce Retention

While we have found ways to utilize the pension surplus historically, we continue to explore new opportunities as well. Based on pension asset levels at the beginning of 2021, a 2% investment return will more than cover the estimated annual pension service and interest cost components of about $50 million for 2021. What this means is that even if our current pension assets only generated, on average, a 2% return going forward, the surplus would continue to grow. One question we have been asked is why not just cash out a portion of the surplus? One very big reason. Under existing regulations, there are significant adverse tax consequences. A simple cash reversion from the pension plan to the Company would be first subject to a 50% federal excise tax, in addition to federal and state income taxes.

So how might GHC utilize surplus pension assets in the future for the benefit of current employees, former employees, future employees and the Company? Our management team has been carefully exploring opportunities in several important areas:

1. M&A – GHC could assume pension obligations from an acquired company like we did in 2017 and we continue to actively pursue such opportunities. Unfortunately, often companies with a significantly underfunded pension plan are not good acquisition candidates for us.

2. Qualified Replacement Plan (QRP)

   What is a QRP? A Qualified Replacement Plan is a defined contribution plan funded in connection with a pension plan termination. A QRP includes a direct pension asset transfer from the terminated plan to the QRP. We have been studying the possibility of a spin-off transaction in which a part of the existing pension plan is spun off and then terminated in order to fund a QRP within one of our 401(k) plans. To make it abundantly clear, this is not a spin-off of a business or the pension plan, but rather a mechanism to allow for existing pension funds to be used to fund contributions to the 401(k) plan. A QRP and pension asset transfer must meet complex regulatory criteria to qualify for this status.

   How can a QRP be advantageous to the Company? As many employees greatly value defined contribution benefits, a QRP could be an avenue for funding and expanding employer defined contribution benefits. Of course the clear benefit of doing it in this way is that we could greatly reduce current and future cash expenditures related to retirement benefits. QRP funds might also be used to fund defined contribution benefits for employees from recently acquired companies or for new employees from future acquisitions. In general, QRP funds must be expended within a 7 year period. If the Company replaced $15 - $20 million in annual defined benefit service costs and $5 - $10 million in defined contribution benefit costs with a defined contribution benefit of a similar amount funded through a QRP, that would indicate a total QRP in the range of $150 to $250 million could be established and expended within 7 years.

Under a QRP, subject to satisfying existing regulatory requirements, there is the possibility for cash reversions of up to three times the amount of the QRP transfer from the pension plan to the Company. That reversion would be subject to a reduced federal excise tax of 20%, in addition to federal and state income taxes. However, in the near term, the Company would be unlikely to consider any cash reversion from the pension plan until we have exhausted other more tax-efficient opportunities for effectively utilizing surplus pension assets.

3. Expense replacement – we continue to explore opportunities to shift current employee benefits funded with cash to enhanced pension benefits funded by the pension plan.

4. Workforce retention – there are a number of initiatives under consideration to enhance employee pension benefits in order to attract and retain valued employees

Now, I will turn it over to Sandy to provide some color from an employee recruitment and retention perspective.

Next Steps

- We take our responsibility to past, current, and future retirees seriously
- Exploring ways to improve retirement benefits overall
  - Seeking to improve recruitment and retention
  - May include a shift to more defined contribution benefits
  - May include adding, converting, or improving existing benefits of business units
- Exploring other areas where we could target programs to address human capital and business challenges

GH GRAHAM HOLDINGS

Thanks Wally.

As Wally said, we're in a unique position. There isn't a playbook for how to best utilize a pension with our level of overfunding. That said, we count ourselves lucky to have the opportunity to find new ways to enhance employee benefits while improving our business results. The pension trust was created for the benefit of our employees; and, we take our responsibility very seriously to protect the assets and continue to use them to support our past, current, and future employees.

Finding ways to leverage this asset is more important than ever. It isn't news to anyone listening that this is a difficult labor market. We, like others, are seeing higher turnover, growing compensation and benefit expectations, and steep competition for talent across our businesses. To stay competitive we must focus on what employees value and what improvements will have a real, measurable impact on the attraction and retention of critical staff.

We are exploring ways to use our pension funds for improvements to our retirement benefits overall - including greater focus on the defined contribution benefits that today's employees particularly value. We are also exploring adding retirement programs for businesses that don't currently offer them, as well as implementing new or improved pension benefits as a retention tool. In today's highly competitive talent marketplace, we view this as a key strategic differentiator of Graham Holdings.

GRAHAM HEALTHCARE GROUP RETENTION CREDIT PROGRAM

Pilot program focused on improving retention

Key Program Features

- Program runs from 1/1/2022 – 12/31/2024
- Up to $50,000 pension retention credit per employee, cliff vested after three years of continuous employment
- Incentivizes employees to remain with GHG
- Increased clinical retention may provide operational and financial benefits to GHG, in addition to improved patient experiences

GH GRAHAM HOLDINGS 48

What can improved pension benefits as a retention tool actually look like? A good example is the Graham Healthcare Group Retention Credit which was announced to GHG employees just before Thanksgiving.

We've all heard about the extreme nursing shortages in the U.S. and globally. Our healthcare group is impacted by this competitive talent market and limited capacity just like others in the sector. The industry's high employee turnover rates are proving to be a meaningful constraint on growth, as well as a significant cash expenditure due to the cost of hiring and training new employees.

The new GHG program offers a retention credit of up to $50,000 per employee, cliff vested after three years of continuous employment. The purpose of the credit is to incentivize employees to continue working for GHG and serving our patients with top quality care for years to come. For now, the program has been set-up to begin on January 1, 2022 and run through December 31, 2024 in order to track and measure the impact on retention and growth.

Our analysis shows great promise of improved earnings from increased retention and we expect the overall benefits to exceed the costs of the program. As a reminder, all costs of the program are non-cash expenses funded from the pension assets, though they will be recorded in GHG's operating results.

When evaluating such programs we are looking for a clear return on investment. Normally, we look at all of our investments on a cash-on-cash basis, and from that lens our new healthcare program's projected return looks quite good. The reason is that we expect the program to create significant incremental cash flow for our healthcare business by reducing hiring costs, reducing costs associated with employee turnover, and increasing the revenue generation of the business from having a larger nursing staff available to serve more customers. We won't know exactly the size of this uptick to the cash earnings of the business until we are further into the program, but we do know the benefits will be greater than zero. In fact, one could argue the denominator in our cash-on-cash analysis for the program is effectively zero: there are no incremental cash costs associated with the program, as it will be funded out of our existing pension surplus.

Despite that, it's important to note that our pension surplus is not an unlimited asset and we are not treating it as such. While there are no cash costs to Graham Holdings by utilizing the surplus for investments like our healthcare retention program, there is an opportunity cost associated with the investment. Therefore, when evaluating ways to utilize the pension surplus effectively, our goal is to fund programs that have the highest relative return when compared to the next best use of the pension asset. We think the healthcare program scores positively from that perspective as well.

We are hopeful that we can apply the learnings from this new program to help our other businesses with their talent challenges and to effectively find ways to shift additional employee compensation expenses out of treasury. We believe that an efficient use of our excess pension funds is to identify high value employee benefits that can add business value and improve our operating results over the long run, and we will keep looking for more of these opportunities.

GRAHAM HOLDINGS COMPANY – INVESTOR DAY

December 9, 2021

Wally spoke earlier about Mrs. Graham's instrumental leadership in the value creation of the pension. She also famously talked about how "quality and profitability go hand in hand" and that remains a guiding principle at each of our businesses. Finding ways to attract and retain the best talent, and reward them for all they do for the Company, our customers and the communities we serve, remains central to this promise of quality.

We will continue to explore these and other opportunities to leverage the pension to drive value for the Company and look forward to sharing more as we do.

Wally and I thank you for your time, and now I will turn it back over to Tim.

Graham Holdings Company – Investor Day

Appendix: Non-GAAP Adjustments

December 9, 2021

Graham Holdings Company

Non-GAAP Adjustments *$ in millions*

Graham Holdings Company	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Income (Loss)	$34	$38	($17)	$55	$54
Add: Amortization & Impairment	15	18	43	75	72
Adjusted Operating Income	**$49**	**$55**	**$26**	**$130**	**$127**

Education	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Income	$19	$13	$10	$42	$20
Add: Amortization & Impairment	5	6	4	15	25
Adjusted Operating Income	**$24**	**$19**	**$14**	**$57**	**$45**

Television Broadcasting	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Income	$33	$36	$41	$109	$112
Add: Amortization & Impairment	1	1	1	4	4
Adjusted Operating Income	**$34**	**$37**	**$42**	**$113**	**$116**

Manufacturing	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Income (Loss)	$9	$12	($39)	($18)	$10
Add: Amortization & Impairment	7	7	33	46	21
Adjusted Operating Income (Loss)	**$16**	**$19**	**($7)**	**$28**	**$31**

Note: The sum of certain amounts may not equal the total due to rounding

Graham Holdings Company

Non-GAAP Adjustments *$ in millions*

Healthcare	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Income	$7	$9	$5	$21	$20
Add: Amortization & Impairment	1	1	1	2	3
Adjusted Operating Income	**$8**	**$9**	**$6**	**$23**	**$24**

Automotive	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Income (Loss)	$1	$4	$5	$9	($7)
Add: Amortization & Impairment	–	–	–	–	7
Adjusted Operating Income	**$1**	**$4**	**$5**	**$9**	**$0**

Other Businesses	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Loss	($20)	($21)	($24)	($65)	($67)
Add: Amortization & Impairment	1	3	4	8	12
Adjusted Operating Loss	**($19)**	**($19)**	**($20)**	**($58)**	**($55)**

Corporate and Other	Q1 2021	Q2 2021	Q3 2021	Q3 '21 YTD	Q3 '20 YTD
Operating Loss	($15)	($15)	($13)	($43)	($34)
Add: Amortization & Impairment	–	–	–	–	–
Adjusted Operating Loss	**($15)**	**($15)**	**($13)**	**($43)**	**($34)**

Note: The sum of certain amounts may not equal the total due to rounding

Television Broadcasting Segment

Non-GAAP Adjustments *$ in millions*

	Q3 2021 YTD	Q3 2020 YTD
Total Expenses	$251	$238
Less: Amortization & Impairment	4	4
Total Expenses, excluding Amortization of Intangible Assets	**$247**	**$234**

	Q3 2021 YTD	Q3 2020 YTD
Adjusted Operating Income	$113	$116
Add: Depreciation	10	10
Operating Cash Flow (includes operating pension expense)	**$123**	**$126**

	Q3 2021 YTD	Q3 2020 YTD
Adjusted Operating Income	$113	116
Total Revenues	360	350
Operating Margin	**31.4%**	**33.2%**

	Q3 2021 YTD	Q3 2020 YTD
Operating Cash Flow	$123	126
Total Revenues	360	350
Operating Cash Flow Margin	**34.3%**	**36.0%**

Note: The sum of certain amounts may not equal the total due to rounding

Education Segment

Non-GAAP Adjustments

$ in millions

Kaplan Corporate and Other	Q3 2021 YTD	Q3 2020 YTD
Operating Loss	($33)	($36)
Add: Amortization & Impairment	15	25
Adjusted Operating Loss	**($17)**	**($11)**

Note: The sum of certain amounts may not equal the total due to rounding

Graham Holdings Company – Investor Day

December 9, 2021

GRAHAM MEDIA GROUP KAPLAN HOOVER TREATED WOOD PRODUCTS, INC. DEKKO JOYCE FORNEY GRAHAM HEALTHCARE GROUP leaf GROUP

AUTOMOTIVE GROUP CLYDE'S RESTAURANT GROUP FRAMEBRIDGE CyberVista CODE3 decile Pinna FP Slate CITY CAST