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**IN THE PIT:
THE SIGHT AND SOUND OF BROADWAY PIT ORCHESTRAS**

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17 April 2020

**Submitted in Partial fulfillment of the requirements for
graduation with Distinction**

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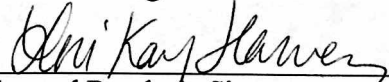
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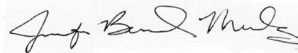
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Abstract

The number of musicians in a Broadway pit orchestra has always been a point of contention between the American Federation of Musicians, Local 802 and the League of American Theatres and Producers. These two organizations have had many collective bargaining agreements that have helped dictate and alter the size of orchestras on Broadway. On one side you have the musicians, who are concerned with preserving jobs and the musical integrity of a show, and on the other you have the producers who are trying to ensure the overall and financial success of the show. This thesis examines these orchestral changes through a technological, economic, and societal lens to help understand the basis for these changes. I give special note to the difference in orchestra size and orchestration inherent in many Broadway revivals. Differences in orchestra size and in many cases changed orchestrations are examined through six different case studies. The case studies look at musicals from some of the major composers of Broadway musicals over the last 70 years and include “Being Alive” from *Company* and “The Worst Pies in London” from *Sweeney Todd* by Stephen Sondheim, “A New Argentina” from *Evita* by Andrew Lloyd Webber, “The Last Night of the World” from *Miss Saigon* by Claude-Michel Schönberg and Alain Boublil, “Be Back Soon” from *Oliver!* By Lionel Bart, and “I Can’t Say No” from *Oklahoma!* By Richard Rodgers and Oscar Hammerstein II. There has been a trend on Broadway that has resulted in the number of musicians in Broadway pit orchestras to diminish. Changes to the makeup of the orchestra affect new musicals as well as revivals. In some instances, these differences in orchestration result in fundamental changes to the music, which alter the original musical aesthetic and emotion of a given piece.

Introduction

Musicians are crucial to the success of any Broadway musical. Live music helps to create the universe where the drama can exist fully, giving added dimension and heightening the emotional stakes of the piece. – Kath Sommer (Hertweck 2019)

Despite the differences in content, style, or time period, almost every Broadway musical has had one thing in common: an orchestra. Often forgot about because they are hidden under the stage or in a separate room all together, the orchestra provides audience members with an integral part of the Broadway musical experience. Along with scenery, lighting, and costumes, the music helps to create the world in which the musical takes place. Additionally, live orchestras have the flexibility to adapt during a performance and help cover any irregularities such as a dropped line or missed entrance—something that would be nearly impossible to do with pre-recorded music.

Over the last several decades, the size of the pit orchestras on Broadway has seen an overall steady decline. As shown in Appendix A, the size of the orchestra has decreased from an average of 27 in the 1950s to an average of 8 in the 2010s. Negotiations between the musicians' union and the union representing theatre producers started in the 1950s and 1960s as a means to find a middle ground between the groups' interests. Despite these negotiations, there have still been challenges, changes, and loopholes to these rules which has, over time, resulted in pit orchestras of considerably different sizes and makeup. The changes in Broadway orchestras are a reflection of the minimums set in collective bargaining agreements between The American Federation of Musicians, Local 802 and The League of American Theatres and Producers. These bargaining agreements have been influenced by technological, economic, and societal changes

that have occurred in the theatre community. Additionally, the reduction of orchestra sizes over time is easily seen in several revivals of Broadway musicals where some productions have eliminated the use of union musicians altogether. Appendix A and B shows the decrease in size of the Broadway pit orchestra. Case Study #1 and #2 specifically examine revivals where the pit orchestra has been eliminated.

Music in Broadway Musicals

The Broadway musical is an American art form that combines the elements from operetta, melodrama, and vaudeville. These performances fuse together dance, spoken word, visual elements, and music to create an essential form of popular entertainment. Broadway musicals follow the philosophy that when spoken words aren't enough you sing and when singing isn't enough, you dance. This is the main difference that sets a musical apart from a play. Often there is so much complex emotion that the only way to convey those emotions is to sing and dance.

However, before a new musical comes to Broadway, a playwright has to have a spark for an idea and a script must be carefully crafted and continually revised to make an engaging and driving story. However, one important aspect of a musical is still missing—the music. The creation of music for a musical is a long, collaborative process that is under constant change until opening night. The music passes through the hands of many individuals, including the composer, lyricist, arranger, orchestrator, copyist, and music director. All of these individuals play a crucial role in the outcome of the final product. It should be noted that despite financially backing the show, most producers have a pass on this portion of the creative process. It is during this time that the role of the orchestra is fully developed. This careful development includes how

many musicians and what instruments will be required to fulfill the artistic and musical needs of the show.

The first aspect of a musical score starts with the composer. Once in possession of the script, the composer has an important job that is threefold. The composer must create a rough outline of what the show will sound like, what the function of the music is in relation to the script and decide what style of music is most suited to tell the story. The next process of music creation differs from composer to composer but is often one of three different methods. One method a composer uses to convey their music to other collaborators is through the use of a lead sheet, often a single piece of paper with a melody written on it and chord symbols. Another method is a recording of a singer and piano. And a third method is through fully thought out songs notated on a computer using a notation program like Finale or Sibelius. Of course, composers are not bound to these methods, and often, use any combination of these methods.

While some composers such as Irving Berlin, Stephen Sondheim, and Lin-Manuel Miranda write their own lyrics, most do not. Composers often rely on lyricists in these cases. Lyricists work closely with the composer to determine the lyrics to the melodies written. This is often a give-and-take relationship where changes are made to both the melody and the lyrics so they are cohesive. When the composer and lyricist have a song with which they are content, they hand the music over to an arranger.

The arranger takes the composer's music and starts to expand and adapt it so it fits into the context of the show more effectively. In larger productions, there may be up to three different arrangers: a vocal arranger, dance music arranger, and/or incidental music arranger. As the name implies, the vocal arranger takes music for big ensemble numbers and adds vocal harmonies to fit with the style and chord structure. The dance music arranger works closely with

the choreographer to put together music for extended dance breaks incorporating the themes and melodies provided by the composer. Finally, the incidental music arranger is responsible for putting together scene change music, underscoring for scenes as well as the overture, entr'acte, and exit music. (Stitt 2016)

Once the composer's original idea has been expanded by the arranger, it is then passed to an orchestrator. The orchestrator's job is to "adjust the arrangements to fit the size and composition of whatever orchestral combination has been selected" for that particular musical. (Suskin 2011) The orchestrator expands the music that is used in the rehearsal room, which is typically a piano and drums, and determines the notes and rhythms that each individual musician will play. Orchestrators are generally paid on a per page basis. This means that scores with large orchestras will have significantly more pages than scores with only a few instruments because the more instrument staves on a page, the fewer measures you can fit on that page. Take the first page of the orchestra score for *The Secret Garden* and *Next to Normal* for example. *The Secret Garden*, which is scored for a 24 piece full orchestra, only has 5 measures on the page. Compare this with the score for *Next to Normal*, which utilizes a small combo of 6 musicians, has 9 measures on the page. This means that larger orchestras are going to cost the production even more money before any musicians have been hired!

1 PRELUDE

The Secret Garden

Poco maestoso

Con moto

Piccolo Flute

Oboe

English Horn

Clarinet in Bb

Bass Clar.

Horn in F

Horn in C

Trumpet

Trombone

Percussion

Electric Bass

Piano 1

Piano 2

Violin I

Violin II

Viola

Cello

Orchestra score from *The Secret Garden*

Music by Lucy Simon | Lyrics by Marsha Norman | Orchestrations by William D. Brohn

Next to Normal

1 Let There Be Light (Preprise)

10-28-08 rev.
5-6 dynamics for piano
7 strings shorter
8 fermatas for all,
strings & drums tacet
9-10 all new
11-end deleted

Tom Kitt & Brian Yorkey

Percussive and pulsing, not too fast, ♩ = 94

1 2 3 4 5 6 7 8

(Then the lights go out.) (A moment, and DIANA turns on a light. She sits alone in a chair in her living room, beneath a blanket. She is beautiful, hurting, raw.)

Piano

Guitar

Bass

Perc.

Violin

Cello

A7(mo3) A7(mo4) A7(mo3) A7(mo4) A7(mo3) A7(mo4) A7(mo3) A7(mo4) A7(mo3) A7(mo4) A7(mo3) A7(mo4) A7(mo3) A7(mo4) A7(mo3) A7(mo4)

ELEC. GTR Dist.

ELEC. BASS *mf* *dim.*

(GLOCK) (rubber mallets) *pp*

(mallets) *mf* *dim.*

(harm.) *mp*

(harm.) *mp*

A 1 2 3 4 5 6 7 8

Orchestra score from *Next to Normal*

Music by Tom Kitt | Lyrics by Brian Yorkey | Orchestrations by Michael Starobin and Tom Kitt

Upon completion of orchestrating the music for the given instruments of a production, the music is then given to a music copyist. The music copyist takes the individual orchestra parts from the orchestra score and puts them onto their own page so it can be played by whatever musician is hired. Perhaps the most important job of the music copyist is the layout of the music on the page, ensuring the page looks aesthetic and functional. What might appear to be a minor detail can be the difference between a musician playing all the notes correctly or being confused and unable to read what is on the page. Copyists also proofread the parts to make sure that there are no errors and include any helpful information to the musician such as tempo changes, cue notes or lines during extended measures of rests.

It is at this point that the music is given to the musicians responsible for making it come alive during a performance. The music director interprets the full orchestra score and the reduced piano-conductor score and conveys that information to the singers and the orchestra musicians. This person is in charge of all the musical elements and making sure they all come together cohesively. For some productions with a larger and more traditional orchestra, there is a conductor who is the one with the baton keeping everyone onstage and in the pit together. However, in most modern musicals, the conductor is the music director who will conduct either with one hand or through carefully calculated head nods while playing one of the keyboard parts. (Church 2015)

During the entire rehearsal process of a new musical this revision process of songs, arrangements, and orchestrations is constant. These revisions occur right up until opening night. Revisions often occur when the libretto is altered during previews when the musical's creative team has the opportunity to see what does and doesn't work in front of an audience. This can

include adding or cutting musical numbers, extending or shortening dance breaks, or moving scenes around. After opening night, the show is frozen and no other changes are allowed.

The American Federation of Musicians, Local 802

Although the music may be written, a Broadway musical would remain silent without the help of one very important organization. The American Federation of Musicians, Local 802 is “the largest local union of professional musicians in the world” (AMF Local 802 2020) and has been responsible for providing musicians for all Broadway musicals since it was chartered on August 27, 1921. This organization has been the forefront of musicians’ rights. The following is the mission statement of The American Federation of Musicians, Local 802:

We unite to fight for the common interests of all musicians by advancing industry standards that dignify our labor and honor and enrich our art. We seek to organize a community of all musicians and aspiring musicians, and we reach out to all those who share our interests and our passion. We are committed to upholding the integrity of live musical performance and to advancing the vital role of music in education, and in the economic, cultural and social life of our community and beyond. We advocate for economic and social justice for musicians and for society as a whole. (AMF Local 802 2020)

The American Federation of Musicians has been in extensive negotiations with the League of American Theatres and Producers for decades. The main topic of these negotiations has been multiple aspects of musician employment in theatres including wages, benefits, work conditions, and minimums. The latter has been perhaps the largest issue and the cause of most of the contention between the two groups. While the conflict between these two groups is

inherently complex, for our purpose it will be simplified to the following: The American Federation of Musicians wants to keep jobs for musicians and insists that live music is the backbone of a Broadway musical while the American League of Theatres and Producers wants to keep costs as low as possible and one way to achieve that goal is through paying as few musicians as possible.

The idea of having to hire a minimum number of musicians is not a foreign concept in New York City. During the first half of the twentieth century it was common for establishments that provided entertainment, including cabarets, night clubs, dance halls, and even Broadway theatres, to have contract minimums with the musician's union. (Meffe 2011) Many of these records have been lost. The earliest collective bargaining agreement on file between the American League of Theatres and Producers and the American Federation of Musicians Local 802 is dated September 2, 1963. This agreement dictated the number of musicians to be hired for each musical and was dependent on the number of seats in the theatre. The larger and more seats a theatre had, the more musicians that theatre was required to employ. This collective agreement stated that theatres with 1,000 to 1,100 seats were to employ at least 16 union musicians; theatres with over 1,100 seats had to employ at least 25 union musicians; and theatres with less than 1,000 seats would have a minimum set by the Executive Board of the American Federation of Musicians. (Meffe 2011) It is not clear as to why this original minimum was tied to theatre capacity; however, one may surmise that it was due to acoustics. Larger theatres required orchestras that were loud enough to be heard in the last row. Since amplification was still in a primitive state at this time the most efficient way to increase volume and retain a high quality of sound was to have more musicians in the orchestra pit. More musicians playing together would naturally create a louder sound that could be heard throughout the theatre.

The next collective bargaining agreement between the two organizations was reached in 1972. Astonishingly, this agreement seemed to favor the American Federation of Musicians more than the League of American Theatres and Producers. The minimum number of musicians was increased to 26 in theatres with more than 1,100 seats and at least 20 musicians in theatres with between 1,000 and 1,100 seats. This was seen as a win for the musicians but it is at this point where there were some less than ideal side effects that resulted from this excitement. Ultimately, these increases in theatre minimums didn't always reflect the exact size of the orchestra playing the show. (Moriarity 2002)

During this time, composers of new shows requested that the orchestra for the opening night performance be larger than the theatre minimum. By doing this, the musical staff would then create a "cut list" which they would enact if the show wasn't successful economically. The cut list was a list of musicians who would be cut from the orchestra in order to help save money. One example of this practice was during the rehearsal process of the musical *Gypsy*. While the theatre that *Gypsy* was going to open at only required 25 musicians, composer Jule Styne requested that his orchestrator expand the show to 30 musicians for opening night. It is unclear how many musicians were cut, if any, from this production, but the musical did close after just over 700 performances. Compared to other shows of its time such as *The Music Man*, *The Sound of Music*, and *My Fair Lady*, which played well over 1,000 performances, one could consider *Gypsy* to be less successful. (Internet Broadway Database 2020) A more recent example of this can be seen with the 2003 revival of *Wonderful Town*. When the revival opened on November 23, 2003 at the Al Hirschfeld Theatre, the opening night orchestra totaled of 25 musicians. This number was 11 above the minimum of the theatre at the time. The twist is that only 6 of the 11

extra musicians were on a cut list. However, according to the musical coordinator Seymour Red Press, after 7 months only 4 of the musicians had received pink slips. (Pincus-Roth 2004)

Perhaps more common than having larger orchestras than the negotiated minimum on opening night is having an orchestra with fewer musicians than the minimum. There are some musicals that when written naturally have smaller orchestras than the minimum. Smaller orchestras are sometimes the result of the sought after musical aesthetic or the story of the musical. For example, the musical *[title of show]* is a musical that chronicles its own creation (as evident in the unique formatting and working nature of the title) and the only instrument in the “orchestra” is piano. This choice fully supports the writers’ idea for the show. Had *[title of show]* been orchestrated for full orchestra or even 3 musicians, as was the minimum for the Lyceum Theatre at the time, the show would have had felt unauthentic. This unauthenticity would result from knowledge of how musicals are written. Composers don’t have a full orchestra at their disposal when writing music; many only have access to a piano during the writing process. (“[title of show] – IBDB”) The American Federation of Musicians came up with two options that could help bring the number of musicians to the minimum.. The first option was a process known as “scoring up.” In this process the orchestrator for the musical would take the score and double parts for extra instruments or write new parts all together. (Meffe 2011) This would often change the sound of a show and was not a tactic that was utilized often.

The other option for bringing musicians to the minimums was more common despite being questionable in practice. In this second option, known as featherbedding, some musicians would be put on contract for a particular show but never actually play in the orchestra for a performance. For example, if a show was scored for 20 musicians but the theatre it was playing

in required 24, four of those musicians would receive a paycheck every week and not even have to step foot inside the orchestra pit. These paid, but non-playing musicians became known as “walkers” because each week all they would have to do is walk to the theatre to pick up their check. (Walker 1995) The largest and most expensive examples of this tactic being used is when the musicals *Chicago* and *A Chorus Line* came to Broadway. When *Chicago* opened at the 46th Street Theatre, it was only scored for thirteen musicians because composer John Kander wanted to imitate the sound of an early vaudeville show and he believed he could do that by keeping the orchestra smaller. However, this orchestra of 13 was much smaller than the 25 musician minimum of the 46th Street Theatre at the time, which caused producers to pay the wages of twelve non-playing musicians. Similarly, when *A Chorus Line* opened on Broadway at the Shubert Theatre it was only scored for eighteen musicians. Since it was under the minimum, producers were faced with the decision of how to raise it to the minimum. They thought that having the score re-orchestrated for seven more musicians was going to cost a substantial amount of extra money so the producers decided to pay walkers instead. According to the former chairman of the Shubert Organization, Gerald Schoenfeld, “the production paid for the services of seven musicians who never performed during the show’s 15-year run. The total cost was nearly \$3.3 million.” (Meffe 2011)

Featherbedding and scoring up have implications for both the American Federation of Musicians, Local 802 and The League of American Theatres and Producers. For example, if the musician’s union started to lose ground for minimum requirements with shows that were featherbedded. Producers saw shows that were performing successfully with smaller orchestras and started to question why they were still paying walkers. This would give producers the upper hand the next time the two groups met.

The practice of hiring musicians but never having them play became a strong point of contention between the American Federation of Musicians, Local 802 and the League of American Theatres and Producers. The musicians' union found it increasingly more difficult to justify keeping musician minimums so high, particularly when many musicians weren't even performing. This led to many arguments between the two groups and culminated in the musicians' union going on strike for 25 days in 1975. This strike closed down all of the musicals playing on Broadway at the time. The strike was over when a new bargaining agreement was reached. However, this agreement resulted in lower minimums for some of the theatres as orchestra size was no longer tied to the number of seats in the theatre. Additionally, there was language about electronic instruments added to this agreement that had not been present in any agreements prior. The new language stated that any "Electronic instruments...shall not be used without the express permission of the Local 802 Executive Board. Such permission shall be granted if use of electronic instruments does not displace or diminish the earning capacity of any musician." (Moriarity 2002) This language was added because musicians were worried that the electronic instrument technology was going to take the place of live musicians.

As the years passed, it was becoming increasingly more difficult for the musicians' union to defend the hiring of walkers. Again, the two sides renegotiated another collective bargaining agreement in 1993. This latest agreement included a new "Special Situations" clause that would allow producers to petition the musicians' union for an exemption to the current rule. The Special Situation clause would only be granted if at least one of the following conditions were met:

1. 'A production of a definable musical genre or of a dramatic approach which necessitates a smaller size orchestra in order to preserve artistic integrity,' or

2. Productions in which the show's concept 'consists of the re-creation of a pre-existing band and performs onstage and constitutes an integral part of the production and staging concept'. (AMF Local 802 2020)

This was the first time that the musicians' union was flexible on their position of minimums. They feared that this would make the competition even greater and would drastically reduce the number of jobs that were available since producers could easily petition to reduce the number of required musicians for a particular show. However, since the Special Situations clause was added in 1993 until 2003 only 15 Broadway shows applied for this exception. Of the 15 shows that applied, only 7 were granted the right to employ musicians below the minimum. The first show to get this exception was the musical *Smokey Joe's Café*. *Smokey Joe's Café*, which was a revue of the songs written by Jerry Leiber and Mike Stoller, opened in at the Virginia Theatre in March 1995. This theatre normally requires hiring 16 musicians for a musical; however, *Smokey Joes Café* only employed 7. Another notable example of the clause in action was with *Mamma Mia!*, which opened at the Winter Garden Theatre on October 18, 2001. At the time the minimum at the Winter Garden Theatre was 24 musicians, but *Mamma Mia!* only employed 9. The reason this musical was granted the special situations clause was because the music was based off of Swedish rock group ABBA.

Appendix C illustrates the minimums of Broadway spanning over forty years. It includes information from all collective bargaining agreements that are available to the public. The table shows that the minimum in some theatre has remained constant for several years, there has been a decrease in the minimum for a vast majority of Broadway theatres. The most extreme case being the Nederlander Theatre which in 1972 had a minimum of 16 musicians and as of 2016 had its minimum reduced to 4 musicians.

Finding a Loophole

For the shows that did apply for the Special Situation Clause exemption, many of them were denied. Producers, however, were determined to find a way around the rules and help keep costs down. One way producers skirted around the minimum requirement was to hire some actors on musician contracts and give them instruments to play on stage during the performance. This first happened in 1999 with the production of *Saturday Night Fever*. In this production six actors were given mini-keyboards to play with “very simple parts.” (AMF Local 802 2020) Less than a year later, a similar thing happened with the production of *Seussical*. Instead of keyboards, four actors were given a variety of basic musical instruments to play. These instruments included triangles, recorders, and drums.

By having actors play instruments some shows were still able to have the same sound without the need to pay for extra musicians. One focus of producers is to keep the artistic integrity of the show. Nevertheless, at the end of the day they are also responsible for the financial success of the show, and therefore occasionally will do whatever is necessary to save money. In both of these situations the American Federation of Musicians, Local 802 filed grievances, but were ultimately ruled against because the contract of at the time did not have specific language to prevent that practice. Language preventing producers from giving actors “musician duties” was finally added into the 2007-2010 collective bargaining agreement. (“Agreement” 2007)

Technology and Music

Contractual minimums were not the only reason that early Broadway orchestras were larger than they are today. The practice of electronically amplifying vocalists on Broadway

started in 1939. (Walker 1995) With a microphone, the actors were able to be louder than the orchestras that accompanied them. However, the orchestra still needed to be heard in the back of the theatre and cut through the voices of a full ensemble singing. The easiest way to accomplish this at the time was with the number of musicians. The more musicians playing together at once, the louder the orchestra can be. Amplification soon moved to the orchestra in the 1960s and 1970s and with it came the struggle to keep orchestras at the current size. *Hair* and *The Best Little Whorehouse in Texas* opened with 9 and 6 musicians respectively but, due to amplification of the orchestra, could sound just as loud and as full as a full 25-piece orchestra. Microphone technology was continually improving and was making it possible to amplify the sounds without distortion and loss of quality. This trend “set a standard for orchestra reduction.” (Walker 1995)

Additionally, the 1960s and 1970s brought another change to the orchestra that would further the case for reducing the number of players. More musicals were being written with a “jazzier” sound, meaning they were scored for heavy brass and reed sounds, which are naturally louder than string instruments. The incorporation of electric guitar and keyboards/synthesizers also helped the orchestra sound full despite having fewer musicians. (Sallinger 2016)

The use of keyboards and synthesizers was becoming more popular through the 1970s and into the 1980s. This progress in electronic music production was originally seen as a positive aspect by both the producers and musicians. It would help get that full orchestra sound when adding parts was unnecessary or not practical. The American Federation of Musicians, Local 802 soon changed their tune and became fearful that these advances in technology would take the jobs of musicians. The praises that Local 802 gave to keyboards for adding to the richness in sound turned into fear that keyboards would threaten musician job availability.

Language was quickly added into the collective bargaining agreements that would prevent this.

The language read as follows:

Recorded music or electronic instruments such as the Yamaha DX series, Moog, Roland, Oberheim, Fairlight, Kurzweil, and Synclavier, and other devices now known, or which shall hereafter become known, may be used in performances of musical shows provided that the minimum numbers of musicians specified in Article V of this Agreement are engaged. (AMF Local 802 2020)

Programming keyboards to reproduce sounds has become an art form in that has led to creation of unique soundscapes on Broadway. Early keyboards and synthesizers were primitive in their ability to change patches, or sounds. Some required loading the sounds onto a floppy disk and inserting the floppy disk into the keyboard. This allowed for only a few sounds to be loaded at a time. If more sounds were needed, multiple floppy disks were required and would have to be switched out during a performance. Eventually keyboards were able to save the sounds from the floppy disks in a bank of sounds that could be changed by the push of a button. (“Spotlight on: Randy Cohen”) Today, all keyboards that are played on Broadway are connected to computers and have the ability to change to an unlimited number of sounds.

MainStage has emerged as the leading keyboard programming software since it was released by Apple Inc. on September 12, 2007. (“Logic Pro X – MainStage 3”) MainStage is music application that specializes in creating workstations for drums, guitars, and most notably, keyboards. Its drag and drop features allow users to effortlessly create their own setup in minutes. The workspaces are fully customizable and will allow for any sound, either from their vast sound library or a custom-made sound, to be assigned to any key on a keyboard. Keyboards are connected to a computer with the program via USB. One program can run multiple

keyboards, making it efficient and a space saver in a small Broadway pit. The ability to change sounds can be patched to a key, button, or foot pedal, making it effortless to the musician using it. With its ease of use, vast sound collection, and fully customizable options, no wonder MainStage has become a standard in Broadway pit orchestras. MainStage provides composers with musical options and aesthetics for their compositions that were not possible before. Furthermore, the newly added language in the collective bargaining agreement gave musicians peace of mind that their jobs were still safe with this technology.

With the advancement of amplification technology and digital music technology, it is hard for modern audiences to tell the difference between a live amplified orchestra and a high-end sampled orchestra. Much of today's popular music includes these digitally produced sounds which are now normalized to the average person. Pre-recorded music that is produced digitally that uses sampled sounds is known as canned music. This "canned" music is becoming more popular in many schools, and community theatres due to its availability and low cost. It is becoming so common place that when some performances decide to use canned music the audience members don't bat an eye, if they even notice. For example, in 1993, the John F. Kennedy Center for the Performing Arts in Washington D.C. announced that their production of *The Phantom of the Opera* would be performed with a pre-recorded music, over 90% of ticket holders still attended the performance. (Pogue 2014) A more recent example of pre-recorded music used in performance is the new musical *Dear Evan Hansen*. Orchestrator Alex Lacamoire told Playbill.com, "We use Ableton, which is a piece of software that plays loops and sound effects and things that can't be replicated by human beings." (Singer 2018) This is a trend that appears to continue and become more integrated as technology continues to evolve.

Perhaps one of the most advanced, yet dangerous pieces of musical technology is known as the Virtual Orchestra Machine. It is similar to MainStage in the fact that it is plugged into a keyboard to operate, however, it is meant to replace the orchestra. This program has audio samples of every orchestral part for every song in a show layered on top of one another. By muting or unmuting certain parts, a virtual orchestra is created. To play this orchestra all one must do is simply tap a key in tempo and the program will play all parts that are not muted. The suggested exclusive use of this machine in *Chicago* in 2003 caused a strike on Broadway that stopped the performance of all shows for four days. Although it stopped the Virtual Orchestra Machine from replacing all the musicians, it still found its way into pit orchestras, particularly on national tours. For example, in one of the previous national tours of *Miss Saigon* the virtual orchestra plays under only a handful of musicians, making it sound like the full-sized original orchestra. (Phillips 2018)

Societal Changes

One reason for the change in the composition of the Broadway pit orchestra is due to the societal changes in the music that is considered popular music. During the 1930s and 1940s American popular musicians came from Broadway musicals. Singers such as Frank Sinatra and Judy Garland helped to popularize these songs and were known for having “lushly orchestrated studio recordings.” (Meffe 2011) At the time, Americans were accustomed to hearing the “orchestral sounds of Glenn Miller,” whose orchestra was between 23 and 25 members. As the decades passed, other artists such as the Beatles, the Rolling Stones, and the Supremes became more popular and the popularity of big band music decreased. (Meffe 2011) These musicians all relied on standard rock instrumentation for accompanying themselves and did not require as

many players as in the past. At first, producers resisted bringing these new sounds to Broadway audiences, but eventually gave in to consumer requests. I speculate that resistance to this change was the result of moving away from a successful model for a musical to one that was not proven yet. Musicals with large orchestras such *The Sound of Music*, *South Pacific*, *The Music Man*, and *Annie Get Your Gun* were proven to be huge successes. Producers may have been weary of eliminating this model. These newer small orchestras can be seen in rock musicals such as *Grease* and *Hair*, both musicals that relied on rock instrumentations for their accompaniments. This smaller rock instrumentation typically included two to three guitars, drums, keyboards, and occasionally 1 or 2 acoustic instruments such as a trumpet or trombone. (Sallinger 2016)

Changes in musical orchestration due to societal changes is shown in Appendix B. It breaks musicals into three categories: 1. Golden Age Orchestration (1940s-1960s), 2. 1970s-1990's musicals, and 3. 2000s-2020s musicals. From these tables it is clear where changes in orchestration have been made. Reed books written exclusively for one instrument were changed to have musicians double on multiple instruments and full string sections were cut down. More percussion and drums were added and in addition to prominent use of keyboards and guitars.

Economic “Threats”

Perhaps the chief reason producers have given for the justification of decreasing orchestra size on Broadway is due to high costs associated with hiring musicians. Paying for musicians, whether to play or never actually play in the pit, as stated above with the case of *A Chorus Line* and *Chicago* can be very expensive. However, putting an end to featherbedding and walkers on Broadway has helped to reign in these costs. In 2010 the average weekly pay for a Broadway musician was around \$1,500.00. Today, that amount has risen to about \$1,725.00. However,

that is merely the starting rate. Additional compensation is provided to musicians who double on one or more instruments, perform on stage, or perform in costume. In the 2016 musical *Natasha, Pierre & The Great Comet of 1812*, the orchestra was placed in the center of the stage and in costume. With these extra wages for doubling (~\$300.00 for playing 2 instruments), being on stage (~\$80.00), and in costume (~\$55.00), those musicians conceivably would have made at least \$2,186.00 per week. (“Broadway Theatre Orchestra Wage Scale 2015)

Given how quickly musician wages add up, the average Broadway musical with 16 musicians could easily spend \$27,000.00 a week on employing musicians. Yet this is just a fraction of the total weekly operating costs for a musical. If you were to combine the salaries of the musicians, the actors, and stagehands for a Broadway musical the total would maybe come to 20 per cent of weekly operating costs. (McKinley 2002) As a result, about one twentieth of ticket revenue goes to pay for these employees. The average cost for a Broadway ticket in 2019 was approximately \$122.00, (Lock 2019) meaning that \$24.40 from each ticket sold goes to paying those involved in the direct running of a show. If producers are as concerned with saving money through the elimination of the orchestra, perhaps they should look at what costs make up the other \$97.60 of that ticket cost.

Broadway Revivals

Musician minimums have slowly decreased over the years and has resulted in diminishing orchestra numbers for each new musical produced on Broadway; however, when musicals that have already made their debut on Broadway are revived, they are seeing the same cut in orchestra members, oftentimes in dramatic ways.

When Stephen Sondheim's musical *Company* opened on Broadway in 1970, it was unusual for having some electronic instruments in the orchestra pit. In November [2006], a revival of *Company* is opening on Broadway...and has no orchestra at all. And these days, that's no longer unusual. (Weinman 2006)

Instead of employing full-time musicians, the actors provide the musical accompaniment. While this may seem unconventional, this is actually the second production in which John Doyle has used this gimmick of actors playing instruments—the prior being another Sondheim production of *Sweeney Todd*. With critics responding exceptionally positively to both productions, it raises the question of how many more shows will receive this transformation? Not only will performers have to act, sing, and dance, but soon they may be required to be proficient on several instruments. A similar mechanism was used in the 2018 revival of *Once on this Island*. Actors in this production use instruments found onstage to create a cacophony of percussion sounds. Some of these “found instruments,” which include broken plates, bottles, old tubes, and chunks of Styrofoam, allow for more percussion parts to be played without employing more musicians to play them. (Singer 2018), Other shows to use actors as musicians include *Once* (2012), *Natasha Pierre & The Great Comet of 1812* (2016), *Bandstand* (2017), and *The Band's Visit* (2017). (Culwell-Block 2018)

The original orchestrator of both *Sweeney Todd* and *Company*, Jonathan Tunick believes that the orchestra “provides not only accompaniment for the singers, but it's able to provide subtext and, in a metaphorical way, colour.” (Weinman 2006) This musical subtext can alter the feel or reception of a show simply by how it sounds. For example, in *Sweeney Todd*, many of the lush symphonic moments in the original orchestrations of songs such as *The Ballad of Sweeney Todd* and *Johanna* have a hollower sound that lacks depth. Similarly, imagine how

different an experience it would be to hear the original production of *Pacific Overtures*, which was scored for twenty-four musicians, and the 2004 revival which only has eight musicians, one of which is the conductor. (Pincus-Roth 2004) Some differences you would note would be the elimination of the traditional Japanese shamisen, and the reduction of other ethnic percussion instruments. There is one notable exception to this trend in musical revivals and that is with Andrew Lloyd Webber's *Sunset Boulevard*. The show, originally scored for twenty-seven musicians when it opened in 1994, was revived in 2017 with an orchestra of forty. This revival holds the record for largest orchestra in Broadway history. (Singer 2018)

Revivals and the Consequential Changes

Each show that is revived has its own specific reasons for changes that are made to the score and ultimately the orchestrations. These changes can include updating the score to give it a more contemporary sound, reduction and/or addition of introductions, interludes, and postludes to fit with new staging of the show, key changes to better fit the voices of leads, or changing the approach to the entire show. Frequently accompanying these musical changes in a revival is often a smaller orchestra. The reduction of orchestra size leads to fundamental changes in orchestration, aesthetic, and other qualities of the production including staging and movement restrictions in some cases.

I have completed six case studies to help further examine the changes that occur in a Broadway score between the original production and subsequent revivals. The case studies look at five well-known composers whose works have been revived with a variety of changes, including reduction of orchestra size, change in orchestration and instrumentation, change of key, and addition of new music. The case studies I completed include: "Being Alive" from

Company and “The Worst Pies in London” from *Sweeney Todd* by Stephen Sondheim, “A New Argentina” from *Evita* by Andrew Lloyd Webber, “The Last Night of the World” from *Miss Saigon* by Claude-Michel Schönberg and Alain Boublil, “Be Back Soon” from *Oliver!* By Lionel Bart, and “I Can’t Say No” from *Oklahoma!* By Richard Rodgers and Oscar Hammerstein II.

For each case study completed I recreated a portion of the song that best exemplified the overall musical change between the original production and the revival. To complete this recreation I referenced the full orchestra score, the piano conductor score, specific orchestra parts, and the Broadway cast recording of each version of each song. I input the music into Sibelius and formatted the pages for ease of comparison. Following the formatting, I created audio files of the selections using the NotePerformer 3 audio plugin. The scores created for the case studies can be found in Appendix D while the links to the audio files are located in Appendix E.

To compare each selection I examined the scores side by side to identify visual changes such as instrumentation, key signature, texture, and doublings. Following the initial examination I listened to the cast recording of each song to provide a context for the changes and identify where melodic and harmonic changes occur between the two versions. Finally, I considered the song in the context of the show and drew conclusions as to how the changes between the original and revival had changed the emotion and delivery of each song.

It is my intention that the reader listen to the audio samples while reading the case studies and examining the scores provided. This will help clarify the information presented in the case study and provide some context to the changes described. When listening to each selection listen for the two overarching elements. The first element to listen for are the technical elements of the song such as tempo, dynamics, and texture. The second element to listen for is the changes in

mood and expression that exist between the versions. How does a smaller orchestra or a different instrumentation affect the given aesthetic of the song?

Case Study #1 – “Being Alive” from *Company*

	Original Production†	1 st Broadway Revival‡	2 nd Broadway Revival§
Opening Night	April 26, 1970	October 5, 1995	November 29, 2006
Number of Musicians	26	9	0*
Orchestrator	Jonathan Tunick	Jonathan Tunick	Mary Mitchell Campbell
Orchestrations	Reed 1 Reed 2 Reed 3 Reed 4 Reed 5 Horn 1-2 Trumpet 1-2-3 Trombone 1-2 Percussion Drums Keyboard Guitar 1-2 Violin A-B-C Cello 1-2 Bass	Reed 1 Reed 2 Reed 3 Trumpet Trombone Bass Piano Keyboard Percussion	Flute/Piccolo Oboe Clarinet Alto/Tenor Sax Horn Trumpet Trombone Tuba Percussion/Bells Drums Piano/Keyboard Guitar Violin Cello Double Bass

*This production used cast members playing instruments on stage. Since no musicians were hired from the American Federation of Musicians, Local 802, the number of musicians is zero, even though instruments were used in the production. Cast members would play anywhere from one to three of the instruments listed during songs they did not perform or during times when they were not singing.

† “Company (1970).” *Playbill*, Playbill INC., 26 Apr. 1970

‡ “Company (1995).” *Playbill*, Playbill INC., 5 Oct. 1995

§ “Company (2006).” *Playbill*, Playbill INC., 29 Nov. 2006

Changes in Orchestration

The original orchestration was thick and had doublings in within sections while the revival orchestration was condensed and thinner. For example, in the original both the Cello 1 and Cello 2 parts play open fourths while the Reed 1, Reed 2, and Reed 4, and Reed 5 all play the melody in octaves. This happens during each of the three interludes in the selection. Compare this to the 2006 version where much of the orchestration was reduced down to essentially a piano solo. During the three interludes in the selection only one instrument plays the melody on top of the piano. Those instruments are the flute, violin, and oboe respectively.

The thinner orchestration and main use of the piano allows for measures 1 through 14 to be more rubato in nature. This give the song a feeling that it comes organically from the character, with them actively thinking and expressing themselves in song. Oftentimes the piano chord is rolled and the melody is sung out of tempo. The original version has a stronger rhythmic pulse at the beginning partly due to the Guitar 2 playing an unchanging rhythmic and melodic ostinato throughout a majority of the selection. This gives the song a more mechanical feel. This same ostinato is played in the piano in the revival but takes several measures to develop. Starting in measure 11, this pattern develops a few notes at a time until it is fully played for the first time in measure 15—the start of the second verse. This change in the introduction allows the audience to follow Robert’s journey from expressing his dangers and perceived traps in marriage to proclaiming his desire for intimacy and all the baggage it includes. Additionally, it is easier to have the tempo fluctuate with fewer instruments playing. This may suggest why the original has strict tempo at the beginning due to the need to accommodate all the players.

Case Study #2 – “The Worst Pies in London” from *Sweeney Todd*

	Original Production†	1 st Broadway Revival‡	2 nd Broadway Revival§
Opening Night	March 1, 1979		November 3, 2005
Number of Musicians	25	2	0*
Orchestrator	Jonathan Tunick	David Krane	Sarah Travis
Orchestrations	Reed 1 Reed 2 Reed 3 Reed 4 Reed 5 Horn Trumpet 1-2 Trombone 1-2-3 Percussion 1-2 Keyboard/Organ Harp Violin Viola Cello Bass	Keyboard 1 Keyboard 2	Flute Clarinet Trumpet Tuba Percussion Keyboard Guitar Accordion Violin Cello Bass

*This production used cast members playing instruments on stage. Since no musicians were hired from the American Federation of Musicians, Local 802, the number of musicians is zero, even though instruments were used in the production. Cast members would play one to three of the instruments listed during times when they were not singing.

† “Sweeney Todd (1979).” *Playbill*, Playbill INC., 1 Mar. 1979

‡ “Sweeney Todd (1989).” *Playbill*, Playbill INC., 14 Sept. 1989

§ “Sweeney Todd (2005).” *Playbill*, Playbill INC., 3 Nov. 2005

Changes in Orchestration

Similar changes that were made to *Company* also occurred to the 2nd revival of *Sweeney Todd*. The original version uses thick doubling with the melody and harmonies in the strings and reed parts. The strings take over the melody from measures 56 to 63 where it is handed back over to the reeds and eventually the brass.

Two of the most noticeable differences between the two versions is the change of key and the ending. In the original version this section of music is in D-flat major. The revival sounds a whole step lower and is written in E major. This change most likely was to accommodate the voice of Patti LuPone, the actress playing Mrs. Lovett. The original ending is a frantic two bars with a melodic and style reminiscent from an earlier part of the song. It includes much of the same doubling as before and utilizes all the instruments in the orchestra. Instead of replaying this musical motif, the ending in the 2005 revival plays a minor 2 bar vamp in a that fades as the dialogue for the next scene starts.

Other notable changes include the addition of the accordion in the revival and a change in technique for the strings in measures 56 through 61. The original has the strings playing arco while the revival requires the three string players to play pizzicato. This along with the eighth note accompaniment in the piano gives this section a much lighter feel than the lush symphonic feeling of the original.

Case Study #3 – “A New Argentina” from *Evita*

	Original Production†	1 st Broadway Revival‡
Opening Night	September 25, 1979	April 5, 2012
Number of Musicians	26	18
Orchestrator	Hershky Kay & Andrew Lloyd Webber	Andrew Lloyd Webber & David Cullen
Orchestrations	Flute Oboe/English Horn Clarinet 1-2 Horn 1-2 Trumpet 1-2 Trombone 1-2 Percussion Drums Keyboard 1-2 Guitar 1-2 Harp Violin 1-2 Viola Cello 1-2 Bass	Reed 1 Reed 2 Horn Trumpet 1-2 Trombone Drums Percussion Keyboard 1-2-3 Guitar Violin 1-2 Viola Cello Bass/Bass Guitar

† “Evita (1979).” *Playbill*, Playbill INC., 25 Sept. 1979

‡ “Evita (2012).” *Playbill*, Playbill INC., 5 Apr. 2012

Changes in Orchestration

While not as a dramatic of a reduction of orchestra size as seen in the *Company* and *Sweeney Todd* case studies, there is a decline in orchestra size between the original and 2012 Broadway revival of *Evita*. This change is an elimination of the harp and the reduction in the number of strings, reeds, horns, trombones, and guitar. The revival also sees the additional keyboard which is used to double some of the cut reed and horn parts.

Although they are written in different keys (A major in the original and D major in the revival) both have the same tonal center of D major. The chord progression starting in measure 91 and leading into the bridge is distinctly different in both versions. The original orchestrations has a chord progression of G-A13-A7 before modulating to D major for the bridge in measure 93. While no key change occurs in the revival, its chord progression anticipates this shift in tonic with a chord progression of G-A13-G-D.

Some parts were rewritten between the two versions, including the drum part which only has cymbal hits on the downbeat of each measure and is given more fills between verses of the songs. The drum part for the original remains unchanged for most of the selection. The guitar and keyboard parts have also been reworked. Rather than having notation to play a chords on each beat in a majority of the measures, these instruments were given new written out parts to account for the reduction of texture and harmonies in other parts of the orchestra. This would help keep the part consistent among players rather than each musician performing their own individual voicing of each chord. The guitar part is given more power chords to play on the down beat of measures and is now one of the instruments leading the chromatic motif throughout the selection. While the Keyboard 2 and Keyboard 3 parts are sparser than the original Keyboard 2 part, they are given specific notes to play to help with the doubling of the melody.

Case Study #4 – “The Last Night of the World” from *Miss Saigon*

	Original Production†	1 st Broadway Revival‡
Opening Night	April 11, 1991	March 23, 2017
Number of Musicians	25	18
Orchestrator	William D. Brohn	William D. Brohn
Orchestrations	Flutes 1-2 Oboe Clarinet Saxophone Bassoon Horns 1-2 Trumpets 1-2 Trombone Bass Trombone/Tuba Percussion 1-2 Keyboard 1-2 Guitar Violin 1-2 Viola Cello Bass	Reed 1 Reed 2 Reed 3 Horns 1-2 Trumpet Trombone/Bass Trombone Percussion Drums Keyboard 1-2 Violins 1-2 Viola Cello Bass

† “Miss Saigon (1991).” *Playbill*, Playbill INC., 11 Apr. 1991

‡ “Miss Saigon (2017).” *Playbill*, Playbill INC., 23 Mar. 2017

Changes in Orchestration

Similar to *Evita*, the change in orchestration between the original and first revival of *Miss Saigon* is not dramatic. The revival utilizes one less reed and brass part by removing the bassoon and tuba, only has one trumpet part, and eliminates the guitar part. Both versions of the song are in the same key of B major.

The original includes notes held over from the segue of the previous song that fade out through the first two measures of the introduction. These sustained notes are eliminated in the revival and the song begins with a ten-measure piano solo to accompany the singer. The Asian percussion instruments were eliminated throughout the 2017 version of the song as well.

The Keyboard 1 part has a unique change between the two versions. Revivals typically use more keyboard patches than the original production, but in this case the Rhodes keyboard patch in the original is replaced by a piano patch. Additionally, the accompaniment written for the keyboard is slightly different. The original keyboard part has a flowing eighth note pattern that runs throughout the selection. The revival alters the part to be the first four notes of the original pattern with the last eighth note tied to a half note. This gives the melody a more suspenseful feeling as if it really was the last night of the world. The final change in the keyboard part serves only as a visual change and does not affect the song. In every instance where a F \times is present in the original score, it is replaced with G \sharp in the revival score.

Case Study #5 – “Be Back Soon” from *Oliver!*

	Original Production†	3 rd Broadway Revival‡
Opening Night	January 6, 1963	June 11, 2012
Number of Musicians	25	21
Orchestrator	Eric Rogers	Tim Wendt
Orchestrations	Reed 1 Reed 2 Reed 3 Reed 4 Horn 1-2 Trumpet 1-2 Trombone 1-2 Percussion 1-2 Violin 1-2 Viola Cello Bass	Reed 1 Reed 2 Reed 3 Reed 4 Horn 1-2 Trumpet 1-2 Trombone 1-2 Percussion 1-2 Piano Violin 1-2 Viola Cello Bass

† “Oliver! (1963).” *Playbill*, Playbill INC., 6 Jan. 1963

‡ “Oliver! (2012).” *Playbill*, Playbill INC., 11 June 2012

Changes in Orchestration

Unlike the other case studies, this case study looks at the changes from original to revival when the parts and orchestra size are nearly identical. The change in instrumentation from original to revival is the addition of the piano, which in this case results in a noticeable change for this selection.

The introduction in the original orchestration has the reeds, strings, and percussion playing a two-bar descending scale before the Fagin starts singing. The 2012 revival adds an eight-bar march introduction on the snare drum before a two-bar introduction of other instruments into the main chorus of the song. Rather than a descending scale, this scale ascends and leads to the chorus. The snare drum introduction includes a short call and response between Dodger and the other orphans.

More differences continue starting at measure 3. Original orchestrations have the main “oom-pah” coming from the lower strings with the reeds playing short ornamentations on top. The “oom-pah” in the revival is given to the bass an octave higher and the piano. The short counter melodies are given to the brass and clarinet while the upper reeds don’t come in until the end of the selection. These changes give the song a more march-like quality while helping it keep the same lightness.

Case Study #6 – “I Can’t Say No” from *Oklahoma!*

	Original Production†	4 th Broadway Revival‡
Opening Night	March 31, 1943	April 7, 2019
Number of Musicians	28	7
Orchestrator	Russell Bennett	Daniel Kluger
Orchestrations	Flute/Piccolo Oboe/English Horn Clarinet 1-2 Horn 1-2 Trumpet 1-2 Trombone Percussion Harp Guitar/Banjo Violin A-B Viola Cello Bass	Drums Guitar 1-2 Banjo Accordion Violin Cello Bass

† “Oklahoma! (1943).” *Playbill*, Playbill INC., 31 Mar. 1943

‡ “Oklahoma! (2019).” *Playbill*, Playbill INC., 7 Apr. 2019

Changes in Orchestration

Similar to 2006 revival of *Company*, the 2019 revival of *Oklahoma* eliminates the accompaniment to the beginning of “I Can’t Say No” to give the song a more rubato introduction to the song. The first fourteen measures are sung a capella and allow for more expression. In contrast to the original where the voice is doubled by the English horn and clarinet and a stricter rhythmic feeling. This change gives the selection a more Western and folk song feeling. This is later emphasized when the banjo and mandolin enter in measure 18.

Overall the orchestration is reduced from a full orchestra to a small bluegrass band combo. Again, as with the 2005 revival of *Sweeney Todd*, the orchestra sees the addition of the accordion. The doubling of parts is eliminated and the extra harmonies is reduced to the “oom-pah” between Guitar 1/Cello/Bass and Guitar 2/Banjo/Violin.

The original orchestration of the guitar, cello, and bass part are identical in the revival, with the only exception being that the cello and bass are playing pizzicato rather than arco. This is like the change in string parts in *Sweeney Todd*.

Conclusion

“Everything changes, [w]hat I thought was so permanent fades in the blink of an eye,” (Bareilles 2016) sings Jenna from the 2016 smash hit Broadway production of *Waitress*. While that lyric might seem like a cliché, it holds true for the state of pit orchestras on Broadway. The size and orchestration of Broadway musicals have been endlessly changing due to the ongoing negotiations between the American Federation of Musicians, Local 802 and the League of American Theatres and Producers and their attempts to stay up to date with technological, economic, and societal changes that affect the music industry of Broadway. Advancements in technology and the prevalence of keyboard programming in pits and the threat of eliminating live musician jobs has been main topic of discussion between musicians and producers. These changes are generalized in with smaller orchestras and musicians being required to play more than one instruments. Orchestras of the Golden Age with five wood winds, a doubled brass section, and a full section of strings is an idea of the past. Now, orchestras take on all sorts of shapes and sizes depending on the musical. The orchestra ranges from a six person rock combo for *First Date* to a more traditional, heavy string orchestra for *The Light in the Piazza*. These changes are easily seen when comparing original Broadway productions with subsequent Broadway revivals. These orchestras are often much smaller and many include different orchestrations altogether.

Contractual minimums have attempted to keep orchestras at a certain number of musicians; however, these minimums have been exploited by both musicians and producers alike. Through featherbedding and hiring actors on musician contracts to play simple parts, the two have always been finding ways to undercut one another. As orchestras continue to get smaller, one can only surmise what the future of orchestras on Broadway will be. Will live

orchestras slowly disappear and get replaced by pre-recorded music or will the musicians and Broadway audience members continue the fight for live music and help increase the minimums? No one is certain of the future, but all we can do now is sit back, relax, and enjoy the show.

Appendix A: Tony Award Winning Best Musical Orchestra Sizes

The following table shows the overall decline of Broadway pit orchestras based on the orchestra size for the Tony Award-winning Best Musical for a given year. This table begins with the first Tony Award given in 1949 and continues through the most recent Tony Award given in 2019.

Year	Musical	Orchestra Size
1949	<i>Kiss Me, Kate</i>	25†
1950	<i>South Pacific</i>	30†
1951	<i>Guys & Dolls</i>	25±
1952	<i>The King and I</i>	29†
1953	<i>Wonderful Town</i>	28±
1954	<i>Kismet</i>	27±
1955	<i>The Pajama Game</i>	25†
1956	<i>Damn Yankees</i>	28†
1957	<i>My Fair Lady</i>	29†
1958	<i>The Music Man</i>	26†
1959	<i>Redhead</i>	Information Not Available
1960	<i>Fiorello!</i>	25†
	<i>The Sound of Music</i>	30†
1961	<i>Bye Bye Birdie</i>	26†
1962	<i>How To Succeed in Business Without Really Trying</i>	27†
1963	<i>A Funny Thing Happened on the Way to the Forum</i>	25†
1964	<i>Hello, Dolly!</i>	25†
1965	<i>Fiddler on the Roof</i>	25†
1966	<i>Man of La Mancha</i>	17±
1967	<i>Cabaret</i>	22±
1968	<i>Hallelujah, Baby!</i>	26†
1969	<i>1776</i>	22†
1970	<i>Applause</i>	22±
1971	<i>Company</i>	25‡
1972	<i>Gentlemen of Verona</i>	18‡
1973	<i>A Little Night Music</i>	26±
1974	<i>Raisin</i>	Information Not Available
1975	<i>The Wiz</i>	20E
1976	<i>A Chorus Line</i>	17§
1977	<i>Annie</i>	24E
1978	<i>Ain't Misbehavin'</i>	7E
1979	<i>Sweeney Todd</i>	25§
1980	<i>Evita</i>	26‡
1981	<i>42nd Street</i>	25±
1982	<i>Nine</i>	24±
1983	<i>Cats</i>	25‡
1984	<i>La Cage aux Folles</i>	22±
1985	<i>Big River</i>	10‡

1986	<i>The Mystery of Edwin Drood</i>	25‡
1987	<i>Les Misérables</i>	26±
1988	<i>The Phantom of the Opera</i>	29‡
1989	<i>Jerome Robbins' Broadway</i>	28‡
1990	<i>City of Angels</i>	22‡
1991	<i>The Will Rogers Follies</i>	25‡
1992	<i>Crazy for You</i>	23‡
1993	<i>Kiss of the Spider Woman</i>	20‡
1994	<i>Passion</i>	15‡
1995	<i>Sunset Boulevard</i>	23‡
1996	<i>Rent</i>	5‡
1997	<i>Titanic</i>	29‡
1998	<i>The Lion King</i>	23‡
1999	<i>Fosse</i>	19‡
2000	<i>Contact</i>	Information Not Available
2001	<i>The Producers</i>	23‡
2002	<i>Thoroughly Modern Millie</i>	23‡
2003	<i>Hairspray</i>	15‡
2004	<i>Avenue Q</i>	6‡
2005	<i>Spamalot</i>	17‡
2006	<i>Jersey Boys</i>	9‡
2007	<i>Spring Awakening</i>	7‡
2008	<i>In the Heights</i>	13‡
2009	<i>Billy Elliot</i>	17‡
2010	<i>Memphis</i>	9‡
2011	<i>The Book of Mormon</i>	9‡
2012	<i>Once</i>	0*‡
2013	<i>Kinky Boots</i>	13‡
2014	<i>A Gentleman's Guide to Love and Murder</i>	11‡
2015	<i>Fun Home</i>	7‡
2016	<i>Hamilton</i>	10‡
2017	<i>Dear Evan Hansen</i>	8‡
2018	<i>The Band's Visit</i>	8‡
2019	<i>Hadestown</i>	7‡

*Actors played instruments rather than being accompanied by an orchestra.

Source:

† Suskin, Stevin. *The Sound of Broadway Music: A Book of Orchestrators and Orchestrations*. Oxford University Press, 2011.

‡ Playbill.com Archives

§ Meffe, Robert. "How Many Musicians Does It Take? A History and Analysis of the Shrinking Broadway Pit Orchestra." 2011.

± Orchestra size estimated based on orchestrations, rental packages from licensing companies, musicians listed in cast recordings, and musical practices of the time.

Appendix B: Sample Orchestrations

1. Golden Age Orchestration (1940s-1960s)

Musical	<i>Carousel</i>	<i>The Music Man</i>	<i>Fiddler on the Roof</i>
Opening Night	April 19, 1945	December 19, 1957	September 22, 1964
Composer	Richard Rodgers	Meredith Wilson	Jerry Bock
Lyricist	Oscar Hammerstein II	Meredith Wilson	Sheldon Harnick
Orchestrator	Don Walker	Don Walker	Don Walker
Number of Musicians	39	26	25
Orchestrations			
Reeds	Flute/Piccolo (2) Clarinet (2) Oboe (1) Bassoon (1)	5 Reeds Doubling Flute/Piccolo, Clarinet, Oboe, English Horn, Saxophone	Flute (1) Clarinet (2) Oboe (1) Bassoon (1)
Brass	Horn (3) Trumpet (2) Trombone (3) Tuba (1)	Trumpet (3) Trombone (3)	Horn (2) Trumpet (3) Trombone (2)
Strings	Violin (13) Viola (4) Cello (3) Bass (2) Harp (1)	Violin (8) Cello (4) Bass (1)	Violin (6) Viola (1) Cello (1) Bass (1)
Percussion	Percussion (1)	Percussion (1)	Percussion (1)
Keyboard		Piano (1)	
Other			Guitar (2) Accordion (1)

Source:

Suskin, Stevin. *The Sound of Broadway Music: A Book of Orchestrators and Orchestrations*. Oxford University Press, 2011.

2. 1970s-1990s Musicals

Musical	<i>70, Girls, 70</i> †	<i>Dreamgirls</i> ‡	<i>Parade</i> ‡
Opening Night	April 15, 1971	December 20, 1981	December 17, 1998
Composer	John Kander	Henry Krieger	Jason Robert Brown
Lyricist	Fred Ebb	Tom Eyn	Jason Robert Brown
Orchestrator	Don Walker	Harold Wheeler	Don Sebesky
Number of Musicians	13	14	19
Orchestrations			
Reeds	3 Reeds Doubling Flute, Clarinet, Saxophone, Bassoon	3 Reeds Doubling Flute, Clarinet, Oboe, English Horn, Saxophone	4 Reeds Doubling Flute, Clarinet, Oboe Saxophone, Bassoon
Brass	Trumpet (1) Trombone (3)	Trumpet/Flugelhorn (3) Trombone (2)	Horns (2) Trumpet (2) Trombone (1) Tuba (1*)
Strings	Bass (1)		Violin/Viola (3) Cello (2) Bass (1*)
Percussion	Percussion (2)	Percussion (1) Drums (1)	Percussion (1) Drums (1)
Keyboard	Piano (1) Keyboard (1)	Piano (1) Keyboard (1)	Keyboard (1)
Other	Guitar (1)	Guitar (1) Electric Bass (1)	

*A single player doubled both of these instruments

Source:

† Suskin, Stevin. *The Sound of Broadway Music: A Book of Orchestrators and Orchestrations*. Oxford University Press, 2011.

‡ Playbill.com Archives

3. 2000s-2020s Musicals

Musical	<i>Urinetown</i> ‡	<i>Next to Normal</i> ‡	<i>Ghost</i> ‡	<i>Mean Girls</i> ‡
Opening Night	September 20, 2001	April 15, 2009	April 23, 2012	April 8, 2018
Composer	Mark Hollmann	Tom Kitt	Dave Stewart and Glen Ballard	Jeff Richmond
Lyricist	Greg Kotis and Mark Hollmann	Brian Yorkey	Bruce Joel Rubin, Dave Stewart and Glen Ballard	Nell Benjamin
Orchestrator	Bruce Coughlin	Michael Starobin and Tom Kitt	Chris Nightingale	John Clancy
Number of Musicians	5	6	17	14
Orchestrations				
Reeds	1 Reed Doubling Clarinet, Bass Clarinet, Alto/Soprano Saxophone		1 Reed Doubling Flute, Clarinet, Alto/Tenor Saxophone	2 Reeds Doubling Flute, Piccolo, Clarinet, Oboe, Saxophones
Brass	Trombone/ Euphonium (1)		Horn (1) Trumpet (1) Trombone (1)	Trumpet (1) Trombone (1)
Strings	Bass (1)	Violin (1*) Cello (1)	Violin/Viola (6) Cello (1)	Violin/Viola (1) Cello (1)
Percussion	Percussion/Drums (1)	Percussion/Drums (1)	Drums (1)	Percussion (1) Drums (1)
Keyboard	Piano (1)	Piano (1) Keyboard (1*)	Keyboard 1 (1) Keyboard 2 (1)	Keyboard 1 (1) Keyboard 2 (1) Keyboard 3 (1)
Other		Guitar (1) Electric Bass (1)	Guitar (2) Electric Bass (1)	Guitars (2) Electric Bass (1)

*A single player doubled both of these instruments

Source:

‡ Playbill.com Archives

Appendix C: Broadway Theatre Minimums

Theatre	Contract Year				
	1972-1975†	1976-1981†	1993-1998†	2007-2010‡	2011-2016§
Broadway	26	26	26	19	19
Minskoff	26	24	24	19	19
St. James	26	25	24	19	19
Marquis	Did not exist yet	Did not exist yet	24	19	19
New Amsterdam	n/a	n/a	n/a	19	19
Majestic	26	26	26	18	18
Palace	26	26	25	18	18
Lunt-Fontanne	26	25	25	18	18
Imperial	26	26	24	18	18
Gershwin	26	24	24	18	18
Shubert	26	26	24	18	18
Winter Garden	26	25	24	18	18
Neil Simon	20	20	20	14	14
Al Hirschfeld	20	16	16	14	14
Richard Rodgers	26	25	24	14	14
August Wilson	16	16	16	12	12
Broadhurst	16	15	15	12	12
Barrymore	9	9	9	9	9
Music Box	9	9	9	9	9
Gerald Schoenfeld	9	9	9	9	9
Brooks Atkinson	9	9	9	8	8
Eugene O'Neill	9	9	9	8	8
Bernard Jacobs	9	9	9	8	8
Longacre	9	9	5	4	4
Nederlander	16	16	5	4	4
Ambassador	9	9	3	3	3
Belasco	9	9	3	3	3
Booth	TBD but no more than 6	TBD but no more than 6	3	3	3
Circle in the Square	TBD but no more than 6	TBD but no more than 6	3	3	3
Cort	9	9	3	3	3
Golden	TBD but no more than 6	TBD but no more than 6	3	3	3
Walter Kerr	TBD but no more than 6	TBD but no more than 6	3	3	3
Lyceum	9	9	3	3	3

Sources:

†Moriarity "President's Report: The History of Broadway Theatre Minimums." 2002.

‡"Agreement." The American Federation of Musicians. 2007

§ "Agreement." The American Federation of Musicians. 2011

Appendix D: Musical Score Comparison

- 1a. “Being Alive” – 1970
- 1b. “Being Alive” – 2006
- 2a. “The Worst Pies in London” – 1979
- 2b. “The Worst Pies in London” – 2005
- 3a. “A New Argentina” – 1979
- 3b. “A New Argentina” – 2012
- 4a. “The Last Night of the World” – 1991
- 4b. “The Last Night of the World” – 2017
- 5a. “Be Back Soon” – 1963
- 5b. “Be Back Soon” – 2012
- 6a. “I Can’t Say No” – 1943
- 6b. “I Can’t Say No” – 2019

The following are the musical scores for each of the case studies. These scores should be referenced when reading the case studies and listening to the audio samples provided in Appendix E. Each score will help provide a visual as to how the orchestrations have changed and in what measures the changes occur.

Each score for a particular musical contains the same sections from each version of the song. They have been formatted to provide easy comparison while ensuring no information has been altered in any way.

Appendix D: 1a

Being Alive (1995)

from *Company*

Music by Stephen Sondheim
Lyrics by Stephen Sondheim
Orchestrations by Jonathan Tunick

20 Flute 21 22 23 24 25 26 27

Reed 1
Reed 2
Reed 3
Reed 4
Reed 5
Horn 1
Horn 2
Trumpet 1-2
Trumpet 3
Trombone 1-2
Percussion
Drums
Guitar 1
Guitar 2
Keyboard
Violin A
Violin B
Violin C
Cello 1
Cello 2
Bass
Robert

Some-one to hold you too close, Some-one to hurt you too deep, Some-one to sit in your chair, To ru-in your

28 29 30 31 32 33 34 35

Reed 1
Reed 2
Reed 3
Reed 4
Reed 5
Horn 1
Horn 2
Trumpet 1-2
Trumpet 3
Trombone 1-2
Percussion
Drums
Guitar 1
Guitar 2
Keyboard
Violin A
Violin B
Violin C
Cello 1
Cello 2
Bass
Robert

sleep...
Some-one to need you too much,

36 37 38 39 40 41 42 43

Reed 1

Reed 2

Reed 3

Reed 4

Reed 5

Horn 1

Horn 2

Trumpet 1-2

Trumpet 3

Trombone 1-2

Percussion

Drums

Guitar 1

Guitar 2

Keyboard

Violin A

Violin B

Violin C

Cello 1

Cello 2

Bass

Robert

Some-one to know you too well, Some-one to pull you up short, to put you through hell...

44 45 46 47 48 49 50 51

Reed 1
Reed 2
Reed 3
Reed 4
Reed 5
Horn 1
Horn 2
Trumpet 1-2
Trumpet 3
Trombone 1-2
Percussion
Drums
Guitar 1
Guitar 2
Keyboard
Violin A
Violin B
Violin C
Cello 1
Cello 2
Bass
Robert

Some-one you have to let in, Some-one whose feel-ings you spare,

52 53 54 55 56 57 58 59

Reed 1
Reed 2
Reed 3
Reed 4
Reed 5
Horn 1
Horn 2
Trumpet 1-2
Trumpet 3
Trombone 1-2
Percussion
Drums
Guitar 1
Guitar 2
Keyboard
Violin A
Violin B
Violin C
Cello 1
Cello 2
Bass
Robert

Some-one who like it or not, Will want you to share, A lit-tle, a lot...

Appendix D: 1b

Being Alive (2006)

from *Company*

Music by Stephen Sondheim
Lyrics by Stephen Sondheim
Orchestrations by Mary Mitchell Campbell

Moderato ♩ = 112
2 3 4 5 6

Flute

Oboe

Piano

p

Violin

Moderato ♩ = 112

Robert

Some-one to hold you too close, Some-one to hurt you too deep,

Flute

Oboe

Piano

Violin

Robert

Some-one to sit in your chair, To ru-in your sleep...

14 15 16 17 18

Flute

Oboe

Piano

Violin

Robert

Some-one to need you too much, Some-one to know you too well,



19 20 21 22 23

Flute

Oboe

Piano

Violin

Robert

Some-one to pull you up short, to put you through hell...

24 25 26 27 28 29

Flute

Oboe

Piano

Violin

Robert

Some-one you have to let

30 31 32 33 34

Flute

Oboe

Piano

Violin

Robert

in,
Some-one whose feel-ings you spare,
Some-one who like it or not, Will want you to

35 36 37 38 39 40

Flute

Oboe

Piano

Violin

Robert

8 share, A lit-tle, a lot...

Appendix D: 2a
The Worst Pies in London (1979)
from *Sweeney Todd*

Music by Stephen Sondheim
Lyrics by Stephen Sondheim
Orchestrations by Jonathan Tunick

Meno mosso, sempre rubato

52 53 54 55 56 57 58

Reed 1 Flute

Reed 2 Flute

Reed 3 Clarinet

Reed 4 Oboe

Reed 5 Bassoon

Horn

Trumpet 1

Trumpet 2

Trombone 1

Trombone 2

Trombone 3

Percussion 1 Timpani

Percussion 2 Xylophone

Harp

Keyboard Organ

Violin

Viola

Cello

Bass

Mrs. Lovett

Meno mosso, sempre rubato

E-ven hard-er than the worst pies in Lon-don. On-ly lard and noth-ing more. Is that just re-volt-ing? All greas-y and

poco rit. *a tempo, molto espressivo*

The musical score is arranged in a standard orchestral format. At the top, the measures are numbered from 59 to 68, with a final measure numbered 54. The score includes parts for five reeds (Reed 1-5), three trumpets (Trumpet 1-2), three trombones (Trombone 1-3), two percussionists (Percussion 1-2), a harp, a keyboard, and a string quartet (Violin, Viola, Cello, Bass). Mrs. Lovett's vocal line is at the bottom, with lyrics: "grit-ty. It looks like it's molt-ing and tastes like... Well, pit-y a wom-an a-lone_____ With lim-it-ed". The tempo markings **poco rit.** and *a tempo, molto espressivo* are placed above the vocal line and below the string parts.

grit-ty. It looks like it's molt-ing and tastes like... Well, pit-y a wom-an a-lone_____ With lim-it-ed

69 70 To Picc. 71 72 73 74

Reed 1
Reed 2
Reed 3
Reed 4
Reed 5

Horn

Trumpet 1
Trumpet 2

Trombone 1
Trombone 2
Trombone 3

Percussion 1

Percussion 2 Chimes Xylophone

Harp
let ring-----

Keyboard

Violin

Viola

Cello

Bass

Mrs. Lovett
wind. And the worst pies in Lon - don. Ah, sir, times is

Rubato
mp
fort.

Tempo I°

Piccolo

75 76 77

Reed 1
Reed 2
Reed 3
Reed 4
Reed 5
Horn
Trumpet 1
Trumpet 2
Trombone 1
Trombone 2
Trombone 3
Percussion 1
Xyl.
Harp
Keyboard
Violin
Viola
Cello
Bass

Mrs. Lovett
hard, times is hard.

8va
8va
8va

Detailed description: This page of a musical score covers measures 75, 76, and 77. The music is in 4/4 time and the key signature has four flats (B-flat major or D-flat minor). The score includes parts for five reeds (Reed 1-5), three horns, two trumpets, three trombones, percussion 1, xylophone, harp, keyboard, violin, viola, cello, and bass. Measures 75 and 76 feature a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. Measure 77 continues these patterns. The harp and keyboard parts feature a prominent eighth-note accompaniment. The string section (Violin, Viola, Cello, Bass) provides a steady accompaniment. At the bottom of the page, the vocal line for Mrs. Lovett is shown, with the lyrics "hard, times is hard." written below the notes. The tempo is marked as "Tempo I°".

Appendix D: 2b
The Worst Pies in London (2005)
from *Sweeney Todd*

Music by Stephen Sondheim
Lyrics by Stephen Sondheim
Orchestrations by Sarah Travis

Musical score for the song "The Worst Pies in London" from the musical *Sweeney Todd*. The score is for measures 52 through 55. The key signature is three sharps (F#, C#, G#) and the time signature changes from 4/4 to 3/4 to 5/4 and back to 3/4. The instruments are Clarinet, Trumpet, Piano, Accordion, Violin, Cello, Bass, and Mrs. Lovett. Mrs. Lovett's lyrics are: "E ven hard - er than the worst pies in Lon don. On - ly lard and noth - ing more. Is".

52 53 54 55

Clarinet

Trumpet

Piano

Accordion

Violin

Cello

Bass

Mrs. Lovett

E ven hard - er than the worst pies in Lon don. On - ly lard and noth - ing more. Is

56 57 58 59 60

Clarinet

Musical staff for Clarinet, measures 56-60. The staff contains five measures, each with a whole rest, indicating the instrument is silent during this passage.

Trumpet

Musical staff for Trumpet, measures 56-60. The staff contains five measures, each with a whole rest, indicating the instrument is silent during this passage.

Piano

Musical staff for Piano, measures 56-60. The staff is divided into two staves (treble and bass clef). The treble clef part features a melodic line with eighth notes and slurs. The bass clef part features a bass line with dotted half notes and slurs.

Accordion

Musical staff for Accordion, measures 56-60. The staff is divided into two staves (treble and bass clef). The treble clef part features a melodic line with eighth notes and slurs. The bass clef part contains whole rests.

Violin

Musical staff for Violin, measures 56-60. The staff contains five measures, each with a dotted half note. Above the first measure is the instruction "pizz".

Cello

Musical staff for Cello, measures 56-60. The staff contains five measures, each with a dotted half note. Above the first measure is the instruction "pizz".

Bass

Musical staff for Bass, measures 56-60. The staff contains five measures, each with a dotted half note. Above the first measure is the instruction "pizz".

Mrs. Lovett

Vocal staff for Mrs. Lovett, measures 56-60. The staff contains five measures of music with lyrics underneath.

that just re - volt - ing? All greas - y and grit - ty. It looks like it's

61

62

63

64

65

66

67

59

Clarinet

Musical staff for Clarinet, showing notes and rests across measures 61-67.

Trumpet

Musical staff for Trumpet, showing rests across measures 61-67.

Piano

Musical staff for Piano, showing accompaniment for both hands across measures 61-67.

Accordion

Musical staff for Accordion, showing accompaniment for both hands across measures 61-67.

Violin

Musical staff for Violin, showing notes and rests across measures 61-67, including an *arco* marking.

Cello

Musical staff for Cello, showing notes and rests across measures 61-67.

Bass

Musical staff for Bass, showing notes and rests across measures 61-67.

Mrs. Lovett

Musical staff for Mrs. Lovett, showing the vocal line across measures 61-67.

molt-ing and tastes like...Well, pit-y a wom-an a - lone _____ With

68

69

70

71

72

Clarinet

Musical staff for Clarinet, showing a melodic line with a long slur across measures 68-72.

Trumpet

Musical staff for Trumpet, starting with a rest and then playing a melodic line. The instruction "Straight Mute" is written above the staff.

Piano

Musical staff for Piano, showing accompaniment for both the right and left hands.

Accordion

Musical staff for Accordion, showing accompaniment for both the right and left hands.

Violin

Musical staff for Violin, showing a melodic line with a long slur across measures 68-72.

Cello

Musical staff for Cello, showing a melodic line with a long slur across measures 70-72.

Bass

Musical staff for Bass, showing a melodic line with a long slur across measures 70-72. The instruction "Arco." is written above the staff.

Mrs. Lovett

Musical staff for Mrs. Lovett, showing the vocal line with lyrics.

lim - it - ed wind. _____ And the worst pies in Lon - don. _____

73 74 75 76 77

Clarinet

Musical staff for Clarinet with treble clef and key signature of three sharps. Measure 73 has a half note G4 with a slur. Measures 74-77 are rests.

Trumpet

Musical staff for Trumpet with treble clef and key signature of three sharps. Measure 73 has a half note G4 with a slur. Measures 74-77 are rests.

Piano

Musical staff for Piano with grand staff. Measures 73-75 have sustained chords in both hands. Measure 76 has a chord in the right hand and a half note G2 in the left hand. Measure 77 has a sustained chord in the right hand and a half note G2 in the left hand.

Accordion

Musical staff for Accordion with grand staff. Measures 73-75 have sustained chords in both hands. Measure 76 has a chord in the right hand and a half note G2 in the left hand. Measure 77 has a sustained chord in the right hand and a half note G2 in the left hand.

Violin

Musical staff for Violin with treble clef and key signature of three sharps. Measure 73 has a half note G4 with a slur. Measures 74-77 are rests.

Cello

Musical staff for Cello with bass clef and key signature of three sharps. Measures 74-75 have a half note G2. Measure 76 has a half note G2. Measure 77 has a half note G2.

Bass

Musical staff for Bass with bass clef and key signature of three sharps. Measures 74-75 have a half note G2. Measure 76 has a half note G2. Measure 77 has a half note G2.

Mrs. Lovett

Musical staff for Mrs. Lovett with treble clef and key signature of three sharps. The lyrics are: "Ah, sir, times is hard, times is hard." The music includes a *Rubato* marking, a *mp* dynamic, and a *pizz.* marking. The final measure is marked "Slower, fade under dialogue".

Appendix D: 3a
A New Argentina (1979)
From *Evita*

Music by Andrew Lloyd Webber
Lyrics by Tim Rice

Orchestrations by Hershy Kay and Andrew Lloyd Webber

Strip-March $\text{♩} = 90$

54 55 56 57 58

Flute *f*

Oboe *f*

Clarinet 1-2 *f* *mf*

Horn 1-2 *f*

Trumpet 1-2 *f*

Trombone 1-2 *f*

Drums *mf*

Percussion

Electric Guitar *f* E A G E7

Keyboard 1 *f* Brass I-8' Brass II-47

Keyboard 2 *f* Piano A G/A

Harp

Violin 1-2 *f* **Strip-March** $\text{♩} = 90$

Viola *f*

Cello 1-2

Bass

Vocals $\text{♩} = 90$ **Strip-March** Che:
A new Ar-gen-ti - na, the chains of the mass - es un-tied! A

Flute

Oboe

Clarinet 1-2

Horn 1-2

Trumpet 1-2

Trombone 1-2

Drums

Percussion

Guitar 1-2

Keyboard 1

Keyboard 2

Harp

Violin 1-2

Viola

Cello 1-2

Bass

Vocals

mf

mp

A D G D E

A D G/A D

Organ 8
Organ 2 2/3

Eva:

new Ar-gen-ti - na! The voice of the peo - ple can - not be de - nied! There is on - ly one man who can lead a - ny work - ers' re-

64 65 66 67 68

Flute

Oboe

Clarinet 1-2

Horn 1-2

Trumpet 1-2

Trombone 1-2

Drums

Percussion

Guitar 1-2

Keyboard 1

Keyboard 2

Harp

Violin 1-2

Viola

Cello 1-2

Bass

Vocals

f *mp* *f*

E E7 G7 A G7

E7 G7 A G7

gime. He lives for your prob-lems he shares your i-deals and youdream. He sup ports you..for he loves you, un-derstands you, is one of you,

69 70 71 72 73 74 65

Flute

Oboe

Clarinet 1-2

Horn 1-2

Trumpet 1-2

Trombone 1-2

Drums

Percussion

Guitar 1-2

Keyboard 1

Keyboard 2

Harp

Violin 1-2

Viola

Cello 1-2

Bass

Vocals

C G7 G A G A

Brass I-8' Brass II-4'

A G/A A

Che + Chorus:

If not how could he love me? A new Ar-gen-ti - na the work - er's bat - tle song! A new Ar-gen-ti - na the

Flute

Oboe

Clarinet 1-2

Horn 1-2

Trumpet 1-2

Trombone 1-2

Drums

Percussion

Guitar 1-2

Keyboard 1

Keyboard 2

Harp

Violin 1-2

Viola

Cello 1-2

Bass

Vocals

Eva:

voice of the peo - ple rings out loud and long. Now I am a work-er, I've suf-fered the way that you do. I've

80 81 82 83 84 67

Flute *mf* *f*

Oboe

Clarinet 1-2

Horn 1-2

Trumpet 1-2

Trombone 1-2 *f* *ff*

Drums

Percussion

Guitar 1-2 E E7 G7 A G7 C G7 G

Keyboard 1

Keyboard 2 E7 G7 A G7

Harp

Violin 1-2 *mf* *mp* *f*

Viola *mf* *mp*

Cello 1-2

Bass

Vocals

been un-em-ployed and I've starved and I've hat-ed it too. But I found my sal-va tion in Per on, may the na tion. let him save them as he saved

85 86 87 88

Flute *mp*

Oboe

Clarinet 1-2

Horn 1-2 *ff*

Trumpet 1-2 *ff*

Trombone 1-2

Drums *mp*

Percussion

Guitar 1-2 A G

Keyboard 1 Brass I-8' *mp* Brass II-4'

Keyboard 2 G/A

Harp

Violin 1-2

Viola

Cello 1-2

Bass

Vocals Che: (+Secret Police)
 me. A new Ar - gen - ti - na a new age a - bout to be - gin. A

Flute

Oboe

Clarinet 1-2

Horn 1-2

Trumpet 1-2

Trombone 1-2

Drums

Percussion

Guitar 1-2

Keyboard 1

Keyboard 2

Harp

Violin 1-2

Viola

Cello 1-2

Bass

Vocals

new Ar - gen - ti - na we face the world to - geth - er and no dis - sent with -

Appendix D: 3b

A New Argentina (2012)

from *Evita*

Music by Andrew Lloyd Webber

Lyrics by Tim Rice

Orchestrations by Andrew Lloyd Webber and David Cullen

Heavy Rock ♩ = 90
Play 3 Times

54 55 56 57 58

Reed 1 Flute

Reed 2 Clarinet

Horn
mp cresc poco a poco

Trumpet 1-2
mp cresc poco a poco

Trombone
mp cresc poco a poco 3rd x *cresc to ff*

Drum Set
mp cresc poco a poco

Percussion

Guitar
 Screaming Electric Guitar
mp cresc poco a poco A G/A

Keyboard 1
 Guitar (sounds 8vb)
f Distortion Guitar

Keyboard 2
 Horn
mp cresc poco a poco

Keyboard 3

Violins

Viola

Cello

Bass
 Bass Guitar
mp cresc poco a poco

Voice
 Che:
 A new Ar-gen-ti-na, the chains of the mass-es un-tied! A

59 60 61 62 63

Reed 1

Reed 2

Horn

Trumpet 1-2

Trombone

Drums

Percussion

Guitar

Keyboard 1

Keyboard 2

Keyboard 3

Violins

Viola

Cello

Bass

Voice

new Ar - gen - ti - nal The voice of the peo - ple can - not be de - nied! There is on - ly one man who can lead a - ny work - ers' re -

fill

f

f

Eva:

64 65 66 67 68

Reed 1

Reed 2

Horn

Trumpet 1-2

Trombone

Drums

Percussion

Guitar

Keyboard 1

Keyboard 2

Keyboard 3

Violins

Viola

Cello

Bass

Voice

gime. He lives for your prob-lems he shares your i-deals and youdream. He sup- ports you...for he loves you, un-derstands you, is one of you,

69 70 71 72 73

Reed 1 *f*

Reed 2 *f*

Horn *mp* *f*

Trumpet 1-2 *mp*

Trombone *mp*

Drums

Percussion

Guitar A G/A

Keyboard 1

Keyboard 2 *mp* *f*

Keyboard 3 Flt + Clt 8vb (sounds 8va) *f*

Violins

Viola

Cello

Bass

Voice Che + Chorus:
 If not how could he love me? A new Ar - gen - ti - na the work - er's bat - tle song! A

74 75 76 77 78

Reed 1

Reed 2

Horn

Trumpet 1-2

Trombone

Drums

Percussion

Guitar

Keyboard 1

Keyboard 2

Keyboard 3

Violins

Viola

Cello

Bass

Voice

A D G D

f

Eva:

new Ar - gen - ti - na the voice of the peo - ple rings out loud and long. Now I am a work - er, I've suf - fered the way that you

Detailed description: This is a page of a musical score for page 74. It contains staves for Reed 1, Reed 2, Horn, Trumpet 1-2, Trombone, Drums, Percussion, Guitar, Keyboard 1, Keyboard 2, Keyboard 3, Violins, Viola, Cello, Bass, and Voice. The score is in 4/4 time with a key signature of one sharp (F#). The vocal line is performed by a character named Eva. The lyrics are: "new Ar - gen - ti - na the voice of the peo - ple rings out loud and long. Now I am a work - er, I've suf - fered the way that you". There are dynamic markings like *f* and chord symbols A, D, G, D above the guitar and keyboard parts.

79 80 81 82 83

Reed 1

Reed 2

Horn

Trumpet 1-2

Trombone

Drums

Percussion

Guitar

Keyboard 1

Keyboard 2

Keyboard 3

Violins

Viola

Cello

Bass

Voice

SOLO

f

f

E G⁶ A G⁶

do. I've been un-em-ployed and I've starved and I've hat-ed it too. But I found my_ sal-va tion in Per on,_may the na- tion

84 85 86 87

Reed 1

Reed 2

Horn

Trumpet 1-2

Trombone

Drums

Percussion

Guitar

Keyboard 1

Keyboard 2

Keyboard 3

Violins

Viola

Cello

Bass

Voice

let him save them as he saved me. A new Ar - gen-ti - na a new age a-bout to be-

A G/A

Che:

88 89 90 91 92

Reed 1

Reed 2

Horn

Trumpet 1-2

Trombone

Drums

Percussion

Guitar

Keyboard 1

Keyboard 2

Keyboard 3

Violins

Viola

Cello

Bass

Voice

(+Secret Police)

gin. A new Ar - gen - ti - na we face the world to - geth - er and no dis - sent with -

f

f

Appendix D: 4a

Last Night of the World (1991)

from *Miss Saigon*

Music by Claude-Michel Schönberg
Lyrics by Alain Boublil and Richard Maltby Jr.
Orchestrations by William D. Brohn

Languidly ♩=104

2 3 4 5 6

Flute 1-2

Oboe

Clarinet

Bassoon

Horn 1-2

Trumpet 1-2

Trombone

Tuba

Percussion 1

Percussion 2

Keyboard 1

Keyboard 2

Guitar

Violin A

Violin B

Viola

Cello

Bass

Chris

Sustaining Gamelon

Gambang (sounds octave higher)

Rhodes

Strings

Electric

me. In a place that won't let us feel...

rall.

7 8 9 10 11 12

Flute 1-2
Oboe
Clarinet
Bassoon
Horn 1-2
Trumpet 1-2
Trombone
Tuba
Percussion 1
Percussion 2
Keyboard 1
Keyboard 2
Guitar
Violin A
Violin B
Viola
Cello
Bass
Chris

to Celesta
to Harp

rall.

In a life where no-thing seems real— I have found you— I have found you—

Appendix D: 4b

Last Night of the World (2017)

from *Miss Saigon*

Music by Claude-Michel Schönberg
Lyrics by Alain Boublil and Richard Maltby Jr.
Orchestrations by William D. Brohn

Languidly

The musical score is arranged in a standard orchestral format with the following parts:

- Reed 1:** Flute (Measures 2, 3, 4, 5, 6)
- Reed 2:** Flute
- Reed 3:** Clarinet
- Horn 1-2:**
- Trumpet:**
- Trombone:**
- Percussion:** 4/4
- Drums:** 4/4
- Keyboard 1:** Piano (p), includes a melodic line in the right hand and bass notes in the left hand.
- Keyboard 2:**
- Violin 1:** **Languidly**
- Violin 2:**
- Viola:**
- Cello:**
- Bass:**
- Chris:** **Languidly**
me. In a place that won't let us feel__

rall.

7 8 9 10 11 12

Reed 1 *mp*

Reed 2

Reed 3

Horn 1-2

Trumpet

Trombone

Percussion

Drums

Keyboard 1

Keyboard 2

rall.

Violin 1

Violin 2

Viola

Cello *p*

Bass

Chris *rall.*

8 In a life where no-thing seems real_ I have found you_ I have found you_

Appendix D: 5a
Be Back Soon (1963)
from *Oliver!*

♩ = 108

Music by Lionel Bart
Lyrics by Lionel Bart
Orchestrations by Eric Rogers

The musical score is arranged in a standard orchestral format. It includes staves for Reed 1 (Flute), Reed 2 (Oboe), Reed 3 (Clarinet), Reed 4 (Bassoon), Horn 1-2, Trumpet 1-2, Trombone 1-2, Percussion 1 (Glock), Percussion 2 (Xylophone, To Tri., Triangle), Violin 1, Violin 2, Viola, Cello, Bass, and Fagin. The score is in 2/4 time with a tempo of 108. The key signature has one sharp (F#). The dynamic marking *mf* is used throughout. The score is divided into seven measures, with measure numbers 2 through 7 indicated above the Reed 1 staff. The Fagin part at the bottom includes the lyrics: "You can go but be back soon. You can go but while you're work-ing This place I'm pac-ing".

You can go but be back soon. You can go but while you're work-ing This place I'm pac-ing

8 9 10 11 12

Reed 1

Reed 2

Reed 3

Reed 4

Horn 1-2

Trumpet 1-2

Trombone 1-2

Percussion 1

Percussion 2

Violin 1

Violin 2

Viola

Cello

Bass

Fagot

round Un-til you're home safe and sound: Fare thee well but be back soon Who can

13 14 15 16 17 18

Reed 1

Reed 2

Reed 3

Reed 4

Horn 1-2

Trumpet 1-2

Trombone 1-2

Percussion 1

Percussion 2

Violin 1

Violin 2

Viola

Cello

Bass

Fagot

tell where dan-gers lurk-ing? Do not for-get this tune Be back soon.

Appendix D: 5b
Be Back Soon (2012)
from *Oliver!*

Music by Lionel Bart
Lyrics by Lionel Bart
Orchestrations by Tim Wendt

$\text{♩} = 122$
Bright March

a Flute/Piccolo *b* *c* *d* *e* *f* *g*

Reed 1
Reed 2
Reed 3
Reed 4
Horn 1-2
Trumpet 1-2
Trombone 1-2
Percussion 1
Percussion 2
Piano
Violin 1--2
Viola
Cello
Bass

Drum Set

$\text{♩} = 122$
Bright March

Dodger: Boys: Dodger: Boys: Dodger:

Line up Line up Sin-gle file Sin-gle file Pre-sent arms

The image shows a musical score for the piece 'Be Back Soon' from the musical 'Oliver!'. The score is for Appendix D: 5b and is page 85. It is a 'Bright March' with a tempo of 122 beats per minute. The score is arranged for a full orchestra and includes vocal parts. The orchestration includes Flute/Piccolo, Oboe, Clarinet, Bassoon, Horn 1-2, Trumpet 1-2, Trombone 1-2, Percussion 1 (Drum Set), Percussion 2, Piano, Violin 1-2, Viola, Cello, and Bass. The vocal parts are for Dodger and Boys. The lyrics are: 'Line up Line up Sin-gle file Sin-gle file Pre-sent arms'. The score is divided into seven measures, labeled 'a' through 'g'. The key signature is one sharp (F#) and the time signature is common time (C). The percussion part features a drum set with a specific rhythmic pattern. The vocal parts have lyrics written below the notes.

h 1 2 3 4 5 6

Reed 1

Reed 2

Reed 3

Reed 4

Horn 1-2

Trumpet 1-2

Trombone 1-2

Percussion 1

Percussion 2

Piano

Violin 1-2

Viola

Cello

Bass

Vocals

Boys: Left! Pick! Right! Pick! Oi! Oi! You can go but be back soon. You can go but while you're work-ing This

Dodger: x x

Fagin: x x

Harmon mute

pizz.

7 8 9 10 11 12

Reed 1

Reed 2

Reed 3

Reed 4

Horn 1-2

Trumpet 1-2

Trombone 1-2

Percussion 1

Percussion 2

Piano

Violin 1-2

Viola

Cello

Bass

Vocals

place I'm pac-ing round Un-til you'rhome safe andsound: Fare thee well but be back soon Who can

Detailed description of the musical score: The score is for measures 7 through 12. It includes parts for Reed 1, 2, 3, and 4; Horn 1-2; Trumpet 1-2; Trombone 1-2 (with a 'Straight Mute' instruction); Percussion 1 and 2; Piano; Violin 1-2; Viola; Cello; Bass; and Vocals. The vocal line is: 'place I'm pac-ing round Un-til you'rhome safe andsound: Fare thee well but be back soon Who can'. The music is in a key with one sharp (F#) and a common time signature. The vocal line is in a soprano or alto range. The instrumental parts provide accompaniment and texture.

13 14 15 16 17 18

Reed 1

Reed 2

Reed 3

Reed 4

Horn 1-2

Trumpet 1-2

Trombone 1-2

Percussion 1

Percussion 2

Piano

Violin 1-2

Viola

Cello

Bass

Vocals

tell Where dan-gers lurk-ing? Do not for-get this tune Be back soon.

Detailed description: This page of a musical score covers measures 13 through 18. The score is arranged in a vertical stack of staves. The top four staves are for Reed 1, 2, 3, and 4. Reed 1 and 2 have treble clefs, while Reed 3 and 4 have bass clefs. Measures 16, 17, and 18 feature prominent triplet patterns in the reed parts. The next three staves are for Horn 1-2 (treble clef), Trumpet 1-2 (treble clef), and Trombone 1-2 (bass clef). The Percussion section consists of two staves, Percussion 1 and Percussion 2, with a double bar line symbol. The Piano part is shown in grand staff notation (treble and bass clefs). The string section includes Violin 1-2 (treble clef), Viola (alto clef), Cello (bass clef), and Bass (bass clef). The bottom staff is for Vocals, with lyrics written below the notes: 'tell Where dan-gers lurk-ing? Do not for-get this tune Be back soon.'

Appendix D: 6a

I Cant say No (1943)

from *Oklahoma!*

Music by Richard Rodgers
Lyrics By Oscar Hammerstein II
Orchestrations by Russell Bennett

Moderato 1 2 3 4 5

Flute/Piccolo
to English Horn

Oboe/English Horn

Clarinet 1

Clarinet 2

Bassoon

Horn 1

Horn 2

Trombone

Percussion

Harp

Guitar
to Acoustic Guitar

Violin A

Violin B

Viola

Cello

Bass

Ado Annie

It ain't so much a ques-tion of not know-in' whut to do, I knowed whut's right and

6 7 8 9 10 11 12

Flute/Piccolo

Oboe/English Horn

Clarinet 1

Clarinet 2

Bassoon

Horn 1

Horn 2

Trombone

Percussion

Harp

Guitar

Violin A

Violin B

Viola

Cello

Bass

Ado Annie

wrong since I been ten. I heard a lot of sto-ries and I reck-on they are true A - 'bout how girls're

13 14 15 16 17 18

Flute/Piccolo
Oboe/English Horn
Clarinet 1
Clarinet 2
Bassoon
Horn 1
Horn 2
Trombone
Percussion
Harp
Guitar
Violin A
Violin B
Viola
Cello
Bass
Ado Annie

put up-on by men. I know I mus-n't fall in-to the pit, But when I'm with a fel-ler, I fer - git!

Refrain (*brightly*)

19 20 21 22 23 24 25 26 27 28

Flute/Piccolo: *mp* (measures 22-28)

Oboe/English Horn: *mp* (measures 22-28)

Clarinet 1: *mp* (measures 22-28)

Clarinet 2: *mp* (measures 22-28)

Bassoon: *mp* (measures 22-28)

Horn 1: *dim* (measures 19-21), *mp* (measures 22-28)

Horn 2: *dim* (measures 19-21), *mp* (measures 22-28)

Trombone: *dim* (measures 19-21), *mp* (measures 22-28)

Percussion: (measures 19-28)

Harp: *dim* (measures 19-21), *f* (measures 22-23), *dim* (measures 24-25), *mp* (measures 26-28)

Guitar: *dim* (measures 19-21), *mp* (measures 22-28)
Chords: Gm⁷ Am F Gm⁷ Am F Gm⁷ Am F Gm⁷ Am F Gm⁷ Am F

Violin A: *dim* (measures 19-21), *f* (measures 22-23), *dim* (measures 24-25), *mp* (measures 26-28)

Violin B: *dim* (measures 19-21), *mp* (measures 22-28)

Viola: *dim* (measures 19-21), *mp* (measures 22-28)

Cello: *dim.* (measures 19-21), *mp* (measures 22-28)

Bass: *dim.* (measures 19-21), *mp* (measures 22-28)

Ado Annie: (measures 22-28)
Lyrics: I'm jist a girl who cain't say no, I'm in a tur-ri-ble fix

29 30 31 32 33 34 35 36 37

Flute/Piccolo

Oboe/English Horn

Clarinet 1

Clarinet 2

Bassoon

Horn 1

Horn 2

Trombone

Percussion

Harp

Guitar

Violin A

Violin B

Viola

Cello

Bass

Ado Annie

I al - ways say "come on, le's go," jist when I or-ta say "nix!"

Appendix D: 6b

I Cant say No (2019)

from *Oklahoma!*

Music by Richard Rodgers
 Lyrics By Oscar Hammerstein II
 Orchestrations by Daniel Kluger

Freely

Acoustic 1 2 3 4 5 6 7 8

Guitar 1

Guitar 2 Mandolin

Banjo

Accordion

Drums

Violin

Cello

Bass

Freely

Ado Annie

It ain't so much a ques-tion of not know-in' whut to do, I knowed whut's right and wrong since I been ten. I heard a lot of



9 10 11 12 13 14 15 16 17

Guitar 1

Guitar 2

Banjo

Accordion

Drums

Violin

Cello

Bass

Ado Annie

sto-ries and I reck-on they are true A - 'bout how girls're put up-on by men. I know I mus-n't fall in-to the pit, But when I'm with a fel-ler, I fer

Refrain (brightly)

18 F Gm7 Am F Gm7 Am F Gm7 Am F Gm7 Am F Gm7 Am

19 20 21 22 23 24 25 26 27

Guitar 1

Guitar 2

Banjo

Accordion

Drums

Violin

Cello

Bass

Ado Annie

git! I'm jist a girl who cain't say no, I'm in a tur-ri-ble

28 F Gm7 Am F Gm7 Am F Gm7 Am F Gm7 Am F Gm7 Am F

29 30 31 32 33 34 35 36 37

Guitar 1

Guitar 2

Banjo

Accordion

Drums

Violin

Cello

Bass

Ado Annie

fix I al-ways say "come on, le's go," Jist when I or-ta say "nix!"

Appendix E: Links to Audio Samples

Below are Google Drive links to audio samples of the selections from the case studies.

“Being Alive” from *Company*

1970 Orchestration

https://drive.google.com/open?id=1Q0enhUSPDoUIbzPjYOk3qml4d_uda7aH

2006 Orchestration

<https://drive.google.com/open?id=1w7PS8GECvkyYmlphjQXHi9eghPsd3SmA>

“The Worst Pies in London” from *Sweeney Todd*

1979 Orchestration

<https://drive.google.com/open?id=1XTr9dsWt7MESFV0LWobYwjLdeDxwri7g>

2005 Orchestration

<https://drive.google.com/open?id=1m0G0rWJ28Mq5m6Nh5sN5xV3fBpfUoI-F>

“A New Argentina” from *Evita*

1979 Orchestration

https://drive.google.com/open?id=1TgzkZFTOh7tFm_eEvLepZoHUTLBjN5y_

2012 Orchestration

https://drive.google.com/open?id=1vpYV2PliFINI-gdw5NkMsGSiKEy_ECXP

“The Last Night of the World” from *Miss Saigon*

1991 Orchestration

<https://drive.google.com/open?id=1X7DH08nMYQFV0blze0EwEBbOwk0LYvve>

2017 Orchestration

<https://drive.google.com/open?id=1A3b8EzDLu7MFLqYQW-qJEu2lDOJIV7BD>

“Be Back Soon” from *Oliver!*

1963 Orchestration

<https://drive.google.com/open?id=1WqdU3MhlsaLPukjo-bbcFFCR6MWfRPT8>

2012 Orchestration

<https://drive.google.com/open?id=1FbmEg167P-Dy6niHj2YkxwJ2PSePAFG>

“I Can’t Say No” from *Oklahoma!*

1943 Orchestration

<https://drive.google.com/open?id=1IISMpLIQEE76Z5U3SvO-fBheMe1f-VRx>

2019 Orchestration

https://drive.google.com/open?id=1XDMPwoI1kHA190KzevB_W2SvyC-CvXax

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