SLIDE 1
My name is Kirsten Mason, I am the General Manager of Orchestra Wellington and I am very flattered to have been asked to come and speak to you today.

The first thing I would like to say – and this is something I have wanted to say for a long time but haven't had the opportunity – is a massive thank you to you all. Senior citizens are the absolute backbone of the arts sector in New Zealand and in every Western country I can think of – without you our dance companies, our theatres, our orchestras, our festivals just would not have an audience, and I don't think your collective contribution to the vibrancy of our arts sector is recognised enough. You choose to spend your precious discretionary income on tickets to the orchestra and the ballet, when you could be lying on the couch watching Netflix for just $13 a month. And for that, I salute you.

Let's start at the beginning.

SLIDE 2
As long as there have been musical instruments, which is to say thousands and thousands of years, people have been putting them together in various combinations and playing them. But of course, none of those ensembles even remotely resembled the symphony orchestra as we know it today. The roots of the modern orchestra only date back about 400 years, to the Renaissance. By the 1500s, groups of instrumentalists were getting together, often also with singers, to make music, and composers were writing music for them. Because these groups were spontaneous and sporadic, these early composers didn't usually say what instrument they were writing a part for, they meant for the parts to be played by whatever instrument happened to be available (lute, harp, flute etc).

SLIDE 3
But by 1600, composers began to specify exactly what instrument they were writing for. So for example, for his opera Orfeo, which was written in 1607, the Italian composer Claudio Monteverdi specified that the accompanying instruments should be fifteen viols, two violins, four flutes, two oboes, two cornets, four trumpets, five trombones, a harp, two harpsichords and three small organs. As you can see, that's already starting to look a lot like what we think of when we think of an orchestra today – lots of different instruments, organised into sections.

SLIDE 4
In the next century, up to about 1700, around the time of JS Bach, the orchestra developed even further. The string section that we know today – violin, viola, cello, double bass – largely replaced the viols, and became central to the Baroque orchestra. In a Baroque orchestra, it was usually the keyboard players – the harpsichordist or the organist – who acted as the leader. So when a composer like Bach worked with an orchestra, he would sit at the organ or the harpsichord and give cues to the players from there.

In this period, most concerts were private aristocratic gatherings. Composers like Mozart expected people to talk during their concerts, and they enjoyed hearing spontaneous

applause. If the applause was enthusiastic enough, often musicians would play that individual movement again.

SLIDE 5

Then, like just about everything else in the 19th century, orchestras grew exponentially. Concerts moved out of the private space, concert halls began to be built and concerts became public occasions for the first time. Large cities started to have permanent orchestras, and the size of a symphony orchestra grew to around 100 musicians, which is pretty much what it is in most full-time professional orchestras today. But although 20 musicians could pretty easily follow the keyboardist or the Concertmaster who was leading the orchestra, 100 musicians could not. So during the 19th century a new figure emerged in classical music – the conductor.

SLIDE 6

Even back in the 1600s there was occasionally a music director who stood in front of the musicians, rather than being seated at the keyboard, although it was not without its hazards – this is the French composer Jean-Baptiste Lully, who was in charge of music at the French court in the 1600s, used to pound out the beat using a long pole on the floor. Unfortunately, once he accidentally pounded his foot, developed gangrene and died. It was really in the 1800s that composers such as Carl Maria von Weber, Berlioz and Mendelssohn began to stand up on a podium and conduct front and centre.

SLIDE 7

Another phenomenon of classical concerts becoming public events was the rise of claques - organised groups of professional applauders who were hired by the concert organiser to attend the concert and applaud vigorously. Claques were a regular feature of performances in theatres and concert halls in the 19th century through to the start of the 20th century and sometimes their attendance was a kind of bizarre performance in itself, with women paid to faint at a certain point and men paid to rush heroically to their aid. You can imagine how intensely irritating these people were to composers, and many objected strenuously to their presence. Mahler even specified in the score of his Kindertotenlieder that the movements should not be interrupted by applause. Mendelssohn, Schumann and others all explicitly asked for symphonies and concertos to be played without a break, and by the time recording equipment began to be present in concert halls in the 20th century, applauding between movements came to be frowned upon by anyone, paid or unpaid, a tradition that exists to this day.

So that's a brief history of the symphony orchestra – now let's look at what makes it up in a bit more detail.

SLIDE 8

The obvious place to start is the strings which make up half of the orchestra, and they always sit at the front. The strings have five sections:
First violins
Second violins
Violas

Cellos
Double basses

All string players are seated in twos, you share a music stand and music with your desk partner. Within a section, everyone plays the same music, and they all use the same bowing – so you don't get anyone putting a bow through their desk partner's ear. It's the job of the Section Principal (number one) to decide on the bowings that the whole section will do.

The strings are usually ordered from left to right highest to lowest, although either the violas or the cellos could be on the outside. It hasn't always been this way – for a few centuries the first violins and the second violins faced each other on the left and right, so that when they traded musical phrases with each other – as the violins do a lot in classical symphonic music – they came from opposite sides of the stage. It was actually the Austrian composer Joseph Haydn, during his tenure at the royal Esterhazy court who first organised his orchestra that way. That seating stuck around for a few centuries, through the 18th and 19th centuries, even while the seating of the other sections moved around like crazy. (This kind of seating is called 'antiphonal violins' – antiphony is the conversational style of 'call and response' composition where two sections alternate and respond to each other).

In the 20th century it was the great conductor Leopold Stokowski who unstuck this convention – he was a great experimenter and tried seating the orchestra in every way imaginable. Once he horrified Philadelphians by seating the Philadelphia Orchestra with the winds and brass in front of the strings (until the outraged Board told him that the winds "weren't busy enough to put on a good show.") One of his innovations that did stick was arranging the strings from high to low, left to right, and that became known as the Stokowski Shift as orchestras in the US and Europe adopted it.

SLIDE 9
Behind the strings sit the woodwinds, and they have four sections:
Flutes
Oboes
Clarinets
Bassoons

Usually there are two of each in a standard orchestra, could be more. Three of each is pretty common and the maximum we have fielded since I have been with the orchestra is quintuple winds - five of everything – for Stravinsky's Rite of Spring.

In the woodwind section, everyone has their own part. No two instruments are playing in unison. It's very common to have wind players who 'double' which means they play more than one instrument during a work. For example, often if a work has piccolo in it (the small high flute), an orchestra won't field a separate piccolo player – usually one of the flutes will double on piccolo. Flute players also have to double on alto flute, bass flute
Doubling for clarinets might mean the bass clarinet, Eb clarinet, the saxophone
Doubling for oboes usually means the cor anglais and doubling for the bassoon usually means the contra bassoon

SLIDE 10
Next we have the brass – there are three sections in the brass although four different instruments:
Horns
Trumpets
Trombones
Tuba
It's common to have more horns than other brass instruments – a standard orchestra might have four horns, two trumpets, three trombones and maybe no tuba. I mentioned there are four instruments but only three sections in the brass, because the trombones and the tuba are together in one section called the 'lower brass'.

SLIDE 11
And finally – the percussion. Although they usually don't play as frequently as other sections in a concert, percussion players are hands-down the best multi-taskers in the orchestra. Take a look at this list of percussion instruments which we will be playing in the Royal New Zealand Ballet's upcoming production of 'Hansel and Gretel':

SLIDE 12
Just three percussionists will be playing all of this between them

SLIDE 13
You will probably recognise these large kettle drums which are very common - timpani is usually considered to be a separate section, although often timpanists double on percussion. There is usually only one timpanist, playing a set of four drums.

The two other sections which are often a party of one are the piano/keyboard and the harp.

SLIDE 14
The other person on stage of course – is the conductor. So what do they do?
In the most basic terms, the conductor beats time. Whether the music is written with four beats to a bar, or three, or seven, and especially when it switches from one to another, the conductor leads the players through tricky time changes and tempo changes (changes to how fast or slow the music is played).

Lully's wooden staff that I mentioned earlier has shrunk into a baton for most conductors, although (**SLIDE 15)** the Russian conductor Valery Gergiev famously conducts with a toothpick, and some conductors conduct just with their hands. The general idea is that one hand keeps time and the other hand signals expression – bringing in the cellos, encouraging the horns to play louder, indicating a crescendo or a decrescendo (increase or decrease in how loud you play).

Of course conducting is much more than just beating time – the conductor has a vision of how he or she wants a piece of music to sound, and then tries to convey that vision to the players during the rehearsals and performance. Of course in rehearsal, it's a mix of explanation and gesture. Some gestures are universal – beckoning with one hand to get a

section or a player to play louder - and conductors also often develop a range of gestures which are very specific to them.

SLIDE 16

This is one of our Music Director Marc Taddei's signature gestures –I think you would translate this as 'bring it on' or 'hit me'. Some conductors are incredibly restrained in their movement on the podium – a 20th century Hungarian conductor called Fritz Reiner conducted with such tiny, minimalist gestures that once a musician in the back of the orchestra brought in a pair of binoculars. Reiner responded, so the story goes, by writing 'you're fired' on a piece of paper and holding it up when he saw the binoculars come out.

Other conductors leap around on the podium making a great show, with huge gestures and physical contortions. But regardless of what you see the conductor doing, you should always be able to hear it in the music.

So that's who you're looking at onstage when you come to an orchestra concert. But how does it all hang together?

SLIDE 17

The first thing to note is that an orchestra is a pretty hierarchical place. Each player is ranked within their section. Section Principal is number one, Principal is number two, Sub-principal is number three, and so on down the list (the biggest section is the first violins where you would have twelve or fourteen players). And yes you guessed it, you get paid differently depending on your ranking. There are four different hourly rates in our orchestra. And remember I said that the strings all sit in twos – it's the lower-ranked string player on the desk who has to turn the pages of the music. There's another hierarchy built into an orchestra, and that is the distinction between core players and casual players. Core players are those who have been given a specific seat within the orchestra – whether that's Section Principal flute or number 10 in the first violins. Core players are always called first, and they always play in their specific position, unless they are asked to play higher up the section to fill a gap. They can't be asked to play lower down in the section. Casual players are exactly that. They may be called for a performance, or they may not. And they may be called to sit at the front of the section, or the back, or somewhere in the middle. In Orchestra Wellington, we have 45 core positions, and we play works that often require 70 or 75 players, so at every concert there will be a large number of casual players.

The Section Principal for the first violins is also the Concertmaster, and he or she is the leader of the orchestra. You can tell that the Concertmaster is important because they make a separate entrance onstage after the other players are seated, and conductors and soloists all shake their hand during the performance. The Concertmaster also leads the tuning which always happens at the very start of a concert, before the Conductor comes onstage. The orchestra tunes to concert pitch, which means the note A=440 Hertz, or 440 vibrations per second. The Section Principal oboe will play the 'A' twice – first for the woodwinds and brass to tune, and then for the strings.

Now I said that an orchestra is a very hierarchical place, with every player ranked within their section, which affects how much you are paid and who turns the pages. There are

other ways that the hierarchy within an orchestra manifests itself – take a look at this video from the London Symphony Orchestra. https://www.youtube.com/watch?v=i6fNJDpKUfw

SLIDE 18

This is the principal oboe starting to play his solo at the end of The Damnation of Faust by Berlioz, when he runs into trouble because he splits his reed. What's not obvious is that the oboe of the second oboist that he grabs has a completely different fingering system, but that obviously doesn't faze him for a second. What you also can't see on camera is that while he's playing on her oboe, the second oboist cleans his instrument, fits a new reed and hands it back to him in time for everyone to come in again. And the audience is none the wiser.

A similar incident happened in one of our concerts last year. Our number two player in the first violins broke a string while playing – she tried to play on for a while but it wasn't working so she turned round and very quickly and wordlessly exchanged violins with a player sitting behind her – and that player then stood up and left the stage, because she now had nothing to do.

So when we are planning a concert, how do I know how many players we need? As I mentioned earlier, the composer will tell you how many players you need for each movement within each work. But how do you keep track of all that? Well, there is a very specific standard shorthand which orchestras everywhere use to keep track of the instruments needed for each work.

The shorthand looks like this:

SLIDE 19

2*.2.2.2/2.2.0.0/T*+1/12.10.8.8.6

This is the instrumentation for Rossini's Barber of Seville which we played for NZ Opera's production back in July.

The first set of numbers before the first diagonal dash are the woodwinds (in order – flutes, oboes, clarinets, bassoons), the second set of numbers is the brass (horns, trumpets, trombones, tubas), the capital T stands for timpani and the +1 means one percussion player, and the final set of numbers is the strings. The string numbers in order are first violins, second violins, violas, cellos, double basses. Because strings all play in unison, you can actually field smaller or larger string sections – this is our standard number for concerts in the Michael Fowler Centre, although we do alter the numbers for other performances.

If a number has an asterisk next to it, as the flutes and Timpani do in this example, that means that there is doubling involved. You can't tell from that shorthand exactly what doubling is involved, but an educated guess would be that one of the two flutes doubles on piccolo, and the timpanist doubles on percussion.

Here is the instrumentation for Anton Bruckner's 8th symphony, which we performed back in May:

3.3.3.3/8.3.3.1/T+2 3Hp/14.12.10.8.6

So the first thing that comes to mind when our Music Director Marc Taddei emails me to say he'd like to programme Bruckner 8 is whoa! The numbers are big – three of everything in the woodwinds, eight horns, three harps and a bigger string section than we usually field. So you know right off that this is going to be an expensive concert.

And for an orchestra like ours, finding eight horn players and three harps in a city like Wellington is a big ask. And actually, for this concert we ended up with three horn players who came in from Australia to play with us.

When it comes to budgeting, the good news about budgeting for an orchestral concert is that wages for our players – which is by far the largest cost - are pretty cut and dried. Once you have the programme and the rehearsal schedule confirmed, you know exactly which players you need and for how many hours each. The bad news is that getting to a single figure for player wages for a concert is really quite complicated. Because for a concert in the Michael Fowler Centre, we would probably have three different works – say, an opener, a concerto and a symphony. Each work requires a different set of players, who will be called for differing numbers of hours depending on the rehearsal schedule.

SLIDE 20
Here's the programme for the concert we did back in August:
Claude Debussy 'L'Isle Joyeuse'
Samuel Barber Cello Concerto
Alex Taylor 'Assemblage'
Modest Mussorgsky Pictures at an Exhibition

And here's what players were needed:

Debussy: 3.3.4.3/4.4.3.1/T*+3. 2hp.cel/12/10/8/8/6
Barber: 2.2.2.2/2.3.0.0/T+1/10.8.6.6.4
Taylor: 3.3.3.3/4.3.3.1/T*+3.2Hp.Cel/12.10.8.8.6
Mussorgsky: 3.3.3.4/4.3.3.1/T+5.2Hp.Cel/12.10.8.8.6

This is a bit eggheady but just briefly, here's the worksheet that we use to calculate player costs for a concert.
SLIDE 21

Of course you then need to add in all the other costs – soloist and conductor fees, venue costs, marketing, concert programmes etc. before you get to a final number.

SLIDE 22
Which brings me on to the business of running an orchestra. I like to think of Orchestra Wellington not as a charity but as an SME which just happens to have an unprofitable business model. We have a fantastic, quality product, that we can never sell for what it cost to produce. And an orchestra's business model gets progressively and inexorably worse over time, due to what the American economist William Baumol back in the 1960s dubbed

the ‘cost disease’. In a nutshell, the ‘cost disease’ means that unlike most other industries, orchestras are incapable of making productivity gains over time to match their rising costs.

For example, you can never play a Beethoven symphony any faster. You can never play it with any fewer players than Beethoven specified 200 years ago. You can never spend any less time rehearsing this Beethoven symphony, and you can’t just perform it in larger and larger venues for bigger and bigger audiences. And yet, all of an orchestra’s costs will rise year-on-year because wages are a considerable proportion of our budget. The only real economy of scale for an orchestra comes if you can do multiple performances of the same concert in the same city (because touring massively increases your costs). This works for orchestras in large cities such as Chicago, London and Sydney, where orchestras will regularly do three or even four identical performances, but it isn’t a viable option for orchestras in any New Zealand cities.

So how do you make it work? Well, in New Zealand we have great support from the taxpayer - through Creative New Zealand and from the ratepayer through local and regional councils. And over the years, orchestras have become really good at fundraising, and through supplementing our income through corporate engagements.

As many of you will know, audience members come in two types – the subscriber, who buys a package of tickets upfront for a number of concerts – often the whole season or a good proportion of it - and the single ticket buyer, who buys tickets for individual concerts as the fancy takes them. It’s a fair generalisation to say that in western countries, orchestra have had declining numbers of subscribers for the past few decades. The usual suspects take the blame for this – increasing competition for our leisure time and the entertainment dollar, people being time-poor, younger people wanting to consume culture online and in other ways.

I’m happy to say that Orchestra Wellington has defiantly bucked this trend. We started from a comparatively low number of subscribers and since 2013 this number has grown by 500%. And this is thanks to our slightly unusual ticketing model. As many of you will know, our subscription prices are cheap – this year they cost just $22 a ticket and next year will be $25 a ticket - but there are a couple of catches. The first is that you have to buy the whole season – all six concerts – and the second is that you have to buy blind. So when you buy your season tickets, all you know are the dates of the concerts and a few hints that give you a vague idea about what the theme of the season will be. Once we announce the full season concerts and soloists, ticket prices go up. You can still buy a subscription at that point, but hardly anyone does. Everyone goes for the early-bird price.

We do this for one principal reason. It’s fun. And it creates engagement and loyalty. When we come to announce the season, our audience is really invested in the announcement, because they have already bought the whole lot. And crucially, this builds people’s trust in our Music Director Marc Taddei to programme a series of concerts which are exciting and which showcase works that people love and introduce them to new works that they didn’t know they loved. If you trust the chef, you’ll go for the taster menu.

I get asked quite often how we manage to stage huge concerts such as the Bruckner 8th symphony that we looked at earlier, when our subscription tickets are so cheap. The reason is very simple – true, we are getting less money in box office, but we are also spending a LOT less in marketing.

For those of you who are current subscribers to the orchestra and are planning to sign up again for our 2020 season, I am very happy to tell you that to us, you are a very cheap date. Because we have spent precisely 65 cents on signing you up again. That's what it cost us to print this flyer that you will fill out. Conversely, it costs a lot of money to coax people into buying single tickets for one concert. If you walk up to the box office on concert night, it will cost you $50 for a concession ticket as a Gold Card holder. But It will have cost us about $35 in marketing to get you there. So you can see the economics at work. As our subscriber numbers have grown – in fact grown five-fold – over the past five years, we have massively reduced what we spend on marketing. So that's less in the pocket of Facebook, Stuff, DominionPost, and other magazines and media outlets, and more in the pocket of our audience members.

I've talked a lot about concerts in the concert hall Michael Fowler Centre, which I know is where most of you will see the orchestra perform. But actually, last year we performed for more people outside of the concert hall than in.

SLIDE 23

Our mission is to be the most accessible orchestra in the country - low ticket prices in the concert hall are part of this, as are the performances we do outside the concert hall. Each year we perform large-scale concerts in the Hutt Valley and Porirua – in sports stadiums, or outdoor venues, and we get great sized audiences, people who by and large do not and would not choose to attend our concerts in the Michael Fowler Centre. And what we know from doing these concerts is that the reason they don't come to the concert hall is not the music. This is a photo from our last concert in the Walter Nash Centre – which is a basketball stadium in Taita - the hall was full, with plenty of children, and yet you could hear a pin drop when soprano Pasquale Orchestra started singing an opera aria with the orchestra. We also did plenty of Star Wars and songs from Frozen as well – and looking forward to those tunes is what got people in the door in the first place, but once they got there, they were just as engaged in and thrilled by the traditional orchestral works as by the film music and pop songs. Although we make our concerts in the Michael Fowler Centre as welcoming as possible, the barriers of cost and distance are not easy to overcome, and that's why we are committed to taking the music out of the concert hall and into the community – this year, next year and every year for the foreseeable future.

That brings me to the end of everything I had planned to say. Thank you very much again for having me to speak - I hope you have found some of it interesting, and if you are ever asked to step in and put together an orchestra for a concert, now you know where to start!

Kirsten Mason
General Manager
Orchestra Wellington