SONIC ENVIRONMENTS

ACMC2016 | JULY 10-11 | BRISBANE

CONFERENCE PROCEEDINGS
sonicenvironments.org
FROM TRAFFIC RISES: SITE SPECIFICITY AND THE COMPOSITIONAL PROCESS

Mace Francis
Western Australian Academy of Performing Arts
Edith Cowan University

ABSTRACT

Architectural spaces can offer unique musical material for the compositional process. When unorthodox performance spaces become part of musical works and their performances, approaching these spaces offers rich soundscape and spatial possibilities, yet there are particular acoustic challenges for the composer in context-based composition of this kind.

This paper examines one way to integrate the real world sound characteristics of an architectural space into the compositional process, and discusses how different levels of site-specificity may be engaged in this process. A pedestrian bridge was chosen for its soundscape and physical characteristics as well as challenges which required creating a pre-compositional testing and workshopping methodology. These experimental processes inspired an original composition titled From Traffic Rises, featuring eight acoustic musicians, four speakers and an electronic soundscape.

This research also draws inspiration from literature in theatre and choreography that interrogates the way works can be linked to their particular site. In particular, Dr Fiona Wilkie’s scale of site-specificity for theatre provides a useful tool to gauge the level of site interaction.

These creative influences are synthesised to form an alternative compositional process which begins, and is informed, by the context of a physical space as a musical starting point. From Traffic Rises demonstrates that the acoustic, physical design and spatial features of a real world physical space can become an integral part of a new work, providing an important contribution to the possibilities of acoustic music.

1. INTRODUCTION

We are surrounded by man-made structures and architecture, often passing them by without considering their musical potential. These functional, often mundane, spaces can offer the composer a new perspective or starting point in their compositional process. From Traffic Rises (Francis, 2012b), see sound example one, is a context-based, site-generic, spatial composition for eight acoustic instruments, four speakers and an electronically manipulated soundscape which developed from a pedestrian bridge. This paper outlines the chronological process of creating this new work, discussed here as a case study, beginning with the initial discovery of the site, the testing stages, sound experiments, compositional process, notation choices and the final performance.

2. SITE-SPECIFICITY

British performance theorist Fiona Wilkie looks deep into the degrees of site-specificity of site-based creative work. In her paper entitled Mapping the Terrain: a Survey of Site-Specific Performance in Britain she argues that there are varying degrees of site-specificity by asking the question ‘Does site-specific imply site-exclusive?’ (2003, p. 149). Wilkie’s paper goes on to provide useful definitions for when an art work is truly site-specific by offering a scale of varying degrees of site-specificity.

![Figure 1. Degrees of site-specificity in music, adapted from Fiona Wilkie’s diagram in relationship to theatre (Wilkie, 2003, p. 150).](image)

Figure 1 shows Wilkie’s five degrees of site-specificity from Inside a Concert Hall, which in this case refers to a traditional performance situation for music. Outside the Concert Hall, refers to a similar traditional performance situation but in a different location, for example a Symphony in the Park performance. Site-sympathetic refers to placing a new or existing musical work into a site that is sympathetic to the essence of the musical work. This degree of site-specificity deals with metaphors and connections to site that do not run as deeply into the physical, cultural or historical significance of the site as the last two degrees of the scale.

Site-generic refers to works that are created incorporating characteristics of the performance site which could be found in other like sites. In a musical context this could be referred to as sites having similar acoustic characteristics, such as reverb. This would enable the work to be toured to similar sites with equal success while still maintaining that deep connection to the characteristics of the performance site.

Wilkie’s final description, Site-specific, goes further again to a performance or work that is specifically generated from (or for) a selected site. For a work to be truly site-specific it must reference deeper layers of the site: historical, social or physical characteristics such as found objects or sounds. Site-specific, as referenced by Wilkie, must be so connected to a site that it cannot be performed in any other place.
**From Traffic Rises** is a site-generic composition, in relationship to Wilkie’s scale, because the traffic soundscape sourced from the pedestrian bridge could have been sourced from any traffic from any bridge, yet it is the translation of the chosen site into an immersive, circular concert hall listening environment and the complex relationship between the site and the sound that is the key to the work.

### 3. INTRODUCTION TO THE SITE

*From Traffic Rises* began with a personal experience standing on a pedestrian bridge near the Frankfurt Airport on a trip to Germany in July, 2012. While walking across this bridge I was immediately struck by the spatial definition of the immersive soundscape, created by the continuous but irregular pulse of the traffic passing beneath me, much like John Cage’s fascination with the sound of the traffic suggesting that ‘if you listen to Beethoven or to Mozart you see that they’re always the same. But if you listen to traffic you see it’s always different’ (Sebestik, 1992). The different sounds of each vehicle worked as sustained tones fading in and out and panning from side to side as they travelled under the pedestrian bridge, coming from both directions. The varying velocities, volumes and tones meant there was a constant soundscape but one with rapidly shifting textures and tones within an interesting listening frame. On my return to Perth I found the Britannia Road Footbridge in Leederville which crosses the eight-lane Mitchell Freeway. I felt that this 120 meter long suspension bridge structure size and positioning of the bridge warranted a site visit for some active listening.

### 4. PRE-PRODUCTION

I spent an hour on the Britannia footbridge experiencing the site, as dance theorist and choreographer Victoria Hunter suggests: ‘just to enter the space alone and simply ‘be’ in the space in a series of moments’ (Hunter, 2005, p. 372). I was on the bridge at around 11:30am and the traffic was not dense. This meant that the vehicles were able to travel at their maximum speed, creating a much louder sound than if I was listening during peak hour and the vehicles could only travel slowly. The traffic was quite even in each direction which gave me an hour and the vehicles could only travel slowly. This meant that the vehicles were able to travel at their maximum speed, creating a much louder sound than if I was listening during peak hour and the vehicles could only travel slowly. The traffic was not dense. This meant that the vehicles could only travel slowly. The traffic was not dense. This meant that the vehicles could only travel slowly.

Some vehicles were louder than others and had unique sound qualities. Motorbikes pierced the soundscape with higher pitched and louder timbres, while trucks had a deeper humming sound quality. On one occasion an open tray vehicle passed carrying something wrapped in loose plastic which was vibrating very loudly creating an aggressive fluttering sound. I spent this time listening, journaling what I heard and making field recordings. As in Frankfurt, I was struck by the musical potential of this site. It featured many qualities that I would use to create a composition - pitch, rhythmic gestures, textural variation, colour and dynamic shape. It was on this first active listening and field recording session that I noted ‘volume swells, panning effects, sustained tones’ (Francis, 2012a) in my journal. These elements would become the starting points for the composition.

Initially I wanted to compose this work so it could be performed live on the bridge, blending acoustic instruments with the natural occurring soundscape. To test this idea I invited two improvising jazz musicians to participate in some experiments on site. I took two collaborators of mine, Ben Collins on saxophone and Ricki Malet on trumpet, to the footbridge to document their responses to the soundscape and how they would express the site in their playing. I asked the two musicians to focus on the sounds that surrounded them by guiding them through some active listening, pointing out the sounds and musical elements I had experienced at the site. I asked them to improvise, interacting with the sounds around them rather than each other. The result was sound imitation, responding to the sounds of vehicle engines, copying the dynamic shape of sounds approaching and disappearing, as well as altering instrumental timbre to imitate vehicle sounds. The musicians’ improvisational approach was a quieter dynamic to how they would play in a conventional ensemble allowing them to blend with the soundscape rather than dominate it. There was a real sense that they were playing with the space rather than just *in* the space much like Paul Horn’s 1968 solo flute improvisations in the Taj Mahal when he recalls that, “I listened and responded, as if I were playing with another musician” (Horn & Underwood, 1990, p. 200). It was that close connection between the musicians and the site that I was interested in and wanted to explore further.

### 5. PRE-PRODUCTION FINDINGS

From these improvisations, my own active listening sessions and field recordings, four strong compositional elements were created - sustained notes, volume swells, glissandi and bidirectional spatial movement. These four musical elements were derived directly from the sound of the traffic passing under the footbridge.

#### 5.1. Sustained Notes/Continual Sound

This almost ever present, sustained soundscape was created by the continual appearance of vehicles on the freeway, ‘a flat continuous line in sound’ (Schafer, 1994, p. 78) made up of engine noise, the friction of the tyres...
on the road and the wind reacting with the size and shape of each vehicle.

5.2. Volume Swells
The volume swells are created as each vehicle approaches, fading in, and then fading away as the vehicle moves away from my position on the bridge. This position was also the loudest point for the listener. The combination of these continual and subtle effects make up the larger sustained soundscape mentioned above.

5.3. Glissando
Glissando in musical terms describes the slide from one pitch to another (Kennedy, 1994, p. 346) through the infinite number of microtones between the fixed notes of the tempered scale. Fretless string instruments are able to create this effect easily by sliding a finger up or down the neck of the instrument. The trombone is also able to produce an effective glissando between specific notes. The glissandi heard in the traffic soundscape is the result of what is known as the Doppler effect; a sound phenomenon created by the relationship of ‘movement between the sound source and the listener that provokes either a compression or an expansion of the sound wave’ (Augoyard & Torgue, 2011, p. 39). As a vehicle approaches the listener, the sound waves compress, bending the pitch upwards, sharpening it slightly, and then as it passes, the sound waves expand causing the pitch to bend downwards, flattening as it moves away. The effect of the pitch bending downwards was more prominent in this particular soundscape.

5.4. Bidirectional Spatial Movement
The effect of bidirectional spatial movement was created by the aural sensation of the vehicle sounds passing in different directions. It was best experienced by standing in the middle of the bridge and facing in the direction of the moving traffic so that each ear could evenly perceive both sides of the panning. The left ear hears the vehicles approaching from behind and the right ear hears them approaching from the front.

6. REFLECTION ON EARLY FINDINGS
After the testing, while the musicians and I reflected on the findings, the topic of rhythm and tempo and how they would be dealt with was raised. The soundscape from the bridge is a constant flow of sounds and pitches fluctuating subtly in what seems to be a random series of events. The musicians noted that they were constantly trying to superimpose tempos that would work with the random fluctuations in the traffic noise, rather than just freely responding and interacting. This characteristic made me think about creating a composition that avoided obvious metronomic tempo throughout - just like the soundscape. Then I began to wonder how I could best communicate such an idea to the musicians. I considered

the possibilities of traditional notation systems, guided improvisation and graphic notation. I considered the bridge’s relationship to be site-generic on Wilkie’s scale, as my compositional idea could work with any other footbridge soundscape to some degree. From memory, the Britannia Footbridge soundscape sounds almost identical to that of the footbridge in Frankfurt. While this piece does not rely on a specific footbridge to be successful, it does need the soundscape of a footbridge to create the piece, so the definition in regards to the compositional process and material is site-generic. As the soundscape exists naturally without any interaction, that is, the performance of the musicians on the bridge did not alter the sound of the traffic for a listener on the bridge, I considered making the field recording of the traffic part of the work, combining acoustic instruments in a traditional performance space. The challenge was to find an effective way to reference the field recording in the work. To translate the four musical elements (sustained sound, volume swells, glissandi and bidirectional spatial movement) to acoustic instruments, I adopted some spatial characteristics of the site in early tests. By overlapping the instruments sustain time, just as the vehicles approaching the bridge overlapped due to the multiple lanes, a long continual sound can be created. This was particularly useful for instruments limited by breath. Volume swells are used regularly to create dynamic shape in music through crescendo and diminuendo. However, the glissandi and bidirectional spatial movement required some further investigation, so I devised a series of tests to experiment with ways of creating these effects and sounds on acoustic instruments.

7. COMPOSITIONAL TESTING
I organised a test workshop of five musicians (three trumpets, alto sax and tenor sax) to meet off site to experiment with some of the musical elements discovered during the pre-production phase. The focus of this test was to recreate the soundscape of the bridge with acoustic instruments and to recreate the bidirectional spatial movement effect created by the passing vehicles.

7.1. Using the Soundscape
The first test required the musicians to imitate what they heard in the soundscape recordings, and to attempt to blend with it. On the first attempt it became apparent that the musicians were listening to each other rather than the soundscape. This resulted in them playing long chords together like they were being cued by a director. This effect was undesirable as it distracted from the flat line sound that was produced by the soundscape. I wanted the musicians to interact with the soundscape to enhance this idea of flat line sound rather than just playing over the top of it.

---

1 Australians drive on the left hand side of the road.
On the second attempt a much quieter and subtle overall texture was created. When the musicians’ focus was on listening to the soundscape, they played in a much calmer and focused way as they did not have the feeling of competing with the other musicians. Because the soundscape is quite monotonous in nature, with only subtle changes in the texture, it meant that the musicians had to acquire significant focus to develop or reflect a texture in the soundscape. Once everyone played more subtly, the music and the soundscape were able to breathe and the musicians had room to express their ideas.

Also during this play through, some of the musicians started using extended and textural techniques on their instruments, such as breathing air through the instruments creating a similar effect of wind friction as the vehicles were passing. Melbourne based trumpeter and improviser Peter Knight calls this technique ‘un-pitched breath sound’ (Knight, 2011, p. 56) and describes it as ‘a unique aesthetic using breath blown through the trumpet [wind instrument] almost exclusively’ (Knight, 2011, p. 56). This was a useful texture and it can be produced at a very low volume as no pitch needs to be produced. I thought that this could be a subtle way to introduce the sounds of the instruments into the composition without the production of pitches, while still being related to the soundscape. The next test was to recreate the soundscape experience without the field recording, however I found that this experiment resulted in a sparse, empty ensemble sound. I wondered if a larger number of instruments would be able to create the full effect of the soundscape, but as I only had access to eight musicians for the project, I didn’t pursue further testing. This did make me aware of how much the recorded soundscape contributed to the overall texture, creating an overall ensemble sound, and reinforced the idea that the soundscape was an integral contributing member of the ensemble. From this point I decided that the inclusion of the field recording as part of the composition was essential.

7.2. Realising the Bidirectional Spatial Movement

The next test was designed to create the spatial sensation similar to that of traffic passing by the listener on the bridge with only acoustic instruments. The idea was to create the feeling, or sensation, of making a pitch travel from one side of the room to the other without the physical movement of the musicians, much like panning between speakers. When I first experienced this sensation on the bridge, I was not sure how I could use it as a compositional tool but I did note that it had potential. When standing in the middle of the bridge, facing the freeway, it allowed both ears to evenly perceive both sides of the traffic travelling in both directions. I will be using the term bidirectional spatial movement to describe this sensory perception of sound travelling through space in opposite directions, divided physiologically by the median plane. This was the first time I had ever considered a spatial sensation as a compositional device in my own practice.

I initially tested the bidirectional spatial movement with two acoustic instruments, both trumpets, seated on either side of the room. I imagined trying to move a sound from one side of the room to the other like throwing a ball. I asked the first musician to play a single pitch and volume to gauge any kind of movement, but I could find none. I then asked Musician One to play the same pitch as before but to use a crescendo to give the pitch some movement through the space, as this what I heard in the traffic soundscape. The fluctuation in dynamics gave the pitch a sensation of physical movement within the space, travelling forwards and upwards when the volume was increased and downwards when the volume was decreased. While it did create some movement, it still largely sounded like it was coming from a single source in the space, rather than travelling across the room. The challenge was now to use that movement to pan the pitch to Musician Two on the other side of the space. We then experimented with Musician One creating a pitch, gradually crescendoing and then stopping as Musician Two attacked their note and then created a gradual decrescendo. This did not work as the transition between the two instruments was too obvious. After some discussion and experimenting with note lengths, speed of crescendo and decrescendo, attack and dynamic range, I came to the conclusion that the transition worked best when Musician Two would anticipate the peak dynamic of the pitch and, in a way, initiate the transition by matching Musician One’s pitch, volume and tone, then panning the pitch to his side of the space with a gradual decrescendo. At this stage it was important for Musician One, after passing the note, to make sure that his decrescendo was even, but under the dynamic of the Musician Two.

This experiment involved the listener positioned at the side perceiving the pitch panning from left to right, in a somewhat two dimensional way. When this technique was performed correctly I could perceive, especially with my eyes closed, the pitch panned through the space from one side of the room to the other. The success of this experiment led to creating a more immersive sound with the pitch encircling the listener. Since we could pan a pitch from one side of the room to the other, I wondered if we could create a sound that felt like it spun around the room. This idea was influenced by the immersive spatial sensation of standing on the pedestrian bridge. To perceive the sound spinning around the space I thought the ideal listening position would have to be in the centre of the ensemble, much like positioning myself in the centre of the bridge to experience the full spatial effect.

To start this experiment I followed on from previous tests. Instead of panning the pitch across the room, all five musicians stood in a wide circle and panned the pitch to the person standing next to them around the circle, using the techniques learnt in the previous tests. What soon became obvious was that to keep the pitch moving seamlessly, the attack of a note could not be heard as it distracted the listener away from where the focus of the pitch was in the space.
To address these issues I had to allow the musicians enough time to prepare and sound their note without an audible attack. This was done by allowing the musicians enough time to anticipate their entry, well ahead of when the note needed to be at its loudest. This meant that all five musicians were playing all together to create the illusion of a pitch spinning around the room. Figure 2 is a traditionally notated representation of this experiment with five musicians.

**Figure 2.** Musical representation of the circular spatial movement.

I also found that the decrescendo of the note was just as important as the crescendo as it supported and created the effect of the sound moving away. If a musician played their decrescendo too quickly it sounded like the pitch jumped abruptly to the next musician, rather than gradual panning. This was an important discovery, as I had been focused on the beginning of the transition and not always listening for the transition after the note was passed.

There was a difficulty with pacing when working with the ensemble on this idea of circular movement. In the beginning I tried to rely on the musicians listening to each other, but this became more and more problematic depending on the ensemble size and the space we were workshopping in. I decided to direct the circular movement myself, by standing in the middle of the space and spinning in an anti-clockwise direction. I used my left hand to direct the musician to start their note and crescendo until my right hand was pointing at them. This direction informed the musicians of their entry point and the moment that their pitch should be at their loudest. They were responsible for the gradual decrescendo that followed. This idea for circular ensemble direction came from Schaefer’s book, *Ear Cleaning*, where he instructs the conductor to work with a circular formation of students singing to create a similar circular movement in the space; ‘The student conductor with both arms outstretched slowly pivots so that only one portion of the class is heard singing the tone as it slowly moves about the room in a circle’ (Byrne, 2012, p. 10).

This technique of directing the ensemble was successful and did produce the best results so far. However, it was not practical to do over a period of time as I got dizzy and would need to be in the centre of the space, which is where the ideal listening position would be. It was at this stage that the importance of notating the piece came into the planning. I needed a way to communicate the piece to the musicians, which was free of tempo and without the use of a conductor to hold the ensemble together. Graphic notation seemed like the best way to communicate this musical idea.

7.3. Space

After some reflection on previous tests, I began to formulate some compositional scenarios to utilise what I had achieved in the last session, whilst maintaining the compositional context to the site. I was considering whether to perform the work live on the bridge, utilising the natural occurring soundscape, or to use the field recording and translate the work into a more formal performance setting. The audience logistics and inconsistency of the outdoor bridge venue made me lean towards using the soundscape field recording in a concert hall performance. This decision was also strengthened when I was able to hear how both the acoustic instruments and the field recording sounded in a rehearsal space. The spatial movement, especially in its circular form, would have been difficult to present on the bridge as it is not wide enough to create the ideal circle around the listeners.

7.4. Glissandi

The other compositional element found in the soundscape was glissandi, produced by the Doppler effect. A long glissandi is difficult to produce on most brass and woodwind instruments as the musician needs to press down keys or valves to produce their *in between* pitches. Stringed instruments with no frets and instruments with slides are able to produce longer glissandi as they are able to slide between the set pitches. While most brass and woodwind instruments can’t produce long glissandi, they can produce a short one by adjusting their tuning with either their embouchure or half-valve techniques. Trumpeter Ricki Malet was so successful with his small glissandi that ABC presenter Stephen Adams assumed that Malet was playing a ‘¼ tone flugelhorn’ (2012). My thought was that I could create a long glissandi between all of the musicians by creating a series of very small glissandi while panning the pitch around in the circular formation.

For this test I used eight musicians (same as the final performance); three trumpets, two alto saxes, one tenor sax and two trombones. The focus for this test was to recreate the same circular bidirectional spatial movement exercise we performed the last time, but as the pitch panned to each musician they would slightly sharpen the pitch. The next musician would then listen to, match the pitch and then bend a bit further once it was their turn. Because the musicians were anticipating their notes ahead of time, to avoid hearing their attack, and crescendoing slowly, it gave them time to aurally match the pitch and continue to bend it. This produced a long glissandi over a much larger range than was easily possible for a single woodwind or brass instrument, however there were issues with the evenness of the glissandi because the musicians were finding it difficult to keep track of where the pitch was and when it was their turn to contribute. In some cases the pitch would arrive to a musician in between a pitch from the tempered scale, and depending on what instrument they were playing, this was not easy to pitch or create on their instrument. Some of the musicians asked if there was a way that I could notate this so that the glissandi could be...
distributed more evenly over the ensemble. After some discussion I decided that a semi-tone could be divided between two musicians to allow a slow, deliberate glissando. We tried to do this without notation but again the same problems occurred as the musicians could not keep track of where the pitch was at any given time.

8. FIRST COMPOSITIONAL DRAFTS

8.1. The Soundscape

As this project progressed it became clear, with all the circular effects, that the ideal listening position would have to be in the centre of the ensemble. This would now affect how I would use the soundscape, as originally I was going to compose this piece to be played on the bridge with acoustic instruments. I now needed the right physical space to position the musicians around the listeners.

To make the relationship between the acoustic instruments and the soundscape more meaningful, I decided to manipulate the field recording of the soundscape to complement the spatial effects played by the acoustic instruments. To do this, I asked Perth based MaxMSP programmer, Dr Stuart James, to electronically manipulate my soundscape field recording live during the performance.

James was able to separate, through the use of spectral noise reduction software, the environmental background noise from the traffic movement, a process which allowed the separation of ‘both sounds to be panned independently using a different kind of spatial motion: the vectorial spaces of the moving traffic and the panoramic space created by the background environment’ (James & Hope, 2013, p. 82). Once this was achieved, we were able to construct a soundtrack to accompany the score. This soundtrack was diffused in real time by James using MaxMSP, across four speakers with background noise ‘dispersed randomly around the space, surrounding the audience, and the moving sounds were spatialised using translations across the space spectrally in a bidirectional way synonymous with the flow of traffic’ (James & Hope, 2013, p. 82).

8.2. Notation

Other artists use graphic notation to communicate an experience, as Mace Francis does in his attempts at drawing the audio shapes of passing traffic through his preferred acoustic instruments in From Traffic Rises. (Hope, 2013)

Schaffer defines the notation of sound as ‘an attempt to render aural facts by visual signs’ (1994, p. 123). Music notation, including traditional and graphic, is ‘generally prescriptive – it gives a recipe for sounds to be made’ (Schaefer, 1994, p. 123). Perth composer and musician Dr Cat Hope defines graphic notation ‘as the representation of music through the use of visual symbols that do not make part of traditional music notation, or are used in conjunction with it’ (2013). From Traffic Rises was my first experience in creating graphic notation for a composition. I usually employ conventional notation systems but I found that because of the spatial, temporal and textural nature of this composition, it was necessary to communicate the score through graphic means. My score was hand-drawn using coloured pencils onto four pieces of A4 graph paper in the landscape format, scanned and then stitched together using Adobe InDesign computer software to create a long PDF version of the score which was then translated to the Decibel ScorePlayer (Wyatt, 2013). The Decibel ScorePlayer is an application (app) which ‘enables network-synchronised scrolling of proportional colour music scores on multiple tablet computers’ (Decibel, n.d), specifically the iPad (Wyatt & Hope, 2013, p. 206). The Decibel ScorePlayer provides a linear, time-based, visual scrolling score player that enables any image file to be read at any speed across a line indicating the point of performance. It allows the musicians to visually follow the composition in coordinated time without the feeling of an internal metric pulse allowing the music a rhythmic freedom which is what I was trying to communicate in From Traffic Rises. Each horizontal square of the graph paper represented one second of time passing, indicating the pace which the score scrolled by in the player. Each musician used individual iPads, which were networked together enabling coordinated synchronization of the scores, eradicating the need for a conductor. It also meant that each musician could be positioned anywhere in the performance space with no worry about being able to see each other or a conductor.

My score for From Traffic Rises, while graphic, did still indicate specific pitches. The advantage of the graphic score and the reading of it in the Decibel ScorePlayer was that the ensemble was able to play without the ‘traditional notions of rhythm and tempo’ (Wyatt & Hope, 2013, p. 202). This was what I had experienced in the soundscape and what I wanted to communicate to the ensemble.

The musicians were placed on the score in the order in which they were positioned in the space. Each instrument was to read the score from left to right along their horizontal ‘pitch line’ which was coloured for ease of reference. The order for the premiere performance was alto sax (pink), trombone 1 (orange), trumpet 1 (purple), alto sax (green), trumpet 2 (yellow), trombone 2 (red), tenor sax (brown) and trumpet 3 (blue).

The musician’s entries are indicated when the Decibel ScorePlayer’s vertical red line joins up with the vertical black ‘entry line’ of the instrumental part. The example below (figure 3), although in black and white, shows the score player’s vertical line at the 1’16” entry for the alto sax (top line instrument). The alto sax then finishes playing when the score player’s vertical line gets to the end of the instruction.
8.3. Playing Instructions

The musician’s playing instructions are indicated before the entry line, allowing the musicians time to prepare for the next instruction before playing. There are only a few performance instructions in this piece to avoid confusion.

When the word AIR is seen before the entry line, the musician is asked to blow air through their instrument without creating a pitch. The first of these entries can be seen above in figure 3 at forty-five seconds, with trumpet one being asked to blow air through his instrument for three seconds.

The horizontal black block on the musician’s coloured play line indicates the length of the note, in the example mentioned above, three seconds. The black line below the coloured play line is for the dynamic instructions. In the figure 3 trumpet one part, it is a solid block which means keep at a steady dynamic. If the dynamic shape undulates, then the musician is asked to follow the dynamic contour.

The next performance instruction is ?. This asks the musician to improvise, imitating and interacting with what they hear in the recorded soundscape. These improvisation techniques had been workshopped with the musicians in numerous rehearsal sessions leading up to the performance. These improvisation sections were scored for the musicians to improvise in a way that had been rehearsed, but still allowed freedom for the musician to make informed decisions based on what was happening in the soundscape at the time.

The first of these improvisational entries happens at 1’15” (marked along the top of the score) in the trumpet 3 part, with the solid black block on the blue line indicating the length of the note and the dynamic contour is seen below the blue line.

9. PERFORMANCE

For the premier of From Traffic Rises The Roundhouse Theatre at Edith Cowan University was chosen as it was
the ideal space for performing this composition because of its very dry acoustics, which allowed the sound to move with clarity and no reverberation to diffuse the direction of the acoustic sounds produced. The round shape and the size of the space was the ideal performance situation, as it allowed me to position the musicians and the speakers in the very best position for the success of the work. The spacing between the audience and the musicians was approximately one metre further away from what we had been experimenting with in the early stages of testing, but this did not affect the listener’s experience at all. Because of the space and the acoustic instruments chosen, I was able to get a good balance between the manipulated soundscape and the instruments. This was the key to the success of the piece as the listener needed to hear all the elements of both the electronic and acoustic parts clearly to perceive the spatial motion. It also reinforces the necessity of having a specific performance set up to facilitate this site-generic composition.

10. CONCLUSION

From Traffic Rises had taken me the furthest away from my usual composition practice than I had ever been. There was no real sense of traditional musical elements like melody, harmony or even rhythm and it was my first foray into using graphic notation. Even using an electronic element in a composition was new to me. Although I was dealing with a new compositional process using new sounds and musical elements, the process did not feel forced, as if I was trying to do anything new for the sake of it, because all the ideas began and grew from the context, development and exploration of the pedestrian bridge. It was a very satisfying process to begin with a physical site that did not necessarily offer any acoustic response as such, but rather a soundscape that exists in a real world space.

11. REFERENCES


