IN THE FAIR WORK COMMISSION
Matter No.: AG2018/1278
Applicant: Metropolitan Fire and Emergency Services Board

ATTACHMENT BA - 2

This is the attachment marked BA-2 referred to in the Statement of BRENDAN JOHN ANGWIN dated 15 August 2018
The MFESB Strategic Location Plan (SLP) – 2006 Review & Update to 2016

Prepared for

Charlotte Barty, MFESB, September 2006
Executive Summary

Geotech Information Services has undertaken an extensive interim review of the 2002 SLP Update, extending its recommendations from 2012 to 2016. The following summarises our key findings and recommendations.

Background, Discussion & Observations

- There is nothing in the current response time and risk mapping that suggests that the major recommendations regarding station relocations within the 2002 SLP Update need to be reviewed or altered.

- Of the six primary station relocations recommended in the 2002 SLP Update, MFESB accepted recommendations for the relocation of five stations over the period 2002 to 2012. As at July 2006, no stations had been relocated, although sites have been secured for two station relocations (Croydon & Ascot Vale), with land actively being sought for Altona, Laverton North and Spotswood.

- In addition to the primary station relocations outline above, a further six stations were earmarked as secondary ‘potential’ relocations. The only one of these relocations considered by MFESB to date is Laverton, and this move is dependant upon the final locations for Altona and North Laverton fire stations (refer also to the Geotech report titled MFESB Laverton Location Review 2006 for details).

- MFESB rejected the 2002 SLP Update recommendation to relocate West Melbourne fire station into the Docklands precinct.

Geotech believes that a more substantial facility on a larger site is needed at the Western end of the CBD in order to facilitate greater flexibility in appliance movements between inner city stations over the coming years and decades. The Western end of the CBD is now the dynamic risk epicentre of Melbourne (due to the Docklands development and the increasing activity in the Ports / Coode Island region).

The completion of the rail overpass at Footscray Rd by 2010 will open up Footscray Rd as a reliable emergency response route to the West of the CBD and on to City Link. This could have implications on where MFESB choose to situate West Melbourne.

- Response times have increased significantly for most maintenance areas since 2001, although the recent introduction of the new station turnout system (STO) will have a significant positive impact on this trend. Increases in response times can mostly be attributed to a) the introduction of Clean & Dirty areas in station and b) increased traffic volumes on Melbourne roads, particularly in the middle to outer MFD. Localised areas that have shown significant increases in first appliance response times include
  1. areas in Western Zone between Keilor, St Albans and Taylors Lakes stations;
  2. Melbourne Ports precincts & Southbank / Port Melbourne;
  3. Altona Meadows;
  4. areas in Northern Zone between Pascoe Vale and Broadmeadows;
  5. areas along the East of Northern Zone between Templestowe;
  6. areas around Greensborough & Epping;
  7. areas to the North of Southern Zone between Box Hill, Burwood & Wheelers Hill;
  8. Bayswater North;
9. areas between Mentone & Highett;

- The outer eastern suburbs of the MFD are amongst the worst with regard to increasing localised response times. This is due largely to increasing Greenfield development to the SE of the MDF as well as significant urban infill (townhouses and dual occupancy) in established residential areas throughout the middle Eastern suburbs of Melbourne. The opening of East Link may alleviate some traffic congestion in this area, but it will also see a movement of traffic gridlock ‘hotspots’ to other areas of Southern Zone.

- The continuing ‘gentrification’ of the inner suburbs of Melbourne sees a continuing shift in residential fire risk out to the lower socio-economic middle suburbs of Melbourne. Greatest residential risk is consolidating in and around the suburbs of Sunshine, St Albans, Broadmeadows, Heidelberg West and Clayton South. These areas should be a high priority with regard to service delivery (both response and community education).

- The opening of the Craigieburn Bypass has not yet significantly alleviated traffic gridlock problems around the Hume Hwy from Pascoe Vale to Somerton. While emergency response has not deteriorated north of the Ring Road, areas south of the Ring Road are continuing to experience increasing response times. These areas also represent some of the lowest socio-economic, highest risk residential areas of Melbourne.

- While the original SLP recommendations address most of the issues existing in Western Zone, MFESB should continue to be creative in addressing localised response time problem areas. Initiatives such as traffic light control should be extended to additional intersections where localised response problems exist but station relocations can or will not improve overall service delivery.

- The rate of development of the remaining undeveloped areas of Northern & Western Zones will see a continuing reduction in the demand for Water Tankers.

Recommendations

Geotech Recommends the following for the period 2012 – 2016:

- Relocate West Melbourne fire station to a larger site with increased capacity as close as possible to the corner of Spencer Street & LaTrobe Street;
- Relocate Malvern Fire Station, ideally to near the corner of Bourke Rd & High Streets to improve response to areas of Glen Iris, Malvern, Kooyong, provide access onto the freeway and to improve second response into areas of Hawthorn/Camberwell.
- Relocate Pascoe Vale Fire Station north on or near Boundary Rd to improve response to high risk, low socio economic areas of Hadfield, Fawkner and Broadmeadows;
- Consider the relocation of Northcote fire station to the South East if an appropriate site presents, to improve response into Clifton Hill, Ivanhoe, Alphington and across to Kew (including the proposed Kew Residential Services redevelopment);
- Investigate Traffic Light Control at selected major intersections to improve response to localised problem areas identified within this report that have not been addressed via station relocations.
- Periodically review the number and placement of Water Tankers throughout the MFD as broad hectare land is developed and grassland risk diminishes.
- Undertake a review of localised response times in Southern Zone once East Link opens in early 2008 to identify any new traffic gridlock problem areas. Consider treatments such as traffic light control to address these problem areas.
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</table>
Introduction

The following document provides a review of the MFESB Strategic Location Plan (SLP) to assess progress and to assist MFESB with estimating major capital projects likely to be required out to 2016.

Background

The SLP undertaken in 2002 was a major review of MFESB fire station and appliance locations throughout the Metropolitan Fire District. More specifically, the SLP quantified small area risk (coupled with forecast changes to this risk) vs. emergency response resulting in recommendations of station & appliance relocations and upgrades for the period 2002 – 2012.

Due to a new State Governments requirement to forecast expenditure out to 2016, MFESB now require a review of / addendum to the original SLP to estimate likely major expenditure items for the period 2012 – 2016 (the time period not covered by the SLP Update).

Geotech has been asked to provide a quotation to undertake a review & forward plan of the 2002 SLP to help facilitate this.

Objectives

The objectives of the study are to

- Document progress to date against the original SLP timetable & recommendations;
- Review realised actions as well as any amendments to the original SLP recommendations and the implications of these;
- Forecast changes in risk and infrastructure within the MFD to 2016, and the extent to which these may differ from what was forecast in the 2002 SLP;
- Review how changes to the SLP recommendations and/or changes in infrastructure and/or risk may impact upon any upcoming, non-realised recommendations from the SLP;
- Review scheduled station facility upgrades and assess the appropriateness of these in lieu of the above;
- Deliver an addendum to the SLP to extend its recommendations to 2016.

Scope

This review would be confined to analysis within the MFD (Metropolitan Fire District), although consideration to service delivery into neighbouring CFA areas (and CFA response into the MFD) will be considered where relevant.
Methodology

Significant data gathering and mapping has been undertaken as part of this project.

Mapping of Current Response and Outcome Statistics

Geotech has mapped the most recent 3 years of AIRS incident data to Melway Grid level, reproducing the following maps from the original 2002 SLP Update:

- First Appliance on Scene
- Second Appliance on Scene
- Call Out Frequency
- Containment to Room of Origin (by Postcode)
- Specialist Appliance Frequency (Aerials, Tankers etc)

Via this process of re-mapping, Geotech has identified any significant changes to incident frequency, response and outcome statistics by area since 2002.

Mapping Forecast Changes in the Risk Environment

Geotech has also mapped changes in the current and forecast risk environment by considering a number of important data sets, including

- Forecast Residential Urban Development
- Forecast Industrial Development
- Melbourne 2030
- MFESB Melway Grid Risk
- The Migration of High Risk Socio/Economic Groups

Infrastructure

Investigation of changes in major infrastructure planning has also been conducted to review issues such as road networks, railway crossings and arterials likely to impact on service delivery.

Consultation

Geotech has undertaken workshops in each of the four zones (Central / Westerns / Northern & Southern) as part of the consultation required for this project.
1 Central Zone Review

Risk to 2016 - The Changing Residential Environment

The following table estimates the increase in residential dwellings within Central Zone to 2016.

TABLE 1.1 Residential Dwelling Projections for Central Zone, 2006 – 2016.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in Dwellings</td>
<td>+15,500</td>
<td>+15,282</td>
<td>+18,541</td>
</tr>
<tr>
<td>% of MFD New Dwellings</td>
<td>44.7%</td>
<td>31.6%</td>
<td>30.8%</td>
</tr>
</tbody>
</table>

Source: Department of Sustainability & Environment SLA Dwelling Projections, July 2004.

As can be seen, Central Zone is actually estimated to undergo the largest dwelling growth of each of the four MFESB zones over the study period, with an annual increase of around 3,400 dwellings per annum forecast by 2016.

While the growth in dwelling numbers is increasing over the period 2001 – 2016, the percentage of MFD new dwellings within Central Zone is actually reducing. Central Zone represented almost 50% of new dwellings within the MFD between 2001 & 2006, but this is forecast to reduce to around 30% by 2016 as medium - high density developments grow in popularity within the established suburbs of Melbourne.

Within Central Zone, half of the new residential development is occurring within the central CBD / Docklands / Southbank area, with the Docklands / Southbank area itself representing over one third of all new dwelling development in Central Zone to 2016. The Prahran and Windsor / St Kilda areas are other major development areas outside of the central CBD area.

Map 7 located in the Appendix of this report shows the latest SEFIA index of socio economic disadvantage for the MFD. This map clearly shows the ‘gentrification’ of traditional working class inner city suburbs such as Newport, Flemington, North Melbourne and Richmond, with all of these areas now clearly above average socio-economically. While much of the housing stock in the inner city suburbs of Melbourne is old, this gentrification is significantly reducing the fire (and life) risk in these older residences over time.

Risk to 2016 - The Changing Industrial & Commercial Environment

Central Zone contains approximately 34% of MFD employment.

It has been clearly shown that the highest risk working environment is industrial. The following table shows the amount of occupied and unoccupied industrial land within Central Zone as compared to the entire MFD.

Table 1.2 Occupied & Unoccupied Industrial Land in Central Zone

<table>
<thead>
<tr>
<th></th>
<th>Occupied Industrial Land (Hectares)</th>
<th>Unoccupied Industrial Land (Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Zone</td>
<td>504.7</td>
<td>13.4</td>
</tr>
<tr>
<td>MFD Total</td>
<td>11,591.4</td>
<td>9,275.0</td>
</tr>
</tbody>
</table>
As can be seen in table 1.2, Central Zone contains around 34% of MFD employment but only 4% of industrial land, so the bulk of employment is lower fire risk office and retail.

Another important consideration in central zone is the Ports precinct (including Coode Island). The Port of Melbourne is continuing to expand operations at an accelerating rate. Total vessels are projected to rise from 2,958 in 2001 to 3,936 in 2010, 5,029 in 2020 and 6,490 in 2030. The total gross tonnage of those vessels is estimated as 51.19 million tonnes in 2001, 82.12 million tonnes in 2010, 120.92 million tonnes in 2020 and 188.75 million tonnes in 2030. This is an almost quadrupling over three decades.

This coupled with an increase in residential development to the West of the CBD sees an ever increasing shift of risk to the West of the CBD over the coming years/decades.

**Risk to 2016 - Major Infrastructure Projects in Central Zone**

The most significant current infrastructure project likely to impact on emergency response in Central Zone is the Dynon Port Rail Link.

Currently, the Port of Melbourne's only rail access is via a single dual-gauge track crossing Footscray Road. Trains are required to stop at Footscray Road for correct signalling before entering the port.

On average, 18 trains cross Footscray Road every day and this figure is expected to increase as trade through the Port of Melbourne grows. Each train crossing causes delays to traffic flow on Footscray, Enterprize and Appleton Dock Roads. This has significant emergency service response implications, making Footscray Rd an unreliable emergency response route to the West (including to Coode Island).

The Dynon Port Rail Link project addresses these issues. The project involves building two new rail lines beneath a Footscray Rd overpass, further to the west than the existing level crossing, with clearance for double stacking of containers on flat rail wagons. The project also includes the construction of an elevated section of Appleton Dock Road and Enterprize Road, integrated with the Footscray Road overpass and new service roads providing access to Footscray Road businesses. It is expected that construction would start late in 2006.

**Figure 1.1 Dynon Port Rail Link / Footscray Road Railway Line Grade Separation**

![Dynon Port Rail Link / Footscray Road Railway Line Grade Separation](image-url)
Other Major Infrastructure Projects of note for Central Zone include the Melbourne Wholesale Markets relocation, the $250 million redevelopment of the Royal Women’s Hospital and the new $367 million Melbourne Convention Centre. There are also discussions regarding the development of a second Western link to Melbourne (to alleviate traffic volume issues on the Westgate Freeway).

**Changes in Service Delivery and Fire Outcomes since 2001**

Since 2001, all Central Zone stations (with the exception of West Melbourne) have registered an increase in 90th percentile first appliance on scene response times. Table 1.3 shows the difference in response times 2001 – 2005. Increasing response time stations are shown in red, while stable or decreasing stations are shown in green.

**Table 1.3 Response Times in Central Zone, 2001 - 2005**

<table>
<thead>
<tr>
<th>Station</th>
<th>2001</th>
<th>2005</th>
<th>Difference 2001 - 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Eastern Hill</td>
<td>5.0</td>
<td>5.5</td>
<td>+0.5</td>
</tr>
<tr>
<td>2- West Melbourne</td>
<td>6.7</td>
<td>6.7</td>
<td>0.0</td>
</tr>
<tr>
<td>3- Carlton</td>
<td>7.0</td>
<td>7.1</td>
<td>+0.1</td>
</tr>
<tr>
<td>10- Richmond</td>
<td>6.8</td>
<td>7.1</td>
<td>+0.3</td>
</tr>
<tr>
<td>18- Hawthorn</td>
<td>7.8</td>
<td>8.3</td>
<td>+0.5</td>
</tr>
<tr>
<td>35- Windsor</td>
<td>7.0</td>
<td>7.4</td>
<td>+0.4</td>
</tr>
<tr>
<td>38- South Melbourne</td>
<td>5.9</td>
<td>6.4</td>
<td>+0.5</td>
</tr>
<tr>
<td>39- Port Melbourne</td>
<td>6.8</td>
<td>8.5</td>
<td>+1.7</td>
</tr>
</tbody>
</table>

Source: MFESB Original 2002 SLP Station Response Data for 2001 (vs.) 2005 Firecom response data as supplied by Michael Gilmartin at June 2006. Some discrepancies in time differences have been noted and these are awaiting further investigation by MFESB.

Map 1 located in the Appendix of this report shows median first appliance on scene response times to Melways Grids for the three years to June 2006. Areas with significant localised response times issues have been highlighted for reference. Localised response time problem areas in Central Zone include areas around Kew and Clifton Hill, Western Southbank, sections of Docklands, the Port of Melbourne and North Melbourne.

Map 2 located in the Appendix of this report shows localised areas that are showing increasing response time over the last few years (specifically, the map shows the differences in median response times to Melway Grids 2002 - 2006 throughout the MFD). Areas with major increases in localised response times have been highlighted for reference, and in Central Zone include Southbank, Clifton Hill, the Port of Melbourne and Flemington.

**Implementation of 2002 SLP Recommendations to Date**

The 2002 SLP Update recommended the following for Central Zone:

- **Relocate Stations to Better Service Risk**
  - Relocate West Melbourne to Docklands *(Recommendation not actioned)*

- **Upgrade Station Facilities on Existing Site**
  - Port Melbourne *(Undertaken)*
Relocate Appliances to Better Service Risk

- Locate a non manned permanently moored water appliance at Docklands (*Recommendation Not actioned*)
- Move Carlton Rescue to Richmond making Richmond a specialist rescue facility (*Still Under Review*)
- Richmond Teleboom relocated to Docklands for more central location and ease of freeway access. (*Recommendation not actioned*)

General Recommendations

- Replace Combination Ladders with ladder equipped pumpers. (*recommendation actioned*)

Recommendations 2012 – 2016

As the opportunity to locate a fire station strategically in the Docklands precinct (close to the CBD) has most likely disappeared, Geotech recommends that an alternative site for West Melbourne fire station be sought in the period 2012 – 2016.

West Melbourne fire station is probably not large enough to offer the required flexibility for stationing additional resources closer to the expanding risk of the Western CBD. For this reason, any additional site should be located on a significantly larger footprint than the current station. The upgrade of Footscray Rd opens up additional opportunities for situating this station, as Dynon Rd will no longer be the only reliable access point onto Western Link (an important access route to the north of the West Melbourne maintenance area).

No other Central Zone station relocations are recommended for the period 2012 – 2016.
2 Western Zone Review

Changes in the Risk Environment to 2016

The following table estimates the increase in residential dwellings within Western Zone to 2016.

**TABLE 2.1 Residential Dwelling Projections for Western Zone, 2006 – 2016.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in Dwellings</td>
<td>5,561</td>
<td>8,520</td>
<td>11,231</td>
</tr>
<tr>
<td>% of MFD New Dwellings</td>
<td>16.0%</td>
<td>17.6%</td>
<td>18.6%</td>
</tr>
</tbody>
</table>

Source: Department of Sustainability & Environment SLA Dwelling Projections, July 2004.

As can be seen, Western Zone represents less than 20% of the MFD residential dwelling development for the subject period. It is important to note however that this zone is undergoing significant industrial development, and there is also significant residential development occurring just over the MFD border under CFA jurisdiction (particularly in the suburbs of Point Cook and Truganina).

One major residential development likely to come on line in the subject period is the redevelopment of the RAAF Laverton Airforce Base.

The site is expected to yield up to 2,500 dwellings of varying densities as well as being classified as an Activity centre under the Melbourne 2030 plan, allowing for 35,000 sq m of office space, 25,000 of value added industrial, 15,000 sq m of traditional retail and 35,000 sq m of bulky goods retail (a total of in excess of 100,000 sq m of commercial floor space).

The development is expected to commence in 2007 and the site should be fully developed by 2025.

Map 7 located in the Appendix of this report shows the latest SEFIA index of socio economic disadvantage for the MFD. This map clearly shows areas of significant socio economic disadvantage in Western Zone. Areas of particular concern in Western Zone include Altona North in the South, Laverton (North of the Freeway) in the West as well as most residential areas serviced by North Laverton, Deer Park, Sunshine and St Albans fire station.

The Industrial & Commercial Environment

Western Zone contains approximately 12% of MFD employment.

It has been clearly shown that the highest risk work environment is industrial. The following table shows the amount of occupied and unoccupied industrial land within Western Zone as compared to the entire MFD.
Table 2.2  Occupied & Unoccupied Industrial Land in Western Zone

<table>
<thead>
<tr>
<th></th>
<th>Occupied Industrial Land (Hectares)</th>
<th>Unoccupied Industrial Land (Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Zone</td>
<td>4,652.1</td>
<td>1,654.3</td>
</tr>
<tr>
<td>MFD Total</td>
<td>9,275.0</td>
<td>2,316.4</td>
</tr>
</tbody>
</table>

As can be seen, Western Zone has almost 55% of all zoned industrial land within the MFD. With 25% of this land still unoccupied, there is still significant industrial development to occur within Western Zone over the coming 10+ years.

Major Infrastructure Projects in Western Zone

Major changes in Western Zone include upgrades and duplication of major arterial roads in outer Western areas of the Zone. The development of the RAAF Laverton site will see the extension of Palmers Rd south through the site across the railway line and Princes Freeway (with easterly access ramps to and from the freeway) to Dunning’s Rd in the south. This will alter traffic movement along the far western boundary of the MFD.

Changes in Service Delivery and Fire Outcomes since 2001

Since 2001, all stations (with the exception of Laverton & Tullamarine) have registered an increase in 90th percentile first appliance on scene response times. Table 2.3 shows the difference in response times 2001 – 2005. Increasing response time stations are shown in red, while decreasing stations are shown in green.

Table 2.3  Response Times in Western Zone, 2001 - 2005

<table>
<thead>
<tr>
<th>Station</th>
<th>2001</th>
<th>2005</th>
<th>Difference 2001 - 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-Laverton</td>
<td>9.2</td>
<td>9.0</td>
<td>-0.2</td>
</tr>
<tr>
<td>41-St.Albans</td>
<td>7.5</td>
<td>9.0</td>
<td>+1.5</td>
</tr>
<tr>
<td>42-Newport</td>
<td>7.4</td>
<td>8.3</td>
<td>+0.9</td>
</tr>
<tr>
<td>43-Deer Park</td>
<td>7.8</td>
<td>8.4</td>
<td>+0.6</td>
</tr>
<tr>
<td>44-Sunshine</td>
<td>7.0</td>
<td>7.6</td>
<td>+0.6</td>
</tr>
<tr>
<td>45-Spotswood</td>
<td>6.9</td>
<td>7.5</td>
<td>+0.6</td>
</tr>
<tr>
<td>46-Altona</td>
<td>8.1</td>
<td>8.9</td>
<td>+0.8</td>
</tr>
<tr>
<td>47-Footscray</td>
<td>7.1</td>
<td>7.5</td>
<td>+0.4</td>
</tr>
<tr>
<td>48-Taylors Lakes</td>
<td>7.4</td>
<td>8.8</td>
<td>+1.4</td>
</tr>
<tr>
<td>49-Laverton North*</td>
<td>8.2</td>
<td>9.1</td>
<td>+0.9</td>
</tr>
<tr>
<td>50-Ascot Vale</td>
<td>7.5</td>
<td>8.0</td>
<td>+0.5</td>
</tr>
<tr>
<td>51-Keilor</td>
<td>8.6</td>
<td>9.3</td>
<td>+0.7</td>
</tr>
<tr>
<td>52-Tullamarine</td>
<td>9.1</td>
<td>8.4</td>
<td>-0.8</td>
</tr>
</tbody>
</table>

Source: MFESB Original 2002 SLP Station Response Data for 2001 (vs.) 2005 Firecom response data as supplied by Michael Gilmartin at June 2006. Some discrepancies in time differences have been noted and these are awaiting further investigation by MFESB.
Map 1 located in the Appendix of this report shows median first appliance on scene response times to Melways Grids for the three years to June 2006. Areas with significant localised response times issues have been highlighted for reference. Localised response time problem areas in Western Zone include Altona North, Altona Meadows, Essendon North, Airport West, Kings Park (west of St Albans), and Keilor Downs.

Map 2 located in the Appendix of this report shows localised areas that are showing increasing response time over the last few years (specifically, the map shows the differences in median response times to Melway Grids 2002 – 2006 throughout the MFD). Areas with major increases in localised response times have been highlighted for reference, and in Western Zone include Keilor, Keilor Downs, Altona Meadows and North Laverton.

Implementation of 2002 SLP Recommendations to Date

Relocate Stations to Better Service Risk (Highest Priority)

- Altona (1-3 years, Earmarked subject to agreement on appropriate site)
- Spotswood (1-3 years, Earmarked subject to finding appropriate site)
- Ascot Vale, (1-3 years, actioned, relocation to Moonee Ponds)
- North Laverton (3-6 years, Earmarked subject to finding appropriate site)

Consider Station Relocation if Appropriate Site Presents (Lower Priority)

- Laverton (3-6 years, Review recently Undertaken, Relocation is subject to final locations of Altona & Laverton North fire stations)
- St Albans (Still may occur if suitable site presents)

Relocate Appliances to Better Service Risk

- Move Footscray and Port Melbourne Pods and Transporters to the Relocated Spotswood (1-3 years). Also consider relocation of Ladder Platform from Footscray to Spotswood.

Recommendations 2012 – 2016

Geotech recommends no changes to the Western Zone SLP plan presented in 2002. The location of Laverton Fire Station is dependant on the relocation of North Laverton & Altona fire stations, and this should be determined after sites for these stations have been secured.
3 Northern Zone Review

Changes in the Risk Environment to 2016

The following table estimates the increase in residential dwellings within Northern Zone to 2016.

**TABLE 3.1 Residential Dwelling Projections for Northern Zone, 2006 – 2016.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in Dwellings</td>
<td>6,090</td>
<td>10,550</td>
<td>12,505</td>
</tr>
<tr>
<td>% of MFD New Dwellings</td>
<td>17.6%</td>
<td>21.8%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

Source: Department of Sustainability & Environment SLA Dwelling Projections, July 2004.

As can be seen, Northern Zone is forecast to yield around 20% of new dwellings within the MFD between 2011 and 2016. The bulk of this will come from urban infill and higher density developments closer to the CBD.

Map 7 located in the Appendix of this report shows the latest SEFIA index of socio economic disadvantage for the MFD. This map clearly shows areas of significant socio economic disadvantage in Northern Zone. Areas of particular concern include Hadfield, Fawkner, Pascoe Vale, Broadmeadows, Coolaroo, Campbellfield, Thomastown, Lalor, Heidelberg West and Bellfield.

The Industrial & Commercial Environment

Northern Zone contains approximately 19% of MFD employment.

It has been clearly shown that the highest risk work environment is industrial. The following table shows the amount of occupied and unoccupied industrial land within Northern Zone as compared to the entire MFD.

**Table 3.2 Occupied & Unoccupied Industrial Land in Northern Zone**

<table>
<thead>
<tr>
<th></th>
<th>Occupied Industrial Land (Hectares)</th>
<th>Unoccupied Industrial Land (Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Zone</td>
<td>2,402.6</td>
<td>549.9</td>
</tr>
<tr>
<td>MFD Total</td>
<td>9,275.0</td>
<td>2,316.4</td>
</tr>
</tbody>
</table>

As can be seen, Northern Zone has almost 26% of all zoned industrial land within the MFD. With 19% of this land still unoccupied, there is still significant industrial development to occur within Northern Zone over the coming 10+ years.
Infrastructure

The most significant infrastructure project affecting MFESB emergency response in Northern Zone is the Craigieburn Bypass. This 17 km freeway links the Hume Freeway at Craigieburn, to the Metropolitan Ring Road at Thomastown. It was anticipated at the design stage that more than 24,000 vehicles daily, will take advantage of the bypass, however we understand that current usage is down on these forecasts.

The Bypass should significantly alleviate traffic gridlock problems and traffic accidents around the Hume Highway, Ring Road interchange. (Since 1998, 396 crashes occurred between the Western Ring Road and Cooper Street resulting to seven deaths, 112 people taken to hospital, and close to 450 people getting injured).

A significantly growing risk environment of note in Northern Zone is the Austin Hospital. The $408 million Austin Health Redevelopment and Mercy Relocation project has been progressing since 2000, significantly increasing the risk profile of this facility. The latest development is the establishment of a $17 million mental health facility in the precinct.

This facility is currently serviced well by the location of Heidelberg fire station. The 2002 SLP Update recommended the relocation of the Teleboom from Thomastown to Heidelberg and this recommendation was partially due to the growth of this facility. This recommendation was rejected by MFESB however.

Changes in Service Delivery and Fire Outcomes since 2001

Since 2001, all stations in Northern Zone have registered an increase in 90th percentile first appliance on scene response times. Table 3.3 shows the difference in response times 2001 – 2005. Increasing response time stations are shown in red, while stable or decreasing stations are shown in green.

Table 3.3 Response Times, Northern Zone 2001 - 2005

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2005</th>
<th>Difference 2001 - 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Brunswick</td>
<td>6.8</td>
<td>7.3</td>
<td>0.5</td>
</tr>
<tr>
<td>5-Broadmeadows</td>
<td>7.8</td>
<td>8.3</td>
<td>0.5</td>
</tr>
<tr>
<td>6-Pascoe Vale</td>
<td>8.1</td>
<td>8.3</td>
<td>0.2</td>
</tr>
<tr>
<td>7-Thomastown</td>
<td>7.4</td>
<td>8.0</td>
<td>0.6</td>
</tr>
<tr>
<td>9-Somerton</td>
<td>8.7</td>
<td>9.4</td>
<td>0.7</td>
</tr>
<tr>
<td>11-Epping</td>
<td>8.1</td>
<td>8.9</td>
<td>0.8</td>
</tr>
<tr>
<td>12-Preston</td>
<td>7.1</td>
<td>7.7</td>
<td>0.6</td>
</tr>
<tr>
<td>13-Northcote</td>
<td>7.5</td>
<td>8.0</td>
<td>0.5</td>
</tr>
<tr>
<td>14-Bundoora</td>
<td>7.5</td>
<td>7.9</td>
<td>0.4</td>
</tr>
<tr>
<td>15-Heidelberg</td>
<td>7.4</td>
<td>7.9</td>
<td>0.5</td>
</tr>
<tr>
<td>16-Greensborough</td>
<td>7.3</td>
<td>8.4</td>
<td>1.1</td>
</tr>
<tr>
<td>19-North Balwyn</td>
<td>7.5</td>
<td>8.3</td>
<td>0.8</td>
</tr>
<tr>
<td>30-Templestowe</td>
<td>7.6</td>
<td>8.6</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Source: MFESB Original 2002 SLP Station Response Data for 2001 (vs.) 2005 Firecom response data as supplied by Michael Gilmartin at June 2006. Some discrepancies in time differences have been noted and these are awaiting further investigation by MFESB.
Map 1 located in the Appendix of this report shows median first appliance on scene response times to Melways Grids for the three years to June 2006. Areas with significant localised response times issues have been highlighted for reference. Localised response time problem areas in Northern Zone include Hadfield / Fawkner, Coolaroo, Mill Park, Watsonia North, Yallambie / Viewbank / Lower Plenty, Ivanhoe East and Doncaster East.

Map 2 located in the Appendix of this report shows localised areas that are showing increasing response time over the last few years (specifically, the map shows the differences in median response times to Melway Grids 2002 – 2006 throughout the MFD). Areas with major increases in localised response times have been highlighted for reference, and in Northern Zone include Hadfield, Fawkner, Mill Park, Greensborough and Doncaster East.

Implementation of 2002 SLP Recommendations to Date

Consider Relocation of Stations if Appropriate Sites Present (Lower Priority)

- Brunswick (3-6 years, secondary, not actioned)
- Pascoe Vale (3-6 years, secondary, not actioned)
- Northcote (Secondary, still under consideration)

Upgrade Station Facilities on Existing Site

- Templestowe (relocation occurring)
- Heidelberg (to accept relocated Teleboom, not actioned)

Relocate Appliances to Better Service Risk

- Move Teleboom from Thomastown to Heidelberg or Preston (1-3 years) (?)
- Move Water Tanker from Templestowe to Thomastown (1-3 years) (?)

Recommendations 2012 – 2016

Relocate Pascoe Vale Fire Station north to near Boundary Rd to improve response to high risk, low socio economic areas of Hadfield, Fawkner and Broadmeadows;

Response times problems in the areas between Ivanhoe, Viewband and Kew could be addressed via a relocation of Northcote fire station to the South East.
4 Southern Zone Review

The following table estimates the increase in residential dwellings within Southern Zone to 2016.

**TABLE 4.1 Residential Dwelling Projections for Southern Zone, 2006 – 2016.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in Dwellings</td>
<td>7,511</td>
<td>13,960</td>
<td>17,978</td>
</tr>
<tr>
<td>% of MFD New Dwellings</td>
<td>21.7%</td>
<td>28.9%</td>
<td>29.8%</td>
</tr>
</tbody>
</table>

Source: Department of Sustainability & Environment SLP Dwellings Projections, July 2004.

As can be seen, despite being almost fully developed (ie no Greenfield development areas available), Southern Zone is still predicted to account for around 30% of new dwellings within the MFD, with almost 18,000 new dwellings forecast for the 5 year period 2011 – 2016.

The majority of this development will be via medium to high density residential development (such as dual occupancy, units and townhouses). This increase in population density within southern zone is only going to compound the already problematic traffic congestion problems.

Another important consideration for Southern Zone is the aging population, especially around the 'middle band' suburbs of Glen Waverley, Mount Waverley, Oakleigh etc. With the aging population comes an increase in fire risk and appropriate treatments / education programs should be pursued by MFESB.

**The Industrial & Commercial Environment**

Southern Zone contains approximately 35% of MFD employment.

It has been clearly shown that the highest risk work environment is industrial. The following table shows the amount of occupied and unoccupied industrial land within Southern Zone as compared to the entire MFD.

**Table 4.2 Occupied & Unoccupied Industrial Land in Southern Zone**

<table>
<thead>
<tr>
<th></th>
<th>Occupied Industrial Land (Hectares)</th>
<th>Unoccupied Industrial Land (Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Zone</td>
<td>1,715.6</td>
<td>98.8</td>
</tr>
<tr>
<td>MFD Total</td>
<td>9,275.0</td>
<td>2,316.4</td>
</tr>
</tbody>
</table>

As can be seen, Southern Zone has only 15% of all zoned industrial land within the MFD. Only 5% of zoned industrial land is vacant in Southern Zone, meaning that there will be nowhere near the same level of industrial development in coming years as will be seen in Western & Northern Zones.
Infrastructure

East Link is the most significant infrastructure project in Melbourne at present. This project has the potential to significantly change emergency service response in and around Southern Zone. Key elements of the project include

- 39km of toll road, 3 lanes in each direction for 33km from Eastern Freeway at the northern end (Springvale Rd to Thompson Rd), 2 lanes in each direction for 6km at the southern end (Thompson Rd to Frankston Freeway);
- Twin 3-lane, 1.6 km tunnels at the northern end under the Mullum Mullum Creek;
- Direct freeway to freeway connections at Eastern Freeway, Monash Freeway and Frankston Freeway;
- 17 major interchanges, 3 railway crossings, 86 bridges, as additional 6km of non-toll feeder roads, Ringwood Bypass, and Dandenong Southern Bypass.

Interestingly, the lack of exit ramps at either Mitcham Rd or Park Rd makes any relocation of Nunawading closer to the Springvale Rd access to East Link less appealing than was the case in 2002, so Geotech in no way supports any relocation of Nunawading Fire Station.

The Waverley Park Redevelopment is another major project of note to Southern Zone. This development will yield 1,500 new dwellings (housing 4,000 residents) once completed. The development of this land has been accompanied by the upgrade of Wellington Rd - with an additional city bound lane from Jacksons Rd to Jells Rd.

The developer (Mirvac) has also purchased the Waverley Gardens Shopping Centre and is planning a $35 million upgrade. This site currently experiences response time problems, and the addition of 1,500 dwellings is extra cause for consideration of how emergency response to this area could be improved (via traffic light control or similar treatments).

The other major residential redevelopment of note is the redevelopment of the Kew Residential Services site. Current plans are for 540 residential dwellings on this site, accessed from Princess St. First and Second appliance response to this area is currently quite poor, however the recommended relocation of Northcote will improve the situation somewhat.

Changes in Service Delivery and Fire Outcomes since 2001

Since 2001, all stations with the exception of Ringwood and Nunawading have registered an increase in 90th percentile first appliance on scene response times. Table 4.3 shows the difference in response times 2001 – 2005. Increasing response time stations are shown in red, while stable or decreasing stations are shown in green.

Table presented overleaf:-
### Table 4.3  Response Times, Southern Zone 2001 - 2005

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2005</th>
<th>Difference 2001 - 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-Box Hill</td>
<td>7.3</td>
<td>8.0</td>
<td>+0.7</td>
</tr>
<tr>
<td>22-Ringwood</td>
<td>7.4</td>
<td>7.4</td>
<td>0.0</td>
</tr>
<tr>
<td>23-Burwood</td>
<td>7.9</td>
<td>8.1</td>
<td>+0.2</td>
</tr>
<tr>
<td>24-Malvern</td>
<td>7.9</td>
<td>8.1</td>
<td>+0.2</td>
</tr>
<tr>
<td>25-Oakleigh</td>
<td>7.3</td>
<td>7.5</td>
<td>+0.2</td>
</tr>
<tr>
<td>26-Croydon</td>
<td>7.7</td>
<td>7.9</td>
<td>+0.2</td>
</tr>
<tr>
<td>27-Nunawading</td>
<td>7.7</td>
<td>7.6</td>
<td>-0.2</td>
</tr>
<tr>
<td>28-Waverley</td>
<td>7.5</td>
<td>8.2</td>
<td>+0.7</td>
</tr>
<tr>
<td>29-Clayton</td>
<td>7.8</td>
<td>8.2</td>
<td>+0.4</td>
</tr>
<tr>
<td>31-Wheelers Hill</td>
<td>8.0</td>
<td>8.8</td>
<td>+0.8</td>
</tr>
<tr>
<td>32-Ormond</td>
<td>8.0</td>
<td>8.9</td>
<td>+0.9</td>
</tr>
<tr>
<td>33-Mentone</td>
<td>8.5</td>
<td>8.6</td>
<td>+0.1</td>
</tr>
<tr>
<td>34-Highett</td>
<td>7.6</td>
<td>8.2</td>
<td>+0.6</td>
</tr>
</tbody>
</table>

Map 1 located in the Appendix of this report shows median first appliance on scene response times to Melways Grids for the three years to June 2006. Areas with significant localised response times issues have been highlighted for reference. Localised response time problem areas in Southern Zone include Bayswater North, Vermont, Waverley Park, Glen Iris, Canterbury, Kooyong, Bentleigh East, Brighton, Hampton, Black Rock and Beaumaris.

Map 2 located in the Appendix of this report shows localised areas that are showing increasing response time over the last few years (specifically, the map shows the differences in median response times to Melway Grids 2002 – 2006 throughout the MFD). Areas with major increases in localised response times have been highlighted for reference, and in Southern Zone include Cheltenham, Mentone, Wheelers Hill, Mount Waverley, Burwood, Box Hill and Balwyn North.

**Implementation of 2002 SLP Recommendations to Date**

Relocate Stations to Better Service Risk (Highest Priority)

- Croydon  
  (1-3 years, Happening Now)

Consider Station Relocation if Appropriate Site Presents

- Nunawading  
  (not recommended now due to deletion of Eastlink Off-ramps at Park & Mitcham Rds)

- Malvern  
  (not actioned)
Upgrade Station Facilities on Existing Site

- Wheelers Hill \textit{(Happened)}

Relocate Appliances to Better Service Risk

- Move Tanker from Croydon to more central, higher risk location \textit{(Not Actioned)}
- Move Ladder Platform from Burwood to Oakleigh \textit{(Actioned)}
- Move Teleboom from Ringwood to Nunawading \textit{(Not Actioned)}

General Recommendations & Observations

- Consider traffic light control at Nepean Hwy (particularly Ormond) to improve bay side response times. \textit{(Actioned)}
- Alter turn out boundaries between Hawthorn, Burwood and North Balwyn to improve service to Surrey Hills. \textit{(Actioned)}
- While maintaining Water Tankers in the fleet, consider making them EMR equipped, especially in Southern Zone. \textit{(Actioned)}

Recommendations 2012 – 2016

Relocate Malvern Fire Station, ideally to near the corner of Bourke Rd & High Streets to improve response to areas of Glen Iris, Malvern, Kooyong, to provide access onto the freeway and to improve second appliance response into areas of Hawthorn & Camberwell.

Undertake a review of localised response times in Southern Zone once East Link opens in early 2008 to identify any new traffic gridlock problem areas.

Consider treatments such as traffic light control to address response time problem areas in Southern Zone.
Appendix 1  Mapping Outputs
SLP 2006 Review - Median First Appliance on Scene Response Time

Geographic Area:
Metropolitan Fire District

Map Reference:
Map_2.jpg

Date: June 2006

Map displays Road Network, Rivers, Railways, Suburbs, MFESB Boundaries, MFESB & CFA Stations, Incident data by Melway grids.

Median First Appliance on Scene Response Time by Melway grid, 3 years AIRS data to April 2006. All calls excluding false alarms.

Generic Map Legend:
- Freeways:
- Main Roads:
- Minor Roads:
- Railway Lines:
- MFD Boundary:
- Maintenance Areas:

Thematic Legend:
- CFA Stations
- MFESB - SLP Recommended Relocate
- MFESB Existing

First Appliance on Scene Response Time in Minutes:
- More Than 9
- 8 to 9
- 7 to 8
- 6 to 7
- Less Than 6
- all others

Map Scale: 1 cm = 1.7 km

Produced By: Geotech Pty (03) 9550 0834

Major Map & Data Sources:
- ABS: Census 2001; ABS - Business Register Data 1998
- AUSLG: Australia Post Postcodes, GIS Australia - Various

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SLP 2006 Review - Median Second Appliance on Scene Response Time

Geographic Area: Metropolitan Fire District
Map Reference: Map_3.wor
Date: June 2006

Map displays Road Network, Rivers, Railways, Suburbs, MFESB Boundaries, MFESB & CFA Stations. Incident data by Melway grids
Median Second Appliance on Scene Response Time by Melway grid, 3 years AIRS data to April 2006, All calls excluding false alarms

Generic Map Legend:
Freeways:
Main Roads:
Minor Roads:
Railway Lines:

MFESB Boundary:
Maintenance Areas:
Melway Pages:

Thematic Legend:
- CFA Stations
- MFB - SLP Recommended Relocate
- MFESB Existing

Second Appliance on Scene Response Time in Minutes
- More Than 12
- 10 to 12
- 8 to 10
- Less Than 8

Map Scale: 1 cm = 1.7 km
Produced By: Geotech P/L, (03) 9550 0834

Major Map & Data Sources
ABS - Census 2001; ABS - Business Register Date 1998
AMGEO - Australia Post Postcodes, GIS Australia - Various

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Geographic Area:
Metropolitan Fire District
Map Reference:
Map_1.wor
Date: June 2006
Map displays Road Network, Rivers, Railways, Suburbs, MFESB Boundaries, MFESB & CFA Stations, Incident data by Melway grids
Call out frequency by Melway grid,
3 years AIRS data to April 2006,
All calls excluding false alarms

Generic Map Legend:
Freeways:
Main Roads:
Minor Roads:
Railway Lines:
Melway Pages:

Thematic Legend:
CFA Stations
MFESB - SLP Recommended Relocate
MFESB Existing
Incident Frequency by Melway Grid
More Than 40
20 to 40
10 to 20
5 to 10
Less Than 5
None

Map Scale: 1 cm = 1.7 km
Produced By: Geotech P/L, (03) 9558 0834
Major Map & Data Sources
AUSPOST - Australia Post Postcodes, GIS Australia - Various
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Geographic Area:
Metropolitan Fire District

Map Reference:
Map_11.wor

Date: June 2006

Map displays Road Network, Rivers, Railways, Suburbs, MFESB Boundaries, MFESB & CFA Stations, Residential Land Release

Generic Map Legend:
Freeways:
Main Roads:
Minor Roads:
Railway Lines:
MFD Boundary:
Maintenance Areas:
Melway Pages:

Thematic Legend:
• CFA Stations
• MFESB - SLP Recommended Relocate
• MFESB Existing

Residential Land Release
Current
Up To 3 Years
More Than 3 Years

Map Scale: 1 cm = 1.7 km

Produced By: Geotech PIL (03) 9550 0834

Major Map & Data Sources:
ABS - Census 2001, ABS - Business Registry Data 1999
AUSGIS - Australian Postcodes, GIS Australia - Venues

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SLP 2006 Review - Industrial Land

Geographic Area:
Metropolitan Fire District

Map Reference:
Map_12.wor

Date: June 2006

Map displays Road Network, Rivers, Railways, Suburbs, MFESB Boundaries, MFESB & CFA Stations, Industrial Land

Generic Map Legend:
Freeways:
Main Roads:
Minor Roads:
Railway Lines:
MFD Boundary:
Maintenance Areas:
Metway Pages:

Thematic Legend:
• CFA Stations
• MFESB - SLP Recommended Relocate
• MFESB Existing

Industrial Land
- Occupied
- Unknown
- Vacant

Map Scale: 1 cm = 1.7 km

Produced By: Geotech P/L (03) 9550 0834

Major Map & Data Sources
ABS - Census 2001, ABS - Business Register Data 1999
KBSUO - Australia Post Footprints, GIS Australia - Vertox

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SLP 2006 Review - Residential Containment to Room of Origin

Geographic Area: Metropolitan Fire District
Map Reference: Map 9.wor
Date: June 2006

Map displays Road Network, Rivers, Railways, Suburbs, MFESB Boundaries, MFESB & CFA Stalls, Incident data by Postcode
Call out frequency by Postcode, 3 years AIRS data to April 2006, All alarms, excluding false for % Residential Fires Contained to Room of Origin

Generic Map Legend:
- Freeways:
- Main Roads:
- Minor Roads:
- Railway Lines:
- MFESB Boundary:
- Maintenance Areas:
- Melway Pages:

Thematic Legend:
- CFA Stations
- Point
- Point
% Residential Fires by Postcode Contained to Room of Origin
- More Than 70%
- 60% to 70%
- 50% to 60%
- Less than 50%

Map Scale: 1 cm = 1.7 km
Produced By: Geotech P/L (03) 9550 0834

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