Key Performance Indicators for the City of Melbourne's Building Team

An Interactive Qualifying Project Final Report submitted to the faculty of Worcester Polytechnic Institute in partial fulfillment of the requirements for the Degree of Bachelor of Science

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Abstract

This project developed a set of Key Performance Indicators (KPIs) and an implementation plan for the City of Melbourne's Building Team to improve measurement of workload and the contributions of each Building Officer. By shadowing the Building Officers, hosting a workshop, and examining internal documents, specific processes important to quantifying performance were identified. The developed KPI's utilize existing databases and reporting schemes for ease of documentation and cost effectiveness without significantly altering the Building Officers' daily activities. These measures account for the varying complexities associated with working in a major city.

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The group collectively edited the Final IQP Report.

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Executive Summary

Countries and cities throughout the world have building inspection systems in place to promote public safety. Within the City of Melbourne, the Building Team works to ensure the public is safe in and around buildings and construction sites. The Building team is comprised of three groups, the *Construction Management Group* (*CMG*), the *Melbourne Certification Group* (*MCG*), and the *Building Control Group* (*BCG*). The Building Team works for the elected Council of the City of Melbourne and is now in a deregulated permitting environment. This means that the Building Team must compete for work such as issuing building permits with private contractors. Competition is encouraging the Building Team to maximize its effectiveness. They desire a comprehensive measurement system that can be used to quantify performance as a whole and contributions of each employee. This performance measurement should identify key areas for improvement and remain useful regardless of the changing complexities encountered while operating in a major city. The KPIs can also help justify requests for increases in resources.

The Building Team desire key performance indicators (KPIs) and key result indicators (KRIs) to achieve these goals. Key performance indicators are metrics that focus on quantifying the most important aspects or responsibilities of an organization. The Building Team have experience working with KPIs, but those currently used by the Team were found to be qualitative and of limited use. The goal of this project was to create and rank a list of quantifiable KPIs suitable for implementation for the Building Team.

Our background research provided methods for developing and assessing key performance indicators. Using this information, the following objectives were completed:

- Developed a system to assess the effectiveness of key performance indicators for evaluation and reporting purposes
- Assessed the original Building Team KPIs using the developed assessment system
- Modified the current KPIs, developed new KPIs, and developed KRIs to support the KPIs (based on this assessment)
- Evaluated the modified and new KPIs using the assessment system to determine their value to the Building Team

- Provided the Building Team with a prioritized list of KPIs and a plan for implementation

A major portion of our time during our first weeks in Melbourne was spent shadowing the Building Officers as they perform inspections and other responsibilities throughout a typical work day. These observations gave us a firm understanding of their daily responsibilities, a venue for asking questions, and a chance to form friendships. These friendships proved beneficial when gathering employee feedback and suggestions on key performance indicators.

As we began to understand workflows within the Building Team, the reasons the Building Team's original KPIs were unsuccessful became apparent. A new KPI assessment system was created, documenting the Building Officers' opinions on the measures. This information would help us develop new KPIs free from previous deficiencies.

The KPI development process spanned two and a half weeks and involved many components. First, we reviewed the specific goals of the three groups within the Building Team. Specific responsibilities crucial to the Building Team's success that were identified while shadowing Building Officers were paired with these goals. This verified that the responsibilities the Project Group felt were important to the Building Team's success were related to their goals. We then hosted a KPI development workshop open to any member of the Building Team, which was an opportunity for employees to give input. It was important to develop KPIs that both management and employees accept. This will help ensure that the measures encounter little resistance and are welcomed by the Team. After the workshop, KPIs were developed through a constant process of creating trial KPIs, explaining them to members of the Building Team, and revising them per feedback.

KPIs were developed for the *CMG* to reflect proactive site inspections and reactive complaint inspections. The *CMG* is responsible for enforcing construction site permitting conditions. This keeps the public safe in and around construction sites. Proactive site inspections identify violations before complaints are lodged. The KPIs developed quantify various aspects of these responsibilities such as the success of proactive inspections and the workload of reactive complaint investigations.

MCG KPIs were developed for the following responsibilities: report of consent functions, building permits, mandatory inspections, and issuing quotes to construction companies. The KPIs were developed in a way that provides quantified insight into the quality of work the *MCG* produces.

Building complaints and notices are reflected in the KPIs developed for the *BCG*. Many Building Officers felt that an indicator of their performance is their effectiveness at closing complaints and following through with building notices and orders. Therefore, the KPIs primarily quantify the ability of the *BCG* to perform these functions. Further processes within the *BCG* deserve KPIs but were not developed due to time constraints. We identified those processes and offered ideas for potential KPIs.

We found that KPIs cannot themselves fully measure an employee's contribution to the Building Team. A weighting system was developed for the *Construction Management Group* that provides a number for each permit issued, representing the workload for that permit. The data for the system are entered into a comprehensive database used by the Building Team called Pathway, which is capable of recording all permits, inspections, notices, and correspondences of each officer. Pathway exports these data into Microsoft Access where the information is sorted so it can be manipulated easily in Microsoft Excel. The total weight is arbitrary; however, it is based upon relative weights that reflect the workload for each job. Comparing the total weights and standard deviations between permits indicates which permit types require more resources to issue and which are more complex. The total contribution from each officer can then be calculated. Management may find this information useful when following permitting trends to quantify the expected workload of the *CMG*. This weighting system only applies to permits. Future changes to the weighting system can easily include inspection responsibilities, allowing management to better quantify a Building Officer's overall contribution to the *CMG*.

Due to time and computer system constraints, a weighting system was not implemented for the *MCG* or *BCG*. We proposed changes to each group's functions so a weighting system could be possible.

A weighting system for the *MCG* is problematic because the process they currently use to complete their responsibilities has many unquantifiable aspects. Drawings and plans must be reviewed to guarantee that a proposed building does not violate any building codes or legislation. Additionally, the *MCG's* communications with outside parties are often not recorded within the Pathway database. These two problems make a weighting system ineffective for the *MCG* because it would not truly reflect the complexity encountered by employees. Recording the floor area of the building or site and the number of correspondences in Pathway would allow for a more comprehensive weighting system to compare the complexity of permits. The system could also include reports of consent functions as well as protection work notices to reflect more of the responsibilities of the *MCG*.

Similar problems were encountered when we designed a weighting system for the *BCG*. Research and negotiations performed for a building audit or complaint invalidate a weighting system because they are not recorded in Pathway. Our group proposed that Building Officers delegate research and utilize Pathway more often to record important correspondences. Building Officers must find floor plans, permits, and all previous history of a building to make informed decisions and we believe their time is better spent performing inspections and writing reports. The Building Officer should be able to request pertinent documents from the *Business Support Group*. While waiting for this information, the Officer can work on other recordable functions. We recommend altering Pathway so that non-compliances with the Building Code of Australia (BCA), a powerful indicator of complexity, can be entered. The Pathway database should also be utilized to record correspondences during negotiation processes. All of these changes may result in a weighting system that reflects the complexity of work units and Officer's contribution to the *BCG*.

The developed KPIs were assessed before they were ranked. During this assessment we concluded that in order for the KPIs to be most effective they have to be implemented in groups, defined as KPI clusters. Instead of ranking each individual KPI, the clusters were ranked to show which KPIs are ready for implementation, need more development, or are simply concepts at this point. A brief, but detailed, document was provided to the Building Team explaining each KPI and its implementation plan. The implementation plan also included an

example of these KPIs used in a monthly report that demonstrates a way in which trends and irregularities can be identified.

Our group concluded that these KPIs could allow management to better understand and quantify the complexity of the Building Team's responsibilities. The nature of work within the Team is often qualitative and variable. There will always be special circumstances and situations that arise which are not covered in any reporting system, weighting system, or KPI. Management must always be aware of this and never assume the KPIs fully judge the contributions of a Building Officer. The greatest use of these KPIs is identifying complexities within work units and estimating the resources required to complete future work; the added value of measuring employee contribution is helpful for demonstrating when an employee performs above and beyond expectations.

Chapter 1: Introduction

Building safety is among the most important factors for public safety. To protect the general public, building codes and regulations have been introduced for both urban and rural areas worldwide. Inspection organizations enforce these standards by identifying the contraventions and issuing the proper notices and orders. The manner in which this is carried out determines the safety of the building. In order to ensure quality inspections some organizations use performance focused evaluations. One such organization is the Building Team of Melbourne, Australia.

The City of Melbourne's Building Team, currently comprised of 23 Building Officers, strives to provide the City with reputable services. The Building Officers have responsibilities ranging from performing inspections to issuing permits to prosecuting violators. "Many of the Officers have a range of complex jobs that have a large impact on time [to complete tasks]. For example, a building audit and any follow-up action on a multi-storey building is likely to be more difficult and time consuming than an audit/inspection on a small single storey warehouse. The challenge has been accommodating this variance in building complexity as well as the variance in complexity when dealing with various owners and their professional or legal representatives" (Warren Knight, Personal Communication, 5/2/2009). The Building Team has

found it difficult to quantitatively measure its members' performance. Having a tool that will accurately measure the Team's capacity, workload, individual performance, and quality of outcomes will be beneficial to the senior management and the organization as a whole. The Building Team recognizes the potential for key performance indicators (KPIs) to function as this tool. However in the past, the development of meaningful KPIs has been difficult for the Building Team (Warren Knight Personal Communication to H.K. Ault, 9/12/2008).

Key performance indicators are defined as "a set of measures focusing on those aspects of organizational performance that are the most crucial for the current and future success of the organization" (Parmenter, 2007, p. 3). KPIs have been successfully used in a variety of organizations. For the City of Melbourne's Building Team, KPIs are a relatively new form of evaluation. The Team have implemented a limited number of KPIs and have found that they provide little useful data. Their qualitative nature left room for a "gut feel" interpretation (Warren Knight Personal Communication to H.K. Ault, 9/12/2008). The Team desired a set of measures that effectively and quantitatively evaluate its' performance. These indicators are to be used in the Team's reporting processes to monitor progress. The KPIs may also help justify requests for increases in resources such as employees (Warren Knight, Personal Communication, 10/2/2009).

The goal of this project was to provide the City of Melbourne's Building Team with a set of key performance indicators ranked by their usefulness and benefit for the Team and an implementation plan for each KPI. To achieve this, the group conducted the following:

- Surveyed Building Team Managers and Building Officers
- Interviewed Australian and International Inspection Bodies
- Reviewed Building Team job descriptions and monthly reports
- Observed Building Team employees
- Hosted a KPI Workshop

The WPI Project Group developed an assessment system for KPIs by tailoring characteristics of successful KPIs to the Building Team's needs. Using information from the assessments and the actions above, the processes described in Chapter 3 for developing KPIs were applied directly to the Building Team. Because the Building Team have found that its

original metrics are qualitative, each original KPI was assessed to determine its specific strengths and weaknesses. This information, along with the development processes was used to improve the original KPIs and create new meaningful metrics. These revised and new KPIs measure specific activities that consume much of the Building Officers' time. They also indirectly provide insight into quality of work by showing progress over monthly and yearly time frames and by showing different Building Officer responsibilities.

The project deliverables, a ranked set of key performance indicators and an implementation plan, were created by assessing the value of the developed and modified KPIs to the Building Team and by determining specific ways to implement the measures. When implemented, the aim would be to maximize the amount of credible information that could help the Building Team in maintaining and improving its successful performance.

Chapter 2: Background

On 23 June 2000, the Childers hostel in Queensland, Australia caught fire, taking the lives of 15 people. The citizens of Queensland were outraged by this tragedy. According to an article in the Melbourne Age, the lawyers stated the following:

> 'We are telling the operators, the owners of the building, the state of Queensland and the local council, the Isis Shire, that we believe they are responsible for the fire in not doing enough to ensure fire safety precautions and systems were in place in that building. Who lit the fire doesn't matter.' 'There were [people] at the bottom of a window that was barred. They could not get out.' [The lawyer] said the state of Queensland was being targeted because of the alleged inaction by the fire authorities. 'They actually conducted an inspection before the fire and noticed that there were fire exits that were blocked off and they didn't take appropriate action.' (The Age, 2002)

This tragedy signifies the importance of defining and performing thorough building inspections. A quality building inspection would have illuminated problems before the incident occurred. The City of Melbourne's Building Team are well aware of the importance of its services as a building inspection group and have adopted a system of key performance indicators (KPIs) to attempt to obtain quantifiable measures of its services.

2.1 Key Performance Indicators

Evaluation is a valuable tool in a competitive work environment. Key performance indicators have proven to be an efficient and beneficial evaluation tool for many organizations (Reh, 2009, p. 1). They provide a solid backbone for evaluation and a structured guide for improvement. KPIs are desired by the Building Team in part to better justify requests for resources from the City of Melbourne's Council (Warren Knight, Personal Communication, 10/2/2009).

For Melbourne's Building Team the most applicable definition of a key performance indicator is, "KPIs represent a set of measures focusing on those aspects of organizational performance that are the most crucial for the current and future success of the organization" (Parmenter, 2007, p. 3). As identified by Parmenter, the best way to use this definition for the

development, implementation, and evaluation of key performance indicators is through the seven characteristics indicated in Figure 1:

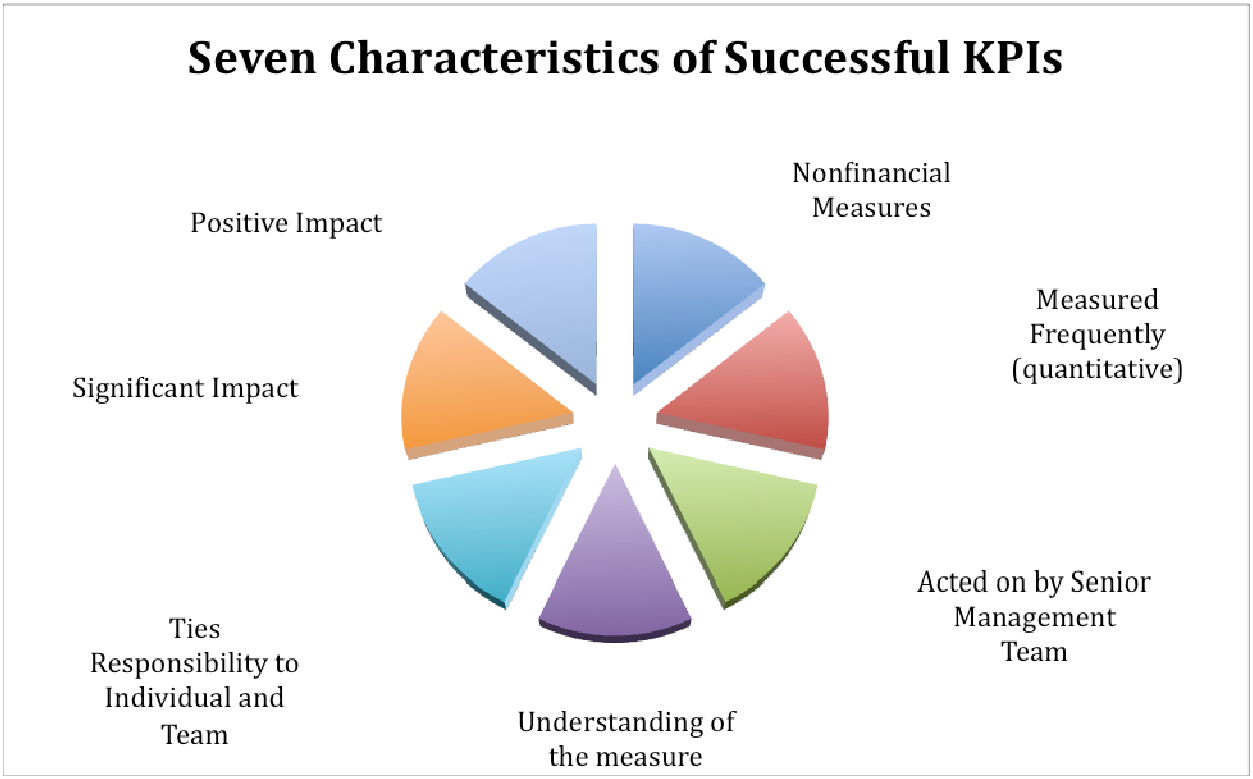

Figure 1 Seven Characteristics of Successful KPIs (Parmenter, 2007, p. 5)

Parmenter describes each of the characteristics (2007, p.6-7) as follows:

- Nonfinancial Measure: When a dollar sign is put on the measure, it has already converted into a result indicator, not a Key Performance Indicator.
- Measured Frequently (Quantitative): KPIs should be monitored daily, or perhaps weekly for some.
- Significant Impact: All good KPIs make a difference.
- Understandable: "A metric must be carefully and exactly well defined, so that there can be no doubt or dispute about it" (Hammer, 2007, p.9). Understanding the key performance indicator is necessary when implementing a successful system.
- Ties Responsibility to Individuals and Team: A KPI is deep enough in the organization that it can be tied to any individual or team.

- Acted on by Senior Management (Usefulness for reporting): When CEO, management, and staff focus on the KPI, the metric will have more of an impact on the organization. When looking at reporting, a "KPI needs to be timely, brief, and informative" (Parmenter, 2007, p. 12).
- Positive Impact: A KPI should have a positive impact on many aspects of the organization.

KPIs are more efficient and effective if these seven characteristics are represented throughout the development, application, evaluation, and reporting stages (Parmenter, 2007, p. 7).

2.1.1 Developing Key Performance Indicators

There are many different models for creating successful KPIs. The seven characteristics of a KPI are principles to follow, not a development method. There are two major development methods.

Method One:

As noted by visitask.com, to create meaningful and successful KPIs the subsequent steps should be followed (2009, n.p.):

1. Carefully consider the results desired
2. Avoid overly broad result statements
3. Develop many possible indicators
4. Assess each indicator
5. Select best Key Performance Indicators

Each of these steps can be broken down into important aspects that need to be reviewed.

1. 'Carefully considering the results desired' relates directly to the purpose of the organization. The organization's purpose defines what it should be doing. "Whatever Key Performance Indicators are selected, they must reflect the organization's goals … "(Reh 2009, p. 1). If the KPIs do not directly relate to the purpose, they will be ineffective. Many organizations are split into subgroups that have separate goals. This is where difficulty for creating KPIs arises. They must be useful for both individuals and groups.
2. 'Avoiding overly broad result statements' relates to the difficulty of creating KPIs for both individuals and groups. KPIs have multiple purposes; one being a 'carrot' or a standard for

individuals and teams can strive towards. John F. Reh describes this carrot analogy: "You also use the KPIs as a carrot. Post the KPIs everywhere . . . People will be motivated to reach those KPI targets" (2009, p. 2). Making these statements too broad will decrease the effectiveness and make the KPIs qualitative. The KPI should be quantitative and specific.

3. 'Developing many possible indicators' is important because it gives the opportunity to widen the focus to the entire organization instead of restricting focus to one aspect. This will make the KPI assessment more difficult; however, better KPIs may be developed.
4. 'Assessing each indicator' is an important step in developing key performance indicators. This assessment is based on the organization's vision, goals, and purpose for the KPIs. This process should be repeated until the KPIs can be used for evaluation.
5. The final process of 'selecting best key performance indicators' is relatively straightforward if the assessment process was successful. After assessing all the KPIs developed, the best are chosen by the value of the metric to the organization.

The major downfall of using this method alone is that it does not clearly define the development stage. This can lead to qualitative KPIs that do not fully align with the purpose and goals of the organization. Thus, combining this method with method two described below will improve the KPI creation process.

Method Two:

Key performance indicators should be developed from the mission, vision, and goals of the organization. From this thought, a system of development for KPIs is described in Figure 2:

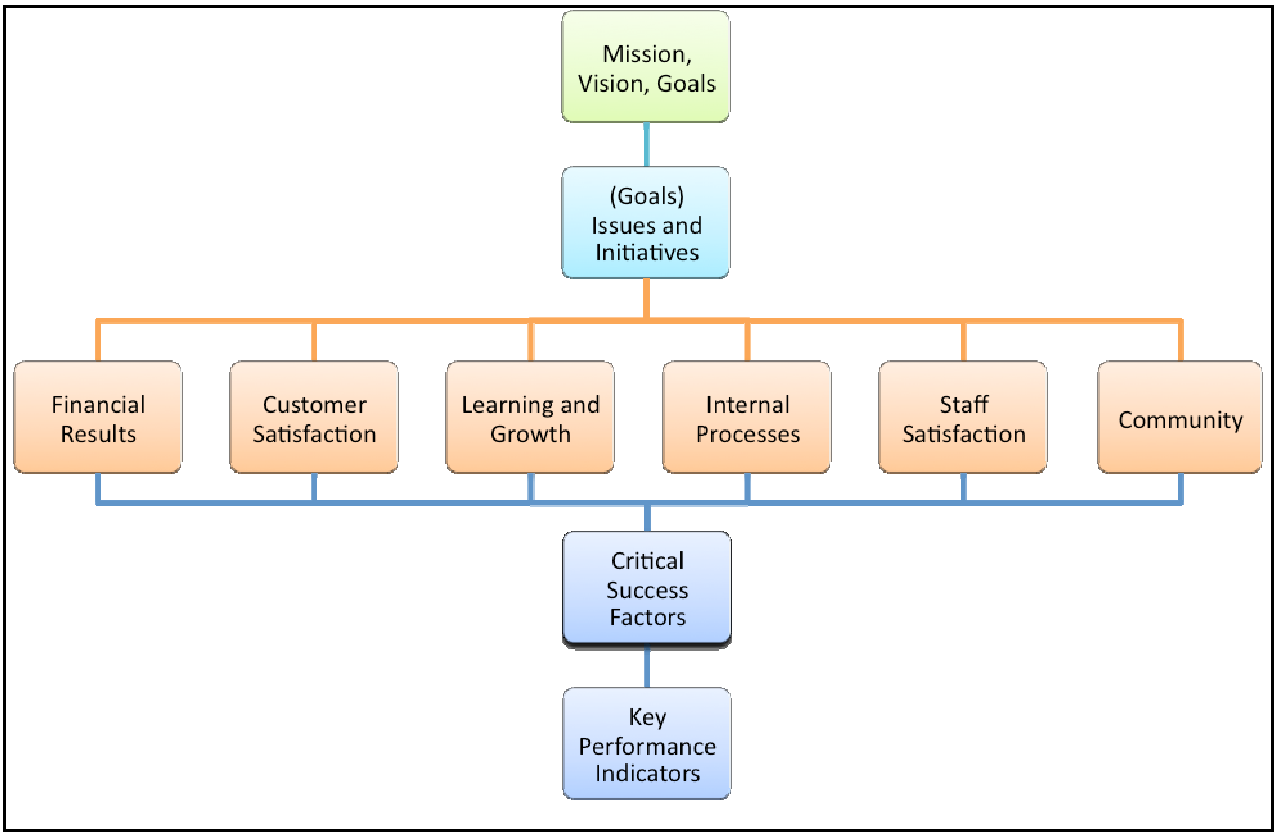

Figure 2 General KPI Development Procedures (Parmenter, 2007, p. 23)

The mission, vision, and goals of an organization play a vital role in creating successful KPIs. Mission is defined as "a timeless 'beacon' that may never be reached" (Parmenter, 2007, p. 25). This can be understood as the underlying motivation for an organization's actions. Vision is "where the [organization] wants to go" (Parmenter, 2007, p. 25). The vision is also defined as the general purpose of the organization. Goals are the organization's actions that will help it "achieve its intended vision or mission" (Parmenter, 2007, p. 26). These three must be defined by the organization. If one of these areas is incomplete, creating successful KPIs may prove more difficult. When working with a government organization, the mission, vision, and goals are focused differently.

Harry Hatry writes that a government organization is most concerned with productivity, defined as a combination of efficiency and effectiveness. Efficiency is providing service at a low cost, while effectiveness is the performance of high quality work. Proficiency in one trait does not guarantee proficiency in the other (1976, p. 22). This should be considered when focusing on the goals of the organization.

The second step is to focus solely on the goals (issues and initiatives) associated with the organization's responsibilities. While the mission and vision are important, key performance indicators should relate to the goals. This step is also where groups within an organization should divide. "There should be Key Performance Indicators for the company and all the units within it will have KPIs that support the overall company goals and can be "rolled up" into them" (Reh, 2009, p. 2).

The orange boxes in Figure 2 are critical success factors, (Parmenter, 2007, p. 23). These factors must relate to the organization's goals. These critical success factors need to be group specific. The senior management, the group in question, and the individuals tasked with creating the successful KPIs should discuss and select these critical success factors.

The next step is analyzing the critical success factors against the goals of the groups within the organization to create key performance indicators. This analysis should be specialized for each group. Parmenter writes, "It is important to map an overall strategy for organizational change…" (2007, p. 54). Within this analysis, the current system of evaluation also needs to be ascertained. Once completed, the outcomes are the key performance indicators. Once these are created, they must be implemented in the organization not just as guidelines, but also as a method of reporting.

2.1.2 Applying KPIs to Reporting Practices

The implementation and the use for reporting can be the most challenging aspects of successful key performance indicators. Parmenter writes (2007, p. 20):
"Successful development and utilization of key performance indicators in the workplace is determined by the presence or absence of foundation stones:

1. Partnership with the senior management, employees, and KPI development team
2. Impact of KPIs relies on employee understanding
3. Integration of measurement, reporting and improvement of performance

These foundation stones will assist in effective use." The application of key performance indicators is also a significant portion of the seven characteristics of successful KPIs.

The most important part of applying KPIs is ensuring a full understanding by the employees. This will eliminate confusion and help motivate employees to achieve maximum performance. This is the 'carrot' effect described earlier. Having employees understand and support the KPIs will make them much more effective.

The reporting timeline is crucial to successful KPIs, which should be measured frequently. This will ensure that the metrics are still relevant, quantitatively measurable, understood, and remembered by the employees. The format is also important when developing a reporting scheme. As valuable quantitative measurements, the KPIs need a significant section in the reporting system.

2.2 Key Result Indicators

Key Result Indicators (KRIs) "tell you how you have done in a specific responsibility" (Parmenter 2007 p.1). They focus on the results of a process. KRIs "give a clear picture whether [the organization is] traveling in the right direction. They do not, however, tell you what you need to do to improve the results" (Parmenter, 2007, p.2). These results, thought important to an organization, do not provide the same information regarding performance. KRIs when used to complement the KPIs provides some of the background information and helps justify the measures of the performance measures. Often, KRIs are used as the primary reporting measure for an organization. The Building Team uses a mixture of result and performance indicators. Developing these indicators is not as complex as KPIs, but should be conducted simultaneously.

2.2.1 Developing Key Result Indicators

Most organizations already have some result indicators. These should complement the KPIs that are developed or are in place. This is the primary factor when developing KRIs and for that reason they should be developed simultaneously with the KPIs. After creating a KPI for a certain performance, the end result of that performance should be measured in a key result indicator. This process relies heavily on the ability to define what processes should be measured for an organization. In a majority of work environments, more KRIs exist than KPIs because it is easier to measure the outcome than the process.

2.2.2 Applying KRIs to Reporting Practices

Key result indicators are easier to report on than KPIs. "KRIs typically cover a longer period of time than KPIs" (Parmenter 2007 p.3). This longer range helps the KRIs better reflect and justify the KPIs. KPIs are measured more often and show the changes in performance during a specified time period. The KRIs, measured less often, show the standard deviations of the results over long period of time. Having these measures combined helps with understanding the information presented.

2.3 The City of Melbourne's Building Team

Melbourne's Building Team are a subset within the City of Melbourne's Planning and Building Branch. The Planning and Building Branch are a part of the City of Melbourne Council (see glossary of terms). The Building Team are "comprised of approximately 26 technical staff members. The Team enforces building legislation and standards to uphold Melbourne's reputation as the 'world's most livable city.' Their responsibilities range from billion dollar convention centers to small bars and nightclubs" (Warren Knight, Personal Communication, 10/2/2009).

The Building Team aim to increase the safety and amenity of Melbourne's residents. This responsibility ranges over a wide scale of projects accompanied by a large variance in building code and legislative requirements. The Building Act of 1993, the Building Code of Australia, State regulations, and Melbourne Council regulations create the standards that promote health, safety, and amenity within and around structures. The Building Team use these as the foundations for their many responsibilities to the City of Melbourne.

The City operates with ultimate responsibility for enforcement, although in a deregulated permitting certification environment (see glossary of terms), which means that the Building Team competes with private permitting agencies (Personal Communication, Warren Knight, 10/2/2009). Therefore, productivity is a priority to stay competitive and to maintain a positive public image.

Melbourne's Building Team currently use KPIs to measure performance; however, they are inadequate for the Team's needs and do not sufficiently represent the workload.

2.3.1 Original KPIs Used By the City of Melbourne's Building Team

A selection of the original KPIs, taken directly from The Building Team, are as follows (Warren Knight, Personal Communication, 5/2/2009):

1. Response time for the *Melbourne Certification Group* to provide quotes for major projects within the municipality
2. Response time for the *Melbourne Certification Group* to provide quotes for minor projects within the municipality
3. Ensure a response by the building group to high risk complaints within 2 days
4. Ensure community satisfaction with permits relating to construction management activity within the municipality

The Building Team use the key performance indicators above. However, some of these KPIs are qualitative (KPI number four) rather than quantitative (KPI number 1). The Building Team describe these KPIs as a "gut feel" assessment, rather than a quantitative measurement. Therefore, they are ineffective in the Team's reporting procedures.

These KPIs were developed using the "Best Value Analysis" approach. The desired result is to develop KPIs that assist the Building Team management in analyzing and improving operations. The six values are Responsiveness, Accessibility of Services, Quality and Cost Standards, Continuous Improvement, Reporting to the Community, and Community Consultation (Melbourne's Building Team Document #1, 2009, p. 1-7).

2.3.2 Responsibilities of the Three Major Groups within the Building Team

The Building Team specialize in a variety of matters that involve building regulations and building codes. The Team divide themselves into three main work groups: the *Building Control Group* (*BCG*), the *Melbourne Certification Group* (*MCG*), and the *Construction Management Group* (*CMG*) (Personal Communication, Warren Knight, 10/2/2009).

The *BCG* are responsible for the safety of the occupants in building environments. The *BCG* enforce the Building Act and Building Regulations, issue permits for Places of Public Entertainment (POPEs) and Temporary Occupancy Permits (TOPs), provide information to the public and building owners for further clarification of the owners' responsibilities, and respond to complaints and dangerous buildings (Personal Communication, Warren Knight, 10/2/2009).

The *MCG* focus primarily on the business aspect of the Building Team's responsibilities, for example the competition with private enterprises. The *MCG* issue permits, write building reports, perform construction inspections, and provide building surveying services.

The *CMG* provide onsite services such as local law permits and enforcement. These permits include those for cranes, road closures, gantries, hoardings, and assessment and approval of construction management plans and noise management.

2.3.3 Individual Job Descriptions

The Building Team consist of eleven different positions. Each role is assigned to an organizational class. Positions of higher authority have a higher class number. Here is a list of the jobs within Melbourne's Building Team.

- Executive Officer
- Municipal Building Surveyor – Class 7+
- Senior Building Surveyor Permits and Consents – Class 6+
- Specialist Building Surveyor – Class 5
- Building Surveyor/Inspector – Class 5
- Permit and Inspection Liaison Officer (PILO) – Class 5
- Building Surveyor – Class 5
- Assistant Building Inspector – Class 4
- Assistant Building Surveyor – Class 4
- Permits and Inspections Officer – Site Services – Class 4
- Site Services Support Officer – Class 3
- Building Services Officer – Class 3

The '+' indicates a possible change due to market adjustment. Detailed descriptions of each position are located Appendix H. Figure 3 is a diagram detailing the organizational relationships of the positions currently employed within the Building Team.

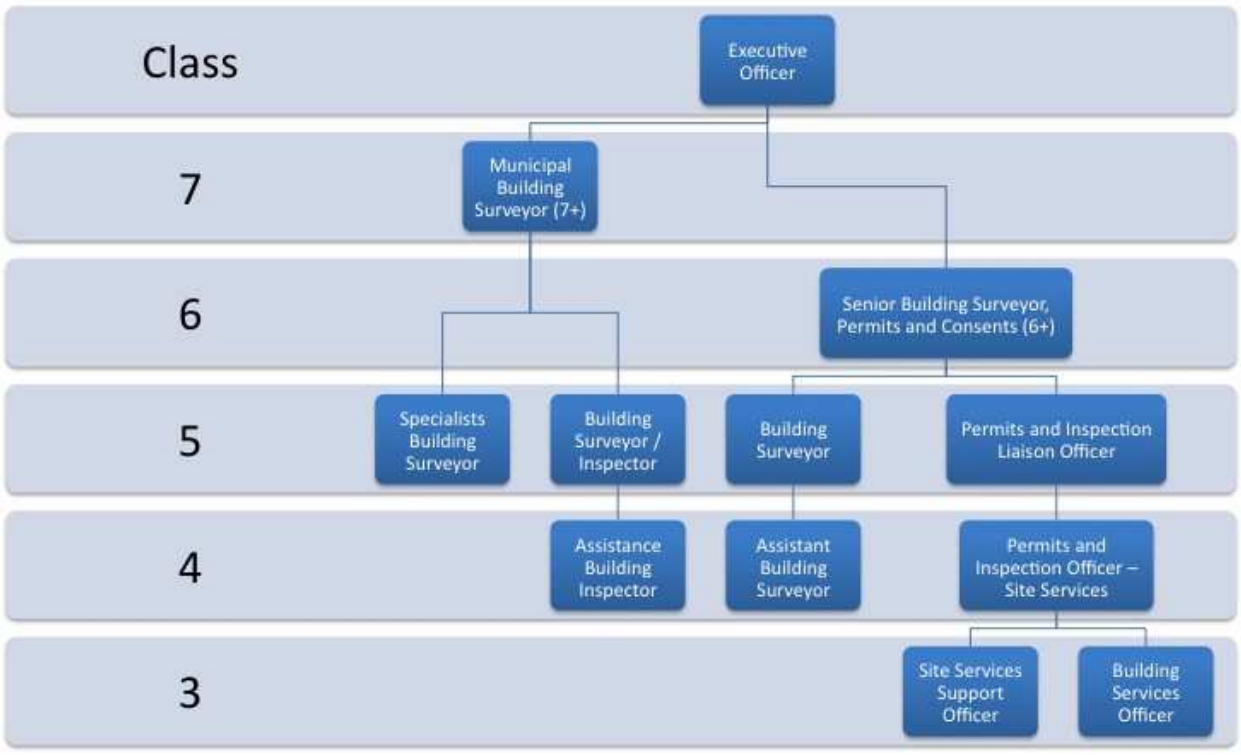

Figure 3 Flowchart of Responsibilities within the Building Team (Personal Communication, Warren Knight, 10/2/2009)

These positions will be affected by modifications to the key performance indicators. When designing KPIs, it is important to consider all of the positive and negative effects associated with their implementation.

2.4 Potential Effects of KPIs

Businesses, service providers, and government agencies are using KPIs to evaluate their performance (Smith, 2007, p. 42). Many organizations believe their current performance indicators are ineffective and are developing indicators that provide more useful information (Hammer, 2007, p. 2).

The building inspection field can benefit from the use of well-organized KPIs. A carefully selected set of KPIs will allow the Building Team to make more informed decisions when evaluating and creating new procedures (Gary, 2002, p. 3).

2.4.1 Inspection without Evaluation

Before detailing the impacts of the KPI system, it is important to understand the consequences of having an inspection process without an evaluation.

In Fairfax County, Virginia, the performance measures led to changes that increased the amount of time per day the inspectors had to work. This increase helped improve inspector productivity by changing the appointment process and location of the their offices (Proctor, 1975, p. 24). Without the performance measures, these changes would not have occurred.

2.4.2 Positive and Negative Effects of Implementing KPIs

KPIs have the potential to positively affect the City of Melbourne through the Building Team. Christopher Coelho explains why measuring performance increases productivity as follows: "The mere act of publishing results-orientated metrics can be a subtle way of applying a 'silent motivator' to bring out the best in people" (2008, p. 16). Though KPIs are focused on results, the concept that 'evaluation is a motivation factor' applies to the Building Team. As seen in the Fairfax county example above, productive inspectors perform more work. Therefore, a proper set of KPIs will provide insight on organizational performance.

Along with the positive influences of key performance indicators, negative consequences may arise as well. KPIs may negatively affect the relationship between the employees and senior managers. A common mistake that businesses make is to implement KPIs without careful consideration: "Many companies seem to implement metrics without giving any thought to the consequences of these metrics on human behavior and ultimately on enterprise performance" (Hammer, 2007, p. 5). Hammer also details six other common mistakes managers make when developing and using KPIs:

1. Vanity – Developing superficial KPIs that do nothing but make the organization look good.
2. Provincialism – Allowing corporate boundaries to dictate KPIs.
3. Narcissism – Focusing on the organization over the client.
4. Laziness – Assuming it is impossible to develop meaningful KPIs and giving up on the process without trying.
5. Pettiness – Measuring only a small subset of the required components of an organization.
6. Frivolity – Lacking seriousness about the measurements.

These are all problems the Building Team must face when deciding which KPIs to use and how to implement them (Hammer, 2007, 3-6). If all of these issues are not addressed it is likely the KPIs will be unsuccessful.

2.5 Summary

Government organizations are not concerned with the same issues as commercial businesses. Instead of focusing on profit, the Building Team are more concerned with providing services to the Melbourne, especially in a competitive environment. KPIs are designed to assist management in achieving the goals of an organization. A goal of the Building Team is to ensure the safety and amenity of the residents. Therefore, the KPIs used by Melbourne's Building Team should serve to increase the overall safety and amenity of the City by increasing Team's productivity.

Chapter 3: Methodology

The goals of this project were to provide the City of Melbourne's Building Team with a set of key performance indicators and an implementation plan. The developed KPIs were assessed to determine their value to the Building Team.

This project took place from 15 January 2009 to 5 May 2009. Full implementation of the indicators was not completed during this time frame.

The following objectives and processes were used as milestones in this project:

1. Develop a system to assess the effectiveness of Key Performance Indicators for evaluation and reporting purposes
2. Assess the original KPIs using the developed assessment system
3. Based on this assessment, improve the original KPIs and develop new KPIs and KRIs to support the KPIs
4. Evaluate the improved and the new KPIs using the assessment system to determine their value to the Building Team
5. Provide the Building Team with a prioritized list of KPIs and a plan for implementation

The flowchart in Figure 4 outlines the methods used to achieve the above objectives.

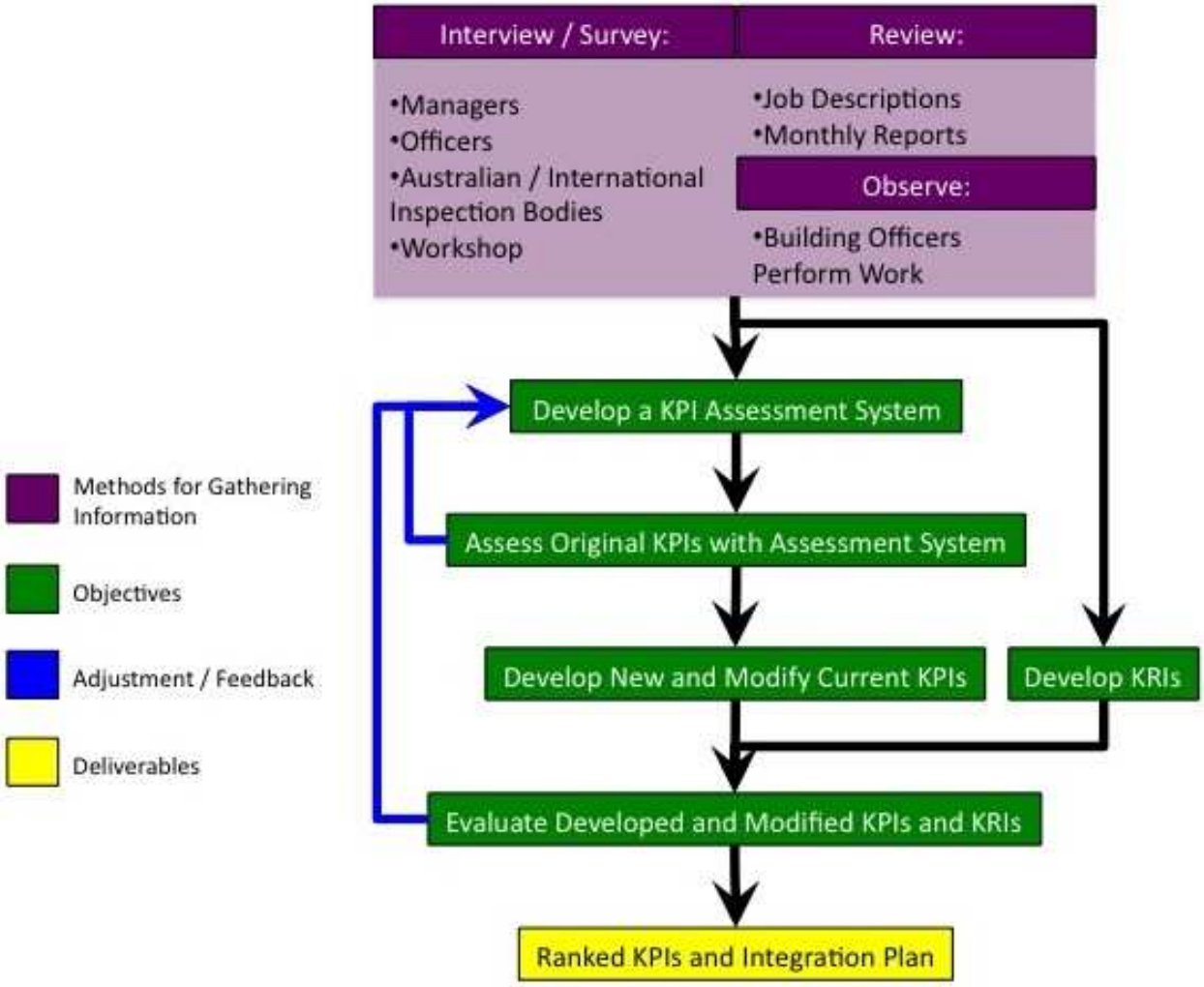

Figure 4 Methodology Flow Chart

3.1 Development of a Key Performance Indicator Assessment System

A KPI assessment system was necessary to provide the deliverables of this project. This system was used in many areas of the methodology. The first was the assessment of the Building Team's original KPIs; the second was the evaluation of developed and modified KPIs. These both have a feedback loop returning to the KPI assessment system. Feedback is described in depth in Section 3.4.1. The assessment system was developed based on the literature review, interviews, surveys, and Building Team internal documents.

3.1.1 Literature Review

There are many options for a KPI assessment system. A system appropriate for this project was derived from Figure 1. From the seven characteristics of successful KPIs, there are four that were the focus:

- Quantitative measurement
- Understanding of the measure
- Action by the Senior Management (Usefulness for reporting)
- Significant Impact

Building Team deemed these four characteristics the main focus; however, all seven characteristics are important for successful KPIs (Warren Knight, Personal Communication 10/2/2009). The development of the assessment system required a large amount of data to be gathered and interpreted by the Project Group. The Sections 3.1.2 and 3.1.3 detail the methods used to gather the information necessary to develop the KPI assessment system.

3.1.2 Review Internal Building Team Documents

Melbourne's Building Team provided many resources for creating the assessment system. These were the monthly performance reports and a KPI Design Template.

Monthly Performance Reports

Monthly reports were reviewed in order to understand how they structure and present information. Reviewing these reports allowed the Project Group to develop KPIs that could be easily integrated into the established reporting procedures. These monthly reports were used to create questions relating to the ease of reporting for the KPIs.

KPI Design Template

The Planning and Building Branch have a preliminary KPI design template. It had questions relating to the goals and objectives of the organization, provoking the Project Group to adopt this idea for the assessment system.

The Project Group compiled data obtained from the survey and internal Building Team documents and used it in conjunction with the characteristics of successful KPIs. These characteristics, tailored to the Building Team's needs, formed the KPI assessment system.

3.2 Assess the Current KPIs

The assessment of the original KPIs provided focal points for modification and development of KPIs. This assessment allowed the Project Group to identify the setbacks with the original performance indicators.

3.2.1 Apply the Developed Assessment System

The Project Group used the assessment to break down and analyze the KPIs according to their strengths and weaknesses. The assessment system questions were answered with as much detail as possible. The assessments are located in Appendix G. This information was used in the improvement of the original and the development of new KPIs. Warren Knight reviewed this, however due to the length, it was primarily for the benefit of the Project Group. This information brought attention to areas that needed improvement and development. The assessments of the KPIs are discussed in Section 4.1.

3.3 Improve Original KPIs and Develop New KPIs

This stage was split into two areas, development of new KPIs and modification of original KPIs. The methods of these two processes were similar. The only significant difference with modifying KPIs was the amount of background information the Project Group possessed. The KPIs were developed using the methods outlined in Section 2.1.1 along with information gathered from surveys, internal documents, observations, and insight from the assessment of the original KPIs.

3.3.1 Utilize the Literature Review

In Section 2.1.1 two methods of developing KPIs were discussed in detail, but were generalized for any organization. The methods in Section 2.1.1 were focused on the mission,

vision, and goals of the Building Team. In Figure 2, the orange boxes indicate critical success factors which must relate to the Building Team's objectives. With specific success factors, the methods described were useful for the Building Team.

3.3.2 Apply Lessons Learned From Assessment of Current KPIs

Determining the reasons why the previous KPIs are unsuccessful was the greatest advantage of the assessment. The Project Group took these shortcomings and attempted to ensure new and improved KPIs were not designed with the same problems.

3.3.3 Review Individual Job Descriptions

The individual job descriptions detail the responsibilities and specific objectives of every member of the Building Team. These job descriptions gave the Project Group a basic understanding of the Building Officers' jobs, the first insight to Building Teams' structure, and responsibilities of the individual groups. This insight helped the Project Group develop KPIs specific to the objectives and responsibilities of the Building Team's Groups.

3.3.4 Survey Building Team Managers and Building Officers

The Building Team managers and Building Officers were surveyed on a variety of topics related to the assessment system. Appendix K details the questions the Project Group asked. Some of the questions refer to the quantifiable aspects of the Building Officers' jobs.

Surveys were conducted through an online survey system, *SurveyMonkey.com*. The surveys were prepared, presented to the management for feedback, and emailed to all the relevant personnel within the Building Team. Approximately twenty-five persons responded to this survey and all of the three groups had some input. The Building Team was given approximately four business days to complete the survey. After that time, the survey was closed and the results analyzed. The survey contained a consent form for the protection of the employees' privacy.

3.3.5 KPI Workshop

The KPI Workshop was set up as an informal roundtable discussion lasting one and a half hours. All members of the Building Team were invited to attend. Seven people attended from the *BCG* and *MCG*. The purpose of the workshop was to have a brainstorming session to get as many ideas for KPIs from the Building Officers (Erik, 2007, n.p.). The Building Officers provided

beneficial insight to measurable responsibilities and ways to overcome complexities of those responsibilities. The Project Group split the workshop into two main discussions, critical success factors, and measurement techniques. This format was chosen to emulate a professional KPI development workshop (Rogers, 2006, n.p.). The ideas generated during this workshop were used extensively in the development of KPIs.

3.3.6 Observe the Building Officers

The Project Group observed the Building Officers on 31 inspections and meetings, attending four with the *CMG*, nine with the *MCG*, and eighteen with the *BCG*. Because the *CMG* perform much of their work in office, asking them specific questions provided much of the necessary information. Observing the Officers perform daily activities allowed the WPI Project Group to identify quantifiable metrics not previously considered and the processes to complete these work units.

In order to ensure information was gathered efficiently during observations, the Group kept detailed notes of each experience. "Before gathering data, the group must have a clear idea of the information that is to be collected" (Lunsford, 2005, p. 155). The results of these observations, discussed in Section 4.3.3, gave the project group knowledge of how the building team operates.

3.3.7 Interview Australian and International Inspection Bodies

The Building Team expressed interest in the evaluation systems of local and international inspection bodies. It was valuable to research the evaluation systems of successful inspection organizations because of the knowledge, experience, and their procedures could be modified to suit the Building Team.

The project group had questions prepared and recorded detailed notes of the interviews (Lunsford, 2005, p. 154). The group searched for information from several developed cities and organizations including Benchmark Building Certifiers, Kansas City, Missouri, USA, Brisbane Certification Group, Atlanta, Georgia, USA, Miami, Florida, USA, Chicago, Illinois, USA, Houspect, New York City, New York, USA, Boston, Massachusetts, USA, San Diego, California, USA, Los Angeles, California, USA, San Francisco, California, USA, London, England, UK, Worcester, Massachusetts, USA, Washington DC, USA, and Stonington Council, Australia. These

locations were chosen based on the city size, building size, and building variety. The project group contacted multiple individuals at each city believing they would provide information valuable to the KPI development process. The persons contacted via email were either human resources personnel or building inspectors. After contacting these sixteen cities or organizations, five responded. They were New York City, New York, Washington DC, Worcester, Massachusetts, Boston, Massachusetts, and Stonington Council, Australia. The information can be found in Appendix O.

3.4 Develop and Assess the KRIs

The development of key result indicators occurred simultaneously with the KPI development process. Using the methods described in Section 2.2, the Project Group developed KPIs that reflected on the end result of a task measured by KPIs. The tasks were chosen during the development and modification of the performance measures, described in Sections 3.3.1 to 3.3.7. With KRIs already in use by the Building Team made development of the measures easier. The KRIs were not assessed using the same process as the KPIs. KRIs were assessed on two main fronts, ease for reporting and compatibility with KPIs. The KRIs needed to be easily integrated into the reporting system while not causing more work for the Building Officers. KRIs are meant to complement KPIs. This was measured by the relevance to the topic and if it would help the reporting of the KPIs. The KRI assessments can be found in Appendix D.

3.5 Assess Improved and Newly Developed KPIs with the Assessment System

The Project Group did not assume the developed KPIs would be successful. The measures were broken down and analyzed to determine specific strengths and weaknesses. This was accomplished using the assessment system developed in Section 3.1. Additional feedback from the Building Team was used to determine if the designed metrics suit the Building Team's needs.

3.5.1 Apply the Assessment System

The assessment system focused on the same criteria as the assessment system used to assess the Building Team's original KPIs. Each KPI was evaluated against every aspect of the assessment system to determine the benefit of each to the Building Team. The results of this assessment system are discussed in Section 4.3.

3.5.2 Apply Feedback

The feedback from both senior management and Building Officers was important during the assessment of the new and modified KPIs. A similar range of inputs from the Building Team provided information for adjustments of the KPIs. The Project Group attempted to receive feedback from the entire Building Team to ensure a wide range of opinions were expressed.

The KPIs were made available to the Building Team and they provided input on the feasibility, benefit to the organization, and on areas the KPIs were lacking. The Project Group altered and improved KPIs using this feedback. Ultimately, the deliverable, a ranked set of key performance indicators, relied on this assessment system and the feedback received on the KPIs.

3.6 Rank the KPIs

One of the final deliverables was a ranked set of key performance indicators. To provide this deliverable the KPIs were examined according to their strengths and weaknesses, put into groups, and labeled according to their status.

3.6.1 Examine the Strengths and Weaknesses of Each KPI

Using the information obtained from Section 3.5, the Project Group examined the KPIs to determine their specific strengths and weaknesses to the Building Team. This process was straightforward because of the assessments and the implementation plan. At this time, the implementation plans for each KPI had not been finalized, however the Project Group was well aware of the abilities of the Pathway database. Knowing that no KPI is perfect, the various measures were formed into groups or clusters.

3.6.2 Grouping and Labeling the KPIs

Grouping and labeling the KPIs made measuring different aspects of the Building Officer's responsibilities easier. Similar KPIs, or measures that looked at similar responsibilities, were grouped into clusters. Individually, the KPIs do not provide the maximum amount of useful information, however when in clusters they provide much detailed information. Once arranged into KPI clusters, the clusters were labeled with one of three phrases:

- Ready for Implementation
- Needs more work before implementation

- This is just an idea and needs to be developed.

Each of these labeled KPI clusters were detailed with either further action for the development or for the implementation plan.

3.7 Implementation Plan for the Ranked KPIs

The primary resources the Project Group consulted when developing the implementation plans were the monthly reports described in Section 3.1.2 and Pathway. The Pathway database is described in the Glossary of Terms. The implementation plan was created based on the current monthly reports and Pathway's capabilities. To determine these capabilities, the Project Group met with the Information Technology Coordinator to attempt to limit the amount of extra work for recording KPIs. If reporting on the measures took too much extra time, the employees would not use nor support the KPIs.

3.7.1 Example Monthly Report

The Executive Officer of the Building Team asked for an example report, which demonstrates a method for the KPIs to be integrated with the current monthly reporting procedures. The Project Group created graphs for each KPI over a period of six months. Actual data obtained from Pathway was not used because the Group were unable to extract and organize past data due to network access limitations. The Group desired to provide the Building Team a structured report to maximize the amount of information that can be derived from the KPIs without having to organize and interpret the data. Therefore, these graphs will be organized in a way that allows the Building Team to easily group and implement into monthly reports. The current monthly reports used by the Building Team were examined to find the best way to implement the KPIs.

3.8 Summary

With the resources obtained throughout the project, the assessment system was created and used to assess original KPIs. The development and modification of KPIs was based off this assessment, observations, and employee feedback. The developed and modified KPIs were assessed again and grouped into clusters, which were labeled depending on the status of the KPI. These KPI clusters and implementation plans were then submitted to the Building

Team. All processes needed constant feedback and to ensure the quality of the deliverable remained high.

The objectives and methods stated were completed in the timeline outlined in Table 1.

Task	Week								
	PQP	16-20 March	23-27 March	30 March – 3 April	6-10 April	13-17 April	20-24 April	27 April – 1 May	4 – 5 May
Gather and Review Information									
Develop a KPI Assessment System									
Assess Current KPIs with Assessment System									
Develop New and Modify Current KPIs									
Assess the Developed and Modified KPIs									
Gather Feedback									
Present Ranked List of KPIs and Implementation Plan									

Table 1 Project Timeline

Chapter 4: Results and Discussion

We did not realize the magnitude of this project until we arrived in Melbourne, Australia. Although we presented the Building Team with their desired deliverables, there is still much work to complete.

The Building Team management desired a set of KPIs ranked to identify their importance. During this project we decided it was more important to develop measures for as many responsibilities of the Building Team as possible. The KPIs should be implemented in an order that reflects which responsibilities are most important. We do not believe this decision is ours to make due to our brief stay and experience with the Team.

We provided the Building Team an implementation plan and instructions to move forward with the deliverables. This chapter details the deliverables and discusses the level of progress made on completing the project objectives.

4.1 Deliverables

The development process yielded KPIs and KRIs for each group within Melbourne's Building Team. These KPIs are a mixture of measurements that attempt to capture the quantity and quality of the Building Officer's work. One of the major goals of this project was to develop a system that accounts for the complexity of work within the Building Team. To attempt to account for the complexity issues faced by the Building Team, the Project Group examined the usefulness of KPI and a weighting system for each group. The KPIs, KRIs, and possible weighting systems are discussed in the next three sections.

Another major goal of this project was to develop KPIs that measure an individual's contribution. Because of the flexibility of Pathway and Microsoft Access, any of the following KPIs can be applied to a group, an individual, or both. It will require significant time and resources to organize a report that presents each KPI for a group and for each employee. The management can decide on the report format after implementation. The detailed documentation pages for the KPIs are located in Appendix A and a brief outline is located in Appendix E.

4.1.1 *Construction Management Group (CMG)* Deliverables

KPIs, KRIs, and Implementation Plan

Three KPI/KRI clusters were developed for the *CMG*. All three are ready for implementation.

Cluster: Proactive Inspections

- [PI 1] % of construction sites proactively checked for compliance with permit conditions of the *CMG* (KPI)
- [PI 2] % of proactive inspections that identified violations (KPI)

Cluster: Construction Site Complaints

- [CSC 1] % of construction sites the *CMG* has issued permits for that result in complaints (KPI)
- [CSC 2] % of complaints against a construction site where the site is operating within permitting conditions (KPI)
- [CSC 3] # of [type] permits issued in one month (KRI)
- [CSC 4] # of sites where the CMG issued permits that have complaints (KRI) (KRI)

Cluster: General Complaints

- [GC 1] % of complaints in one month that included an onsite check (KPI)
- [GC 2] # of sites or locations with reoccurring complaints during one month (KPI)
- [GC 3] Total number of complaints received in one month (KRI)

Each individual KPI has an implementation plan described in Appendix A, Construction Management Group.

Although there is much dispute whether or not the *CMG* should be a proactive or reactive group, we decided to develop KPIs and KRIs that reflect both options. The cluster, Proactive Inspections, contains KPIs that complement each other and are useful in the reporting of that type of inspection. The KPI [PI 1] provides information on the workload of the Building Officers and the percentage of proactive inspections being conducted. The second KPI, [PI 2], looks at the outcome of the proactive inspections. By identifying the number of proactive inspections that find violations, management can justify where the *CMG* should be spending time.

The second cluster, Construction Site Complaints, contains two KPIs and two KRIs. The KPIs, [CSC 1] and [CSC 2] both relate to and give information on complaints against construction

sites and some of the results of those complaints. These are measures of where the *CMG* are spending the majority of their time. They can also be used to determine whether more proactive inspections should be conducted. The two KRIs, [CSC 3] and [CSC 4] both provide background information needed for reporting on the KPIs. This background information will complement the information from the KPIs and makes it easier to determine trends and irregularities. Since these complaints are specific to construction sites, we created a cluster focusing on general complaints.

This third cluster contains two KPIs and one KRI. The KPI, [GC 1], provides insight into ways the Building Officers spend their time when dealing with complaints. If 70% of the complaints during one month required the Building Officer to conduct an onsite inspection, other responsibilities may have lower results. This KPI may provide a rationale reason for this change. The KPI, [GC 2], shows that the Officers may be spending excessive time at a single site. This can be used to focus efforts to a certain site that is having reoccurring complaints rather than sites with little to no complaints. The KRI, [GC 3], provides the background information needed to report on [GC 1] and [GC 2], and helps make the information more understandable. Overall, this cluster indicates where the Building Officer's time is being spent and put the focus on construction sites that have reoccurring complaints.

These three clusters provide good insight and capture the main responsibilities of the *CMG*. However, one of the primary *CMG* jobs is issuing permits. It was difficult to develop a KPI or a set of KPIs that would capture this task. Instead of creating KPIs, we developed a comprehensive weighting system to measure and account for at this responsibility.

Weighting System

A comprehensive weighting system was partially developed and completely outlined by the Project Group for the *CMG*. In order for this weighting system to be as useful as possible we detailed the steps necessary to create and use it.

The weighting system uses three main software programs: Pathway, Microsoft Access, and Microsoft Excel. When issuing a permit, the Building Officers put the following information into Pathway: Building Officer that issued the permit, the type of permit, number of and conditions of the permit, number of letters sent, and number of inspections and meetings

necessary to issue the permit. Pathway then exports all of the data into Microsoft Access, where it can be sorted and queried for use with the weighting system.

Microsoft Access performs many necessary functions before exporting the data into a Microsoft Excel workbook. Every type of permit issued by the *CMG* has specific standard conditions. A condition is a requirement a construction company must satisfy at all times for the permit to be issued. The complexity of issuing a permit is not correlated to the total number of conditions within a permit, but the total number of special conditions. A special condition is one that is not typically associated with that specific type of permit. Every special condition requires extra thought and effort on behalf of the Building Officer. A permit with four standard and two special conditions may require more thought and time to issue than a permit with 15 standard and no special conditions. Microsoft Access is used to identify the standard and special conditions for each type of permit.

Microsoft Access is capable of defining a different weight for each type of permit, each special condition, each type of letter sent, and each inspection performed. An inspection would carry a larger weight than issuing a letter because it takes time to travel to the meeting, discuss issues with the construction company, and come to an agreement. Microsoft Access then adds up the total weights for the type of permit, special conditions, letters, and inspections performed by the Building Officer when issuing each permit.

All this information is then exported into a Microsoft Excel workbook. Appendix B details the data that can be extracted from Microsoft Access. The most important data are the type of permit, the responsible Building Officer, permit type weight, condition weight, letter weight, and inspection weight. The weights are totaled in a column to provide data for the individual weight of each permit. Individually, these weights are meaningless, but when compared to others, they provide information on the relative amounts of work completed by the *CMG*.

This collected information must be manipulated and correlated before it has any meaning. A pivot table is used to break down the permits issued. The rows of the table detail the type of permit; the columns detail the possible weights for each permit. The number of permits with that specific type/weight combination is then put into the table. This gives an

indication of the complexity of a permit by highlighting where the majority of permits are issued by weight.

Tables below the pivot table in Appendix B take advantage of functions within Microsoft Excel to further analyze the data. For each type of permit the average weight, total weight, percentage of the total, and standard deviation is calculated. The average weight is an indication of the complexity of a permit in relation to others. The total weight and its percentage of the total is an indication of the amount of work that was put into issuing those permits with respect to others. The standard deviation is a measure of the variability of cost in issuing permits. A permit with a low standard deviation can be expected to generally require a constant amount of work and resources. A permit type with a large standard deviation indicates that at times the permit may be particularly complex and other times it may require very little effort. When the average weight and the standard deviation are examined together, the manager can ascertain which types of permits require the most work and which can be expected to vary in the amount of required work.

A third table calculates the average weight of the permit issued by a Building Officer and their total contribution. The data are useful because it allows management to examine the average complexity of a permit issued by an Officer and their total contribution. Since Officers are responsible for more than just issuing permits, this table does not quantify their total contribution to the team. The table is useful for examining their performance with respect to permits; the other KPIs detailed in this section examine other Officer responsibilities.

The weights were never defined, only the processes requiring weights. Years of experience are needed to relate responsibilities within any group. While we cannot define the weights, we can suggest processes for developing the weights. Management should apply a weight to every function described above. The weights' magnitude can be arbitrarily assigned, but need to be consistent with the difficulty associated with a specific responsibility. For example, if it is believed that a specific special condition requires twice as much work as another, the weight should be twice as large. Two different types of permits with no special conditions should be weighted differently to represent the average amount of work and thought necessary to issue them. For example, a crane or road occupancy permit should be

weighted more than a simple skips and bins permit. Once management have what they believe are acceptable weights, the weights should be distributed to the *CMG* employees, who can offer input and work with management to refine the weight assignments to reach a consensus. This helps ensure both management and the employees have their opinions heard. It is vital to the success of the weighting system that managers and employees are satisfied with the chosen weights. The chosen weights should be given to the individual responsible for creating the reports. Over time the weights can be easily adjusted as necessary. This weighting system can also be applied to complaints the *CMG* receive.

4.1.2 *Melbourne Certification Group (MCG)* Deliverables

KPIs, KRIs, and Implementation Plan

For the MCG, we developed three KPI/KRI clusters that are ready for implementation and two that need further development.

Cluster: Reports of Consent

- [RC 1] % of approved Report of Consent cases (KPI)
- [RC 2] % of appealed Report of Consent cases won (KPI)
- [RC 3] # of Report of Consent cases requested from the *MCG* (KRI)
- [RC 4] % of rejected Reports of Consent that are appealed (KRI)

Cluster: Permit Quotes

- [PQ 1] % of quotes accepted by construction companies (KPI)
- [PQ 2] % of times the *MCG* provides quotes for major projects within the specified time period (KPI)
- [PQ 3] % of times the *MCG* provides quotes for minor projects within the specified time period (KPI)
- [PQ 4] # of quotes issued over one month (KRI)

Cluster: Permits / Mandatory Inspections

- [PMI 1] # of mandatory inspections per [type] permit quoted versus the actual number (KPI)

- [PMI 2] Institute the following equation when dealing with building permits: # Building Permits = # Certificate of Final Inspection + # Change of Occupancy + # Lapsed Permit Notices (KPI)
- [PMI 3] # of permits issued over one month (KRI)
- [PMI 4] # of Mandatory inspections per [type] permit issued (KRI)

*** Cluster: Cost Neutrality / Market Share**

- [CNMS 1] Change in *MCG's* % of the Market Share (KRI)
- [CNMS 2] Value of work (KRI)
- [CNMS 3] Cost Neutral (KRI)

*** Cluster: Protection Work Notices**

- [PWN 1] Protection Work Notices (KPI)

'*' Indicates the cluster needs more work.

Each individual KPI has a write up and implementation plan in Appendix A, Melbourne Certification Group. The Report of Consent cluster consists of two KPIs and two KRIs. Reports of Consent are one of three major functions of the *MCG*. The general workflow is that the *MCG* receives a report of consent application, which they either approve or deny. If denied, the applicant has the right to appeal the decision to the Building Appeals Board. The [RC 1] KPI is designed to approximate the number of applications accepted so the *MCG* estimate the possible number of appeals. When denying a report of consent, the *MCG* have to justify their decision; this KPI measures the thoroughness of their justification. If this KPI is high, they have to justify less because it is easier to approve a report of consent than to deny it. This KPI measures possible workloads and can be tracked over time to identify trends. The [RC 2] KPI measures appeals won, an indicator of the quality of work. If the *MCG* properly justify their decisions, then appeals should tend to lean in their favor. Combined, these KPIs give an indication of the quality and quantity of work regarding reports of consent. The [RC 3] and [RC 4] KRIs are necessary to understand the amount of work the *MCG* performed.

The second *MCG* cluster consists of three KPIs and a KRI that focus on providing quotes to construction companies. Before construction starts, a construction company will request quotes from various surveying agencies to determine who will supply their permits. The [PQ 1

– PQ 3] KPIs examine the quality of quotes issued by the *MCG*. The time it takes to receive a quote is the first indication of that quality. If the *MCG* are slow to issue quotes, construction companies may not trust them to perform work in a timely manner. Therefore, KPIs were modified from their original state to reflect the percentage of times the *MCG* meet specific goals regarding issuing quotes. A third KPI measuring the percentage of quotes accepted by construction companies was developed to help show the overall quality of work. Trends in this KPI may show if the quality of work is improving or declining. Before this cluster can be implemented, slight changes need to be made to the quote lodgment process. Currently, quotes are lodged within the system when the quote is issued. For this cluster to work, quotes must be lodged when they are initially requested. This will ensure Pathway records the time between the quote lodged time and the quote issued time.

The final KPI cluster ready for implementation focuses on the permitting and mandatory inspections responsibilities of the *MCG*. The *MCG* are responsible for performing the inspections mandated by legislation to ensure construction sites are safe. The number of expected inspections is specified within the quotes issued. However, many times the *MCG* have to perform more inspections than expected to fix problems and ensure that the construction site complies with all the permit requirements. The KPI, [PMI 1], measures the complexity of these mandatory inspections. If this ratio is much greater than 1, it means that Officers are performing more inspections than anticipated. The second KPI was developed to keep track of building permits and ensure that none are forgotten. If the two sides of the equation do not equal, then a permit is unaccounted for within the system. The KRIs within this section provide information on the total number of permits issued and the total number of inspections each permit type requires. This information is useful for managers to quantify the workload of the *MCG*.

The Cost Neutrality and Market Share KPI cluster was not completed due to time constraints. The Building Team already records and reports on the market share of the *MCG* by work and value. This information is necessary to determine if the *MCG* is cost neutral. A KPI that looks at this information in depth may prove useful to the *MCG*. We attempted to develop a measure by studying the change of the market share but found that the information is already

available in reports. More effort is needed to determine what influences the market share of the *MCG* and their cost neutrality to define a meaningful KPI.

The protection work notices cluster is the final aspect of the *MCG* we believe should be measured. *MCG* employees explained that building permits, reports of consent, and protection work notices are the three most important functions of the *MCG*. Unfortunately, no protection work notices were observed. Hence, we did not entirely understand this process. KPIs for this work unit need to be developed to help ensure the *MCG's* work is properly measured.

Weighting System

Due to time and computer system constraints a weighting system was not developed for the *MCG* clusters. However, we detail specific changes that may make the system feasible. The system would encompass the permitting responsibilities of the *MCG* and can be extended to cover report of consent and protection work notices if desired.

The primary problem with the weighting system is the unmeasured permit process. Building Officers must carefully review the drawings and plans attached to a permit application and decide if the building will be compliant with building legislation. This is where the *MCG's* responsibilities can be very complex. Every problem is unique and some buildings may contain many problems while others do not. Currently, Pathway has no means of capturing this variability. We propose that the Pathway system be altered in specific ways to better account for this complexity. Inputting the floor area of the building as well as the number of non-compliances identified with plans will better quantify the complexity. It is possible for Pathway to record a correspondence or a letter generated when an Officer identifies changes to be made before a permit can be issued. If the number of non-compliances, which caused this request, were recorded, then complexity could be better accounted for within the permitting process. Building Officers should also utilize Pathway's correspondence recording capabilities more often to account for complications within negotiation phases.

These changes would result in a weighting system that can track complexities within building permits similar to the weighting system developed for the *CMG*. This system can be created in Microsoft Excel using Pathway and Microsoft Access. Weights would be applied to each permit type, correspondences, letters, non-compliances, and inspections. (For example,

five identified non-compliances, each with a weight of 10, would yield a total weight of 50.) A calculation can also be performed which turns floor area into a weight by dividing total floor area by a specific constant. For each permit issued, the total weights of all of these factors would be recorded.

The following correlations should be tracked over time to identify any trends:

- Permit type vs. Average weight
- Total weight of each permit, by percentage of the total weight of all permits
- Average weight vs. Total number of non-compliances for a permit (this should account for multiple requests for changes)
- Average weight vs. Total floor area

This information is useful because it enables the *MCG* to identify exactly how complexity arises and quantify which permit types require the most work. Each building permit type should also have the standard deviation calculated to show its expected variation in complexity.

The weighting system can also be used to calculate the total contribution of each *MCG* employee to the permitting process. It can be expanded later to include report of consent functions as well as protection work notices to better quantify an employees' contribution to the team.

The weights should be developed in a manner identical to the *CMG's* weighting system. Every employee and manager should be able to voice their opinions on specific processes that relate to each other. Once the weights are decided, they can be changed and altered as necessary by the Building Team.

4.1.3 *Building Control Group (BCG)* Deliverables

KPIs, KRIs, and Implementation Plan

Below are the KPI clusters for the *Building Control Group*. An Excel spreadsheet defining each KPI can be found in Appendix A, Building Control Group.

Cluster: Complaint Response:

- [CR 1] Ratio of complaints resolved (KPI)
- [CR 2] Customer Service - % of complaints acknowledged with a specified time frame (KPI)

- {CR 3] Ratio of total # of complaints received to the square meter floor area of the City of Melbourne (KRI)

Cluster: Complaint Inspections:

- [CI 1] Ratio of complaint inspections to complaints (KPI)
- [CI 2] Ratio of complaint inspections to the number of complaints that required an inspection (KPI)
- [CI 3] % of complaints during one month that included an onsite check (KPI)

Cluster: Building Notices and Orders:

- [BNO 1] # of building notices opened versus # of building notices closed within the last 12 months (KPI)
- [BNO 2] # of building orders opened versus # of building orders closed within the last 12 months (KPI)
- [BNO 3] # of building notices that turn into building orders (KPI)

Cluster: High and Low Risk Response Time:

- [HRLR 1] % of emergencies received by the *BCG* responded to within two hours (KPI)
- [HRLR 2] % of low risk complaints received by the *BCG* responded to within 14 days (KPI)
- [HRLR 3] % of high-risk complaints received by the *BCG* responded to within two days (KPI)

*** Cluster: Temporary Structures:**

- [TS 1] POPEs- # of inspections per permit with relation to the size of the permit (KPI)
- [TS 2] TOPs- Same as the POPEs KPI (KPI)

'*' Indicates the cluster needs more work.

The complaint response cluster is comprised of two KPIs and one KRI. The [CR 1] KPI is an indicator of the ratio of complaints that are still active to the complaints that are closed (require no further action). This serves as a measure of the complexity of complaints received and the manner in which they are addressed. The Customer Service KPI encourages a prompt

response to the person lodging a complaint. This may be as simple as a phone call confirming the receipt of the complaint and intent to address the situation. The KRI that compares the total number of complaints to the overall coverage area complements the KPIs. For example, if there are a larger number of complaints opened than closed or the Building Officers have not responded to the persons who have complained, it may be due to an increased number of complaints. This complaint increase may a result of the City of Melbourne's building floor area, and can be found with the help of this KRI.

The Complaint Inspection cluster measures the workload of complaints. Since not all complaints require an inspection, the first metric shows the ratio of inspections (pertaining to complaints) to the total number of complaints, or which complaint merits an inspection. It also may bring to light the complexity of the complaints being received. The number of inspections per complaint fluctuates. To address this issue, the second KPI, [CR 2], looks at a ratio of the total number of inspections (pertaining to complaints) over the total number of complaints that required at least one inspection. This gives an average number of inspections the Officer performed per complaint that merited an inspection. During the course of a month this may also fluctuate. The third KPI looks at the percentage of complaints that require an onsite check in a month's time. This gives insight into where the Building Officers are spending their time. An increase in onsite checks may increase paperwork in the office.

The inspections generally produce paperwork such as building notices and building orders. The Building Notices and Orders cluster examines the ability to complete these tasks. The first KPI, [BNO 1], compares the number of Building Notices opened to the number of notices closed in a twelve-month period. This may show the status of the Building Officers' work both individually and collectively in the *BCG*. Closing notices varies in difficulty and this can be inferred with this KPI. These notices regularly carry over into building orders. The second KPI, [BNO 2], measures building orders in the same fashion. Again, this KPI may be used to demonstrate the progress individually or in the group. To be thorough with the analysis, a measure of the number of notices upgraded to orders was created, [BNO 3]. This looks into enforcement and bridges the gap between the notices and orders issued.

The High and Low Risk Response KPI cluster changed little during the project. The two problems found were the loosely defined term 'respond' and the method of measuring and reporting. Many of the Officers interpreted 'respond' differently. To clarify this we use the definition of respond as 'either attending the site in question or determining the correct course of action if not a site visit.' These KPIs help ensure action is being taken within an appropriate timeframe and raise awareness of the *BCG's* ability to carry out its duty to protect the public.

The Temporary Structure KPIs were based on ideas brought about during the workshop. They pertain to the Places of Public Entertainment (POPE) and Temporary Occupancy Permits (TOPs). The annual consistency of festivals and public celebrations in Melbourne make the POPEs and TOPs an opportunity to measure the work involved. Consideration as to the number of inspections per permit was a potential KPI to measure both POPEs and TOPs. We did not have the time to define KPIs for these tasks. For these tasks, the KPIs may be based on the floor area of the temporary structures, the number of temporary structures, and the expected number of people at an event. More work is needed for these KPIs to be successful.

Weighting System

A weighting system for the *BCG* is difficult, yet possible. We were developing the system to account for complaints and building audits in a similar fashion to the *CMG* weighting system. Namely, Pathway would record all of the necessary data, which would be sent to Microsoft Access to be sorted and applied to an Excel spreadsheet where the data can be manipulated. Pathway has the capabilities to record the following responsibilities and characteristics that would be applied to the weighting system:

- Lodgment (Complaint, High Risk Building Audit, etc...)
- Complaint inspection type (Re-inspection, fences, structural integrity, etc...)
- Urgency (low, high emergency)
- Cause Category (reason for complaint)
- Letters
- Responsible Building Officer

The system is more complex and records many more actions than those present in the *CMG* weighting system. Unfortunately, this does not cover enough of the Building Officer's

responsibilities to properly correlate a weighting system. After many discussions with the *BCG* and feedback from the workshop, it was clear the negotiations and research are not currently measured.

Negotiations are capable of being recorded in Pathway. For example, if explaining legislation and requirements to a building owner after issuing a building notice was necessary, the phone conversation can be recorded within Pathway as a correspondence. The downside is this takes time and effort from the Building Officers and currently much of the negotiation process is not recorded. In order for a weighting system to truly capture a Building Officer's contribution to the *BCG,* they must be willing to record the important phone conversations and correspondences they have with building owners.

Research is another area of the Building Officers job that undermines a potential weighting system. At some point in the process, the Building Officer must find floor plans, past permits, and any other documentation necessary to understand the history of the building. Unfortunately, the complexity varies almost randomly. Sometimes, it takes the Building Officer a few days to find the necessary information, and other times only a few hours. Many Building Officers agree that the size, type, or age of the building has no effect on the amount of time and effort must be spent on the research process.

Therefore, a weighting system is inherently lacking in information. Weights will be skewed because the research and negotiation phases do not easily correlate with anything that Pathway records. Negotiations rely on a building manager and his or her willingness to comply and listen to the Building Officer; negotiation can take hours or days for any building.

Pathway should be utilized more frequently to record correspondences. This would help the weighting system truly reflect the Building Officer's contribution because it may be possible to measure the amount of work spent negotiating with building owners.

A process change within the Building Team may overcome the research challenge by allowing the Building Officers to perform the more quantifiable aspects of their responsibilities. If a Building Officer was able to request the information from the support team they could start work on other complaints or audits while waiting for the necessary information. In this manner

work is being done and measured within Pathway by the Building Officer while the necessary research is no longer their responsibility.

The Building Team will also need to modify Pathway for optimal data analysis. Pathway should be able to record the general type of building inspected, such as a bar, nightclub, department store, high-rise apartment, backpacker's hostel, and other typical buildings. When a building notice or order is issued, it should be possible to enter into Pathway the number or type of non-compliances with the legislation identified. It would also benefit the Building Team to break up non-compliance into general categories such as fire extinguisher, egress, sprinkler system, handrails, and others. Each of these categories can have a weight applied in Microsoft Access. The rationale for recording these items is discussed below.

The *BCG* weighting system can theoretically operate in a similar fashion to the *CMG's* weighting system. For every complaint and audit a total weight can be calculated. Many correlations would then be possible by combining all of the ideal changes discussed above. The most useful correlations to the Building Team are described below:

- For each type of Building - Reasons for complaint (percent calculated for each reason)
- For each type of Building - Types of non-compliance identified (reason for breaking up non-compliance into general categories, calculate the percentage of each category)
- For each type of building - Average weight and the standard deviation
- For each type of complaint - Average weight and the standard deviation
- For each Building Officer - Total contribution to the *BCG* by weight

These data may prove extremely powerful for the *BCG*. By identifying the type of building inspected and the types of problems identified managers can identify buildings that require more resources to handle than others. Additionally, managers can identify complaints that typically require more resources. This implies they will be better prepared for a complaint investigation or building audit. The *BCG* may also be able to approximate expected work by examining current building trends and identifying the type of inspections they will be performing in the future. Calculating each Building Officer's contribution to the *BCG* will also

prove useful for identifying and rewarding officers who successfully completed a heavy workload in a particular time period.

4.1.4 Example Monthly Report

Upon the request of the Executive Officer, we developed an example report to demonstrate the implementation of the KPIs. Current monthly reports were analyzed and we decided to arrange the example report so the new information is presented in an already familiar format. The values used in the calculations were arbitrarily assigned, making the data meaningless, but the process informative. The graphs of the KPIs allowed for easy visual analysis. Trends and irregularities can be identified on one graph and justified by another. For instance, if the number of complaints decreases, one would expect an increase in productivity in another area. If not, comments may be made, such as "The decrease in complaints rendered no increase in productivity due to the complexity of complaints received." The graphs, located in Appendix C, will be more informative if the trends and irregularities are analyzed and addressed with notation.

4.2 Assessment of the Building Team's Original KPIs

The Building Team's original KPIs were assessed in greater detail that initially expected because of our changes to the assessment system. The system was formed from a combination of the resources described in the literature review and the KPI design template provided by the City of Melbourne. The assessments can be found in Appendix G. The original KPIs have specific and similar problems that can be attributed to the development approach.

An overlying problem with the majority of the original KPIs was the lack of specificity. For example, the KPI "ensure high-risk complaints received by the *BCG* are responded to within two days" leaves the word 'respond' undefined. The interpretation ranges from a site visit by the Building Officer to the first point of contact via phone. Discrepancies of this type cause inaccuracies during reporting. The Building Officer may contact the person lodging the complaint by phone, but not inspect the property until more than two days later. With this definition, it still can be recorded as response within two days because of the phone call.

Another problem that arose was the differing opinions of the Building Officers and the management. Views differ greatly for this KPI: "5% of the construction management sites

checked on site for compliance with permit conditions by the *Construction Management Group*." The management favors this metric to enforce regulatory compliance with proactive inspections. The Building Officers felt this KPI was a small part of their daily activities. They also consider the *CMG* a reactive group rather than a proactive group. Inspections checking for compliance would be considered proactive and a complaint-based inspection would be reactive. This KPI also does not capture the quality of inspection or the events that occurred on the site, which ties back to the problems with specificity.

Overall, certain KPIs will remain in place. The Body Corporate of the City of Melbourne requires that high-risk and low-risk complaint response times be recorded. Therefore, the KPIs pertaining to these types of complaints will be retained. The remaining KPIs are not used extensively in the current reporting systems because they do not add significant value. We took this information and did our best to ensure that new KPIs were not designed with the same problems.

4.3 Development and Modification of KPIs and KRIs

The development of new and the modification of the original KPIs was the longest stage of the project. The KPIs and KRIs we developed before receiving feedback from the Building Team are located in Appendix F. Originally, we did not plan to create key result indicators; however, we felt the result measures helped justify and complement the KPIs. With this, we developed a set of KPIs and KRIs for each of the groups (*CMG*, *MCG*, *BCG*) within the Building Team. Each of these KPIs had an assessment to define the measure, identify its strengths and weaknesses, and to see if there were any other comments on the measure. This allowed the Building Team to better give us feedback on the measures.

4.3.1 Developed KPIs and KRIs

The measures for each group capture what we believe are the most important aspects of their jobs. The construction sites the *Construction Management Group* are directly responsible for were a large focus for that group. With this in mind, we developed KPIs and KRIs that measured complaints, permits, and other aspects of those construction sites that directly relate to the *CMG's* performance. These KPIs and KRIs are located in Appendix A.

The *Melbourne Certification Group* have three main tasks: Reports of Consent, Protection Work Notices, and Permits. We developed KPIs and KRIs for all those tasks except for the Protection Work Notices. These measures should be joined with two of the original Building Team KPIs.

The *Building Control Group* are arguably the most complex group within the Building Team. The majority of the *BCG* responsibilities relate to research and background information for a new or renovated building, which is not easily quantifiable. We steered away from time based performance indicators because of this fact. Instead we focused on the building notices, orders, and complaints the *BCG* handle, specifically the ones that are opened versus closed. The reasoning for this is explained in Section 4.2.2. The KPIs and KRIs for the *BCG* are located in Appendix A.

4.3.2 Modified KPIs

While developing new KPIs we also modified the Building Team's original KPIs. The Building Team had seven KPIs to attempt to capture the complex workload of all three groups. After completing the assessments, we found these KPIs to be insufficient for the Team's needs. We did not scrap these KPIs; we modified them to be used in conjunction with the KPIs we developed. Of the seven, we modified six. The two KPIs focusing on quote times for the *MCG* were kept. We felt that if used with the developed KPIs, these measures would provide a good view of the *MCG's* competitiveness.

Three of the Team's KPIs revolved around response times for *BCG* complaints. The KPI assessment showed that these had two major problems, the definition of response and ambiguity in measurement. To modify them, we clearly defined response (see Glossary of Terms) and specified the reporting method.

The sixth KPI, "5% of construction management permits checked for compliance with permit conditions of the *CMG*," has received much debate and was discussed in Section 4.2. To accommodate both opinions, we kept this KPI to measure proactive processes and developed KPIs to measure the reactive processes of the group. The Building Team's original KPIs that we modified or recommend to keeping are in Appendix A.

As stated in the methodology, the main sources of information for developing these KPIs and KRIs were shadowing, the survey, the workshop, and other inspection organizations.

4.3.3 Shadowing

From observing the daily activities of the Building Officers we were able to understand the complexities involved in creating quantifiable KPIs. The *BCG*, *MCG*, and *CMG* each have a similarity between their varying tasks: irregularity. The inspections, as seen in the log in Appendix I, show the problems encountered with different buildings. It was common for the inspection to take longer than predicted for various reasons, including non-compliance with the Building Code of Australia, fire hazards, and waiting for the tenants or landlords.

The *Building Control Group* deal with frequent complaints and we attended many of these inspections. These complaint inspections ranged in urgency. One complaint involved dangerous undermining of the neighbors footing foundation and another involved a realtor's advertisement sign overhanging the footpath. Both require a standard building order, but the amount of work needed to complete the order differed greatly.

One project group member also attended a building audit of a backpacker's hostel, due to a complaint. The inspection found that the fire alarm system had been turned off. The audit uncovered several non-compliances and contraventions of building regulations. This became a massive job with multiple lengthy inspections and a building notice that took more than 40 hours to complete. As of 5 May 2009, the job is still yet to be finished and is predicted to take much longer before it is closed.

The *Melbourne Certification Group* perform the mandatory inspections for construction projects. One particular site was expected to take ten minutes to inspect and issue a permit, but revealed itself as a larger problem. The Building Officer went to inspect the rebar for the foundation of a ramp. There were small problems that could be fixed quickly had someone been present at the site. Since no one was present, the site could not be fixed and the permit was not signed for compliance. The Building Officer was then required to write a formal report asking the builder to fix these problems with the foundation. A second inspection was required before the permit could be signed for compliance.

Another example was a concrete slab that was poured without a permit. The builder claimed that pictures were taken of the resolved problems and sent to the engineer. If the Building Team does not receive documentation confirming this, the Officer will be required to take formal action, which may include having the concrete slab removed and redone. We saw these examples as a good illustration of the complexities that make quantifying these data difficult.

The *Construction Management Group* are involved in both reactive and proactive inspections of sites, with the majority being reactive in nature. One such reactive inspection was a complaint regarding illegal parking by the construction workers. The workers had also been intimidating the Traffic Officers. The Building Officer threatened to retract the construction permit if the problem persisted.

On a proactive site inspection, after a permit is issued, the Building Officer checks for compliance with that permit. An instance of a proactive inspection was a small demolition site where parts of a church were being removed. The Building Officer inspected the site and found everything to be in order. He spoke of the difficulty to check sites regularly because of the workload. He said that time is not always available to perform these proactive inspections, which fall under the KPI, "5% of construction management permits checked on site for compliance."

From observations of the three groups within the Building Team, we gained a greater understanding of their everyday activities. We focused on those that consumed most of their time. These were the beginnings of KPIs that looked at the overall job performance and the outcomes. Much of the information used as the basis of KPIs was gained through conversations with and direct questions to the Building Officers while on these inspections. Another technique for extracting information was a survey.

4.3.4 KPI Survey

The survey of the Building Team was an attempt to provide detailed insight into the important functions of the Team; however, the responses were generally vague. It contained questions pertaining to the responsibilities and contributions of each officer. When Officers from each group were asked 'what [they] believe is the most important aspects of their jobs',

the most popular response related directly to public safety. Unfortunately, it is very difficult measure the level of safety. The survey results did not provide specific details that could be measured, but it did provide a scope of the Building Team's perspective of responsibility. In hindsight, the survey should have been more specific to counter vague responses. The survey, however, did provide useful starting points for the KPI Workshop discussions.

4.3.5 KPI Workshop

The workshop provided ideas that directly applied to KPIs for the Building Team. The workshop was set up to serve two functions: identify specific tasks and responsibilities that reflect the Building Team's workload and brainstorm methods of measuring that workload. The original workshop outline had the participants break into three groups (*BCG*, *MCG*, and *CMG*) to focus the discussion on the specific functions of each group. However, with only seven people attending, a less formal 'roundtable' style discussion was used and provided eye-opening results. The notes from the KPI Workshop are found in Appendix M.

Even though the *Construction Management Group* were not able to have a representative at the workshop, the Building Officers present shared their opinions on the important aspects of the *CMG*. The general consensus was that it is important to measure the *CMG's* inspections and the permits services and to measure these through Pathway. The *CMG* uses this system extensively.

The *Melbourne Certification Group* discussion yielded a variety of work duties that should be reflected in KPIs. The *MCG* Officers spend most of their time on three major assignments: issuing building permits, reports of consent, and protection work notices. The measurement of these functions was an issue. The Pathway database keeps records of all these functions, but currently is not able to report on the scope of the work. Discussions consume much of the *MCG's* time, but are not easily measured. Pathway was the primary reporting tool discussed.

The *Building Control Group* proved to be the most complex. Their attendees agreed the most important responsibilities to measure were high-risk building audits and responses to complaints. The complexity arose when determining the metrics for this workload. Building Officers felt that Pathway is ineffective in measuring the workload because it does not account

for any time spent on background research, which includes finding detailed floor plans of the building, finding and examining past permits, and the general history of the building. We came to the realization that the type of building or inspection performed does not correlate to the amount of time to research the necessary background information.

When considering KPIs for the *BCG*, an important responsibility is to ensure that building notices and orders are completed (closed). The number of backlogged building notices and orders is becoming a problem for the group. Therefore, a KPI was suggested that measures the number of closed cases to number of opened cases. Closing notices and orders are complicated because of interactions with the building owners. Some building owners are more cooperative than others. The KPI will be measured over a long period of time to counter this issue. Time is not used as a basis for the measurement because an Officer follows the same processes when closing a case regardless of the number of issues. A ratio of cases opened to cases closed will supply an overall measure of the *Building Control Group's* performance.

4.3.6 Contact with other Inspection Organizations

Contacting other inspection organizations was not as useful as originally expected. We contacted sixteen organizations and only received responses from five. The majority of contact with these organizations was through email, with the exception of one interview. All organizations that responded allowed us to use their comments in this report. While each of these places has an evaluation process, none were directly applicable to the Building Team's situation. These processes ranged from review and training inspections to having the employees set goals to remain self-motivated. None of the organizations that responded used key performance indicators, or had a system similar to that which we were developing. We concluded these contacts were not as helpful as previously expected due to the size, variety, and complexity of Melbourne. The details of the information we received are found in Appendix O. Although this information was not directly applicable to the Building Team, we developed a few ideas, not related to KPIs that will benefit the Team.

4.3.7 Social Implications of Developing KPIs

During the course of the project, several differences in points of view regarding KPIs were encountered. These measures are directly related to the work the Building Officers

perform and therefore are approached differently by the individual Officers and the management. One example is found within the *CMG*. As previously discussed, managers and employees disagree whether proactive inspections are an efficient use of time.

Some Building Officers of the *Construction Management Group* support the proactive attributes the KPI emphasizes. They believe it is important for the recipients of permits to stay within regulations and for the *CMG* to command a level of authority. It was said that with enforcement the customers are more likely to stay within their permit boundaries. The management view enforcement as a way to maintain credibility. Other employees believe a reactive posture is more appropriate. Instead of loosing valuable time inspecting compliant construction sites, the group should focus on reacting better to and resolving complaints or other issues. These differences in opinion throughout the group can affect the willingness to report on the data.

Some of the Building Officers come from smaller, private inspection organizations. One Officer spoke of the private organization as a more "dynamic body," a reference to the flow of work with fewer interruptions. For the City of Melbourne's Building Team, complaints constantly interrupt the flow of work. The difference in background may affect the perception of the KPIs, but the impact of these differences is tough to predict. These issues can be addressed during implementation.

4.4 Assessment of the Developed and Modified KPIs and KRIs

The next step towards the deliverable was assessing the KPIs and the KRIs. These two indicators required two different assessment systems. The KPIs were assessed using a similar KPI assessment form as the Building Team's original KPIs. We removed the questions regarding employee views because their feedback was present during the entire development process. Although this format was repetitive at times, it gave us insight into ways to implement the KPIs. The KRIs were assessed on two subjects.

4.4.1 Assessment of Developed and Modified KPIs

To keep consistency throughout the process, all KPIs were assessed using the same system created in the early stages of the project with the exception of the questions regarding the employee and public views. These assessments can be found in Appendix D. Keeping the

questions from the assessment system in mind proved to be beneficial when developing new KPIs. It helped focus them on the overall desires of the Building Team.

The system identified the KPIs that should be paired together when reported. The combinations complement each other by providing more information than an individual KPI.

- # of building notices opened versus # of building notices closed within the last 12 months (KPI)
- # of building orders opened versus # of building orders closed within the last 12 months (KPI)

The above KPIs are best used together because some building notices require a follow-up building order and some do not. These are intertwined due to the processes the Building Officers must use. If just the KPI pertaining to notices was used, it would not take into account the work required for the building orders that may follow.

Some of the original KPIs used by the Building Team were reworded to help with the overall understanding. In the assessment, 'understandable' was the first heading that brought attention to the KPI comprehensiveness. Another problem uncovered with the original KPIs was the interpretation of certain words. The term 'respond' had different meanings between officers. This was identified as a problem and required a definition.

- *Percentage of high-risk complaints received by the BCG responded to within 2 days*

The above KPI demonstrates the problem. The Executive Officer interprets "respond" as the point at which the Building officer inspects a site or decides that no inspection is required. This particular KPI will remain in place due to its value to the Body Corporate of the City of Melbourne.

4.4.2 Assessment of Developed KRIs

The key result indicators were assessed on their ease for reporting and if they complement the KPIs. The result indicators were assessed after the performance indicators were finalized. A majority of the KRIs developed can be easily integrated into the reporting system for two reasons. One is that a majority of the KRIs are already reported; the other reason is that the KRIs are just outcomes. These outcomes, recorded by Pathway, simply need

to be manipulated to provide useful data. After assessing the KRIs, it was a lot easier to determine the best scheme for grouping the KPIs and KRIs.

Chapter 5: Conclusions and Recommendations

We concluded that KPIs are a meaningful tool for the Building Team, but they cannot be expected to quantify every aspect of the Team's performance. Possibilities for future WPI projects were also identified which may prove useful to the Building Team and the elected Council of the City of Melbourne.

5.1 Project Conclusion

We believe the developed KPIs will benefit the Building Team. The measures reflect the most important aspects of each group's responsibilities and are designed in a way to measure the quality and quantity of work and not just the end result.

It is important to understand that these KPIs will not measure every aspect of the Building Team's responsibilities nor will they always apply to a particular process. The work performed by each group within the Building Team is variable and special circumstances can arise at any moment. For every responsibility measured by these KPIs, there will occasionally be a work unit that requires the Building Officer to perform a function that is not measurable. This does not invalidate the KPI. However, it does mean that a KPI cannot reflect every aspect of the responsibilities and complexities within the Building Team. This is the primary reason comments should accompany every KPI when reported. It is important to explain why trends were noticed or broken because numbers may not reflect the full scope of work being performed by the Building Team.

Many of the KPIs indirectly reflect on different complexities within the Building Team. Unfortunately, these are immeasurable by nature. Complexities arise because a Building Officer often has to perform an unusual amount of research or negotiation when working through a permit or building audit. We believe the best way to quantify complexity is to use the weighting systems. These systems will not quantify the total contribution of a Building Officer; however, they can be used to explore correlations between complexity, building variation, and other issues. We believe a weighting system with properly defined weights can be used as a tool to predict the resources required to perform future work.

5.2 Personal project reflections

Each of us feel that this experience working with Melbourne's Building Team was fantastic. Traditionally, an Interactive Qualifying Project provides students with valuable team and leadership experience. Working in a group to solve a common problem requires more than just technical skills. Every member must learn to communicate and compromise effectively. The WPI Plan exists to ensure students leave the institution with experience in these skills that are crucial to succeeding in any technical field.

The benefit of this particular project is that we gained all of that experience and more. It is a rare opportunity for students to work in an office setting and develop managerial and business skills when studying for an engineering degree. The process of identifying the most important responsibilities of an employee and creating metrics that reflect performance within this environment is a skill that can be applied to many professional situations.

5.3 Recommendations for Future Work

This IQP identified many possible future projects the Melbourne City Council may be interested in pursuing.

The Building Team may benefit from a WPI group focusing on evaluating the effectiveness of the KPIs and weighting systems we developed because they were not implemented during our stay. A future project may be to examine the KPIs after they have been applied and determine if they provide the expected results and show beneficial trends. Future groups can evaluate their usefulness in quantifying performance and estimating the resources necessary to handle upcoming work.

Two projects within the Building Team that may benefit from a WPI Group are the high-risk building database for the *BCG* and an electronic submission process for building permits. The high-risk building database is on ongoing research project attempting to better define and identify high-risk buildings within the City of Melbourne. This database is currently a simple list of any building within the municipality where large numbers of people may gather. The problem with this definition is that many buildings on the list are really not a high risk to public safety. Shadowing Building Officers on these high-risk building audits revealed several instances of bars that were properly maintained and never attracted large crowds. Including

these type of bars like this on the high risk building database results in resources being consumed inefficiently; the Building Officer's time would have been better spent elsewhere. A WPI Project Group will benefit the Building Team by conducting research into what factors contribute to risk and developing a plan to identify the true high-risk buildings within the city. A project group will be able to focus all of their resources and energy on the research rather than requiring employees within the Building Team to take time out of their days to work on this task.

The Building Team is currently exploring an electronic submission process for building permits. At the moment applications are received in paper format. This requires the Team to store the documents in paper format and causes wait times for document transfer. Electronic submission will speed up the permitting process and will be enticing to construction companies. A WPI Project group can be beneficial by examining the impacts of such a system and identifying components needed to make the process efficient. The group could investigate laws and regulations regarding electronic forms and websites.

Council can make further use of the WPI IGSD by hosting IQPs to develop KPIs for other branches. Council has many more employees and responsibilities than just those within the Building Team. Other groups experiencing difficulty developing and using meaningful KPIs may benefit from a WPI Project Team.

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Glossary of Terms

As defined by the Building Team:

1. **Amenity**: The quality of the living and working environment. This includes noise, dust, rubbish, mud and any impact these or other factors may have on services.
2. **Building Audit**: The act of inspecting a structure for safety and amenity. A common building audit examines fire safety, egresses, handicap accessibility, and general safety measures such as handrails.
3. **Council (**Body Corporate of the City of Melbourne): The City of Melbourne Council is the local government for the city. Similar to the city or town governments in the USA.
4. **Deregulated Permitting and Certification Environment**: Construction companies in the City of Melbourne have the option of obtaining building and construction permits from Melbourne's Building Team or a private permitting agency.
5. **Hummingbird**: This is the internal documentation system. Documents are labeled according to the author, date, branch, title, and many other areas. These can all be searched using the programs available on the network.
6. **Inter Plan**: Web based reporting system used by all branches within Council. KPIs for all groups are reported here for the Council to review.
7. **Letter**: Letters are correspondences between the Building Team and other companies or bodies. These letters can be notices, requests for further information, permits, as well as many other types of documents.
8. **Pathway**: Database used by Melbourne's Building Team to keep records of permits, inspections, and all other major responsibilities within the team.
9. **Response:** Response is defined as either attending the site in question or determining the correct course of action if not a site visit.
10. **Safety**: Being free from risk of injury. This includes different hazards and the impacts of those hazards.
11. **Special Condition**: A responsibility that a construction company is responsible for following specifically identified on a perm it issued by the *CMG*. A Special condition is any condition

on a permit that is not typically associated with that specific type of permit. A special condition arises because of unique circumstances associated with various construction sites.

12. **Standard Condition**: A responsibility that a construction company is responsible for following specifically identified on a permit issued by the *CMG*. A specific permit will have standard conditions that are almost always issued with the permit; these standard conditions vary from permit type to permit type.

Appendix A: Final KPIs and KRIs with Implementation Plans

Construction Management Group

Cluster: Proactive Inspections

- [PI 1] % of construction sites proactively checked for compliance with permit conditions of the *CMG* (KPI)
- [PI 2] % of proactive inspections that identified violations (KPI)

Cluster: Construction Site Complaints

- [CSC 1] % of construction sites the *CMG* has issued permits for that result in complaints (KPI)
- [CSC 2] % of complaints against a construction site where the site is operating within permitting conditions (KPI)
- [CSC 3] # of [type] permits issued in one month (KRI)
- [CSC 4] # of sites where the CMG issued permits that have complaints (KRI) (KRI)

Cluster: General Complaints

- [GC 1] % of complaints in one month that included an onsite check (KPI)
- [GC 2] # of sites or locations with reoccurring complaints during one month (KPI)
- [GC 3] Total number of complaints received in one month (KRI)

KPI: % of complaints in one month that included an onsite check.

I. Definition

$$\frac{\text{Complaints that required an onsite check (No multiples)}}{\text{Total number of complaints}}$$

*No Multiples: Complaints that result in multiple inspections are still counted as '1' for the numerator.

II. Reason for Measure

This KPI examines the number of complaints the *CMG* must leave the office to investigate. Leaving the office requires more time than dealing with a complaint over the phone.

III. Implementation

This KPI is to be measured using Pathway, which is capable of identifying the number of inspections performed for each complaint lodged. Any complaint with at least one inspection should be placed in the numerator in this calculation.

The data should be graphed monthly to identify trends either seasonally or yearly. It is possible that the types of complaint received by the *CMG* change depending on the month. It may be possible to predict the percentage of complaints that are expected to require an onsite check in a particular month or season.

This KPI should be accompanied with comments from the managers. Relating this measure to others and discussing the trends or unexpected results allows for more thorough usage.

It can be implemented into the monthly Building Progress Reports as well as graphed over time within Interplan.

IV. Cluster:

General Complaints

KPI: # of sites or locations with reoccurring complaints during one month.

I. Definition

The total number of sites that have reoccurring complaints

If in the span on one month's time a site has multiple complaints lodged against it then it is accounted for within this KPI.

II. Reason for Measure

This KPI should be used by managers as an indication of the effectiveness Building Officers' abilities to resolve issues and inform construction companies of their responsibilities.

When a complaint is received the Officer should take steps to ensure that future complaints are not lodged against a site. This involves instituting fines, warnings, and other sanctions designed to enforce permitting conditions.

This KPI can identify problem sites that require more work. An Officer cannot force a construction company to be perfect or the public to stop complaining, however the measure can be used to identify construction sites that are expected to require more work.

III. Implementation

This KPI should be measured using Pathway. The location of a complaint is recorded in Pathway. When the reports are generated a query should be made within Microsoft Access to identify the number of sites that have received multiple complaints over a specified timeframe.

Because the *CMG* is responsible for dealing with complaints for all construction sites, this KPI should reflect every site within the municipality.

This KPI may be used in the monthly Building Progress Report as well as the Interplan reports as a graph which can be extended over time. In both cases it should be accompanied with comments discussing this KPI and the possible trends.

IV. Cluster

General Complaints

KPI: % proactive inspections that identified violations.

I. Definition

$$\frac{\#\text{ Proactive inspections with violations}}{\text{Total \# proactive inspections}}$$

II. Reason for Measuring

This KPI will provide management with information regarding which proactive inspections are most effective. Proactive inspections may be selected based on the type of construction site, the type of permits issued, the company being inspected, or other factors. From the outcomes of these inspections, managers can decide which construction sites to inspect proactively to avoid wasting time on inspecting non-problematic construction sites.

III. Implementation

Pathway should be used to collect the data for this KPI. *Every* proactive inspection performed, even if found compliant, needs to be recorded. The data can be retrieved from Pathway and queried to calculate the percent of proactive site inspections with violations.

Using Microsoft Excel and Access, instead of looking just at every proactive inspection, the data can be sorted to examine inspections of sites with specific permits or factors (as mentioned above) so more information can be gathered every month.

This KPI can be implemented in any reporting document and should be accompanied with comments discussing the results and their meaning. The KPI can be presented as a graph extended over time.

IV. Cluster

Proactive Inspections

KPI: % of construction sites the *CMG* has issued permits for that result in complaints.

I. Definition

$$\frac{\#\text{ of sites the CMG has issued permits with complaints}}{\#\text{ of sites the CMG has issued permits}}$$

II. Reason for Measuring

This provides management with an indication of the quality of permits issued by the *CMG* and the amount of information provided to the construction company. Construction sites generally will operate within permitting conditions if quality permits are issued and the companies understand the consequences of violating the permits.

III. Implementation

Pathway can provide all of the data necessary to calculate this KPI and can calculate the number of sites with permits and the number of those sites with registered complaints.

This KPI can be implemented in any reporting document as a graph extended over time. It should be accompanied with comments discussing the KPI and attempting to explain the rational for trends or irregularities.

IV. Cluster

Construction Site Complaints

KPI: % of complaints against a construction site where the site is operating within permitting conditions.

I. Definition

$$\frac{\#\text{ of complaints where the site is operating within conditions}}{\#\text{ of complaints}}$$

II. Reason for Measuring

This KPI can be used to identify sites that may be subject to complaints the *CMG* have no control over. Sites that may require negotiation can also be identified, which is important because negotiation can be time consuming.

This essentially measures amount of work. These complaints against sites operating within permitting conditions potentially require much work. Therefore, it is important to identify trends and correlate them with data to discover reasons for increases or decreases in frequency.

III. Implementation

Pathway can be used to collect the data. The outcomes of complaint investigations are recorded so a simple query can calculate the result.

This KPI can be used in any reporting document and should be presented as a graph extended over time. This should include comments to attempt to identify and provide rational for the trends.

IV. Cluster

Construction Site Complaints

KPI: % of construction sites proactively checked for compliance with permit conditions of the *CMG*.

I. Definition # of sites inspected proactively Total # of sites issued permits

$$\frac{\#\text{ of sites inspected proactively}}{\text{Total }\#\text{ of sites issued permits}}$$

II. Reason for Measuring

This KPI was developed by the Building Team and slightly modified by the Project Group. The reason this was developed was to encourage employees to proactively inspect construction sites in an effort to reduce the volume of complaints received. The KPI was changed so sites as a whole, not specific permits, are measured. The type of site inspected can be changed as a result of feedback from other KPIs to maximize efficiency.

III. Implementation

This KPI can be measured using the Pathway database. Pathway keeps records of the sites inspected and the sites *CMG* has issued permits. The KPI can also be changed so it measures different types of construction sites, such as sites with certain permits or permits that typically have violations.

This KPI can be applied to any reporting system and should be presented as a graph extended over time. The graph should be accompanied with comments that attempt to identify and explain trends. It is important that KPIs are looked at as a group and not individually. For example, assume the following database off of multiple KPIs:

- KPI - % of proactive inspections of sites with a particular type of permit increases (This KPI, focused on particular sites for a month).
- KPI - % of proactive inspections that identify violations increase. Just these two KPIs suggest that it is more efficient to proactively inspect sites with these specific permit types because they identify more violations.
- KRI – Number of complaints received decreases. This suggests that the proactive inspections do achieve their desired result, lowered complaint rates. Continue to proactively inspect sites with these permits, potentially increase the rate of the inspections, record the data over a longer period of time, and continue to monitor the trends.

IV. Cluster

Proactive Inspections

Melbourne Certification Group

Cluster: Reports of Consent

- [RC 1] % of approved Report of Consent cases (KPI)
- [RC 2] % of appealed Report of Consent cases won (KPI)
- [RC 3] # of Report of Consent cases requested from the MCG (KRI)
- [RC 4] % of rejected Reports of Consent that are appealed (KRI)

Cluster: Permit Quotes

- [PQ 1] % of quotes accepted by construction companies (KPI)
- [PQ 2] % of times the *MCG* provides quotes for major projects within the specified time period (KPI)
- [PQ 3] % of times the *MCG* provides quotes for minor projects within the specified time period (KPI)
- [PQ 4] # of quotes issued over one month (KRI)

Cluster: Permits / Mandatory Inspections

- [PMI 1] # of mandatory inspections per [type] permit quoted versus the actual number (KPI)
- [PMI 2] Institute the following equation when dealing with building permits: # Building Permits = # Certificate of Final Inspection + # Change of Occupancy + # Lapsed Permit Notices (KPI)
- [PMI 3] # of permits issued over one month (KRI)
- [PMI 4] # of Mandatory inspections per [type] permit issued (KRI)

Cluster: Cost Neutrality / Market Share

- [CNMS 1] Change in *MCG's* % of the Market Share (KRI)
- [CNMS 2] Value of work (KRI)
- [CNMS 3] Cost Neutral (KRI)

Cluster: Protection Work Notices

- [PWN 1] Protection Work Notices (KPI)

KPI: % of approved Report of Consent cases.

I. Definition

$$\frac{\#\text{ of approved Report of Consents}}{\text{Total \# of Report of Consents applications}}$$

II. Reason for Measuring

Reports of Consent must be dealt with by the *MCG*. A Report of Consent requires a lot of work and thought in order to approve or deny a request. This is because an Officer must determine if the proper safety precautions have been instituted to allow a non-compliance to be permitted.

This KPI measures the number approved. A denied report of consent application must be done with proper justification. This KPI reflects on the amount of work performed when reviewing reports of consent by looking at the number approved and rejected. It also gives a measure of possible appeals the MCG will have to defend.

III. Implementation

This KPI is easily measured with the Pathway database. The result of a Report of Consent is recorded and can be used to calculate this KPI.

The measure can be applied to any reporting procedure. It should be applied as a graph extended over time. As with any KPI, commentary should be provided to explain any trends or irregularities.

IV. Cluster

Reports of Consent

KPI: % of appealed Report of Consent cases won

I. Definition

$$\frac{\#\text{ of appealed cases won}}{\text{Total }\#\text{ of appealed cases}}$$

II. Reason for Measuring

This KPI is an indication of the *MCG's* decision-making ability. The Building Appeals Board will uphold a report of consent that is properly dealt with.

III. Implementation

Pathway or the management have the capability of recording the result of a report of consent. Management may record the data easily since it is rare that a case goes to the Building Appeals Board.

The KPIs largest drawback is that it measures a process that does not occur frequently. This can be reported in any reporting procedure and should be presented as a graph extended over time. Because an appeal does not happen frequently, it may be beneficial to the *MCG* to update the graph quarterly rather than monthly.

IV. Cluster

Reports of Consent

KPI: Institute the following equation when dealing with building permits:
 # Building Permits = # Certificate of Final Inspection + # Change of Occupancy + # Lapsed Permit Notices

I. Definition

This KPI is defined in the title. It is an equation, both sides of the equation will be calculated, and should be equal.

II. Reason for Measuring

This KPI is intended to ensure that building permits and applications are not lost or forgotten. If the equation is not equal then a permit is not accounted for.

III. Implementation

This information can be calculated using Pathway. All of these processes are recorded within the system so the data can be exported.

The KPI can be applied to any reporting procedure. It should appear as a simple table with all the values and a final equation to make sure that both sides are equal. If the equation is not satisfied, comments should describe or justify any discrepancy.

IV. Cluster

Permits / Mandatory Inspection

KPI: Protection Work Notices

I. Intended Purpose

The *MCG* is responsible for protection work notices whenever a construction site is in danger of damaging council property. This was described to the Project Group as one of three major functions the *MCG* performs (The others are issuing building permits and reports of consent). A KPI should be developed which reflects either the quality or quantity of work produced by the *MCG* when dealing with this work unit, preferably both.

II. Possible ideas

- Ratio of protection work notices inspected to total number received
- The outcome of these notices (What was the construction company told to do?)
- Possibly account for these within a weighting system

The Project Group did not have enough time to understand the protection work notices procedure and the important steps associated with this work unit. Because of this, a meaningful KPI was not developed. It is possible this work unit is similar to another that a KPI was developed for. If so, it is possible the same idea or concepts behind those KPIs can be applied to protection work notices.

KPI: % of quotes accepted by construction companies.

I. Definition

$$\frac{\#\text{ of quotes accepted}}{\text{Total }\#\text{ of quotes issued}}$$

II. Reason for Measuring

This KPI is a measures the quality of work for this aspect of the *MCG.* The *MCG* strives to be a cost neutral organization. If construction companies accept a higher percentage of quotes issued the *MCG* have a better chance of attaining cost neutrality.

III. Implementation

This KPI can be measured using the Pathway database. Every quote and result is recorded within Pathway.

This KPI can be used in any reporting procedure. It should be reported as a graph extended over time. The graph should be accompanied by commentary to identify and explain any trends or irregularities.

IV. Cluster

Permit Quotes

KPI: # of mandatory inspections per [type] permit quoted versus the actual number.

I. Definition

$$\frac{\text{Average total \# of mandatory inspections per permit type}}{\text{Average quoted \# of mandatory inspections per permit type}}$$

II. Reason for Measuring

This serves both as a measure of quantity and complexity for the *MCG* when performing inspections. For each permit type it examines the number of inspections performed in comparison to the number quoted. This can be used to guess future work when quoting inspections and identify permit types that typically have problems.

III. Implementation

Pathway records the number of inspections required to sign off a permit as compliant. The system also records the number of inspections quoted for a particular permit.

This KPI can be applied to any reporting procedure. It can be presented as a graph extended over time. Commentary should accompany the measure to discuss and identify any trends or irregularities.

IV. Cluster

Permits / Mandatory Inspections

KPI: % of times the *MCG* provides quotes for major projects within the specified time period.

I. Definition

$$\frac{\#\text{ of times this goal is fulfilled}}{\#\text{ of major projects quoted}}$$

II. Reason for Recording

Because the *MCG* aim to be a cost neutral organization, customer satisfaction is important to their operations. This goal (Value not set by the Project Group) is intended to ensure that quotes are issued in a timely manner. The response time for a quote is a customer's first indication of the *MCG's* quality of work and this KPI measures that as well.

III. Implementation

Building Officers must alter the way Pathway is used for this KPI to be properly measured. Currently, the quote is only lodged when it is issued. For this KPI to be implemented the quote must be lodged as soon as the request is received by the MCG. The database has the capability to measure the amount of time that passes from when a request for a quote is lodged to when a response is issued. The data can then be pulled from Pathway and examined to see how often the goal was fulfilled.

This KPI can be reported as a graph extended over time. The graph should be accompanied by commentary discussing any trends or irregularities identified.

The only barricade to properly using this KPI is defining the terms major and minor. We do not feel it is appropriate for us to define these terms due to lack of experience working with the Building Team. However, because the *MCG* aims to be cost neutral it may be possible to set the threshold at a dollar amount. It is not a perfect system and does not consider all possible complexities, but it does help break down quotes into two sections instead of expecting all quotes to achieve the same goal.

IV. Cluster

Permit Quotes

KPI: % of times the *MCG* provides quotes for minor projects within the specified time period.

I. Definition

$$\frac{\#\text{ of times this goal is fulfilled}}{\#\text{ of minor projects quoted}}$$

V. Reason for Recording

Because the *MCG* aim to be a cost neutral organization, customer satisfaction is important to their operations. This goal (Value not set by the Project Group) is intended to ensure that quotes are issued in a timely manner. The response time for a quote is a customer's first indication of the *MCG's* quality of work and this KPI measures that as well.

VI. Implementation

Building Officers must alter the way Pathway is used for this KPI to be properly measured. Currently, the quote is only lodged when it is issued. For this KPI to be implemented the quote must be lodged as soon as the request is received by the MCG. The database has the capability to measure the amount of time that passes from when a request for a quote is lodged to when a response is issued. The data can then be pulled from Pathway and examined to see how often the goal was fulfilled.

This KPI can be reported as a graph extended over time. The graph should be accompanied by commentary discussing any trends or irregularities identified.

The only barricade to properly using this KPI is defining the terms major and minor. We do not feel it is appropriate for us to define these terms due to lack of experience working with the Building Team. However, because the *MCG* aims to be cost neutral it may be possible to set the threshold at a dollar amount. It is not a perfect system and does not consider all possible complexities, but it does help break down quotes into two sections instead of expecting all quotes to achieve the same goal.

VII. Cluster

Permit Quotes

Building Control Group

Cluster: Complaint Response:

- [CR 1] Ratio of complaints resolved (KPI)
- [CR 2] Customer Service - % of complaints acknowledged with a specified time frame (KPI)
- {CR 3] Ratio of total # of complaints received to the square meter floor area of the City of Melbourne (KRI)

Cluster: Complaint Inspections:

- [CI 1] Ratio of complaint inspections to complaints (KPI)
- [CI 2] Ratio of complaint inspections to the number of complaints that required an inspection (KPI)
- [CI 3] % of complaints during one month that included an onsite check (KPI)

Cluster: Building Notices and Orders:

- [BNO 1] # of building notices opened versus # of building notices closed within the last 12 months (KPI)
- [BNO 2] # of building orders opened versus # of building orders closed within the last 12 months (KPI)
- [BNO 3] # of building notices that turn into building orders (KPI)

Cluster: High and Low Risk Response Time:

- [HRLR 1] % of emergencies received by the *BCG* responded to within 2 hours (KPI)
- [HRLR 2] % of low risk complaints received by the *BCG* responded to within 14 days (KPI)
- [HRLR 3] % of high-risk complaints received by the *BCG* responded to within 2 days (KPI)

Cluster: Temporary Structures:

- [TS 1] POPEs- # of inspections per permit with relation to the size of the permit (KPI)
- [TS 2] TOPs- Same as above (KPI)

KPI: Ratio of complaints resolved

I. Definition #

$$\frac{\#\text{ of complaints open in the month}}{\#\text{ of complaints closed in the month}}$$

II. Reason for Measuring

An important part of the *BCG's* work is their ability to close complaints. Complaints that are not closed create risk.

This KPI looks at the *BCG's* performance when resolving complaints. The desired result is a ratio of 1:1 or as small as possible, meaning the *BCG* is completing past cases.

III. Implementation

The Pathway database can be used to calculate this KPI. The database records every complaint and the result of each complaint.

This KPI can be used in any reporting procedure. It should be presented as a graph extended over time. Commentary should accompany the graph identifying and explaining trends and irregularities.

IV. Cluster

Complaint Response

KPI: # of building notices opened versus # of building notices closed within the last 12 months

I. Definition

$$\frac{\#\ \text{Notices opened}}{\#\ \text{Notices closed}}$$

# of notices closed refers to a building owner that makes the suggested changes and satisfies the requirements of legislation after being issued a building notice. This does not count a building notice that is upgraded to an order and then fulfilled.

II. Reason for Measuring

This is similar to the complaint KPI except it pertains to the Building Officer's ability to close notices. It is important that notices are enforced to ensure that the city is made safer.

This KPI looks at how often a building notice is effective in making a building owner comply with standards and legislation. Unfortunately, every building owner is different making some buildings more complex than others.

III. Implementation

Pathway can be used to record these data. Every notice is registered within the database as well as the action that occurs after the notice is issued. If the building owner complies with the notice then it is recorded in Pathway and can be considered closed.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to discuss and identify trends and irregularities. The desired result is a ratio of 1:1 or as small as possible, meaning the *BCG* is completing past cases.

IV. Cluster

Building Notices and Orders

KPI: # of building orders opened versus # of building orders closed within the last 12 months

I. Definition

$$\frac{\#\,\text{Orders opened}}{\#\,\text{Orders closed}}$$

V. Reason for Measuring

This is similar to the complaint KPI except it pertains to the Building Officer's ability to close orders. It is important that notices are enforced to ensure that the city is made safer.

This KPI looks at how often a building orders is effective in making a building owner comply with standards and legislation. Unfortunately, every building owner is different making some buildings more complex than others.

VI. Implementation

Pathway can be used to record these data. Every order is registered within the database as well as the action that occurs after the order is issued. If the building owner complies with the order then it is recorded in Pathway and can be considered closed.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to discuss and identify trends and irregularities. The desired result is a ratio of 1:1 or as small as possible, meaning the *BCG* is completing past cases.

VII. Cluster

Building Notices and Orders

KPI: # of building notices that turn into building orders

I. Definition

This KPI is calculated as the number of notices that are turned into orders every month.

II. Reason for measuring

Oftentimes a building owner does not comply with the building notice. A building order can then be issued to force them to make the necessary changes.

This KPI is important because it looks at the frequency the *BCG* turn notices into orders. Turning a notice into an order is an important part of the enforcement process. This gives management an indication of the Building Officers' performance in the enforcement process.

III. Implementation

Pathway can be used to measure this KPI. Every issue with a building notice attached to it can be queried to tally the number of notices that were turned into orders. This is possible because the actions following a notice are also recorded within Pathway.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends.

IV. Cluster

Building Notices and Orders

KPI: Ratio of complaint inspections to complaints

I. Definition

$$\frac{\text{Total \# of complaint inspections (including multiples for a single complaint)}}{\text{Total \# of complaints}}$$

II. Reason for Measuring

This will provide managers with information on the number of inspections Building Officers can expect to perform per complaint received. This KPI indicates the quantity of work.

III. Implementation

The data for this KPI is recorded within Pathway. The KPI can be calculated by exporting the total number of complaint inspections from Pathway and the Total number of complaints received in one month .

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends and irregularities.

IV. Cluster

Complaint Inspections

KPI: Ratio of complaint inspections to the number of complaints that required an inspection

I. Definition

$$\frac{\text{Total \# of complaint inspections (including multiples for a single complaint)}}{\text{Total \# of complaints requiring an inspection}}$$

II. Reason for Measuring

This will provide managers with information on the number of inspections Building Officers can expect to perform per complaint received that require an inspection. This KPI indicates the quantity of work. This KPI examines the work that can be expected to go into a complaint if it requires an inspection.

III. Implementation

The data for this KPI are recorded within Pathway. The KPI can be calculated by exporting the total number of complaint inspections and the Total number of complaints received in one month which required at least one inspection.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends and irregularities.

IV. Cluster

Complaint Inspections

KPI: % of complaints during one month that included an onsite check

I. Definition

$$\frac{\#\text{ of complaints requiring at least one onsite check}}{\text{Total }\#\text{ of complaints}}$$

II. Reason for Measuring

This will provide managers with information on the number of complaints the Building Officers receive that will require an onsite check. This KPI can be further broken down into complaints for specific types of buildings or complaints.

III. Implementation

The data for this KPI is recorded within Pathway. The KPI can be calculated showing the total number of complaints requiring at least one inspection and the total number of inspections.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends and irregularities.

A further breakdown of this KPI will provide management with more data. Queries can be made using Microsoft Access to determine if any trends exist among complaint types or building types. This will prove useful to the *BCG* by allowing management to predict resources necessary to handle incoming complaints based on the building type and complaint type. This is one way of breaking down complexity when working with complaints for the *BCG* when a weighting system is not available.

IV. Cluster

Complaint Inspections

KPI: % of complaints acknowledged within a specified time frame

I. Definition

$$\frac{\#\text{ of complaints acknowledged within the time frame}}{\text{Total }\#\text{ of complaints}}$$

II. Reason for Measuring

Many Building Officers view customer satisfaction as an important aspect of their job. The idea behind this KPI is that when an individual makes a complaint he/she is informed that his/her voice was heard and the issue will be examined.

III. Implementation

Pathway can be used to calculate this KPI. As soon as a complaint is received it needs to be lodged and assigned to an Officer. As long as the complaint is lodged promptly, Pathway keeps track the duration of time until the acknowledgement letter is sent. The data can be queried to calculate the frequency this goal was fulfilled in a given month.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends and irregularities.

IV. Cluster

Complaint Response

KPI: % of emergencies received by the *BCG* responded to within 2 hours

I. Definition

$$\frac{\#\text{ responded to within time period}}{\text{Total }\#\text{ of emergencies}}$$

Response is defined by the Project Group as either attending the site in question or determining the correct course of action if not a site visit.

II. Reason for Measuring

Responding to emergencies is critical to ensure public safety. This KPI measures the percentage of instances an emergency is properly responded to. Furthermore, this response KPI is mandated.

III. Implementation

Pathway can be used to calculate this KPI. As soon as an emergency is received it is lodged within Pathway. Then, it is recorded when the emergency is responded to. The data can then be queried to calculate the percentage.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends and irregularities.

IV. Cluster

High and Low Risk Response Time

KPI: % of low risk complaints received by the *BCG* responded to within 14 days

I. Definition

$$\frac{\#\text{ responded to within time period}}{\text{Total }\#\text{ of low risk complaints}}$$

Response is defined by the Project Group as either attending the site in question or determining the correct course of action if not a site visit.

II. Reason for Measuring

Responding to low risk complaints is important to customer satisfaction. After a complaint is acknowledged, it is still important to resolve the complaint. If a resident lodges a complaint and it is not resolved in a timely fashion, the public may not be satisfied with the *BCG's* work.

III. Implementation

Pathway can be used to calculate this KPI. As soon as a low risk complaint is received it is lodged within Pathway. Then, it is recorded when the complaint is responded to. The data can then be queried to calculate the percentage.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends and irregularities.

IV. Cluster

High and Low Risk Response Time

KPI: % of high-risk complaints received by the *BCG* responded to within 2 days

I. Definition

$$\frac{\#\text{ responded to within time period}}{\text{Total }\#\text{ of high risk complaints}}$$

Response is defined by the Project Group as either attending the site in question or determining the correct course of action if not a site visit.

II. Reason for Measuring

Responding to a high-risk complaint is important for public safety and community satisfaction. A high-risk complaint needs to be resolved quickly to ensure public safety. Also, when a complaint is lodged the person complaining expects the issues to be resolved in a timely manner.

III. Implementation

Pathway can be used to calculate this KPI. As soon as a high-risk complaint is received it is lodged within Pathway. Then, it is recorded when the complaint is responded to. The data can then be queried to calculate the percentage.

This KPI can be applied to any reporting procedure. It should be presented as a graph extended over time. The graph should be accompanied by commentary to explain and identify trends and irregularities.

IV. Cluster

High and Low Risk Response Time

KPI: POPEs and TOPs

I. Intended Purpose

Ensuring that TOPs and POPEs are safe and are within their permitting conditions is a large part of the *BCG's* work. There are hundreds of events every year within the City of Melbourne for which the *BCG* is responsible. The *BCG* desires a KPI that reflects their work with POPEs and TOPs that accounts for the large diversity of events.

II. Possible Ideas

- Base KPIs upon the number of people expected to attend the event
- Base KPIs upon the number of temporary structures at an event
- Base KPIs upon the total area of structures at an event
- Measure the number of issues identified on an inspection
- Measure the number of inspections required per event on average
- Include TOPs and POPEs in a weighting system

The Project Group attempted to find a KPI for these types of events. Unfortunately, nearly every Building Officer disagreed on a way to correlate complexity of an inspection to a measurable value. The top three ideas, or a combination of them, seem to be the best method to create KPIs. Sometimes an event can be correlated to the number of people attending while other events correlate better to the number or size of temporary structures. A meaningful KPI needs to be based upon something constant between all events, or a vast majority.

Building Team

KPI: Average number of days per month employees are absent

I. Intended Purpose

This was proposed by the Executive Officer and should be looked into.

II. Possible Ideas

The Project Group did not have enough time to consider Building Team wide KPIs in detail because so much work was required just for the KPIs within groups. This KPI as written does not provide much information. If this was correlated to something else, such as employee job satisfaction or health it may prove more useful. Employees with unexpected absences perform less work due to loss of time than if present. Things that would need to be taken into consideration are part-time employees or employee holiday. Therefore, knowing which factors contribute most to absenteeism can prove useful to management to ensure that employees contribute as efficiently to the Building Team as possible.

KPI: Ratio of files opened to files closed within the past 12 months

I. Intended Purpose

This KPI is intended as an overall measurement of the amount of work the Building Team completes. It would be useful for management to know if employees are opening more work than they can close, old work is being closed, or tying up loose ends.

II. Possible Ideas

This KPI may be useful as written; however, the Project Group did not have enough time to talk to employees or management about the measure. The biggest problem associated is the vast amount of complexity unaccounted for between the three groups of the Building Team. It will require more thought and research to determine if a KPI that examines the overall ratio of opened to closed works within the Building Team is useful.

The only way this KPI could be useful is if it was examined alongside every other KPI. The KPIs for the groups are designed to look at specific functions within their respective group. It is possible this KPI can be combined with them to offer an overall view of where the Building Team is proceeding.

Appendix B: Developed CMG Weighting System

Information to be obtained from Microsoft Access		
Permit No	Permit Type	OFFICER
Permit Type Weight	Total Special Condition Weight	Total Letter Weight
Total Inspection Weight	Total Weight	

Example Pivot Table									
Count of Total Weight	Total Weight								
Type	3	4	5	6	7	11	12	13	Grand Total
Bins & Skips	1	169	12	2					184
Concrete Pump			1	23	5				29
Construction Zone				2	1				3
Crane & Travel Tower						112	10	2	124
Grand Total	1	169	13	27	6	112	10	2	340

Permit Type Calculations				
Average Weight of Each Type of Permit	Avg. Weight	Total Weight	Percent weight	Standard deviation
Bins & Skips				
Concrete Pump				
Concrete Pump - Docklands				
Consent for Works under RMA				
Consent for Works under RMA - Docklands				
Construction Zone				
Construction Zone - Docklands				
Crane & Travel Tower				
Crane & Travel Tower - Docklands				
Gantry/Overhead Awning				
Hoarding				
Hoarding - Docklands				
Out of Hours Work				
Out of Hours Work - Docklands				
Scissor Lift				
Scissor Lift - Docklands				
Space Occupancy on Footpath				
Space Occupancy on Footpath - Docklands				
Space Occupancy on Roadway				
Space Occupancy on Roadway - Docklands				
Total				

Individual Officer Calculations			
Total Weight of each officer's contribution	Avg. Weight	Total Weight	Percent weight
Officer A			
Officer B			
Officer C			
Total:			

Excel Functions Used In Calculations
Pivot Table
SUMIF()
COUNTIF()
VLOOKUP()

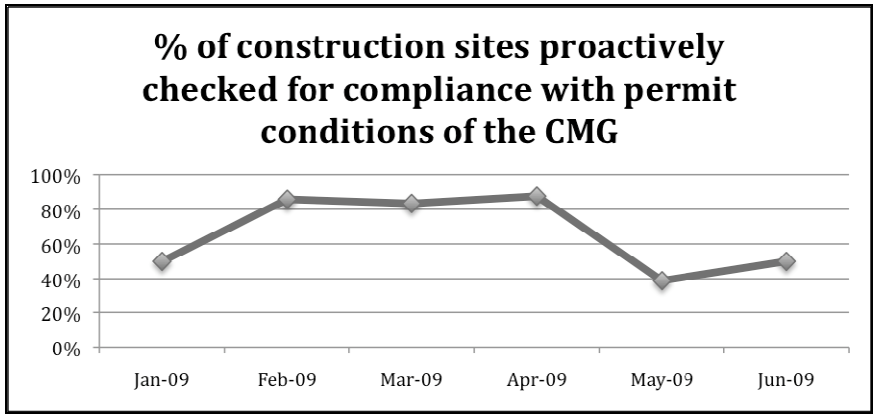
Appendix C: Example Monthly Report

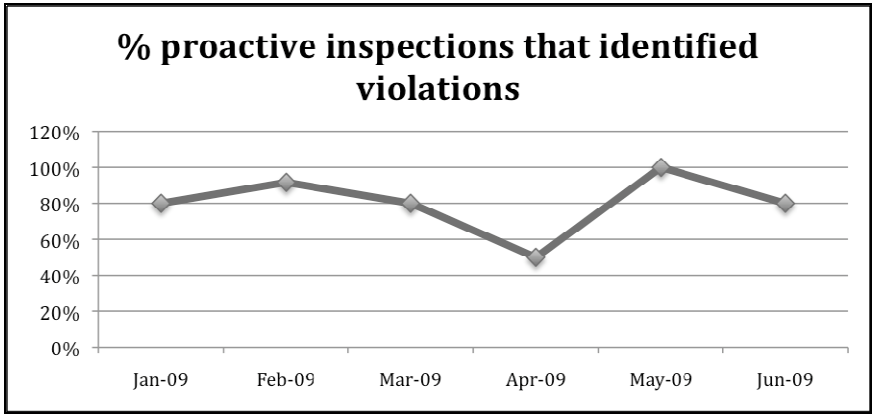
Each cluster was formatted into a page similar to those in the current Monthly report.

Construction Management Group:

Proactive Inspections Cluster:

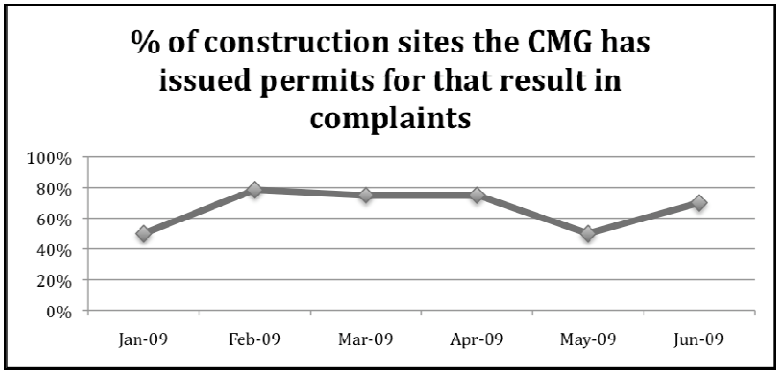
- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.

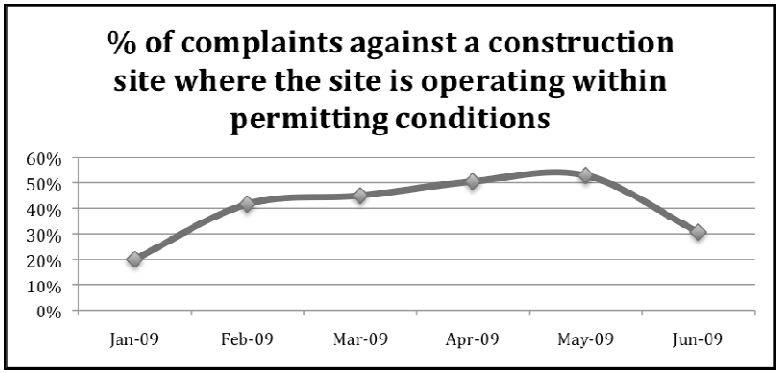


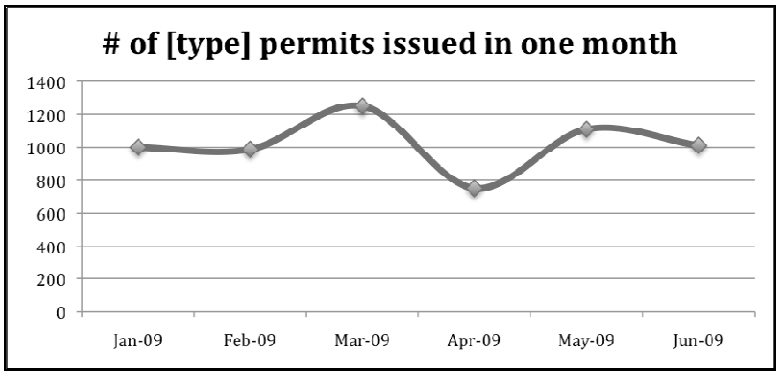


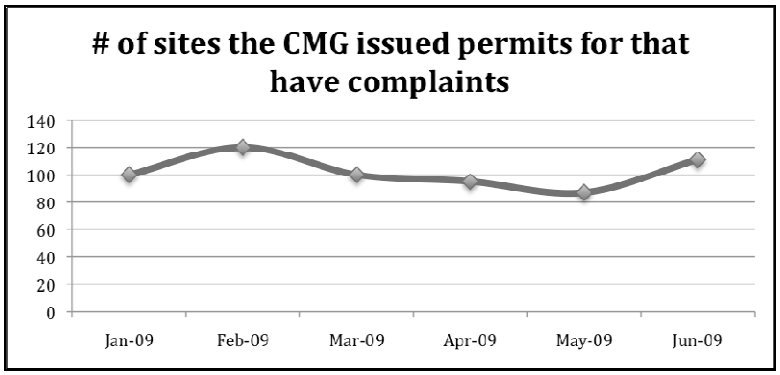
Construction Site Complaints Cluster

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.



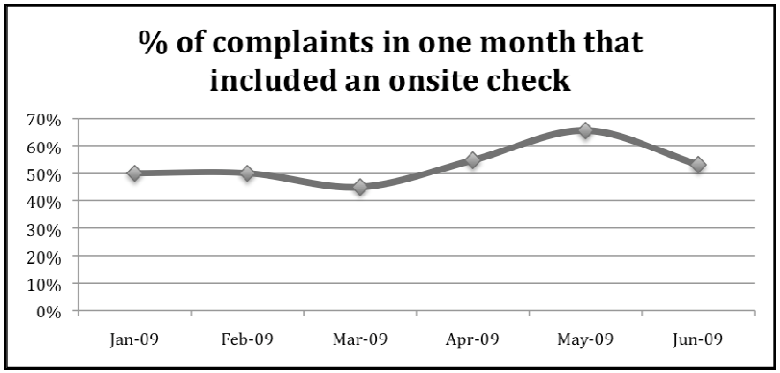


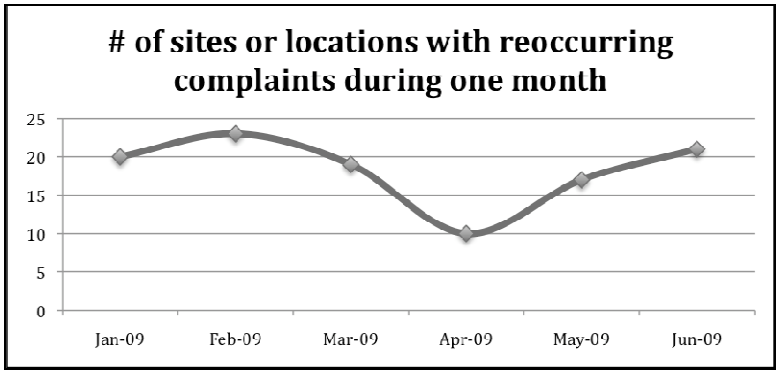


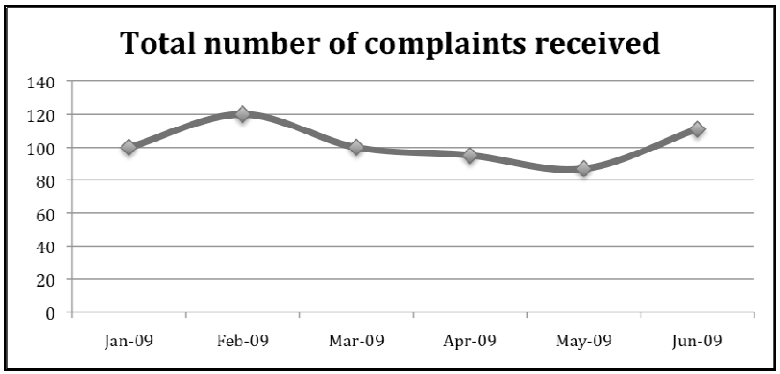


General Complaints Cluster

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.



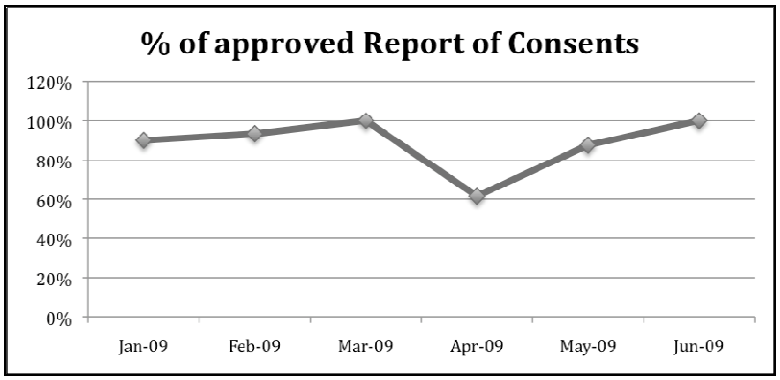


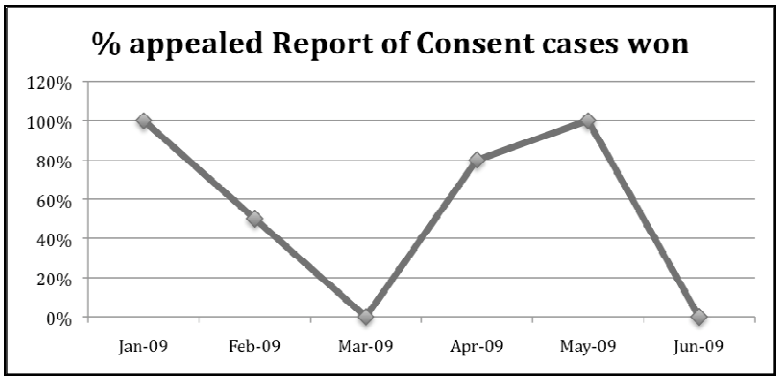


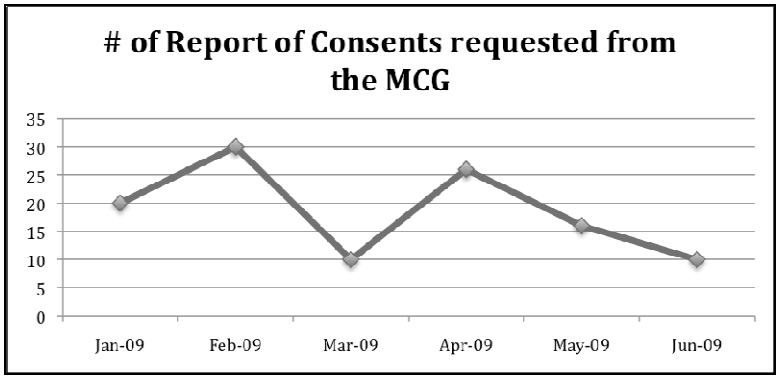
Melbourne Certification Group

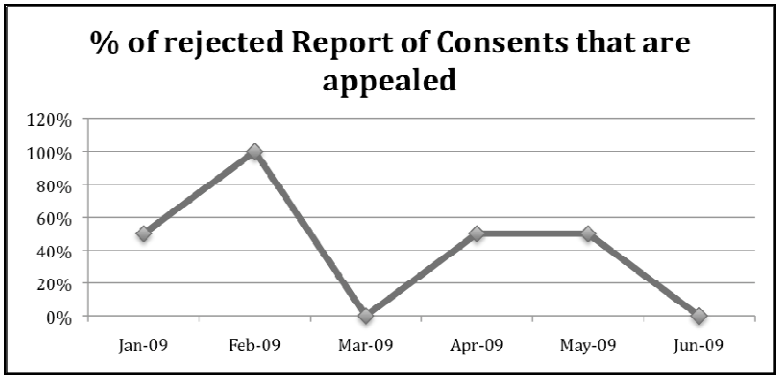
Reports of Consent Cluster:

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.



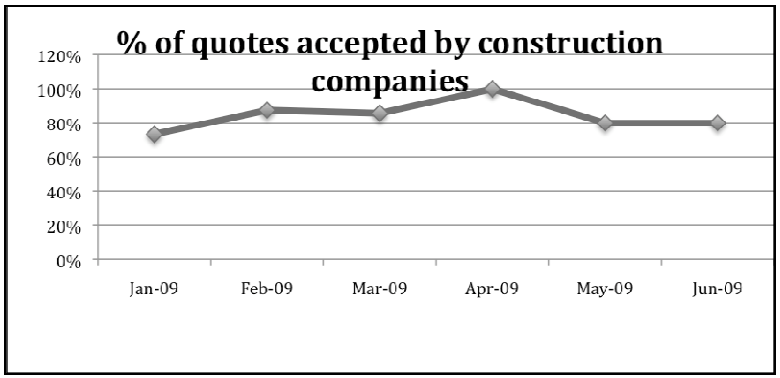


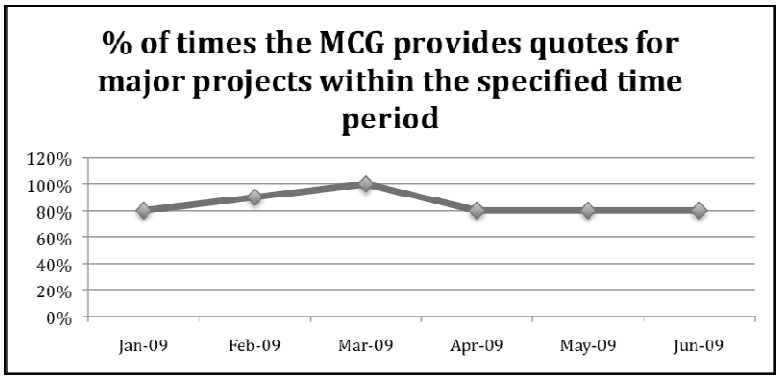


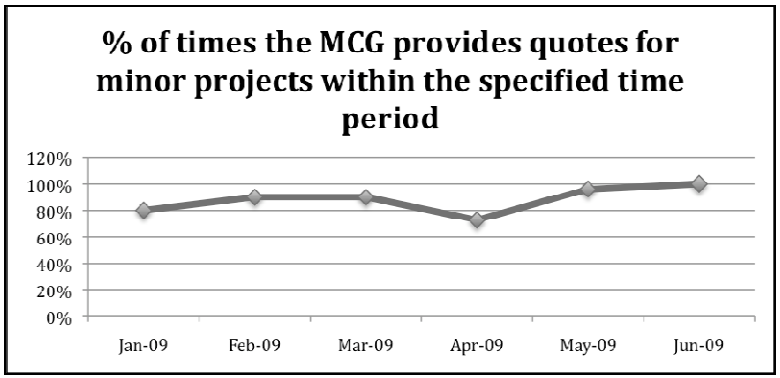


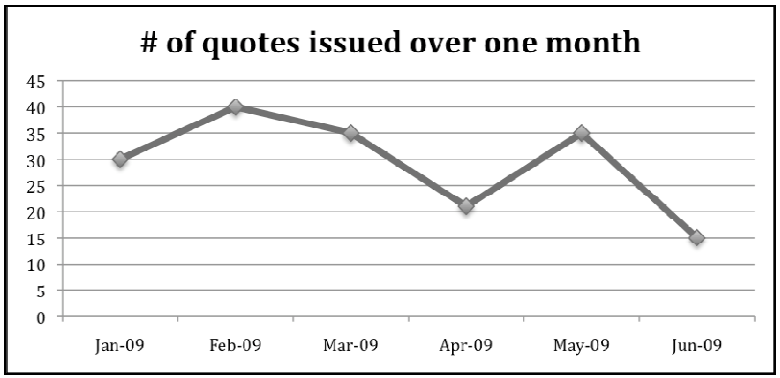
Permit Quotes Cluster:

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.



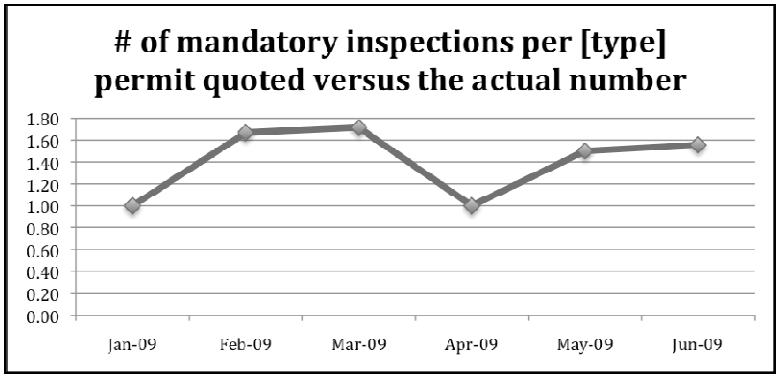


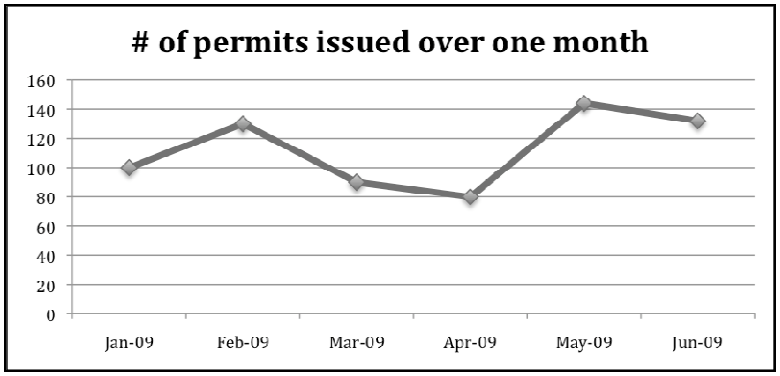


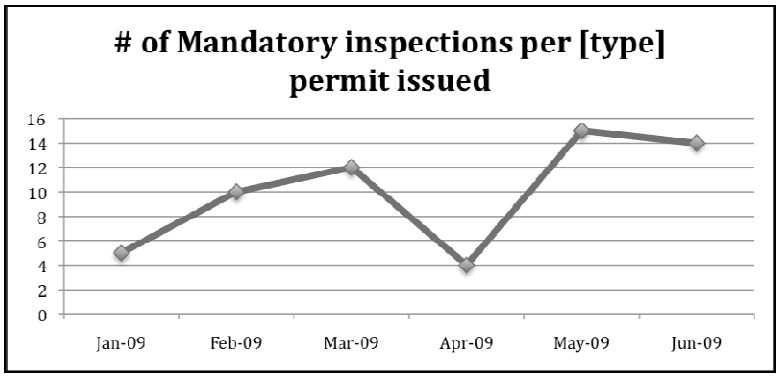


Permits / Mandatory Inspections Cluster:

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.



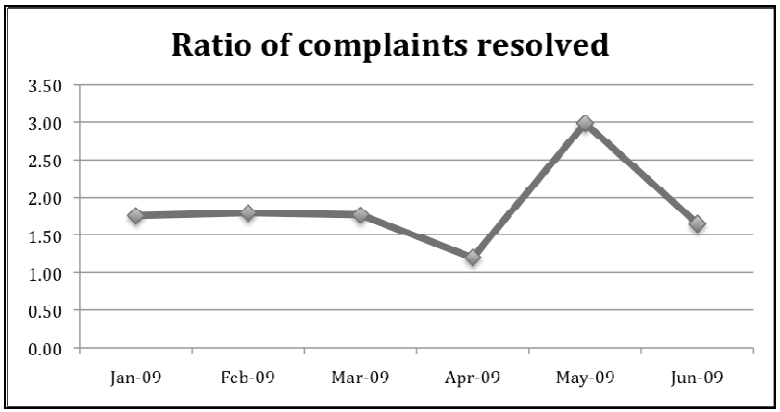


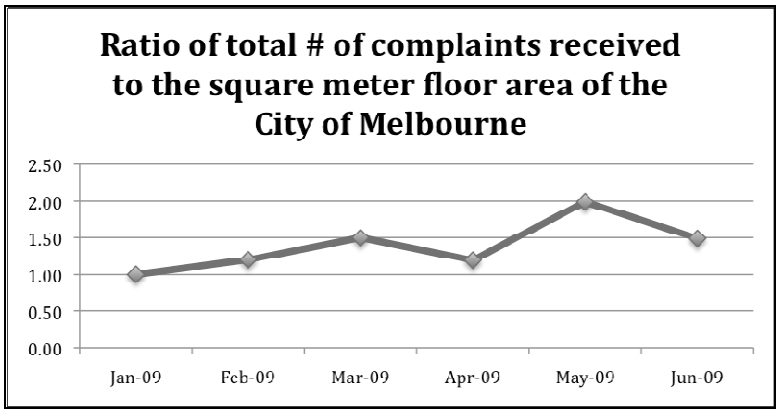


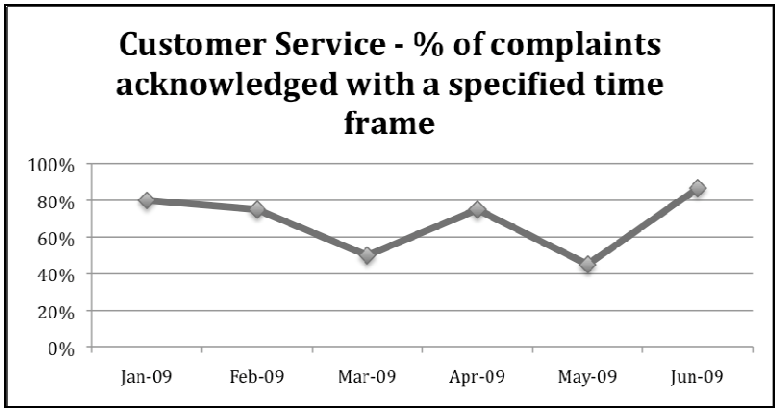
Building Control Group

Complaint Response Cluster:

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.

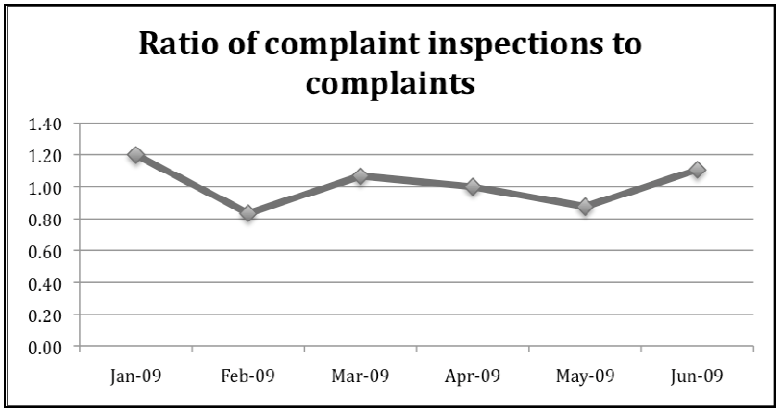


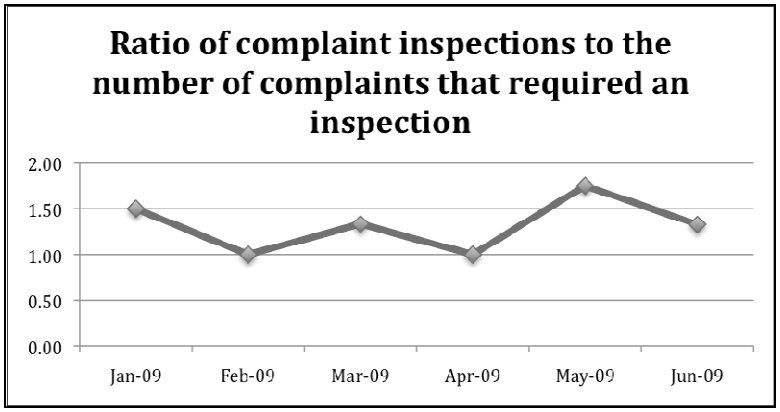


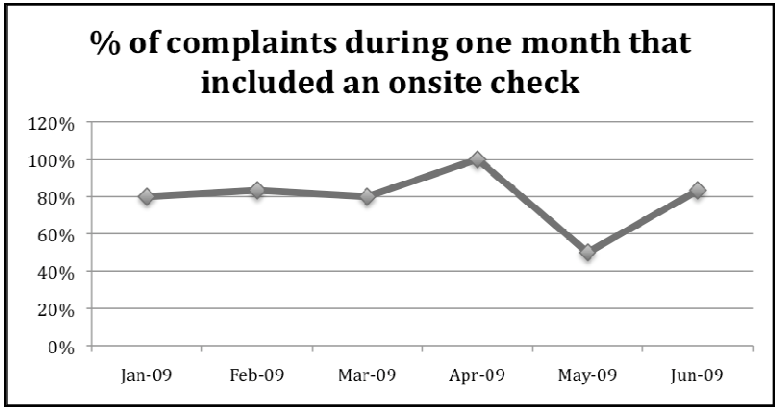


Complaint Inspections Cluster:

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.

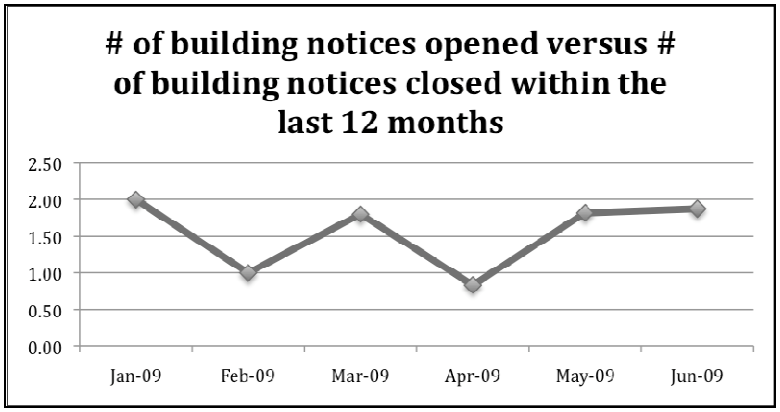


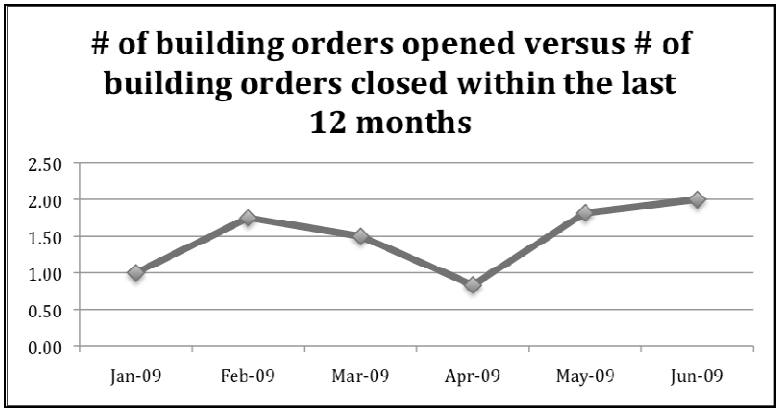


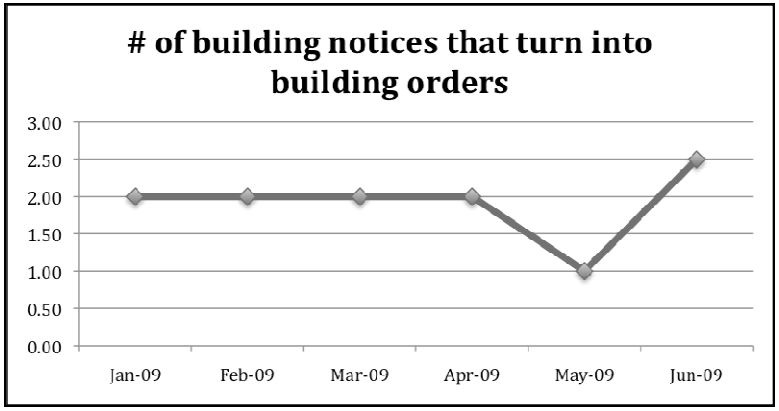


Building Notices and Orders Cluster:

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.

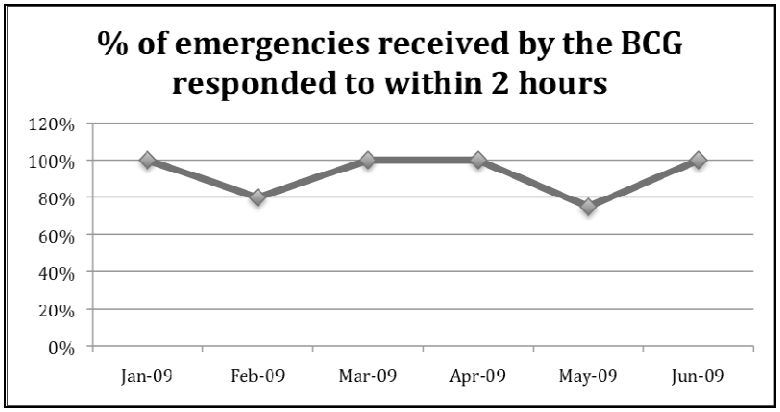


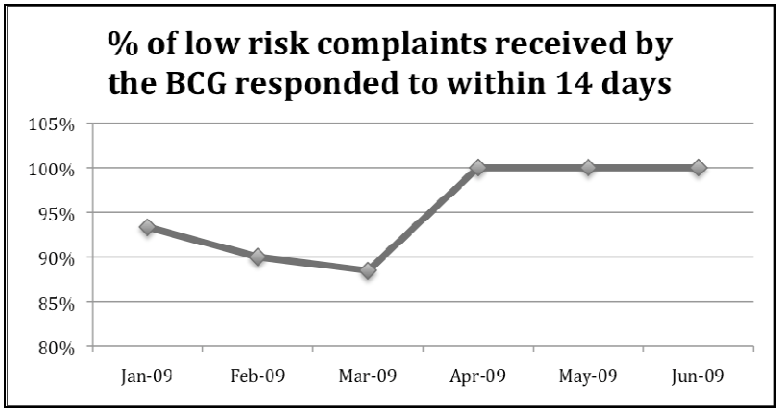


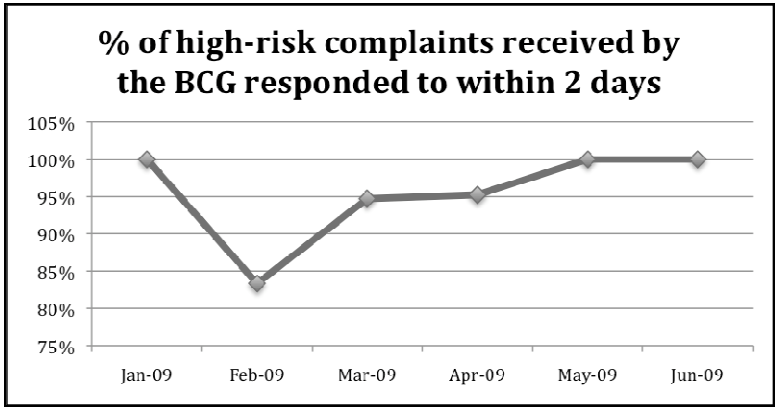


High and Low Risk Response Time Cluster:

- Discuss trends of the KPI and KRIs here. Also, reference different clusters that may justify the trends or irregularities for this cluster.







Appendix D: Assessments of Developed and Modified KPIs and KRIs

Construction Management Group KPI Assessments

% of complaints during one month that included an onsite check

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, this measure does make sense. It is very simple. The KPI is the percent of complaints that require an onsite check during some such time period, most likely 1 month.
   b) What is being measured?
      i) The number of complaints that require the Building Officer to leave the office and go to the site for an inspection and to deal with a problem.
   c) How does the "public" interpret the KPI?
      i) I believe this KPI would be a good measure of an Building Officer's workload. This is because the KPI measures how much the Building Officer has to leave the office in a given month. Over a period of time the data can be recorded and examined to look for trends by correlating the data with other measures. Assume the following data: Other measures show that as the number of construction sites increase complaints increase, this KPI shows that the percentage of complaints requiring an onsite check is usually constant, if you have an increase in construction sites you can point to the data to backup the assumption that there will be more work for the building officers.
2) Use for Reporting
   a) Can it used in the reporting system at all?
      i) This KPI was developed by the project group and is not used in any reporting systems.
   b) How can this be applied in the reporting system?
      i) A simple graph showing the past months value for this KPI, plotted along the data collected for previous months, will provide the information this KPI is measuring.
   c) Is it timely, brief, and informative?
      i) Yes. The KPI can be easily presented as a graph or number. The information can be used to look at the expected workload of an officer based on other trends, such as the number of construction sites.
3) Quantitative nature
   a) When measured in the reporting system, what metric can be used?
      i) A number or graph.
   b) Is it subject to interpretation?
      i) No, the information is not something that can be interpreted one way or another.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) No, an inspection either requires a site visit or it does not, there is no way to manipulate the data to have it appear one way or another.
   d) Is this a "gut feel" measure?
      i) Potentially, this KPI does not distinguish between type of construction site or type of permits issued for a construction site. It is more of an overall KPI that encompasses everything. However, when used in conjunction with other measures proposed by the building team the data would be more useful.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) Every Building Officer is responsible for providing the data by using the Pathway system. Overall responsibility for the KPI will rest with the Team Leader of the *CMG*.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *CMG*
   c) Who is the final person who reports on the issue?
      i) Senior Building Surveyor
5) Why the KPI is being measured

a) What is the significance of the measure?
    i) It is important to look at how many complaints require inspections as opposed to complaints that can be dealt with over the phone or email within the office. It takes much more time to leave the office, travel to the site, make an inspection, and then deal with the outcome than it does to just make a simple phone call. If data trends show construction companies or complaints are increasing in complexity and require site visits, it is easy to assume the workload of the *CMG* will increase.
b) Does it provide insight to how the Building Team does work?
    i) Yes, it provides insight into how the *CMG* deals with complaints. It will demonstrate if the *CMG* deals with complaints by going onsite and investigating or making phone calls to the construction site. It does not actually the outcome or quality of the inspection.
c) Is there any purpose to the measure?
    i) Yes, as described above it may help define the Building Officers' workload.
d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) N/A

6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) 3.3.5.20 - Continually review and improve the efficiency of the complaints management system for the *Construction Management Group*.
        ii) 3.3.5.33 Manage construction noise & nuisance in accordance with the Activities Local Law 1999, the CMP Guidelines & the Noise & Vibration Control Guidelines.
    b) Should the measure be changed to better suit the goal?
        i) It may be useful to break this down into specific construction sites or construction sites with specific types of permits. This may be possible using the weighting system for the *CMG* the project group developed. However, the amount of measures would drastically increase to the point where there simply was too much data on every type of permit and it may start to get confusing. The aim of these KPIs is to measure many different aspects of the *CMG*, but not to get so detailed as to be effectively useless.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes, it relates directly to how well the *CMG* deals with construction complaints.
    d) Is the measure itself just a goal rather than a KPI?
        i) No, it is a KPI. This is not an outcome; it measures the process of how an Building Officer deals with complaints.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) This relates, it is very measurable, and if used properly and in conjunction with other KPIs/KRIs will provide useful information to the Building Team.

of sites or locations with reoccurring complaints during one month

1) Understandable
    a) When the measure is first read, does it make sense?
        i) The measure makes sense when first read. It is the number of construction sites the *CMG* is responsible for that have multiple complaints in a specific time period such as a month.
    b) What is being measured?
        i) Complaints are being measured, but specifically sites with multiple complaints.
    c) How does the "public" interpret the KPI?
        i) This KPI will be useful because it indirectly measures the quality of the *CMG's* performance. For example, if the number or percentage of sites with reoccurring problems decreases with each reporting period, it is evident that the *CMG* is doing a better job dealing with complaints and making sure a construction site knows what it is responsible for.
        ii) The disadvantage is that it does not cover complaints that are made against a site but the site is complaint with its permitting conditions.

2) Use for Reporting
    a) Can it used in the reporting system at all?
        i) Yes, Pathway already has the capability to report on this measure.
    b) How can this be applied in the reporting system?
        i) A simple number or percentage will be enough to put in the reporting systems. Over time these numbers can be graphed to show trends.
    c) Is it timely, brief, and informative?
        i) Yes, it is easy to report on and examine. Also, it offers information related to how well the *CMG* deals with construction sites to ensure that they do not encounter problems.
3) Quantitative nature
    a) When measured in the reporting system, what metric can be used?
        i) Just a number.
    b) Is it subject to interpretation?
        i) No, it is very clear.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) No, the Building Officers cannot judge the data one way or another; it is dependant on complaints received by the *CMG*.
    d) Is this a "gut feel" measure?
        i) Potentially, it offers no insight into the types of construction sites that actually have the reoccurring complaints. However, this measures both reactive and proactive aspects of the *CMG* at once. If the *CMG* keeps their clients well informed of how to run their site as to not encounter problems, this KPI will capture that. If the *CMG* deals with complaints effectively and once a complaint is received about a construction site they take efforts to help the construction site so more complaints are not lodged, this KPI will capture that. When used in conjunction with other KRIs and KPIs it can be determined which processes, reactive or proactive, were responsible for changes in trends related to this KPI.
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) Every building officer is responsible for recording the data in Pathway and working to ensure that construction sites receive as few complaints as possible.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) *CMG*
    c) Who is the final person who reports on the issue?
        i) Senior Building Surveyor
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) It examines reactive and proactive responses of the *CMG* and looks into how well they deal with complaints.
    b) Does it provide insight to how the Building Team does work?
        i) Yes, it provides insight into the complaint response aspect of their job.
    c) Is there any purpose to the measure?
        i) Yes, as described above it offers information related to complaints.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) 3.3.5.20 Continually review and improve the efficiency of the complaints management system for the *Construction Management Group*.
    b) Should the measure be changed to better suit the goal?
        i) No, it should just be used in conjunction with other KPIs to fully encompass the *CMG's* work when dealing with complaints.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes, it relates directly to the above goal.
    d) Is the measure itself just a goal rather than a KPI?

i) No, it specifically measures the quality of work the building officers perform when dealing with complaints.

7) How does this fit in the overall mission and vision of the Building Team
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) A big part of the *CMG* is dealing with complaints. This relates directly to the quality of how they perform that work, which helps keep the public safe.

% of proactive inspections that identified violations

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, this KPI looks at the proactive inspections of the *CMG* and those inspections with violations. This KPI complements the KPI of "% of construction sites checked proactively by the *CMG* for compliance." The KPI this assessment is for give more information about these inspections and the differences between being a reactive and a proactive group.
   b) What is being measured?
      i) This measures the percentage of proactive site inspections that found the site to have some violation.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) This KPI can be integrated into the reporting system. If the Building Officer comes back from a proactive inspection and there is a violation, they will record that in Pathway. Pathway can then generate the numbers of proactive inspections with violations and the total number.
   b) How is this applied in the reporting system?
      i) See above
   c) Is it timely, brief, and informative?
      i) See above
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) This is all based off numbers. These numbers come from the inspections the *CMG* officers conduct.
   b) Is it subject to interpretation?
      i) This KPI can be used to prove different points depending on the results. However, the KPI as it stands it straightforward in what it will be measuring.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) No, this KPI is based off information in Pathway and cannot be fudged.
   d) Is this a "gut feel" measure?
      i) See above
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The *CMG* is responsible for this KPI. It gives insight to their work as a group, however it can be measured on an individual basis if that is desired.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) This applies to the *CMG*.
   c) Who is the final person who reports on the issue?
      i) NA
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) This measure can be used to prove different points. Either it can show that proactive inspections are useful and should be conducted more often, or it can show that proactive inspections are not useful and should be lessened.
   b) Does it provide insight to how the Building Team does work?
      i) Yes, it shows the number of proactive inspections and a result of that inspection.
   c) Is there any purpose to the measure?

    i) See above
  d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) NA
6) Which goal the KPI aims to achieve
  a) Is there an overlying goal?
    i) The overlying goal is safety, and how to achieve this. This can also prove useful in decreasing the number of complaints.
  b) Should the measure be changed to better suit the goal?
    i) No, the way the measure stands provide a good insight and when combined with other KPIs and KRIs provide a good insight into the *CMG* and the Building Team's work.
  c) Does it adequately represent the goal or goals it is trying to represent?
    i) See above
  d) Is the measure itself just a goal rather than a KPI?
    i) See above
7) How does this fit in the overall mission and vision of the Building Team
  a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) This KPI relates to the overlying mission of providing competitive services to the CoM and keeping public safety high.

% of construction sites the *CMG* has issued permits for that result in complaints

1) Understandable
  a) When the measure is first read, does it make sense?
    i) Yes, the measure is an easily understood percentage.
  b) What is being measured?
    i) The percent of sites that the *CMG* is responsible for that have complaints.
  c) How does the "public" interpret the KPI?
    i) This will be a very useful KPI. It will help the *CMG* look at how well they inform construction sites of their responsibilities when issuing permits. It will also indirectly measure the quality of permits issued. A good quality permit that works to ensure the public's safety will generally receive fewer complaints than a poorly issued or hurried permit. A construction company that is well aware of their responsibilities, permitting conditions, and consequences for violating these conditions will be less likely to cause complaints than an ill-informed construction company.
    ii) Also, trends can be tracked over time. This will be a great way of determining expected work that will be encountered during the next reporting period.
    iii) This KPI also takes into account proactive inspections because if the *CMG* can identify problems within sites before a complaint is received it will be accounted for within this KPI.
2) Use for Reporting
  a) Can it used in the reporting system at all?
    i) Yes, Pathway already has the capability to report on this measure. The number of sites the *CMG* is dealing with is known and the number of sites with complaints lodged is also known.
  b) How can this be applied in the reporting system?
    i) A simple percentage will be enough to put in the reporting systems. Over time these numbers can be graphed to show trends.
  c) Is it timely, brief, and informative?
    i) Yes, it is easy to report on and examine. Also, it offers information related to how well the *CMG* issues and educates construction companies.
3) Quantitative nature
  a) When measured in the reporting system, what metric can be used?
    i) A percentage.
  b) Is it subject to interpretation?
    i) No, it is very clear.

c) Is there room for people to 'fudge' or change how to evaluate the measure?
    i) There is no room to fudge this measure. This is because it is measuring complaints received, something the building officers cannot manipulate directly.
d) Is this a "gut feel" measure?
    i) This KPI offers no insight into the types of problems encountered or the types of sites that do have complaints. It may be very easy to measure what types of construction sites have complaints lodged against them using the Pathway system, but that will greatly affect the number of measures reported on. This KPI as written is intended to measure the overall performance and quality of how the building officers work to ensure construction sites do not cause complaints.

4) Responsibility to Individual or Team
a) Who is responsible for the KPI?
    i) Every building officer is responsible for recording the data in Pathway.
b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
    i) *CMG*
c) Who is the final person who reports on the issue?
    i) Senior Building Surveyor

5) Why the KPI is being measured
a) What is the significance of the measure?
    i) It measures how many construction sites receive complaints.
b) Does it provide insight to how the Building Team does work?
    i) Yes, it measures the quality of procedures used when issuing permits and educating construction companies.
c) Is there any purpose to the measure?
    i) Yes, it will help the team evaluate how well they work to ensure complaints do not occur. Also, it can be used to follow trends and predict work.
d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) N/A

6) Which goal the KPI aims to achieve
a) Is there an overlying goal?
    i) 3.3.5.26 Ensure *Construction Management Group* (*CMG*) permits are delivered within agreed timeframes & in accordance with Council's guidelines, policies and Local Laws and relevant legislation.
b) Should the measure be changed to better suit the goal?
    i) No, it should just be used in conjunction with other KPIs to fully encompass the *CMG's* work. This is an indirect measure of this goal, there are no doubt other factors that affect this goal, but this measure aims to capture and correlate the work necessary to complete this goal.
c) Does it adequately represent the goal or goals it is trying to represent?
    i) Yes, it relates to the goal, but it should be used in conjunction with other KPIs and KRIs to determine exactly where the *CMG* needs to improve.
d) Is the measure itself just a goal rather than a KPI?
    i) This KPI is not a goal; it examines the quality of work the *CMG* produces.

7) How does this fit in the overall mission and vision of the Building Team
a. Does it relate, or is the KPI just stuck on the side of the organization?
    ii) A big part of the *CMG* is dealing with complaints. This KPI measures how well the *CMG* works to ensure complaints are not received in the first place. It encompasses quality of permits, quality of education, and proactive inspections in one KPI.

% of complaints against a construction site where the site is operating within permitting conditions

1) Understandable
a) When the measure is first read, does it make sense?

i) Yes, the measure is an easily understood percentage.

b) What is being measured?
   i) The percent of sites that the *CMG* is responsible for that have complaints lodged against them where the *CMG* either can do nothing or must try to work out a compromise between two parties.

c) How does the "public" interpret the KPI?
   i) This will be a very useful KPI. It will measure the amount of complaints the *CMG* receives which cannot end in the *CMG* simply telling the construction site to change something.
   ii) There are two possible outcomes this KPI measures. Sometimes a site is operating just fine and there is nothing that can be done, the person complaining will just have to be informed that the construction company is operating legally. The other outcome is the Building Officer must negotiate a compromise between two parties (such as a construction company and neighboring business) so that both sides are happy. This can take a lot of time.
   iii) Comparatively, negotiations can take a large amount of time to deal with, so it will be important to have a measure of how often it is possible that a negotiation may be needed.

2) Use for Reporting
   a) Can it used in the reporting system at all?
      i) As long as Pathway can record the outcome of an inspection this KPI can be recorded.
   b) How can this be applied in the reporting system?
      i) A simple percentage will be enough to put in the reporting systems. Over time these numbers can be graphed to show trends.
   c) Is it timely, brief, and informative?
      i) Yes, it is easy to report on and examine. Also, it offers information related to the type of work the *CMG* could be expected to perform. If there are a high percentage of complaints like this then it is possible the *CMG* is performing a lot of negotiation work.

3) Quantitative nature
   a) When measured in the reporting system, what metric can be used?
      i) A percentage.
   b) Is it subject to interpretation?
      i) No, it is very clear.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) There is no room to fudge this measure. This is because it is measuring the type of complaint received and the only way for the Building Officer to fudge the data would be if the complaint was ignored altogether and that does not happen.
   d) Is this a "gut feel" measure?
      i) This KPI offers no insight into the nature of the complaint or the type of construction site. Also, this does not take into account when the *CMG* received calls from overzealous citizens who complain about every single small detail of a site. However, this KPI will prove useful when examined alongside all of the other *CMG* KPIs.

4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) Every building officer is responsible for recording the data in Pathway.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *CMG*
   c) Who is the final person who reports on the issue?
      i) Senior Building Surveyor

5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) It measures how many complaints received by the *CMG* require either no action or some sort of negotiation.
   b) Does it provide insight to how the Building Team does work?
      i) No, it gives insight into the type of work requested by the *CMG*, which is an important factor.
   c) Is there any purpose to the measure?

    i) Yes, it will help the team examine the work they receive and make decisions about how to allocate resources.
  d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) N/A
6) Which goal the KPI aims to achieve
  a) Is there an overlying goal?
    i) 3.3.5.20 Continually review and improve the efficiency of the complaints management system for the *Construction Management Group*.
  b) Should the measure be changed to better suit the goal?
    i) No, the measure has a specific purpose, identifying how many complaints received require either no work or special circumstances to be dealt with. This is a small part of the complaints work unit, but it does offer information to the Building Team.
  c) Does it adequately represent the goal or goals it is trying to represent?
    i) Yes, it relates to the goal, but it should be used in conjunction with other KPIs and KRIs.
  d) Is the measure itself just a goal rather than a KPI?
    i) This KPI is not a goal; it examines the quantity and type of work received by the *CMG*.
7) How does this fit in the overall mission and vision of the Building Team
  a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) This is an interesting KPI because it accounts for the fact that not every complaint can be dealt with in the same way. These are really "special circumstances" complaints and can be used to show how many unique problems the *CMG* may have to deal with. Also, some months this KPI can reflect mostly good construction sites unfortunately receiving complaints or it can reflect the *CMG* having to work with neighboring properties to help them come to compromises with construction sites.

Construction Management Group KRI Assessments

Total number of complaints received in one month

1) Ease of Reporting
   a) Yes, this KRI can easily be integrated into the reporting system. The pathway database system can generate the entire list of complaints received, and totals those numbers.
2) Relation to the KPIs
   a) This KRI complements 2 KPIs, "% of complaints during X time period that included an onsite check" and "# of sites or location with reoccurring complaint during X time period"
   b) This KRI is useful because it provides the background information or baseline for the number of complaints. Have that number present will make the data from the two KPIs be easily understood and shows that with X number of complaints, some were this, and some were others. This also helps with the percentage, for both KPIs you need the total number of complaints.

of [type] permits issued in one month

1) Ease of Reporting
   a) With the weighting system we developed, this KRI is ready to be reported on. It also weights different aspects of the permits and reports on the number of permits by type by weight.
2) Relation to the KPIs
   a) This can be used on conjunction with the KPIs related to complaints. The data, (not currently but in the future if need be) can be correlated with complaints to see which types of permits have the most complaints and form which site.

of sites the *CMG* issued permit for that have active complaints

1) Ease of Reporting
   a) Yes, this can be reported on, the complaints received can be tied to a specific location.
2) Relation to the KPIs
   a) This KRI is very similar to the KPI "% of construction sites the *CMG* is responsible for that have complaints"
   b) This KRI provides the base number of sites with complaints. This number is needed to report on the KPI above. Provides the baseline when reading the data from that KPI.

Melbourne Certification Group KPI Assessments

% of approved Report of Consent cases

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, the measure is a clearly defined number.
   b) What is being measured?
      i) This is a measure of how many reports of consent the *MCG* approves.
   c) How does the Senior Management interpret the KPI?
      i) The senior management like this KPI because shows the amount of work that is being done.
2) Use for Reporting
   a) Can it used in the reporting system at all?
      i) Yes, Pathway can provide the required data.
   b) How can this be applied in the reporting system?
      i) A graph of how this percentage changes over time.
   c) Is it timely, brief, and informative?
      i) Yes. It provides information that relates to the amount of work being performed.
3) Quantitative nature
   a) When measured in the reporting system, what metric can be used?
      i) A percentage.
   b) Is it subject to interpretation?
      i) No, it is very clear.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) No, it's a percentage of approvals.
   d) Is this a "gut feel" measure?
      i) This KPI offers no insight into the nature or complexity of the report of consent. Some may be harder to justify or require a longer report than others.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The team is responsible to this KPI.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *MCG*
   c) Who is the final person who reports on the issue?
      i) The Municipal Building Surveyor
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) This KPI measures the quality of work when dealing with reports of consent they cannot approve themselves.
   b) Does it provide insight to how the Building Team does work?
      i) Yes, it is an indication of how well the *MCG* prepares the reports.
   c) Is there any purpose to the measure?
      i) This helps the managers examine if the employees are performing quality work when it comes to this work unit. It is always important for managers to ensure that their employees are performing up to standard.
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) N/A
6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) 3.3.5.36 provide a professional, cost effective building permit service that meets customer, community, and Council needs.
   b) Should the measure be changed to better suit the goal?

    i) No, this KPI measures a small part of this goal very well. Other KPIs must also be used to examine the rest of the goal.
  c) Does it adequately represent the goal or goals it is trying to represent?
    i) Yes, it relates to the goal, but it should be used in conjunction with other KPIs and KRIs.
  d) Is the measure itself just a goal rather than a KPI?
    i) This KPI is not a goal; it examines the quality of work when dealing with reports of consent that must be issued to the BAB.
7) How does this fit in the overall mission and vision of the Building Team
  a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) Reports of Consent are issued for certifying buildings that are in violation of various building requirements. These reports of consent ensure that proper safety regulations are in place so these violations can be justified. This makes the city a safer place, which is directly in line with the mission of the Building Team.

% of appealed Report of Consent cases won

1) Understandable
  a) When the measure is first read, does it make sense?
    i) Yes, the measure is a clearly defined percentage.
  b) What is being measured?
    i) The quality of work and decision making performed by the *MCG* when deciding to pass or reject a report of consent request.
  c) How does the "public" interpret the KPI?
    i) This KPI is useful because it looks at the quality of work performed by the *MCG* when deciding to pass or reject a report of consent. It cannot be assumed that reports and consents will not be appealed just because the *MCG* performs proper work. However, it can be assumed that if the *MCG* does perform proper work they will win the appeal cases.
    ii) The only drawback to this KPI is that appeals do not happen very often so it may have to be a long term KPI.
2) Use for Reporting
  a) Can it used in the reporting system at all?
    i) Yes, Pathway can provide the required data.
  b) How can this be applied in the reporting system?
    i) A graph of how this percentage changes over time.
  c) Is it timely, brief, and informative?
    i) This KPI is very informative. If the *MCG* is getting a high win percentage than it indicates they are doing a great job.
3) Quantitative nature
  a) When measured in the reporting system, what metric can be used?
    i) A percentage.
  b) Is it subject to interpretation?
    i) No, it is very clear.
  c) Is there room for people to 'fudge' or change how to evaluate the measure?
    i) No, this number is entirely dependant on the outcome of the appeal.
  d) Is this a "gut feel" measure?
    i) This KPI offers no insight into the nature or complexity of the report of consent. This KPI looks only at the quality work being performed, not the type of work.
4) Responsibility to Individual or Team
  a) Who is responsible for the KPI?
    i) The Building Officer that deals with the report of consent as well as the appeal process.
  b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
    i) *MCG*

c) Who is the final person who reports on the issue?
    i) The Municipal Building Surveyor
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) This KPI measures the quality of work when dealing with reports of consent where the *MCG* has to make a decision.
    b) Does it provide insight to how the Building Team does work?
        i) Yes, it is an indication of the quality of the decision making process when dealing with a report of consent.
    c) Is there any purpose to the measure?
        i) This helps the managers examine if the employees are performing quality work when it comes to this work unit. It is always important for managers to ensure that their employees are performing up to standard.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) 3.3.5.36 provide a professional, cost effective building permit service that meets customer, community, and Council needs.
    b) Should the measure be changed to better suit the goal?
        i) No, this KPI measures a small part of this goal very well. Other KPIs must also be used to examine the rest of the goal.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes, it relates to the goal, but it should be used in conjunction with other KPIs and KRIs.
    d) Is the measure itself just a goal rather than a KPI?
        i) This KPI is not a goal; it examines the quality of work when dealing with reports of consent.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) Reports of Consent are issued for certifying buildings that are in violation of various building requirements. These reports of consent ensure that proper safety regulations are in place so these violations can be justified. This makes the city a safer place, which is directly in line with the mission of the Building Team.

Institute the following equation when dealing with building permits: *# Building Permits = # Certificate of Final Inspection + # Change of Occupancy + # Lapsed Permit Notices*

1) Understandable
    a) When the measure is first read, does it make sense?
        i) At first no, but once it is examined it is clear to see that this 'KPI' is just a checking system.
    b) What is being measured?
        i) This is measuring the number of lost building applications.
    c) How does the “public” interpret the KPI?
        i) This is a very simple but useful KPI, it ensures that the number of building applications is equal to the number of building permits. It checks to make sure applications weren't lost or forgotten.
2) Use for Reporting
    a) Can it used in the reporting system at all?
        i) Yes, Pathway can provide the required data.
    b) How can this be applied in the reporting system?
        i) The equations can simply be calculated and the difference, if any, can be noted.
    c) Is it timely, brief, and informative?
        i) The KPI is informative, if the equations are off it will be important to know that there are problems keeping track of all the applications.

3) Quantitative nature
    a) When measured in the reporting system, what metric can be used?
        i) A number.
    b) Is it subject to interpretation?
        i) No, it is very clear.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) No, this number is entirely dependant on applications and permits issued, nothing in between.
    d) Is this a "gut feel" measure?
        i) This KPI offers no insight into the nature or complexity of the application; it just ensures that the applications are not lost.
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The Building Officer that deals with lodging the application and issuing the permit.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) *MCG*
    c) Who is the final person who reports on the issue?
        i) Senior Building Surveyor
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) This KPI will identify potential problems within the *MCG*.
    b) Does it provide insight to how the Building Team does work?
        i) Yes, if the equations do not balance out then it indicates problems within how the *MCG* is organized.
    c) Is there any purpose to the measure?
        i) This helps the managers identify possible problems within how the *MCG* operates.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) 3.3.5.36 provide a professional, cost effective building permit service that meets customer, community, and Council needs.
    b) Should the measure be changed to better suit the goal?
        i) No, this KPI measures a small part of this goal very well. Other KPIs must also be used to examine the rest of the goal.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes, it relates to the goal, but it should be used in conjunction with other KPIs and KRIs.
    d) Is the measure itself just a goal rather than a KPI?
        i) This KPI is not a goal; it examines the quality of work when dealing with reports of consent.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) Issuing building permits is important to ensuring that Melbourne advances as a city. Issuing safe permits is also important to ensuring that the public is safe during construction phases.

% of quotes accepted by construction companies

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes, the KPI is straightforward.
    b) What is being measured?
        i) It measures the number of quotes accepted by construction companies versus the total number of quotes sent or made for construction companies.
2) Use for Reporting
    a) Is it used in the reporting system at all?

    i) This can be integrated into the reporting systems without having the Building Officers perform more work.
  b) How is this applied in the reporting system?
    i) The quotes created for construction organizations (the number of them) can be pulled from the Pathway system, and the number accepted (if not directly available) could be measured from the sites the *MCG* is working on. This can be done without more work for the officers and provides insight into the quality of the *MCG's* work and how competitive they are.
  c) Is it timely, brief, and informative?
    i) See above
3) Quantitative nature
  a) When measured in the reporting system, what metric is used?
    i) This KPI measures a percentage. The number of accepted quotes over the total number of quotes.
  b) Is it subject to interpretation?
    i) No, this KPI is based off the work the Building Officers do and the data they input into Pathway. There isn't room for the KPI itself to be integrated differently.
  c) Is there room for people to 'fudge' or change how to evaluate the measure?
    i) See above
  d) Is this a "gut feel" measure?
    i) See above
4) Responsibility to Individual or Team
  a) Who is responsible for the KPI?
    i) The *MCG* is responsible for this KPI. It can be measured on an individual basis to see how each individual is doing compared to the number of quotes they create and those that are accepted, however this is mainly for a group basis.
  b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
    i) *MCG*.
  c) Who is the final person who reports on the issue?
    i) See above (4.a)
5) Why the KPI is being measured
  a) What is the significance of the measure?
    i) This measure looks at two main areas. First, the quality of work the *MCG* is doing. If a lot of quotes are being accepted then the quality of work the *MCG* is doing is high. This also relates to how competitive the *MCG* is. If they are producing a high number of quotes and a high number are being accepted, then the *MCG* is competitive in the environment.
  b) Does it provide insight to how the Building Team does work?
    i) See above
  c) Is there any purpose to the measure?
    i) See above
  d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) NA
6) Which goal the KPI aims to achieve
  a) Is there an overlying goal?
    i) The overlying goal is to remain competitive in the deregulated permitting environment.
  b) Should the measure be changed to better suit the goal?
    i) No.
  c) Does it adequately represent the goal or goals it is trying to represent?
    i) This KPI when combines with others really shows the progress towards this goal.
  d) Is the measure itself just a goal rather than a KPI?
    i) See above
7) How does this fit in the overall mission and vision of the Building Team
  a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) This KPI fits into the overall mission of the *MCG* in remaining competitive in the deregulated permitting environment.

of mandatory inspections per [type] permit quoted versus the actual number of inspections

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes, this KPI is easily understood.
    b) What is being measured?
        i) For this KPI, the mandatory inspections for a specific type of permit are being measured. For this process, the *MCG* quotes a number of inspections that may be equal or different to the actual number of inspections. This measures the changes form the number of actual inspections.
2) Use for Reporting
    a) Is it used in the reporting system at all?
        i) This can be put in the reporting system easily. Pathway should be able to take the number of expected inspections and record that and record the number of actual inspections. The inspections should be tied to a specific site.
    b) How is this applied in the reporting system?
        i) Pathway will output the data in percentages from actual # over # quoted
    c) Is it timely, brief, and informative?
        i) See above
3) Quantitative nature
    a) When measured in the reporting system, what metric is used?
        i) This KPI used numbers and percentages.
    b) Is it subject to interpretation?
        i) No, this KPI is based directly off of the data the Building Officers input into pathway.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) See above
    d) Is this a "gut feel" measure?
        i) See above
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The *MCG* is responsible. This can be measured on an individual basis to see how they are with quoting something, however the number of inspections may increase and have nothing to do with the officer. With that, this should be measured on a group basis.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) *MCG*
    c) Who is the final person who reports on the issue?
        i) NA
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) This measure shows the accuracy of the quotes the *MCG* is producing and provides information regarding the amount of work the *MCG* is doing. With some cases, the number of inspections increases and is out of the *MCG's* hands. This KPI does not represent that.
    b) Does it provide insight to how the Building Team does work?
        i) See above
    c) Is there any purpose to the measure?
        i) See above
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) NA
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) The overlying goal is for the *MCG* to remain competitive.
    b) Should the measure be changed to better suit the goal?
        i) This KPI combined with other KPIs show the *MCG* where they stand in achieving that goal.

c) Does it adequately represent the goal or goals it is trying to represent?
    i) See above
d) Is the measure itself just a goal rather than a KPI?
    i) NA

7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) This KPI relates to the over goal of the *MCG* being competitive in the deregulated permitting environment.

Melbourne Certification Group KRI Assessments

of Report of Consent cases requested from the MCG

1) Ease of Reporting
   a) This KRI is easily reported on. Pathway can generate the number of Reports of Consent requested from the *MCG* over a given time period.
2) Relation to the KPIs
   a) This KRI relates to the KPI "% of approved Report of Consent cases." This KRI gives the baseline and some background information. That KPI just looks at the number approved versus rejected. With this KRI as background information, would let the person know how many were originally requested as well.

% of rejected Reports of Consent that are appealed

1) Ease of Reporting
   a) Pathway records which KPIs are rejected, and the number appealed. This ratio can be reported on easily.
2) Relation to the KPIs
   a) This is a KRI provides good information regarding the quality of work, decision making, and the justification the *MCG* officers are able to make. This however is not a KPI. The main reasoning this is not a KPI is that the appeal of the reports is not a performance of the officers. The building owners, etc reject these cases. This KRI provides background information and is a vital part in the reports of consent reporting area. This feeds into the "% of approved reports of consent" and "% of appealed Report of Consent cases won" KPIs. With these three combined, the information on the Reports of Consent will be detailed.

of permits issued over one month

1) Ease of Reporting
   a) Pathway can generate this number over a given time period (one month).
2) Relation to the KPIs
   a) This relate to the KPI that follows the permits equation and also provides insight to the amount of work being done by the *MCG*. This is a result rather than a process and therefore is a KRI.

of quotes issued over one month

1) Ease of Reporting
   a) This can be reported on using Pathway to generate the number of quotes over a certain time period (one month).
2) Relation to the KPIs
   a) This KRI complements all the KPIs that measure aspects of quotes. This provides the baseline number of quotes issued over a given time. This is needed for other KPIs to be reported on.

*Change in *MCG's* % of the Market Share

1) Ease of Reporting
   a) This KRI is partially reported on the monthly reports. The % of the market is reported on. This KRI looks at the changes in that percentage.
2) Relation to the KPIs
   a) This relates to the goal of keeping the *MCG* competitive. When combines with 2 other KRIs (Value of Work and Cost Neutral) this KRI provides a good insight into how competitive the *MCG* is. Also, instead of

looking at just the market share, this looks at the change in market share, showing where the *MCG* stand currently and how it was in the past. Can show some historical data.

Value of work

1) Ease of Reporting
   a) This is currently reported on in the monthly reports
2) Relation to the KPIs
   a) This is a good indicator to see the value of work the *MCG* is doing over an amount of time. This also complements the Market Share KPI.

*Cost neutral - Expenses equals income

1) Ease of Reporting
   a) This is not currently reported on, but most likely could be reported on using Pathway.
2) Relation to the KPIs
   a) The *MCG's* main goal is to remain a cost neutral organization (expenses equals income). Although this rarely happens, this should be measured to see where the *MCG* stands. May also show insight into the legitimacy of the quotes the *MCG* is issuing. This rarely happens because some jobs (Reports of Consent) have a set price to them and often that price does not cover the full amount of work.

of Mandatory inspections per [type] permit issued

1) Ease of Reporting
   a) Pathway can determine the number of inspections per permit type.
2) Relation to the KPIs
   a) This provides background information for KPIs. Also, this can be used with the KPI "# of mandatory inspections per [type] permit quotes versus the actual number." This will provide the actual number per permit type. Can help with the quoting process is the averages are taken over a long period of time.

Building Control Group KPI Assessments

Ratio of complaints opened to complaints resolved in a specific time period

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, the measure is a clearly defined ratio.
   b) What is being measured?
      i) Complaints are being measured. Specifically, this KPI measures if more complaints are being opened or resolved in a specific time period.
   c) How does the Senior Management interpret the KPI?
      i) This was perceived as a good measure of the Building Team's work.
   d) How do the employees interpret the KPI?
      i) This was seen as a valuable KPI. The only weakness that was evident was that it may influence the level of investigation a building officer may have for a given complaint. The complexity may cause that level to decrease.
   e) How does the "public" interpret the KPI?
      i) This is a clear indication of the *BCG's*. The *BCG* is responsible for dealing with complaints it receives from various individuals within the city. It is important for the *BCG* to make sure these complaints are resolved and the city is safe, which is what this KPI will be used to examine.
   f) A ratio of 1 or greater than 1 is ideal. That indicates that the *BCG* is resolving the same number of complaints it resolves, if the ratio is greater than 1 it means the *BCG* is dealing with older issues and working on finishing backed up work. If the ratio is less than 1 it means more complaints are being issued than resolved and the *BCG* must still resolve them.
2) Use for Reporting
   a) Can it used in the reporting system at all?
      i) Yes, Pathway can easily provide the necessary data to report on this KPI.
   b) How can this be applied in the reporting system?
      i) A graph of how this ratio changes over time will show the required information.
   c) Is it timely, brief, and informative?
      i) Yes, it is easy to obtain and compile the data as well as examine the result and determines what it means in terms of *BCG* performance.
3) Quantitative nature
   a) When measured in the reporting system, what metric can be used?
      i) A ratio.
   b) Is it subject to interpretation?
      i) No, it is very clear.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) There is a slight chance of these data being fudged, but it is highly unlikely. In order to manipulate these data the Building Officer would have to report a complaint being resolved when it was not, which is unlikely to happen.
   d) Is this a "gut feel" measure?
      i) This KPI offers no insight into the nature or complexity of the complaint. This KPI would reflect everything from an easily solved complaint to an extremely complex problem.
      ii) The term 'resolve' also needs to be defined. The Project Group must determine if this means 'The problem is completely fixed' or 'the owner has been made aware of the problem and the actions which must be taken'. The Latter would account for varying complexities because it does not factor in the money associated with fixing a problem or the cooperation of the Building Owner. However, if the latter is used as the definition than it does not account for if the problem is actually fixed and the building made safer.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) Every building officer is responsible for recording the data in Pathway and resolving complaints.

b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
    i) *BCG*
c) Who is the final person who reports on the issue?
    i) The Municipal Building Surveyor

5) Why the KPI is being measured
a) What is the significance of the measure?
    i) The measure looks at how well the *BCG* resolves complaints.
b) Does it provide insight to how the Building Team does work?
    i) Yes, a way of measuring the Team's performance is to examine how they deal with complaints.
c) Is there any purpose to the measure?
    i) It will help the managers examine where their employees are spending their time. This KPI should be used in conjunction with others for full effect.
d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) N/A

6) Which goal the KPI aims to achieve
a) Is there an overlying goal?
    i) 3.3.5.18 Continually review and improve processes for issuing Emergency Orders.
    ii) 3.3.5.41 Review and improve the management of Building Notices & Orders records and actions.
    iii) 3.3.5.35 provide a 24/7 on call emergency service to respond to building related emergencies & complaints.
b) Should the measure be changed to better suit the goal?
    i) No, the measure helps provide information on how well the *BCG* fulfills these goals. In order to get a better idea of how these goals are fulfilled the *BCG* must use this KPI in conjunction with others.
c) Does it adequately represent the goal or goals it is trying to represent?
    i) Yes, it relates to the goal, but it should be used in conjunction with other KPIs and KRIs.
d) Is the measure itself just a goal rather than a KPI?
    i) This KPI is not a goal; it examines the quality of work when dealing with complaints.

7) How does this fit in the overall mission and vision of the Building Team
a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) The overall mission and vision of the Building Team is to make the City of Melbourne safer. This KPI fits directly in line with that mission.

of building notices opened versus the # of building notices closed within the last 12 months

1) Understandable
a) When the measure is first read, does it make sense?
    i) Yes, it has an easily understood name.
b) What is being measured?
    i) The ratio of the notices opened to the notices closed.
c) How does the Senior Management interpret the KPI?
    i) This KPI was seen as a good measure, but one needs to be mindful of the notices and orders that are left when someone leaves the Building Team.
d) How do the employees interpret the KPI?
    i) An employee remarked that it might influence the level of investigation and enforcement taken as well as any compromise to close.
e) How does the “public” interpret the KPI?
    i) The public can see this as the progress of the Building Team. The general numbers of notices open to closed is an indicator of the workload of the Team.

2) Use for Reporting
a) Is it used in the reporting system at all?
    i) It is a good indicator of the amount of works that are being completely resolved (need no further attention). It hints at the complexity of the jobs being received by the team. The more notices being

resolved suggest that more notices are either going to Building Orders. It may also suggest that the recipients of the notices are quickly resolving the issues raised by the notice.

b) How is this applied in the reporting system?
   i) It can be a graph to mark the progress of the team over the 12-month period.
c) Is it timely, brief, and informative?
   i) It is concise, with some variance in interpretation. The interpretation will vary in the manner in which the notices are being resolved.

3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) The number of notices, both open and closed, is the metric with respect to a time period of 12 months.
   b) Is it subject to interpretation?
      i) Yes, the manner in which the building notices is being closed (building orders, or recipients who address and fix every issue on the notice in a timely fashion).
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) Very little room, unless the officer lowers the level of investigation and enforcement for a complex job.
   d) Is this a "gut feel" measure?
      i) No. It is quantitative.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The KPI can be broken in the individual statistics or as the group as a whole.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) The *BCG* is responsible for this KPI.
   c) Who is the final person who reports on the issue?
      i) This is a decision made by the executive officer.
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) It brings attention to the amount of work that is being completed within a twelve-month period. It also brings awareness to any individual trend that may not have been apparent.
   b) Does it provide insight to how the Building Team does work?
      i) It shows the longer-term outcomes of the Building Team and can demonstrate the trends of the team.
   c) Is there any purpose to the measure?
      i) It shows the amount of work that is being completed in relation to the amount of work that is being received.
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) NA
6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) It aims to help the team work better as a group by raising the awareness of the tasks that can be completed.
   b) Should the measure be changed to better suit the goal?
      i) It may require some further changes if problems arise during implementation.
   c) Does it adequately represent the goal or goals it is trying to represent?
      i) Yes, but it can't stand-alone. It requires a similar KPI that refers to the building orders.
   d) Is the measure itself just a goal rather than a KPI?
      i) No, it's a KPI that inquires statistics.
7) How does this fit in the overall mission and vision of the Building Team
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) Yes, it is focused on the Building Team's progress.

of building orders opened versus the # of building orders closed within the last 12 months

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes, it has an easily understood name.
    b) What is being measured?
        i) The ratio of the building orders opened to the building orders closed.
    c) How does the Senior Management interpret the KPI?
        i) This KPI was seen as a good measure, but one needs to be mindful of the notices and orders that are left when someone leaves the Building Team.
    d) How do the employees interpret the KPI?
        i) An employee remarked that it might influence the level of investigation and enforcement taken as well as any compromise to close.
    e) How does the "public" interpret the KPI?
        i) The public can see this as the progress of the Building Team. The general numbers of orders open to closed is an indicator of the workload of the Team.
2) Use for Reporting
    a) Is it used in the reporting system at all?
        i) It is a good indicator of the amount of works that are being completely resolved (need no further attention). It hints at the complexity of the jobs being received by the team.
    b) How is this applied in the reporting system?
        i) It can be a graph to mark the progress of the team over the 12-month period.
    c) Is it timely, brief, and informative?
        i) It is concise, but doesn't provide insight into the complexity of the building order.
3) Quantitative nature
    a) When measured in the reporting system, what metric is used?
        i) The number of orders, both open and closed, is the metric with respect to a time period of 12 months.
    b) Is it subject to interpretation?
        i) No, the building orders are either may be either open or closed.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) Very little room, unless the officer lowers the level of investigation and enforcement for a complex job.
    d) Is this a "gut feel" measure?
        i) No. It is quantitative.
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The KPI can be broken in the individual statistics or as the group as a whole.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) The *BCG* is responsible for this KPI.
    c) Who is the final person who reports on the issue?
        i) This is a decision made by the executive officer.
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) It brings attention to the amount of work that is being completed within a twelve-month period. It also brings awareness to any individual trend that may not have been apparent.
    b) Does it provide insight to how the Building Team does work?
        i) It shows the longer-term outcomes of the Building Team and can demonstrate the trends of the team.
    c) Is there any purpose to the measure?
        i) It shows the amount of work that is being completed in relation to the amount of work that is being received.

d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) NA
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) It aims to help the team work better as a group by raising the awareness of the tasks that can be completed.
    b) Should the measure be changed to better suit the goal?
        i) It may require some further changes if problems arise during implementation.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes, but it can't stand-alone. It requires a similar KPI that refers to the building notices.
    d) Is the measure itself just a goal rather than a KPI?
        i) No, it's a KPI that inquires statistics.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) Yes, it is focused on the Building Team's progress.

of building notices that turn into building orders

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes.
    b) What is being measured?
        i) The number of building notices that require father action and become a building order.
    c) How does the Senior Management interpret the KPI?
        i) This KPI was seen as a good measure, but one needs to be mindful of the notices and orders that are left when someone leaves the Building Team.
    d) How do the employees interpret the KPI?
        i) This KPI was said to be used along side similar KPIs to provide a better scope of data
    e) How does the "public" interpret the KPI?
        i) The public may view this as the level of enforcement of the building Team.
2) Use for Reporting
    a) Is it used in the reporting system at all?
        i) Currently, it is not.
    b) How is this applied in the reporting system?
        i) It can be used to speak to the level of enforcement the Building Team is taking over a period of time.
    c) Is it timely, brief, and informative?
        i) Yes. The KPI is concise and informative.
3) Quantitative nature
    a) When measured in the reporting system, what metric is used?
        i) The number of building notices that turn to building orders is measure over a period of time.
    b) Is it subject to interpretation?
        i) Yes is may be interpreted in several ways. For example, the results may be interpreted as a level of enforcement or the building team, or level of cooperation with the building owner.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) No.
    d) Is this a "gut feel" measure?
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The Team.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) The *BCG*.
    c) Who is the final person who reports on the issue?

    i) This is to be determined.
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) It helps the similar KPIs cover the broad range follow up action with building notices.
    b) Does it provide insight to how the Building Team does work?
        i) Yes, it demonstrates the manner in which the building notices are being handled.
    c) Is there any purpose to the measure?
        i) Yes, to assist with the data collected from the similar building notice KPIs.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) Ensure quality services.
    b) Should the measure be changed to better suit the goal?
        i) It may require changes when it is implemented.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) It helps show the enforcement levels required.
    d) Is the measure itself just a goal rather than a KPI?
        i) No, it's a measure.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) It pertains directly to a significant duty of the organization.

Ratio of total number of complaint inspections to total number complaints

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes, it's concise and informative.
    b) What is being measured?
        i) The ratio of the number of inspections due to complaints over the total number of complaints.
    c) How does the Senior Management interpret the KPI?
        i) They saw this KPI as useful for examining an activity that consumes much of the Building Officers time.
    d) How do the employees interpret the KPI?
        i) It was said that this will help show that the number of complaints doesn't equal the number of inspections required.
    e) How does the "public" interpret the KPI?
        i) This may demonstrate that not all complaints require an onsite inspection.
2) Use for Reporting
    a) Is it used in the reporting system at all?
        i) Not currently.
    b) How is this applied in the reporting system?
        i) It can be used to identify the ratio of inspections required for the given number of complaints. This may show the complexity of the complaints received. If they can be resolved without an onsite inspection, it is generally considered an "easier" complaint.
    c) Is it timely, brief, and informative?
        i) Yes. The larger the number the more inspections, the smaller the number, the more complaints were resolved in the office.
3) Quantitative nature
    a) When measured in the reporting system, what metric is used?
        i) The number of complaints and the number of inspections directly related to complaints.
    b) Is it subject to interpretation?
        i) No, the numbers are a clear indicator.

c) Is there room for people to 'fudge' or change how to evaluate the measure?
    i) No, because the numbers are totals.
d) Is this a "gut feel" measure?
    i) No, it is very much a quantitative measure.

4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) It can be structured to show the individual datum or group data.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) This is a *BCG* KPI.
    c) Who is the final person who reports on the issue?
        i) This will be the Executive Officers decision.
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) It shows the ratio of the complaints received that require inspections. This change, with the right justification, will demonstrate the average complexity of the complaints for that time period.
    b) Does it provide insight to how the Building Team does work?
        i) When looking at these ratios and complaint specifics, it can show how the *BCG* responds to different types of complaints.
    c) Is there any purpose to the measure?
        i) Yes. As stated above.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) Provide quality services
    b) Should the measure be changed to better suit the goal?
        i) May require changes after implementation.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) It provides information that may be useful to increase the quality of services provided.
    d) Is the measure itself just a goal rather than a KPI?
        i) No, it's a metric that can assist in achieving the goal.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) It fits into "quality services."

Ratio of complaint inspections to the number of complaints that require an inspection

1) Understandable
    a) When the measure is first read, does it make sense?
        i) It's difficult to understand at first glance, but it is understandable.
    b) What is being measured?
        i) The ratio of inspections that are due to complaints divided by the total number of complaints that require at least one inspection.
    c) How does the Senior Management interpret the KPI?
        i) They saw this as supplementary to the other complaint focused KPIs.
2) Use for Reporting
    a) Is it used in the reporting system at all?
        i) It's not currently used.
    b) How is this applied in the reporting system?
        i) It can be used to show the number of inspections that are needed on average for the complaints that do need an inspection. In short, it helps demonstrate how quickly complaints are resolved.
    c) Is it timely, brief, and informative?
        i) It's concise and informative.

3) Quantitative nature
    a) When measured in the reporting system, what metric is used?
        i) The number of inspections provoked by complaints and the number of complaints that require inspection. This could be measured over a monthly basis.
    b) Is it subject to interpretation?
        i) Its results may be interpreted as the groups' ability to resolve complaints in a timely fashion or it may show the complexity of complaints that are being received by the Building Team.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) No. It's a set of numbers.
    d) Is this a "gut feel" measure?
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The team would be responsible.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) This applies to the *BCG*.
    c) Who is the final person who reports on the issue?
        i) This is to be determined.
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) It shows the average number of inspections per complaint that requires inspection.
    b) Does it provide insight to how the Building Team does work?
        i) It may show how well the Building Team resolves the issue.
    c) Is there any purpose to the measure?
        i) Yes. The complexity and the Building Team's ability are evident in this KPI.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) Provide quality services
    b) Should the measure be changed to better suit the goal?
        i) It may require changes after implementation.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes, it shows a portion of the Officers everyday activities.
    d) Is the measure itself just a goal rather than a KPI?
        i) This is a measure that helps achieve the goal.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) It relates heavily to the *BCG's* everyday tasks.

% of complaints during a specific time period that require an onsite check

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes, the measure is a clearly defined percentage.
    b) What is being measured?
        i) The general complexity of the work when dealing with a complaint.
    c) How does the Senior Management interpret the KPI?
        i) This was also seen as complementary to the other complaint based KPIs. They provide a "bigger picture" when combined.
    d) How do the employees interpret the KPI?
        i) It was said that is does not capture the amount of work completed in the office (research, correspondence).
    e) How does the "public" interpret the KPI?

i) This KPI is useful because it gives an indication of the complexity of work the *BCG* must deal with. This measures how often the *BCG* must leave the office and travel offsite to deal with a complaint.

2) Use for Reporting
   a) Can it used in the reporting system at all?
      i) Yes, Pathway can easily provide the necessary data to report on this KPI.
   b) How can this be applied in the reporting system?
      i) A graph of how this percentage changes over time will show the required information.
   c) Is it timely, brief, and informative?
      i) Yes, it is easy to obtain and compile the data as well as examine the result and determine what it means in terms of *BCG* work.
3) Quantitative nature
   a) When measured in the reporting system, what metric can be used?
      i) A ratio.
   b) Is it subject to interpretation?
      i) No, it is very clear.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) There is a chance for the data to be fudged. In order to manipulate the data the Building Officer would have to attempt to deal with a complaint that does require an onsite visit from the office without ever going on site. It is unlikely that would happen, but still a possibility.
   d) Is this a "gut feel" measure?
      i) This KPI offers no insight into the nature or complexity of the complaint once the officer is actually onsite. This KPI would reflect everything from an easily solved complaint to an extremely complex problem.
      ii) Also this KPI gives no insight into the quality of work, it measures quantity.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) Every building officer is responsible for recording the data in Pathway and resolving complaints.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *BCG*
   c) Who is the final person who reports on the issue?
      i) The Municipal Building Surveyor
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) The measure can be used to get an idea for the nature of the complaints the *BCG* typically has to deal with. When examined with other KPIs and KRIs the data can be graphed over time to identify trends and estimate future work.
   b) Does it provide insight to how the Building Team does work?
      i) No, it provides insight into how much work the *BCG* does, not the quality of that work.
   c) Is there any purpose to the measure?
      i) It will help the managers examine where their employees are spending their time. This KPI should be used in conjunction with others for full effect. For example, if this KPI increases over time, and the number of complaints increases over time (A KRI), then it would make sense to assume the *BCG* will be spending more time in future months dealing with these complaints.
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) N/A
6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) 3.3.5.18 Continually review and improve processes for issuing Emergency Orders.
      ii) 3.3.5.41 Review and improve the management of Building Notices & Orders records and actions.
      iii) 3.3.5.35 provide a 24/7 on call emergency service to respond to building related emergencies & complaints.
   b) Should the measure be changed to better suit the goal?

i) No, the measure helps provide information on how well the *BCG* fulfills these goals. In order to get a better idea of how these goals are fulfilled the *BCG* must use this KPI in conjunction with others.

c) Does it adequately represent the goal or goals it is trying to represent?
   i) Yes, it relates to the goal, but it should be used in conjunction with other KPIs and KRIs.

d) Is the measure itself just a goal rather than a KPI?
   i) This KPI is not a goal; it examines the quantity of work when dealing with complaints.

7) How does this fit in the overall mission and vision of the Building Team
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) The overall mission and vision of the Building Team is to make the City of Melbourne safer. This KPI fits directly in line with that mission by examining the amount of work the *BCG* must perform in relation to complaints.

Customer Service- % of complaints acknowledged in specified time frame

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, the measure is a clear percentage. The only term that must be defined is acknowledged, which the project Group takes to mean any form of communication to the individual that made the complaint letting them know it will be dealt with.
   b) What is being measured?
      i) Customer service is being measured.
   c) How does the Senior Management interpret the KPI?
      i) This was seen as difficult to record. The senior management was concerned for the amount of time that it would take to record the data from phone conversations.
   d) How do the employees interpret the KPI?
      i) Employees generally agree that this is a very important KPI to measure because customer service is seen as a priority among the team. It is generally accepted that the *BCG* wants to ensure the public is satisfied with their performance.
   e) How does the "public" interpret the KPI?
      i) I believe this KPI is a great indication of the *BCG's* customer service when it comes to dealing with complaints.
2) Use for Reporting
   a) Can it used in the reporting system at all?
      i) Yes, Pathway can easily provide the necessary data to report on this KPI.
   b) How can this be applied in the reporting system?
      i) A graph of how this percentage changes over time will show the required information.
   c) Is it timely, brief, and informative?
      i) Yes, it is easy to obtain and compile the data as well as examine the result and determine what it means in terms of the *BCG's* quality of work.
3) Quantitative nature
   a) When measured in the reporting system, what metric can be used?
      i) A percentage.
   b) Is it subject to interpretation?
      i) No, it is very clear.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) It is possible to manipulate the data. When a complaint is received it needs to be lodged and assigned to an Building Officer right away. If it takes a day or two to actually lodge the application Pathway does not know when the complaint was actually received.
   d) Is this a "gut feel" measure?
      i) No, this measures something that happens before any investigation, inspection, or actual work, which can be skewed by complexity, must be performed. The first step in dealing with a complaint is the

acknowledgment; therefore, this KPI transcends all complexity issues and is a clear indication of customer satisfaction.

4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The Building Officer who the complaint is assigned to is responsible for making the acknowledgement.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) *BCG*
    c) Who is the final person who reports on the issue?
        i) The Municipal Building Surveyor
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) The Building Team regards customer service as important and thus this is a great way to measure it.
    b) Does it provide insight to how the Building Team does work?
        i) Yes, this KPI directly relates to the quality of customer service.
    c) Is there any purpose to the measure?
        i) This KPI will help managers determine if Officers are performing to an acceptable level when processing a complaint.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    e) N/A
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) This does not relate directly to a specific goal identified within the business plan for the *BCG*. However, Building Officers discussed with the Project Group that one of council's long term and overarching goals is to improve customer service.
    b) Should the measure be changed to better suit the goal?
        i) No, the measure reflects council's desires to improve customer satisfaction.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes.
    d) Is the measure itself just a goal rather than a KPI?
        i) This KPI is not a goal; it looks at the amount of time the Building Team reaches a specific goal of acknowledging a complaint within a specific time frame.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) The overall mission and vision of the Building Team is to make the City of Melbourne safer. This KPI encourages Building officers to acknowledge complaints faster which helps to improve the safety within the City of Melbourne.

***POPEs - # of inspections per permit with relation to the size of the permit**

***TOPs - # of inspections per permit with relation to the size of the permit**

Building Control Group KRI Assessments

Ratio of total # of complaints received to the square meter floor are of the City of Melbourne

1) Ease of Reporting
   a) This KRI can be reported on through pathway. It is a simple equation with the number of complaints over the square meter floor area of the city.

2) Relation to the KPIs
   a) This KRI does not directly relate to a KPI. This KRI provides some insight into the thought that with more floor space, the number of complaints increases. This correlation could be useful for the managers when determining how to split work or request more resources.

Building Team KPI Assessments

*Average # of days per month employees are absent

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, this KPI is straightforward in what it is measuring.
   b) What is being measured?
      i) This KPI looks at absenteeism, it measures the average number of days per month employees are absent. The equation would be the # of days absent by everyone over the number of building officer.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) This KPI would be more used for the management. It would allow them to see how much work they can get done with employees being absent for X average days. This just provides them with some information.
   b) How is this applied in the reporting system?
      i) See above
   c) Is it timely, brief, and informative?
      i) See above
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) This KPI measures an average. Rather than look at each officer individually this would be averaged across the entire building team.
   b) Is it subject to interpretation?
      i) No, this is a straightforward number. The outcome can be interpreted differently.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) See above
   d) Is this a "gut feel" measure?
      i) See above
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The senior management would be responsible for this KPI.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) This applies to all groups.
   c) Who is the final person who reports on the issue?
      i) NA
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) This measure looks at how often people are absent. This can be correlated with other KPIs to see how much can be completed with people being absent for a certain amount of time.
   b) Does it provide insight to how the Building Team does work?
      i) Yes, however the results of the KPI can be interpreted differently. One being, realizing that people are absent a lot and how this may correlate to the amount of work being done. The other is that with the small amount of absences, people are still only getting X amount done. This can be interpreted differently.
   c) Is there any purpose to the measure?
      i) See above
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) NA
6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?

i) The goal is to provide the CoM with the highest levels of safety. Having people present means more people are able to get work done, which can correlate to the safety of the City.

b) Should the measure be changed to better suit the goal?
   i) No, it suits the goal well.
c) Does it adequately represent the goal or goals it is trying to represent?
   i) See above
d) Is the measure itself just a goal rather than a KPI?
   i) See above

7) How does this fit in the overall mission and vision of the Building Team
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) The overall purpose of the Building Team is to provide a service to the CoM. This relates to the services that can be allocated.

*# of files opened versus # of files closed within the last 12 months

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, this KPI is similar to ones for other groups.
   b) What is being measured?
      i) This KPI measures the number of files (defined as notices, orders, audits, complaints, permits, etc) that are opened versus the number closed within the last 12 months. This serves as a constant reminder that files need to be closed.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) This can be used and integrated into the monthly reporting without much more work from the building officer. Pathway records the status of the files. Pathway should be able to generate a number of files with a certain status.
   b) How is this applied in the reporting system?
      i) Pathway should be able to generate the number of files with a certain status.
   c) Is it timely, brief, and informative?
      i) See above
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) A ratio is what is used. The equation would be the # of files opened over the # of files closed. Files are defined in 1b.
   b) Is it subject to interpretation?
      i) The KPI is not, the results are. The results can be used to justify different ideas. The main purpose of this KPI is to be a constant reminder that files need to be closed. Also, working to close these files will minimize the risk for the organization.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) See above
   d) Is this a "gut feel" measure?
      i) See above
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The Senior Management is responsible for this KPI ultimately. However, it is the team's job to work and close the files. Therefore the responsibility is on the entire building team.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) All the groups.
   c) Who is the final person who reports on the issue?
      i) NA
5) Why the KPI is being measured

a) What is the significance of the measure?
    i) This measure looks at having files opened versus closed. The purpose of this is to be a constant reminder that all files need to be closed and that having more open files creates more risk for the organization.
b) Does it provide insight to how the Building Team does work?
    i) Yes, it looks at the numbers of files opened and closed. This can be split per groups within the Building Team to look at their workload and how they are managing that work.
c) Is there any purpose to the measure?
    i) See above
d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) NA

6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) The overlying goal is to provide a service to the CoM. By making sure these files are closed, the Building Team is completing the services to the CoM.
    b) Should the measure be changed to better suit the goal?
        i) No, it fits the goal well.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) See above
    d) Is the measure itself just a goal rather than a KPI?
        i) NA
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) See 6a. This fits with the mission and vision of the organization.

Modified KPI Assessments

% of construction sites proactively checked for compliance with permit conditions of the *CMG*

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes. It would make sense to the Building Team.
   b) What is being measured?
      i) The percentage of construction sites that are checked proactively.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) This KPI can be reported on without much more work from the Building Officers. The only thing that may have to happen is to distinguish a proactive inspection from a reactive inspection.
   b) How is this applied in the reporting system?
      i) The equation is the # of sites checked proactively over the total # of sites the *CMG* issues permits for.
   c) Is it timely, brief, and informative?
      i) See above
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) A percentage of the total # sites checked proactively over the total # sites.
   b) Is it subject to interpretation?
      i) No. Very Quantitative. This directly relates to the information input into pathway.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) See above
   d) Is this a "gut feel" measure?
      i) See above
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) Every member of the team is responsible for going out and checking for compliance.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *CMG* – Deals directly with construction projects.
   c) Who is the final person who reports on the issue?
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) To provide a measure of the amount of "quality control" the team does. This also works with other KPIs relating to proactive inspections. This can be used to justify more proactive or reactive inspections.
   b) Does it provide insight to how the Building Team does work?
      i) It shows the proactive nature of the *CMG*.
   c) Is there any purpose to the measure?
      i) To make sure that the permits issued are complying and to make sure that Building Officers get out into sites to enforce permits.
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) N/A
6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) 3.3.5.11 from the business plan – Manage construction noise and nuisance in accordance with the activities local law 1999, the CMP guidelines and the noise and vibration control guidelines.
   b) Should the measure be changed to better suit the goal?
      i) It suits the overlying goal.
   c) Does it adequately represent the goal or goals it is trying to represent?
      i) See above.

d) Is the measure itself just a goal rather than a KPI?
    i) See above
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) This KPI measures the service provided proactively.

% of times the *MCG* provides quotes for major projects within the specified time period

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes, this is how often the *MCG* provides quotes for major projects in the set time period.
    b) What is being measured?
        i) Time is being measured. Specifically, the time it takes the *MCG* to provide a quote to contractors and how often they make that timeframe.
2) Use for Reporting
    a) Is it used in the reporting system at all?
        i) This KPI could be easily implemented into the reporting system. The time period, and the times from when the quote is requested until it is issued should be measured. With that, it will be easy to measure.
    b) How is this applied in the reporting system?
        i) The equation is # of time fulfilled over the # requested.
    c) Is it timely, brief, and informative?
        i) N/A
3) Quantitative nature
    a) When measured in the reporting system, what metric is used?
        i) A percentage
    b) Is it subject to interpretation?
        i) This KPI is pretty straightforward. The numbers are based of times from when the request is received until the quote is delivered.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) See above
    d) Is this a "gut feel" measure?
        i) See above
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The individual preparing the quote is responsible. However, it may be possible many people work on one quote so this KPI may cover more than one person at a time.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) This applies to the *MCG*.
    c) Who is the final person who reports on the issue?
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) This measure would be significant because it shows how fast the building team works. It is important for the building team to produce quotes and permits fast and efficiently so construction projects can proceed and the community can be improved.
    b) Does it provide insight to how the Building Team does work?
        i) This provides insight into how the *MCG* prepares quotes.
    c) Is there any purpose to the measure?
        i) Yes, as I discussed above the purpose of this measure is to determine how fast the *MCG* works to issue quotes.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A

6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) 3.5.2.1 in the business plan – Promote *Melbourne Certification Group's* services within the municipality.
    b) Should the measure be changed to better suit the goal?
        i) Although this only reflects a small aspect of the *MCG*, this combined with other KPIs provides a lot of information.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) It does represent the goal, and it is a specific measurement, which can be used.
    d) Is the measure itself just a goal rather than a KPI?
        i) No, this is specifically a measure and is not a goal.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) Yes, it relates directly to eh mission of the Building Team in remaining competitive.

% of times the *MCG* provides quotes for minor projects within the specified time period

1) Understandable
    a) When the measure is first read, does it make sense?
        i) Yes, this is how often the *MCG* provides quotes for major projects in the set time period.
    b) What is being measured?
        i) Time is being measured. Specifically, the time it takes the *MCG* to provide a quote to contractors and how often they make that timeframe.
2) Use for Reporting
    a) Is it used in the reporting system at all?
        i) This KPI could be easily implemented into the reporting system. The time period, and the times from when the quote is requested until it is issued should be measured. With that, it will be easy to measure.
    b) How is this applied in the reporting system?
        i) The equation is # of time fulfilled over the # requested.
    c) Is it timely, brief, and informative?
        i) N/A
3) Quantitative nature
    a) When measured in the reporting system, what metric is used?
        i) A percentage
    b) Is it subject to interpretation?
        i) This KPI is pretty straightforward. The numbers are based of times from when the request is received until the quote is delivered.
    c) Is there room for people to 'fudge' or change how to evaluate the measure?
        i) See above
    d) Is this a "gut feel" measure?
        i) See above
4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The individual preparing the quote is responsible. However, it may be possible many people work on one quote so this KPI may cover more than one person at a time.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) This applies to the *MCG*.
    c) Who is the final person who reports on the issue?
5) Why the KPI is being measured
    a) What is the significance of the measure?

i) This measure would be significant because it shows how fast the building team works. It is important for the building team to produce quotes and permits fast and efficiently so construction projects can proceed and the community can be improved.

b) Does it provide insight to how the Building Team does work?
   i) This provides insight into how the *MCG* prepares quotes.

c) Is there any purpose to the measure?
   i) Yes, as I discussed above the purpose of this measure is to determine how fast the *MCG* works to issue quotes.

d) If no purpose, then how did it come to be a KPI, and why is it being measured?
   i) N/A

6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) 3.5.2.1 in the business plan – Promote *Melbourne Certification Group's* services within the municipality.
   b) Should the measure be changed to better suit the goal?
      i) Although this only reflects a small aspect of the *MCG*, this combined with other KPIs provides a lot of information.
   c) Does it adequately represent the goal or goals it is trying to represent?
      i) It does represent the goal, and it is a specific measurement, which can be used.
   d) Is the measure itself just a goal rather than a KPI?
      i) No, this is specifically a measure and is not a goal.
7) How does this fit in the overall mission and vision of the Building Team
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) Yes, it relates directly to eh mission of the Building Team in remaining competitive.

% of emergencies received by the *BCG* responded to within 2 hours

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, it makes sense. The KPI is straightforward. The upper officers determine emergencies. The timeline of the KPI, 2 hours, is very straightforward.
   b) What is being measured?
      i) How often the *MCG* is responding to these type of complaints in the given time period.
      ii) Response (per the project group) is defined as a site inspection or the next appropriate course of action
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Yes complaints are in the reporting system. This KPI can be put into the reporting system without much extra work from the Building officers
   b) How is this applied in the reporting system?
      i) There are graphs of how many complaints there were and what the classification was. The equation is the # of responded to in the time period over the total # of emergencies.
   c) Is it timely, brief, and informative?
      i) See above
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) How often the timeframe is met.
   b) Is it subject to interpretation?
      i) With response and emergency defined, this KPI is not subjective.
      ii) This KPI is straightforward. Response is defined as a site check or the next appropriate action. Even though that is still a loose term, it allows for variations in the complaints.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?

    i) See above
  d) Is this a "gut feel" measure?
    i) See above
4) Responsibility to Individual or Team
  a) Who is responsible for the KPI?
    i) The KPI is both responsible to an individual and the team. It is responsible to the individual who is on-call and it is responsible to the entire team because they rotate who is on call and some complaints are dealt with during the working day.
  b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
    i) *BCG* - they deal with people's complaints of existing structures.
  c) Who is the final person who reports on the issue?
    i) Municipal Building Surveyor
5) Why the KPI is being measured
  a) What is the significance of the measure?
    i) This measure is important because it can relate directly to the safety of the City of Melbourne. It is important unsafe buildings are inspected, and this also works to keep the residents of Melbourne happy.
  b) Does it provide insight to how the Building Team does work?
    i) The Building Team is very complex, and has a lot of jobs. This puts a timeline on one job / action of the team. It gives insight into how complaints are categorized.
  c) Is there any purpose to the measure?
    i) Make sure that complaints are dealt with within a specific timeframe and how often the complaints are dealt with in the timeframe.
  d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) N/A
6) Which goal the KPI aims to achieve
  a) Is there an overlying goal?
    i) This relates directly to 3.3.5.17 in the business plan – Provide a 24hr on call emergency service to respond to building related emergencies and complaints.
  b) Should the measure be changed to better suit the goal?
    i) Response (per the project group) is defined as a site inspection or the next appropriate course of action
  c) Does it adequately represent the goal or goals it is trying to represent?
    i) Yes.
  d) Is the measure itself just a goal rather than a KPI?
    i) It is a bit of both. Yes, it is a goal, but also a KPI. It measures a key function of the *BCG*.
7) How does this fit in the overall mission and vision of the Building Team
  a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) This KPI fits in the overall mission of the Building Team.

% of low risk complaints received by the *BCG* responded to within 14 days

1) Understandable
  a) When the measure is first read, does it make sense?
    i) Yes, it makes sense. The KPI is straightforward. The timeline of the KPI, 14 days, is very straightforward.
    ii) Response is defined as attending the site or determining the next course of action required
  b) What is being measured?
    i) How often low risk complaints are being responded to within the time frame.
  c) How does the Senior Management interpret the KPI?
    i) The Municipal Building Surveyor likes this KPI because it allows them to categorize complaints and respond to the high-risk complaints first. The Municipal Building Surveyor considers a response as

either going out and investigating the problem or calling the property owner and discovering the team's attention is not needed.

2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Yes complaints are in the reporting system. This can be added into the reporting system without adding much more work to the officers.
   b) How is this applied in the reporting system?
      i) There are graphs of how many complaints there were and what the classification was. This will be shown as a percentage. The equation is the # responded to in the time period over the total # of low risk complaints
   c) Is it timely, brief, and informative?
      i) See above
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) The percentage is what is used. This percentage shows how often the 14 days time period is achieved.
   b) Is it subject to interpretation?
      i) This KPI is straightforward. Response is defined as a site check or the next appropriate action. Even though that is still a loose term, it allows for variations in the complaints.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) See above
   d) Is this a "gut feel" measure?
      i) See above
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The KPI is both responsible to an individual and the team. It is responsible to the individual who is on-call and it is responsible to the entire team because they rotate who is on call and some complaints are dealt with during the working day.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *BCG* - they deal with people's complaints of existing structures.
   c) Who is the final person who reports on the issue?
      i) Municipal Building Surveyor
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) This measure is important because it can relate directly to the safety of the City of Melbourne. It is important unsafe buildings are inspected, and this also works to keep the residents of Melbourne happy. However, this is a low risk KPI, so it would be an inherently less significant KPI than its high-risk equivalent.
   b) Does it provide insight to how the Building Team does work?
      i) The Building Team is very complex, and has a lot of jobs. This puts a timeline on one job / action of the team. It gives insight into how complaints are categorized. However, it does not ensure the inspections are carried out well.
   c) Is there any purpose to the measure?
      i) Make sure that complaints are dealt with within a specific timeframe.
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) N/A
6) 6Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) This relates directly to 3.3.5.17 in the business plan – Provide a 24hr on call emergency service to respond to building related emergencies and complaints.
   b) Should the measure be changed to better suit the goal?
      i) With the term respond defines, this KPI suits the goal.
   c) Does it adequately represent the goal or goals it is trying to represent?

i) See above

d) Is the measure itself just a goal rather than a KPI?
   i) It is a bit of both. Yes, it is a goal, but also a KPI. It measures a key function of the *BCG*. The only question is if it is measuring the right aspect of the team's work.

7) How does this fit in the overall mission and vision of the Building Team
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) This KPI fits in the overall mission of the Building Team.

% of high risk complaints received by the *BCG* responded to within 2 days

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes, it makes sense. The KPI is straightforward. The high-risk audit program determines a high-risk building. The timeline of the KPI, 2 days, is very straightforward.
   b) What is being measured?
      i) How often the *MCG* is responding to these type of complaints in the given time period.
      ii) Response (per the project group) is defined as a site inspection or the next appropriate course of action
   c) How does the Senior Management interpret the KPI?
      i) The Municipal Building Surveyor likes this KPI because it allows them to categorize complaints and respond to the high-risk complaints first. The Municipal Building Surveyor considers a response as either going out and investigating the problem or calling the property owner and discovering the team's attention is not needed.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Yes complaints are in the reporting system. This KPI can be put into the reporting system without much extra work from the Building officers
   b) How is this applied in the reporting system?
      i) There are graphs of how many complaints there were and what the classification was. The equation is the # of responded to in the time period over the total # of high risk.
   c) Is it timely, brief, and informative?
      i) See above
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) How often the timeframe is met.
   b) Is it subject to interpretation?
      i) With response defined and the high-risk audit program being developed, this KPI is not subjective.
      ii) This KPI is straightforward. Response is defined as a site check or the next appropriate action. Even though that is still a loose term, it allows for variations in the complaints.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) See above
   d) Is this a "gut feel" measure?
      i) See above
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The KPI is both responsible to an individual and the team. It is responsible to the individual who is on-call and it is responsible to the entire team because they rotate who is on call and some complaints are dealt with during the working day.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *BCG* - they deal with people's complaints of existing structures.
   c) Who is the final person who reports on the issue?
      i) Municipal Building Surveyor

5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) This measure is important because it can relate directly to the safety of the City of Melbourne. It is important unsafe buildings are inspected, and this also works to keep the residents of Melbourne happy.
    b) Does it provide insight to how the Building Team does work?
        i) The Building Team is very complex, and has a lot of jobs. This puts a timeline on one job / action of the team. It gives insight into how complaints are categorized.
    c) Is there any purpose to the measure?
        i) Make sure that complaints are dealt with within a specific timeframe and how often the complaints are dealt with in the timeframe.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) This relates directly to 3.3.5.17 in the business plan – Provide a 24hr on call emergency service to respond to building related emergencies and complaints.
    b) Should the measure be changed to better suit the goal?
        i) Response (per the project group) is defined as a site inspection or the next appropriate course of action
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) Yes.
    d) Is the measure itself just a goal rather than a KPI?
        i) It is a bit of both. Yes, it is a goal, but also a KPI. It measures a key function of the *BCG*.
7) How does this fit in the overall mission and vision of the Building Team
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) This KPI fits in the overall mission of the Building Team.

Appendix E: Developed and Modified KPIs and KRIs after Feedback

Construction Management Group

KPI KR	Measure	Definition	Strengths	Weaknesses	Cluster	Status
KPI	% of complaints in one month that included an onsite check.	The number of complaints that required the building officer to go onsite in one month.	Provides insight to where the building officers are spending their time / can show if an increase in onsite inspections that other places may be less than average	Does not capture what happened on the site during the inspection.	General Complaints	Ready for implementation
KPI	# of sites or locations with reoccurring complaints during one month.	# of sites is having reoccurring complaints	This shows if the *CMG* is spending a lot of time on a specific site, also can give insight into which sites they need to pay more attention to.	Can be interpreted as the *CMG* not doing a good job to handle / manage complaints.	General Complaints	Ready for implementation
KPI	% proactive inspections that identified violations.	# checked proactively that have violations over the total # proactively checked.	This helps with the proactive part of *CMG*. Shows if they are inspecting the correct sites. This really looks at the proactive versus reactive aspects of the *CMG*.	Doesn't account for repeat offences or what happened on the site. Requires more input from pathway than officers currently provide.	Proactive Inspections	Ready for implementation
KPI	% of construction sites the *CMG* has issued permits for that result in complaints.	The number of construction sites with complaints versus the total number of construction sites the *CMG* is responsible for (gives permits to)	Provides insight to where the building officers are spending their time and if they are issuing permits that to not generate new complaints	Possibly very difficult to measure. Doesn't account for negotiations. *CMG* is technically responsible for every site.	Construction Site Complaints	Ready for implementation

KPI	% of complaints against a construction site where the site is operating within permitting conditions.	The number of sites with complaints within permitting conditions over the number of sites with complaints.	Shows where the *CMG* is spending their time and shows where negotiations possibly need to take place.	Possibly very difficult to measure.	Construction Site Complaints	Ready for implementation
KRI	Total number of complaints received in one month .	Total number of the complaints.	This KRI provides the back information for KPIs relating to complaints.	None	General Complaints	Ready for implementation
KRI	# of [type] permits issued in one month.	Gives a total number of permits of a specific type issued over one month.	Keeps a record of how many permits are issued - already measured	None	Construction Site Complaints	Ready for implementation
KRI	# of sites where the CMG issued permits that have complaints (KRI).	The number of sites with complaints	Links complaints per site	Currently, no method in place to link a complaint to a certain property if it did not include a site check	Construction Site Complaints	Ready for implementation

Melbourne Certification Group

KPI KRI	**Measure**	**Definition**	**Strengths**	**Weaknesses**	**Cluster**	**Status**
KPI	% of approved Report of Consent cases	# of approved Reports of Consent versus the total # of Reports of Consent	Show the quality of the work. Focuses on decision making and looks at the use of justification and reasoning by the *MCG*		Reports of Consent	Ready for implementation
KPI	% of appealed Report of Consent cases won.	Measures how often cases that are appealed are won.	Shows the *MCG's* ability to win an appeal / looks at the quality of work being completed.	Small sample size	Reports of Consent	Ready for implementation

KPI	Institute the following equation when dealing with building permits: # Building Permits = # Certificate of Final Inspection + # Change of Occupancy + # Lapsed Permit Notices	This equation keeps track of the total # of building permits and where they stand. If this equation is not balanced, there is a problem.	Makes sure that all building permits are accounted for and that no work has been lost.	This is a long term KPI and may become difficult to track if the reporting measures are not in place.	Permits / Mandatory Inspections	Ready for implementation
KPI	Protection work Notices				Protection Work Notices	Not ready – measure not defined
KPI	% of quotes accepted by construction companies.	This is a ratio of quotes accepted by construction companies to the number of quotes sent or made for construction sites.	This provides insight to a few different areas: -how competitive the *MCG* is, and looks at the quality of work	Doesn't show if there were any other circumstances with the quotes and the construction permits. Any other information like that can be added in a report appendix to explain the changes in trends.	Permit Quotes	Ready for implementation
KPI	# of mandatory inspections per [type] permit quoted versus the actual number	Provides the number of expected inspections versus the number of actual inspections	Shows how accurate the quotes are and also provides insight to the amount of work the *MCG* is doing that was not expected.	If you split it up for each type of permit, can have a lot of KRI and KPIs. Cannot always tell if multiple inspections will be needed	Permits/ Mandatory Inspections	Ready for implementation
KRI	# of Report of Consent cases requested from the MCG.	Provides a number of requests from the *MCG*.	Shows the amount of work that is being requested from the *MCG* for this area	None	Reports of Consent	Ready for implementation
KRI	% of rejected Reports of Consent that are appealed.	Provides the percentage of appealed cases. Provides	Show the quality of the work / feeds into the	None	Reports of Consent	Ready for implementation

		background information for the KPIs. # of appealed rejected cases over # of rejected cases	appealed KPI. Focuses on decision making and looks at the use of justification and reasoning by the *MCG*			
KRI	# of permits issued over one month.	It is the number of permits over a certain time period.	This key result indicator helps show the deviations for other KPIs.	None	Permits / Mandatory Inspections	Ready for implementation
KRI	# of quotes issued over one month.	It is the number of quotes over a certain time period.	This key result indicator helps show the deviations for other KPIs.	None	Permit Quotes	Ready for implementation
KRI	Change in *MCG's* % of the Market Share	This is the change in the percentage of Market share the *MCG* has. % is the amount of Work or Market Share the *MCG* has over the total Work or Market	This shows how the *MCG* is being competitive and how their services are being used.	Gives numbers, does not focus on the results of the market share.	Cost Neutrality / Market Share	Not ready – Requires more effort to design a more meaningful measure
KRI	Value of work.	This is measured in the monthly reports. It looks at the total value of work (millions).	This is a good key result indicator to see the value of work over time for the *MCG*.		Cost Neutrality / Market Share	Ready for implementation
KRI	Cost Neutral	Expenses equal the income.	This is a goal of the *MCG* to remain cost neutral. This means that all the income equals all the expenses	This rarely happens for a variety of reasons; most relating to the amount they are permitted to charge for services.	Cost neutrality / Market Share	Not Ready – More effort needed to design a measure that reflects this aspect
KRI	# of Mandatory inspections per [type] permit issued	This number provides information for a KPI.	Good to know the totals, and the outcomes.	If you split it up for each type of permit, can have a lot of KRI and KPIs.	Permits / Mandatory Inspections	Ready for implementation

Building Control Group

KPI KRI	Measure	Definition	Strengths	Weaknesses	Cluster	Status
KPI	Ratio of complaints resolved.	This is the ratio of complaints open to complaints closed	Opening the complaints is easier than closing them, this provides information on the status of open to closed complaints	May influence the level of investigation and enforcement taken and compromise	Complaint Response	Ready for implementation
KPI	# of building notices opened versus # of building notices closed within the last 12 months	The ratio of notices opened to notices closed	Opening the notices is easier than closing them, this provides information on the status of open to closed notices	May influence the level of investigation and enforcement taken and compromise	Building Notices and Orders	Ready for implementation
KPI	# of building orders opened versus # of building orders closed within the last 12 months	The ratio of orders opened to orders closed	Opening the orders is easier than closing them, this provides information on the status of open to closed orders	May cause building officers to only open easily closed orders, does not look into the complexity of some orders	Building Notices and Orders	Ready for implementation
KPI	# of building notices that turn into building orders	# of notices that become orders	This looks into the enforcement abilities of the *BCG* and works as a bridge between the notices and orders issued	None	Building Notices and Orders	Ready for implementation
KPI	Ratio of complaint inspections to complaints	# of complaint inspections/ total # of complaints	Shows approximately how many inspections an officer perform per complaint	Doesn't account for building owners and dealing with them	Complaint Inspections	Ready for implementation
KPI	Ratio of complaint inspections to the number of complaints that	The total number of complaint inspections over the	Shows approximately how many inspections an officer will	Does 't account for the building owners and dealing with them	Complaint Inspections	Ready for implementation

	required an inspection	number of complaints that require an inspection	perform per a complaint that requires an inspection			
KPI	% of complaints during one month that included an onsite check.	The amount of complaints that required the building officer to go onsite in x time period.	Provides insight to where the building officers are spending their time / can show if an increase in onsite inspections that other places may be less than average	Does not capture what happened on the site during the inspection.	Complaint Inspections	Ready for implementation
KPI	Customer Service - % of complaints acknowledged with a specified time frame	Responding with an email/phone call acknowledging the complaint within X days.	Looks into the customer service aspect of the *BCG*, which is important	The data can be manipulated.	Complaint Response	Ready for implementation
KPI	POPEs- # of inspections per permit with relation to the size of the permit				Temporary Structures	Not ready – Measures not defined
KPI	TOPs- Same as above				Temporary Structures	Not Ready – Measures not defined
KRI	Ratio of total # of complaints received to the square meter floor area of the City of Melbourne	Correlates the number of complaints to the size of Melbourne.	Gives more information.	None	Complaint Response	Ready for implementation

Building Team

KPI KRI	Measure	Definition	Strengths	Weaknesses	Cluster	Status

KPI	Average # of days per month employees are absent.	# of days they are absent			Complaint Response	Ready for implementation
KPI	# of files opened versus # of files closed within the last 12 months	Anything open should be closed or moved in right direction (depends on file) within 12 months. The files include (notices, orders, complaints, permits, etc)	This is a constant reminder that all files need to be closed, the time frame is adequate for most, the appropriate action put in the option incase one files has extenuating circumstances.	Needs the management to look at allocating resources to different files if they have been open for a long time.	Building Notices and Orders	Ready for implementation

Modified Building Team KPIs

KPI KRI	Measure	Definition	Strengths	Weaknesses	Cluster	Status
KPI	% of construction sites proactively checked for compliance with permit conditions of the *CMG*.	This is the number of permits checked for compliance. Can be changed to put this for specific permit types.	Can be used for both proactive areas of the *CMG*.	The term check is still broad and can be interpreted differently.	Proactive Inspections	Ready for Implementation
KPI	% of times the *MCG* provides quotes for major projects within the specified time period.	Measures how often the *MCG* meets the response time benchmark to create a quote for a major project. The response time is set by the *MCG*	Keeps the *MCG* competitive by providing quotes in a specific amount of time.	This is a small part of what the *MCG* actually does; need more measures for the *MCG* for this measure to remain valid.	Permit Quotes	Ready for implementation if Pathway is utilized differently. See implementation plan for details
KPI	% of times the *MCG* provides quotes for minor projects within the specified time period.	Measures how often the *MCG* meets the response time benchmark to create a quote for a minor project. The response time is set by the	Keeps the *MCG* competitive by providing quotes in a specific amount of time.	This is a small part of what the *MCG* actually does; need more measures for the *MCG* for this measure to remain valid.	Permit Quotes	ready for implementation if Pathway is utilized differently. See implementation plan for details

		MCG				
KPI	% of emergencies received by the *BCG* responded to within 2 hours.	Respond: attend the site or determine the next action and follow that.	Complaints are a big part of the *BCG*, makes sure they are reaching goals for the response times	Response is still a loosely defined term		
KPI	% of low risk complaints received by the *BCG* responded to within 14 days.	Respond: attend the site or determine the next action and follow that.	Big part of the *BCG*, makes sure they are reaching goals for the response times	Response is still a loosely defined term		
KPI	% of high risk complaints received by the *BCG* responded to within 2 days.	Respond: attend the site or determine the next action and follow that.	Big part of the *BCG*, makes sure they are reaching goals for the response times	Response is still a loosely defined term		

Appendix F: Developed and Modified KPIs and KRIs before Feedback

Construction Management Group

KPI KRI	Measure	Definition	Strengths	Weaknesses	Comments
KPI	% of complaints closed.	This is a ratio of the number of closed complaints versus the number of open complaints.	This give insight to the status of complaints, and how the *CMG* is doing with closing them.	Does not allow for any extenuating circumstances when working with these complaints, also doesn't look at the timeline for complaints.	This is the total number closed this month over the total number open during this month. The numbers are not related. It doesn't matter what month or reporting period the complaint was opened.
KPI	% of complaints during X time period that included an onsite check.	The amount of complaints that required the Building Officer to go onsite in x time period.	Provides insight to where the Building Officers are spending their time / can show if an increase in onsite inspections that other places may be less than average	Does not capture what happened on the site during the inspection.	
KPI	# of sites or location with reoccurring complaints during X time period.	# of sites is having reoccurring complaints	This shows if the *CMG* is spending a lot of time on a specific site, also can give insight into which sites they need to pay more attention to.	Can be interpreted as the *CMG* not doing a good job to handle / manage complaints.	
KRI	Total number of complaints closed in X time period.	Number closed	This KRI provides the back information for KPIs relating to complaints.	None	
KRI	Total number of complaints opened in X time period.	Number opened	This KRI provides the back information for KPIs relating to complaints.	None	
KRI	Total number of complaints received in one month .	Total number of the complaints.	This KRI provides the back information for KPIs relating to complaints.	None	
KPI	% of active sites checked with violations.	# checked that have violations over the # total number checked.	This helps with the reactive / proactive part of *CMG*. Shows if	Doesn't account for repeat offences or what happened on the site.	

			they are inspecting the correct sites.		
KRI	# of permits issued over X time period.	Gives a total number of permits issued over a given time period.	Keeps a record of how many permits are issued - already measured	None	
KPI	% of construction sites the *CMG* is responsible for that have complaints.	The number of construction sites with complaints versus the total number of construction sites the *CMG* is responsible for (gives permits to)	Provides insight to where the Building Officers are spending their time and if they are issuing permits that to not generate new complaints	Possibly very difficult to measure. Doesn't account for negotiations	
KPI	% of complaints against a construction site where the site is operating within permitting conditions.	The number of sites with complaints within permitting conditions over the number of sites with complaints.	Shows where the *CMG* is spending their time also show where negotiations possibly need to take place.	Possibly very difficult to measure.	

Melbourne Certification Group

KPI KRI	**Measure**	**Definition**	**Strengths**	**Weaknesses**	**Comments**
KRI	# of Report of Consent cases requested from the MCG.	Provides a number of requests from the *MCG*.	Shows the amount of work that is being requested from the *MCG* for this area	None	
KPI	% of approved Report of Consent cases	# of approved Reports of Consent versus the # of rejected Reports of Consent	Show the amount of work being done, feeds onto the appealed KPI	Focuses on speed	
KRI	% of rejected Reports of Consent that are appealed.	Provides the percentage of appealed cases. Provides background information for the KPIs. # of appealed rejected cases over # of rejected cases	Show the quality of the work / feeds into the appealed KPI	None	
KPI	% of appealed Report of Consent cases	This measures how often are cases that are appealed	Shows the *MCG's* ability to win an appeal / looks at	Does not capture what happened with the case, just	

	won.	are won. # of won appealed cases over # of total appealed cases	the quality of work being completed.	the result	
KRI	# of permits issued over X time period.	It is the number of permits over a certain time period.	This key result indicator helps show the deviations for other KPIs.	None	
KRI	# of quotes issued over X time period.	It is the number of quotes over a certain time period.	This key result indicator helps show the deviations for other KPIs.	None	
KPI	Protection work Notices				Figure out what to measure.
KRI	Value of work.	This is measured in the monthly reports. It looks at the total value of work (millions).	This is a good key result indicator to see the value of work over time for the *MCG*.	What is considered work? Does this mean work or sites the *MCG* has permits for? Should be better defined.	*MCG* is a cost neutral group - overlying goal. Maybe look into the market share areas - income versus expenses
KPI	% of quotes accepted by construction companies.	This is a ratio of quotes accepted by construction companies to the number of quotes sent or made for construction sites.	This provides insight to a few different areas: - how competitive the *MCG* is, and looks at the quality of work	Doesn't show if there were any other circumstances with the quotes and the construction permits. Any other information like that can be added in a report appendix to explain the changes in trends.	
KRI	# of Mandatory inspections per [type] permit issued	This number provides information for a KPI.	Good to know the totals, and the outcomes.	If you split it up for each type of permit, can have a lot of KRI and KPIs.	
KPI	# of mandatory inspections per [type] permit quoted versus the actual number	Provides the number of expected inspections versus the number of actual inspections	Shows how accurate the quotes are and also provides insight to the amount of work the *MCG* is doing that was not expected.	If you split it up for each type of permit, can have a lot of KRI and KPIs.	

KPI	Institute the following equation when dealing with building permits: # Building Permits = # Certificate of Final Inspection + # Change of Occupancy + # Lapsed Permit Notices	This equation keeps track of the total # of building permits and where they stand. If this equation is not balanced, there is a problem.	Makes sure that all building permits are accounted for and that no work has been lost.	This is a long term KPI and may become difficult to track if the reporting measures are not in place.	This is a long term (3 year) KPI.

Building Control Group

KPI KRI	Measure	Definition	Strengths	Weaknesses	Comments
KPI	Percentage of complaints resolved.	This is the ratio of complaints open to complaints closed	Opening the complaints is easier than closing them, this provides information on the status of open to closed complaints	May cause Building Officers to only open easily closed complaints, does not look into the complexity of some complaints	Desire a 1 to 1 ratio or a > 1 ratio
KPI	# of building notices opened versus # of building notices closed after 12 months of issue	The ratio of notices opened to notices closed	Opening the notices is easier than closing them, this provides information on the status of open to closed notices	May cause Building Officers to only open easily closed notices, does not look into the complexity of some notices	Desire a 1 to 1 ratio or a > 1 ratio
KPI	# of building orders opened versus # of building orders closed after 12 months of issue	The ratio of orders opened to orders closed	Opening the orders is easier than closing them, this provides information on the status of open to closed orders	May cause Building Officers to only open easily closed orders, does not look into the complexity of some orders	Desire a 1 to 1 ratio or a > 1 ratio
KPI	% of complaints during X time period that included an onsite check.	The amount of complaints that required the Building Officer to go onsite in x time period.	Provides insight to where the Building Officers are spending their time / can show if an increase in onsite inspections that other places may be less than average	Does not capture what happened on the site during the inspection.	

KPI	# of sites or location with reoccurring complaints during X time period.	# of sites is having reoccurring complaints	This shows if the *BCG* is spending a lot of time on a specific site, also can give insight into which sites they need to pay more attention to.	Can be interpreted as the *BCG* not doing a good job to handle / manage complaints.	
KPI	POPEs				Create some sort of measure for these.
KPI	TOPs				Create some sort of measure for these.
KRI	Ratio of total # of complaints received to the square meter floor area of the City of Melbourne	Correlates the number of complaints to the size of Melbourne.	Gives more information.	None	

Building Team

KPI KRI	Measure	Definition	Strengths	Weaknesses	Comments
KPI	% of employees absent for more than X number of days in a Y period of time (frequency of absenteeism)				

Current Building Team KPIs to Keep

KPI KRI	Measure	Definition	Strengths	Weaknesses	Comments
KPI	% of construction management permits proactively checked for compliance with permit conditions of the *CMG*.	This is the number of permits checked for compliance.	Can be used for both proactive areas of the *CMG*.	The term check is still broad and can be interpreted differently.	This can range from walking past a site to see if everything is in order to formal inspections. This will relate to only specific permits. Permits will be chosen on the basis of the permits that affect the public.
KPI	Response time for the *MCG* to provide quotes for major	Measures the time to create a quote for a major project.	Keeps the *MCG* competitive by providing quotes in a specific	This is a small part of what the *MCG* actually does; need more measures for	Need to input the response time.

	projects within the municipality.		amount of time.	the *MCG* for this measure to remain valid.	
KPI	Response time for the *MCG* to provide quotes for minor projects within the municipality.	Measures the time to create a quote for a minor project.	Keeps the *MCG* competitive by providing quotes in a specific amount of time.	This is a small part of what the *MCG* actually does; need more measures for the *MCG* for this measure to remain valid.	Need to input the response time.
KPI	% of emergencies received by the *BCG* responded to within 2 hours.	Respond refers to either attending the site or determining the appropriate course of action and following that action	Complaints are a big part of the *BCG*, this makes sure they are reaching their goals for meeting the response times	Response is still a loosely defined term	Define respond - attend site or determine next course of action required.
KPI	% of low risk complaints received by the *BCG* responded to within 14 days.	Respond refers to either attending the site or determining the appropriate course of action and following that action	Complaints are a big part of the *BCG*, this makes sure they are reaching their goals for meeting the response times	Response is still a loosely defined term	Define respond - attend site or determine next course of action required.
KPI	% of high risk complaints received by the *BCG* responded to within 2 days.	Respond refers to either attending the site or determining the appropriate course of action and following that action	Complaints are a big part of the *BCG*, this makes sure they are reaching their goals for meeting the response times	Response is still a loosely defined term	Define respond - attend site or determine next course of action required.

Appendix G: Assessments of the Building Team's Key Performance Indicators

Blank KPI Assessment:

1) Understandable
   a. When the measure is first read, does it make sense?
   b. What is being measured?
   c. How does the Senior Management interpret the KPI?
   d. How do the employees interpret the KPI?
   e. How does the "public" interpret the KPI?
2) Use for Reporting
   a. Is it used in the reporting system at all?
   b. How is this applied in the reporting system?
   c. Is it timely, brief, and informative?
3) Quantitative nature
   a. When measured in the reporting system, what metric is used?
   b. Is it subject to interpretation?
   c. Is there room for people to 'fudge' or change how to evaluate the measure?
   d. Is this a "gut feel" measure?
4) Responsibility to Individual or Team
   a. Who is responsible for the KPI?
   b. What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
   c. Who is the final person who reports on the issue?
5) Why the KPI is being measured
   a. What is the significance of the measure?
   b. Does it provide insight to how the BT does work?
   c. Is there any purpose to the measure?
   d. If no purpose, then how did it come to be a KPI, and why is it being measured?
6) Which goal the KPI aims to achieve
   a. Is there an overlying goal?
   b. Should the measure be changed to better suit the goal?
   c. Does it adequately represent the goal or goals it is trying to represent?
   d. Is the measure itself just a goal rather than a KPI?
7) How does this fit in the overall mission and vision of the BT
   a. Does it relate, or is the KPI just stuck on the side of the organization?

KPI: Ensure high-risk complaints received by the *BCG* are responded to within 2 days.

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Yes. The only confusing part is the definition of "high risk" complaints. Upper officers decide these. The timeline of the KPI, 2 days, is easily understood.
   b) What is being measured?
      i) Whether or not the *BCG* fulfills the expected response time. This KPI does not pertain to the quality of the response.
   c) How does the Senior Management interpret the KPI?
      i) The Municipal Building Surveyor likes this KPI because it allows them to categorize complaints and respond to the high-risk complaints first. Response is considered either investigating the problem on site or contacting the property owner and discovering the Team's attention is not needed.
   d) How do the employees interpret the KPI?
      i) The employees act according to the Senior Management's classification of risk. The term 'respond' can be interpreted differently and allows for inaccuracy.
      ii) An urgent complaint (i.e.: the façade falling off a building) is responded to immediately. High-risk complaints are second to emergencies. One Building Officer considered this KPI important because public safety is priority. It didn't seem as if the Building Officer saw the KPI as a performance evaluation.
      iii) Definition of response - One Building Officer's interpretation is to go on site and address the issue.
      iv) Other Building Officers have said that it can take years to resolve a complaint. The time to call the person complaining is considered to be measured by this KPI. This excludes any inspection that may need to be performed. The quality of any inspection with regard to complaints is not encompassed by this KPI. One can do a hasty inspection and consider the KPI fulfilled.
   e) How does the "public" interpret the KPI?
      i) The KPI does not define 'response' well enough which may lead to some problems with interpretation.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Yes, complaints are in the reporting system. However, the reporting system does not include this specific KPI by indicating how long it takes to respond to high-risk complaints.
   b) How is this applied in the reporting system?
      i) There are graphs of the number of complaints and their classifications. There is no graph stating how quickly they were dealt with.
   c) Is it timely, brief, and informative?
      i) The graphs are easily understood, but it does not provide a breakdown of the speed or quality of the response.
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) Time is reported, as well as the number of complaints.
   b) Is it subject to interpretation?
      i) This is very much a subjective KPI. There is the quantifiable aspect of time; the 'respond' aspect is up to the judgment of the Building Officer. High-risk complaints are determined by the senior management and therefore are up to interpretation as well. There are criteria for a complaint classification.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) Yes, this depends on the definition of 'respond.' This can range from a quick complaint inspection to a complete and thorough inspection.
   d) Is this a "gut feel" measure?

i) The measurement of time is not. The classification of 'respond' is a gut feel. For instance, if respond translates to contacting the individual and informing them an Building Officer is en route the KPI is not a 'gut feel'. If respond means the problem is in the process, then it can be 'gut feel'.

4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The individual responding is responsible.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *BCG* - they deal with people's complaints of existing structures.
   c) Who is the final person who reports on the issue?
      i) Municipal Building Surveyor
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) It directly relates to public safety.
   b) Does it provide insight to how the BT does work?
      i) The BT is very complex, and has a lot of jobs. This puts a timeline on one job / action of the team. It gives insight into how complaints are categorized. However, it does not ensure the inspections are carried out well.
   c) Is there any purpose to the measure?
      i) It ensures that urgent issues are dealt with promptly.
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) N/A
6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) This relates directly to 3.3.5.17 in the business plan – Provide a 24hr on call emergency service to respond to building related emergencies and complaints.
   b) Should the measure be changed to better suit the goal?
      i) The term 'respond' needs to be better defined. Once defined, the KPI may need changing to ensure it is not a 'gut feel' assessment and accounts for the differences in complaints.
   c) Does it adequately represent the goal or goals it is trying to represent?
      i) Yes. However, it may not be very useful because the time it takes to deal with different complaints varies based on the nature of the problem.
   d) Is the measure itself just a goal rather than a KPI?
      i) It is a bit of both. Yes, it is a goal, but also a KPI. It measures a key function of the *BCG*. The only question is if it is measuring the right aspect of the team's work. Re-wording the KPI to focus more on measurement would be beneficial.
7) How does this fit in the overall mission and vision of the BT
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) This KPI fits in the overall mission of the BT, but it will better represent the *BCG*.

KPI: Ensure low risk complaints received by the *Building Control Group* are responded to within 14 days.

1) Understandable
   a) When the measure is first read, does it make sense?
   b) Yes. The interpretation of low risk is decided by the higher level Building Officers.
   c) What is being measured?
      i) Whether or not low risk complaints are being dealt with within the timeframe. This KPI does not pertain to the quality of the response.
   d) How does the Senior Management interpret the KPI?
      i) The Municipal Building Surveyor likes this KPI because it allows them to categorize complaints and respond to the high-risk complaints first. He considers a response as either investigating the problem or contacting the property owner to find that team's attention is not needed.
   e) How do the employees interpret the KPI?
      i) One Building Officer did not seem concerned with this KPI at all, essentially this KPI is not considered important. This is because high-risk complaints are always more important. He mentioned that he has a complaint that has been untouched for a month simply because he has not had time to complete it.
      ii) Definition of response - One Building Officer considered that you had to go out to the site and address the issue to consider this KPI fulfilled. Other Building Officers, said some complaints might take years to fix, such as two apartment buildings having no fire rating between them. They would interpret the KPI as having phoned the person who complained and confirmed the receipt of their complaint.
      iii) Building Officers considered it a decent measure if it was simply measuring your ability to call the person that complained back. They considered it a bad measure if it included performing an actual inspection because it doesn't measure the quality work you perform. It measures the act of going out to the site not the quality of the inspection.
   f) How does the "public" interpret the KPI?
      i) The KPI does not define 'response' well enough and that may lead to some problems with interpretation.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Yes, complaints are in the reporting system. However, the reporting system does not include this specific KPI by indicating how long it takes to respond to low risk complaints.
   b) How is this applied in the reporting system?
      i) There are graphs of the number of complaints and their classifications. There is no graph showing how quickly they were dealt with.
   c) Is it timely, brief, and informative?
      i) The graphs are easily understood, but they do not provide a breakdown to the speed or quality of the response.
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) Time is reported, as well as the number of complaints.
   b) Is it subject to interpretation?
      i) This is very much a subjective KPI. There is the quantifiable aspect of time; however the 'respond' aspect is up to the judgment of the Building Officer. Low risk complaints are determined by the senior management and therefore are up to interpretation as well but there are criteria for a complaint classification.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) Yes, this depends on the definition of 'respond' as discussed in previous assessments.
   d) Is this a "gut feel" measure?

i) The measurement of time is not a 'gut feel'. The definition of 'respond' is a gut feel since it is interpreted differently by the officers.

4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The individual is responsible for the KPI. It is the officers' job to complete the task.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *BCG* - they deal with people's complaints of existing structures.
   c) Who is the final person who reports on the issue?
      i) The Municipal Building Surveyor
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) This measure is important because it can relate directly to the safety of the City of Melbourne. It is important unsafe buildings are inspected, and this also works to keep the residents of Melbourne happy. However, this is a low risk KPI, so it would be an inherently less significant KPI than its high-risk equivalent.
   b) Does it provide insight to how the BT does work?
      i) The BT is very complex, and has many jobs. This puts a timeline on one job / action of the team. It gives insight into how complaints are categorized. It does not ensure the inspections are carried out well.
   c) Is there any purpose to the measure?
      i) It brings awareness to the complaints that are not being responded to within a specific timeframe.
   d) If no purpose, then how did it come to be a KPI, and why is it being measured?
      i) N/A
6) Which goal the KPI aims to achieve
   a) Is there an overlying goal?
      i) This relates directly to 3.3.5.17 in the business plan – Provide a 24hr on call emergency service to respond to building related emergencies and complaints.
   b) Should the measure be changed to better suit the goal?
      i) The term 'respond' needs to be better defined. Once defined, the KPI may need changing to ensure it is not a 'gut feel' assessment and accounts for the differences in complaints. One way to do this may be to combine this KPI with its high risk equivalent and find a way for one KPI to account for the differences in every complaint call. It would be possible to keep the goal of meeting specific time frames for complaints, but measure something else in the process of resolving a complaint.
   c) Does it adequately represent the goal or goals it is trying to represent?
      i) The title of the KPI does, but it may not be very useful because the time it takes to deal with different complaints varies based on the nature of the problem.
   d) Is the measure itself just a goal rather than a KPI?
      i) It is a bit of both. Yes, it is a goal, but also a KPI. It measures whether a key function of the *BCG* is fulfilled. There is still a question of whether the correct aspect of the Officers work is being measured.
7) How does this fit in the overall mission and vision of the BT
   a) Does it relate, or is the KPI just stuck on the side of the organization?
      i) This KPI fits in the overall mission of the BT it better represents the *BCG.*

KPI: 5% of construction management permits checked on site for compliance with permit conditions by the *Construction Management Group*

1) Understandable
   a) When the measure is first read, does it make sense?
      i) It would make sense to the Building Team. It may not make sense to other parties not in the inspection business.
   b) What is being measured?
      i) Whether or not 5% of the issued permits are being check on site for compliance.
   c) How does the Senior Management interpret the KPI?
      i) The KPI was initially made to encourage Building Officers to proactively inspect the sites and ensure enforcement was not forgotten. Management supports, but agreed with the problems the Officers are having. The Officers may check for compliance and never formally record it because there weren't any problems. Management would like to see a KPI like this to encourage enforcement and getting out to sites. Management also mentioned that this KPI does not measure the quality of the inspections.
   d) How do the employees interpret the KPI?
      i) Some Officers were not pleased with this KPI. They saw the CMG as a reactive group rather than proactive group. The Officers felt that inspecting and reporting on compliant sites was a poor use of time. They felt that it is better to address problems as they arise.
      ii) This KPI is not really a large part of the site services job. They spend more time doing construction management plans and fixing unsafe sites which they receive noise complaints or safety complaints for. KPIs should be developed for those since they are more important to site services. Also, an Officer in site services may spend all day on the phone and never get to work on a permit or get out to a site; the workloads can vary greatly.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Yes, but it's only tagged on the end of the report. There are no comments or explanations of the KPIs results.
   b) How is this applied in the reporting system?
      i) There is a graph that shows the deviations from the 5% mark.
   c) Is it timely, brief, and informative?
      i) The graphs are easily understood. It is unclear how much attention is paid to them.
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) A percentage of the total permits checked over the total issued permits.
   b) Is it subject to interpretation?
      i) No. Very Quantitative
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
   d) No.
   e) Is this a "gut feel" measure?
      i) No, it measures the inspections performed.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) Every member of the team is responsible for going out and checking for compliance.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) *CMG* – Deals directly with construction projects.
   c) Who is the final person who reports on the issue?
      i) Senior Building Surveyor
5) Why the KPI is being measured
   a) What is the significance of the measure?
      i) To encourage the Building Officers to enforce the regulations.

b) Does it provide insight to how the BT does work?
    i) It provides very little insight. The follow-up inspections are only a small portion of the tasks of the *CMG*.
c) Is there any purpose to the measure?
    i) To make sure that the permits issued are complying and to make sure that Building Officers get out into sites to enforce permits.
d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) N/A

6) Which goal the KPI aims to achieve
a) Is there an overlying goal?
    i) 3.3.5.11 from the business plan – Manage construction noise and nuisance in accordance with the activities local law 1999, the CMP guidelines and the noise and vibration control guidelines.
b) Should the measure be changed to better suit the goal?
    i) Yes, because it's simply an outcome with little meaning. It measures a small part of the Building Officer's day, there are more important aspects of an Building Officer's performance one can measure which will better achieve this goal.
c) Does it adequately represent the goal or goals it is trying to represent?
    i) See above.
d) Is the measure itself just a goal rather than a KPI?
    i) It is a bit of both. It is an indicator as it can show where the group is with regards to checking permits. It is also ongoing. This is not something that is going to stop once it is reached. It is a goal with the fact that it is something they are shooting for; however it does not measure the performance, just the outcome.

7) How does this fit in the overall mission and vision of the BT
a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) This KPI measured the 'amount' of a service provided. It does not have any insight to the quality of the service provided.

KPI: Response Time for the *Melbourne Certification Group* to provide quotes for major projects within the municipality

1) Understandable
   a) When the measure is first read, does it make sense?
   b) Not exactly, the term 'response time' is vague. Also, what sort of quote is being measured? This may be something the Building Team knows very well.
   c) What is being measured?
      i) Time is being measured. Specifically, the time it takes the *MCG* to provide a quote to contractors.
   d) How does the Senior Management interpret the KPI?
      i) Management sees this KPI as useless. The biggest problem is that issuing quotes is a small part of the *MCG's* overall duties. This KPI, and its minor quote equivalent, are the *MCG's* only KPIs; management would like to see KPIs that measure more important aspects of the *MCG's* workload.
   e) How do the employees interpret the KPI?
      i) The amount of time to get the quotes out can be an important aspect of the *MCG*, even if it is a small part of their workload. If the team takes too long to issue quotes, then they may lose the project and the contractor could go to a private Building Officer. The problem lies in that the various quotes take different amounts of time to prepare. It also lacks tracking and thus is not used at this time.
      ii) One Building Officer defined response as actually issuing the quote. This makes sense it may be possible for Officers to have different interpretations.
   f) How does the "public" interpret the KPI?
      i) From the point of view of someone who does not work for the Building Team, it would seem appropriate to measure this because of the possibility to lose business if it takes too long to issue a quote. After talking to supervisors and employees, there are more important job duties to measure.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) I have never seen this KPI in any sort of reporting system.
   b) How is this applied in the reporting system?
      i) N/A
   c) Is it timely, brief, and informative?
      i) N/A
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) N/A
   b) Is it subject to interpretation?
      i) If used, I do believe this is subject to interpretation. Certain Building Officers may have differing opinion on what exactly a response is. This should be cleared up with the managers at a meeting. Also, what defines a major project and what defines a minor project? Also, it is not always recorded when a request for a quote is received.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) If there is a clear definition of response then no, if there is no definition then yes. Also, if the time/date a request for a permit is received and not recorded, it is possible to 'fudge' the datum receipt.
   d) Is this a "gut feel" measure?
4) If a standard definition of response is used then this KPI is not a 'gut feel' measure. It may need some refining because it does not differentiate between large and small projects.
5) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The individual preparing the quote is responsible. It may be possible for multiple people work on one quote so this KPI may cover more than one person at a time.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) This applies to the *MCG*.

c) Who is the final person who reports on the issue?
    i) Senior Building Surveyor

6) Why the KPI is being measured
    a) What is the significance of the measure?
        i) This measure would be significant because it shows how fast the building team works. It is important for the building team to produce quotes and permits fast and efficiently so construction projects can proceed.
        ii) We must be this KPI encourages speed, but not a reduction.
        iii) More importantly the team must look into what aspects of the *MCG's* duties need to be measured the most, because there may be more useful aspects to measure than this.
    b) Does it provide insight to how the BT does work?
        i) This provides some insight into how the *MCG* prepares quotes.
    c) Is there any purpose to the measure?
        i) Yes, the purpose of this measure is to determine how fast the *MCG* works to issue quotes.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A
7) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) 3.5.2.1 in the business plan – Promote *Melbourne Certification Group's* services within the municipality.
    b) Should the measure be changed to better suit the goal?
        i) I believe so because we there are most likely better KPIs that will measure this and reflect a on a greater portion of the *MCG's* responsibilities. Also, it seems as if this isn't even being measured currently, so obviously there is something wrong and it needs to be changed.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) It does represent the goal, and it is a specific measurement that can be used. However, it is not being applied so therefore it is not helping to accomplish any goal.
    d) Is the measure itself just a goal rather than a KPI?
        i) No, this is strictly a measure.
8) How does this fit in the overall mission and vision of the BT
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) As discussed this KPI could be useful if it were used in the right way and properly recorded. Further discussions may uncover aspects of the *MCG's* responsibilities that can be measured.
        ii) Currently, the KPI is just tacked onto the list of KPIs. It serves no real purpose at the moment.

KPI: Response Time for the *Melbourne Certification Group* to provide quotes for minor projects within the municipality

1) Understandable
   a) When the measure is first read, does it make sense?
      i) Not exactly, the term 'response time' is vague. Also, what sort of quote is being measured? This may be something the Building Team knows very well, but as an outsider I do not understand it right away.
   b) What is being measured?
      i) Time is being measured. Specifically, the time it takes the *MCG* to provide a quote to contractors.
   c) How does the Senior Management interpret the KPI?
      i) Management sees this KPI as useless. The biggest issue is that issuing quotes is a very small part of the *MCG's* overall duties. This KPI, and its major quote equivalent, are the *MCG's* only KPIs; management would like to see KPIs that measure more important aspects of the *MCG's* workload.
   d) How do the employees interpret the KPI?
      i) The amount of time to get the quotes out can be an important aspect of the *MCG*, even if it is a small part of their workload. If the team takes too long to issue quotes, then they may lose the project and the contractor could go to a private Building Officer. The problem lies in that the various quotes take different amounts of time to prepare. It also lacks tracking and thus is not used at this time.
      ii) One Building Officer defined response as actually issuing the quote. This makes sense; however, it may be possible for Officers to have different interpretations.
      iii) It was mentioned that minor projects are typically pushed aside to make way for larger projects, which offer more money. They must still be attended to eventually because the team cannot survive on major projects alone.
   e) How does the "public" interpret the KPI?
      i) From the point of view of someone who does not work for the Building Team, it would seem appropriate to measure this so be aware of lost business due to lack of attention to a project. However, after talking to supervisors and employees there are more important job duties to measure.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) The KPI is not used.
   b) How is this applied in the reporting system?
      i) N/A
   c) Is it timely, brief, and informative?
      i) N/A
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) N/A
   b) Is it subject to interpretation?
      i) If used, I do believe this is subject to interpretation. Certain Building Officers may have differing opinion on what exactly a response is. This should be cleared up with the managers at a meeting. What defines a major project and what defines a minor project? It is not always recorded when a request for a quote is received.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) The definition of 'response' is the only variable that keeps this KPI from being concrete. Depending on the interpretation, it can change the datum.
   d) Is this a "gut feel" measure?
      i) If a standard is set of what a response is then this KPI is not a 'gut feel' measure. It may require some refining because it may not differentiate between large and small projects, so this is something the project group should look into if it is determined the *MCG* will benefit from measuring this aspect of their performance.

4) Responsibility to Individual or Team
    a) Who is responsible for the KPI?
        i) The individual preparing the quote is responsible. However, it may be possible many people work on one quote so this KPI may cover more than one person at a time.
    b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
        i) This applies to the *MCG*.
    c) Who is the final person who reports on the issue?
        i) Senior Building Officer
5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) This measure would be significant because it shows how fast the building team works. It is important for the building team to produce quotes and permits fast and efficiently so construction projects can proceed and the community can be improved.
        ii) However, we must be careful because we do not want to encounter an issue where the team is rushing to send out quotes and the quality work decreases.
        iii) More importantly, the team must look into what aspects of the *MCG's* duties need to be measured the most, because there may be more useful aspects to measure than this.
    b) Does it provide insight to how the BT does work?
        i) This provides insight into how the *MCG* prepares quotes.
    c) Is there any purpose to the measure?
        i) Yes, as I discussed above the purpose of this measure is to determine how fast the *MCG* works to issue quotes.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) 3.5.2.1 in the business plan – Promote *Melbourne Certification Group's* services within the municipality.
    b) Should the measure be changed to better suit the goal?
        i) Possibly, because there may be KPIs that will measure this and reflect a on a greater portion of the *MCG's* responsibilities. The fact that it that the KPI is not being reported on reflects poorly on it.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) It does represent the goal, and it is a specific measurement that can be used. It is not being applied so therefore it is not helping to accomplish any goal.
    d) Is the measure itself just a goal rather than a KPI?
        i) This is strictly a measure.
7) How does this fit in the overall mission and vision of the BT
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) As discussed this KPI could be useful if properly recorded. Further discussions must be held to find the most important aspects of the *MCG's* responsibilities that can be measured.
        ii) Currently, the KPI is just tacked onto the list of KPIs. It serves little purpose at the moment.

KPI: [ORG]% of inspections/audits of buildings listed in the high-risk building database completed by the *Building Control Group*

1) Understandable
   a) When the measure is first read, does it make sense?
      i) The beginning "% of inspections / audits" is understandable. The % relates to the number of buildings inspected or audited. The latter part of the KPI "buildings listed in the High Risk Building database, etc" makes sense. High risk is the classification the potential danger the Building may be to the occupants.
   b) What is being measured?
      i) It is measuring the number (%) of inspections of high-risk buildings out of the entire database.
   c) How does the Senior Management interpret the KPI?
      i) The management have assigned a project to create a new list of high-risk buildings.
   d) How do the employees interpret the KPI?
      i) After talking with some employees about the KPI, they seemed to think it was a good measure of their work. It is important to check buildings in the high-risk database and be proactive when dealing with these buildings. They raise the point that the complexity and number of problems impact the amount of time processes may take. This may cause the KPI to show lower percentages for a group of complex inspections versus a group of simple inspections.
      ii) If this KPI simply refers to completing the inspection, it may not be a good measure of performance. It does not include quality of the inspection.
   e) How does the "public" interpret the KPI?
      It seems to only measure the number of inspections performed. It would also be helpful to the Team to get a measure on the performance of the Building Officer conducting the audit.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Yes, it is used in the reporting system.
   b) How is this applied in the reporting system?
      i) It is a graph, the percentage of inspections and audits are graphed.
   c) Is it timely, brief, and informative?
      i) It is easier understood with the graph, but provides little information without commentary.
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) A number (%) of inspections and audits is the metric used.
   b) Is it subject to interpretation?
      i) No, it is straightforward with what it is measuring.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) No. The only way to jeopardize this KPI would be to perform a poor inspection and not make the building safer; this KPI does not measure quality.
   d) Is this a "gut feel" measure?
      i) The percentages graphed are quantitative. However, it leaves a few unanswered questions. These are addressed below.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) The Municipal Building Surveyor is the person responsible for reporting. Every Building Officer in the *BCG* is responsible for performing the actual inspections and thus fulfilling the KPI.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      i) This applies to the *BCG*. They conduct the inspections and audits for High Risk Buildings.
   c) Who is the final person who reports on the issue?
      i) The Municipal Building Surveyor
5) Why the KPI is being measured
   a) What is the significance of the measure?

    i) This measure gives a numerical representation of the percentage of inspections and audits of High Risk buildings.
  b) Does it provide insight to how the BT does work?
    i) All it does is show the percentages. It does not clarify the difference between “difficult” or “easy” high-risk buildings. Would like more information in the graph to make it more informative.
  c) Is there any purpose to the measure?
    i) Yes, help keep a running 'total' of the inspections/audits.
  d) If no purpose, then how did it come to be a KPI, and why is it being measured?
    i) N/A
6) Which goal the KPI aims to achieve
  a) Is there an overlying goal?
    i) Yes, 3.3.5.12: Manage the high risk building audit program to ensure appropriate risk buildings are included and the two year inspection cycle is met with available resources.
  b) Should the measure be changed to better suit the goal?
    i) This KPI basically measures an outcome directly related to the goal. The main aspect of this goal is to complete the program every 2 years. Therefore, this KPI may be kept as a form of KRI (Key Result Indicator), but another KPI should be added which looks at the Building Officers work preformed that may give a better idea into the process. The KPI should be developed in such a way that it examines the quality of the inspection.
  c) Does it adequately represent the goal or goals it is trying to represent?
    i) Yes, because it directly relates to the important aspect of this goal with completing the inspections every 2 years. This KPI helps quantify that. No, because it only looks at the end numbers, not the process to reach them or the resources needed to reach that objective, or the quality of inspection.
  d) Is the measure itself just a goal rather than a KPI?
    i) No, it is not a goal. It represents a goal (KPI), but if changed can provide more information and become a better KPI. It is a measure of the progress to completing the goal of inspecting a high-risk building at least every 2 years.
7) How does this fit in the overall mission and vision of the BT
  a) Does it relate, or is the KPI just stuck on the side of the organization?
    i) Yes, directly to the lines "Responsibly managing a safe and sustainable building environment" and "setting, communicating and continuously improving the requirements for public safety and amenity." This KPI related back to these. Not the process to get to these, but is helps quantify the outcome.

KPI: Community satisfaction with permits in relation to construction management activity conducted within the municipality

1) Understandable
   a) When the measure is first read, does it make sense?
      i) The KPI is understandable first read. It is clear that this KPI is intended to measure public satisfaction with construction management within the city.
   b) What is being measured?
      i) This is not clear. A KPI must be measured otherwise it would be entirely qualitative. After talking to employees the project group discovered that this information would be obtained using surveys.
   c) How does the Senior Management interpret the KPI?
      i) Senior management likes this KPI because customer input can help the Team adjust to better suit the needs of its customers. This measure validates or discredits everything the Team does with regard to construction management by gathering customer input.
   d) How do the employees interpret the KPI?
      i) The employees are not directly related to this KPI. The survey is not sent out or collected by them.
   e) How does the "public" interpret the KPI?
      i) From the project group's perspective this is good information to have, but it is not a KPI. This would be more of a result, you want to make sure the public is happy and feels safe, that is one of the Team's top priorities. A KPI itself would measure a process the Building Officer is directly responsible for. The community satisfaction measure, coupled with KPIs, would then be used to make decisions.
2) Use for Reporting
   a) Is it used in the reporting system at all?
      i) Since it is still relatively new, the survey has not yet been added.
   b) How is this applied in the reporting system?
      i) N/A
   c) Is it timely, brief, and informative?
      i) N/A
3) Quantitative nature
   a) When measured in the reporting system, what metric is used?
      i) This information is not available because it is not used in the reporting system. A fair assumption would be that the public is asked to rate their satisfaction in different areas on a scale and the average answer is graphed from month to month.
   b) Is it subject to interpretation?
      i) Yes, there is no way to ask the public to rate the Team with a clearly defined scale. One individual may rate the Team lower than another because their interpretation of the scale is different, even if the levels of satisfaction are the same.
   c) Is there room for people to 'fudge' or change how to evaluate the measure?
      i) No, the information is not gathered directly from the Team. The survey is collected and data are compiled.
   d) Is this a "gut feel" measure?
      i) No, this measure is very clear, it tells you whether or not the public was satisfied with the Team's work. However, it provides little information about the Officer's individual performance.
4) Responsibility to Individual or Team
   a) Who is responsible for the KPI?
      i) Everyone within the *CMG* and *MCG* is responsible for quality service, and thus public satisfaction. Proper permits must be issued and complaints must be dealt with in a timely manner for the public to be satisfied. Unfortunately, this KPI is not able to look at a specific member of the team; it is a measure of the entire team only.
   b) What group (*MCG*, *CMG*, *BCG*) does the KPI apply to?
      This applies to *CMG*. Also, to a lesser extent this may relate to *MCG* because the *MCG* issue permits for construction sites that affect the public.

c) Who is the final person who reports on the issue?
    i) Executive Officer

5) Why the KPI is being measured
    a) What is the significance of the measure?
        i) It is significant because it is a measure customer satisfaction.
    b) Does it provide insight to how the BT does work?
        i) This provides no insight work performed by the Team. This is more of an outcome of Site Services' (*CMG* and *BCG*) overall performance. Many variables affect the public's overall satisfaction with construction management.
    c) Is there any purpose to the measure?
        i) The purpose is to measure the public's overall satisfaction with construction management. This KPI was created because the Building Team exists to serve and protect the public.
    d) If no purpose, then how did it come to be a KPI, and why is it being measured?
        i) N/A
6) Which goal the KPI aims to achieve
    a) Is there an overlying goal?
        i) There is no specific goal for community satisfaction. However, there are a few goals within the business plan that should relate to it indirectly:
        ii) 3.3.5.11 – Manage construction noise & nuisance in accordance with the activities local law 1999, the CMP guidelines and the noise and vibration control guidelines.
        iii) 3.3.5.18 – Continually review and improve the efficiency of the complaints management system for the *Construction Management Group*.
    b) Should the measure be changed to better suit the goal?
        i) The measure itself is a good measure record. It will be beneficial to measure more aspects of site services that they can cross-reference with these data to see how community satisfaction changes as their workload and performance change.
    c) Does it adequately represent the goal or goals it is trying to represent?
        i) This does not adequately measure the goals listed above since it is not directly related to them.
    d) Is the measure itself just a goal rather than a KPI?
        i) The measure is neither a goal nor a KPI. A KPI provides insight into a specific service the Team provides. This measure is used as an overall measure of the Team's performance.
7) How does this fit in the overall mission and vision of the BT
    a) Does it relate, or is the KPI just stuck on the side of the organization?
        i) The vision of the Team is to ensure Melbourne is a safe and amenable city to live, work, and visit. This KPI applies directly to that vision. Also, this KPI applies directly to the mission, "Continuously reviewing and improving delivery of our service" and "Setting, communicating and continuously improving the requirements for public safety and amenity".
        ii) While this is not a KPI by definition, it would be a good measure to track. This may show the way Site Services is working to achieve the vision and mission of the Team. This measure, along with KPIs, which look at specific aspects of the Team's performance, can prove useful to managers.

Appendix H: City of Melbourne's Building Team Job Descriptions

Municipal Building Surveyor (MSB) – Class 7

The Municipal Building Surveyor is a technical manager responsible for understanding the Building Regulations that the Building Team enforces. This position is the team leader of the *Building Control Group*, which is responsible for maintaining public safety in the built sections of Melbourne. The Municipal Building Surveyor leads a team of approximately 12 staff who work on building inspections and information, and audit services. The MBS sets goals for the team and ensures that these goals are met. The MBS must perform periodical performance reviews of subordinates. This assessment of the staff is reported to the Manager of Building Certification and Inspection. The MBS works closely with employees to continually review and assess performance to make changes to maximize efficiency. The MBS may be able to use KPIs to aid in the decision making process (Melbourne's Building Team Document #7, 2009, p. 1-6).

Senior Building Surveyor – Permits and Consents – Class 6

The Senior Building Surveyor is also a technical manager responsible for the team that executes the tasks of the *Melbourne Certification Group*, The *Construction Management Group*, as well as other permit and building related functions. The Senior Building Surveyor ensures that construction projects are safely inspected and all the necessary permit and consent requirements are fulfilled in accordance to regulation. The Senior Building Surveyor evaluates the *MCG's* and *CMG's* performance and reports any problems to the Executive Officer (Melbourne's Building Team Document #10, 2009, p. 1-6).

Specialist Building Surveyor – Class 5

The Specialist Building Inspector reports the overall performance of inspections directly to the *Building Control Group's* Senior Building Surveyor. The Specialist Building Surveyor manages the team that performs the inspections, evaluates their performance, and suggests changes to increase efficiency. The Specialist Building Surveyor's overall goal is to enforce building regulations in a manner that will promote business and economic diversity within Melbourne. Currently, this position is vacant (Melbourne's Building Team Document #12, 2009, p. 1-8).

Building Surveyor/Inspector – Class 5

The position of Building Surveyor/Inspector leads a team within the *Building Control Group* and its purpose is to perform the necessary inspections and audits needed to ensure buildings meet legislation requirements. The Building Surveyor/Inspector works under the Municipal Building Surveyor and must have a strong understanding of the local laws and regulations. The Building Surveyor/Inspector must delegate work to the team to ensure that inspections are carried out in a timely and efficient manner. This position works with the Branch Management Team to assist in developing team objectives. Lastly, the Building Surveyor/Inspector uses personal experience and knowledge to assist training younger staff members, giving them more leadership opportunities (Melbourne's Building Team Document #5, 2009, p. 1-6).

Assistant Building Inspector – Class 4

The position of Assistant Building Inspector works directly with the Building Surveyor/Inspector to perform inspections. The Assistant Building Inspector works with other Assistant Building Inspectors to perform the inspections. This position receives instructions from the Building Surveyor/Inspectors. The Assistant Building Inspector is responsible for supplying the senior management with detailed reports of the inspections. The Assistant Building Inspector reports to the Team Leader of the *Building Control Group* who will periodically evaluate the performance of the inspector. The Assistant Building Inspector must be ready to work odd hours in the case of an emergency to ensure public safety is maintained at all times (Melbourne's Building Team Document #2, 2009, p. 1-6).

Building Surveyor – Class 5

The Building Surveyor works within the *Melbourne Certification Group* to certify building projects. The Building Surveyor is charged with offering expert advice to construction companies, thus keeping the Building Team ahead of the competition. The Building Surveyor reports to the Senior Building Surveyor of Permits and Consents. The Building Surveyor must work directly with construction management, offering advice for future construction projects and assisting with the permit process. The Building Surveyor will also be responsible for maintaining relationships with the construction companies and be responsible for maintaining

records of inspections and certifications. Furthermore, the Building Surveyor will be held responsible for the accuracy and cost management of construction projects handled. The position can be considered a liaison between construction companies and the Building Team that delegates work to ensure that inspections and permits are completed as efficiently as possible. The Building Surveyor may not always work directly with construction management companies, but is required to delegate work to the Assistant Building Surveyors to help with the certification process (Melbourne's Building Team Document #4, 2009, p. 1-7).

Assistant Building Surveyor – Class 4

The Assistant Building Surveyor works directly under the Building Surveyor to certify construction projects. The Assistant Building Surveyor is responsible for all the same objectives of the Building Surveyor, and works as the liaison between the Building Team and construction companies. The Assistant Building Surveyor reports to the Senior Building Surveyor of Permits and Consents and is evaluated periodically. Assistant Building Surveyors slowly receive more leadership roles in projects as they gain experience working with the Building Surveyors (Melbourne's Building Team Document #3, 2009, p. 1-7).

Permit and Inspection Liaison Officer (PILO) – Class 5

The Permit and Inspection Liaison Officer works underneath the Senior Building Surveyor of Permits and Consent as a liaison between internal and external service providers and the statutory permits team. Specifically, the liaison officer works with outside agencies, the general public, and construction groups to increase the awareness of permitting requirements. This is a management position which is chiefly responsible for maintaining adequate permitting procedures. However, the PILO also must work to make sure inspections are satisfactory (Melbourne's Building Team Document #8, 2009, p. 1-6).

Permits and Inspections Officer – Site Services – Class 4

The goal of the Permits and Inspections Officer is to monitor and evaluate site-specific building permits. The Permits and Inspection officer is also responsible for delivering building permits and coordinating the necessary inspections for issuing those permits in accordance with the local laws (Melbourne's Building Team Document #9, 2009, p. 1-6).

Site Services Support Officer – Class 3

The position of Site Services and Support Officer is responsible for ensuring that construction projects remain safe and within relevant regulations. These responsibilities include staying in contact with the construction management and performing inspections of the construction. The Site Services and Support Officer reports to the Senior Building Surveyor of Permits and Consents and is required to write reports pertaining to the inspection and permitting process of the construction (Melbourne's Building Team Document #11, 2009, p. 1-5).

Business Support Officer – Class 3

The job description defines the Business Support Officer as providing, "Direct Support to the team responsible for managing construction within the street to ensure health, safety, and amenity standards are met". Construction within the street includes anything that interferes with public walkways and may pose a hazard risk. The Business Support Officer is a liaison between businesses of Melbourne and the Building Team. This position reports to the Senior Building Surveyor of Permits and Consents (Melbourne's Building Team Document #6, 2009, p. 1-7).

Appendix I: Inspection Notes

1) 16 March: General walkthrough of construction sites, *MCG* and *CMG*

General Notes

- Gantries – Protection above the footpath that provides public safety.
- Hoardings – The wall that separates a construction site from the public
- Alimak – Elevator type piece of equipment used by construction workers
- Construction Sites are charged a fee for use of City land (the footpath for hoardings and gantries) this provides an incentive for construction sites to remain efficient and complete their work in a timely manner.
- The traffic engineers must evaluate any road closures. This may include moving handicap parking, loading zones, re-routing, etc
- Detailed construction management plans must be drafted to ensure that cranes and other construction equipment do not build themselves into a position where they are unable to be removed
- Any construction site is possible, complex jobs just cost more

Relation to Project

- There are many aspects of the job. An inspector must talk to neighboring properties, deal with complaints, and communicate with construction officials before construction starts to make sure they understand all of the problems and issues they will face.
- Many different types of construction sites, the project group was shown relatively small and easy sites, as well as complex construction sites that are very close to other properties. Also, the project group was shown potential construction sites where developers want to build a multi storey building in small blocks of land surrounding by businesses and restaurants.

2) 17 March: St. Patrick's Day Festival, *BCG*, Safety check for TOP/POPE

General Notes:

- Permit starts at 4PM, coordinators up since 4AM setting up
- This is a rush job, run out the door, show up quick, finish quick
- We have multiple detailed diagrams of the event with us, and a copy of the permit
- Recommended coordinators apply for permit two weeks in advance
- During busy times of the year - team aims to inspect high risk sites / sites with complaints / TOPs / POPEs
- TOP: Temporary Occupancy Permit
- POPE: Place of Public Entertainment Permit
- Checked fire extinguisher – stamp and dial pressure, make sure the extinguisher is easily removed
- Checked to make sure exits were clear and safe, also ensure there are enough exits
- Every TOP and POPE must have a disabled toilet
- A basic TOP/POPE inspection checks fire safety, health and amenities, and egresses
- During busy times an Building Officer may perform multiple inspections in one outing
- For bigger events it is helpful to perform a preliminary inspection a day before the event. Write down all problems and recommendations and the actual inspection will be much easier because the coordinator will know what the Building Officer is looking for. It is easier to perform two small inspection than one large inspection with multiple problems right before the event starts
- An Building Officer may close down an event if it is truly unsafe, although this may cause a large legal battle

Relation to Project:

- After the *BCG* completes an inspection they keep a paper copy of the inspection and enter the inspection and details of the inspection into the Pathway computer database.
- POPE and TOP cover a huge range of events and inspection, so a KPI based simply off of number of inspections performed will not suffice. It may be possible to classify or base KPIs based off of number of people attending an event or the number of temporary structures at an event.

3) 17 March: Backpackers Hostel, *BCG*, High Risk Building Audit, and Complaint Response

General Notes:

- Building research performed – examine blueprints and past records – identify previous problems associated with building (fire sprinklers and the fire panel were identified as problems).
- On site inspect all floors of the building. Roof and storage room were found to be inhabited with no permits. Problems identified with the sprinkler heads.

Relation to Project:

- After the inspection the Building Officers must now issue a building notice to make the building safe. This will take time, for every issue identified by the Building Officers they must cite from the Building Codes of Australia why it is wrong and suggest possible methods of relieving the problem.
- The process of issuing the building notice suggests that buildings with more problems take more time to deal with after an inspection is performed.
- A time based KPI is ineffective. Because inspections may encounter various problems of varying complexity a simple measure of how long it takes to perform an inspection or issue a notice does not offer any insight into the quality work performed by the Building Officer.

4) 18 March: Advertisement Sign, *BCG*, Response to Complaint

General Notes:

- This was a quick inspection just to look at the sign in question. It is clearly not stable.
- Because the sign may fall and hurt someone, the follow up action will be an emergency order to take the sign down.

Relation to Project:

- Not all inspections are complex; this was a very simple, straightforward process.
- An Emergency order is just another action that can be taken after an inspection. It may be possible to measure all of the different steps taken during a process such as dealing with a complaint based upon the capabilities of the Pathway database system.

5) 18 March: Footing of Building next to construction site, *BCG*, Complaint Response

General Notes:

- Complaint received because the footing of an existing building is being undermined by excavation at an adjacent construction site.
- Construction workers informed the Building Officer that they would back-fill the area when they were finished. The follow up action was a phone call to the person who made the complaint.

Relation to Project:

- Another relatively quick complaint investigation with a simple process. Receive complaint, inspect site, and make a decision on what to do to remedy the problem.
- Update on 20 March: Two engineers certified an underpinning method for putting in a new foundation for the adjacent construction site. This method was found to be unsafe and therefore a stop work order will be issued. This issue was made because of the responsibilities and liabilities of the Building Team. If the building collapses because of the construction the Building Team may be held partly responsible. Also, if the stop work order is successfully appealed the Building Team loses time and money in that process. A decision must be made by balancing all of the possible outcomes of a decision.

6) 18 March: Site Services Meetings, *CMG*, Develop an acceptable construction management plan

General Notes:

- Two meetings were held and each meeting was with a different construction company.
- The general pattern of each meeting was the same. The Building Officers identify problems that may arise during construction of a building and make sure the construction company is aware of these problems. The construction company is then responsible for devising a construction management plan which factors in all of these problems and ensures the public is as safe as possible and the city suffers minimal inconvenience due to the construction.
- Problems discussed were where to put cranes and construction equipment, where to establish construction boundaries, how to reroute footpaths and crosswalks, and how to manage construction deliveries. Other topics that were more site specific were flagmen for truck deliveries to direct traffic, nighttime tripping hazards, how construction affects the Tram system, and temporarily closing down streets.

Relation to project:

- These meetings are held frequently to ensure that the *CMG* helps constructors develop their construction management plans so they can get their permits faster.
- All of these issues are issues that are typically dealt with. It may be useful to record or measure the types of issues encountered when dealing with a construction site and not just the time it takes to issue a permit. This is because time is relative; some construction sites are easier to manage than others.

7) 19 March: Deli at the Victoria Market, *MCG*, Mandatory final inspection

General Notes:

- The *MCG* is responsible for performing mandatory inspections to ensure that conditions within building permits are adhered to during construction.
- These mandatory permits are defined by Legislation. They are performed for demolition, foundation, reinforcements, framing, and a final inspection of completed construction work.
- This inspection was just a final inspection; a Deli at the market had a new cool room constructed.
- Problems were identified. The cool room's light switch was on the outside of the room and it had no internal alarm, these were permitting conditions that were not fulfilled.
- From here the Building Officer must remedy the situation. The Building Officer will contact the constructor that built the cool room and inform them that the permitting conditions were not met. The Building Officer wrote a formal letter to the constructor and cited the permit as to what the problems were as opposed to citing the BCA that the *BCG* must work with on a complaint or inspection.

Relation to Project:

- This was expected to be a quick an easy inspection. The Deli itself is barely large enough to fit four people standing in. However, problems were identified and now work must be performed to ensure that the permitting conditions are met. This seems to agree with the project group's ideas that the complexity of the Building Team's work does not correlate to the size of an inspection or building, but to the number of issues identified when dealing with an inspection or complaint.

8) 19 March: Nightclub, *BCG*, High Risk Building Audit

General Notes:

- This building is a nightclub/strip club. Therefore, the Building Team classified it as a high-risk building. Generally, whenever large amounts of people gather in a building frequently it is considered high risk.
- The high-risk database contains roughly 600 buildings. Ideally, these buildings will each be inspected proactively once every two years.
- After an inspection has occurred, an Building Officer has 10 business days to send a building notice or order. If the documentation is not sent within this time frame it can be appealed and made invalid. If an appeal is successful, the building must be re-inspected for any more work to be done by the Building Team.
- During the inspection the building officers looked at the sprinkler system, sprinkler system and fire inspection log books, fire extinguishers, and railings.

Relation to Project:

- The Building Officer now follows the process as described before. After the inspection a building notice will be issued which details all of the issues identified during the inspection and offers solutions to these issues.
- A building owner has a certain amount of time to respond to a building notice. The owner can either fix the problems and request a re-inspection for compliance, or give reason as to why the issues do not need to be addressed. The Building Officer can either agree with the building owner if he offers good reason for not fixing an issue or he can change the building notice to a building order, meaning the owner must make the changes.

9) 19 March: Existing car park slated for demolition, *MCG*, Demolition Permit Inspection

General Notes:

- A construction company has applied for a demolition permit to start tearing down a car park that is on the site of a future high-rise building.
- Problems were identified. The boundary between the car park and an existing apartment building is unique. The car park that will be torn down acts as a sort of wall for the apartment next door. This is a hoarding problem and the Building Officer will get the construction company in contact with the apartment next door to work out a solution.

Relation to Project:

- The Building Officer made the construction company issue a safety notification to the apartment building next door. Once the two parties come to an agreement a permit can be issued to tear down the wall. In the meantime, the Building Team has issued a demolition permit for the building with the condition that they do not tear down the adjacent wall.
- This negotiation may be hard to quantify and measure. Pathway may be the best option for measuring this, depending on how much is reported in the system.

10) 20 March: Large festival inspection, *BCG*, TOP/POPE compliance inspection

General Notes:

- On site the Building Officers expected the organizers to have more equipment setup than what was there.
- Problems were encountered because a contractor did not sign off on some paperwork having to do with the central marquis and some of the equipment they wanted to check was not setup. Therefore, the Building Officers could not sign off on the permit.

Relation to Project:

- Separate KPIs for TOP and POPE will be necessary. The general process for a TOP/POPE is to issue a permit and before the event check the site for compliance and safety.
- Because the event was not ready when the Building Officers went out to check it another inspection for compliance must be made prior to the event starting. This will take up time, and issues like this should be accounted for in the KPIs.

11) 23 March: Victoria Market Opera show and Docklands Temporary Structure, *BCG*, TOP/POPE inspection

General Notes (Docklands):

- In the docklands there is a temporary structure that has to get its permit renewed every 6 months; it has been there for 3 years now.
- Checked the fire extinguishers and the egresses while in the temporary structure.
- Building Officer will issue a notice to have them make a few small changes such as uncovering a fire extinguisher and removing some pressure tanks from the structure.

Relation to Project (Docklands):

- Very basic inspection. However, the building owners were not notified of when the inspection was to occur. Upon arrival at the site there was a 10-15 minute waiting period to inform the owner of the inspection so the Building Officer could gain access to the building. This appears to be an unnecessary time sink, if building owners were always notified of when the inspections will occur waiting time can be avoided.

General Notes (Market):

- There is an annual charity event where an opera is held in Queen Victoria Market.
- Typical TOP/POPE inspection – check fire extinguishers, egresses, and amenities. Problems were found because the fire extinguishers had not been maintained.
- Building Officer informed the organizer he would be back to check that proper fire extinguishers were available.

Relation to Project (Market):

- A problem was identified and as a result instead of just signing off the site as compliant a second inspection must now occur.
- Because of one problem the amount of work needed to ensure the site is safe was increased greatly, KPIs should be able to account for this.

12) 23 March: Trash in Alleyway, *BCG*, Complaint inspection

General Notes:

- Complaint was received because someone is putting trash in an alleyway.
- This is not the Building Team's area of enforcement, and the individual that made the complaint was informed of this.
- While on site the Building Officer did identify a possible egress problem caused by kegs in the alleyway and told the manager to make sure at least a one meter egress pathway was maintained.

Relation to Project:

- Sometimes a complaint is received that the *BCG* can do nothing about. However, the complaint must still be recognized at the least.
- If a weighting system is to be used it is important an Building Officer document any orders given to a building manager. In this case if a weighting system is implemented the Building Officer must input the data into Pathway, something which may get overlooked currently for small issues such as this.

13) 25 March: Library Inspection Visit 1, *MCG*, Report for appeals board

General Notes:

- The library was inspected four years ago and many issues were found.
- Building Officers are there now to walk through the library and photograph any remaining issues. A report which highlights the code dictates for each issue, what the library currently has, and why it should be allowed to remain that way will then be generated which will go to the Building Appeals Board (BAB). Ideally, the BAB will then permit these issues to remain as is.
- This is similar to a 'report of consent' function, except this requires the BAB.
- The main reason to allow many of these issues to remain is the heritage usage of the building.

Relation to Project:

- This is a unique inspection, something like this does not occur frequently.
- Because of the nature of this inspection it would not make sense to write a KPI that covers it because it is such a miniscule part of the Building Team's functions. Instead, on the monthly reports it can be mentioned that a project such as this was handled and that is why other KPIs or measurements may be affected in different ways.
- The biggest problem with the inspection was the fact that the issues were difficult to locate around the library.

14) 25 March: Meeting with builder, *CMG*, informational meeting

General Notes

- The meeting was to discuss a construction traffic management plan.
- Builder needs to continue construction and needs to remove footpaths and occupy roadway space. They need a permit to do this and to be issued a permit they need an acceptable traffic management plan.
- Builder asked about the permitting process. This was a chance for the *CMG* and the builder to share information and discuss possible problems they may encounter.

Relation to Project

- These meetings need to be accounted for. They require a lot of time and thought from the *CMG* and the permit cannot even be issued yet.
- These meetings are recorded within Pathway, so this can be part of a weighting system.

Add the highlighted stuff to the inspection notes. Put it in chronological order and change the numbers as necessary. We need to count up the total inspection we went on and the different types too to put it in the methodology.

15) 25 March: Small House, *BCG*, Fire Hazard Complaint Response

General Notes:

- A little house is using sheets to control the dust from maintenance work. No real problem was noted
- This same house has been looked at multiple times because of complaints received from the same person.

Relation to project:

- Sometimes a complaint is unfounded; the problem in question is a non-issue. Also, the Team must deal with over zealous individuals who call and complain over anything at all. KPIs should be able to account for time spent dealing with complaints such as these.

16) 26 March: Church Demo Site, *CMG*, Proactive site inspection

General Notes:

- Small church where a construction company is removing a small part of it to make room for an expansion.
- The construction company is closing the footpath periodically so they can use a bobcat to unload material into the back of a truck.
- Everything there seemed to be fine, it was not the most ideal way of dealing with the construction but people were still able to use the footpath.
- The Building Officer did note some people would avoid the construction site and cross the street nowhere near a crosswalk. This is unsafe and the whole point of construction management is to avoid situations like this. However, this construction site was making efforts to reduce people from doing this; the Building Officers cannot force pedestrians to always cross on a crosswalk.

Relation to Project:

- This is one of the inspections that would fall under the original "5% of construction management permits checked on site for compliance" KPI. Once returned to the office the Building Officer will input data into Pathway that the inspection was performed.
- The Building Officer mentioned that it is tough to follow this KPI because they spend so much time issuing permits and dealing with complaints. Also, the process of using Pathway can be complicated and some Building Officers are not completely happy with the system.
- It is not the project group's decision to decide what actions are most important for the Building Team to perform. Therefore, the project team will develop KPIs for both reactive and proactive *CMG* inspections.
- The Project group must develop KPIs that increase the Building Officer's workload as little as possible.

17) 26 March: House and Footy Team Headquarters, *MCG*, Change of occupancy permit and mandatory inspection

General Notes (House):

- The owner of this house would like to split the title in two. To permit this the Building Team needs to ensure that the correct safety measures are in place to consider this building two separate buildings.
- Building Team requires a letter from the building surveyor that states the fire rates along the landline are acceptable. This is work for the land-surveying group.
- Checked the building regulations on the new title boundary this person is proposing.

Relation to project (House):

- Sometimes the Building Team must work with other groups to complete work.

General Notes (Footy HQ):

- The original HQ burnt down; the Building Team is responsible for overseeing construction and permits for the new HQ.
- Quick site check to make sure everything is safe.
- The site will be requesting an inspection before they pour concrete to inspect the reinforcements (rebar).

Relation to project (Footy HQ):

- This is a proactive site inspection to make sure everything is safe and identify any construction issues before the mandatory site inspections that would result in the Building Officer being unable to sign off on the concrete pour.
- It is important for proactive inspections such as this to be entered into Pathway.

18) 26 March: Bar, *BCG*, High Risk Building Audit

General Notes:

- A building notice was served to this bar and they complied with nearly all of the points. A private building surveyor was there to speak on behalf of the tenant.
- The issue being disputed was a handrail on a set of stairs. The final decision on if the rail needs to be installed will rest with the Municipal Building Surveyor. If the MBS decides the railing is necessary, it will be put into a building order.

Relation to Project:

- This reflects some of the negotiation that takes place when dealing with a building owner hesitant to make all of the changes suggested in a building notice. These negotiations may be hard to quantify or measure unless they are put into Pathway as data. An Building Officer may not input every conversation or negotiation made with a building owner into the database.

19) 26 March: Bar, Crack in a wall, *BCG*, High Risk Building Audit and a Complaint

General Notes (Bar):

- Measured the distance from each room to the emergency exits. New regulations mandate that if there is a distance of greater than six meters to the exit a sprinkler system is necessary.
- Also measured the reach of the fire reel.

Relation to Project (Bar):

- This is an ordinary high-risk building audit that follows a very straightforward process.

General Notes (Crack in Wall):

- There is a crack in a building that is getting progressively worse. The next-door neighbor called to complain.

Relation to Project (Crack in Wall):

- There are many options for the building officer to take. An emergency order can be issued to fix the crack, or an evacuation order can be issued to vacate the building until the problem is fixed. Any possible resolution needs to be measured.

20) 27 March: Construction Site, *CMG*, Complaint Inspection

General Notes:

- Complaint against a construction site because of parking issues. Construction workers who were parked illegally were intimidating traffic officers.
- This has been a problem for a while, and as a result the Building Officer will threaten to take away the construction permit for the site.
- Talked to the foreman of the site and informed him that cars were parked illegally and construction materials stored near them must be moved.
- A noise complaint was also issued, but there was no loud noise when the Building Officer arrived on site and the construction workers explained that they started work at the correct time. There is nothing the *CMG* can do about that complaint.

Relation to project:

- This was a reactive inspection that the *CMG* officers feel they deal the best with. The Building Officers believe it is a better use of time to deal with sites that do have problems than possibly spend time inspecting a site with no issues whatsoever.
- Responding to and mitigating complaints is a big part of the *CMG's* job and needs effective KPIs that measure their performance of doing so.
- Many complaints against construction sites seem to be difficult to measure. The Building Officer goes on site and tells the construction managers what to do. The results of the inspection can be easily measured but the negotiation and type of problem may be very hard to look at quantitatively.

21) 27 March: Bar, *BCG*, High Risk Building Audit

General Notes:

- Inspection of a bar on the high-risk building database.
- The inspection itself was very simple. The Building Officer looked at fire escapes and extinguishers, sprinklers, and door locks.
- The Building Officer will research the size of the building and other information necessary to write the building notice. The process of obtaining this information can take up to a few days. Once the information is obtained and reviewed the notice will be issued.

Relation to Project:

- The research process is what throws off any use of a weighting system for the *BCG*. It is impossible to tell how long it will take to find the necessary data and the process itself is not measured within Pathway. This skews any information that can be measured using Pathway because the amount of time taken up by performing research does not correlate with any other process.
- The Building Officer noted that the current high-risk building database is inefficient. Currently, any bar is immediately on the list, even if it is very well kept and not actually a high risk to public safety. This bar is an example of a high-risk building that does not have to be on the list. Research and work is currently underway by the Building Team to better define a high-risk building and this is not part of the scope of our project.

22) 27 March: Library Inspection Visit 2, *MCG*, Report for Appeals Board

General Notes:

- Finished examining issues found in the libraries that were not attended to on the previous visit.
- The report will be written and sent to the library for review before going to the BAB.

Relation to Project:

- This job is taking a lot of time and resources. Ideally, parts of the process can be recorded within Pathway so it can be partially represented in a weighting system. However, it is unlikely that the entire process can be quantified because it is an unusually function performed by the Building Officers.

23) 30 March: Construction Site of Footy HQ, *MCG*, Mandatory Site Inspection

General Notes:

- Inspected site to make sure that it is in compliance with permitting conditions.
- Plans were difficult to read and took more time than usual to understand. Checked the depths and widths of the trenches used for reinforcement. The actual reinforcement placement will be compared to the theoretical reinforcement placement and the permit will be signed for compliance once the Building Officers are satisfied. Once it is found compliant the concrete can then be poured.

Relation to project:

- Mandatory inspections are a small part of the *MCG's* workload but they must be performed.
- This may be reflected by the use of a weighting system that looks at all the functions the *MCG* are responsible for.

24) 31 March: TOP/POPE Inspection, *BCG*

General Notes:

- The garden show was inspected for safety.
- A member of the MFB accompanied the Building Officers for the inspection.
- Fire extinguishers, blankets, hose reels, and other safety items were inspected.
- Building Officer will return the next day to ensure all of his recommendations were met.

Relation to project:

- Every TOP/POPE inspection so far has been relatively the same. Building Officer goes out to site, examines key safety issues, and makes recommendations and then checks later to make sure the recommendations are followed through.
- There are many events like this every year in Melbourne, so this is something relatively simple that must be captured in a KPI. It is necessary to distinguish somehow the size of the events because the bigger events take much more time to inspect and deal with.

25) 31 March: Construction Sites, *MCG*, Mandatory inspections

General Notes (First Rebar Inspection):

- Arrived at the site and no construction officials were present.
- Problems were identified with the rebar that must be fixed before the permit can be signed for compliance.

Relation to Project (First Rebar Inspection):

- If the construction manager was present the problem could have been fixed in 10-15 minutes and the permit could have been signed on site. Because the manager was not there the Building Officer must go back to the office, make a formal letter detailing the problems, and re-inspect before issuing a permit.
- A KPI should reflect this complexity. Sometimes the Building Officer must perform more work because of simple problems such as the construction manager not present on site.
- Possible communication KPI to measure if a site was contacted to inform them of when the Building Officer would be present to inspect. This was a mandatory inspection; the construction managers were expecting an officer because the permit must be signed before work can be continued.

General Notes (Footy HQ):

- Building Officer went to inspect some rebar to sign off a compliance permit so that concrete could be poured.
- Concrete was already poured when the Building Officer arrived on site.
- Construction officials insist they took pictures of the rebar and will get a certificate from their engineering services certifying that it was acceptable. If no permit comes through then the Building Team can mandate that they rip the slab up and re-do it to ensure that it is constructed properly.

Relation to Project (Footy HQ):

- The construction company was performing illegal works. Instead of signing the permit as compliant they must now wait for a certificate from the engineers certifying that it is acceptable. The Building Officer went out to inspect something and wasted time because the inspection was impossible. If this is documented in Pathway it can be measured, if not it is tough to quantify the workload when a circumstance like this arises.

26) 1 April: Library Inspection Visit 3, *MCG*, Report for Appeals Board

General Notes:

- Returned to library to look at everything in the report and make sure the information is accurate.

Relation to Project:

- The report will be finalized and a meeting will be held to come up with plans for how to deal with the egress problems before it is presented to the BAB.
- Very difficult process to measure. It may be beneficial just to look at specific parts of the report such as number of problems and number of inspections.

27) 1 April: Bar, *BCG*, High Risk Building Audit

General Notes:

- Straightforward high risk building audit process. Perform inspection, issue notice is necessary, ensure notice is carried out.
- Problems identified were possible illegal structures on the back porch, cool room light switches and alarms, egresses not properly labeled fire extinguisher problems, along with others.

Relation to project:

- This was exactly like the other high-risk building audits the project group went to. The only difference between them is the type of problems encountered, and the number of problems encountered. Depending on how many issues are identified with the building, the building notice may take more time to complete and may be more difficult for a building owner to follow through with.

28) 2 April: Office/Classroom, *BCG*, Complaint

General Notes:

- Offices have been converted to classrooms without a change of occupancy permit, which is illegal.
- Partitions in the rooms were blocking sprinkler coverage and posed safety threats.

Relation to Project:

- This will probably result in a building order to stop occupying the building as a school until the proper permits are obtained. This may also lead to future legal action.

- These are all actions the *BCG* can take when dealing with a building problem that are recorded in Pathway.

29) 2 April: Fire Alarm Signaling system disabled, *BCG*

General Notes:

- The fire alarm system had been disabled which is illegal.
- The building was locked up, Building Officer guessed that the building was inhabited and they purposefully are not paying bills.

Relation to Project:

- The *BCG* must deal with building managers and owners unwilling to comply with their requests. This results in a great deal of negotiation, which is difficult to quantify.

30) 2 April: New RMIT Building Site Meeting, *MCG*, Informational Meeting

General Notes:

- Met with a builder who is interested in construction a new building for RMIT.
- This meeting had two purposes, it was a chance for the Building Team to meet the construction company and get a feel for the site. Also, it was a chance for the Building Team to inform the construction company of the possible problems they will deal with during construction and issues to pay attention to when designing their construction management plan.

Relation to project:

- The building is still in the bidding stage so many construction companies will contact the *MCG* for information and advice enquiries.
- These meetings are a great way to ensure that construction management plans are designed well the first time and many more subsequent meetings are not necessary.
- These meetings should be recorded in Pathway because they can be a large time sink for Building Officers, especially if they have to travel on site for some of them.

31) 8 April: High Rise Building, *BCG*, Building Audit

General Notes:

- Should have been a quick inspection.
- A collection of supplies was partially blocking an egress. It will be fixed and can be re-inspected very quickly. However, the problem should have been cleared up to begin with. Now instead of inspecting other buildings the Building Officers must come back to verify the problems with the egress is solved.

Relation to Project:

- This reflects more of the complexities associated with the *BCG*. An inspection can quickly turn into multiple inspections because of a few small problems such as this. A KPI weighting system should be able to deal with multiple inspections.

32) 14 April: Backpacker Hostel, *BCG*, High Risk Building Audit

General Notes:

- Regular high-risk building audit.
- Problems were found. From here the Building Officer will perform research and most likely issue a notice.

Relation to Project:

- The inspection itself, as well as the notice is easily measured because it is reported in Pathway very easily.
- The research Building Officers must perform, as well as any negotiations, are what is difficult to measure with the *BCG*.
- As with most *BCG* inspections there were multiple Building Officers present. Any weighting system needs to be able to give credit to both Building Officers for going on the inspection.
- Some Building Officers prefer to do research before going to the audit; some prefer to do it later, either way the research must be performed.
- Owners are more likely to comply with a stop work order or an evacuation order than a building notice or order. This is important for when looking at how many cases an Building Officer closes because a big part of that is how willing the building owner is to comply.

Appendix J: General Notes

1) Notes on the Business Plan, Reporting Procedures, and Pathway

Business Plan –

- This is a list of specific goals for every branch working under council

Reporting Procedures –

- The Building Progress Report is a report generated specifically for the Building Branch. This report includes information on where the different groups of the Building Team are focusing their efforts.
- One of the original KPIs is used within the report.
- Interplan is a system used by council to measure the performance of every team. There is a section devoted to KPIs that gets updated a few times a year.
- In both reporting procedures the graphs are not accompanied by much comment. When used in a report a KPI will be most beneficial if it is explained. This will ensure that anyone who reads the report understands what it means and the senior management will look at and think carefully about the KPIs.

Pathway

- Pathway is the database system that the Building Team uses to record all of the data they collect before, during, and after a work unit.
- Pathway keeps track of every complaint, permit, and inspection the different groups of the Building Team may perform.
- The system is capable of being edited so that it can collect any information the Building Team may desire to monitor.
- When data are exported from Pathway it is in the format of a Microsoft Access database. These databases can be used to run some very powerful queries. Currently, Microsoft Access is the program in between Pathway and Microsoft Excel that organizes the data into a useable format.

Relation to Project

- The Business plan will be used when developing KPIs. Part of the KPI development process is to ensure that the measures are focused on specific goals.
- The reporting procedures are flexible. The project group can use either reporting scheme, most likely both. The monthly progress reports are internally generated and any KPI or graph can be easily added. The Interplan reports are more generalized and KPIs can be added to it as the Building team sees fit.
- Pathway should be used to collect the data necessary to calculate these KPIs. This is beneficial to the project in many ways. The Building Officers already use the database, so it will not be any more work on their end to retrieve the data necessary. Also, it can be easily changed so if we need it to collect slightly different data it is possible to alter the system without causing too much effect on the

Building Officers. Lastly, the system measures nearly every aspect of a typical work unit process. This can be used to create a weighting system for different work units for the groups.

2) Classifying Risk

Complaints

- Reactive and classified as high, medium, low. The rating determines the *target response date;* 1 hour, 2 days, 10 days, respectively.

Response

- From what we can tell, response is when the officers address the problem. Our interpretation is that it is separate from the follow up action, especially with the low priority complaints.
- There was some variation in how officers interpret the term response.

High Risk Building Database

- Pertains to a Proactive inspection of "high risk" buildings. Currently any bars, nightclubs, hostels, and any type of building where large amounts of people can gather are considered high risk. However, this system is not comprehensive enough because some bars are very well kept and should not be considered high risk. Currently, research is being performed into a better classification system.

Relation to Project

- Separating complaints into categories takes care of some of the complexity problems. However, there can still be a huge amount of variation of complexity within these categories themselves.
- The project group will have to create a clear definition of 'response' if it is to be used as a KPI.
- High-risk buildings are an important part of the *BCG's* workload; they should be captured with KPIs.

Appendix K: Survey questions

'*' Indicates questions that required an answer:

1) *What group (*BCG*, *MCG*, *CMG*, other) are you a part of?
2) What level (Executive Officer, Class 3-7 Officer) are you currently working at
3) What do you believe are the most important responsibilities of the Building Team?
4) What do you believe are the most important responsibilities of your group?
5) On average, what task (Responding to complaints, performing an inspection, reviewing permits, etc…) do you spend the most/least time completing? Please describe both.
6) Of your personal contributions, which one(s) do you feel is/are the most valuable or appropriate to measure? Please explain your answer.
7) Of your Team/Group contributions, which one(s) do you feel is/are the most valuable or appropriate to measure? Please explain your answer.
8) *Would you like the opportunity to participate in a brief, 2-hour, workshop on Tuesday 7 April 2009 (2:00pm) to help us develop meaningful measures for your Group and the Building Team?
9) *Consent Form

We appreciate any information you provided us, which will only be used in relation to this program. The information will remain anonymous however if you choose to include your name it will better help us understand your roles and responsibilities and how these measures may impact on your views.

Thank you,
-Robert McNamee
-Sean Philbrook
-Matthew Parker

I would like to remain anonymous.
I am happy to be identified as the source of this information.

10) Do you have any final comments or suggestions to make prior to submitting this survey by clicking the 'done' button?

Appendix L: Building Team Survey Results

Survey #	Q1	Q2	Q3
Totals:	24	24	19
1	NR	NR	NR
2	*BCG*	Class 3 Officer	NR
3	*BCG*	Class 6 Officer	NR
4	*BCG*	Class 5 Officer	To fulfill Council's responsibility in meeting Section 212 of the Building Act and make Melbourne a more safer and livable city. In addition, the Building Team needs to be able to provide Building Permits, Occupancy Permits and police the activities of building sites where they impact the Council's streets.
5	*BCG*	Class 3 Officer	Delivering a service to clients
6	*BCG*	Class 3 Officer	To provide accurate, and up to date information
7	*BCG*	Class 4 Officer	To offer excellent customer service whilst administering the Building Act and Regulations.
8	*BCG*	Class 6 Officer	Ensuring that Buildings within the City of Melbourne are constructed to a high standard complying with the Building Code of Australia, Relevant Australian Standards, and the City of Melbourne Local Laws.
9	*BCG*	Class 4 Officer	Undertaking building complaints, audits of high risk buildings and permits for Place of Public Entertainment/Siting Approvals
10	Branch Management	Class 4 Officer	NR
11	Business Support Team	Class 3 Officer	NR
12	*CMG*	Class 3 Officer	To insure street permits for construction related activities are up to date so we can ensure public protection.
13	*CMG*	Class 4 Officer	Public safety and access using good control of contractors in how they carry out their work and ensuring owners and occupiers are well informed along with enforcement in proper work practices and owners of properties complying with building regulations.
14	*CMG*	Class 5 Officer	Public safety
15	*CMG*	Class 5 Officer	To work together as a team to deliver outcomes that maintains the reputation of the City of Melbourne as leaders in building related matters and providing informed information to all customers
16	*CMG*	Class 3 Officer	Safety for all working in the municipality of Melbourne
17	*CMG*	Class 4 Officer	Safety of the public
18	Management	Executive Officer	To provide services that ensure public safety and amenity standards are maintained making Melbourne great place to live, work and visit.
19	*MCG*	Class 3 Officer	NR

20	*MCG*	Class 5 Officer	Ensuring the built environment in the City of Melbourne is safe for the public.
21	*MCG*	Class 4 Officer	To ensure that building works in the City of Melbourne are undertaken efficiently in terms of time and cost, with a minimum of disruption to other city users, and in compliance with applicable laws, codes and standards
22	*MCG*	Class 4 Officer	Ensure safe buildings within the Municipality
23	*MCG*	Class 6 Officer	Public Safety / Customer Service
24	*MCG*	Class 5 Officer	Ensuring the safety of the cities building stock
25	Technical Support Team	Class 6 Officer	NR

Survey #	**Q4**	**Q5**
Totals:	19	18
1	NR	NR
2	NR	NR
3	NR	NR
4	To fulfill Council's responsibility in meeting Section 212 of the Building Act and make Melbourne a more safer and livable city.	This is difficult to answer, but will try my best. If an event is scheduled within a couple of weeks it could take up to 50% to 60% of my time. However, if there are no events - there is no time. Complaints can take up to 20% High Risk inspections can take up to 30% Reporting/serving notices can take up to 50%.
5	Ensuring the safety of the public	Most - following up building orders and notices Least - Taking phone general queries
6	To work as a team	Building Property Inquiries
7	To offer excellent customer service whilst administering the Building Act and Regulations and proactively work towards ensuring better building safety within the municipality.	Most - Research and resolution. Finding the right and relevant information and negotiating or enforcing a successful out comes. Medium - Providing advise to customers and industry professionals. Dealing with complaints, redirecting people to the appropriate authority/people, providing regulatory advise. Dealing with constant interruptions. Least - Inspection. Generally the time spent on site is minimal compared to research, writing of notices/orders and the subsequent follow up.
8	Ensuring that once Buildings have been constructed that they are maintained in a safe manner both structurally and fire safety wise. With a focus on Occupant safety.	I perform numerous tasks throughout the day, attending to Complaint's, Inspecting High Risk Buildings, Responding to Building Emergency's i.e. Fires, Structural collapses, Buildings used as Squats. Issuing Building Notices, Orders, etc and assist in managing the *Building Control Group*. I spend the least amount of time doing plan checks.
9	Undertaking building complaints, audits of high risk buildings and permits for Place of Public Entertainment/Siting Approvals	The most task undertaken is probably the paperwork for the Building Notice/Building Order/Minor Work
10	NR	NR

11	NR	NR
12	Public protection-proactive. Construction Management plan implementation	+Complaints - Inspections, reviewing permits
13	Public safety and ensuring all contractors work within the Code of Good Practice and Noise and Vibration Policy and ensuring contractors understand their responsibility to the public along with advice and practical discussion with builders for the best approach to their work procedure	A complaint may take a considerable amount of time to address and resolve or a relatively short phone call maybe adequate. An inspection can take up a lot of time but on average can be a time between 10minutes to a horror so. Reviewing individual permits is probably the shortest amount of time taken in most cases. I spend more time reviewing permits overall and inspections would follow on 2nd on an average daily basis.
14	Public safety	NR
15	Issue all permits to customers in a timely manner. Maintain a high level of customer service. Provide information to builder / developers related to public safety and amenity at building sites.	Responding to complaints 50 % sometimes we respond to complaints that have been misdirected by other departments / frontline. We need to be more proactive not reactive Inspections 5% Not enough other departments / frontline. We need to be more proactive not reactive Inspections 5% Not enough tiresome days. Need to do more. Reviewing / Issuing permits 45 %
16	Safety for all	Reviewing permits 75%
17	Safety of the public and to ensure building sites standards meet the City of Melbourne's 'Code of Good Practice'.	Reviewing permits such as construction management plans, gantries, hoardings and traffic management plans - 40 %. Complaints and Inspecting - 20 %, Issuing permits - 20 % and Answering Phone Calls - 20 %
18	To effectively manage the operations of the Building Team to achieve the organization’s goals.	Responding to complaints/providing information is a large % of my time.
19	NR	NR
20	Providing an efficient and thorough building permit service.	Most - Reviewing permit Initial check of documents, requests for further information, detailed plan checking and issuing of the building permit. Least - inspections have not done many since SB did most of the inspections in *MCG* until recently.
21	To carry out the functions of the "Relevant Building Surveyor" as set down in the Building Act, in providing a timely and cost effective building surveying consultancy business.	Most - responding to technical queries from existing and potential clients. Least - unsure.
22	Provide a service in building surveying to the municipality	Reports of Consent probably the most as they need to be completed and I get a lot of them generally. The least time is assessing domestic building permit applications
23	High level of customer service in permit delivery	Most -reviewing permits least - inspections
24	Issuing permits and performing inspections in an efficient manner without taking shortcuts.	I spend a lot of time checking building permits. This involves preliminary assessment of documents, requests for further information, detailed assessment and issuing of the permit.
25	NR	NR

Survey #	Q6	Q7	Q8	Q9	Q10
Totals:	15	12	14	14	3
1	NR	NR	NR	NR	NR
2	NR	NR	NR	NR	NR
3	NR	NR	NR	NR	NR
4	Ensuring that the issues raised in Building Notices for High Risk buildings are implemented to make the building safer. Responding and acting complaints that relate to life safety. Ensuring that event occupants are safe. My reasons for this are that as part of the *BCG* team we deal with the life, safety, and amenity for people who use buildings. In my opinion the life and safety of occupants is the highest priority.	See Q6	Yes	Name	NR
5	Being thorough when investigating and resolving matters	How the matters i.e. complaints, referrals are dealt with and the time it takes to process the each matter.	No	NR	NR
6	To be at work on time every working day and to provide accurate information to my clients	See Q6	No	NR	NR
7	Quality of service given to customers - We should be part of the solution not the problem. Quality of work completed - What we do or ask for should be relevant, reasonable and achievable? Success - Have we successfully achieved what we set out to do? (Is the building safer, is the work completed to satisfactory standard, is the event safer, was our service helpful?) Input - Are we contributing ideas and work tithe programs and projects run by the group.	Have we added value - The work undertaken by the team needs to add value to the municipality (is the building safer for all that use it? are stakeholders benefiting from our projects/programs, etc.)	Yes	NR	NR
8	20 Years of Experience and local Knowledge of the Melbourne City and its Building stock.	The ability to get the job done.	No	Name	NR
9	Administration work, such as preparing Building Notice/Building Order/Minor Work and letters/Fax's etc.	NR	Yes	NR	NR
10	NR	NR	NR	NR	NR
11	NR	NR	NR	NR	NR
12	Ability to work other tasks, patience in aiding the builders in getting permits approval in short amounts of time.	Customer complaints and the amount of time put in to ensuring they are resolved.	No	Name	NR
13	Permits are to me the most valuable to deal with as without a permit a contractor is basically unable to carry out what he needs to do and the area is able to monitor what works are taking place and where enabling us to control the safety of the public while this work takes place.	Permit and inspections go hand in hand as they show what is actually taking place after the permit is issued	No	NR	NR
14	NR	NR	NR	NR	NR
15	Giving correct information to builders / developers regarding the type of public protection to be used at building sites. Looking at cause and affect when issuing permits, are there residents / cafes in the area. How will me issuing a permit affect those people? Measure Customer satisfaction both customers and the public.	More inspections of high-risk buildings. More inspections of Night Clubs	No	Name	Cmnt
16	NR	NR	No	Name	Cmnt
17	Assessing Construction Management Plans. Once the cmp is submitted it will address most issues in relation to demolition of a building and the construction of a building. Once approved along with the traffic management plan the permits are fairly easy.	How many construction management plans are approved, amount of permits issued and phone calls received. CMP's take up a lot of time and generally can take a few weeks to be issued. We also spend a lot of time on the phone liaising with parties concerned and issue over 7000 permits a year.	Yes	NR	NR

18	The extent to which responsibilities have been met or delivered in accordance with the expectations of the role, business plan commitments and resource capacity.	The overall performance of the team from one year to the next whilst taking into account industry issues and the changing circumstances of stakeholders.	Yes	Name	NR
19	NR	NR	NR	NR	NR
20	NR	NR	NR	NR	NR
21	Technical expertise, and delivering the expertise in a timely and accurate way - that is the product we provide the most.	NR	Yes	Name	Cmnt
22	Numbers of applications processed	Value of building permit work and the income generated in building permit fees	No	NR	NR
23	NR	NR	NR	NR	NR
24	Number of permit issued (categorized by size) and number of inspections	Permits and Mandatory Inspections, these are our core function	Yes	Name	NR
25	NR	NR	NR	NR	NR

Appendix M: KPI Workshop Notes

Date: 7 April 2009

General format for how to read these notes:

A sentence or two will appear like this, indicating a new topic was discussed. (Parenthesis indicates which group this section applies to).

- Bullets indicate specific points or notes relating to the current topic.
- The notes are presented in chronological order, indicating the order in which issues were discussed within the workshop.

A lot of administration work when working on notices and orders in pathway. (*BCG*).

- Technical Admin – researching information, very hard to measure the amount of time or work for this.
- Large amount of time put into this – finding the regulations and researching the building – also has negotiations work.
- General administration – inputting of data.
- The work doesn't end with notices.

10-Day restriction for issuing a building notice (*BCG*).

- Majority of cases do not hit the 10-day restriction for notices.
- A lot of extra work going in.

Closing notices – just as hard as opening the notices (*BCG*).

- Very hard to measure time to do this.
- Maybe a re-inspection… correspondence and tracking the process that occurs after the initial notice is issued.

It is very difficult to measure the time of an inspection because of building variance (*BCG*).

Classification of the type of complaint and building may be a possible route to take to base KPIs off of. (*BCG*):

- Building classification
- Building: office, library…
- May have to involve the building or floor size, etc

Potential KPIs (*BCG*):

- Are we getting the notices out in 10 days
- Response to complete stuff
    - Site inspections
    - Complaints
- Building notices/orders issued versus notices/orders resolved

Look into outcomes for *BCG*, easier to measure than the process. However, it is still important to look at some processes the *BCG* complete.

Closing notices is becoming harder than opening them – depends on the willingness of the owner and the cost and complexity of the order, among other factors (*BCG*).

- Closing a notice relates to the amount of time to convince an owner to do something

Possibly break the Essential Safety Measures into different components (*BCG*).

Thing to think about is that different classes of officer can change to timeline of a project (All Groups).

- Class 7 Officer has more experience / knowledge and can possibly get something done quicker than a class 3 officer.

Possible KPI (All Groups):

- Track changes versus classes of officers.
- Weights per time frame for different work units/processes. Make use of a sort of weighting system.

Timing functions in pathway (All Groups):

- Planning uses this timing function in pathway.
- Possible for logging the time it takes to complete different tasks.
- Causes more work for Building Officers when applied to the Building Team.

General *CMG* discussion:

- Time per work unit. Most permits are issued fast and efficiently with a process that is generally followed by all officers. This can be easily measured using Pathway and integrated with a weighting system.
- A lot of work relates to the willingness of the contractor to resolve a problem. Fortunately, contractors want to solve problems fast so they can start construction as soon as possible.

General discussion of the applicability of a weighting system (All Groups):

- *CMG* – Permits, easier to quantify, weighting system seems to apply quite well.
- *MCG* – Middle ground, building permits are easy to quantify, apply weighting system to parts of their work.
- *BCG* – Enforcement and complaints, difficult to quantify because of research and relying on owners to follow orders. Work processes need to be changed or measured in greater detail for a weighting system to be useful to the *BCG*.

More potential KPIs for the *BCG*:

- Quality of customer service, maybe look at staff complaints?

    - Drawback - difficult to measure quality quantitatively.
- Quality of work produced
    - Don't drop level of service.
    - Also hard to measure quantitatively.

BCG is currently developing a high-risk building program; this may prove to be a good avenue to look at for KPIs (*BCG*):

- Possible high risk KPI - Have we inspected X of all the Y buildings planned, etc
- This gets into the areas of proactive versus reactive KPIs

When developing KPIs: Consider inspections and then complaints. Especially for the *BCG*.

- Inspections are easier to quantify, complaints generally have more research and more negotiation, which is difficult to measure.
- Complaints are still important and should somehow be represented in KPIs.

For the *BCG*, good areas to look at are (*BCG*):

- POPEs
- TOPs
- Within these areas: split relating to either size, # buildings, # people, etc

The *BCG* hierarchy of work (*BCG*):

- 40 complaints per month (generally).
- High risk building audits.
- POPE, TOP.

The *BCG* currently doesn't have any court procedures, meaning they don't bring people to court.

Possible future KPIs for the *BCG*: BINs – Building Infringement Notices

- On-the-spot fines for infractions.
- This can help the workload because notices and orders are then not issued. They become unnecessary because building owners then make the changes to avoid further fines.
- Currently not possible because of legislation and Building Team limitations. In the future they may be used, and KPIs should be developed for BINs then.

An important aspect of the *BCG* is the number of opened to closed notices. This indicates how well the officers 'finish' their work. Some things to look at (*BCG*):

- % Notices / orders closed after 12 months of issue.
- Average 'age' of open notices. Possibly graph it in a manner that shows the range of 'ages' and how many in each 'age' group.
- # Notices / orders opened in a month compared to the number closed.

- The numbers needed to measure these potential KPIs are already recorded within Pathway, it is just a matter of deciding how to word and implement the KPI.

POPEs – 3-5 possible ways to classify them (*BCG*):

- # Structures
- # People
- # Facilities/Type of event
- This will prove to be an easy process to measure these, maybe look into this measure:
    - X are worth Y # of hours per worker, or Y hours total

The biggest areas of work (*MCG*):

- Reports of Consent
- Protection work notices

Reports of Consent (*MCG*):

- Mostly for site measured for houses, encroachments for houses.
- Allow you to do something that is noncompliant with legislation.
- The cost is per regulation not per clause – means the amount of work does not relate to the amount of money.

How many hours you are expecting to spend working on a job goes into issuing quotes for construction sites (*MCG*):

- There is a quotation sheet with prices that officer's use when issuing quotes.

The "Time to issue a quote for major/minor works" original KPI relates to customer service and being competitive (*MCG*).

- This is important to the *MCG* because it is the first indication of the quality of work the Building Team will provide to a construction company.

Potential KPI: Time/weighting system for permits and reports (*CMG*).

- General process: contractor applies, *CMG* issues, *CMG* manages site.
- *CMG* issues a lot of permits, an easy measure for the group.

Things to look into (All Groups):

- Auditing process to back up building audits
    - Follow-up audits
- The Building Team needs KPIs so they know what they need to achieve. KPIs give employees a clear indication of what their most important work processes are.
- We are on track with the weighting system. It makes sense for specific processes within the Building Team but does not apply to everything.

Potential KPI basis: items per notice as a measure?

- Can be used by *BCG* as a way of looking into common problems of different types of buildings.
- Pathway must be modified slightly for this to be implemented.

Workshop finishes.

After thoughts:

- This was a successful workshop. The project group obtained a great deal of information, and a few KPIs.
- We now have at least 2-3 KPIs for each group that are measureable and provide some insight into Building Team functions and performance.

The project group must look more into what is available in the monthly report. Some of the items in the reports are really KRIs (Key Result Indicators) that will help with the KPIs. The KRIs show the base data or the outcomes. The KPIs show the process. Using both will allow the data to complement each other, meaning that the KPIs will make more sense and provide more insight because the outcome data are provided there too.

Thoughts relating to how the workshop was executed:

- The majority of the time was spent discussing the *BCG*. This is because many problems were identified quickly relating to KPI measurement and work unit complexities.
- Another reason the *BCG* was primarily discussed is a large majority of the attendees were members of the *BCG*.
- When discussing *CMG* and *MCG* KPIs, it was generally accepted on what should be measured, and that Pathway was a good tool to measure it with. This is a third reason as to why the *BCG* was primarily discussed. The *BCG* presented the most problems and the project group it would be most beneficial to discuss them in great detail.

Appendix N: Consent Form

Consent Form

Purpose: As students of Worcester Polytechnic Institute (WPI) of Worcester, Massachusetts we are currently working with City of Melbourne's Building Team in Australia. We are working to develop Key Performance Indicators (KPIs) to better quantify the efficiency and productivity of the Team.

We appreciate any information you can provide us. Only with your permission will we use the information. It would be used in a final report for our school for which we receive a grade, and for the development of KPIs for the City of Melbourne's Building Team. The information will remain anonymous, unless otherwise specified by you.

Thank You,

Robert McNamee

Sean Philbrook

Matthew Parker

Please check one

___ I would like to remain anonymous.

___ I would like to be referenced in the report.

Please Print below

I,_____, agree to allow the above students of Worcester Polytechnic Institute to use the information I have provide through email or verbal conversation to use in their project.

Signature_____ Date_____

Appendix O: Information from Contacting Organizations

Washington DC:

Washington DC: Thank you for your recent inquiry regarding evaluation of building inspectors. Your question regarding KPIs is a timely one - DC government has just implemented a performance-planning portion to the evaluation process. We have been thinking about this issue internally, but were required by our centralized Human Resources office to commit some standards to paper for measuring performance at the end of the year.

Here are some of the aspects we want to measure our inspectors on:

Time after inspection to issue NOV/NOI
Time after inspection to enter data into our database (Accela)
Quality of data entered into Accela - grammar, coherence, punctuation
Adherence to 24 hour re-inspection for life/safety violations
Quality of cases forwarded to our Enforcement Division - error rate/rejection rate

We have been through a great deal of change here at the District's Inspections Division. We've instituted a certification requirement, developed new job descriptions for all staff, and changed our business process to move to a combination inspector division from a specialty inspector division and we instituted a new case management system - all in the last 15 months. As a result, we are really focused at this time on training, professionalizing the workforce, instituting major change in culture and re-gaining credibility in the division.

WPI Project Group: Our project group is very grateful for your help, if it is at all possible would you be able to clarify the following issues?

1) How do you make use of the information you gather? For example, will this information be in monthly or quarterly reports? Will the managers use this information to make organizational changes or implement this into some sort of incentives program?

2) Do these measures reflect the difference between large and small buildings? Melbourne's Building Team has a form of inspector evaluation, but they have found it difficult to fully make use of the aspects they measure. This is because the inspectors are responsible for everything from tall skyscrapers to the smallest buildings in the city. Therefore, they have found it difficult to make sense of the data because every inspection is so unique. Do you believe the aspects you measure provide information regardless of the type of inspection or size of the building?

3) What do the terms "NOV / NOI" mean? That is not something we have encountered in Australia.

4) You mention that you measure the quality of the data entered into Accela. Is this quantified in any way?

Washington DC: Gentlemen, greetings from the District of Columbia! Let me try to answer the questions you pose.

1. Because the agency has a strong focus on our Inspections Division at this time, the data we are gathering is pulled weekly by the front line supervisors and the senior management team. We are really in the building stages of a new, different unit and need immediate access to data to measure the effectiveness (or not) of our training and coaching and mentoring efforts. So, it will be used for organizational changes and for performance management purposes for staff that are struggling with adapting to the changes.

2. I thought a bit about this and you may want to call me to talk about it, but my initial thought is: if you look at the items I outlined for measuring – what difference would it make if it was a large or small building? To me that comes into effect with scheduling, but not with measuring and managing performance. I think if you are measuring the number of inspections an inspector is responsible for completing you need to take size into account. If you are measuring time it takes to issue NOV/NOI (Notice of Violation/Notice of Infraction) after an inspection, or time it takes to enter inspection results into database, or quality of reports inspector is submitting to our Enforcement Division, etc., those standards should hold across the District regardless of the size of the building you are inspecting.

3. I spelled these out in #2 above. Our building code allows us to cite building owners for building code infractions we find during inspection.

4. I don't think we can quantify this. This is a performance measure and will receive a satisfactory, unsatisfactory, outstanding, etc. rating based on the quality of the input.

I hope this helps, and again, feel free to contact me directly if I can help with anything else. Anything I tell you is public information so you certainly may use it for your report. I would love to see it when you are done; as I said, this is an area of great interest to us in the District as well.

New York City, New York:

In response to your inquiry, regarding the Department's method of evaluation of its inspectors, below is a quick summary of a program that is currently in place.

QA Inspections Program
The NYC Buildings Department has a QA Inspections program to review and evaluate inspectors work based on two types of supervisory inspections: Review and Training inspections.

Review Inspections involve follow-up inspections to evaluate completed work of an inspector, and joint inspections for training. Together, these two types of QA Inspections are intended to continuously monitor performance and identify areas for improvement or correction.

These are mandated inspections, which must be performed by all levels of supervisors - supervisor, Assistant Chief, Chief to division Managers and Directors. For each division and unit, located in either one of the five borough offices, or in citywide central offices, based on the number of active inspectors targets are established monthly for Borough and Central units of Boiler and Elevator, and Quarterly for all central units under Safety, Emergency and Enforcement divisions.

In 2008, the Department's technical supervisors and managers conducted citywide a total of over 4,200 QA Inspections - 1,885 Review and 2,385 Training inspections.

Hope the above answers your team's question concerning the Department's inspector evaluation method. If you need more information on the program, let me know. Good luck with your project, and when completed, would like to receive a copy of your final report for reference.

Worcester, Massachusetts:

Worcester: Our inspectors belong to Local Union 495, unfortunately per their contract, are not required to keep performance evaluation records.

WPI Project Team: I was just wondering, does this mean that the inspectors are not evaluated, that there are no measurements you take to try to quantify or rate the effectiveness of the inspectors, or do you mean that the inspectors are evaluated they just do not have to keep records of it.

Worcester: The inspectors are not evaluated

Boston, Massachusetts:

Currently we monitor the Inspectors activities with daily log sheets indicating the times locations and duration of the inspections or other tasks performed throughout the day. Additionally the managers will make random telephone inquiries to the customer/contractor for their input and verification of the inspector's activity.

On the technical side, our inspectors are required to obtain 45 hours of continuing education units over each 36 months of their employment with the City. These are done through State or privately sponsored seminars, association meetings or evening or on-line courses.

Stonington Council, Australia:

Notes from conversations with the Stonington Council:

Use the Balances Scorecard Method, Measuring:

- -Cost
- -Service
- -Quality
- -Responsive
- -Effectiveness
- -Staffing, the thought is the year of experience relates directly to proficiency

Also measure:
-Customer Requests – How may completed in the correct amount of time (closed complaints)
-Policy Effectiveness
-Risk and Staff experiences -> internal
-Customer satisfaction -> external

The major things the Building Team looks at are areas that are of high risk and trying to minimize those risks.

The Council does not use quantitative measures to measure performance of the Building Officers. They focus on the staff development rather than outcomes.

- -Developed a reward system
- -They look for the 'good' feedback for the team, and do not focus on the outcomes or numbers

Goal Setting:
-Completed by the building officer rather than the management
-Their philosophy is to have a self regulated team that works to improve itself and is self-motivated
-The purpose of the goal setting is to sit everyone down and get them all on the same page. This makes everyone have a say in the goals and works for self-managing and self-motivation.

Mainly, they do not focus on quantitatively measuring the performance or outcomes of the team, just staff development, self-managing, and self-motivation.