



Historic Urban Landscape and Visualising Ballarat Impact Analysis

eResearch (First Wave) Extended

Produced by: Centre for eResearch and Digital Innovation

Research Data Collection and Analysis Team:

Dr Angela Murphy, Ms Alison Ollerenshaw, Ms Meghan Taylor,
Ms Amy Tsilemanis, Ms Jennifer Corbett
Centre for eResearch and Digital Innovation

Research Management and Review Team:

Dr Helen Thompson, Dr Peter Dahlhaus, Dr Angela Murphy
Centre for eResearch and Digital Innovation

Release date: 30/11/2015

CONTENTS

EXECUTIVE SUMMARY	vii
INTRODUCTION AND BACKGROUND	vii
STUDY DESIGN AND METHODOLOGY	viii
Study methods	ix
BRIEF REVIEW OF LITERATURE	x
STUDY FINDINGS	xi
Summary of findings for usage, accessibility and quality	xi
Summary of findings for maximising engagement	xii
Summary of findings for enhancing opportunity for success through planning	xiii
Summary of findings for managing change and opportunity into the future	xiv
STUDY CONCLUSIONS AND RECOMMENDATIONS	xvii
Recommendation 1	xix
Recommendation 2	xix
Recommendation 3	xix
Recommendation 4	xix
Recommendation 5	xix
Recommendation 6	xx
Recommendation 7	xx
Recommendation 8	xx
Recommendation 9	xx
Recommendation 10	xx
Recommendation 11	xx
Recommendation 12	xx
Recommendation 13	xxi
Recommendation 14	xxi
Recommendation 15	xxi
Recommendation 16	xxi
SELECTION 1.	
INTRODUCTION	1
1.1 BACKGROUND	1
1.1.1 HUL Web Portal	4
1.1.2 Visualising Ballarat	5
1.2 CENTRE FOR eRESEARCH AND DIGITAL INNOVATION	7

SELECTION 2.	
STUDY DESIGN AND METHODOLOGY.....	8
2.1 CONCEPTUALISING THE RESEARCH PROCESS.....	8
2.2 SETTING RESEARCH AIMS FOR CURRENT STUDY.....	13
2.2.1 Research questions.....	14
2.2.2 Research questions in first wave data collection.....	15
2.3 STUDY METHODS.....	16
2.3.1 Survey.....	17
2.3.2 Individual interviews.....	17
2.3.3 Document analysis.....	17
2.3.4 Google analytics.....	17
2.3.5 Ethics.....	17
SECTION 3.	
BRIEF REVIEW OF LITERATURE.....	18
3.1 HUL concept.....	18
3.2 The role of information technology within HUL.....	22
SECTION 4.	
STUDY FINDINGS.....	25
4.1 USAGE & QUALITY: WHO KNOWS ABOUT THE HUL SITE & JUST HOW GOOD IS IT?.....	25
4.1.1 Site usage by end user.....	25
4.1.2 Frequency and points of access: A measure of engagement.....	28
4.1.3 Quality: Do end users think it is any good?.....	36
4.1.4 Usefulness: Can it be used effectively to meet end user need?.....	41
4.1.5 Summary of findings for Section 4.1.....	46
4.2 MAXIMISING ENGAGEMENT: EXTENDING THE REACH OF HUL.....	47
4.2.1 Seeking connection for HUL using HUL.....	49
4.2.2 Disadvantage and inclusion: The role of HUL.....	57
4.2.3 Summary of findings for Section 4.2.....	59

4.3 ENHANCED OPPORTUNITY FOR SUCCESS THROUGH FUTURE PLANNING	60
4.3.1 An academic exercise or something with a clear purpose?	60
4.3.2 HUL: What is in a name?	64
4.3.3 Mapping the tangibles and capturing the intangibles	68
4.3.4 Summary of findings for Section 4.3	70
4.4 MANAGING CHANGE AND OPPORTUNITY INTO THE FUTURE	71
4.4.1 A proposed structure for management into the future	71
4.4.2 Establishing a vision	75
4.4.3 Communication and engagement directions	76
4.4.4 Research planning	80
4.4.5 An action plan for Stage 2 Activation	83
4.4.6 Summary of findings for Section 4.4	87
SECTION 5.	
STUDY CONCLUSIONS AND RECOMMENDATIONS	91
REFERENCES	98
APPENDICES	102
Appendix A: Sustainability Model - Rating Scale and Criteria for Ratings Allocation	102
Appendix B: The HUL Online Survey	106
Historic Urban Landscape Ballarat Web Portal Survey	106
APPENDIX C:	
RESEARCH STUDY INTERVIEW SCHEDULE	112
Interview Schedule	112
APPENDIX D:	
ACCESSED ADDITIONAL RESOURCES	113

APPENDIX F:
 POTENTIAL DEVELOPMENT IDEAS AND LINKS 114
 Overview of Potential Development Ideas Put Forward During Data Collection 114
 Collections with potential to be included through Links within web portal 115

APPENDIX G:
 INDIVIDUALS AND ORGANISATIONS INDICATING INTEREST
 IN HUL AND VISUALISING BALLARAT MANAGMENT 117

LIST OF TABLES

Table 1: Data collection methods and source 16
 Table 2: Analytics breakdown of monthly usage rates: HUL and Visualising Ballarat 25
 Table 3: Average and percentage access HUL web portal 30
 Table 4: Quality of design - User assessment 40
 Table 5. Ratings across the domains of sustainability 91

LIST OF FIGURES

Figure 1: Model for sustainability in technological innovation 10
 Figure 2: Extended timeframe study design outcomes and timelines 11
 Figure 3: Aligning research questions with data collection waves 15
 Figure 4: Key HUL policy influencers across time 19
 Figure 5: Circles of sustainability model 21
 Figure 6: HUL usage rates Dec 2014 – July 2015 26
 Figure 7: Data collection participant profile 28
 Figure 8: Average hits across portal pages 29
 Figure 9: Most sought information across the HUL web portal 31
 Figure 10: Assessments of quality of content for the HUL web portal 36
 Figure 11: Assessment of usefulness of the HUL web portal 43
 Figure 12: HUL site access profile 64
 Figure 13: The duality of data usage and Visualising Ballarat 66
 Figure 14: Proposed new model for integration and management across multiple sectors 75
 Figure 15: Level 1 outcomes across the domains of sustainability 92
 Figure 16: Comparative analysis across the domains of sustainability 93
 Figure 17: A visual comparison of the two points in time 94

EXECUTIVE SUMMARY

INTRODUCTION AND BACKGROUND

In September 2013 the City of Ballarat became the first city to join international pilot program to implement UNESCO recommendations on Historic Urban Landscapes (HUL). The HUL approach seeks to develop a synergy between urban conservation and development and the complex and interrelated elements that make living and constantly changing communities unique. The commitment to HUL at the global level represents a recognition that a range of factors must remain central to conservation and cultural heritage planning if locales are to retain the elements and characteristics that define them. The shift toward the adoption of HUL overtly recognises that both tangible and intangible factors need to be considered when planning for positive and inclusive sustainability. The type of factors that are viewed as integral to the historic urban landscape include community values, cultural factors, environment, built environment, socio-economic and local context, and the links that these elements have to the past and to the present.

In Ballarat, strategies to implement HUL have drawn on four domains that were defined through the UNESCO implementation framework.

These are:

1. Civic engagement.
2. Knowledge and planning tools.
3. Financial tools.
4. Planning and regulatory tools.

The specific strategies the City has put in place for successful implementation involve new programs as well as the re-imagining of existing programs.

They include:

Civic Engagement through:

- The establishment of the HUL web portal.
- The use of local stories.
- The Ballarat Heritage Awards.

Knowledge and Planning Tools which include:

- Visualising Ballarat.
- The Ballarat Heritage Data Base.

Financial Tools which include:

- Preserving Our Heritage Together Grants program.
- Ballarat Heritage Restoration Fund Grants Program.

Regulatory Tools that are administered, in the main, through the mechanism of Heritage Overlays and the Ballarat Planning Scheme.

Additionally, aligning with the six point Action Plan provided by the UNESCO HUL framework, the City of Ballarat has undertaken the following initiatives to maximise planning and implementation success potential for the Ballarat HUL program:

- The commissioning of *Mapping Ballarat's Historic Urban Landscape* (Context Pty Ltd, 2013).
- Working with community advocacy (Ballarat East Network) on the process of cultural mapping.
- The *Ballarat Imagine* project to identify community values and attributes.
- A Cultural Mapping Audit.
- The development of interactive mapping tools.
- The development of partnerships across academia (FedUni and Deakin), historians, community and council members and heritage consultants.
- A review of planning and regulatory policy to consider potential inclusion of HUL.
- The embedding of HUL into the major forward planning strategic document, the *Today Tomorrow Together: The Ballarat Strategy Our Strategy for 2040*.

The following report does not examine each of these implementation strategies in any detail but rather seeks to examine and report on two of these strategies. These are the HUL web portal and Visualising Ballarat.

STUDY DESIGN AND METHODOLOGY

Based on the chosen foci for this study of the HUL web portal and Visualising Ballarat, three distinct research aims have been established.

These are:

1. To undertake a Level 1 (Primary Analysis) of stage one implementation of the HUL web portal and of Visualising Ballarat.
2. To draw on the learnings from the study of stage one implementation to provide recommendations to inform and shape stage two implementation of HUL and Visualising Ballarat.
3. To build baseline knowledge and evidence to inform the assessment of the long term impact of both HUL and Visualising Ballarat on practice within community, planning, business and research environments.

These research aims will be achieved within the context of an extended timeframe study that will occur over a three year timeframe. This current report presents the findings of the first wave of what will be a total of four waves of data collection.

All four data collection points will be guided by the same series of five (5) research questions, with Question One (1) of the series having been answered through this current study.

The data gathered through this first research wave has provided a significant body of baseline data which will be used to support analyses in subsequent research stages. It is envisioned that the remaining research questions will be answered incrementally over the three year timeframe set for completion of the larger study.

This research approach will establish an evidence base to support measurement of the impact of the HUL recommendations. Additionally, the study will provide a mechanism through which to measure the impact of eResearch approaches, technological innovation and tools in shifting behaviours, approaches and responses in a sustainable way.

RESEARCH QUESTIONS

The central research questions which will guide this study over an extended timeframe are provided below. More detail relating to subsidiary questions is provided in the body of this report:

Question 1:

What elements of HUL/Visualising Ballarat have most effectively supported and facilitated knowledge development for the maximum numbers of potential end users?

Question 2:

What have been the key impacts of HUL/Visualising Ballarat for a range of key stakeholders, including historians, researchers, planners and community members?

Question 3:

To what extent has HUL/Visualising Ballarat effectively captured data that can be used to build evidence based knowledge repositories of relevance to the community, to researchers and to government?

Question 4:

In what ways does open data access, as provided through the tools and mechanisms of eResearch, impact on decision making and facilitate change?

Question 5:

What role does the HUL/Visualising Ballarat web portal have in identification of research ready data sets that can be used in the eResearch process to enhance and build new discoveries?

STUDY METHODS

A multi method approach was used in data collection to maximise data validity and to enhance generalisability of the study findings.

Methods that were used for the study included:

- **Document Analysis**

Involving all documents relevant to HUL and Visualising Ballarat and including external source documentarian. Qualitative content analysis techniques were applied uniformly for this study method

- **Individual Interviews**

Interviews were conducted with a range of key participants (refer to body of the report for specific detail). A total of 36 participants were involved in interviews and data was analysed using qualitative thematic analysis.

- **Online Survey.**

An Online Survey was distributed to a range of key stakeholders

(refer to the body of the report for specific detail).A total of 35 participants responded to the Online Survey and data was analysed using both Excel and SPSS.

- **Google Analytics.**

Service usage and usage type data for HUL and Visualising Ballarat was tracked and analysed between December 2014 and July 2015 with a total of 5,029 sessions recorded (refer to the body of the report for specific detail relating to the breakdown for these sessions).

Ethical approval appropriate for research involving individuals was gained from the Human Research Ethics Committee of Federation University Australia (FedUni) and principles guiding the data collection and analysis process were observed to serve the best interests of all participants at each stage of the research process. Ethics Approval Number 15-078 A

BRIEF REVIEW OF LITERATURE

A brief review of the literature was undertaken through electronic searches of key national and international databases from 2004 – 2015, with an emphasis given to literature published from 2010 – 2015.

The key areas explored and reviewed related to the following themes:

- The HUL concept. This section explored the gradual development over the last decades of the concept of Historic Urban Landscapes and the influencing policies and conventions that resulted in the 2011 UNESCO recommendations on HUL.
- Holistic tools and strategies for ensuring inclusive consideration of all domains of relevance to urban planning and sustainability. In particular this section considered the notion of Circles of Sustainability and how these might relate to the HUL approach.
- The role of information technology and HUL. This section considered the role of information technology as a mechanism for inclusion, enhanced civic participation and knowledge building. It also explored the role of mapping, as a visual tool, in enhancing end user capacity to build trust in the veracity and potential of emerging partnerships with professionals and government for inclusive and sustainable urban planning.

The literature review provided a research base against which to examine work to date on HUL and Visualising Ballarat. It enabled clear links to be built between what is already known about HUL and information technology and any new knowledge gained as a result of this research project. In particular it provided validation around concepts of inclusive and participatory planning, the HUL approach and the place of information technology in the changing landscape of urban and place based planning.

STUDY FINDINGS

Data collected for this study was analysed and a number of key themes were found to have emerged. These related to the areas of:

- Accessibility and usability in engaging people in Ballarat's historic urban landscape.
- Building connectivity and collaboration: maximising engagement.
- Future planning, knowledge growth and opportunities.
- Ongoing management.

An overview of research findings from this study is provided below.

SUMMARY OF FINDINGS FOR USAGE, ACCESSIBILITY AND QUALITY

Analysis of data relating to Usage and Quality provided a number of key insights that have been of value to build a clearer understanding of what works well in the HUL web portal, as well as areas that need to be addressed as the project moves into Stage 2.

The key findings have been that:

- There has been a steady increase in usage levels of the HUL web portal since it was established in December 2014. A comparative analysis of the HUL web portal (as the tool for civic engagement) and Visualising Ballarat (as the tool for knowledge building and planning) shows that, while Visualising Ballarat had lower levels of usage in the early stages of establishment, usage of this component of the web portal has grown at a greater rate overall. Access rates for the HUL web portal and Visualising Ballarat have experienced upward usage trends since establishment.
- Usage has, in the main, been limited to end users based within the local area, with a very small percentage of visits to the site coming from national and international end users.

- The most accessed parts of the HUL web portal were those that contained imagery and mapping capacity (e.g. Visualising Ballarat and the Before and After photos). Participants consistently reinforced the extent to which the visual elements of the web portal engaged end users and signalled a potential to build insights and new discoveries that could be tailored to individual interests and needs. The possibilities that these features provide for knowledge building and planning, particularly as they relate to Visualising Ballarat, was a strong theme that emerged across both interview and survey data. The fact that this could occur through a single point of access, drawing on a range of different data sets simultaneously, was assessed as a major strength of the web portal and one of the elements most highly valued by end users.
- Frequency of access data shows clearly that, while there is enthusiasm for the HUL web portal and the potential that it provides for use in consultation, planning and research, it is not yet a technological innovation that is accessed on a repeat basis by the majority of participants. There was no indication that could be taken from the data, that it has, at this point of implementation, become integral to the community or to the workplace.
- The quality of the content of information provided through the HUL web portal was assessed as being good. While a very small number of research participants identified incorrect or incomplete information being a problem in relation to content, the main issues raised related to the need for additional content to be added to the site. This was consistently raised as a shortfall and an area needing to be addressed as a matter of urgency. It is acknowledged that significant additional content has been added to the HUL web portal since completion of this research study.
- The design features of HUL and Visualising Ballarat were consistently assessed as being of a good standard and were, in fact, identified as one of the strengths of the HUL web portal. There is a need for issues identified for action to be included in strategic planning processes into the future to ensure they are addressed as a matter of priority and the capacity for impact of the web portal maximised.

SUMMARY OF FINDINGS

FOR MAXIMISING ENGAGEMENT

The key findings in this section, as drawn from the data collection and analysis process, have been that:

- There was consensus across the research participant pool that the HUL web portal has significant potential as a unique and important tool for community engagement, and for building connection and collaboration. Consequent to this assessment, it was determined that a foundational principle, when developing forward planning ideas and a Vision for the resource, must be an overt recognition of the centrality of the civic engagement in conceptualisation of the web portal.
- The portal, while having capacity for engagement does not, in and of itself, achieve civic engagement. There needs to be a clear commitment in place to working closely with groups and communities to maximise their understanding of the portal, to explain its purpose, and to build understanding of the role groups and individuals can play in knowledge and planning. The portal itself can be used as a conduit for consultation and a mechanism to draw out ideas, encourage input, share information and engage communities.
- The HUL web portal provides a unique resource to engage groups that have traditionally been excluded from the process of knowledge building and planning. The capacity for individuals and groups to become active participants outside traditional approaches to community engagement was assessed as an important and unique attribute of the HUL web portal.

The success of the HUL web portal is dependent on the building of a range of partnerships and alliances that will support and facilitate the process of community education and skill building. This type of approach is required to discuss and share information across communities around what HUL is all about and how it works. It is also a mechanism to draw out, through discussion, what is considered to be central to the values and identity of particular groups and individuals. Partnerships and alliances are also valuable as a means through which to:

- Maximise the reach of the portal.
- Provide a multi-disciplinary perspective that, in itself, has a greater likelihood of effectively engaging participants. This is because the diverse skill set and perspectives provided by the multi-disciplinary team will facilitate the establishment of approaches that recognise, are more responsive to, and subsequently address, the complex and diverse array of needs and views found in communities and in local and regional cultures.
- Increase the number of groups and individuals likely to champion the value and attributes of the portal.
- Create a mixture of formal (organisational) and informal (volunteer based) approaches in planning and development.
- Increase the ability to better understand needs across a broad range of stakeholders.
- Enhance the capacity for resourcing and funding through a range of opportunities linked to large resource bases and enhanced eligibility to access funding options.

SUMMARY OF FINDINGS FOR ENHANCING OPPORTUNITY FOR SUCCESS THROUGH PLANNING

- The research process identified that there is a need to develop, as part of the strategic planning process, a documented purpose for the HUL web portal. This was assessed as being required so that there is an overt understanding of what the portal seeks to achieve in capturing the tangibles and intangibles of communities. While there is significant documentation in place already relating to this (from UNESCO, City of Ballarat and CeRDI), it was assessed that there is the need for a clearer communication process to be developed and implemented so that this documentation can be accessed and levels of understanding around the key drivers for establishment and development of the portal are maximised. It must be emphasised that programmatic and site relevant documentation, and an associated framework for implementation, are in place. However work is needed to communicate a consistent message around the potential of HUL and Visualising Ballarat to create a platform for collaboration. The portal provides a mechanism for enhancing planning, knowledge, end user input and for the promotion of the range of elements that comprise the values and identities of individuals, groups and communities.
- The provision of a clear and documented purpose was identified as an important part of increasing and strengthening communication about, and understanding of, the web portal. This, in turn, would play an important role in supporting the community education and connection process.
- There remains confusion in relation to the role of Visualising Ballarat within the context of the HUL web portal. To maximise participation across organisations, and across disciplines, it is necessary to review the current model for capturing the data sets that shape and inform place based mapping. Increasing the range of data sets within the portal was viewed as an imperative, particularly in order to maximise the capacity to map both tangibles and intangibles of relevance to communities. Building data sets from across the spectrum (from geomorphology through to values, place and diversity) was assessed as an important step in providing end users with the full gamut of options needed to inform inclusive planning and knowledge building. The nature of HUL is to ensure inclusiveness across groups and communities. To achieve this it is imperative that the type of information available through data sets is maximised; a goal that requires a range of portals to operate interactively. The extension of data sets means a parallel shift in the complexity of the management process and the profile and number of organisations involved in the web portal.
- The balance must be to maximise the scope of information available, while retaining a delivery approach characterised by inclusiveness and accessibility across users groups and across planning and knowledge building needs. Consequent to this there needs to be a restructure of the web portal into the future. The new structure will comprise multiple gateways rather than a single access point. The scope of data to be included will help build the knowledge base around what comprises a historic urban landscape however, it will also be structured to maximise the capacity to present information based on end user interests, roles and needs. It will also need to continue to align with notions of inclusiveness, integration and accessibility – a multifaceted platform for collaboration and planning.
- Research participants identified a range of collections and data sets that should be considered for inclusion. These suggestions, and the organisations that put them forward, will form part of the planning process for the strategic development of the web portal into Stage 2 implementation. Participants who identified the need for expanded data sets also signalled a willingness to be involved into the future. These participants identified the importance of intangibles for understanding and capturing the culture of community and a parallel acknowledgement of the difficulty of capturing these intangibles in a way that is cognisant, representative and responsive to diversity. There was a clear commitment given by these organisations to working in partnership with HUL in forward planning and management of the portal to maximise the capacity for representative input and long term success.

SUMMARY OF FINDINGS FOR MANAGING CHANGE AND OPPORTUNITY INTO THE FUTURE

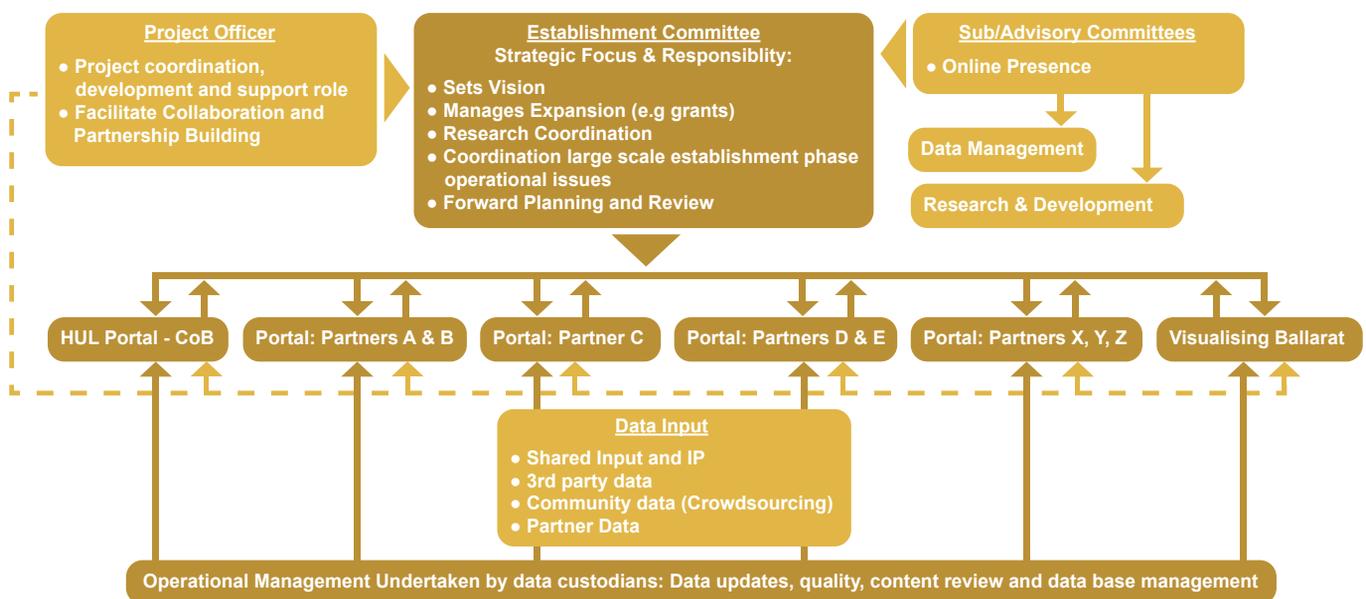
Data analysis relating to management needs and future directions of the web portal identified a number of areas requiring focus and development. A summary of findings and insights gained highlight that:

- There is a requirement for the inclusion of an increased number and range of data sets to maximise the scope and capacity of the web portal as a tool for knowledge building and planning. This will require establishment of a range of formal partnerships, and a revised management structure to support and accommodate the change and build functionality (i.e. visualisation etc).
- There is the need for an Establishment Committee for the web portal into the future. The Establishment Committee will have a range of responsibilities including:
 1. Developing a Vision for the web portal and the project into the future;
 2. Drafting Terms of Reference;
 3. Managing the process of expansion;
 4. Pursuing funding proposals and opportunities;

5. Providing strategic direction;
6. Addressing operating issues, including access to organisational and community data sets;
7. Supporting the research development process.

The process of connection with community, and ensuring that web content remains as responsive and representative as possible, requires the establishment of an advisory structure to support and supplement the management of the portal. This could occur through the use of online forums and feedback loops rather than through a formalised advisory process. It could also include inviting experts to speak, running forums establishing working groups, as applicable. It is a strategy that requires finalisation and clarification at the point of establishment of the Committee and sub committees (these are potentially needed in the area of research and development and data management).

The new proposed structure for integration of the model across multiple sectors is provided in the following figure:



- The development of a clear vision and purpose for the initiative is fundamental to forward planning and development. While the final conceptualisation for the vision and purpose into the future will need to be developed through a process of collective discussion and forward planning, the research process has identified the importance of ensuring that the following objectives are addressed within the visioning process:

Objective 1:

- To embed collaboration as a foundational principle of all work undertaken in the development of the web initiative into the future.

Objective 2:

- To ensure that there is adequate disciplinary, community and government and geographically relevant representation on management and advisory structures for the web portal.

Objective 3:

- To place research at the centre of the development process to ensure that the web portal, and the learnings that emerge from implementation of this initiative, play a central role in shaping national and international approaches to urban landscapes and understanding of issues for sustainable cities.

Objective 4:

- To ensure that the issue of values, cultural, ethnic and locational diversity take a central role in the visioning for the initiative.

Objective 5:

- To ensure that crowdsourcing is embedded, at the local government, academic and community level, as a legitimate mechanism for knowledge and evidence building which captures and maps values and identity and the intangibles that are central to building an understanding of critical elements of the past and the present day.

- The research process itself acted as an effective mechanism of community engagement. Building on the initial work of the HUL symposium, the research study reignited high levels of interest and a movement toward commitment to web portal development. This was evidenced in:

- The number of participants who indicated a willingness to provide data sets;
- The levels of interest in involvement in management of the portal; and,
- The number of participants who indicated interest in having input into shaping the development into the future.

- A range of suggestions were made for enhancement of engagement and communication opportunities. These included:

- Use of Local Areas Planning processes to introduce the web portal, and use it as a mechanism to engage communities and gain their input to the planning process. The potential dilemma of ensuring the portal contains sufficient content to support Local Area Planning, while using the process itself to build content was recognised. Suggestions made to begin to address this issue included the establishment of an implementation timetable for roll out of the Local Area Planning process, and the funding of small grants to support communities to use the web portal for knowledge sharing and planning.
- Working closely with research centres and faculties at FedUni to maximise awareness and engagement. This approach supports knowledge building about the web portal in the tertiary teaching process and through student placements. Taking this approach enables the HUL portal to be used as a community development initiative and as a teaching and learning resource in schools.

-
- Enhancing funding opportunities through the development of a universal, cross agency and cross disciplinary agreement. This will facilitate access to an increased range of funding options, including funding opportunities relevant to innovations for community capacity building and development.
 - Development of a marketing and promotion plan to increase knowledge of the web portal and the role it takes in building capacity for community involvement in knowledge building and planning.
 - Development of data agreements and or Memorandums of Understanding between CeRDI and participating agencies and organisations to ensure that there is clarity around roles and responsibilities, issues of funding, liability and legalities and to minimise misunderstandings in delivery caused by lack of clear communication processes.
 - The web portal has significant research potential as an innovation around which there is limited research at the national and international level. There is research capacity both in terms of research that can be undertaken through use of the resources contained in the portal itself, and also in regard to research that it is possible to undertake about the portal, and the changes and impacts attributable to it. Regardless of the research approach taken, it is necessary to build stronger research partnerships with a range of research partners, both within FedUni and with other research groups and individual researchers. It is necessary to formalise research partnerships, publication plans and seek major research funding opportunities, including those provided through the Australian Research Council. This needs to be a research planning target for 2016.

An implementation Action Plan is included in Section 4.4 (4.4.5). It identifies strategies, tasks and responsibilities for consideration, and is intended as an implementation support, for the incoming Establishment Committee.

STUDY CONCLUSIONS AND RECOMMENDATIONS

This study has sought to assess whether a Stage 1 Primary Impact has been achieved since establishment of the HUL web portal in December 2014.

The data collected was drawn from the first six months of portal operation. It enabled insights to be gathered on usage levels, user perceptions around the value of the portal for capturing notions of distinctiveness, identity and place, and supporting connection with community. The study also tracked user perceptions around the quality of the contents and usability of the site. Specific feedback was sought on potential changes and enhancements to the site and ways to strategically develop the web portal to maximise capacity for having an expanding and positive impact for individuals and communities into the future. In order to maximise understanding of the type of impact that was achieved and to build specific insights into areas that needed to be a focus for change, a typology of impact involving three levels of impacts was applied. Assessment of evaulability identified that the HUL web portal was at a point of development at which only a Level 1 (Primary Impact) could be undertaken.

These findings were then tested against a specific model of sustainability. Within this, a range of domains were rated and the results then mapped, as shown in the following table.

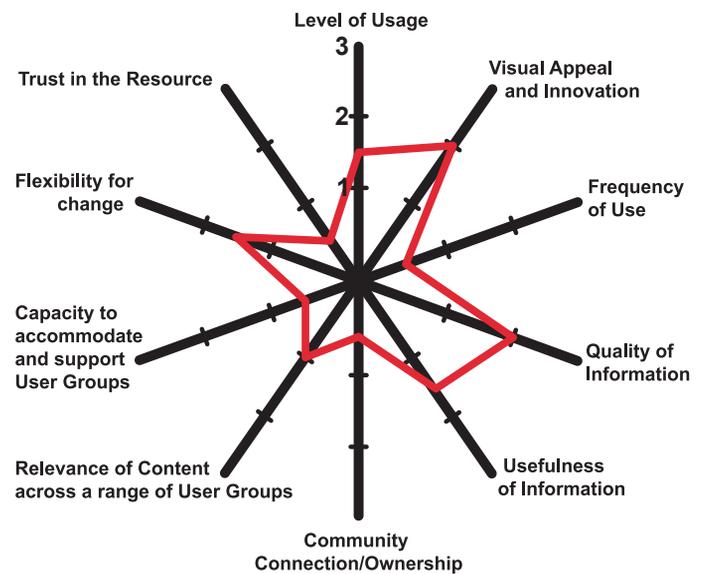
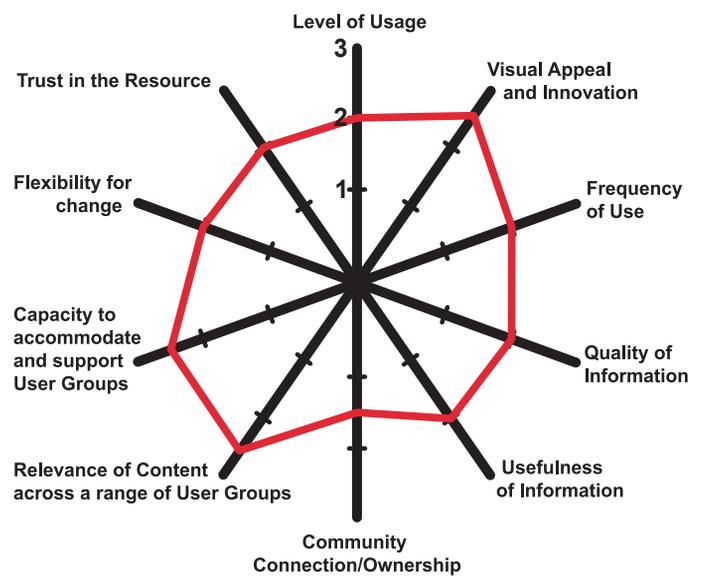
Factor Examined Through Analysis of Collected Data	Rating out of 3	Rating within the scope of 3 levels of impact
Level of usage	2	1.5
Visual Appeal and Innovation	2.5	2
Frequency of Use	2	.5
Quality of Information	2	2
Usefulness of Information	2	1.5
Community connection/ ownership	1.5	.5
Relevance of content across a range of user groups	2	1
Capacity to accommodate and support user input	1.5	.5
Flexibility for change	2.5	1.5
Trust in the resource	2	1

Level 1, the web portal has had a reasonable level of success in engaging a select group of stakeholders, being viewed as an effective tool for community engagement and knowledge building and planning and being a mechanism to support the implementation of the HUL process.

The results for HUL web portal, as a mechanism to explore options and opportunities and build interest and commitment to the HUL concept, have been quite positive. This is overtly acknowledged as a strong foundational base for future development. However, as identified throughout the body of the report, there is significant work to be undertaken to move the web portal beyond these initial stages and to optimise its potential into the longer term.

The extent of the need for development into Stage 2 become very clear when the rating process is applied to the HUL web portal against where it needs to be for the attainment of Level 2 and Level 3 impact.

This diagrammatic representation shows significant work is still required to optimise outcomes and potential of the web portal.



STUDY CONCLUSIONS AND RECOMMENDATIONS

(CONTINUED)

Addressing these differences, ensuring these shifts are measured through the research process, and using these learnings and processions to advance the use of technological innovation to attain the goals of HUL will be the focus of development into the future.

In order to support the successful development and enhancement of HUL and Visualising Ballarat into Stage 2 implementation the following recommendations are made:

MOVING FROM A CITY OF BALLARAT-FUNDED PILOT TO A MULTI-PARTNER RESOURCE RUN BY A ESTABLISHMENT COMMITTEE OF ALL PARTNERS

Recommendation 1

That Establishment Committee recruitment commence as a matter of priority. The Establishment Committee will manage the strategic elements and future direction setting for the HUL and Visualising Ballarat web portals. Membership representation should include project funders, data custodians, state and local government, the university and research community, community based organisations, a range of local communities and end user groups. A list of those who have expressed an interest in involvement is provided in Appendix G of this report.

Recommendation 2

That, as a key strategy in the Establishment Committee recruitment, a targeted workshop is delivered. This workshop should include those who have flagged an interest during the research process in exploring involvement in ongoing management of the web portals. The areas of key focus for the workshop will include: gaining expressions of interest for involvement, establishing strategic management targets, exploring future expansion options, setting timelines for development stages and beginning the process of establishing a vision and terms of reference for the project.

Recommendation 3

That a community based advisory process be established to support the process of connection with community. To ensure web portal content remains as responsive and as representative as possible it is recommended that advisory tools and structures such as online forums and feedback loops are established. This will support the Establishment Committee and will act as a support to the process of broader connection with the community. Input from these channels will be important to maximise the capacity for community ownership, representativeness and project championing. To facilitate this, as outlined in recommendation 6, it is important that work be undertaken in marketing and communication to ensure that understanding of, and awareness about, HUL and Visualising Ballarat reaches optimum levels across diverse groups and communities.

Recommendation 4

That the Establishment Committee work together to develop a clear and shared vision and purpose for the HUL and Visualising Ballarat as one of the first forward planning outcomes. Fundamental to ensuring that the vision is closely linked to the evidence gathered through the first wave of research, it is recommended that the objectives framework provided in Section 4.4.2 be used as a guide and support for the visioning process.

Recommendation 5

That, once the shared vision and purpose has been confirmed, the Establishment Committee map the relationship between HUL and Visualising Ballarat, as well as the relationship between these elements and existing and future portals from which information and data will be drawn. This structure will provide clarification on contact points for community engagement, data access and publishing, technology support, research collaboration etc. A guiding resource, as a potential management structure to inform this recommendation, is provided in Section 4.4.1 of this research report.

MOVING FROM DEMONSTRATION TO A THRIVING ONLINE HUB AND SET OF TOOLS, BEING ACTIVELY USED BY PRACTITIONERS, RESEARCHERS AND THE COMMUNITY

Recommendation 6

That a marketing and promotion campaign be developed to increase awareness of HUL and Visualising Ballarat, their relationship to each other and the critical importance of input from community to further long term developments. This campaign should include the use of newspaper articles, online media, through presentations at community group meetings and through local agency and community networks.

Recommendation 7

That a professional development series be developed targeting individuals, groups, agencies and communities to support the process of community connection and education and skill development. The process of using HUL and Visualising Ballarat effectively for knowledge building and planning has some level of complexity. End users in the research process identified the intuitive characteristics however also identified some confusion relating to the purpose and goals of each portal. Enhanced understanding of the overall concepts, the building of connection within and across communities and sectors, and the opportunity for issues clarification would benefit from the provision of formalised skill building and support. This could take the form of a series of two to three workshops with key individuals and groups who would then champion web portal usage in agencies and communities of origin.

Recommendation 8

That City of Ballarat Digital Services Strategy stakeholders partner with CeRDI to support the process of engagement, scoping and prioritisation across local government portfolio areas to advance the process of using HUL and Visualising Ballarat effectively for delivering enhanced digital services to citizens and businesses in areas such as mapping; asset management; planning and community development; arts, culture and events, etc.

Recommendation 9

That a research engagement strategy, led by CeRDI, be developed and operationalised to work with Faculties and Centres across FedUni to increase the engagement of academic staff, researchers and students in HUL and Visualising Ballarat. This approach will enhance capacity for linkages with tertiary teaching, as a placement tool and focus for community capacity building projects, and as a teaching resource within the primary school setting. It will also enhance capacity for linkages with national and international research linkages, publications and funding opportunities.

Recommendation 10

That a clear research capacity building plan be developed to maximise the potential for the development of research both within the web portal and about the web portal. This research planning process should involve the formalisation of existing but informal research relationships with University Faculties and Centres and the establishment of publication targets over a five year timeframe. This will maximise the capacity for HUL and Visualising Ballarat, and the implementation and knowledge building process of these, to be captured and shared at the national and international level.

Recommendation 11

That further investment is secured to support technology development to extend the current HUL and Visualising Ballarat platforms to support priorities for the Establishment Committee, practitioners, researchers and the community and to enable greater crowd sourcing of content from communities and citizens.

Recommendation 12

That options be explored for the establishment of multidisciplinary teams to work directly with communities to build consensus on content, to understand localised needs and to develop mapped and trackable insights into what is valued in the planning and development process. This may occur within the context of Local Area Planning process and/or through student placement or volunteer based teams. It is an area for discussion and consolidation as part of strategic development into the future.

PRIORITISING FUTURE DEVELOPMENT AND ATTRACTING INVESTMENT (PARTNERS, GRANTS, INTERNAL FUNDING AT CITY OF BALLARAT AND FEDERATION UNIVERSITY AUSTRALIA)

Recommendation 13

That, as an early outcome of planning for future development opportunities, the Establishment Committee obtain written commitment from partners and other stakeholders which describe HUL and Visualising Ballarat aspirations and the cash and in-kind contributions they can make available (could include a secretariat for the Establishment Committee, membership subscriptions, data contributions, use of facilities, staff time to run community workshops etc.) This information will assist for HUL and Visualising Ballarat stakeholders to attract external grants and funding.

Recommendation 14

That a HUL and Visualising Ballarat investment prospectus be developed to support engagement with potential local, state, national and international funding organisations. As part of this process the Establishment Committee will need to develop a planned process to support active engagement with funders to explore opportunities for investment.

Recommendation 15

That funding opportunities for community capacity building, for project based research and for Australian Research Council grants be explored and be embedded as an integrated element of partnership planning, research capacity planning and community development activities.

PROVIDING PARTNERS TO THE HUL AND VISUALISING BALLARAT INITIATIVE WITH CERTAINTY FROM A LEGAL AND RISK MANAGEMENT PERSPECTIVE

Recommendation 16

That the Establishment Committee consider the appropriate legal structure to support future operation of HUL and Visualising Ballarat as an early activity of its establishment phase. This will ensure that there is clarity around issues of access, privacy and the roles and responsibilities of each party to the agreement. It will also provide a clear framework for partnership development and maximise the development of proactive risk management responses.

SECTION 1.

INTRODUCTION

The historic urban landscape is the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of 'historic centre' or 'ensemble' to include the broader urban context and its geographical setting. This wider context includes notably the site's topography, geomorphology, hydrology and natural features, its built environment, both historic and contemporary, its infrastructures above and below ground, its open spaces and gardens, its land use patterns and spatial organization, perceptions and visual relationships, as well as all other elements of the urban structure. It also includes social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity. (UNESCO 2011, Articles 9 & 10).

1.1 BACKGROUND

In September 2013 the City of Ballarat became the first of a series of international pilot cities to implement UNESCO recommendations on the Historic Urban Landscape (HUL). Working in partnership, through a Strategic Cooperation Agreement with the World Heritage Institute of Training and Research for the Asia and the Pacific Region (WHITR-AP), Ballarat has worked to implement a new approach to urban planning. This process has carried with it a commitment to ensure that Ballarat continued to retain, as an integral part of growth and development, the character of the landscape and the elements of cultural significance that make it unique. Linked closely to the Ballarat strategic initiative Today Tomorrow Together: The Ballarat Strategy Our Vision for 2014 (City of Ballarat, 2015), HUL aims for the development of a synergy between the planning and development processes of the City and the complex and interrelated elements that make up a community within its lived environment. The commitment to HUL represents a recognition that preservation of the physical environment constitutes only one element of planning sustainability and that there are, in reality, a myriad of tangible and intangible aspects of the human environment that are of pivotal consideration in planning and design. These factors include community values, cultural factors, environment, built environment, socio-economic and local context (UNESCO, 2013).

The HUL approach itself comes in response to rapid urbanisation and was developed to provide a platform for a cultural landscape approach and a framework and network for historic cities throughout the world. It is an initiative bringing together policy makers and communities in recognition that (UNESCO, 2011):

Urban heritage...constitutes a key resource in enhancing the liveability of urban areas, and fosters economic development and social cohesion in a changing global environment.

As the future of humanity hinges on the effective planning and management of resources, conservation has become a strategy to achieve a balance between urban growth and quality of life on a sustainable basis.

As the first international local government to pilot the HUL recommendations, notable foundational work has been undertaken within Ballarat to build the initiative. To support implementation, UNESCO provided a framework involving a six point action plan and also set out four implementation support tools. While these acted as a guide in the roll out of the initiative, there was significant capacity within this loose framework to develop site specific responses and strategies. In the absence of prescriptive implementation guidelines, Ballarat has taken the lead, supported strongly by local government, in putting in place strategies that are clearly aligned with the critical action steps identified in the UNESCO six point HUL action plan.

Actions taken to date by the City of Ballarat in embedding the HUL approach into urban and place based planning have included:

Actions taken to date	Aligned with Action Plan:
The commissioning of <i>Mapping Ballarat's Historic Urban Landscape</i> (Context Pty Ltd, 2013).	<ul style="list-style-type: none"> • Map natural, cultural and human resources • Research consensus on values and attributes
Working with community advocacy (Ballarat East Network) on the process of cultural mapping.	<ul style="list-style-type: none"> • Map natural, cultural and human resources • Research consensus on values and attributes
The <i>Ballarat Imagine</i> project to identify community values and attributes.	<ul style="list-style-type: none"> • Research consensus on values and attributes
A Cultural Mapping Audit.	<ul style="list-style-type: none"> • Map natural, cultural and human resources
The development of interactive mapping tools.	<ul style="list-style-type: none"> • Map natural, cultural and human resources • Research consensus on values and attributes
The development of partnerships across academia (Deakin University and FedUni), historians, community and council members and heritage consultants.	<ul style="list-style-type: none"> • Establish local partnership and management framework
A review of planning and regulatory policy to consider potential inclusion of HUL.	<ul style="list-style-type: none"> • Integrate into the urban development framework • Prioritise actions for conservations and development
The embedding of HUL into the major forward planning strategic document, the <i>Ballarat Strategy</i> .	<ul style="list-style-type: none"> • Integrate into the urban development framework • Prioritise actions for conservations and development

The critical action steps have been supplemented by a range of tools that are focused across four key domains, as established by UNESCO (2011). These are civic engagement tools; knowledge and planning tools; financial tools and; planning and regulatory tools.

The scope of how each of these has been operationalised in Ballarat is outlined briefly below.

- Civic Engagement Tools. Strategies to maximise the connection with community in building understanding of community connection with their landscape have involved:
 - The establishment of the HUL web portal - This is located at www.hulballarat.org.au
 - The use of local stories. These have sought to capture the place of place, identity and culture in communities. One key initiative in this area has been the Peel Street Story. The film 'The Peel Street Story' captures memories, historical information and how dilapidated areas can be restored and the place they hold in terms of cultural identity of communities.
 - The establishment of the Ballarat Heritage Awards. This tool of civic engagement seeks to reward and encourage programs that represent innovation in conservation, community based contribution to heritage, creative/ adaptive reuse of heritage areas and design.
- Knowledge and Planning Tools. In acknowledgement that inclusive planning involves reciprocity in knowledge sharing and in planning, the following have been established:
 - Visualising Ballarat – A mapping tool located at www.visualisingballarat.org.au which allows for spatial mapping and information sharing through the use of interoperable technology. This will, when fully developed, allow for diversity in mapping across the built, cultural, natural, visual and sound environments. This type of mapping tool facilitates the visualisation of past and present elements of importance to community and to community values.

- The Ballarat Heritage Data Base. This contains heritage records which provide information relating to place and space to the public, for planners, developers and researchers.

- Financial Tools. Involvement of a range of parties is required in the process of sustaining a historic urban landscape. In many cases, some level of financial support is required. Lack of financial support can, in itself, prove a barrier to participatory involvement in conservation and innovation development. To address these very real practical barriers to active participation, the following mechanisms for financial support have been put in place:
 - Preserving Our Heritage Together Grants program
 - Ballarat Heritage Restoration Fund Grants Program

While not a specific financial tool of HUL, the establishment of the Preserving Ballarat's Heritage Strategy is an important supporting partnership initiative. This strategy aligns effectively with HUL, working to support and promote place owners to undertake work for conservation of heritage. Many of the projects listed above began as initiatives of this strategy. Additionally other planning scheme tools and local laws also contribute to the management of change in Ballarat's Historic Urban Landscape.

- Regulatory Tools. Regulation for conservation remains an important element of HUL and the central mechanism for addressing this regulation in Ballarat remains the mechanism of Heritage Overlays. There are over 10,000 properties, places, precincts and features included in current regulatory processes.

These strategies provide the context for HUL implementation within the City of Ballarat. This current research, while overtly acknowledging the range and complexity of these diverse strategies focuses only on two of approaches used in the HUL approach; the HUL web portal and Visualising Ballarat.

1.1.1 HUL WEB PORTAL

Identified as one component of the HUL suite of civic engagement strategies, the HUL web portal seeks to support community members, practitioners, researchers and other key stakeholders to come together in an interactive way to contribute to planning for Ballarat.

The web portal allows an individual to 'See', 'Show', 'Talk' and 'Research' a range of ideas and thoughts. Through the 'See' portal page, end users are able to see historic before and after images of Ballarat, access photo maps, view timelines, and an image gallery. The 'Show' and 'Talk' pages provide opportunity for contribution through feedback and pictures. The fourth page 'Research' provides a range of resources for academic, industry and community researchers to learn more about the Historic Urban Landscape and about Ballarat.

In regard to these four internal areas of the HUL web portal, it is important to acknowledge that, since the completion of data collection for this study, there have been changes and additions to the HUL web portal content and resources. In some instances there is close alignment between the new and feedback gathered in data collection on additional resources for the HUL web portal in areas such as a wider range of social media options, closer links with Aboriginal histories and Aboriginal stories, embedded links with the Ballarat Strategy and expansion of resources through the Public Records Office of Victoria (PROV).

The new additions, and the areas within which they are housed, include:

See Ballarat	Show your Ballarat	Talk about Ballarat	Research
<ul style="list-style-type: none"> ● Hidden Histories: The Wadawurrung People ● Panoramic Landscape (shifted from Show page) ● Ballarat Revealed ● Victorian Places 	<ul style="list-style-type: none"> ● Capture the Vision: Ballarat Historical Society ● The Ballarat Strategy ● Gov Hack 2015 ● Memory Atlas ● The Inside Story 	<ul style="list-style-type: none"> ● Extended Facebook feeds across a range of areas ● Twitter Feed ● Instagram feed ● WIKI: PROV ● Blog: HUL Ballarat 	<ul style="list-style-type: none"> ● Explore Research Projects (expanded options) ● Knowledgebase (expanded) ● Find Ballarat's open data ● Search Ballarat Heritage

While the addition of these resources, and the fact that they are closely aligned with the feedback contained in this report is a positive development, no data specific to these additions was gathered. Consequently this report deals only with information specific to web portal content in place at the time of data collection (late May to July 2015).

As the HUL web portal was identified as a tool for civic engagement every attempt has been made to assess the extent to which this goal has been achieved. Data collected and analysed to achieve these insights included usage rates, perceptions relating to data quality, accessibility and relevance, assessments on ease of site navigation, as well as any issues, concerns and improvement suggestions relating to the portal itself.

1.1.2 VISUALISING BALLARAT

Visualising Ballarat, a spatial mapping tool which is also embedded within the HUL web portal, is an evolving resource which has been identified as a mechanism for knowledge building and for planning within the City of Ballarat HUL implementation framework.

The HUL approach (rather than just the HUL portal) seeks to enable a broad appeal which, into the longer term, allows for the building of a knowledge framework, a tool for research and decision support and which has a range of uses – from the utilitarian, such as locating mine workings and landfill sites – to the esoteric, such as immersive augmented reality experiences of historical places and events. As such, as the project moves from being a prototype (where it was at the point of data collection for this research project), to a fully developed innovation, it will represent the combination of the longer term vision of CeRDI for technological innovation and the requirements of HUL and the City of Ballarat for a mechanism to capture and support Ballarat’s complex living landscape. Conceptually, Visualising Ballarat seeks to enable end users to directly access complex data sets from a single point of access, and to participate in the localised knowledge building process. These data sets are varied and include data relating to historic landscapes, trees, parks, views, and landmarks, natural landscapes, geology, services and infrastructure, boundaries and regulatory tools. The types of data sets with the potential for inclusion is broad (and still being explored and developed), providing visualisations (currently 2D but expanding to 3 and 4D through technological development initiatives), relevant historical and contemporary information and information specific to individual locations and points/issues of interest to the end user.

In addition, the goal of CeRDI (2014) was that Visualising Ballarat would inspire other researchers and bring a greater understanding of the power of eResearch and digital innovation at a local, national and global level. Within this context, Visualising Ballarat was always viewed as a means through which, into the longer term, a range of potential research collaborations and partnerships could be built as the opportunities for eResearch collaborations were recognised and operationalised (CeRDI, 2014). This vision aligns with and supports key ideals of HUL relating to collaboration, knowledge building, research and decision support.

Visualising Ballarat, as a planning and knowledge building tool is characterised by:

- Having a single point of access for the end user. This means that, through accessing a single site, end users are able to subsequently, and without leaving the site, access multiple data sets across a range of areas and points of interest/relevance. This capacity is particularly relevant to the planning and knowledge building process as it allows multiple and diverse data sets to be overlaid, compared and analysed simultaneously. This provides access to ‘hidden’ data that is often overlooked when data sets are analysed separately and then cross referenced. This potentially allows for the gaining of new insights and for the building of new knowledge through which to inform planning.
- Allowing for retention of ownership and control over data by custodians while data sets are accessed through data base access agreements. This is an important feature of Visualising Ballarat as it extends the potential for involvement without any compromising of rights and responsibilities and control of data ownership.
- Being interoperable. Data housed within the Visualising Ballarat portal has maximum potential for currency as any changes, updates, modification to data in the originating data set (when updated/modified by data custodians) will be automatically updated within the Visualising Ballarat site. This is a significant benefit in terms of data accuracy, quality and the associated confidence able to be built amongst end users relating to data integrity.
- Having the potential for end users to input information about issues specific to their field, their knowledge of local issues and concerns or to identify data shortfalls and make this information available. These can then become part of the mapping/data set.
- Providing online support and feedback loops to maximise flexibility and ease of implementation.

While categorised as a tool for knowledge and planning, Visualising Ballarat is also a tool for engagement and partnership building. It provides an effective demonstration of how a number of data sets are able to be captured and used to visualise, through mapping and spatial imagery, features that enable users to better understand their landscape and to plan for future development of this landscape.

While, to this stage, the core function of Visualising Ballarat has been linked to concepts specific to HUL implementation, to reach optimum capacity as a planning tool, and in order to achieve the longer term vision of a multi-faceted resource through which engagement and knowledge potential across a range of areas is maximised (CeRDI, 2014), consideration must be given to shifting from the current single portal structure housing Visualising Ballarat to an overarching planning and knowledge building portal. Within this context it would provide the entry point to a range of resources contributed by multiple partners and run by an Establishment Committee of all partners. A multi-partner management approach overtly acknowledges the diversity of the data that needs to be included to effectively visualise Ballarat, while building strong links across agencies and across sectors. It also aligns with the longer term vision to build Visualising Ballarat to encompass a multiplicity of initiatives that, in their scope and diversity, will secure the attainment of both the HUL vision and HUL recommendation. This current research study has explored a number of implementation factors to determine the best structure for future development of Visualising Ballarat as a tool for forward planning, and the capture of critical aspects of Ballarat's complex living landscape. Feedback gathered during the data collection process provides valuable insights into potential data partners, as well as areas that represent expansion opportunities in terms of data capture and development. A potential management structure and the identification of potential partners for the longer term development and management of Visualising Ballarat are presented in Section 4 and Section 5 of this report.

1.2 CENTRE FOR eRESEARCH AND DIGITAL INNOVATION

The Centre for eResearch and Digital Innovation (CeRDI) is a key partner providing support to the City of Ballarat's HUL initiative.

CeRDI is located within the Office of the Deputy Vice Chancellor (Research and Innovation) at FedUni. CeRDI has successfully established a broad range of research initiatives defined by notions of knowledge management and data sharing, customised technologies, collaboration and partnership building.

This work occurs across a range of disciplines including, but not limited to: business, environmental science, geology, geographic information science, history, information technology, graphic design, law, psychology and sociology. Discipline and project expertise at CeRDI has enabled the delivery of research innovations that achieve:

- Real world application
- Open standards and open data
- Build evidence bases for enhanced practice
- A Community and/or Industry Presence
- Multidisciplinary approaches
- Research using mixed methodologies
- Accessibility for, and empowerment of, communities
- A mechanism for community and research capacity building

As a program partner on the HUL Ballarat project, CeRDI has worked to develop prototype knowledge management and planning tools that engage the community and create an awareness and understanding of the urban landscape, and its cultural significance. This research study provides an important mechanism through which to review and continue this process.

SECTION 2.

STUDY DESIGN AND METHODOLOGY

2.1 CONCEPTUALISING THE RESEARCH PROCESS

As part of the commitment to building a high quality evidence base on the impact of technological innovation across a range of domains, CeRDI has developed a typology for rating and ordering the impact of innovations. This typology has drawn, primarily, from the work of Hawe et al., (1990) relating to measurement of programmatic impact and from the work of Kirkpatrick (1994; 2005; 2007) on individual learning and behaviour change.

The typology provides the framework against which to measure gathered data to determine the extent to which a particular initiative is having an impact, at a range of levels, for the end users of the initiative under examination. It also facilitates the measurement of the extent to which an initiative is achieving the purpose for which it was established. In this current study it will facilitate the measurement of the success of the HUL web portal as a tool for engagement and provide insights on the future direction of Visualising Ballarat as a tool for knowledge building and planning.

There are three levels within this typology, operating as a hierarchy of impact measurement.

These are:

Level 1:

The Primary Impact level. It refers to emerging insights and trends relating to the innovation. Attainment of this level is commonly determined by analysis of usage levels and participant feedback about data currency, quality and relevance. It is also related to user type and the reasons for use of the resource.

As this level is generally assessed in the early stages of establishment of a new technological innovation, it considers key establishment process issues. Questions are asked in relation to factors such as whether the target audience is being engaged, whether the way the innovation has been established is as effective as it can be, service quality and whether there is positive feedback being provided about the resource. This represents an important measure against which to determine initial impact and to make suggestions for change.

As the data is gathered within the first 6 – 12 months of the establishment of the innovation, it is not possible, at this level, to build an evidence base on sustainability of impact. Attainment of a Level 1 impact provides no evidence relating to changes in behaviour or practice. It does however provide some initial insights into the use of the technological innovation and the factors that have worked successfully in implementation. In an extended time study (where data will be collected at multiple points over a longer timeframe) Level 1 builds comparative baseline data against which to measure subsequent data collection, and against which to track any shifts in practice across end user groups.

Level 2:

The Practice Impact level is based on the extent to which the technological innovation is being utilised within the industry, sector, community and/or workplace to aid in decision making, to exchange information and knowledge and to shift perceptions. At this level, where relevant, it is possible to measure whether the innovation is viewed by end users as resulting in a consistent modification of how they, their industry, sector, community or their workplace might address a particular issue. This level shifts impact measurement to a higher order than that measured with Level 1.

This is because Level 2 impact provides an indication of the extent to which the technological innovation (in this case the HUL web portal and Visualising Ballarat) has become imbedded as a resource to support decision making or can be linked to a shift in economic, social, cultural or community outcomes.

Level 3:

The *Sector Impact* level is based on the extent to which the technological innovation has become embedded as integral to activities and decisions that shape the sector – the industry, the government body, the community and/or the research community. At this level the impact of the innovation can be seen to have moved beyond initial interest and usage and beyond shaping individual planning decisions within the sector. Attainment of this level of impact will mean that the innovation has been integrated as a tool that the sector itself views as part of the planning, decision making and benchmarking resources that are available for sector development, engagement and research.

This typology will be applied, as appropriate, across all data collection and analysis processes in current and future research involving the HUL web portal and Visualising Ballarat.

This typology provides the framework for classification of levels of impact as a result of the innovation and allows a measure of the extent to which that impact has become embedded and changed practice and behaviour.

To support this process a sustainability model has also been developed. Modified from community capacity building literature (LaBonte & Laverack, 2001a; 2001b; Murphy, Ollerenshaw & McDonald, 2011) and informed by feedback gained during data collection, the model identifies four types of use for a technological innovation (such as the HUL web portal and Visualising Ballarat). At one end of the continuum, the site is accessed for entertainment. Access will be intermittent and, while some end users may access regularly, others will access on a one off basis. Regardless of the number of times the site is visited, the relationship remains one directional; the user takes what is offered and provides no input beyond visits to the site. At the next point the user accesses the site for information of relevance to their need. There is an increased level of involvement in that the information is accessed for a specific purpose and information gained is likely to impact on understanding, perceptions and actions. The relationship itself however remains one directional. As the information provided, and the way in which it is provided, becomes more useful, there begins to be a shift in frequency of access, use of information and level and type feedback for what is most and least relevant to end users and their communities (personal and professional). At the far end of the continuum, the relationship has become reciprocal. The site provides a range of information, is useful, is entertaining and has the capacity for user input to shape content. The content itself has begun to reflect elements that define and empower the user group. Once reaching this point, economic and social benefits begin to become measurable as Level 3 Sector Impact is likely to occur as a parallel process.

In the case of the HUL web portal and Visualising Ballarat, the goal is that information and content, and the manner in which this is shared and shaped, will engage and empower community to define and share their values and local knowledge for knowledge building and planning.

2.1 CONCEPTUALISING THE RESEARCH PROCESS (CONTINUED)

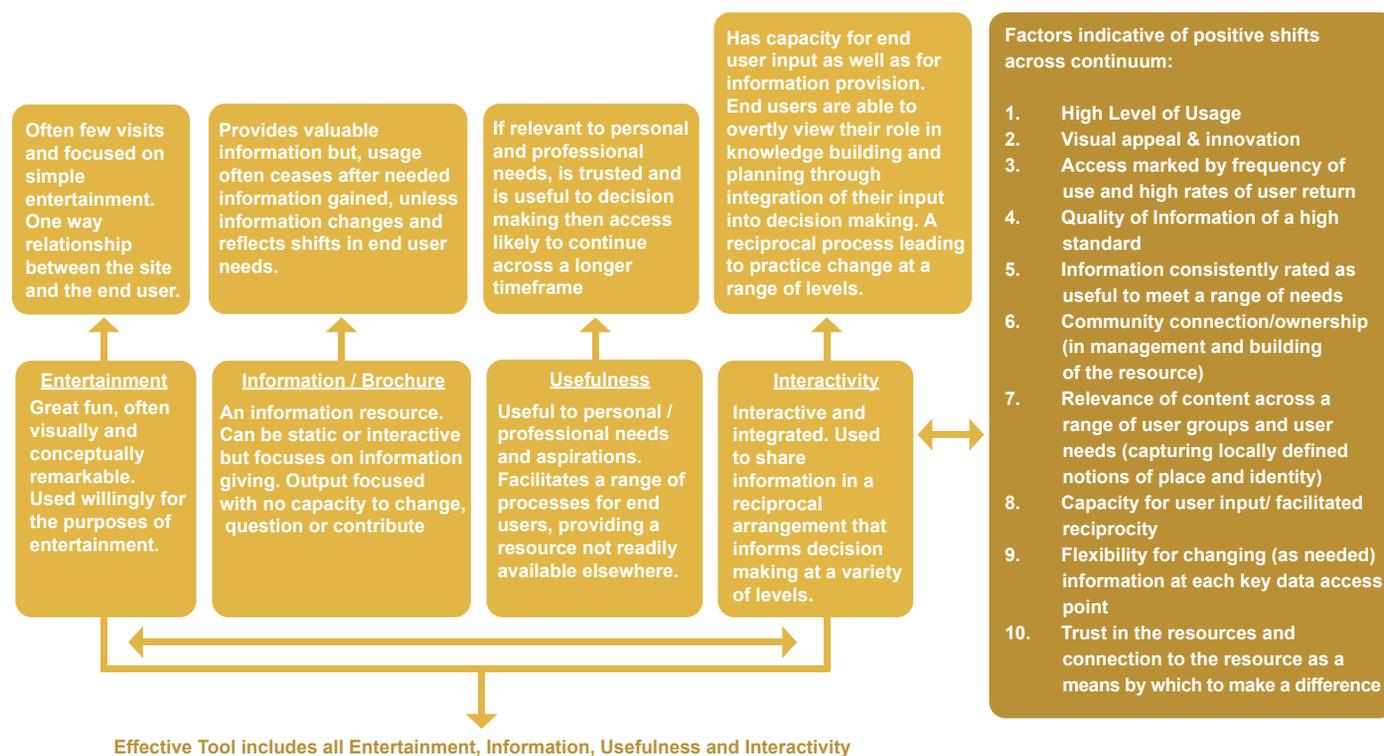
The model operates on a three point rating scale with ratings given against each of 10 factors. These are

1. Level of usage
2. Visual appeal and innovation
3. Frequency of use
4. Quality of information
5. Usefulness of information
6. Community/industry/sector connection/ownership
7. Relevance of content across user groups user input
8. Capacity to accommodate and support
9. Flexibility for change
10. Trust in the resource

As data is analysed and presented relating to each of these factors, a rating out of three (3) will be given to the factor that has been examined. These assessments, and an overall outcome across the 10 factors will then be mapped within the Study Conclusions and Recommendations section of the report (Section 5). This will enable a clear visual to be provided on areas that will require additional work to maximise attainment of civic engagement and involvement of key stakeholders in knowledge building and planning.

The criteria for ratings allocation is detailed and provided in Appendix A. The model itself is presented diagrammatically as Figure 1.

Figure 1:
Model for sustainability in technological innovation



Accessed consistently by a range of end user groups as having the potential, through attainment of these elements across a continuum to facilitate information, planning, ideas sharing, communication and decision making. Results in enhanced capacity for sustainability into the longer term.

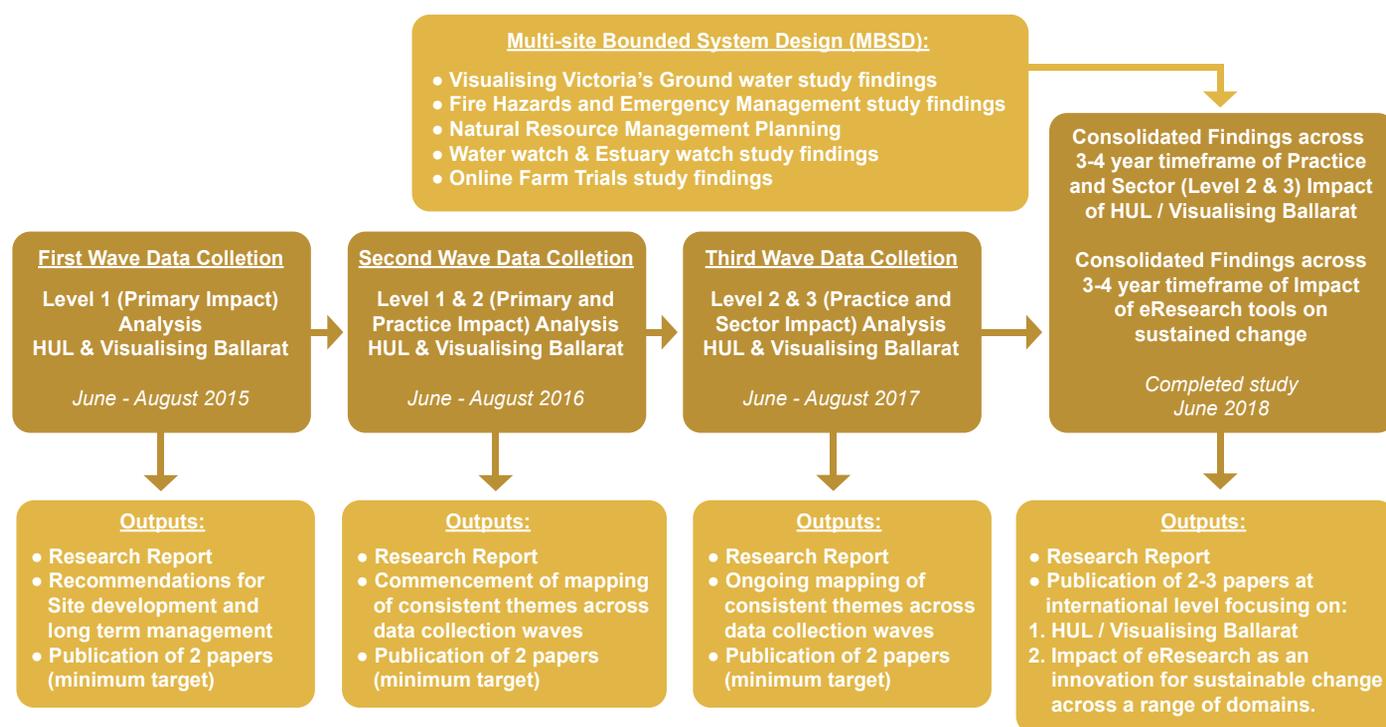
In terms of the scope and aims of this current study, an evaulability assessment (Wholey, 1979; 1994) was undertaken to assess whether the HUL portal and Visualising Ballarat were at a point of readiness for impact research. This process found that, at this point in implementation, only Level 1 (Primary Impact) should be targeted for assessment through the research process. This is due to the fact that both the HUL web portal and Visualising Ballarat are in early stages of establishment and consequently any impact trends cannot be measured for sustainability or clear causal links. Within this context, evidence could only be validly gathered relating to process and future developmental opportunities.

At the most fundamental of levels, this current study has collected, and will present within the body of this report, data that examines HUL web portal establishment and the potential of Visualising Ballarat as a cultural mapping resource. As identified previously, areas examined included initial usage levels, perceived strengths of the portal and suggestions relating to technical aspects of the portal. Also explored were potential data sets for inclusion on HUL into the future and potential management structures for resource sustainability, growth and change.

While for both CeRDI and for the City of Ballarat, this is important information, it is also critical to plan research across an extended timeframe to ensure that impact issues that cannot currently be measured will be able to captured in the future.

Consequently, research into Levels 2 (Practice Impact) and Level 3 (Sector Impact) will be undertaken across an extended research timeline with data collection to occur in four data collection waves. The first wave, and the findings from this, are the focus of this current research report. Data will be collected across three other waves of data collection, with the same research questions applied at each point. This will enable the tracking of shifts in behaviour and practice. It will also enable progressive publishing of results relating to HUL and Visualising Ballarat (both nationally and internationally), the use of research insights to progressively improve the HUL and Visualising Ballarat resources across a three to four year timeframe and will allow for the building of new knowledge relating to sustainable impacts of technological innovations. The scope of this approach is captured diagrammatically in Figure 2.

Figure 2:
Extended timeframe study design outcomes and timelines



In addition, in order to maximise the capacity to build an evidence base on the effectiveness of eResearch tools, HUL and Visualising Ballarat are part of a larger impact research project being undertaken using a Multiple Bounded System Design (MBSD) research model.

Multiple bounded systems refers to case study research (each bounded system is a case). The goal in this type of research is to understand the boundaries and the complexity of behaviour patterns and approaches in relation to a particular issue(s), intervention(s) and/or innovation(s). It is a methodology that allows for experimental research that 'investigates a contemporary phenomenon in a real life context when the boundaries between the phenomenon and the contexts are not clear' (Yin, 2009: 13). For CeRDI, the phenomenon being examined are the information, knowledge building and resource sharing portals that are developed and operationalised through the centre, which include HUL and Visualising Ballarat.

These bounded systems will be examined across 4 waves of data collection (at implementation and at the 6, 12 and 24 month timeframe) to allow for comparison and shifts to be tracked. The impact research foci will be on measuring the capacity of open data, through technological innovation, to achieve sustained practice change and build empowerment and ownership across groups, communities and industries. This will be tested across 6 projects which are:

1. Online Farm Trials
2. Historic Urban Landscapes
3. Natural Resource Management Planning Portal
4. Visualising Victoria's Groundwater
5. Soil Health
6. Water Watch and Estuary Watch

2.2 SETTING RESEARCH AIMS FOR CURRENT STUDY

In June 2015, CeRDI was commissioned by the City of Ballarat to undertake research and consultation relating to the HUL web portal. The brief was to examine project establishment and rollout and to identify potential participants for the establishment of a Establishment Committee of the HUL and Visualising Ballarat and provide ideas and feedback specific to program management and development into the future. To guide the current study, and to achieve the targets for which the study was commissioned, three specific research aims were established.

These were:

Research Aim 1:

To undertake a Level 1 (Primary Analysis) of stage one implementation of the HUL web portal and Visualising Ballarat. This analysis will identify and examine elements that have worked effectively during early implementation of the HUL web portal and Visualising Ballarat. This feedback will play a critical role in enhancing the capacity to inform and enhance delivery of two key pillars in the HUL framework; 1) civic engagement; and 2) knowledge and planning.

Research Aim 2:

To draw on the learnings gained through current research into stage one implementation to provide recommendations to inform and shape stage two implementation of HUL and Visualising Ballarat. As movement into Stage 2 implementation involves operationalising an Activation Strategy, data gathered relating to stage one implementation provides a valuable tool for informed decision making for forward planning processes. The Activation Strategy to be operationalised on completion of this current research will consider issues such as communication and engagement with community, prioritisation of expansion opportunities and the establishment of a management process to guide and support the HUL web portal and Visualising Ballarat into the future.

Research Aim 3:

To provide baseline data to support the building of knowledge and evidence on the long term impact of HUL and Visualising Ballarat. Given that Ballarat is the first city to implement HUL, the provision of an evidence base specific to HUL, and the learnings gained on implementation of this initiative, is a research aim of national and international significance. Linked, but not limited to the HUL program, is the need for building high quality evidence on the impact of eResearch approaches (the use of technological tools for engagement, knowledge building and planning) on practice change within community and across industry and research environments. This evidence base is not currently available. HUL and Visualising Ballarat are important elements of a broader evidence building matrix seeking to provide credible and definitive evidence on the impact of eResearch in shifting behaviours, approaches and responses in a sustainable way. The collection of baseline data through this current study is critical to this process.

These aims were achieved during data collection and analysis and are presented in Section 4 and Section 5.

In line with the requirements of repeat data collection waves, a series of research questions have been developed for the study. These same research questions will shape data collection tools and foci over each of the data collection waves undertaken during this three year study. The research questions to be applied were developed as they have the capacity to test impact across all three of the levels included in the typology outlined in Section 2.1.

They also test and facilitate the building of a knowledge base around the impact of the program, the innovations it has brought to the sector and how data discoveries from the initial implementation might shape and drive both industry, community and research developments into the future.

2.2.1 RESEARCH QUESTIONS

There are five (5) research questions, with an associated series of subsidiary questions, which have been developed for repeat testing across the three year study.

These are:

- 1. What elements of HUL/Visualising Ballarat have most effectively supported and facilitated knowledge development for the maximum numbers of potential end users?**
 - a) What were the key issues relating to accessibility of the web portal(s)
 - b) To what extent did the quality of the data work to enhance the value of the web portal(s)?
 - c) How would users assess usability and applicability of the information provided on the web portal(s)?
 - d) To what extent did the frequency of use of the web portal(s) align with goals and expectations relating to this factor?
- 2. What have been the key impacts of HUL/Visualising Ballarat for a range of key stakeholders, including historians, researchers, planners and community members?**
 - a) To what extent have the web portal(s) supported and facilitated the building of levels of understanding of the Ballarat community? (historical, landscape, planning etc)
 - b) Have the web portals enabled and/or facilitated some level of community connection?
 - c) To what extent have the web portal(s) created increased levels of interest about the community and about the role of information access in building understanding and connection?
 - d) Have the web portal(s) played a role in shifting levels of knowledge, attitudes and behaviours within and across community?
- 3. To what extent has HUL/Visualising Ballarat effectively captured data that can be used to build evidence based knowledge repositories of relevance to the community, to researchers and to government?**
 - a) In what ways is the information included in the web portal(s) identified and used by a range of different stakeholders as a resource for building evidence based knowledge relevant to industry, agencies and community?
 - b) How applicable are the data sets available through the web portal(s) to the information and decision making needs of different practice environment/context?
 - c) How can the data sets provided through the web portal(s) be used to build knowledge banks and minimise duplication in research and in approaches to information access?
- 4. In what ways does open data access, as provided through the tools and mechanisms of eResearch, impact on decision making and facilitate change?**
 - a) What is the role of the web portal(s) in research and organisational planning and decision making?
 - b) To what extent can decision making in community, agencies and industry be aligned with the web portals to show a correlation between the resource content and practice decision making and change?
- 5. What role does the HUL/Visualising Ballarat web portal have in identification of research ready data sets that can be used in the eResearch process to enhance and build new discoveries?**

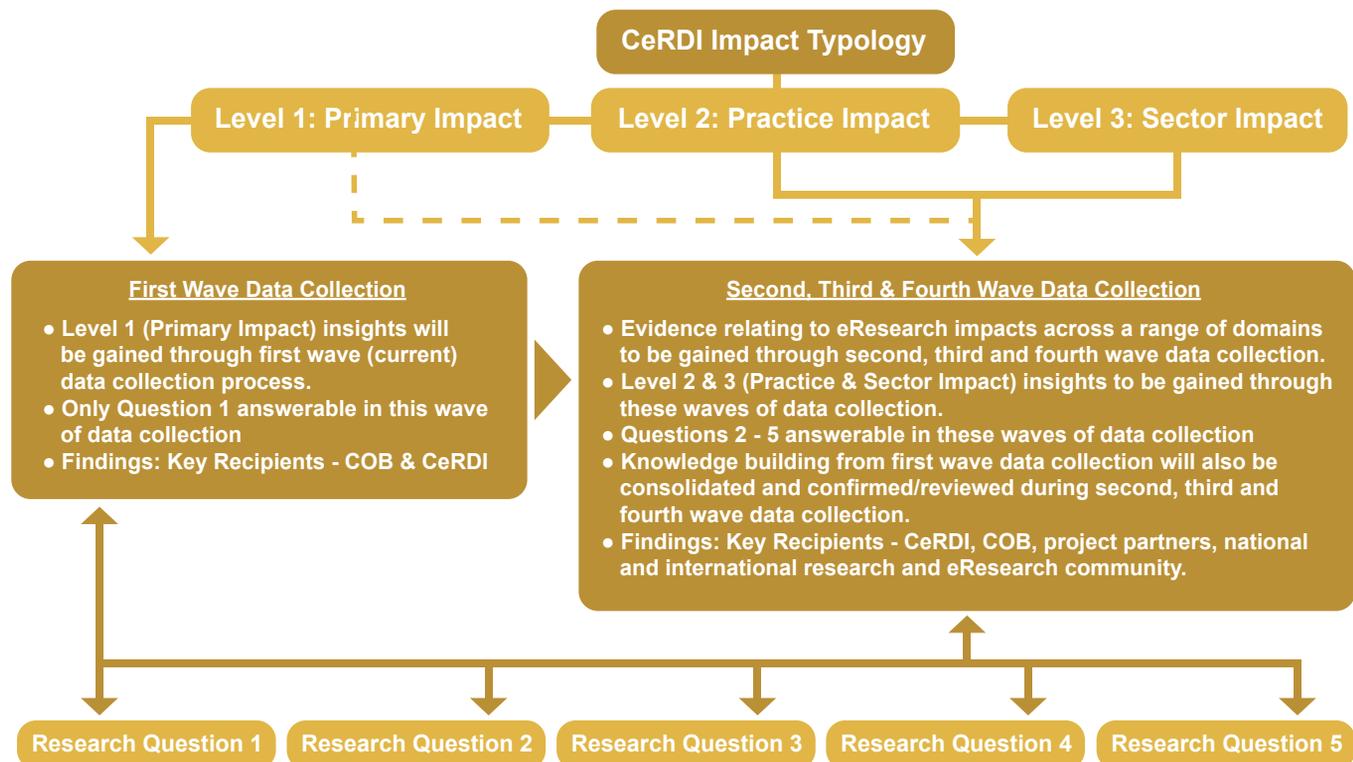
As HUL and Visualising Ballarat develop and consolidate, the capacity to answer all of these questions will increase. Not all questions are able to be answered in the formative stages of program development and it may not be until the fourth and final wave that the summative impacts in their entirety will be able to be measured.

2.2.2 RESEARCH QUESTIONS IN FIRST WAVE DATA COLLECTION

Analysis of data has shown that, at this early stage of implementation, only the Question 1 set of research questions has been able to be addressed and presented within the research findings.

Subsequent data collection waves will provide the means by which to address the remaining research questions while, at the same time, also retesting the learnings gathered relevant to Question 1. The staged response to the research questions that have been established for this extended time research study is depicted in Figure 3.

Figure 3:
Aligning research questions with data collection waves



2.3 STUDY METHODS

A mixture of qualitative and quantitative methods were used in this current study. They included individual interviews, an online survey, analytics and program document analysis.

This approach allowed findings to be cross-referenced and established a process whereby issues that were not addressed/identified through one data collection method could be picked up through alternative methods. The use of a multi method approach allows for triangulation of the data. Triangulation occurred for methods (interview, survey, service usage analytics and document analysis) and data source (which comprised feedback from local government employees, end users, expertise in heritage and museums and other researchers).

This level of data triangulation ensures a strong body of primary data from which to draw conclusions relating to the implementation of HUL and Visualising Ballarat.

The range of data collection methods, and the number of participants to each (where relevant) are captured in Table 1 which includes the scope and focus of each of the data collection methods used.

Table 1: Data collection methods and source

Data collection methods	Data collection period	Profile of data accessed / participant type	Numbers
Document analysis	June - August 2015	All documents relevant to HUL and Visualising Ballarat (promotional, web sites; ethics applications; external documentation and links to UNESCO) were reviewed using qualitative document content analysis techniques.	N / A
Individual Interviews	June - July 2015	Interviews were conducted with Local Government (across portfolio areas); museum staff; representatives from local aboriginal communities; multicultural program staff and volunteers.	36 Participants
Online Survey	May - June 2015	The Online Survey was completed by individuals from: Local Government; heritage and heritage consultancy; researchers; citizens; librarians; museum staff and educationalists.	35 Participants
Google Analytics	December 2014 - July 2015	This involved the tracking of service usage data for the 4830 access sessions for HUL and Visualising Ballarat between 1 December 2014 and 30 July 2015. 4830 sessions comprises 1376 access sessions for Visualising Ballarat and 3454 access sessions for HUL. It is acknowledged that these sessions cannot be viewed as representing 3454 separate individuals as individuals who accessed HUL could then have moved onto access the Visualising Ballarat portal within the same or subsequent sessions. However, as these access points are recorded separately, they are presented separately as legitimate access sessions specific to each resource.	N / A
TOTAL			71

2.3.1 SURVEY

An online survey was developed and applied as a central element of data collection for the study. This provided a significant resource in building the knowledge base relating to site users views on HUL as a resource, while developing insights relevant to expansion and consolidation of Visualising Ballarat.

The online survey took around 15 minutes to complete with participants invited by email to complete this survey. This survey sought to gain a detailed insight into the impact of the web portal in meeting needs of end users and targeted individuals who had shown initial interest through attendance at the HUL symposium held in February 2015. The detailed survey used to collect data is provided in Appendix B.

2.3.2 INDIVIDUAL INTERVIEWS

Individual interviews were used as a means through which to gain targeted individual and subjective insights into user perceptions of service delivery, levels of satisfaction and issues of concern. This type of data is often not accessed through less interactive methods of data collection such as surveys. This method was included to maximise insights gained and to provide validation to other data collected during project implementation. The interviews also provide an opportunity for project strengths to be highlighted and discussed.

As identified in Table 1, interviews were conducted with a total of 36 participants during late May, June and July 2015. The detailed interview schedules used to collect data are provided in Appendix C.

2.3.3 DOCUMENT ANALYSIS

Program documentation was used to provide insights into the organisational goals and guidelines for the research project and the overall research agenda. It also allowed for the formal processes for project development, as well as the scope and focus of program delivery, to be clarified. In addition to analysis of information contained in relevant CeRDI program documentation (websites, funding application, ethics) a content analysis was undertaken of documentation from external sources. Information from UNESCO was used to build understanding of HUL recommendations and to provide a

baseline against which to consider developments within the Ballarat HUL initiative. A list of web address content included for analysis is provided in Appendix D.

2.3.4 GOOGLE ANALYTICS

Data on portal usage numbers and peak usage times were reviewed through the mechanism of Google Analytics. To maximise data validity a filtering process was applied by CeRDI technical staff which ensured that only valid portal visits were included in data analysis. Applying this approach, the HUL/ Visualising Ballarat Web portal was used for information on 4,061 occasions over the life of the project between establishment (December 2014) and the end of the set data collection period (31 July 2015).

2.3.5 ETHICS

Ethical approval appropriate for research involving individuals was gained from the Human Research Ethics Committee of FedUni and principles guiding the data collection and analysis process were observed to serve the best interests of all participants at each stage of the research process. Ethics Approval Number 15-078 A.

SECTION 3.

BRIEF REVIEW OF LITERATURE

A brief literature review was undertaken involving electronic searches of key national and international databases from 2004 to 2015.

The literature sourced for this review has included electronic searches of the following: Academic Search Complete; Cambridge Journals Online; EBSCO Host Online Citations; Google Scholar; Informit; JSTOR; Sage Reference Online; Social Science Research Resources Network; Springer Link; Taylor and Francis Online. The key focus was on literature published between 2010 and 2015, however, research and literature published prior to 2010 has been included, where appropriate and relevant.

Reference was also made to relevant websites and promotional material relating to the Historic Urban Landscape, the City of Ballarat, and to UNESCO. This literature has also been embedded, as appropriate, within the body of this report. As an introductory process it is valuable to examine key themes and ideas relevant to informing the study and this has been included in the following sub sections.

3.1 HUL CONCEPT

First defined in 2005, the term Historic Urban Landscape has become increasingly important in the landscape of urban planning across the globe, with the concept adopted in response to the emergent conflict between the increasing volume of global World Heritage listings (UNESCO, 2011) and urban planning progressions at odds with the World Heritage conservation movement (Bandarin, 2012). The advancement toward the conceptualisation, and subsequent implementation of, UNESCO's HUL recommendation (UNESCO, 2011) has been gradual. It has emerged in parallel to cultural shifts in which the voice of local communities (which had become disconnected during the decades of the 70s and 80s) again became increasingly recognised as central to understanding and driving the fundamental elements of a civil society. Just as Putnam (1995; 2001) tracked and captured the decline and subsequent rebuilding of community connection, social capital and community voice in the later decades of the last century, so too has the urban planning process seen an increased recognition of the critical role of local voices and values and identity in shaping and defining what communities seek within the urban landscape (Hawke, 2012). There has been a shift from previous notions of urban heritage (which strongly aligned heritage to tangible elements such as buildings and monuments) to those of cultural heritage and an increased understanding of the fact that environments are vibrant and that this vibrancy needs to be recognised and included for these environments to prosper (Buckley, Cooke & Fayad, 2015; Dovey, 2005; Logan, 2002). Within this context, in addition to previously included tangible elements, there was the overt recognition of the need to include intangibles such as community traits and identity, tourism, unique community behaviours, values, beliefs and practices, connection with natural settings and cultural and economic elements (Sonkoly 2011; 2012; Taylor, 2014; Van Oers & Pereira Roders, 2012).

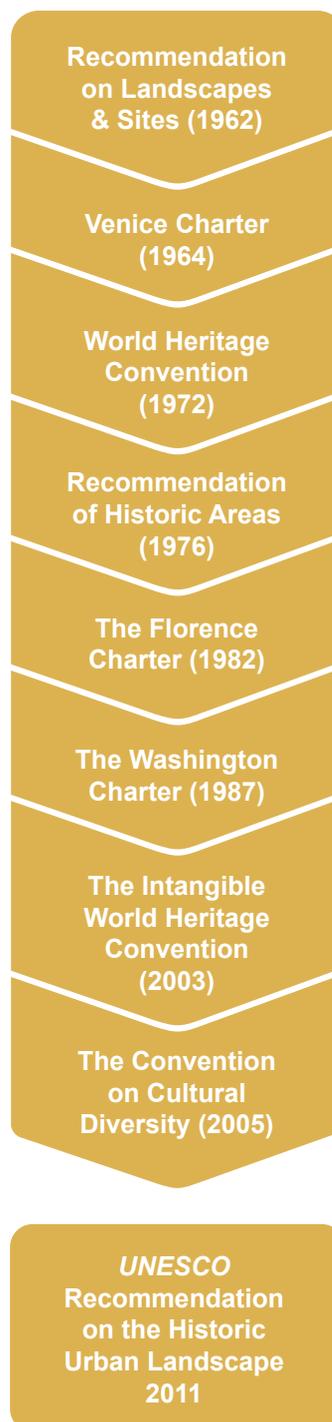
In essence, there was a growing recognition of the fact that, while tangible aspects of community remain important, intangibles within environments and connections to the place, identity and values, while more difficult to capture and define, are equally critical. Linked to this was a call for a shift in conceptualisations from historical sites to historical landscapes and for a stronger connection between those who theorised about place and space and those who implemented urban planning responses (Bandarin & Van Oers, 2012; Witcomb & Buckley, 2013). These shifts were instrumental in the emergence of the concept of historic urban landscapes.

The movement toward the adoption of HUL was gradual, occurring over an extended timeframe and reflected in policy and convention shifts that increasingly acknowledged and sought to accommodate the unique features that comprise a living urban, cultural and historical landscape.

The work of Sonkoly (2011) effectively tracks the key influencers relevant to the adoption of HUL and helps illustrate that the HUL has emerged over time, and as a continuum of key historical movements and decisions (Bandarin & Van Oers, 2012). The extended timeframes reflects the gradual acknowledgement of a need to respond more proactively to the complexities of the living landscape through codification and the mechanisms of conventions and policy directives.

The progressive movement toward the adoption of HUL is depicted diagrammatically in Figure 4.

Figure 4:
Key HUL policy influencers across time



(developed based on identified documentation Sonkoly (2011))

3.1 HUL REPORT (CONTINUED)

As there has been an increased recognition of the role of both tangible and intangible elements in the development and conservation of historic urban landscapes in the face of rapid urbanisation, so too have response strategies shifted. The HUL approach adopted by the UNESCO's General Conference in 2011, was presented as a means to move (UNESCO, 2013, p. 5):

Beyond the preservation of the physical environment, and focus on the entire human environment with all of its tangible and intangible qualities. It seeks to increase the sustainability of planning and design interventions by taking into account the existing built environment, intangible heritage, cultural diversity, socio-economic and environmental factors along with local community values.

Key tenets in this work are the recognition of the central role of collaboration, the establishment of alliances and the building of relationships for planning and development between academics, practitioners, industry and community to ensure consistent, relevant and more malleable conceptualisations of people, culture and place within and across environments (Araoz, 2011; Taylor et al., 2014; Van Oers & Pereira Roders, 2012; UNESCO, 2011).

The commitment to the inclusion of a range of complex and interrelated components in planning and development for sustainability (whether it be in health, in planning or in community capacity) have also begun to emerge across discipline areas (Rydin et al., 2012) and across a range of tools and concepts that are available to support the attainment of sustainable and inclusive urban planning goals.

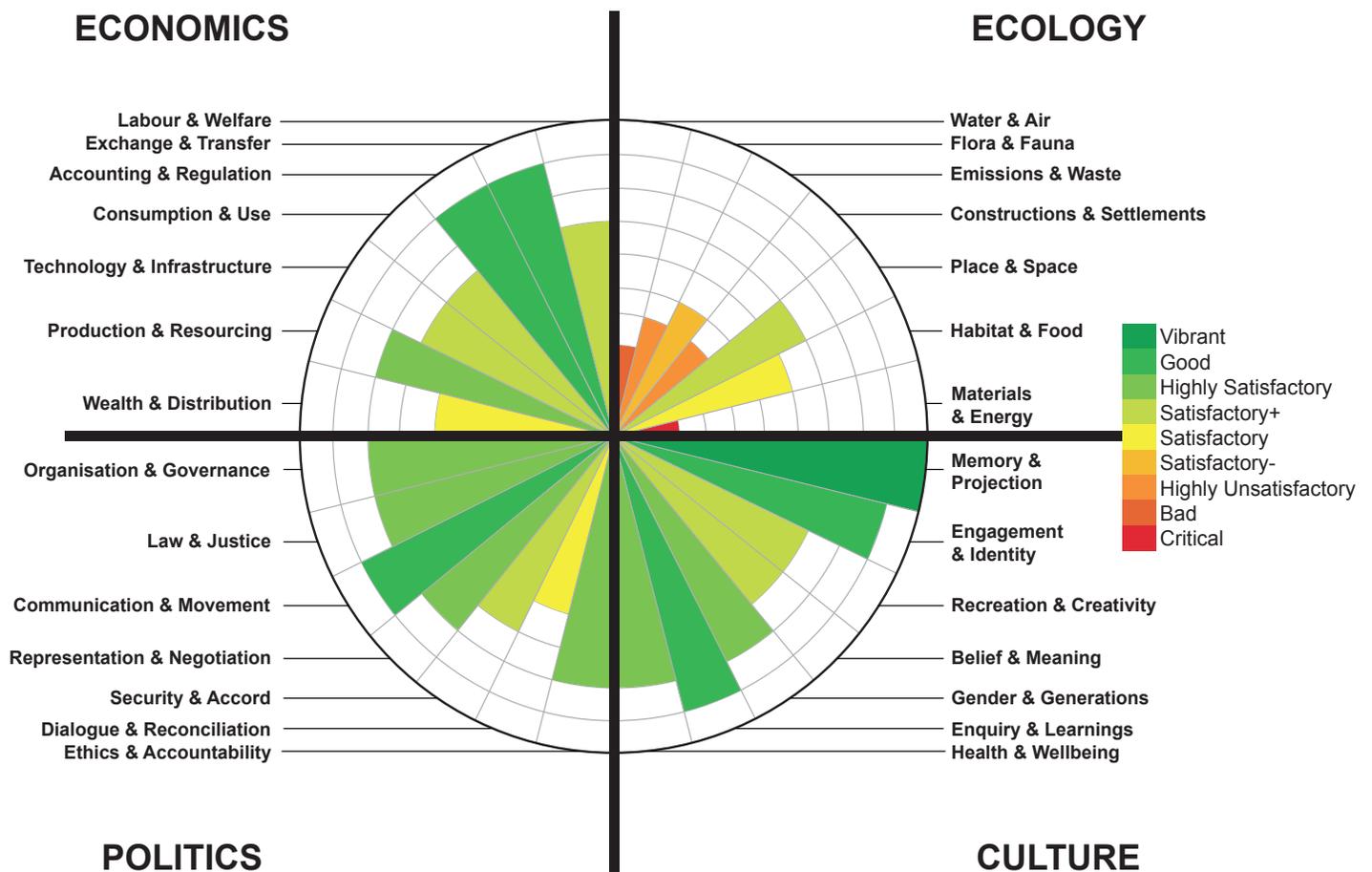
The HUL approach itself includes a set of tools (discussed within the context of the City of Ballarat in a previous section of this report). They relate to civic engagement, knowledge and planning, regulatory and financial systems and the promotion of capacity-building, research, information and communication. This philosophy of underpinning urban planning for sustainable cities with a more holistic and inclusive approach, a hallmark of UNESCO's HUL, has begun to be reflected in contemporary developments and innovations relating to better cities. While conceptually this is a positive development, translation of this philosophy to a practice reality remains a challenge. The work of Buckley et al., (2015) identifies the major challenges that exist in shifting aspirations, particularly paradigm shifting aspirations, to reality (p.4).

For successful outcomes it is critically important to work at the nexus between established notions of urban planning, the unique attributes of place and the values and defining aspects of individual communities. Ensuring these elements, and the relationship between them, is understood, is a challenge with few simple answers or directives/guidelines (Buckley et al., 2015).

A development however which is worth brief reference, is that of the Circles of Sustainability model. It is an approach that provides a valuable tool to support planners and communities in their assessment of the types of factors for consideration, analysis and inclusion when working to ensure that notions of distinctiveness, identity and place remain integral to urban sustainability planning. It is a model that is being aligned for HUL application by Dr Malcolm Borg, UN Global Advisor, in his research working with the City of Ballarat.

An example of the model being applied to Ballarat through Dr Borg's work is provided in Figure 5.

Figure 5: Circles of sustainability model



The Circles of Sustainability assessment model is split into four areas: ecology, economics, politics and culture, each divided into seven sub-domains, from which assessment is conducted on a nine-point scale between Critical Sustainability to Vibrant Sustainability.

The method was developed with a broad range of global partners from the UN Global Compact Cities Program through the Globalism Research Centre at RMIT Australia and the model seeks to support the identification of the critical issues that are specific to each unique location. These insights are gained through the process of civic engagement and can be used to develop priorities and, through the process of connection between key partners within each community, identify pathways for action. Using this approach identification of what is sustainable, what should be sustained and what is a priority for sustainability, specific to the unique characteristics and traits of that particular locale is more likely to occur (James, 2015).

The Circles of Sustainability model has the potential to act as a supplement to the existing HUL tools, particularly as a point of focus or blueprint for discussion and analysis in the process of civic engagement within a given community. It is presented here to highlight additional tools that are being applied to Ballarat's HUL program, with potential to provide an evidence-based framework for technological innovation.

3.2 THE ROLE OF INFORMATION TECHNOLOGY WITHIN HUL

Information technology, and the role it plays in relation to HUL, is of particular relevance to this current research study, both in terms of the importance placed on information technology as a critical tool for HUL implementation (UNESCO; 2011) and also because the two HUL implementation strategies that are the focus of this current report (the HUL web portal and Visualising Ballarat) are technological innovations. As such, it is imperative to review the existing knowledge pool of relevance to this theme.

Information technology has been overtly recognised as a central tool for the dissemination of information on a range of issues that are relevant to local communities. Availability of information through technology has consistently be found to be an important mechanism to overcome access barriers which previously excluded a range of communities, individuals and groups from the participatory process. Increased capacity to readily access information about proposed planning decisions, to view current and past data relevant to a location and to access a range of knowledge repositories changes the landscape for the empowerment of particular groups to be active participants in planning and development. Available literature across a range of community based information technology initiatives consistently validates the critical role of information technology in empowering individuals and communities to be active participants in decision making through access to knowledge and the knowledge management process (Busch, 2011; Detres, Lucio & Vitucci, 2014; Cegarra-Navarro, 2014; Huysman & Volker, 2005; Lloyd-Smith, 2009; Zimmerman & Meyer, 2005).

Information technology is particularly powerful in transforming opportunity and connection because information access through technology creates a duality that is not readily present in traditional approaches to information gathering. In addition to ensuring that there is greater access to outgoing data, the nature of information technology, particularly information technology with the capacity to allow input by end users (such as is the case with the HUL web portal and Visualising

Ballarat), shifts the participatory landscape significantly. New technologies allow end users to assess what is available against their own repositories of local knowledge, family or community histories and their own insights into tangible and intangible elements of place. Where individuals, groups and communities are able to access information while, at the same time, having the opportunity to have input into correcting, supplementing or adding completely new knowledge on an issue or on a landscape, civic engagement assumes a completely new level of participatory capacity.

Initiatives such as the HUL web portal and Visualising Ballarat aim to act as a conduit to, and resource for, active community participation. The value of adoption of this approach has been consistently validated as a means of community engagement and participation in contemporary research literature. Specific to urban planning, information technology has been assessed as a critical mechanism for citizen participation. It allows for the development of innovations which reflect public views and public policy, and which are likely to maximise the appropriateness of decisions made for planning in the lived environment (Malgorzata, 2007; Thompson, 2012; Wu, He & Gong, 2010).

In short, as a tool for civic engagement, information technology opens options that were previously not available. It is an approach to knowledge sharing and participation in planning processes that is particularly relevant for groups that have had limited input in the past in sharing and defining what constitute valued elements of their cultural and urban landscape (UNESCO, 2011).

Within this context, the role and importance of cultural and community mapping for democratisation of information and participation should also be explored briefly. Where knowledge provision, and the capacity to input currently hidden knowledge, opens participatory options for a broad range of key stakeholders, supplementing this data with mapping options (through the mechanism of Geographical Information Systems (GIS) tools) creates unique opportunities for building understanding of the historic urban landscape.

While this is a relatively new field of research, emerging literature has begun to track a trend around the positive role of mapping in strengthening the connection between the past, the present and the future. The mapping process has been assessed as an innovative mechanism through which to build, maintain and respect connection to landscape (Casatella & Carlone, 2013; Foley, 2015; Gregory, 2003).

The capacity to capture visually, and often simultaneously (through the use of overlays, particularly 3D overlays) a range of physical, environmental, social, economic and cultural domains is an option that has had limited availability in the past. It provides a concrete, hands-on tool for exploration, and for research, for a broad range of stakeholders (Detres et al., 2014; Panek, 2015). It supports the identification of the intangibles that people value within their community but which are often not able to be captured in written form or through simple descriptors. Through mapping a range of important aspects of an urban landscape such as buildings, streetscapes, soundscapes, view lines and historical points of significance, social and cultural hubs or events, Ballarat's complex living landscape is more readily captured, defined and shared to inform decision making processes.

Importantly, through this resource there is capacity to map what the potential impacts of change might be on a particular landscape, location or community.

For the end user, and ultimately for the decision making process, the capacity to view and forecast visual, and potential cultural, impacts of planned changes is empowering. The ability to map, often in 3D, the elements that are considered critical in defining and understanding potential for change, and the limits of acceptable change, cannot be underestimated. Importantly, previous research studies have identified mapping as a valuable tool in the facilitation of active public participation in strategy development and in policy making, while acting as an instrument for building community trust. If end users are able to map and view areas of interest across a range of dimensions, have input, and have it respectfully listened to, then past perceptions around exclusionary approaches to information sharing and input into decision making will diminish (Detres et al., 2014; Fahy & O’Cinneide, 2009; Quon Huber et al., 2009).

In essence, what mapping allows for is the building of ‘repositories of socially constructed knowledge’ (Fahy & O’Cinneide, 2009, p. 167) through a tool that allows for the capture, in a concrete way, of many of the ‘intangibles’ that represent the essence of cultural practice and cultural landscapes – the physical environment, the vistas, the sounds, the dynamic cultural landscape created through the interconnection of a range of factors. These presented individually are unlikely to capture the essence of the historic urban landscape but collectively are significant (Taylor & Cook, 2013).

Access and input through these types of tools allows for a range of critical factors such as:

- Building trust and respect through inclusiveness
- Allowing participants to be proactive
- Facilitating collaboration and alignment
- Achieving an integrated, holistic and evidence-based approach
- Facilitating a multi-disciplinary and multi- expert approach (inclusive of other experts, not just the authorised discourse)
- Creating research and practice environments in which data interpretation, research and decision making is increasingly shared in a collaborative way (Hurley, 2010).

Given the drivers for the establishment of the HUL recommendation, the potential for conflict between place-based identity and values and centralised urban planning goals, the importance of research which actively measures end user views is clear.

Consequently, building an empirical evidence base around user views within the context of HUL and Visualising Ballarat has been a major focus of this current study, with relevant findings presented in the following Study Findings section of this report.

SECTION 4. STUDY FINDINGS

As identified and discussed in Section 2 of this report (Study Design and Methodology), this current study aims to undertake a Level 1 (Primary Impact) analysis. Data for this analysis was gathered through the mechanism of survey and interview and the use of analytics relating to the HUL web portal.

The findings from this process are presented in detail in the following section and sub sections of this report.

4.1 USAGE & QUALITY: WHO KNOWS ABOUT THE HUL SITE & JUST HOW GOOD IS IT?

The starting point for examination of a Level 1 analysis is to give consideration to usage rates across both HUL and Visualising Ballarat.

Measurement of visits was done on the basis of sessions so that it was possible to differentiate between statistics for HUL (www.hulballarat.org.au) and those for Visualising Ballarat (www.visualisingballarat.org.au). Because of their integrated nature there are end users who will access both HUL and Visualising Ballarat during a session and those who will move immediately through the initial entry point solely for the purpose of accessing Visualising Ballarat.

Analytics for the point of access shows that approximately 60% of those who visit Visualising Ballarat gain access through the HUL website, while the remaining 40% of those who access Visualising Ballarat do so directly through a range of entry points including the web address and Google. These figures provide an initial indication of the fact that, despite the fact that Visualising Ballarat is housed within the HUL web portal, it is beginning to emerge as a stand-alone direct access web resource for those interesting in knowledge building and planning.

Regardless of point of access, separating the statistics to measure each resource individually provides a clearer indication of site specific usage rates. Measurement of usage rates was achieved through two key mechanisms. The first was through available analytics on overall portal usage, while the second was through analysis of interview and survey data.

4.1.1 SITE USAGE BY END USER

Overall usage data was supplied through Google analytics which allowed data to be tracked from when the site became available for public access on 1 December 2014 until 31 July 2015. Table 2 provides a monthly breakdown of usage of both HUL and Visualising Ballarat analytics. It also charts the average percentage increase since the establishment month for both HUL and for Visualising Ballarat.

**Table 2:
Analytics breakdown of monthly usage rates:
HUL and Visualising Ballarat**

Month	HUL	% Increase since December	Visualising Ballarat	% Increase since December
Dec 2014	169	0 increase	20	0 increase
Jan 2015	279	+65%	49	+145%
Feb 2015	921	+445%	417	+1985%
Mar 2015	438	+159%	165	+725%
Apr 2015	245	+45%	143	+610%
May 2015	332	+96%	122	+510%
Jun 2015	412	+144%	167	+735%
Jul 2015	658	+289%	294	+1370%
TOTAL	3454	Average increase against the initial month (December) 178%	1,376	Average increase against the initial month (December) 869%

Analysis of this usage data shows that there have been a total of 4,830 sessions across HUL and Visualising Ballarat since the site went live on 1 December 2014. Of these, 3,454 have been sessions using the HUL component of the web portal while there have been 1,376 sessions in which Visualising Ballarat was accessed by end users.

There has been, in the main, an overall upward trend from the initial month across both HUL and Visualising Ballarat.

4.1.1 SITE USAGE BY END USER (CONTINUED)

A specific breakdown of the figures for both HUL and Visualising Ballarat indicates the following:

The HUL web portal:

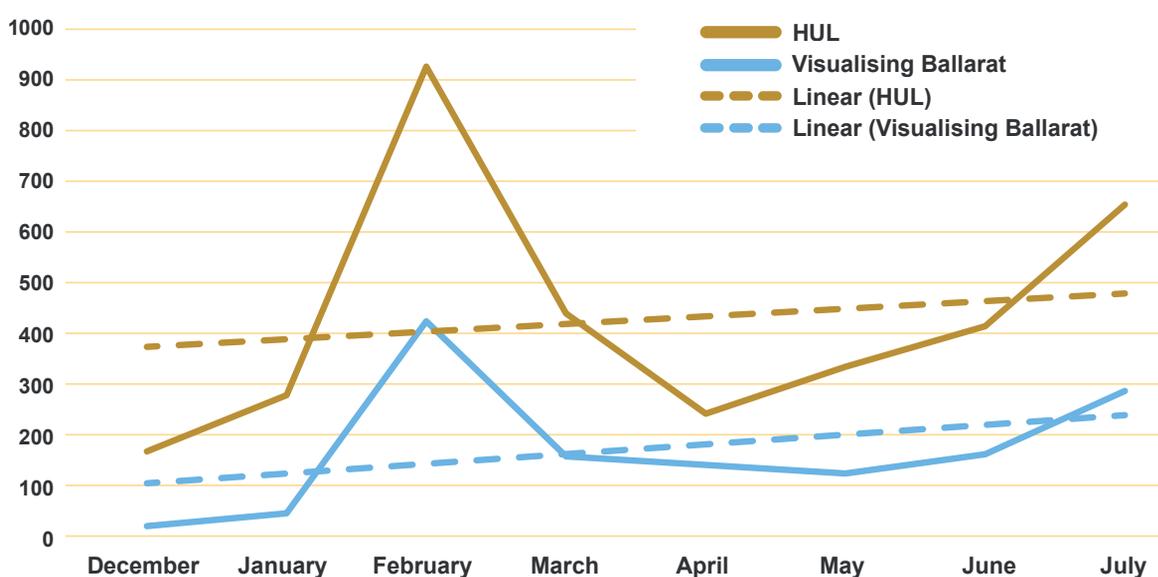
This data shows an increase in the number of sessions from December to March, a decrease in April and then a consistent increase until the end of the data collection period. While the figures for February show a significant peak, followed by a fall in usage, this is still considered an increasing trend as it is important to note that the 2nd International Symposium on UNESCO's Recommendation on the Historic Urban Landscape was held in Ballarat on the 20 - 21 February 2015. This symposium was the point at which the HUL web portal was launched publically. An analysis of figures from between the 21 - 28 February 2015 show that 514 (56 percent) of the sessions for that month occurred across the eight day timeframe from the start of the symposium until the end of the month. Accommodating this surge, figures continue to represent an overall upward trend since 1 December 2014, with a slight drop in figures having occurred in April. The average increase in session rates from the initial month (December 2014), as shown in Table 2 is 178 percent.

Visualising Ballarat:

In terms of the Visualising Ballarat figures, usage rates are slightly different. The same February peak can be identified with 254 (61 percent) of sessions for that month occurring from 21 - 28 February 2015. The figures across the collection timeframe show consistently that, while there has been an overall upward usage trend since establishment, only an average of 38 percent of web visits across the data collection timeframe proceeded beyond the HUL site to an exploration of Visualising Ballarat. However it is important to note that the average percentage increase in session rates for Visualising Ballarat from the initial month (December 2014) is significant and sits at 869 percent.

The usage trends identified across the data collection period are depicted diagrammatically in Figure 6, which shows both the usage peaks and dips and the relevant trend line across both sites.

Figure 6: HUL usage rates Dec 2014 - July 2015



Usage rates for the Ballarat HUL web portal are also captured in the figures gathered through the online survey and the interview process.

These show that, of the 71 respondents involved in these components of the research study, a significant 89% (n=63) had accessed the site in the six months since establishment. Of the eight (n=8) respondents across survey and interview who had not accessed the portal, three out of eight (37.5%) indicated that they had not been able to access the site due to time constraints, three out of eight (37.5%) stated that they were unaware of the existence of the web portal, while two people indicated that they were aware of the portal but, in one case did not have access to the internet while in the other there was no interest in the resource.

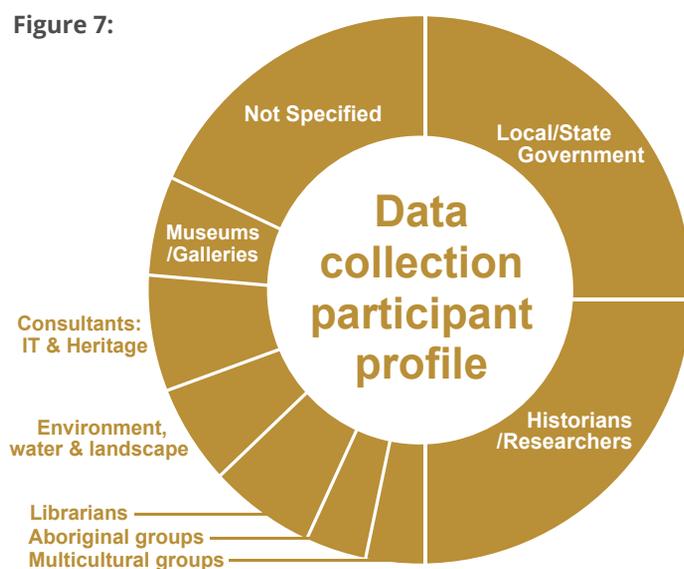
The vast majority of those who have accessed the web portal since December 2014 were from the local area. Of the 3,454 sessions involving the HUL site, 93 percent were from either Ballarat (57 percent) or Melbourne (36 percent) with the remaining seven (7) percent Geelong, Sydney, Canberra, Brisbane, Adelaide, Perth and overseas (China, the US, Canada, Italy, the UK, France, the Netherlands, New Zealand and Ecuador).

Sessions on Visualising Ballarat (1,376) reflected the same trend with 58 percent for Ballarat, 34 percent for Melbourne and the remaining eight (8) percent from Sydney, Geelong, Canberra, Brisbane, Perth, Mildura, Hobart and overseas (2% from China, the US, Italy, the UK, France, the Netherlands, Bosnia Herzegovina, Austria and Ecuador).

These figures, and the profile of those involved in survey and interview, provides a clear indication that, at this point in the implementation of HUL and Visualising Ballarat, they remain resources that are utilised, in the main, by the local community to examine local points of interest and potentially inform the local planning and development process.

While it is not possible to establish a profile across the 4,830 sessions that have been tracked to date with HUL and Visualising Ballarat, the survey and interview data does provide a mechanism to determine which members, as a subset of the community, are currently accessing the portal. These data show that the majority of participants have been professionals and/or those affiliated in some way with heritage groups. The specific breakdown of groups identified through survey and interview as having accessed the sites is provided in Figure 7.

Figure 7:



While involvement of these groups is a valued part of the process of civic engagement and these are critical stakeholders in knowledge building and planning, they cannot be assessed as, standalone, being representative of the complex array of groups, organisations and individuals who make up the broader community. The HUL and Visualising Ballarat sites do not at this point appear to be attracting those without a workplace or heritage related affiliation. This assessment is further validated when the data on where individuals had learnt about the web portal is considered. A majority (62 percent) of study participants had learnt about the portal through their workplace. Twenty percent (20%) had learnt about it through the HUL symposium and/or mailing list, while only 18 percent had gained their knowledge about the

portal through the means of a community group, networking connections or social media. If the web portal is to maximise the capacity for civic engagement across all groups within the greater Ballarat community it is important to significantly increase awareness across the community, through networking, marketing and through social media.

Expanding usage beyond the existing participant cohort is an issue that was explored significantly during the interview process and is an area that will be discussed in greater detail later in the Findings section.

4.1.2 FREQUENCY AND POINTS OF ACCESS: A MEASURE OF ENGAGEMENT

One measure of how engaged a group of end users becomes with an information technology resource is the level of usage. A second, and more specific measure, is the pages, beyond the initial homepage, that end users access, examine and engage with. As identified previously, the HUL web portal was developed, in the first instance, as a tool for civic engagement. It is listed as one of the mechanisms used by the City of Ballarat in planning for implementation of the HUL recommendations, with Visualising Ballarat a tool for knowledge building and planning. These are closely aligned targets – in fact, civic engagement represents the first step in ensuring that the maximum number of people are able to become involved in the process of reciprocal knowledge building and shared planning.

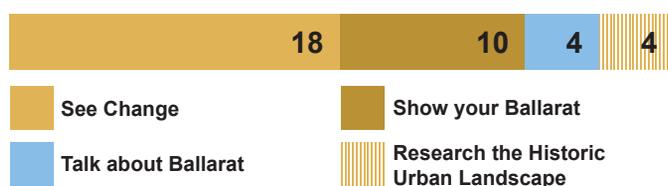
The critical role of ongoing access and reciprocity in building a resource has been identified extensively in available literature as a means through which to achieve effective longer term and sustainable outcomes (Cegarra-Navarro et al., 2014; Garcia et al., 2014; Quinn & Ramasubramanian, 2007; Quon Huber et al., 2009). Consequently it was important to gain a measure of the frequency and type of access that has characterised HUL web portal usage since establishment.

The extent to which end users are accessing specific areas within the portal (See Change; Show your Ballarat; Talk about Ballarat; and Research into Historic Urban Landscape) was tracked through the mechanism of the survey, and the interview process. These data have provided insights into what, for those involved in data collection, are valued resources and those that represent areas for potential expansion into the future.

The data gathered through the Online Survey data were particularly helpful as they allowed an area and resource specific analysis to be made relating to levels of access. This data showed a consistently dominant trend in the use of the 'See Change' area of the portal by end users. While the online survey gained feedback from a small number of participants (35) a consideration of average access, as measured by visits across the options available confirms that 'See Change' was accessed almost twice as many times than 'Show Your Ballarat' and four times as many as 'Talk about Ballarat' and 'Research' into HUL. Differences in average utilisation across areas within the HUL portal is shown in Figure 8.

Figure 8: Average hits across portal pages

Average hits (based only on online survey responses) across portal pages for data collection period: Dec 2014 - July 2015



The specific breakdowns for access across each of these four areas is provided in Table 3, which allows for a comparative analysis, while showing the extent of access for each of the available resources. This is presented numerically (the number of times information was sought from a feature within the portal) and also as a percentage of total access (the percentage for the access rate of an individual feature). It is reiterated that these figures relate only to Online Survey data as this was the data that was available for analysis that was the most statistically accurate.

4.1.2 FREQUENTLY AND POINTS OF ACCESS: A MEASURE OF ENGAGEMENT (CONTINUED)

Table 3: Average and percentage access HUL web portal

See Change Information accessed and % of total access for this page		Show Your Ballarat Information accessed and % of total access for this page		Talk about Ballarat Information accessed and % of total access for this page		Research the HUL Information accessed and % of total access for this page	
Photo Map	23 19%	Panoramic Landscapes	14 34%	WIKI: Industrial Heritage Project	5 25%	Resources	8 40%
Before & After	22 18%	Miners Rest Memories	8 20%	Have you seen old Ballarat town	5 25%	Where do I find Ballarat Information	6 30%
Visualising Ballarat	19 16%	Where is Ballarat East	12 29%	Facebook	4 20%	Knowledgebase	4 20%
Image Gallery	18 15%	Photo Map	7 17%	PROV	3 15%	Research Community Login	2 10%
3D Terrain Map	16 13.5%			Events & Meetings	3 15%		
Timeline	16 13.5%						
Videos	6 5%						
TOTAL	120 100%		41 100%		20 100%		20 100%

Table 3 illustrates a strong trend, in the first six months of implementation, for accessing and use of the imagery and mapping options available on the HUL web portal. The most frequently accessed features were the Photo Map, the Before and After imagery, Visualising Ballarat and the Image Gallery. Other types of information was sought at progressively lower access rates across the range of information options.

It is too early in the implementation to determine definitively the rationale and the drivers behind end users seeking the type of information provided by these features. The majority of those who were involved in interview (80 percent) had accessed the site, (n=28) but were in the process of learning the parameters of the portal and what information it could provide. Feedback gathered suggests that early utilisation has been characterised by a site exploration approach rather than by access for the purpose of application to practice or within the workplace. Access for the purpose of demonstration drew people to aspects of the portal which had greater visual and point of interest appeal than others. This assessment was also validated in online survey data in which 77 percent (n=23) of those who had accessed the site were doing so on an exploratory basis and were not seeking specific information. Figure 9 provides a visual of the usage of different element of the web portal, in descending order of access.

Figure 9:
Most sought information across the HUL web portal



4.1.2 FREQUENTLY AND POINTS OF ACCESS: A MEASURE OF ENGAGEMENT (CONTINUED)

The extent to which the popularity of these access points change over time, and the uses of new resources which are added to the web portal, will be measured over the next three waves of data collection. What the currently available quantitative data shows is a definitive initial trend toward access of features that involve imagery and mapping. When this is cross referenced with the data from the interview process, a consistent message to emerge is the value placed on these features as a tool for involvement in planning and knowledge building. These views, as expressed across the interview participant cohort, and from the written sections of the survey, are captured in statements such as:

Looked at 3D mapping, fascinated by maps and I can imagine a flythrough of Ballarat (like in gaming technology where a visitor to the website can control through computer as if they are flying over Ballarat, zooming changing era layers, i.e. gold rush, or someone with an environmental interest for example might fly over that, including historical role of water, different data sets, then and now imagery, also as an interactive way of engaging a broad audience for fun and learning) different layers of information, before and after photos - nice way of engaging the public in history and heritage. [Interview Participant: Museum & Gallery Cluster]

But I do use it and explore it and the thing that I really like most is the maps. I think they are fabulous. I love the way using the overlays to look at all kinds of different things like areas of grass being burnt, or where the heritage overlays show up. Things like that are really great. [Interview Participant: Historian and/or Academic Cluster].

Public mapping tool is useful for my work...The information provides a good overview and relationship of the urban development, geology, historic mining and geographical terrain. It is interesting to see how the information is presented in different ways...The mapping in particular is what I like and Visualising Ballarat has heaps of potential for a tool for planning practitioners. [Survey participant]

While this feedback cannot be viewed as evidence of portal success in civic engagement and planning, it does provide early indicators that, as people begin to explore the site, key elements are being viewed as engaging and are acting as a mechanism through which to initiate the process of reflection on what might be possible using the site. This is a good initial outcome and signals the extent to which participants are drawn to being able to use a visual resource to build their knowledge and understanding of their locale. The potential that is found in the Visualising Ballarat mapping option in particular within the work context for planning and development is captured in the following suite of statements drawn from the interview process:

The visual nature of the portal and tools mean 'A picture can paint a thousand words' - if you see that progression in a consistent fashion, who knows what impact it could have on planning and environmental considerations for Ballarat... HUL has an incremental value in that the more that is added over time and from different periods, the more valuable it is to look back at data (2015, 2016, 2017) - with the accumulated data you can see the evolutionary growth of the city in a more graphic and visual way. [Interview Participant: Consultant]

As an IT business it could be used as an exemplar of ways technology can be used. If we were to hold meeting and events here we would include a link to HUL. [Interview Participant: Consultant]

In thinking about the value and possibilities of Visualising Ballarat, the huge potential for connecting the city's past with its future is strong. This includes planning and development as well as the strengthening of connections between various communities and disciplines and greater understanding of both tangible and intangible heritage going into the future. [Interview Participant: Consultant]

...layer of Visualising Ballarat and you know if it happens to be with a swamp it will team up in the 3D panorama thing. So all those tools are linked together and are capable of being used for live projects by practitioners. [Interview participant: Local Government]

So the thing that I've used is the mapping tool, Visualising Ballarat basically. And I've done that when producing things for [named organisation] or in meetings with people like [named organisation]. We just bring something up, have a look at the Avenue of Honour plaques and, that's just an example, in the meeting room we had a look at the Avenue of Honour plaques and trees because it's the first time you've got the location of City of Ballarat trees and the plaques sitting on them in the same system. Previously they were in two different systems - so that provides huge potential. [Interview participant: Local Government]

4.1.2 FREQUENTLY AND POINTS OF ACCESS: A MEASURE OF ENGAGEMENT (CONTINUED)

These snapshots of perceptions about the power and potential of the mapping capabilities of the portal are encouraging and provide emerging evidence of a good initial impact.

**The next point for examination must then be:
how often is it used?**

Just as usage rates and the type of information accessed help to build a picture of the extent to which the HUL web portal has potential as a tool for community engagement and knowledge building, so too does the frequency of use of the portal and the number of times people return to the portal provide important impact information.

Gaining these insights was achieved through the mechanism of frequency analysis – i.e. how often do individuals return to the portal beyond initial exploratory visits? This analysis shows that, for the majority of participants, across both interview and survey data, the HUL web portal was not a resource that had become embedded into their everyday practice.

A breakdown of frequency of use rates shows that only seven percent (7%) of survey respondents used the portal once per week. A slightly larger percentage of 17 percent indicated that they accessed the web portal a few times a month, with the majority (60 percent) indicating that they accessed the portal once a month (27 percent) or less than once a month (33 percent). Seven percent stated that they would not access again beyond the first access point and nine percent gave no response to this question. The feedback provided in the interview process supported these data and reinforced that, while there was significant enthusiasm and support for the HUL web portal, and the potential of this resource, it had not become embedded in practice or as a tool to aid the decision making process.

**Qualitative feedback supports this assessment,
as captured in the following statements:**

Most times that I have been at the portal it's to see what's there rather than looking for something specific... The website will need to grow, to continue to experiment, to involve more people and groups. If it becomes static it will simply be another archive. It has the capacity to be complex, flexible and multipurpose, to keep increasing its capacity for information and for conversations (but at moment it may not draw people back) [Survey participants].

I think it is an amazing resource and the potential that it has is really significant. I was really excited when I saw it but I haven't then gone back to it or used it because I am busy and I guess I don't see it as necessary for my work... though it really could be... just not doing it yet I guess so yeah [Interview Participant: Community Group].

A low frequency of repeat access figures into the longer term could represent a barrier to the success of the HUL web portal as a tool for civic engagement and for knowledge building and planning. Analysis of the literature (Garcia et al., 2014; Hesse et al., 2011; Huysnan & Volker, 2005; Lewis, Casello & Groulx, 2012; Lin & Bruce, 2013; Malgorzata, 2007; Martins De Freitas, 2010; Panek, 2015) shows that sustainability and uptake of a resource is dependent on a range of factors. One of these is clearly how often a resource is accessed by the same individual or group as part of their suite of tools for their workplace, for building their community connections or to meet their personal needs. Importantly there is a need to shift public (community, industry, academic and government) perception of the resource from being something that is interesting or entertaining, to something that is useful and used and embedded in their practice.

The requirement for this to occur was also identified by participants to the research and is captured in interview transcripts in statements such as:

If only used as a 'brochure site' where you can look at historic photos of your street etc it could end up a bit (sic) ...cutesy. If it was a site that had a real purpose to it... Useful information to make decisions about Ballarat. Data is key to the value of site. Sites that fail are ones that are essentially 'brochure sites' or for information but to make a site valuable it's always about the data... Why would you go to Visualising Ballarat or HUL on a daily, weekly or monthly basis... (sic - needs to be) more interactive and interoperable [interview participant: Historian and Academic Cluster]

It is a great site for showing what can be done. For seeing some terrific pictures and for starting to think about what things used to be like (and maybe comparing this with today). Would I use it everyday in my workplace? Sure I would but only if it was really relevant to what I needed and only if it offered something different to what I can get on our own data bases. We already have the information. I really like the visuals and loved looking at the photos and I think it could be amazing but I haven't gone back because I already have most of the information available in other places [interview participant: State and Local Government Cluster]

Data relating to frequency of use (return rates to the portal and use of the portal to inform personal or professional needs and/or decisions) show that the portal, in its current form, has had only limited impact. If an indicator of sustainability (as depicted and explained in Section 2.1, Figure 1) is moving along a continuum from entertainment through to information leading to usefulness to interactivity, the feedback on frequency of use suggests very clearly that there remains considerable developmental work to be undertaken in implementation and marketing of the HUL web portal to shift frequency of use to higher order impact levels.

The next factor to be examined as an indicator of Primary Level Impact is the quality issue; do those who use it believe it to be a high or low quality resource?

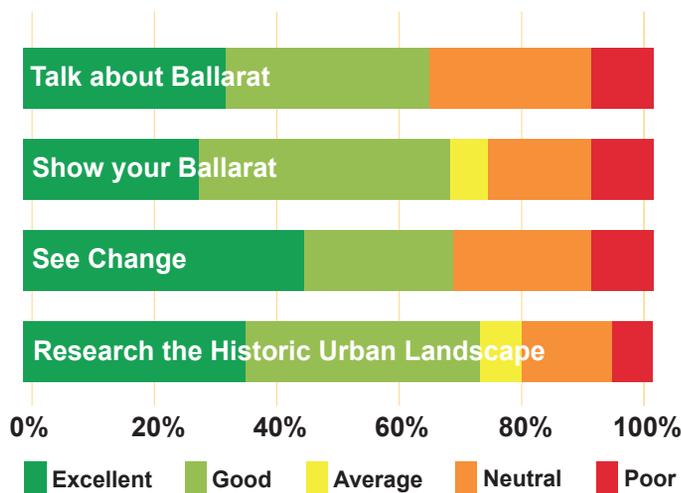
4.1.3 QUALITY: DO END USERS THINK IT IS ANY GOOD?

The feedback provided in terms of the quality of the HUL web portal was considered at two levels. One was the quality of the information contained within the portal. Is it accurate, representative, and considered to be trustworthy? The second level related to the quality of the design features of the HUL web portal – was it visually appealing, easy to navigate and user friendly?

HUL web portal: Quality of content

Data relevant to quality of content was again drawn from survey and interview data. Feedback specific to perceived quality of each of the four major areas of the web portal was gathered from the survey, while individual perceptions relating to the overall quality of content was drawn from interviews. Survey respondents ranked the quality quite highly across each major area of the portal. The overall assessments of quality are graphed in Figure 10.

Figure 10:
Assessments of quality of content for the HUL web portal



A specific statistical breakdown of the visuals provided in Figure 10 shows the following:

- Talk about Ballarat:** A smaller overall percentage of 46 percent (n=14) of respondents rates the quality of content as either Good (23 percent) or Excellent (23 percent). Twenty percent (20%) gave their assessment as being neutral while a significant 27 percent were either unsure (13.5 percent) or provided no answer (13.5 percent). Only seven percent (7%) assessed the quality of content as being of a poor standard.
- Show your Ballarat:** Sixty percent (n=18) of respondents rated the quality of content as either Excellent (23 percent) or Good (37 percent). Three percent (3%) provided an average quality rating, 17 percent were neutral in their assessment, three percent (3%) were unsure, 10 percent provided no answer and a small percentage assessed the quality as poor.
- See Change:** Sixty three percent (n=19) of respondents rated the quality of content as either Excellent (40 percent) or Good (23 percent). Twenty percent (20%) of respondents were neutral in their assessment of the quality of this page, while seven percent (7%) thought that the quality of content was poor and 10 percent did not provide a response to this question.
- Research into HUL:** A majority of 77 percent (n=23) of respondents rated the quality of the content as either Good (40 percent) or Excellent (37 percent). The categories of Average, Poor, Unsure and No answer all came in just over three (3%) while the average rating for quality of content was 10 percent.

These results for quality of content statistics correspond with feedback from interview participants, and from the qualitative component of the survey which consistently show that the majority of participants were very positive about the content of the portal and the quality. These views are captured in the following data extracts:

The portal is unique and intuitive... There's no other (online resource) that so accurately integrates the history of the city... that enhances findability of existing content through links and brings together different organisations and levels of expertise... the quality of what is provided is great. It feels like the past is captured in a way that provides people with ways of looking at history that have not been available before... the content is such that it can be used to inform us on cultural heritage management plans and the public can use it to educate themselves... Interdisciplinary (including technical mapping with social sciences and arts) creating a rich experience... Visualising Ballarat is great as a familiar format to explore and make connections with overlaying data ('unconventional overlays' and associations for research) GIS easily accessible enables you to do so much more of this....Connects past, present and future...Creates a place for new knowledge as history is unearthed...The portal allows different layers of engagement, including fun, entertainment, learning, research, genealogy, tourism and planning...Engages the public in history and heritage with great usable content [Snapshot presentation of mixed Interview and Survey participant feedback].

There was also written feedback provided that was at odds with this assessment. Although the number of participants providing this feedback were low (8.5 percent (n=6) of the overall participant pool), the presence of this type of feedback does flag some levels of dissatisfaction with data quality and this needs to be acknowledged, monitored and addressed. Statements which provide insights into quality aspects include

The wiki needs improvement, the quality of information is very poor' and 'there are barriers - overly academic, needs editing and demystifying the term 'historic urban landscape' and 'I found errors in the information and that is not great.

4.1.3 QUALITY: DO END USERS THINK IT IS ANY GOOD? (CONTINUED)

HUL web portal: Quality of design

The second quality issue to be examined related to the issue of quality of design for the HUL web portal. This issue was tested across the domains of visual display, language, links to other resources, navigation, user friendly interface, finding information quickly and the search function. Analysis across each of these areas also indicates a strong overall result for these aspects of the portal. An average of 65.5 percent of responses across the design features of the HUL web portal found the design features to be either good or excellent. The features that were assessed as most well developed and appealing were the visual display used for the HUL web portal and the language that is used. Slightly less well assessed, but still achieving over 60 percent within the good to excellent cluster, were the links to other resources, navigation and user friendly interface.

These assessments, tracked through the online survey, correspond with those made by interview participants as captured in statements such as:

Look yeah, I think that's probably one of my key thoughts about this whole thing is comparing what HUL does to say what the [a museum] website does and what the [a community organisation] website does or any of the other ones that are around town and I'm thinking where I see some differences is... so I think, I'm conscious, probably even more conscious after looking through the HUL website, to see how there are some really different and exciting ways of conveying historical information to the wider world. And I think what the HUL site does which our site certainly doesn't do is convey something of the excitement and the interest and the historical atmosphere and the applicability of history to our lives today. And I think that's probably where, one of its great strengths probably does lie [Interview Participant: Museums & Gallery Cluster]

I like the look of the website, the design of the home page... the look and feel of that... and the browse-ability [Interview Participant: Local & State Government Cluster].

The visual nature of site is great, really shows the changes (demolished buildings etc). Can see how it could be used in government, for example referring people with planning questions. Or as a renovator or builder, or anyone with historic interest. Great, easy to access and can really see potential to grow... Simple, straightforward and easy to move around website [Interview Participant: State and Local Government Cluster].

The clarity of the images is excellent. The whole site is very clean and clear, no confusion or clutter... (set up with a) focus for collaborative collection of material and the accessibility to material in all kinds of forms (images, words, maps, videos etc.)... The multiple visual communication tools used makes it easily digestible... this site provides a city wide coverage of what is important about this place and allows a wide variety of ways of exploring different themes and ideas. It can link the built heritage with moveable heritage and with more intangible elements like story telling... User friendly, interesting and relevant visuals, excellent research tool and information source [Snapshot of written survey responses].

There were also a number of research participants who provided feedback about the design features of the HUL web portal and assessed that it did not meet their expectations in terms of ease of access and navigation.

I really find it a bit of a dog's breakfast and there is not that much that I think of as hard data and navigating it is difficult as my idea of what to call things and yours are divergent. Usually give up and go back to the books... The site is hard to navigate as menus are not available on every page, and links do not open in a new tab... actually question the whole notion of 'electronic portals' at all. I suspect that they are something that IT people dream up but which are not really very useful (or easy to use) at all. Also we have become accustomed to doing broad Google 'sweeps' if you want to find something. The 'portal' is a narrow gateway, essentially [Snapshot of written survey responses].

I find it very hard to navigate and could not access what I wanted readily. Needs to be much, much, more intuitive [Interview participant: Librarian].

Provided in Table 4 is an overview of the quantitative responses gathered, through survey, relating to the design quality of the HUL web portal. This data shows that, overall only 5.5 percent of respondents rated the design features as poor. This feedback needs to be tracked and reviewed and highlights that there is ongoing work and monitoring that needs to occur to ensure that the portal remains as usable as possible across the broadest range of end user groups.

However this feedback was provided by only a small group of participants to the research and the initial feedback can, for the major part, be assessed as indicative of the portal having design features that meet the access and navigation needs of end users.

Table 4: Quality of design - User assessment

Design Feature	Excellent	Good	Average	Neutral	Poor	No Answer/Unsure
Visual Display	53% (n=16)	30% (n=9)		7% (n=2)	3% (n=1)	7% (n=2) 2 no answer
Language	30% (n=9)	46% (n=14)		14% (n=4)	3% (n=1)	7% (n=2) 2 no answer
Links to other resources	27% (n=8)	40% (n=12)		23% (n=7)		10% (n=3) 1 answer 2 no answer
Navigation	30% (n=9)	36% (n=11)	7% (n=2)	14% (n=4)	3% (n=1)	10% (n=3) 1 answer 2 no answer
User Friendly Interface	33% (n=10)	33% (n=10)	3% (n=1)	10% (n=3)	7% (n=2)	14% (n=4) 4 no answer
Finding Information Quickly	27% (n=8)	30% (n=9)	16% (n=5)	10% (n=3)	10% (n=3)	7% (n=2) 2 no answer
Search Function	20% (n=6)	23% (n=7)	3% (n=1)	30% (n=9)	7% (n=2)	17% (n=5) 4 no answer 1 unsure
Average Across Design Feature	31.5%	34%	7%	15.5%	5.5%	10%

Building an understanding of the uptake and assessment of the HUL web portal was also explored through seeking to measure the perceived usefulness of the resource, from the perspective of end users involved in the interview and survey process.

4.1.4 USEFULNESS: CAN IT BE USED EFFECTIVELY TO MEET END USER NEED?

Assessment of usefulness of the HUL portal was made through testing the extent to which the resource was viewed as useful and, subsequent to this, in what specific ways it was considered to be useful.

Those involved in the interview process discussed the usefulness of HUL, and the potential it had within the context of the workplace and of community groups.

The key themes to emerge on how the web portal was useful in meeting end user needs included:

- Supporting the building of knowledge about Ballarat for new residents.
- Enabling a visual of past and present and, through this, diminishing the divide between where we are and where we were as a community, and as a city.
- Providing valuable background information and new insights on the past – something which is assessed as helpful in building an understanding of the past and potential shifts into the future.
- Usability. The ease of use of the portal was seen as making information accessible in a way that it has not been in the past, and for a wider range of interest groups.
- Providing a means to connect with other residents and other groups in the community.
- Providing insights about specific communities and their unique features and attributes.
- Providing important and valuable information and links for the purposes of research.
- Providing insights into community events and activities.
- Acting as an inspiration and an exemplar for teaching and for other municipalities on how to better manage the

planning and development process

- Providing a means to map and visually overlay information which provided insights that were not previously available and were useful for a range of reasons: research, planning, understanding history and change.

These views are captured in the following representative statements taken from the interviews, and from the written feedback collected through surveys:

...the spatial mapping, basically the large mapping where you put the layers on, such as the mining layers – that layering will be invaluable. For example when we do our next piece of work that is ‘region of Ballarat-specific’, when we are investigating ‘where did it come from?’, ‘where is it at now?’ ‘what are we looking towards?’, that information (on HUL) would be my first port of call to go to. That information is critical for the work we are doing so I have been keeping an eye on how it is coming together [Interview Participant: State & Local Government Cluster]

A wonderful way of ‘seeing’ information. Highly visual and very useful to understand change in a place... I can see HUL has immense potential, and must already be very useful to people who don’t already know their way around this area [Survey Participant].

4.1.4 USEFULNESS: CAN IT BE USED EFFECTIVELY TO MEET END USER NEED? (CONTINUED)

As a person new to Ballarat, it helped to get background that locals may take as assumed knowledge. As I explained before I work in this area so I am familiar with a lot of the resources. However I did enjoy seeing new things such as the 3D landscape, and the images. I also like that the Facebook pages are linked in. Because it's an integrated and inter-disciplinary approach, it combines information that wouldn't normally be put together but then creates a holistic view. This is very useful. [Interview Participant: Community organisation]

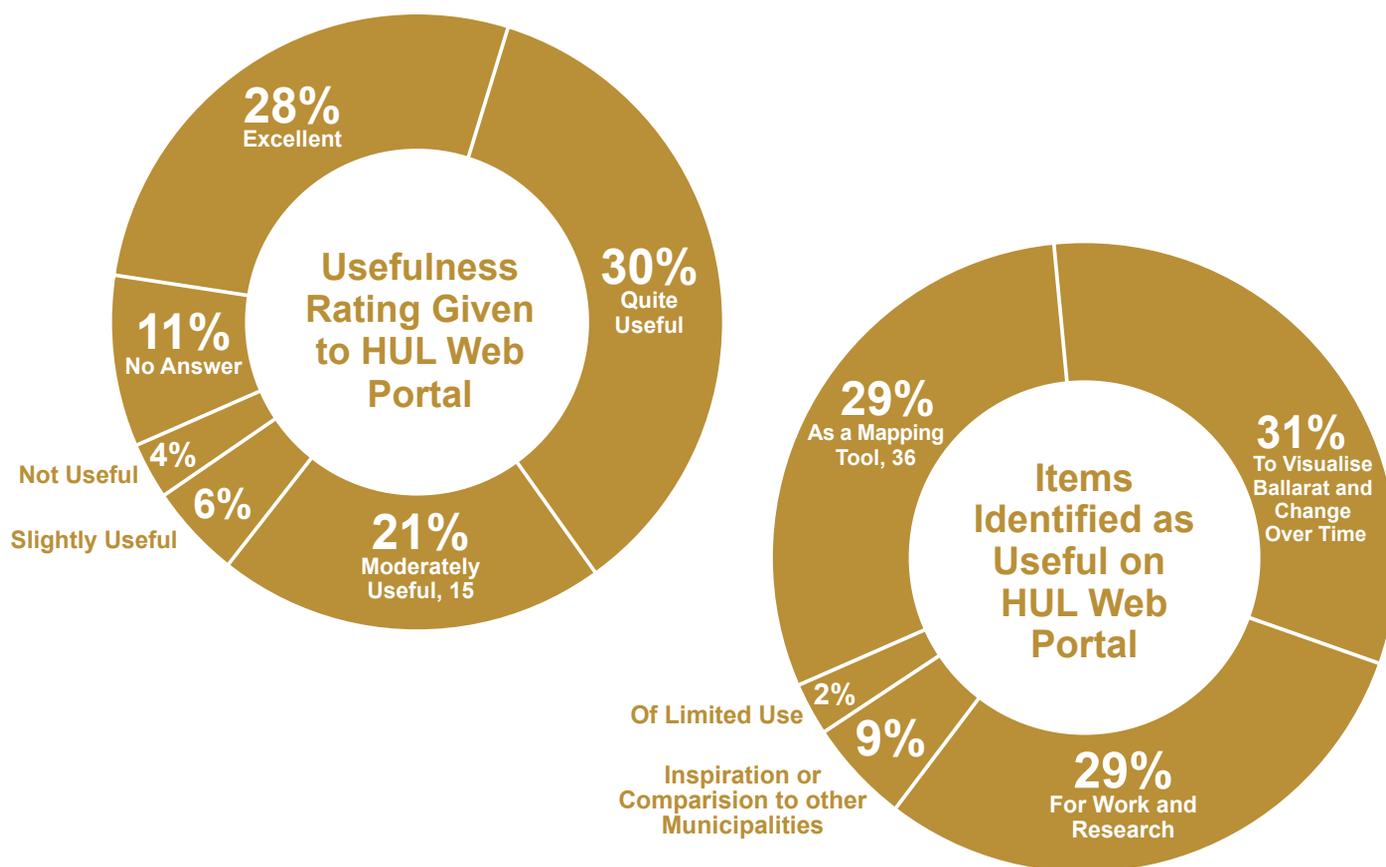
If it can be user friendly for the every man in the street I think it can be really useful because all the feedback from people is that there is no central place where people can go to find heritage stuff and history stuff about Ballarat. So again, this could be about the place for this info. [Interview Participant; Historian & Academic Cluster]

Useful historical information, information about community activities, connections to research and contact people are all things that are relevant to my role.
[Survey Respondent]

This feedback was cross referenced with data collected from all research participants relating to the usefulness of the resource. This involved the use of both statistical and content analysis techniques to measure trends relating to usefulness. This found that, across the participant pool, 79 percent of respondents assessed the HUL web portal as having some level of usefulness. Of these, 58 percent rated the portal within a cluster of useful or very useful.

There were only two percent (2%) of respondents across the participant pool who assessed that the web portal was of no or of limited use within the work and/or community context. This data is presented diagrammatically in Figure 11.

Figure 11:
Assessment of usefulness of the HUL web portal



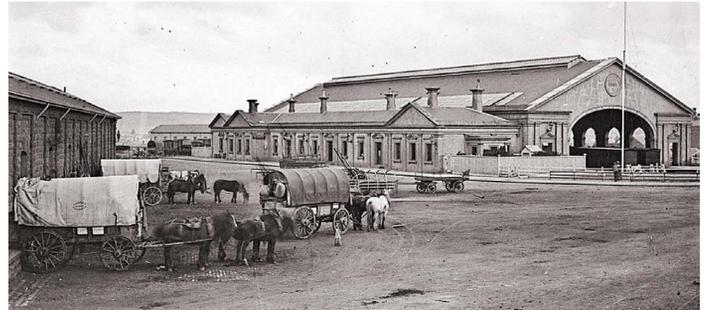
4.1.4 USEFULNESS: CAN IT BE USED EFFECTIVELY TO MEET END USER NEED? (CONTINUED)

Additional insights into perception of the usefulness of the HUL web portal were gained when data was interrogated to identify specific areas from which new knowledge might be drawn. A snapshot view of a range of selected areas shows a median percentage of 54 percent of participants indicating that information provided had been useful in building their knowledge and understanding of aspects of Ballarat.

These areas included physical locations (Landscapes and Gardens), historic aspects (Connecting Past and Present), sites (Local History and Significant Buildings) and cultural factors (Ballarat Community and Your Place in it). These findings are positive in terms of assessments of the usefulness of the web portal, however, while the median percentage represents a majority, it is a small majority, and it is a small majority within a select group of research participants.

Consequently it is a result which flags that participant views around the capacity of the HUL portal to achieve longer term goals as it moves out of Stage 1 implementation need to be examined in detail.

Review needs to occur, within the context of a strategic planning process, about how to maximise the usefulness, applicability and continuous improvement of the web portal against the type of data sets required by different user groups. This assessment is reinforced when it is considered that only 57 percent of those involved in data collection assessed that the web portal, as it currently stands, has met the expectations held for it. While participants consistently identified that it is engaging and has real potential for creating connection and shaping community input into the planning process, a consistent theme to emerge was that further development of the portal is needed if it is to move beyond the provision of visually appealing, good quality information. Developmental work on building capacity for achieving the goals of civic engagement for knowledge building and planning is a priority. Section 4.4 of this report includes an Action Plan on potential approaches for addressing issues such as these.



Useful and Usable New Knowledge on:

- Connecting Past & Present = +57%
- Ballarat People: Then & Now = +63%
- Landscapes and Gardens = +47%
- Local History & Significant Buildings = +57%
- Ballarat Community & Your Place in it = +47%



Feedback by interview participants verifies the need for this type of action:

The number one priority has to be taking it from demonstration that could easily be forgotten about and die and a waste of money to something that is being used and supported by a number of partners. Until it has an active user and supporter base, it will be at risk of disappearing... it needs to move from demonstration into being useful and it needs to do it pretty quickly.

[Interview Participant: Consultant]

The website will need to grow, to continue to experiment, to involve more people and groups. If it becomes static it will simply be another archive. It has the capacity to be complex, flexible and multipurpose, to keep increasing its capacity for information and for conversations. [Survey Participant]

To this point in the report, a strong focus has been on examining, in detail, the issue of accessibility and usability of the HUL web portal as a means to engage people in Ballarat's Historic Urban Landscape. A number of important insights have been gained and key strengths of the web portal have been identified and discussed, particularly as they relate to design, accessibility, usability and content. Additionally, the capacity provided by the web portal to draw on a diverse range of data sets from a central point of access was consistently identified and highly valued;

pulling in data that has not been pulled together before is the massive strength obviously [Interview Participant: State and Local Government Cluster].

Research participants specifically cited, throughout the data collection process, the potential single point of access provides for better information and for planning.

In parallel to these positive initial indicators of Primary Impact, a range of questions have emerged around the capacity to translate the potential of this portal into a successful tool for community engagement, knowledge building and planning. In order to most effectively understand and address these questions, and to maximise the capacity for successful ongoing impact of the portal, collected data was dissected to identify what the specific issues/barriers were.

They were identified as:

- 1.** A need to increase the level of engagement across a broader range of end user groups.
- 2.** An existing content base within the web portal that was insufficient to meet the needs of all groups across the community, and consequently needed targeted expansion.
- 3.** A structure for effective forward strategic planning and management.

These areas will be examined in detail in Sections 4.2, 4.3 and 4.4 of this report, with the focus of the following section addressing findings and insights relating to engagement. Prior to moving into this, a summary of key findings relevant to this current section is provided.

4.1.5

SUMMARY OF FINDINGS FOR SECTION 4.1

Analysis of data relating to Usage and Quality provided a number of key insights that have been of value to build a clearer understanding of what works well in the HUL web portal, as well as areas that needs to be addressed as the project moves into Stage 2.

The key findings for this section of the report have been that:

- There has been a steady increase in usage levels of the HUL web portal since it was established in December 2014. A comparative analysis of the HUL web portal (as the tool for civic engagement) and Visualising Ballarat (as the tool for knowledge building and planning) shows that, while Visualising Ballarat had lower levels of usage in the early stages of establishment, usage of this component of the web portal has grown at a greater rate overall. Access rates for the HUL web portal and Visualising Ballarat have experienced upward usage trends since establishment.
- Usage has, in the main, been limited to end users based within the local area, with a very small percentage of visits to the site coming from national and international end users.
- The most accessed parts of the HUL web portal were those that contained imagery and mapping capacity (e.g. Visualising Ballarat and the Before and After photos). Participants consistently reinforced the extent to which the visual elements of the web portal engaged end users and signalled a potential to build insights and new discoveries that could be tailored to individual interests and needs. The possibilities that these features provide for knowledge building and planning, particularly as they relate to Visualising Ballarat, was a strong theme that emerged across both interview and survey data. The fact that this could occur through a single point of access, drawing on a range of different data sets simultaneously, was assessed as a major strength of the web portal and one of the elements most highly valued by end users.
- Frequency of access data shows clearly that, while there is enthusiasm for the HUL web portal and the potential that it provides for use in consultation, planning and research, it is not yet a technological innovation that is accessed on a repeat basis by the majority of participants. There was no indication that could be taken from the data, that it has, at this point of implementation, become integral to the community or to the workplace.
- The quality of the content of information provided through the HUL web portal was assessed as being good. While a very small number of research participants identified incorrect or incomplete information being a problem in relation to content, the main issues raised related to the need for additional content to be added to the site. This was consistently raised as a shortfall and an area needing to be addressed as a matter of urgency. It is acknowledged that significant additional content has been added to the HUL web portal since completion of this research study.
- The design features of HUL and Visualising Ballarat were consistently assessed as being of a good standard and were, in fact, identified as one of the strengths of the HUL web portal.
- There is a need for issues identified for action be included in strategic planning processes into the future to ensure they are addressed as a matter of priority and the capacity for impact of the web portal maximised.

4.2 Maximising engagement: Extending the reach of HUL

As identified in the previous section, the usage profile of those who were involved in data collection comprised a high proportion of professionals who had heard about the HUL web portal through their workplace or through their networks and affiliations. While involvement by these individuals and organisations is pivotal to the long term success of the HUL web portal, this profile, when combined with the feedback provided during data collection highlights two key facts:

- 1)** that the HUL portal and the HUL concept has had limited impact, to this point, across the broader community or with individuals not affiliated in some way with established interest groups; and,
- 2)** that despite this limited initial reach, community involvement has been consistently identified as a priority area for action. It is the factor flagged by research participants as being most likely to enable HUL and Visualising Ballarat in achieving the purpose for which they were established. As summarised clearly within feedback gathered during interview:

Really it is the community that has to decide what it looks like and what is included in it and also how they want it to develop... there is a strong sense of regional identity and is deeper than flying the flag. History is contained in the landscape, the buildings, the people and the patterns of living and (to capture this) community engagement must occur. If people don't understand why it is important then they won't engage. Buy-in must occur and this occurs when the community own and cares... connection needs to occur in a manner that engages different groups and they understand that it is a means to save the fabric of their community and the things that matter to them. [Interview Participant: Historian & Academic Cluster]

I can see Visualising Ballarat and HUL is about a collaborative community approach to building up content [Interview Participant: Community Organisation].

A consistent message to emerge from all data collection was the need to build a sense of ownership in the portal from across diverse communities, involving a broad range of expertise - Need to include the combination of what community think is valuable in an area along with those trained in the field, 'Specialists informed by broad opinion'[Interview Participant: Community Organisation].

The imperative to engage, build capacity and map out incentives for participation was viewed as paramount to the next phase of development. This perspective mirrors research literature in which the key message is that, for technological innovations to be successful, engagement with key stakeholders is critical (Cegara-Navarro et al., 2014; Davies et al., 2012; Garcia et al., 2014; Lin & Bertram, 2013). There is no doubt, given the insights gained through data analysis that, for technological innovation to occur through HUL one of the most important stakeholder groups is the community.

This assessment is made because consensus is evident across research participants and across data collection types. 'Community engagement' was the most consistent point of discussion and of written feedback. Linked to the assessed need for this to occur was feedback on the fact that the HUL web portal and Visualising Ballarat need to act as the conduit through which to bring people and information together in one place, to integrate the history of the city, to embed contemporary and meaningful aspects of the community and culture, to capture what individuals value and, importantly, to empower communities and organisations through collaboration and connection.

Communities themselves were assessed as the only stakeholders that have the capacity to meaningfully and accurately draw on local histories, define and share what they value and determine the intangibles that are pivotal in understanding and planning for inclusion of distinctiveness, identity and place. While this assessment aligns closely to principles that are overtly embedded within the concept of Historic Urban Landscapes, having their importance validated so strongly through empirical research is notable. It is particularly important in terms of impact evidence for this field of study given that the HUL recommendations are still in early stages of implementation globally and the evidence base aligning guiding principles with perceptions and views at the point of implementation of the initiative remain limited. Information that has historically been overlooked, discounted or lost in the planning and development process can be captured through citizen input once empowered. Participants to this research identified that community engagement was the key to unlocking that critical information.

The potential and promise of crowdsourcing as a mechanism to gain greater understandings of what people value and of what defines local culture was raised by a majority of research participants, in both the written survey responses and in interviews.

Crowdsourcing was assessed as an important way to:

- 1) gain insights into information that was often not readily available;
- 2) ensure that place based planning was reflective of what people value within their communities; and,
- 3) in and of itself, a mechanism for community engagement.

Crowdsourcing...I think there's some really interesting possibilities there both for communities to generate material and to sort of upload their stories. And awareness I suppose of different elements of community culture within the city. And to share understanding and I suppose stories about particular places or events or whatever. So I could see it becoming quite a market place for exchange of information and ideas, and people putting up things... just the fact that there was a mechanism for groups to get involved and operate in a cooperative fashion [Interview Participant: Museum & Gallery Cluster].

Research participants were particularly enthused about the capacity to plan for the future based on a greater understanding of what is valued by individuals and groups as these values are often unique, specific to location and related to what people consider the fabric of their community. How values can paint a picture of intangibles, and their importance in the cultural landscape is captured effectively in the following quote.

Well for me personally, I've lived in different areas of Ballarat and I can sort of see how the landscape is different in each area. So as a young kid I was in Wendouree near where Masters is now is and how that's changed and now it's quite industrial. Moved to Alfredton which is quite open space, curvy roads, no footpaths. But I like. I'm in sort of Mount Pleasant/Golden Point and I like it because there's the gravel shoulders, the blue stone gutters, heaps of trees

and for me personally that's how I sort of visualise the landscape that I sort of love in Ballarat. And I also live in a largish unit, I like that feeling of a lot of housing, smaller housing units but within a sort of older sort of heritage area. So that's just my personal reflection on how I like Ballarat's landscape, but to describe a, I guess that sort of describes a landscape, how I see landscapes being described, and people's values in where they are living [Interview Participant: State & Local Government Cluster].

This type of conceptualisation of landscape, and what is valued within it, reinforces the critical nature of successful civic engagement as the cornerstone to achieving the goals of the HUL web portal. The research process provided significant evidence that, without high levels of engagement, then the web portals would simply become a tool that might be used for information but would not develop to the level of interactivity needed to really enable the building of an understanding of local living landscape.

It's about enabling and encouraging organisations and volunteers to want to be involved, seeing the value to want to contribute, but that won't happen just by putting it out there. Needs to have cool stuff on it that people want to do and contribute to. Who ultimately will use this? People already engaged and active? Does this add anything to that? Hope it will connect others but unsure. Do people care? Are they busy? What is compelling them towards this? Are we creating a community or are we creating a tool? [Interview Participant: Historian & Academic Cluster].

The extent to which this message was repeated across the participant pool (through both the survey and the interview process) provides an important driver for development of HUL and Visualising Ballarat into the future. Based on these learnings, a foundational principle which must be included in the building a Vision for the future is a commitment to the ensuring the centrality of community involvement and ownership in any forward planning and strategy development. The benefits of a resource which enables individuals to contribute content and also access other resources were consistently discussed within the context of providing Ballarat with a positive digital space that has the potential to connect users through identity, belonging and civic pride.

4.2.1 SEEKING CONNECTION FOR HUL USING HUL

Another key message to emerge in the data collection process was the importance of ensuring that the establishment of the web portal was not the start and end of the engagement process. Related to the issues discussed previously on the importance of community engagement, the potential of using HUL proactively was also discussed by a number of participants. Having the resource in place, while being assessed as a very positive forward step in beginning to capture the intangibles that are a central part of the identity and values of community, the assessment was also made that existence of the web portal is not enough to ensure engagement;

getting people to know each other is important. You can have as many bells and whistles (as you want) but you need the human connections behind it.

4.2.1 SEEKING CONNECTION FOR HUL USING HUL (CONTINUED)

The option was raised by a number of participants from local and state government, as well as by members of the HUL implementation team, that the portal could be used as a consultation tool. While the web portal, for those who access it directly, can engage and provide a means to share aspects of an individual's life and community, this connection is dependent on the portal being accessed and on people knowing it is there and what it is for. This was assessed as being an issue and creating a barrier for engagement.

A number of participants suggested that the use of the HUL portal itself as a medium through which to achieve engagement was an important strategy. This would enable groups and communities to learn about the tool, and what it can do, while being given the opportunity to review content, add new knowledge, learn about concepts of place-based planning and be supported and encouraged to add their knowledge to enrich and enhance the portal – in essence using the tool to highlight how important community input is by adding content and knowledge at the same time as sharing it. These ideas are captured in the following extracts of interview:

The photo slides of the then and the now are very good. That's also the kind of resource I would like to use in consultation with people. Sometimes when you are looking forward it is hard for people to grapple with what it might be, so it is easier to show them what back-casting is. So, if we look back we can show people in that time period there was that much change. So it helps people to get their head around things about how much change there may or may not be going forward. It helps people set their mind at that point. I find that very useful. There are things on there that give you ideas about how to consult and it makes you think about different ways to talk to people [Interview Participant: State & Local Government Cluster]

There is a lot of work about to go on in terms of consulting with communities. The HUL web portal could be an important part of that process. It provides a way to sit down and work with people to capture what is in place, what matters and what they would like to see included and treasured as vital to their community – what they value. This is a very hard thing to negotiate and HUL provides a way to do this... then they would also be engaged in using and contributing to the site into the longer term. We have to talk, talk, talk and the portal can be part of that [Interview Participant: State & Local Government Cluster]

The portal works on various levels - a great fireside chat bringing families together, gives a different perspective on change to locals and residents, and very useful for planning [Interview Participant: Consultant]

If the portal is able to be used to start a conversation about planning and knowledge sharing capabilities, particularly as they relate to Visualising Ballarat, then this provides a gateway to moving into community education and support. Once this has occurred, individuals, groups and communities can be supported to access and upload data of relevance to their community (as well as to them as individuals) ideas, values, histories, sounds and landscapes.

In order for this approach to be effective, some significant foundational work will need to be undertaken to market the web portal. A number of suggestions for beginning the process of promotion and marketing were made during the data collection process.

Suggestions made included:

- Providing written information in articles/information about the HUL web portal in publications such as My Ballarat, in monthly newsletter or on community notice boards.
- Undertaking brief initial presentations at staff meetings or at community association meetings (with more follow up later).
- Presenting information within secondary schools and encouraging young people to use the HUL web portal for school projects in which they engage parents.
- Presenting at meetings within the University to introduce the notion of the HUL web portal and to educate students across a range of discipline areas about the portal.
- Using newspapers and other websites as a means to share information about the web portal.

Initial marketing and promotion is only a very small part of the process of community education. Research participants identified that there needed to be a range of implementation support strategies put in place to ensure that the HUL web portal was able to achieve optimum engagement potential.

The issue of community education and engagement was viewed as a balancing act – without adequate steps being put in place to support individuals, groups and communities to understand the content and the capabilities of the web portal, the transition of the HUL web portal from an interesting, visually impressive and quite entertaining demonstration model to an interactive community driven planning portal will be compromised. The balance needs to be tipped through using education, skill development, and through encouraging input. It is at that point that study participants saw that community members (from across the spectrum of industry, community, academia or consultants) would begin to act as champions for the HUL web portal and what it can achieve in capturing and sharing the intangibles of values and identity. This highlights why crowdsourcing, data mining and open access data are critical in building a platform for collaboration.



Thinking about who the audience is and mapping them out to consider how they access/use the site, right through from Joe Blow in Miners Rest to a heritage academic. After clearly defining the purpose of the portal (and how it works) people can be given something to champion and potentially become advocates and mentors [Interview Participant: Historian & Academic Cluster].

4.2.1 SEEKING CONNECTION FOR HUL USING HUL (CONTINUED)

A range of suggestions were made on how best to engage communities in use of the HUL web portal.

These included:

- Using the City of Ballarat community planning process (Local Area Planning) to introduce the HUL web portal and embed it as part of community consultation. Research participants, particularly those representing local government, view the portal as a means of initiating conversations about what defines a particular community. It provides one mechanism through which to invite input to build better understandings of places, spaces, sights and sounds of relevance to that community. Once people are skilled and self-directed in the use of the portal, then they are able to remain involved independently, and in an ongoing way. An example of how this message was provided to the research team is:

I am interested in how it might work with Learmonth. If we could sit down with people and show them and give them examples and show them... then that sort of thing spreads like wildfire and people spread the word to other people and then they pick it up and so on and so forth. That is my priority at the moment – making connections and understanding how to work together best. The people are just great and anything that can help us... If HUL can do that then that would be so good... and if they can keep adding stuff then that is even better [Interview Participant: State & Local Government Cluster].

- Mobilising groups to work with communities to build understanding of the nature and role of the web portal.

...need to mobilise syndicates and groups for connection because people are unsure what HUL is and how it works and they need some clarity about how the web portal and the HUL idea work together to achieve the needed outcomes [Interview Participant: Historian & Academic Cluster].

The potential to undertake this strategy successfully is dependent on building of stronger partnerships, alliances and collaborations. Partnerships that involve a mixture of government, non- government, industry and community based membership are particularly valuable. They provide a mechanism through which to draw on the strength of formal professional frameworks, resources and policy, as well as the benefits of the strong community and volunteer base that are part of the community based sector. The capacity to combine the skills, expertise and philosophy of structured organisations and volunteer based groups has consistently been identified as invaluable in the development of strategies for working with communities (Austin & Seitanidi, 2012; Goddard, 2008; Morse, 2010).

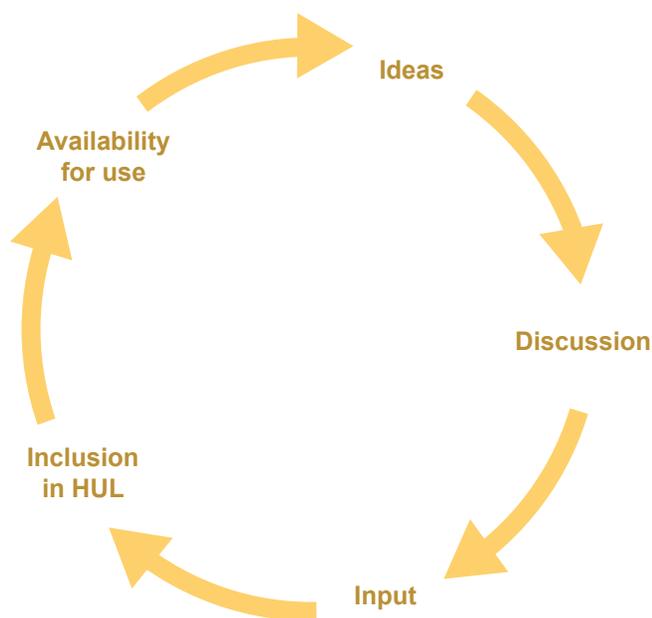
Partnerships expand the potential to resource the community education, training and engagement process. The ability to work with a wide range of groups provides opportunities to access a wider range of options for supporting group mobilisation.

These might include tapping into resources offered by:

- Community development based placement students (FedUni and ACU Ballarat).
- History and/or Information Technology students.
- Local community networks.
- Historical Associations wanting to work with their local area.
- Post graduate research students with relevant research interests.

Partnerships and alliances also increase the number of groups and individuals who will champion HUL and Visualising Ballarat, and the role the portals can play in identifying and understanding the complex elements that need to be identified to capture and map the historic urban landscape and the fundamental and diverse places and spaces of community.

A further benefit of having a partnership based approach is that, at the pre consultation level, there is the capacity for informed input from a wide range of members to the partnership. This means that what is taken to the community for discussion is already informed by a range of opinions and perspectives and that an initial, informed but flexible blueprint for discussion can be built upon and enhanced once input from communities is incorporated.



While some preparatory work is done, the multidisciplinary nature of groups means that there is greater flexibility to work closely with community to discuss and better understand the intangible values and identity of that community. This can then be translated, at the same point in time, into the portal. The process then adopts a 360° transition from ideas to discussion to input to incorporation into the portal to availability for use. This approach supports skills development and participation in an inclusive and informed way.

Don't reinvent the wheel, draw on existing networks of trust and depth and offer them a place to gather and make it quite plain that what you're looking for is participation, not consultation [Interview Participant: Historian & Academic Cluster].

4.2.1 SEEKING CONNECTION FOR HUL USING HUL (CONTINUED)

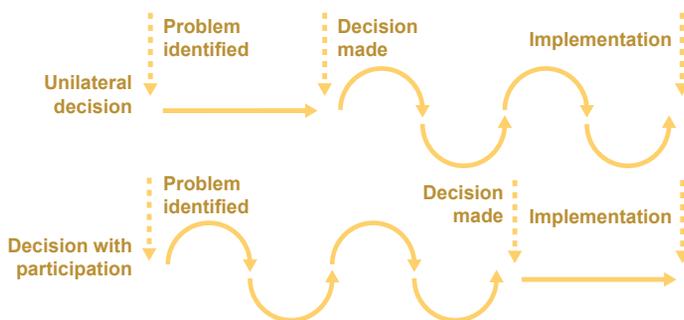
The feedback from this study was very definitive around the need to build understanding of the web portal, and of the HUL concept, at the community level. While the use of groups to work with communities is initially labour intensive, the benefits of this type of engagement maximises the capacity for a greater range of perspectives to be included in any planning and concept development platform. The partnership approach allows for a diverse group of people with a range of skillsets to address different areas of interest, concern and maximise the potential for inclusion. The multidisciplinary skill base able to be accessed through partnerships enhances the ability to capture the intangibles as there is involvement across a range of areas – from community to science to social science to geology to local government to environmental science. This diversity supports the capture of the broad array of issues that make up both the tangibles and the intangibles of a group, and of a culture.

This is an approach that has long been applied successfully in the field of community development and community capacity building, with evidence on public participation suggesting that decision making and implementation timelines can be shortened through participatory processes over unilateral ones (Turner & Tomer, 2013). The model provided by Turner and Tomer, and drawn from the work of Crieghton (2005:18), illustrates the comparison of time between issue resolution involving unilateral decision making and that involving public participation.

Linked to processes for maximising participation, a number of participants to this research study emphasised the need for a multidisciplinary approach in the next stage of project implementation.

...we need to shift the disciplinary focus and go out into the community to work with the community to look at things in a more holistic way so that it is an integrated Local Area Process [Interview Participant: State & Local Government Cluster]

Capturing data through community is critical and the use of multidisciplinary teams has been used elsewhere... the teams pull together what is needed and then work with community to achieve consensus and build this into the mapping tool [Interview Participant: State & Local Government Cluster]



(Turner & Tomer, 2013)

The final, not insignificant benefit of strengthening partnerships relates to increased potential for funding. The establishment of alliances increases access to a larger pool of funding options as the increased diversity of involvement allows for opportunities across different sectors and government levels to be more readily explored. Additionally, funding applications are strengthened by:

1. the inclusion of a greater range of partners;
2. being able to identify, document and show access capacity to organisational and community skill bases to support successful completion of funded projects;
3. the overt existence of a strong support base for whatever initiative is being applied for; and
4. the enhanced capacity to supplement applications with match in-kind (and potentially some small financial) support.

There may be opportunities for utilising social media much more extensively as a community engagement mechanism. Research literature has consistently highlighted the success of social media as a mechanism to include young people in knowledge sharing and in civic engagement (Martin et al., 2015; Sáez, Haro de Rosario & Caba Pérez, 2015) although it is a tool that could be used effectively across a range of groups and of ages.

Research participants from across both interview and survey raised the potential of social media as a mechanism to increase civic engagement with the HUL web portal.

Examples of the types of feedback received included:

The popularity of photography and social media like Instagram with incentives to contribute with showcasing, prizes... needs to be interactive, they love their phones, social media - could you capture and document through their content using that medium, look at what is happening concurrently and how to use the information (inc. linking them into tags like The Ballarat Life)... Instagram - love taking photos with their phones and uploading, is that a vehicle for something? They also love Twitter, can really see the benefits - Instagram, people love photographs [Interview Participant: Community Organisation].

If you want to play in that space then you need to do things... you need to plotted (sic) against demographics. We broke down events by age group and interests. We had a (event specified)... weekend for families and younger children, we had (event specified) for the under 18's. We did a Twitter competition for late teens to late 20s age group and so on. We did a (event specified) so there were a lot of older women who were connected to service groups and a number of the groups wouldn't come to (name of organisation). So these women came and had a great time and went back and said (name of organisation)'s fabulous, you need to go. So as an engagement strategy it worked really well and last financial year we had 18 million eyeballs when you add up the media reach, facebook, twitter, our website and our YouTube channel [Interview Participant: Museums & Gallery Cluster].

Social media options were identified as being of particular benefit in engaging groups that have traditionally been excluded from the process of civic engagement. This issue, and the feedback provided by research participants relating to this, is provided in the following subsection.

In summary, this feedback relating to community engagement has provided a very brief overview of the ideas put forward by research participants on strategies likely to effectively engage communities in the use of the HUL portal. Regardless of the strategy suggested by those involved in the research, the consistent message across the data collection pool was that a formal exploration of best options for engaging communities in the use of the HUL portal needs to be a priority in the next stage of development.

It is an issue that has been identified for inclusion in the Action Plan provided in Section 4.4 of this report.

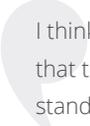
4.2.2 DISADVANTAGE AND INCLUSION: THE ROLE OF HUL

The discussion on the use of social media as a community engagement strategy was closely related to another key theme to emerge from analysis of collected data. This was the importance of engaging groups who have historically remained outside of the planning and decision making process. Research literature has consistently identified the importance of working to ensure inclusion for groups traditionally excluded from planning and decision making (Jakhanwal, 2014; Mahjabeen, Shirestha & Dee, 2003; Storey, Muhidin & Westoby, 2010) and feedback gathered during this research study has reflected the same kinds of issues – i.e. how to ensure that involvement in the HUL process includes the broad spectrum of individuals who make up communities – youth, those with an interest in place and space, aboriginal groups, people from culturally and linguistically diverse background, those who have become disengaged and feel excluded from involvement for a range of reasons. Information technology has been identified as a mechanism to overcome barriers to inclusion, providing a means through which to empower groups to have input from remote locations, from safe environments and from within their own locations and places of cultural, historic and personal relevance.

The capacity that the HUL web portal provides for inclusion was assessed consistently by research participants as very powerful and a major advantage of the initiative. Participants assessed that the advantage of the HUL web portal over traditional approaches to community consultation was that the power (and the choice) for accessing information, and for providing input into knowledge building, rests with individuals. While strategies to support individuals and groups to become involved in community and local area planning are not new, the nature of HUL facilitates inclusion much more effectively for individuals less confident in being involved in open forums, community meetings and submission writing. It also supports people who have insights that they have not previously shared to better understand that their values, insights and stories, through crowdsourcing, are able to become part of the building of understanding of what is valued in their community.

These defining aspects of the HUL web portal were assessed as creating a greater ability for involvement across the full spectrum of individuals and groups that comprise a

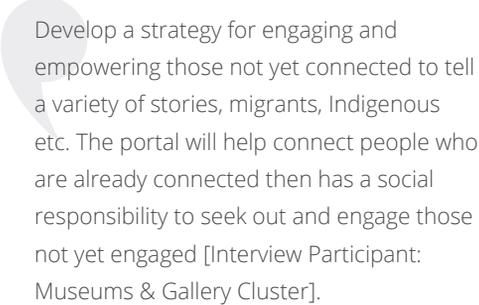
community, with the views expressed by research participants on this issue captured in statements such as:



I think it could be empowering for people that traditionally feel isolated by the standard engagement processes, I suppose. So, if we show people how to use it, or even just go on and look at things two things will happen: it will make people say “I’ve got a story to tell”, or “I could share some information... I didn’t think what I had to share was valuable”... It’s got lots of potential like that [Interview Participant: Local Government]



Could there be a specific project reaching out to engage broader groups? Could you enable community leaders with the skills to share with their own communities? People like the city’s Multicultural Ambassadors and the idea of drawing in new residents to be part of a two-way learning process... enabling newly arrived community members to learn about Ballarat’s history, but not just one way, a reciprocal learning process of what they can offer to heritage and planners too through how they interact with the city [Interview Participant: Community Organisation].



Develop a strategy for engaging and empowering those not yet connected to tell a variety of stories, migrants, Indigenous etc. The portal will help connect people who are already connected then has a social responsibility to seek out and engage those not yet engaged [Interview Participant: Museums & Gallery Cluster].

This current research has provided valuable insights into the appropriateness of the HUL web portal as a tool for civic engagement across the broadest range of diverse groups. It has also enabled the building of a good pool of data around the importance of promotion of the portal, and of putting in place strategies for community education and support. This knowledge, and the response strategies that will arise from it, is likely to maximise the reach of the innovation across community groups and organisations and support them in becoming involved with the initiative.

This sub section of the report has examined and presented research findings relating to community engagement. A brief summary of key findings is provided below, while Section 4.3 will examine the issue of future planning direction for the HUL web portal as it moves into the next phase of development and implementation.

4.2.3 SUMMARY OF FINDINGS FOR SECTION 4.2

The key findings in this section, as drawn from the data collection and analysis process, have been that:

- There was consensus across the research participant pool that the HUL web portal has significant potential as a unique and important tool for community engagement, and for building connection and collaboration. Consequent to this assessment, it was determined that a foundational principle, when developing forward planning ideas and a Vision for the resource, must be an overt recognition of the centrality of the civic engagement in conceptualisation of the web portal.
- The portal, while having capacity for engagement does not, in and of itself, achieve civic engagement. There needs to be a clear commitment in place to working closely with groups and communities to maximise their understanding of the portal, to explain its purpose, and to build understanding of the role groups and individuals can play in knowledge and planning. The portal itself can be used as a conduit for consultation and a mechanism to draw out ideas, encourage input, share information and engage communities.
- The HUL web portal provides a unique resource to engage groups that have traditionally been excluded from the process of knowledge building and planning. The capacity for individuals and groups to become active participants outside traditional approaches to community engagement was assessed as an important and unique attribute of the HUL web portal.
- The success of the HUL web portal is dependent on the building of a range of partnerships and alliances that will support and facilitate the process of community education and skill building. This type of approach is required to discuss and share information across communities around what HUL is all about and how it works. It is also a mechanism to draw out, through discussion, what is considered to be central to the values and identity of particular groups and individuals. Partnerships and alliances are also valuable as a means through which to:
 - Maximise the reach of the portal.
 - Provide a multi-disciplinary perspective that, in itself, has a greater likelihood of effectively engaging participants. This is because the diverse skill set and perspectives provided by the multi-disciplinary team will facilitate the establishment of approaches that recognise, are more responsive to, and subsequently address, the complex and diverse array of needs and views found in communities and in local and regional cultures.
 - Increase the number of groups and individuals likely to champion the value and attributes of the portal.
 - Create a mixture of formal (organisational) and informal (volunteer based) approaches in planning and development.
 - Increase the ability to better understand needs across a broad range of stakeholders.
 - Enhance the capacity for resourcing and funding through a range of opportunities linked to large resource bases and enhanced eligibility to access funding options.

4.3 Enhanced opportunity for success through future planning

4.3.1 AN ACADEMIC EXERCISE OR SOMETHING WITH A CLEAR PURPOSE?

The data collection process to this point has provided a number of distinct and quite valuable insights into the HUL web portal and into Visualising Ballarat. Data analysis has allowed for the development of greater clarity on usage rates, content and design quality, potential barriers (and valuable response strategies) to uptake and the value attributed to HUL and Visualising Ballarat as a mechanism to bring to life the notion of distinctiveness, identity and place.

While there was an overwhelmingly positive response to the establishment of the web portal, and the potential that it provides for placed based planning and understanding, for community connection and for empowerment, a majority of research participants, in particular those involved in the interview process, were not able, in a consistent manner, to articulate a purpose for the HUL web portal. While those closely involved in implementation and development of the resource had a greater sense of clarity about the role and purpose of the site, amongst end users there was an enormous diversity in what they categorised as the role of the web portal and the purpose for which it was established.

The following montage of extracts of interview, while lengthy, provide a clear picture of the breadth of areas that participants included in their discussion of the HUL web portal. It also conveys the extent to which, while embracing the HUL portal with enthusiasm, participants remain unclear about just what the web portal is able to do and the purpose for which an end user might access the information options available through the portal.



But also I'm a home owner in Ballarat so being about to get all that information about my house and what regulatory controls there are on the property in one place. Being able to just type in an address and see a heritage overlay for my property, what are the controls, and then also being able to find links through to other datasets that might help me build up a story of the history of my house and who lived in it. That's fantastic. And obviously for local historians it's useful. But I think also for, if you are looking at it from a university perspective, for research there's sociological research you could do, environmental, so not just the, necessarily the history side of things - there's a lot... where's my nearest doctors surgery I don't know if that's how far they want to take it. I don't know if this is even relevant, but I find it confusing as a resident, if say there's a planning, someone has a planning permit that's open for comments, ... I, I don't read the courier so the only way I know about it is if I happen to walk past the property and see the sign out the front. And I wonder if Visualising Ballarat could be, not maybe not just for that purpose but a way to inform the community about opportunities to have a say about their own, the places that they live in... And that could apply to other things that are happening like road works or if the CoB wants community input on discussion papers or other things that are happening, like you know the Sale Yards, or Civic Hall or whatever it is, any kind of issue. [Interview Participant: State & Local Government Cluster]

Because it's bringing all those different elements together in one place and the other value is its making history, from my perspective history, it's not in the past it's actually still happening and it's connected to the present. Which I think is important because it helps people value it more. If it provides, if it's going to have that portal, if the HUL side itself is going to have that, be a place where we can start to have links through to like heritage trails or peoples oral histories and memories, and a place to capture stories then I think that's good because there's nowhere online in Ballarat that does that... If you go to Visit Ballarat website, there's, they don't tell you anywhere on there about any of the tours or walking trails or other cultural experiences that people can have in the city. So I don't know whether that's the role of HUL to do that but perhaps it could be something that could work with Ballarat Regional Tourism or Visit Ballarat to try and fill that gap.

[Interview Participant: State & Local Government Cluster]

Could include aerial photographs and show the evolving Ballarat footprint, adds a lot to explore for visitors, and could be in tourist brochures encouraging people to visit the historic city, changes both good and bad, stark examples of change educational as well for schools. [Interview Participant: Consultant]



4.3.1 AN ACADEMIC EXERCISE OR SOMETHING WITH A CLEAR PURPOSE? (CONTINUED)

Identification of this issue is not aimed at placing limitations on the number of data sets that are included, or suggesting that the portal is not able to achieve all of the points identified within the montage. In fact, as a technology with the capacity to access to multiple data sets at any given time, this broad range of potential uses for the site is to be expected (and embraced). However, particularly in the early stages of establishment, and within the context of promotion, marketing and championing of the portal, a lack of clarity of purpose can be problematic.

The exploration of the extent to which this might impact on the consolidation and expansion of the initiative into Stage 2 was made using a content analysis across the interview and survey data sets. The review of the conceptualisation of 'purpose', within the context of being able to provide a clear definition for the portal confirmed a lack of clarity among participant end users.

The extent to which people were unclear about what the HUL web portal sought to do is captured in participant statements such as:

'Is HUL an academic exercise or something with a clear purpose?' and 'you know for me to have to upload sort of material into a data machine for what purpose?... just so I can have a pretty map?' and 'needs to be some clarity around how HUL (the UNESCO idea) and HUL (the web portal) work together to achieve the needed outcome.'

[Interview Participants: Historian and Academic Cluster].

Further this lack of clarity was potentially problematic in terms of engagement as individuals, in not being able to define a clear purpose, are at risk of disconnecting as they seek to define how it was applicable to them, and to their work or community. While this was not a dominant theme, and the overwhelming message was one of high levels of excitement about the innovation, there was also a subtext within the data and a level of confusion in terms of questions such as:

- What is the purpose of HUL?
- What is the difference between HUL and Visualising Ballarat?
- Who is the target audience for the web portal?
- What is the main focus of HUL? Is it place based planning? research? A platform for collaboration?

This sense of questioning purpose is captured in the following extract of interview:

Who ultimately will use this? People already engaged and active? Does this add anything to that? Hope it will connect others but unsure. Do people care? Are they busy? What is compelling them towards this? To come and read about HUL and UNESCO maybe not so much but as a portal that showcases the range of interesting projects that are happening and how people can get involved... this is one of the really key things about the HUL concept - Huge engagement and indicator of community values, a key theme of HUL. [Interview Participant: Historian & Academic Cluster]

It needs to be stated that there is no doubt that there is significant documentation already available in relation to the recommendations established by UNESCO about HUL and the purpose it has for supporting the identification and preservation of place and identity. There is also documentation and clarity available through an examination of the implementation framework for the HUL web portal and Visualising Ballarat, as developed by the City of Ballarat.

Where there is a lack of clarity relates to the issue of the specific purpose of the HUL web portal, as a component within the larger HUL movement and implementation agenda.

This was identified as an issue that needs to be addressed to maximise uptake and engagement with the resource into the longer term.

So I think you really need to work out who is this (the HUL) for, and I get that you have a whole academic thing which has its own rigours, and all that, but then if you want people to play in this space what are you doing ...obviously you are doing a Twitter feed and a Facebook page and stuff – do you think you will drive that stuff through there and not get them to come to the web site? You need to think through those issues [Interview Participants: Museums & Gallery Cluster].

These findings flag that, as part of the strategic planning and forward management process for the web portal, it is necessary to develop a clear purpose that is agreed upon by all parties to Stage 2 implementation. This is particularly important if the next stage of implementation involves an expansion of project partners so that questions of purpose, audience, aim, scope and longer term direction are addressed. The development of a consensus around purpose that can be documented as part of strategic management forward planning is an important developmental step for the HUL web portal into the longer term.

Linked to the issue of purpose, two other strategic management issues to emerge were:

- 1)** the need for a clearer articulation of differences between HUL and Visualising Ballarat; and,
- 2)** the naming of the portal as 'Historic Urban Landscape'.

4.3.2 HUL: WHAT IS IN A NAME?

The implementation of the Historic Urban Landscape process in Ballarat has been managed with a commitment to integration with local government planning, ongoing community consultation and adoption of tools and strategies most likely to ensure successful implementation. The HUL web portal has been an integral part of this process; a mechanism to engage community and capture aspects of the cultural landscape that shape and define the city.

Visualising Ballarat, which can be accessed directly (with current data showing that 40% of users have accessed it directly) or via the HUL portal (with 60% of users having accessed it through this mechanism) provides a central access point for a range of data sets. It is a means to map information that can inform community and research and provide insights into the impact of a range of factors across locations. Visualising Ballarat draws in the array of information that is integral to the Historic Urban Landscape. This includes data on topology, hydrology, lakes, gardens, visual relationships, social and cultural practice, diversity and identity. The complexity and range of data sets that need to be included to capture the factors that comprises the notion of distinctiveness, identity and place within the urban landscape is one of the reasons that it is so critical to engage the community. They are the knowledge holders on what needs to be drawn into any mapping process specific to their location in order for a truly representative picture to be captured and planned around. Visualising Ballarat provides the means to access these range of data bases, once identified, through a single point.

Consequently, in the truest sense, Visualising Ballarat is the tool through which to draw on the relevant data with which to undertake cultural mapping and truly represent the Historic Urban Landscape.

Within this context, access to Visualising Ballarat within the HUL web portal is appropriate, as is shown in Figure 12.

Figure 12: HUL site access profile



The issue however is more much more complex than whether Visualising Ballarat supports implementation of the HUL process, particularly from a strategic planning perspective.

The relationship between HUL and Visualising Ballarat was not clearly understood by research participants. The vast majority of those involved in the interview process were not able to articulate the relationship and, while they understood the mapping potential of Visualising Ballarat, and were excited by it, they remained confused about the objectives of HUL, as a collaborative resource and Visualising Ballarat as a mapping tool. Conceptually a significant number of the participants could not confidently discuss how Visualising Ballarat provided the mechanism through which the principles of HUL could be achieved. This lack of clarity was tracked consistently throughout collected data.

A bit clunky as it is now. It's a great resource but how they link is a bit confusing at the moment...Link between HUL and VB needs to be thought through more - How do all the different objectives fit together? Maybe they are completely separate things, not sure... VB seems to sit on its own as a product at the moment, what's the HUL website doing? There's still a fair bit of work to do for the user to connect... [Interview Participant: Historian & Academic Cluster]

As an extension of this same issue (variable clarity amongst end users around the full scope of meaning of Historic Urban Landscape), the nomenclature of the web portal was raised as being problematic by twenty five percent of those involved in the interview process.

The HUL acronym sounds terrible from a marketing point of view. The acronym is horrible. If you try to do the Gen Y think I don't think the Historic Urban Landscapes/ UNESCO project has a ring to it. It's really: who are you trying to bring to it and how are you trying to engage? [Interview Participant: Museums & Gallery Cluster]

While some conceptualisations were much clearer than others,

HUL is about that question of how we grow the city in the next 15 years, and maintain the character of Ballarat, so it has its own selective purpose. Visualising Ballarat will be a bin of data with several lenses that the information can be viewed through to give you broad perspectives [Interview Participant: Historian & Academic Cluster]

I find the name something really off putting and it has meant that I have been reluctant to use it. When I have used it the content is amazing and so good for my work with community but it does put you off and if it put me off then I am sure that it will not work well to get the community on side [Interview Participant: State & Local Government Cluster].

The data overall presents few examples of participant capacity to articulate the links between the role and objectives of each of the resources, and the pivotal relationship that one has with the other. This issue is likely to be unpacked and explored in detail as part of the process of establishing a defined purpose specific to the HUL web portal, as discussed in the previous sub section of this report.

The issue of name is a complex one. It has been acknowledged in the literature that it can be difficult to inspire communities about HUL (Buckely et al., 2014) and the name itself gives rise to traditional notions of history and landscape. Visualising Ballarat, through including mapping and knowledge sharing capacity across a broad range of diverse (and increasing) contexts, allows end users to redefine and categorise the full gambit of what comprises the HUL. This potential is acknowledged but, at this point, needs further development and was not understood sufficiently by many end users. For those who raised the issue, the term 'HUL' was identified as a potential barrier to inclusion across diverse groups and communities.

4.3.2 HUL: WHAT IS IN A NAME? (CONTINUED)

It must be acknowledged that there were research participants who, in understanding the scope and complexity of HUL, argued that the issue was not about the terminology as such but rather about understanding and, once this had been explained through the process of community education, the name of the web portal would no longer be an issue.

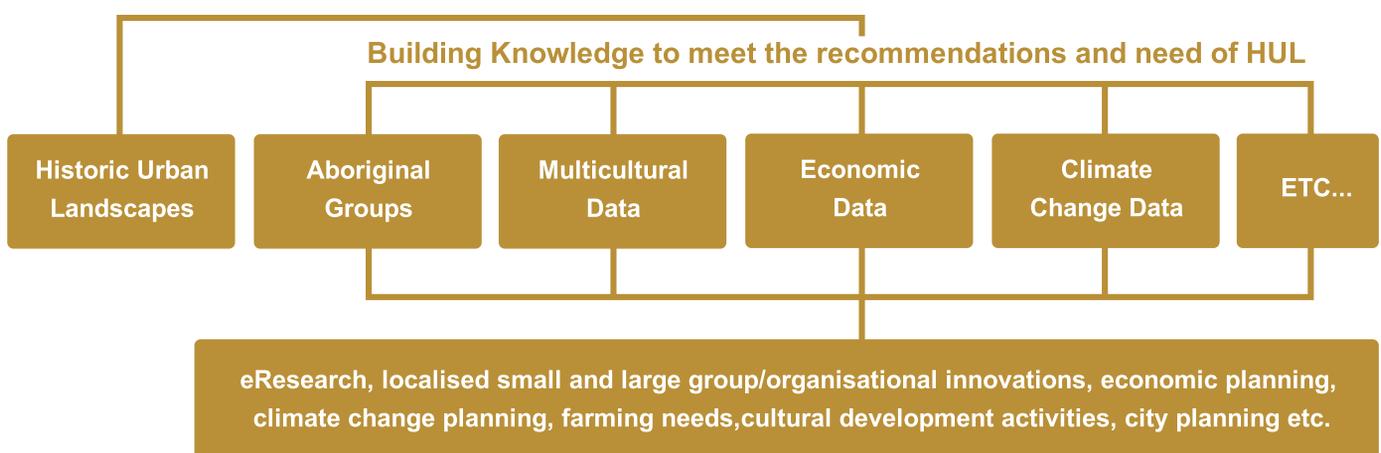
Getting the community on side and enthusing them, and demystifying the term 'historic urban landscape' [Interview Participant: Historian & Academic Cluster]

The extent to which this is a correct assessment can only be determined once the process of community education has been undertaken.

This discussion of terminology and of conceptual understandings does highlight that the current structure of the HUL web portal needs to be reviewed to maximise capacity for inclusion.

As has been explored and discussed to this point of the report, the HUL portal provides a valuable and valued point of access to a range of cultural, place, identity, values and historic data. Visualising Ballarat provides a means through which to draw on complex and diverse multi-disciplinary data which, in its access and retrieval, facilitates the attainment of many of the goals set by the UNESCO recommendations for HUL. Beyond this however, Visualising Ballarat can and should be seen as a resource for a broad range of stakeholders – some of whom seek to shape planning and build knowledge for HUL and others who seek access to data sets within the portal for other reasons. The ways in which a range of data sets can be used for meeting HUL recommendations but also for meeting the diverse range of other research, organisational or community needs discussed during data collection is depicted diagrammatically in Figure 13.

Figure 13:
The duality of data usage and Visualising Ballarat



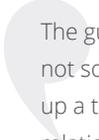
As can be seen in Figure 13, potential development options are broad ranging and include, but are not limited to, 3 and 4D visualisation drawing from a range of free access data bases, exploring cultural issues for Aboriginal and/or multicultural groups, mapping economic values, tracking climate change impacts, population growth and urban conservation (CeRDI, 2014). Importantly these are all UNESCO's HUL recommendation requirements which allows for significant synergy in development into the future.

The expansion of data sets, while strongly supported, within the collected data, as a needed development into the future, cannot occur without shifts in the nature of the HUL/Visualising Ballarat portal into the future. While currently comprising two portals/gateways (HUL and Visualising Ballarat), future expansion towards new development themes or community interests and the inclusion of additional data sets will inevitably lead to the establishment of a range of entry points or gateways.

This approach will retain the HUL web portal as the mechanism for civic engagement, while maximising the data sets that can be drawn on to enable the knowledge building, research and planning that is necessary for the process of Historic Urban Landscape implementation. Adopting this approach will maximise capacity for successful long term outcomes (supporting broader engagement and capturing a range of data sets – from geomorphology to place, values and diversity) and maximise expansion and development on a range of parallel and complementary initiatives. It will have the added advantage of creating research ready data sets specific to community mapping. This is an area that has had limited research to date and which was identified by research participants as critical to the long term success of HUL at a national and international level. The capacity to provide new evidence bases on this initiative will strengthen the case for adoption of the HUL approach at the state and national level.

While these changes have been called for, and are a necessary part of forward development, when the issue of resourcing and management of the portal is included in this review, it becomes clear that structural changes into the longer term are required to optimise the capacity to meet both the HUL recommendation and the longer term vision for Visualising Ballarat (CeRDI, 2014).

The data collection process has highlighted a range of areas for inclusion (and these are discussed in the following sub section of this report) as part of capturing the wide array of factors that need to be available when building an understanding of Ballarat. The addition of new data sets correspondingly increases the complexity of what needs to be managed. Issues arise in terms of the number of partners that need to be involved in the management of the portal, data access agreements as well as data ownership. Financing of an expanding and increasingly complex initiative is also an issue and one that needs to be addressed through the involvement of a range of partners (for funding opportunities and financing) and through inclusion of a range of perspectives (to optimise what will be included and how it will be best managed). The expansion of partners to the initiative is also likely to enhance the level of buy-in as extended involvement brings with it a corresponding sense of the inclusiveness of the initiative across domains and partnerships:



The guiding principal was always that it's not solely a council branded thing setting up a traditional citizen and government relationship, us vs them. The HUL concept is very much about being community driven and not owned by council [Interview Participant Historian & Academic Cluster].

Based on findings to this point there will be need to be a modification of the current structure to best accommodate future requirements while supporting and facilitating a multi partnership approach. This will be discussed in greater detail in Section 4.4 of this report.

Before moving onto an examination of structure, the final issue raised by participants in relation to building capacity and responsiveness of the initiative was what needed to be included within the web portal to maximise the capture of the tangibles and the intangibles that comprise the Historic Urban Landscape.

4.3.3 MAPPING THE TANGIBLES AND CAPTURING THE INTANGIBLES

The identification of tangibles for inclusion within the portal was not raised by research participants as being significantly problematic. There were a range of ideas put forward around what might potentially be included within the portal, including existing collections and data sets already contained within a range of organisations and agencies. Research participants consistently gave commitment to making available a range of existing data sets and indicated very clearly their willingness for ongoing involvement in supporting future developments.

An overview of the suggestions made around potential data for inclusion as part of development and expansion of the portal is provided in Appendix F. A list of organisations who have flagged a willingness to become project partners in development into the future are provided in Appendix G.

One of the issues that research participants did raise was how difficult it was to map the intangibles that are an important and intrinsic part of any Historic Urban Landscape. The complexity of this issue is captured in participant feedback.

The question we keep asking with HUL is how do we map the intangibles? What do people like about Ballarat - the forested ridges and Lydiard St, that's easy, but they also like that smell you get when you walk down next to The George or the feeling you get inside the Karova Lounge... I think that's a really rich research area to look at perspectives [Interview Participant: Historian & Academic Cluster]

Visualising is a trend in data but visualising is only one sense and way of experiencing a place - could you have different layers of different senses like hearing, train whistle, traffic etc? A very interesting project you could do - useful from a research perspective too, how do the sounds of the city change over time, like do we not use the Sturt St gardens so much anymore because of heavy car traffic? [Interview Participant: Historian & Academic Cluster].

Despite being raised as an issue and one requiring resolution, limited definitive feedback was provided in the data collection process around this issue. A range of suggestions were made and, at the conclusion of data collection and analysis, it became clear that this is an issue that will need to be discussed and reviewed across potential partners to the web portal as part of strategic and content development processes in Stage 2 implementation.

A number of key messages did emerge from data collection relating to what participants believed needed to be included in portal development. These could be used as the foundation for workshops and for brainstorming of processes for capturing intangibles, and the type of data sets most likely to be successful in supporting the attainment of this objective.

The key messages taken from the data were that:

- Content needs to represent as broad a diversity as possible. This means ensuring involvement of groups that have not traditionally been part of planning and knowledge building. These include Aboriginal groups, those who are from culturally and linguistically diverse backgrounds, including new and refugee arrivals, youth and older people. Suggested areas for inclusion were:
 - Sensitivity mapping
 - Aboriginal history
 - Aboriginal place and street names
 - Shifts in cultural mixes and imagery over time
 - The five things project – recordings of older migrant stories and their journeys
 - Images and sounds of multicultural events (Chai Khana, Catering events, Harmony Festival, Refugee Week, young multicultural youth partaking in events).
 - Youth events and imagery and activities of relevance to young people.

- Intangibles are a critical and, to this point, underrepresented aspect of web portal development. Options relating to these need to be developed as a matter of priority. Mapping the intangibles requires creating connection with broad range of groups that have knowledge of hidden and complex aspects of town – culture, rituals. Suggestions made include:
 - Working with visual arts students and researchers to map a range of factors from postcards to exhibitions to key images.
 - Working with performing arts to capture a range of street sounds, live music and sound and old recordings of live music.

The feedback provided overwhelmingly highlighted the importance of building the portal to be more representative of the landscape and the culture and this is a focus that needs to be included in strategic development into the future.

4.3.4 SUMMARY OF FINDINGS FOR SECTION 4.3

- The research process identified that there is a need to develop, as part of the strategic planning process, a documented purpose for the HUL web portal. This was assessed as being required so that there is an overt understanding of what the portal seeks to achieve in capturing the tangibles and intangibles of communities. While there is significant documentation in place already relating to this (from UNESCO, City of Ballarat and CeRDI), it was assessed that there is the need for a clearer communication process to be developed and implemented so that this documentation can be accessed and levels of understanding around the key drivers for establishment and development of the portal are maximised. It must be emphasised that programmatic and site relevant documentation, and an associated framework for implementation, are in place. However work is needed to communicate a consistent message around the potential of HUL and Visualising Ballarat to create a platform for collaboration. The portal provides a mechanism for enhancing planning, knowledge, end user input and for the promotion of the range of elements that comprise the values and identities of individuals, groups and communities.

The provision of a clear and documented purpose was identified as an important part of increasing and strengthening communication about, and understanding of, the web portal. This, in turn, would play an important role in supporting the community education and connection process.

- There remains confusion in relation to the role of Visualising Ballarat within the context of the HUL web portal. To maximise participation across organisations, and across disciplines, it is necessary to review the current model for capturing the data sets that shape and inform place based mapping. Increasing the range of data sets within the portal was viewed as an imperative, particularly in order to maximise the capacity to map both tangibles and intangibles of relevance to communities. Building data sets from across

the spectrum (from geomorphology through to values, place and diversity) was assessed as an important step in providing end users with the full gamut of options needed to inform inclusive planning and knowledge building. The nature of HUL is to ensure inclusiveness across groups and communities. To achieve this it is imperative that the type of information available through data sets is maximised; a goal that requires a range of portals to operate interactively. The extension of data sets means a parallel shift in the complexity of the management process and the profile and number of organisations involved in the web portal.

The balance must be to maximise the scope of information available, while retaining a delivery approach characterised by inclusiveness and accessibility across users groups and across planning and knowledge building needs. Consequent to this there needs to be a restructure of the web portal into the future. The new structure will comprise multiple gateways rather than a single access point. The scope of data to be included will help build the knowledge base around what comprises a historic urban landscape however, it will also be structured to maximise the capacity to present information based on end user interests, roles and needs. It will also need to continue to align with notions of inclusiveness, integration and accessibility – a multifaceted platform for collaboration and for planning.

- Research participants identified a range of collections and data sets that should be considered for inclusion. These suggestions, and the organisations that put them forward, will form part of the planning process for the strategic development of the web portal into Stage 2 implementation. Participants who identified the need for expanded data sets also signalled a willingness to be involved into the future. These participants identified the importance of intangibles for understanding and capturing the culture of community and a parallel acknowledgement of the difficulty of capturing these intangibles in a way that is cognisant, representative and responsive to diversity. There was a clear commitment given by these organisations to working in partnership with HUL in forward planning and management of the portal to maximise the capacity for representative input and long term success.

4.4 Managing change and opportunity into the future

This final section of the report seeks to provide a strategic direction to address issues identified within the data collected for this study, and to provide a road map for activation of Stage 2 implementation of the HUL web portal, and of Visualising Ballarat. Direction, drawn from participant feedback and the analysis of literature and statistical data of relevance, will be provided in the following areas:

- Future management structure, including funding, advisory roles and maximising scope of web content.
- Establishing a purpose and vision.
- Communication and engagement directions
- Research planning

4.4.1 A PROPOSED STRUCTURE FOR MANAGEMENT INTO THE FUTURE

The establishment of the HUL web portal as a demonstration model, and the subsequent research that has taken place relating to early implementation, has provided clear evidence that there is need for both content expansion and for a revised approach to how the portal is managed. A change in management approach aims to increase the potential of the initiative to:

- 1) capture the unique characteristics of places and spaces;
- 2) establish a reciprocal relationship when it comes to content and community;
- 3) shift perceptions around HUL as having a focus on history and toward strengthened understandings relating to place and identity, values and culture;
- 4) expand ownership and championing;
- 5) create a greater clarity of purpose; and,
- 6) build partnerships and collaborations.

Based on this feedback, a new model is being proposed for Stage 2 project development. The starting point for the development of this model was ensuring that the structure was able to accommodate important defining traits identified through the data collection process.

Defining traits

These defining traits were that any new management structure would need to include elements which would enable and facilitate:

- **Data input from a range of organisations and groups.**

The research process has identified that there is a very strong level of enthusiasm, particularly in relation to the commitment to capture intangibles and, through these, build knowledge around place and identity. In order to establish an inclusive and growing conceptualisation of the notion of historic urban landscape, it was identified that there were additional data sets that it would be beneficial to include. These included data sets from a range of organisations (refer to Appendix G) and groups who indicated clearly their willingness to be part of growth and expansion into the future. The technological capability for ready access for multiple data sets provides a solid foundation for increasing the amounts of data sets incorporated into the initiative, while ensuring that the custodians of data remain those with legal and content responsibility for information. While accessing multiple data sets provides benefits for content expansion, the providers of data also require the capacity to manage these data sets, and the ability to remain active participants in development into the future. This factor must be considered and accommodated in management planning.
- **An increased capacity for community input.**

There was strong evidence that individuals, groups and communities needed to be able to upload data and be active participants in the provision of accurate evidence and encompassing representations of the values and identity of particular groups. There was feedback on the place of environment, geology, history, ritual, sights, sounds and atmosphere in building this understanding and definition. Within this context research participants argued against unmanaged inclusion and for the need to strike a balance between 'endless wish lists' and data likely to enhance understandings and meet a range of complex information and knowledge needs. The establishment of a representative Establishment Committee was viewed as an important mechanism through which to achieve this content balance.

4.4.1 A PROPOSED STRUCTURE FOR MANAGEMENT INTO THE FUTURE (CONTINUED)

- **A stronger capacity for connection from a range of groups and communities.** Closely linked to the issue of reciprocity in content input is the issue of community connection. If the initiative is to be embedded as a resource for community planning, and a genuine and reciprocal tool for better understanding of each community, then the sense of connection with the resource must be strengthened. This will have also have benefits in building champions for the portal and creating a very clear sense of 'who is this for' – shifting the initiative from an academic exercise to one that has relevance and applicability to community. This process will be optimised if it occurs organically –providing a platform that allows for diversity and creativity without tight controls as this is likely to stifle creativity into the longer term.

In order to ensure that Stage 2 development incorporates these defining traits, a foundational requirement is the shift to a multi-partner resource. As discussed previously, this approach has implications for partnership building, for enhanced resourcing capacity and for an increased resource base. It also has implications in terms of any proposed management structure.

Establishment Committee membership

The establishment of a committee for an evolving multi-partner initiative will be a complex process. A significant level of complexity comes from the interrelationship between HUL and Visualising Ballarat and ensuring cohesion between and within this partnership so as to achieve the long term vision for planning, knowledge building and research innovation. The data collection process clearly highlighted a level of confusion relating to the two existing elements of the initiative – HUL and Visualising Ballarat. This confusion impacts on forward planning and project development and needs to be addressed through the management process. For both HUL and Visualising Ballarat, and for any new portals/data sets that might become part of the overall initiative into the future, there are specific operational issues that need to be managed. These relate to factors such as data updating, quality assurance, content review and data base management. To a large degree

these are able to be managed by those who are custodians of the portal/ data set (for example CoB for HUL, PROV for maps, a Landcare group if a land care portal became involved, the Art Galley for a Gallery portal etc). At the same time there is parallel strategic development process that needs to occur to ensure successful development of the overall initiative into the longer term. This duality of operational and strategic planning will only become more complex as more partners become part of Stage 2 implementation.

To optimise the capacity for successful Stage 2 rollout, membership for this proposed Establishment Committee should include:

- Custodians of the data sets that will be included within the web portal. It is not intended that custodians of state, national or international data be included but the option should be available for custodians who are locally/regionally based. Not all custodians will take the option to be part of an Establishment Committee however those wishing membership should be given this option.
- Representatives from organisations who invest funding and resources to advance development.
- Community representatives interested in involvement in management and strategic directions setting for the web portal.
- Local and state government representatives.
- Researchers and discipline specialists.
- Aboriginal and Multicultural groups.

This list is based on those who indicated an interest in involvement during the data collection process. There will need to be initial meetings to determine the final composition of the Establishment Committee and clarification around the operational and strategic areas of responsibility for Stage 2 activation.

Recruitment of members

Recruitment for the Establishment Committee should commence with a workshop which includes those who, during the research process indicated an interest in involvement in management. This list is provided in Appendix G. The list of potential members is likely to increase through snowballing as a result of initial recruitment processes. The role of the establishment committee is to 'kick start' the process of building and expanding HUL and Visualising Ballarat across a range of domains.

The final structure, size and membership cohort should be an outcome sought from the workshop to be undertaken as the first part of the Stage 2 Activation Strategy. This workshop has been proposed by the City of Ballarat who have also agreed to organise, fund and facilitate a workshop with those organisations most interested in building the nature and scope of the initiative into Stage 2 Activation.

Establishment Committee tasks

The specific tasks of the Establishment Committee need to be addressed during establishment include:

1. Establishing a Vision for the web portal and the project into the future.
2. Developing Terms of Reference.
3. Managing the process of expansion.
4. Pursuing funding proposals and opportunities.
5. Providing strategic direction.
6. Addressing large scale operating issues, including access to organisational and community data sets.
7. Supporting the research development process.

In addition to the creation of an Establishment Committee, consideration should also be given to facilitating the provision of community based advisory support. Gaining feedback specific to location, communities, values, identity and distinctiveness would be beneficial to Stage 2 development. The capacity to provide direct feedback through the web portal may be sufficient to address this advisory need, with the potential for an online presence ensuring that ongoing and current feedback on issues not specific to management is received. This needs to be resolved definitively as part of the initial steps in building an Establishment Committee.

4.4.1 A PROPOSED STRUCTURE FOR MANAGEMENT INTO THE FUTURE (CONTINUED)

Administrative and project support

Consideration needs to be given to funding for a part time project officer to manage maintenance of the resource into the longer term. There is the need, particularly in the early stages of establishment, for support in the coordination of stakeholders, the support to committee, and potential sub committees (e.g. Research and Development and Data Management). This will be an important function to ensure establishment and viability into the longer term is possible. Also, while the inclusion of a range of data sets and links, and the maintenance of content within each of these, is managed by custodians, there are issues about ongoing maintenance and feedback that were recognised as potentially problematic for long term sustainability of a resource such as this. The issues raised within this report relating to engagement, exploring new data potential and new functionality would benefit through project support during Stage 2 implementation.

The need for project support was not specifically addressed in any definitive way by research participants but is included here as a point for reflection as the web portal develops into the future. As identified during the interview process:

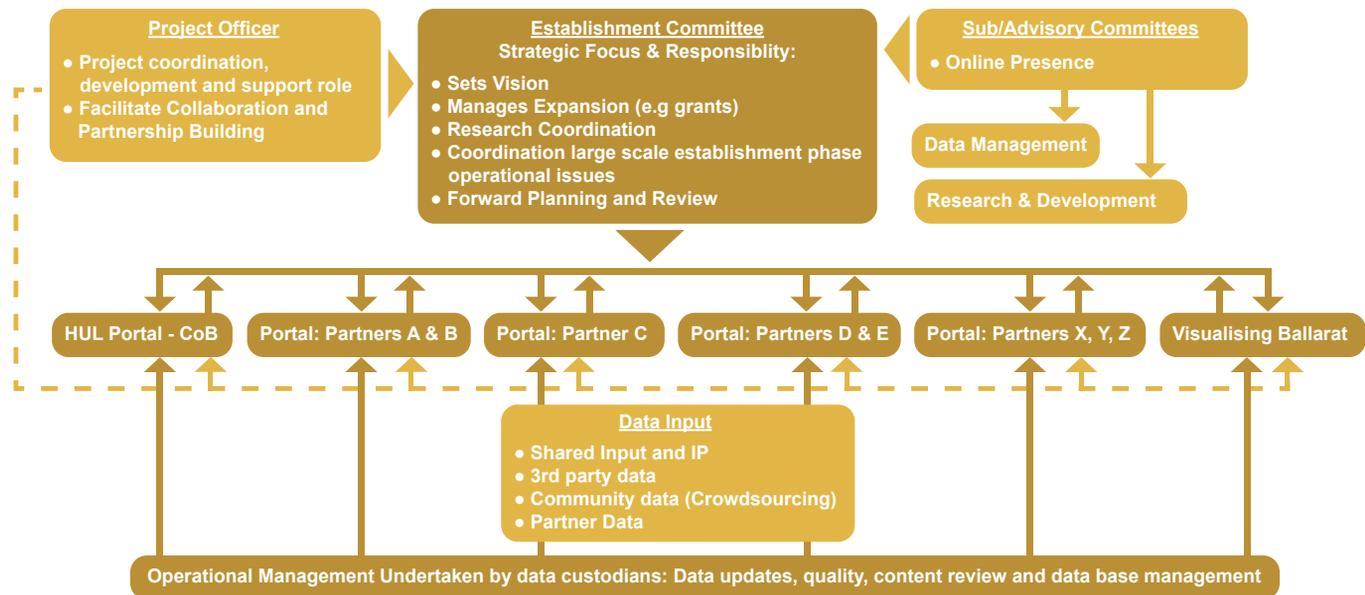
Ongoing management - so many things like facebook pages etc are voluntarily run, needs someone that's responsible for keeping that going and I don't know if COB are in a position to do that, or CeRDI, they are developing it, not managing it. Can it be a combination of light touch management and voluntary? Idea is these things generate a life and momentum of their own...who manages a website? It's about enabling and encouraging orgs and volunteers to want to be involved (discretionary effort) - seeing the value to want to contribute, but that won't happen just by putting it out there [Interview Participant: Academic & Historian Cluster].

Whether funding for this is found in in-kind support, in administrative contributions from those contributing data sets, through seeking specific funding for this, through establishing a volunteer base, with Establishment Committee support, or through other maintenance processes, it is an issue that needs to be discussed and resolved as an order of business for the proposed Establishment Committee.

Based on the issues raised to date relating to project support, the inclusion of new portals/data sets, the need to clarify confusion around HUL and Visualising Ballarat and the need to establish a multi- partner approach to support the activation of Stage 2, a new management structure has been developed for initial consideration by the Establishment Committee.

The proposed new management structure, incorporating all issues discussed to point, is provided in Figure 14.

Figure 14: Proposed new model for integration and management across multiple sectors



4.4.2 ESTABLISHING A VISION

The establishment of a Vision to guide the development and change process for the web portal into the future is something that was identified as a necessity by a significant number of participants to the research process. The feedback specific to this issue is provided In Sections 4.3.1 and 4.3.2 of this report. Prior to the development of a Vision for the initiative, some foundational work will need to be undertaken in regard to the development of a Terms of Reference for the proposed Establishment Committee.

This will need to include the following:

- Formalising the scope of responsibility for the Establishment Committee. As a result of this research study, and the insights provided across the data collected, this work will need to include: **1)** establishment of a final management structure; **2)** the adoption of a Vision and purpose; **3)** adoption of a research plan; **4)** determination of data sets to be included in the web portal; and, **5)** exploration of funding options and opportunities.

- Establishing the roles and responsibilities of members of the Establishment Committee and those relevant to any advisory structure established as a support to the Establishment Committee.
- Identifying the resource base available to the project. This will include documentation of what resources are available, what commitments to resourcing the different members of the new Establishment Committee, through their agencies, can provide. It also needs to include expansion goals and resourcing needed for this and potential funding opportunities.

Insights into potential solutions/approaches on a number of these requirements have been provided within the body of this report, particularly as they relate to management structure, research options (below), Vision (below) and potential data sets (refer appendices).

The development of a final Vision and purpose to guide the strategic work of the Establishment Committee is something that needs to occur with input from the range of stakeholders that will work with, and manage and/or support developments into the future. Consequently it is not the role of this research to provide a completed Vision or purpose. In isolation, this could not be representative for all relevant parties. However, based on the feedback provided during the course of the research process, there are some signature characteristics that should be included in the Vision. These have been developed as Objectives around what needs to be included. They are offered as a starting point for planning, discussion and ultimate visioning by the Establishment Committee, once established.

Providing a framework for determining a vision

Any vision to be developed by the Establishment Committee for Stage 2 Activation must include, in order to be representative of the feedback and insights gathered through this research process, the capacity to address the following objectives:

Objective 1:

To embed collaboration as a foundational principle of all work undertaken in the development of the web initiative into the future.

Objective 2:

To ensure that there is adequate disciplinary, community, government and geographically relevant representation on management and advisory structures for the web portal.

Objective 3:

To place research at the centre of the development process to ensure that the web portal, and the learnings that emerge from implementation of this initiative, play a central role in shaping national and international approaches to urban landscapes and understanding of issues for sustainable cities.

Objective 4:

To ensure that the issue of values, cultural, ethnic and locational diversity take a central role in the visioning for the initiative.

Objective 5:

To ensure that crowdsourcing is embedded, at the local government, academic and community level, as a legitimate mechanism for knowledge and evidence building which captures and maps values and identity and the intangibles that are central to building an understanding of critical elements of the past and the present day.

These objectives, once incorporated into planning, are likely to provide a strong basis for the development of a Vision and of a purpose of relevance across the broad range of potential end users to the project.

4.4.3 COMMUNICATION AND ENGAGEMENT DIRECTIONS

The importance of collaboration and ownership from the community is key as outlined but a coordination and moderation role is also considered vital. How will this work? Where do the resources lie? While intended to be 'inclusive and useful for everyone' questions arose around advocacy to harness volunteer groups, accuracy of content, data management, and possibilities around user contributions. [Interview Participant: Historian & Academic Cluster].

This research study enabled the identification of a range of options and opportunities through which to build levels of communication and engagement at the community level, and at the organisational and agency level.

The research process itself has acted as a means through which to extend the process of engagement that was commenced through a variety of symposiums, including the City of Ballarat, Federation University Australia, Deakin

University and WHITRAP HUL symposium in February 2015. That event created an initial awareness of the web portal (the HUL concept and recommendations were already known and understood by some of the symposium participants) but, for a significant number of those involved in this research, this did not provide a catalyst for ongoing use of the portal or for embedding the resource into practice. It did however provide initial insights which were able to be used to engage individuals in the research study. As a result of involvement in data collection, a range of agencies indicated their willingness and enthusiasm for becoming involved in ongoing and strategic development of the project. There were a number of individuals and agencies that had given some initial consideration to involvement at the point of the symposium but then had not developed their ideas further. The opportunity to discuss the portal, and the potential that it provides for building connection and shaping the cultural landscape, provided a catalyst for research participants to review their involvement to date and their desire to be active participants into the future.

Evidence of this shift can be found in the number of individuals and agencies that indicated a willingness to become involved in the ongoing management of the portal and who discussed options for expansion and consolidation of the web portal as a resource within their organisation and/or their community. Refer to Appendix G for specific detail relating to this.

Additionally, the number of organisations that volunteered inclusion of their organisational data sets to enhance the capacity and scope of the web portal are all important indicators of increasing engagement.

Specific suggestions made during data collection relating to enhancing engagement around the web portal include:

- Community Education. As identified earlier in this report, this can be achieved through approaches such as:
 - The use of the portal as part of the Local Area Planning Projects. As identified, a range of local government staff indicated their desire to use the portal as a mechanism to engage communities as part of the planning process. Successful use of the portal as a community connection resource was identified as being embraced but also as potentially problematic given the lack of content in some elements of the portal. The dependence of the community education process on having access to adequate content as a platform from which to build and enhance content poses an interesting dilemma. While the portal content needs to be at a certain point of development in order to be a useful resource, the very process of engagement is a mechanism to change and build content and subsequently enhance capacity of the resource for both knowledge building and civic engagement. This dilemma is acknowledged and is one which will be addressed, in a large part, by the inclusion of additional data sets. This process has already begun with some notable additions to the portal since the commencement of this research project. In order to maximise the potential for this to be successful, two strategies that must be put in place relate to resourcing community groups and implementation timelines. Given the need to build content on the web portal to maximise the value that this portal will have for local communities, it is important that some planning occur in terms of when different local communities will be targeted for Local Area Planning. Knowing when Local Area planning is to be undertaken will be valuable in ensuring that each local community is prepared and that what is presented to them through the web portal/s is as inclusive and as content rich as possible. While ultimately Visualising Ballarat must include all of the region, in a process of gradual development and rollout, a clear implementation timeline is an important planning resource. Linked to this is the exploration of

4.4.3 COMMUNICATION AND ENGAGEMENT DIRECTIONS (CONTINUED)

funding opportunities (such as small local government grants and large grants at the state, national and international level) to support communities in the gathering information and uploading information relevant to their location. While this is something that will occur into the long term, engagement in innovation is often strengthened if the initial process of data input and community consultation is supported with some funding. The City of Ballarat has a small grants scheme, as does the State government. Both of these should be explored as potential supports to the initial stages of community education and engagement.

In order for this capacity to be maximised, it is necessary for some ongoing work to be undertaken by CeRDI and by CoB around content enhancement and development. CeRDI has in place project staff to identify areas for additional content inclusion and this process is ongoing with content expanding on a regular basis. Work needs to be undertaken to ensure that there is the capacity for user upload of information and input. This must be in place and operational for communication and engagement to be successful if the web portal is used as a mechanism for community engagement. This is an area that will need to be considered in forward planning during Stage 2 activation.

- Establishing a range of working groups to support communities to build capacity and knowledge in regard to the web portal. This process is closely linked to establishing links to the university in order to explore opportunities in relation to student placement and teaching innovations. This is discussed in greater detail below.
- Building links across the university. Since the commencement of this research study, significant preliminary work has been undertaken in building links with Centres within FedUni. This work seeks to maximise engagement relating to the portal and to building resource capacity through research and discussion. Liaison has taken place with the Centre for Regional Innovation and

Competitiveness (CRIC) and the Collaborative Research Centre in Australian History (CRAH). In particular CRAH has done some important developmental work in establishing a discussion group and building knowledge and insights relevant to heritage. Additionally, the Arts Academy has indicated a strong desire to pursue partnership potential in terms of content and building a sound and visual perspective to the portal and in terms of teaching and research. This preliminary work will need to be developed further to maximise potential for engagement and to build research capacity. Staff at CeRDI will, over coming months continue this work and liaise through staff and post graduate students. Additionally, the web portal has become part of the toolkit for CeRDI staff when working with communities around the potential of information technology to engage and empower community. This approach provides a secondary benefit of education and knowledge building in relation to HUL and the web portal across a range of discipline areas and sectors.

CeRDI staff will work with Faculties across the university over coming months to discuss the potential of the web portal to be used as a teaching and engagement resource. This can occur in two ways. Within the context of tertiary teaching it can be used as an exemplar of community engagement approaches. This creates a growing knowledgebase amongst professionals in training around resources relevant across a range of discipline areas for planning and decision making. Importantly, particularly in areas in which graduates undertake placement and teaching, there is capacity to work with communities for training in processes and approaches for community capacity building (this would be targeted at education and human services placement students). It can also be used by teaching students as a teaching resource – achieving engagement and community education at the same time.

- Developing a marketing and promotion plan. While some initial work has been undertaken in working with community groups and through the media around HUL and the web portal, this needs to be developed into a structured and documented marketing and promotion plan. This is a responsibility and focus of the Establishment Committee once establishment processes for this group have been completed.
- Exploration of Funding Opportunities. The building of partnerships across a range of organisations and groups, as has been discussed to this point in the report, provides an effective mechanism to explore funding options for community capacity building and education. The emerging cross disciplinary nature of membership to the web portal data contributors (and across the content they provide) creates a unique capacity for pursuing funding opportunities. The initiative is unique, not just because of what HUL and Visualising Ballarat have provided to date in terms of civic engagement, planning and knowledge building, but also because of the range of individuals, groups and organisations wishing to become involved for development and expansion into the future. This provides the basis for building collaborative approaches across participant groups aimed at exploring funding opportunities for building capacity and extending understandings of the tangibles and intangibles that make up communities. Associated research will be of national and international significance. This level of diversity has the potential to build further if the partnerships identified through this research process are pursued and consolidated.
- Development of data agreements. In any emerging innovation, particularly one which is dependent on close and ongoing relationships with a range of stakeholders, it is necessary that specific data agreements to be developed. CeRDI, as a result of extensive work in the establishment of single point access to a range of data sets, has highly developed processes for negotiating access to data, putting in place password protections and exclusion processes to protect data privacy and in relation to liability. These processes need to be readily available to all potential participants in order to minimise the potential for disputes, grievances and preventable legal action. This is something that can be put in place through collaboration with Legal Services at FedUni and, as relevant, the City of Ballarat. Memorandums of Understanding between key partners may also be beneficial. As stated very clearly by one research participant:

there needs to be very clear agreement between the partners that come on board about what the level of service is and change management processes. Um I think that's a lesson from the first stage which is something that needs to be managed carefully with expansions as you get more partners... [Interview Participant: State & Local Government Cluster]

In an environment in which there are a range of partners and change is occurring at a rapid pace, it is necessary to ensure that processes (legal, contractual, obligational and the expectations of different parties) are negotiated and documented. This approach will minimise conflict and misunderstanding and maximise the potential for positive overall outcomes.

4.4.4 RESEARCH PLANNING

The final area for exploration in relation to future directions relates to the need to build a clear research plan for HUL and Visualising Ballarat into the future. As was identified in the early sections of this report, Ballarat is the first local government to implement the HUL recommendation. This places the initiative in a unique position in relation to research potential, and the associated capacity to develop research of national and international significance. Participant feedback identified that the research agenda can be advanced in two distinct ways. These are: 1) research using the web portal as a hub and a conduit for researchers and research development; and, 2) research about the HUL web portal and Visualising Ballarat.

Building research capacity through the web portal

A consistent issue raised in data collection related to the capacity of the web portal to act as a research hub and as a support to the research process through the facilitation of data storage, data access and the engagement of both academic and community researchers.

The web portal was viewed as having a unique capacity to provide the general community, professional consultants and the academic community with information that might not be available through alternative sources. This was particularly true if knowledge that was previously unavailable was added to the web portal through the mechanism of old photos, oral history, old maps or historical documents held by community members or groups. Providing access to this type of data was identified as a major research advantage and one that is not readily available through alternative mechanisms of data collection and storage.

The ability to access multiple existing data sets through one gateway was also identified as a unique and valuable research feature of the web portal. One of the distinct functions of a single point of access portal, in terms of research, is that it enables an overlay of a broad and complex range of data. This increases the capacity to identify new discoveries previously hidden by the separation of data. This capacity is a research innovation that it was considered important to explore and build upon.

An overview of the data collected, using the mechanism of qualitative content analysis found that the vast majority of study participants, who were interested in the use of the web portal for the research process, identified the scope it provided to enhance research opportunities and potential. The specific feedback they provided related to:

- The provision of the capacity to overlay information to better understand trends and historical events.
- The ability to readily access data, at a single point in time, from a range of areas. This was a functional benefit through which to facilitate the research process.
- The ability to use the portal as a research tool by storing research knowledge onto the portal and making it available as a shared resource – i.e. specific information about research studies and projects (both PhD and research centre related).
- The ability to use the web portal as a research building mechanism – both for community based research through which distinct narrative and local specific knowledge could be built and for interactively engaging people in academic research (recruitment for study participation).
- The portal having the capacity to act as a conduit for engaging researchers and for creating a discussion point for research.

There were also those who assessed that, based on the content included on the portal at the point of data collection for this study, HUL and Visualising Ballarat, as they stood at the point of data collection, provided a limited research resource. It was focused on Ballarat, albeit greater Ballarat, and this was viewed as limiting the value of the portal for regional and national research capacity.

Overall however there was a view that the portal provided great potential to support the research process based on content, interactivity, contribution and the creation of research ready data sets.

Building research capacity about the web portal

The fact that HUL and Visualising Ballarat are creating a technological innovation for supporting the implementation of the historic urban landscape process provides the basis for innovative research in a new area of study. There is the capacity to undertake research across a range of areas including, but not limited to:

- Implementation processes: Barriers to implementation and strategies for enabling success
- Processes for community engagement and knowledge building using web portals
- How the technological innovation has shifted views and practices in relation to place-based planning.
- Building understanding of what is meant by intangibles of place and identity and successful processes for capturing these type of data and sharing them with community
- Longitudinal research on shifts and benefits to community capacity and connection as a result of the web portal

This current research study is itself a research project about the web portal. What has been learnt during this study will provide new knowledge to shape development into the future. As a research area, the study of the web portal has the potential to provide a rich body of new knowledge and data relating to alternative ways of urban planning and the role played by technological innovation in knowledge building. Data collection has identified clearly however that, regardless of whether the focus of research is about the type of research that it is possible to undertake through the web portal or about the type of research it is possible to undertake about the web portal, there remains the need to strengthen research relationships to enhance the potential for successful research outcomes.

Just as there is a requirement to build partnerships for the purpose of collaboration, resourcing and content enhancement, so too do partnerships need to be developed to build research capacity. It is suggested that this occur both

within FedUni and with a range of other research partners. Research relationships are often organic in their development and consequently development and expansion is likely to be staged; occurring both as part of a formal process and as a result of informal relationships that are developed.

The work undertaken to build partnerships for engagement and connection (and discussed in the previous sub section of this report) provide a foundation for these research relationships. In regard to FedUni, formal research partnerships need to be developed with the:

- Collaborative Research Centre in Australian History
- Centre for Regional Innovation and Competitiveness
- Faculty of Education and Arts, in particular with the Arts Academy
- Centre for eResearch and Digital Innovation

This process has been commenced through discussions by both CeRDI and the City of Ballarat and requires formalisation and mapping as a priority.

4.4.4 RESEARCH PLANNING (CONTINUED)

The potential to develop research relationships with other centres at FedUni, and with other research centres in other universities, was not formally explored in this first wave of data collection. As identified, it is expected that these will grow as research capacity increases with Australian Catholic University (Ballarat), Deakin and independent researchers with research expertise of relevance all providing opportunity for research expansion.

The research development targets requiring immediate action in order to build research capacity are:

- Formalising research partnerships with identified centres. As stated, initial contact was made during the process of data collection for this current study. There is the need for formal discussion to be undertaken around potential research projects and ways to optimise the relationship between research endeavours at the university. This may take the form of linking current research projects and findings to the web portal or may be about the web portal being a point of focus for new research endeavours.

This current research study is the first formal research study specific to the web portal development and implementation process. It represented a major longer term research initiative and one which provides the basis for discussion on research potential involving a range of partners.

- The development of publication targets. As outlined at the start of this report, linked to this current research study there are already targets in place for six publications. These will be developed in partnership with City of Ballarat staff, and in line with established timelines across a three year timeframe. These publication targets clearly have capacity for expansion, as does the presentation of research findings at a range of conferences. This process needs to be formalised into a publication plan in conjunction with City of Ballarat, and as part of the development of research partnerships with relevant stakeholders.

A fundamental principle of both publication and of presentation at conferences is that research capacity building requires partnership and the inclusion of both community and university based researchers in the research process.

- Exploration of research funding opportunities. The unique nature of the web portal, and the opportunity it provides for research of national and international significance, flags the requirement to target the development of an application for Australian Research Council funding.

Developmental work needs to occur, in conjunction with City of Ballarat, the Centre for eResearch and Digital Innovation and the Collaborative Research Centre in Australian History, on developing grant applications during 2016 for the major grants rounds. CeRDI is to take the organisational lead in this process.

The development of a full formal research planning framework will also be led by CeRDI, in partnership with City of Ballarat.

The final sub section of this research report provides an Action Plan in which each of the points for action identified within this report are included and listed against tasks, and those with responsibility for action. This provides a resource for development for both the incoming Establishment Committee and for key stakeholders in planning and development for the web portal, including the City of Ballarat and the Centre for eResearch and Digital Innovation.

4.4.5

AN ACTION PLAN FOR STAGE 2 ACTIVATION

Provided in this section of the report is an Action Plan which captures the issues and ideas put forward throughout this research report and places them within the framework of a plan for action for Stage 2 activation.

Action	Task	Responsibility	Timeline
Undertaking recruitment for the establishment of the Establishment Committee for Stage 2 implementation of the HUL project	Run workshop with identified individuals, groups and organisations to explain next phase of development and seek expressions of interest for membership to Establishment Committee	City of Ballarat	March 2016
Establish Establishment Committee	<p>Once established, the role of the Establishment Committee, in the short term, is to:</p> <ul style="list-style-type: none"> • Develop Terms of Reference • Develop Vision • Finalise revised management structure to address issues of multiple points of access, reporting process and definition of differences between HUL and Visualising Ballarat • Develop Statement of Intent/purpose for the online tools. The statement should include, for example a platform for collaboration, knowledge gathering and open data for embedding knowledge through multiple platform • Set up two sub committees for: <ol style="list-style-type: none"> 1) research and development; and, 2) Data management. This may be part of the advisory structure (to be determined at establishment) 	Establishment Committee	March - May 2016
Establish Advisory Group for Establishment Committee and implementation support	Determine options for the establishment of an Advisory Group to maximise input to the portal development process. Options to be explored include the structure and scope of the Advisory Group (online presence, regularity of feedback process, membership)	Establishment Committee	March - May 2016

4.4.5 AN ACTION PLAN FOR STAGE 2 ACTIVATION (CONTINUED)

Action	Task	Responsibility	Timeline
Establishment Committee Strategic development work	<p>Establish working groups to:</p> <ul style="list-style-type: none"> • Work with potential partners to identify and explore expansion opportunities and targets, data sharing opportunities and funding options, data management and research and development • Develop strategic plan for web portal development over the 2016- 2020 timeframe • Explore funding options for ongoing portal management and Establishment Committee support • Finalise a research and publication plan (with input from CeRDI – refer below) 	Establishment Committee in consultation with CoB and CeRDI CeRDI to take the lead in a consultative process with groups and centres within the University or with whom CeRDI already has a web portal third party relationship	May 2016 and ongoing
Portal development and enhancement	Undertake a review of the portal to identify content and technology shortfalls and priority areas of development. This is to be addressed through a documented content enhancement plan with timelines for meeting data content requirements	CeRDI & CoB	Nov - Dec 2015 and ongoing
	Develop a standard data sharing and collaboration agreements (e.g. Memorandums of Understanding) to support working with potential portal partners to ensure issues of roles and responsibilities, liability, privacy and confidentiality and data access rights are clearly specified at the outset of the information sharing relationship. The statement of Intent/purpose could feed into this. For example: Full member (fits purpose and vision), affiliate (uses technology for other purposes – i.e. operational). There should be a process to enable identification of whether they are a partner in the HUL portal or other portals/ gateways. These can be modified dependent on individual characteristics of potential partners in portal content development.	CeRDI	April 2016 and ongoing

Action	Task	Responsibility	Timeline
Marketing and Promotion	Undertake a marketing and promotion campaign to build understanding of the HUL web portal and Visualising Ballarat and the role they play in community engagement, knowledge building and planning	CeRDI & CoB	May 2016
Community Education and Engagement	Review portal content and make additions, as required, for work with Local Area Planning projects, for work with other institutions, other local governments and for international partners	CeRDI & CoB	March 2016 and ongoing
	Develop implementation schedule for roll out of Local Area Planning Projects	CoB	March - April 2016 and ongoing
	Explore options for funding, through community grants processes, of local communities for working with portal for community planning	CoB	From April 2016
	Develop a professional development series for training of individuals, groups, communities and organisations in understanding the HUL process and using the web portal as a tool for knowledge building and planning	CeRDI & CoB	May 2016
	Work with Faculties and Centres at FedUni to explore strategies for increasing the use of the web portal as a resource in tertiary teaching, in placement and in school engagement	CeRDI	Commence March 2016 and ongoing
	Link to work undertaken with Local Area Planning and in strategy building with Faculties and Centres, explore options relating to putting in place working groups/ multidisciplinary teams to work with communities on the role of the web portal. This approach aims to enhance available mechanisms to build understanding of local perceptions of tangible and intangible elements of place	CoB & CeRDI to include this element in their negotiation and planning work relating to Local Area Planning (CoB) and building partnerships across the University (CeRDI)	Commence April 2016 and then ongoing

Action	Task	Responsibility	Timeline
Research and publications	Work with research centres across Federation University Australia to develop research and publication plan	CeRDI	Current and ongoing
	Review content of web portal to identify research potential and research information shortfalls. Additional potential data inclusion areas to be added post review with key researchers and academic staff internally across the institution and externally between institutions	CoB & CeRDI	From November 2015
	Develop funding proposal, underpinned by Memorandum of Understanding, across project partners to strengthen research funding potential and scope of areas that can be accessed for research funding	CeRDI	Commence with GTAV and telematics trust March 2016 and ongoing
	Explore funding opportunities for research innovation across a range of discipline areas and funding sources.	CeRDI	April 2016 and ongoing
	Develop funding application for Australian Research Council grants for 2017	CRAH, CeRDI, CoB and other identified partners	Commence July 2016 and ongoing until submission of application

This Action Plan provides an initial framework for action and strategy development and will be reviewed as part of the strategic development process for the web portal Establishment Committee, once established.

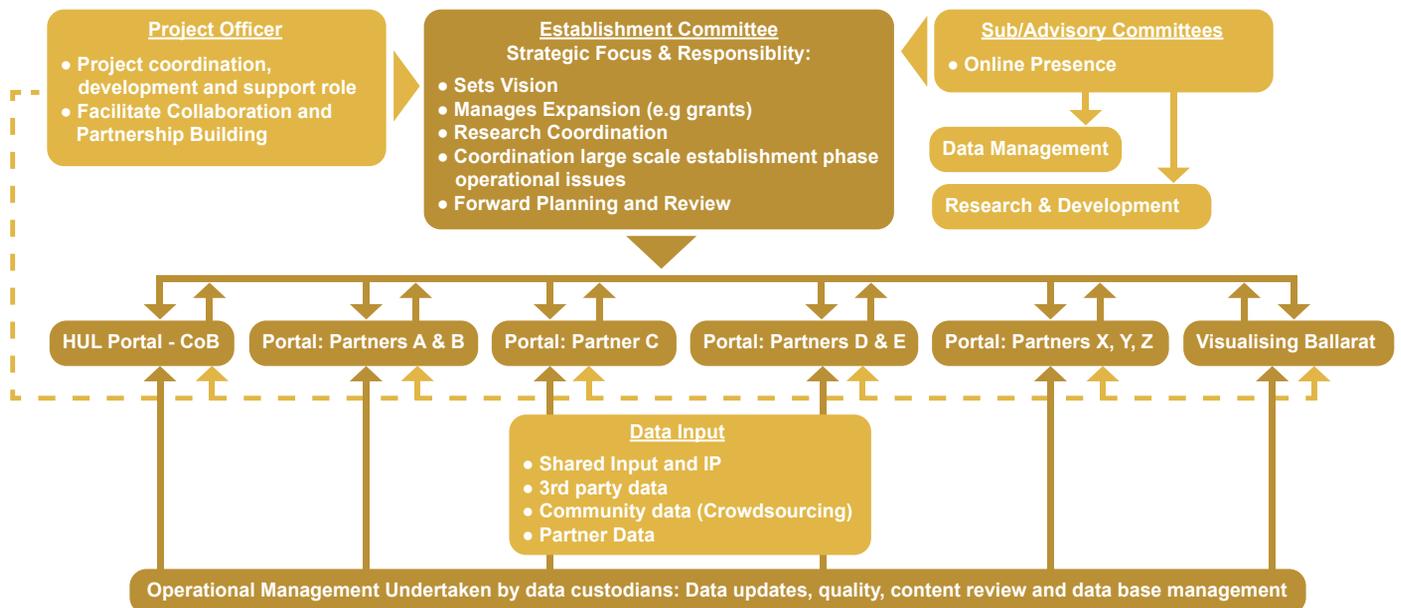
4.4.6 SUMMARY OF FINDINGS FOR SECTION 4.4

Research relating to management needs and future directions of the web portal identified a number of areas requiring focus and development. A summary of findings and insights gained throughout Section 4.4 highlight that:

- There is a requirement for the inclusion of an increased number and range of data sets to maximise the scope and capacity of the web portal as a tool for knowledge building and planning. This will require establishment of a range of formal partnerships, and a revised management structure to support and accommodate the change and build functionality (i.e. visualisation etc).
- There is the need for an Establishment Committee for the web portal into the future. The Establishment Committee will have a range of responsibilities including: 1) developing a Vision for the web portal and the project into the future; 2) drafting Terms of Reference; 3) managing the process of expansion; 4) pursuing funding proposals and opportunities; 4) providing strategic direction; 5) addressing operating issues, including access to organisational and community data sets; and, 6) supporting the research development process.

The process of connection with community, and ensuring that web content remains as responsive and representative as possible, requires the establishment of an advisory structure to support and supplement the management of the portal. This could occur through the use of online forums and feedback loops rather than through a formalised advisory process. It could also include inviting experts to speak, running forums establishing working groups, as applicable. It is a strategy that requires finalisation and clarification at the point of establishment of the Committee and sub committees (these are potentially needed in the area of research and development and data management).

The new proposed structure for integration of the model across multiple sectors is provided in the following figure:



-
- The development of a clear vision and purpose for the initiative is fundamental to forward planning and development. While the final conceptualisation for the vision and purpose into the future will need to be developed through a process of collective discussion and forward planning, the research process has identified the importance of ensuring that the following objectives are addressed within the visioning process:

Objective 1:

- To embed collaboration as a foundational principle of all work undertaken in the development of the web initiative into the future.

Objective 2:

- To ensure that there is adequate disciplinary, community and government and geographically relevant representation on management and advisory structures for the web portal.

Objective 3:

- To place research at the centre of the development process to ensure that the web portal, and the learnings that emerge from implementation of this initiative, play a central role in shaping national and international approaches to urban landscapes and understanding of issues for sustainable cities.

Objective 4:

- To ensure that the issue of values, cultural, ethnic and locational diversity take a central role in the visioning for the initiative.

Objective 5:

- To ensure that crowdsourcing is embedded, at the local government, academic and community level, as a legitimate mechanism for knowledge and evidence building which captures and maps values and identity and the intangibles that are central to building an understanding of critical elements of the past and the present day.

- The research process itself acted as an effective mechanism of community engagement. Building on the initial work of the HUL symposium, the research study reignited high levels of interest and a movement toward commitment to web portal development.

This was evidenced in:

- the number of participants who indicated a willingness to provide data sets;
- the levels of interest in involvement in management of the portal; and,
- the number of participants who indicated interest in having input into shaping the development into the future.

- A range of suggestions were made for enhancement of engagement and communication opportunities. These included:

- Use of Local Areas Planning processes to introduce the web portal, and use it as a mechanism to engage communities and gain their input to the planning process. The potential dilemma of ensuring the portal contains sufficient content to support Local Area Planning, while using the process itself to build content was recognised. Suggestions made to begin to address this issue included the establishment of an implementation timetable for roll out of the Local Area Planning process, and the funding of small grants to support communities to use the web portal for knowledge sharing and planning.
- Working closely with research centres and faculties at FedUni to maximise awareness and engagement. This approach supports knowledge building about the web portal in the tertiary teaching process and through student placements. Taking this approach enables the HUL portal to be used as a community development initiative and as a teaching and learning resource in schools.

- Enhancing funding opportunities through the development of a universal, cross agency and cross disciplinary agreement. This will facilitate access to an increased range of funding options, including funding opportunities relevant to innovations for community capacity building and development.
- Development of a marketing and promotion plan to increase knowledge of the web portal and the role it takes in building capacity for community involvement in knowledge building and planning.
- Development of data agreements and or Memorandums of Understanding between CeRDI and participating agencies and organisations to ensure that there is clarity around roles and responsibilities, issues of funding, liability and legalities and to minimise misunderstandings in delivery caused by lack of clear communication processes.

-
- The web portal has significant research potential as an innovation around which there is limited research at the national and international level. There is research capacity both in terms of research that can be undertaken through use of the resources contained in the portal itself, and also in regard to research that it is possible to undertake about the portal, and the changes and impacts attributable to it. Regardless of the research approach taken, it is necessary to build stronger research partnerships with a range of research partners, both within FedUni and with other research groups and individual researchers. It is necessary to formalise research partnerships, publication plans and seek major research funding opportunities, including those provided through the Australian Research Council. This needs to be a research planning target for 2016.

The final section of this report provides a conclusion to the study findings, provides a series of recommendations for future action and presents the mapping process for the level of attainment of Level 1 impact (*Primary Impact*) of the HUL web portal at this point of implementation and development.

Section 5.

Study conclusions and recommendations

This study has sought to assess whether a Stage 1 *Primary Impact* has been achieved since establishment of the HUL web portal in December 2014. The data collected was drawn from the first six months of portal operation. It enabled insights to be gathered on usage levels, user perceptions around the value of the portal for capturing notions of distinctiveness, identity and place, and supporting connection with community. The study also tracked user perceptions around the quality of the contents and usability of the site. Specific feedback was sought on potential changes and enhancements to the site and ways to strategically develop the web portal to maximise capacity for having an expanding and positive impact for individuals and communities into the future. In order to maximise understanding of the type of impact that was achieved, and to build specific insights into areas that needed to be a focus for change, a typology of impact involving three levels of impacts was applied.

Assessment of evaluability identified that the HUL web portal was at a point of development at which only a Level 1 (*Primary Impact*) could be undertaken.

As this research will occur in a number of data collection waves over an extended timeframe, it is anticipated that Level 2 and Level 3 impact research will occur over the next three year timeframe. To support this process a series of research questions were developed which will be asked again over each of the data collection waves.

Applying these questions, the extent to which the HUL web portal has had an impact at Level 1 was able to be tracked and measured using qualitative research methods and approaches.

These findings were then tested against a specific model of sustainability. Within this, a range of domains were rated and the results then mapped. This rating process was undertaken and data measured against two potential points of attainment. This was done in order to ensure there was a clear indication available of progress to date and areas that required change and strategic focus into the future. The two point that were measured were:

1. Level 1 attainment. This considered the extent to which the development and implementation had impacted and been successful within the context of process and initial impact. The processes used in the establishment of the portal were considered, initial usage rates, stakeholder engagement and extent to which it has achieved intended establishment outcomes.
2. Sustainability and success within the context of Practice and Sector Impacts. In this instance, the impact was rated against where, if it was at optimum levels of impact, it should be. i.e. on the basis of optimum ratings, where does the portal sit when it is assessed against where it needs to be into the future (at the end of the research process and once outcomes for Level 2 and Level 3 impact have been measured).

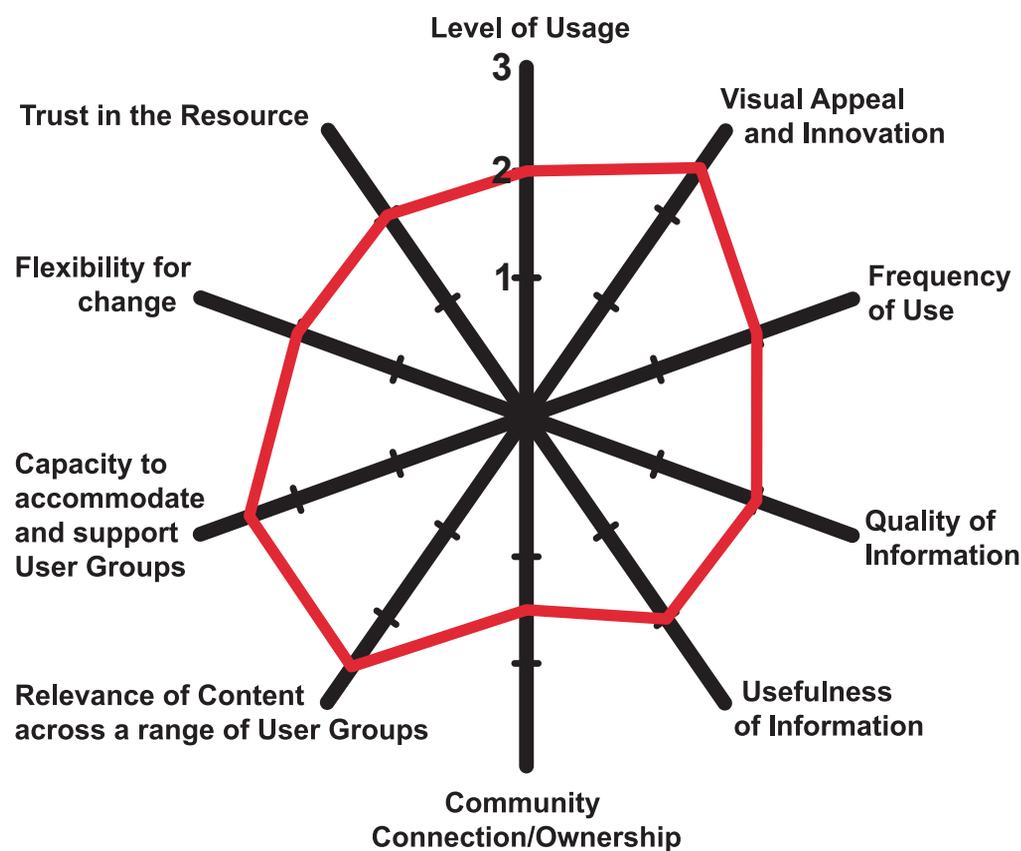
The ratings for each of these two points of measurement are provided in Table 5.

Table 5: Ratings across the domains of sustainability

Factor Examined Through Analysis of Collected Data	Rating out of 3	Rating within the scope of 3 levels of impact
Level of usage	2	1.5
Visual Appeal and Innovation	2.5	2
Frequency of Use	2	.5
Quality of Information	2	2
Usefulness of Information	2	1.5
Community connection/ ownership	1.5	.5
Relevance of content across a range of user groups	2	1
Capacity to accommodate and support user input	1.5	.5
Flexibility for change	2.5	1.5
Trust in the resource	2	1

As can be seen in Table 5 and in the diagrammatic representation of these ratings provided in Figure 15, at Level 1, the web portal has had a reasonable level of success in engaging a select group of stakeholders, being viewed as an effective tool for community engagement, knowledge building, planning and being a mechanism to support the implementation of the HUL process.

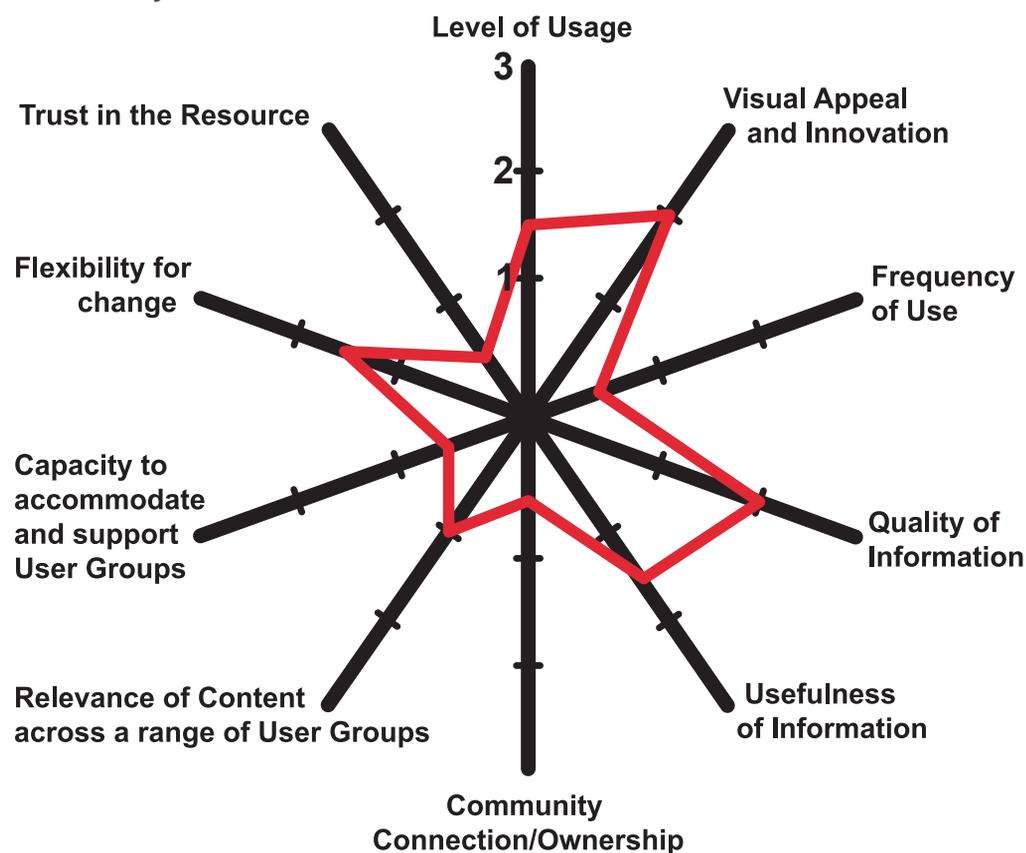
Figure 15:
Level 1 outcomes across the domains of sustainability



In making this assessment it is acknowledged that, while a number of areas for development, and processes for change have been identified, the results for HUL and Visualising Ballarat, as a mechanism to explore options and opportunities and build interest and commitment, have been quite positive. This is overtly acknowledged as a strong foundational base for future development. However, as identified throughout the body of the report, there is significant work to be undertaken to move the web portals beyond these initial stages and to optimise potential into the longer term.

The extent of the need for development into Stage 2 become very clear when the rating process is applied to against where it needs to be for the attainment of Level 2 and Level 3 impact. As the rating scale provided in Appendix A shows, there are a number of points in which there are attainment shortfalls. As shown in the second ratings column provided in Table 5, and as can be seen in the diagrammatic representation of ratings provided in Figure 16, when the current outcomes are compared against the type of outcomes that the web portal and Visualising Ballarat would aim to be achieving at the end of a three year implementation cycle, there is significant room for development.

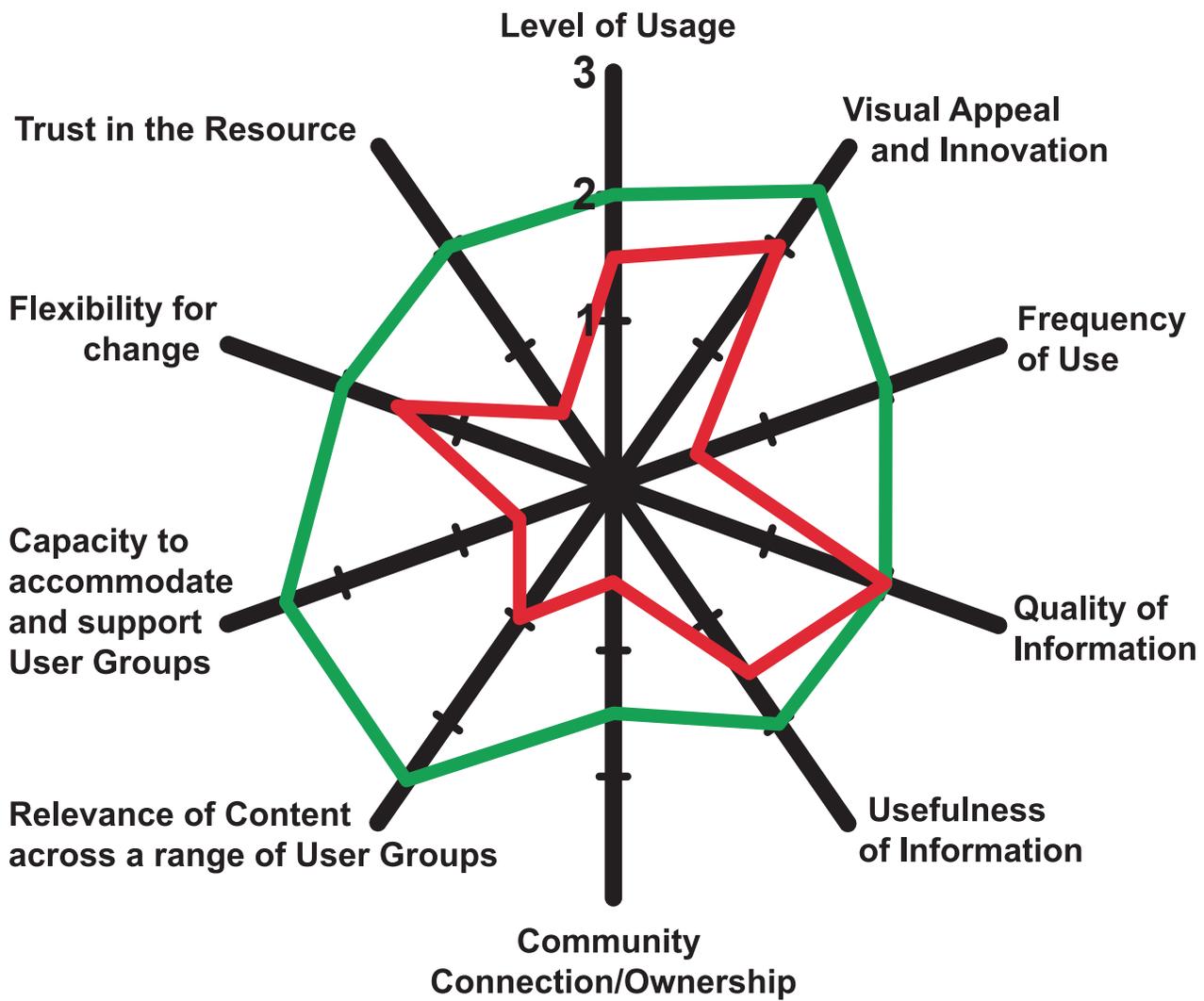
Figure 16: Comparative analysis across the domains of sustainability



The difference between the two points of research (the current point and the aspirational points at the end of the extended timeframe research project) becomes very clear when they are compared simultaneously, as occurs in Figure 17.

Figure 17: A visual comparison of the two points in time

- LEVEL 1 Primary Impact Analysis Overall Rating
- Impact Analysis against potential Level 2 and Level 3 Analysis Rating



Addressing these differences, ensuring these shifts are measured through the research process, and using these learnings and processions to advance the use of technological innovation to attain the goals will be the focus of HUL and Visualising Ballarat development into the future.

To support these issues and maximise the capacity for the successful development and enhancement of HUL and Visualising Ballarat into Stage 2 implementation, the following recommendations are made:

Recommendation Focus:

Moving from a City of Ballarat-funded pilot to a multi-partner resource run by a Establishment Committee of all partners.

Recommendation 1

That Establishment Committee recruitment commence as a matter of priority. The Establishment Committee will manage the strategic elements and future direction setting for the HUL and Visualising Ballarat web portals. Membership representation should include project funders, data custodians, state and local government, the university and research community, community based organisations, a range of local communities and end user groups. A list of those who have expressed an interest in involvement is provided in Appendix G of this report.

Recommendation 2

That, as a key strategy in the Establishment Committee recruitment, a targeted workshop is delivered. This workshop should include those who have flagged an interest during the research process in exploring involvement in ongoing management of the web portals. The areas of key focus for the workshop will include: gaining expressions of interest for involvement, establishing strategic management targets, exploring future expansion options, setting timelines for development stages and beginning the process of establishing a vision and terms of reference for the project.

Recommendation 3

That a community based advisory process be established to support the process of connection with community. To ensure web portal content remains as responsive and as representative as possible it is recommended that advisory tools and structures such as online forums and feedback loops are established. This will support the Establishment Committee and will act as a support to the process of broader connection

with the community. Input from these channels will be important to maximise the capacity for community ownership, representativeness and project championing. To facilitate this, as outlined in recommendation 6, it is important that work be undertaken in marketing and communication to ensure that understanding of, and awareness about, HUL and Visualising Ballarat reaches optimum levels across diverse groups and communities.

Recommendation 4

That the Establishment Committee work together to develop a clear and shared vision and purpose for the HUL and Visualising Ballarat as one of the first forward planning outcomes. Fundamental to ensuring that the vision is closely linked to the evidence gathered through the first wave of research, it is recommended that the objectives framework provided in Section 4.4.2 be used as a guide and support for the visioning process.

Recommendation 5

That, once the shared vision and purpose has been confirmed, the Establishment Committee map the relationship between HUL and Visualising Ballarat, as well as the relationship between these elements and existing and future portals from which information and data will be drawn. This structure will provide clarification on contact points for community engagement, data access and publishing, technology support, research collaboration etc. A guiding resource, as a potential management structure to inform this recommendation, is provided in Section 4.4.1 of this research report.

Recommendation Focus

Moving from demonstration to a thriving online hub and set of tools, being actively used by practitioners, researchers and the community.

Recommendation 6

That a marketing and promotion campaign be developed to increase awareness of HUL and Visualising Ballarat, their relationship to each other and the critical importance of input from community to further long term developments. This campaign should include the use of newspaper articles, online media, through presentations at community group meetings and through local agency and community networks.

Recommendation 7

That a professional development series be developed targeting individuals, groups, agencies and communities to support the process of community connection and education and skill development. The process of using HUL and Visualising Ballarat effectively for knowledge building and planning has some level of complexity. End users in the research process identified the intuitive characteristics however also identified some confusion relating to the purpose and goals of each portal. Enhanced understanding of the overall concepts, the building of connection within and across communities and sectors, and the opportunity for issues clarification would benefit from the provision of formalised skill building and support. This could take the form of a series of two to three workshops with key individuals and groups who would then champion web portal usage in agencies and communities of origin.

Recommendation 8

That City of Ballarat Digital Services Strategy stakeholders partner with CeRDI to support the process of engagement, scoping and prioritisation across local government portfolio areas to advance the process of using HUL and Visualising Ballarat effectively for delivering enhanced digital services to citizens and businesses in areas such as mapping; asset management; planning and community development; arts, culture and events, etc.

Recommendation 9

That a research engagement strategy, led by CeRDI, be developed and operationalised to work with Faculties and Centres across FedUni to increase the engagement of academic staff, researchers and students in HUL and Visualising Ballarat. This approach will enhance capacity for linkages with tertiary teaching, as a placement tool and focus for community capacity building projects, and as a teaching resource within the primary school setting. It will also enhance capacity for linkages with national and international research linkages, publications and funding opportunities.

Recommendation 10

That a clear research capacity building plan be developed to maximise the potential for the development of research both within the web portal and about the web portal. This research planning process should involve the formalisation of existing but informal research relationships with University Faculties and Centres and the establishment of publication targets over a five year timeframe. This will maximise the capacity for HUL and Visualising Ballarat, and the implementation and knowledge building process of these, to be captured and shared at the national and international level.

Recommendation 11

That further investment is secured to support technology development to extend the current HUL and Visualising Ballarat platforms to support priorities for the Establishment Committee, practitioners, researchers and the community and to enable greater crowd sourcing of content from communities and citizens.

Recommendation 12

That options be explored for the establishment of multidisciplinary teams to work directly with communities to build consensus on content, to understand localised needs and to develop mapped and trackable insights into what is valued in the planning and development process. This may occur within the context of Local Area Planning process and/or through student placement or volunteer based teams. It is an area for discussion and consolidation as part of strategic development into the future.

Recommendation Focus

Prioritising future development and attracting investment (partners, grants, internal funding at City of Ballarat and Federation University Australia)

Recommendation 13

That, as an early outcome of planning for future development opportunities, the Establishment Committee obtain written commitment from partners and other stakeholders which describe HUL and Visualising Ballarat aspirations and the cash and in-kind contributions they can make available (could include a secretariat for the Establishment Committee, membership subscriptions, data contributions, use of facilities, staff time to run community workshops etc.) This information will assist for HUL and Visualising Ballarat stakeholders to attract external grants and funding.

Recommendation 14

That a HUL and Visualising Ballarat investment prospectus be developed to support engagement with potential local, state, national and international funding organisations. As part of this process the Establishment Committee will need to develop a planned process to support active engagement with funders to explore opportunities for investment.

Recommendation 15

That funding opportunities for community capacity building, for project based research and for Australian Research Council grants be explored and be embedded as an integrated element of partnership planning, research capacity planning and community development activities.

Recommendation Focus

Providing partners to the HUL and Visualising Ballarat initiative with certainty from a legal and risk management perspective.

Recommendation 16

That the Establishment Committee consider the appropriate legal structure to support future operation of HUL and Visualising Ballarat as an early activity of its establishment phase. This will ensure that there is clarity around issues of access, privacy and the roles and responsibilities of each party to the agreement. It will also provide a clear framework for partnership development and maximise the development of proactive risk management responses.

References

- Araoz, G.F. (2011) 'Preserving heritage places under a new paradigm'. *Journal of Cultural Heritage Management and Sustainable Development* 1(1): 55-60
- Amey, M.J. (2010). Leading partnerships: Competencies for collaboration. *New directions for community colleges*, 149, 13-23.
- Australia ICOMOS (2013a) *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*. Burwood, Victoria: Australia ICOMOS.
- Australia ICOMOS (2013b) *Practice Note: The Burra Charter and Indigenous Cultural Heritage Management, version 1*, November 2013. Burwood, Victoria: Australia ICOMOS.
- Bandarin, F & van Oers, R. (2012). *The Historic Urban Landscape: Managing Heritage in an Urban Century*. John Wiley & Sons.
- Bandarin, F. (2012) 'From Paradox to Paradigm? Historic Urban Landscape as an Urban Conservation Approach', in Taylor, K. and Lennon, J. (eds) *Managing Cultural Landscapes*. London: Routledge.
- Bandarin, F. & van Oers, R eds. (2014). *Reconnecting the City: the historic urban landscape approach and the future of urban heritage*. John Wiley & Sons.
- Buckley, K., Cooke, D. & Fayad, S. (2015). *Using the Historic Urban Landscape to reimagine Ballarat*. In: Labadi, S. & Logan, W. (eds.) *Urban heritage, development and sustainability: international frameworks, national and local governance*, UK: Routledge.
- Busch, T. (2011). Capabilities in, capabilities out: overcoming digital divides by promoting corporate citizenship and fair ICT, *Ethics and Information Technology*, 13 (4), pp 339-353.
- Casatella, C. & Carlone, G. (2013) GIS-based visual analysis for planning and designing historic urban landscapes: The case of Turin. *Digital Heritage International Congress (DigitalHeritage)*, vol.2, pp.45,52.
- Cegarra-Navarro, J-G., Garcia-Perez, A.& Moreno-Cegarra, J-L. (2014). Technology knowledge and governance: Empowering citizen engagement and participation, *Government Information Quarterly*, 31 (4), pp.660–668
- Centre for eResearch and Digital Innovation., (2014). *Visualising Ballarat – past, present, future: A collaborative research proposal to develop online tools to support Ballarat's Historic Urban Landscape program*, Federation University Australia.
- City of Ballarat (2013a). The Historic Urban Landscape Approach online. Accessed 09/06/2015
www.ballarat.vic.gov.au/sh/heritage/historic-urban-landscape-approach.aspx
- City of Ballarat. (2015), *Today Tomorrow Together: The Ballarat Strategy; Our Vision for 2014*, City of Ballarat. Retrieved July 2015 @ www.ballarat.vic.gov.au/pbs/city-strategy/ballarat-strategy.aspx
- City of Ballarat (2013b) Ballarat Imagine (online). Retrieved June 2015 @ www.ballarat.vic.gov.au/haveyoursay/2013/ballaratimagine.aspx
- Context. (2013). *Mapping Ballarat's Historic Urban Landscape Stage 1*, Final Report, Context Pty Ltd: Brunswick, Victoria.
- Davies, S.R., Selin, C., Gano, G. & Pereira, Â.G. (2012) Citizen engagement and urban change: Three case studies of material deliberation, *Cities*, Vol.29(6), pp.351-357.
- Detres, M., Lucio, R. & Vitucci, J. (2014). GIS as a Community Engagement Tool: Developing a Plan to Reduce Infant Mortality Risk Factors, *Maternal & Child Health Journal*, Vol. 198, pp. 1049 – 1055.
- Dovey, K. (2005) *Fluid City. Transforming Melbourne's Urban Waterfront*. Sydney: University of New South Wales Press.

References

- Fahy, F. & O Cinneide, M. (2009). Re-constructing the urban landscape through community mapping: an attractive prospect for sustainability. *Royal Geographical Society*, Vol. 41 (2), pp. 167–175
- Fleet, C. (n.d.) *Putting Old Maps in their Place? Practicalities of geo-referencing and delivering historical maps online*. National Library of Scotland.
- Foley, A. (2015). The historic urban landscape: A gardener's perspective. *Australian Garden History*, Vol. 26, No. 4, Apr/May/Jun 2015: 25-27.
- Garcia, M.M. Messner, K. Urban, R. J. Tripodis, S. Hancock, M. E. Colegrove, T. (2014). 3D Technologies: New tools for information scientists to engage, educate and empower communities, *Proceedings of the American Society for Information Science and Technology*, Vol.51(1), pp.1-5
- Goddard, J. (2006). Third sector in partnership arrangements: Navigating new waters or treading water? *Paper presented at The Australia and New Zealand Third Sector Research Eighth Biennial Conference, Navigating New Waters?*, Adelaide, 26 - 28 November 2006. Also available at South Australian Policy Online: <http://www.sapo.org.au/pub/pub7463.html>
- Gregory, I. N. (2003). *A Place in History: A Guide to Using GIS in Historical Research*. Oxbow Books
- Hall, C M. (2011). *Sustaining urban place-making*. *Journal of Sustainable Tourism*, Vol.19(3), p.403-406.
- Hawe, P., Degeling, D. & Hall, J. (1990). *Evaluating health promotion: A health worker's guide*. NSW, McLennan & Petty Pty.
- Hawke, S. K. (2012) '*Heritage and Sense of Place: Amplifying local voice and co-constructing meaning*', in I. Convery, G. Corsane and P. David (eds) *Making Sense of Place: Multidisciplinary Perspectives*. Woodbridge, Boydell Press.
- Hesse, B., O'Connell, M., Augustson, E., Chou, W-Y.S., Shaikh, A. & Finney Rutten, L. (2011). Realizing the Promise of Web 2.0: Engaging Community Intelligence, *Journal of Health Communication*, Vol.16, sup.1, p.10-31.
- Hurley, A. (2010). *Beyond Preservation: Using Public History to Revitalise Inner Cities*. Temple University Press.
- Huysman, M. & Volker, W. (2005). The Role of Information Technology in Building and Sustaining the Relational Base of Communities, *The Information Society*, Vol. 21, pp. 81–89.
- Jakhanwal, S.P. (2014). Urban Development and Exclusion of the Poor: An Integrated Perspective, *Social Change*, Vol.44(4), pp.605-614.
- James, P. (2015). *Urban Sustainability in Theory and Practice: Circles of Sustainability*. Abingdon, Oxon ; New York, NY : Routledge.
- Kirkpatrick, D.L., & Kirkpatrick, J.D. (1994). *Evaluating Training Programs*, Berrett-Koehler Publishers: USA.
- Kirkpatrick, D.L., & Kirkpatrick, J.D. (2005). *Transferring Learning to Behavior*, Berrett-Koehler Publishers: USA.
- Kirkpatrick, D.L., & Kirkpatrick, J.D. (2007). *Implementing the Four Levels*, Berrett-Koehler Publishers: USA.
- Labonte, R., & Laverack, G. (2001a). Capacity building in health promotion, Part 1: For whom? And for what purpose? *Critical Public Health*, 11, 111-138.
- Labonté, R. & Laverack, G. (2001b). "Capacity Building in Health Promotion, Part 2: Whose use? And with what measurement?" *Critical Public Health*, 11(2):129-38.
- Lewis, J. L., Casello, J. M. & Groulx, M. (2012). Effective Environmental Visualization for Urban Planning and Design: Interdisciplinary Reflections on a Rapidly Evolving Technology, *Journal of Urban Technology*, p.1-22.

References

- Lin, C-C. & Bruce, B.C. (2013). Engaging Youth in Underserved Communities through Digital-Mediated Arts Learning Experiences for Community Inquiry, *Studies in Art Education: A Journal of Issues and Research in Art Education*, Vol.54(4), p.335-348.
- Lloyd-Smith, M. (2009). Information, power and environmental justice in Botany: The role of community information systems, *Journal of Environmental Management*, 90(4), pp.1628-1635.
- Logan, W. (2002) 'Introduction', in W. Logan (ed.) *Disappearing Asian City: protecting Asia's urban heritage in a globalizing world*. Hong Kong: Oxford University Press.
- Mahjabeen, Z., Shrestha, K.K. & Dee, J.A. (2009). Rethinking Community Participation in Urban Planning: The Role of Disadvantaged Groups in Sydney Metropolitan Strategy, *Australasian Journal of Regional Studies*, Vol. 15 (1), pp. 45-63.
- Malgorzata, H. (2007). Information technology as a tool for public participation in urban planning: a review of experiments and potentials, *Design Studies*, Vol.28 (3), pp.289-307
- Martins De Freitas, D. (2010). The role of public participation, spatial information and GIS in natural resource management of the dry tropical coast, northern Australia, *PhD thesis*, James Cook University.
- Michon, D. & El Antably, A. (2013). It's hard to be down when you're up: interpreting cultural heritage through alternative media. *International Journal of Heritage Studies*, Vol. 19 Iss: 1, pp 16-40.
- Morse, R.S. (2010). Integrative public leadership: Catalyzing collaboration to create public value. *The Leadership Quarterly*, 21, 231-245.
- Murphy, A., Ollerenshaw, A. & McDonald. (2011). Examining Community based Factors influencing Year 12 completions in Rural Victoria, Department of Education and Early Childhood Development, Grampians Region of Victoria. Federation University Printing.
- Panek, J. (2015). How participatory mapping can drive community empowerment – a case study of Koffiekraal, South Africa, *South African Geographical Journal*, Vol.97(1), p.18-30
- Putnam, R. D. (1995). Bowling Alone: America's Declining Social Capital, *The Journal of Democracy*, Vol. 6 (1), pp.65-78.
- Putnam, R. D. (2007) 'E Pluribus Unum: Diversity and Community in the Twenty-first Century. The 2006 Johan Skytte Prize Lecture', *Scandinavian Political Studies*, Vol. 30 (2), pp. 137-174
- Quinn, A.C., & Ramasubramanian, L. (2007). Information technologies and civic engagement: Perspectives from librarianship and planning, *Government Information Quarterly*, Vol.24(3), pp.595-610.
- Quon Huber, M, Van Egeren, L, Peirce, S. & Foster-Fishman, P. (2009). GIS Applications for Community-Based Research and Action: Mapping Change in a Community-Building Initiative. *Journal of Prevention & Intervention in the Community*, Vol.37(1), p.5-20.
- Rydin et al., (2012). Shaping cities for health: complexity and the planning of urban environments in the 21st century, *The Lancet*, Vol. 379 (9831), pp. 2079-2108.
- Sáez, M.A., Haro De Rosario, A. & Caba Pérez, M d C. (2015). Using Twitter for Dialogic Communication: Local Government Strategies in the European Union, *Local Government Studies*, Vol.41(3), p.421-444.
- Sieber, R. (2006) *Public Participation Geographic Information Systems: A Literature Review and Framework*. Department of Geography, McGill University.
- Sonkoly, G. (2012). *The Meanings of Historic Urban Landscape*, Presentation at the Réseau Français des Institutes d'Études Avancées, accessed 10th July @ <http://rfiea.fr/articles/meanings-historic-urban-landscape>

References

- Sonkoly, G. (2011). Historic Urban Landscape: A Conceptual Analysis accessed 10th July 2015 @ http://www.academia.edu/1184490/Historic_Urban_Landscape_-_A_Conceptual_Analysis.
- Storey, D., Muhidin, S. & Westoby, P. (2010). Planning for social inclusion in a multicultural urban South East Queensland, *Australian Planner*, Vol.47(3), p.142-151.
- Taylor, K & Cook, I. (2013). *A Contemporary Guide to Cultural Mapping: An ASEAN-Australia Perspective*.
- Taylor, K, St.Clair, A, Mitchell, N. J. eds. (2014). *Conserving Cultural Landscapes: Challenges and New Directions*. Routledge.
- Taylor, K. (2014). The Historic Urban landscape. Managing Heritage in an Urban Century REVIEW. *Landscape Research*, Vol.39, Iss.3
- Thompson, M. (2012). The city of New Orleans blight fight: using GIS technology to integrate local knowledge Housing Policy Debate, Vol.22 (1), p.101-115.
- Turner, M and Tomer, T. (2013). Community Participation and the Tangible and Intangible Values of Urban Heritage. *Heritage & Society*, Vol.6 (2), pp 185-198
- UNESCO. (2013). *New Life for Historic Cities*, UNESCO Information and Concept Release Document. Accessed 9th June 2015 @ <http://whc.unesco.org/en/activities/727/>
- UNESCO. (2011). *Historic Urban Landscape Recommendation*. Accessed 9th June 2015 @ http://portal.unesco.org/en/ev.phpURL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html
- Van Oers, R. & Pereira Roders, A. (2012). Historic cities as model of sustainability, *Journal of Cultural Heritage Management and Sustainable Development*, Vol. 2 Iss: 1, pp.4 – 14.
- Van Oers, R & Pereira Roders, A. (2013). Road map for application of the HUL approach in China, *Journal of Cultural Heritage Management and Sustainable Development*, Vol. 3 Iss: 1, pp.4 – 17.
- Von Lumen, A & Travis, C. eds. (2013). *History and GIS Epistemologies, Considerations and Reflections*. Springer eBooks
- Witcomb, A. and Buckley, K. (2013) 'Engaging with the future of 'critical heritage studies': looking back in order to look forward'. *International Journal of Heritage Studies* vol. 19 (6), pp. 562-578.
- Wholey, J. (1979). *Evaluation: Promise and Performance*. Washington, DC: Urban Institute.
- Wholey, J. (1994). *Handbook of Practical Program Evaluation*. San Francisco: Jossey-Bass
- Wu, H., He, Z., & Gong, J., (2010). A virtual globe-based 3D visualization and interactive framework for public participation in urban planning processes, *Computers, Environment and Urban Systems*, Vol.34 (4), pp.291-298.
- Zimmerman, J. & Meyer, A. (2005). Building Knowledge, Building Community: Integrating Internet Access to Secondary Data as Part of the Community Development Process, *Community Development* 36 (1), pp. 93 – 102.

Appendices

Appendix A: Sustainability Model - Rating Scale and Criteria for Ratings Allocation

Factor	Rating Scale: Allocated at the Point of Analysis: Interview, Survey and Analytics Data	
Level of Usage	1	The documented levels of usage shows that there is a growing level of interest in use of the web portal. While usage rates remain low (as against comparable portals) data for each month shows an increase in usage and a continuing upward trend in the level of site use.
	2	The level of usage has shown a consistent increase across each month for at least an 18 month period, with the usage trend remaining an upward one.
	3	Levels of usage are at optimum levels (what this is assessed to be will be determined by the management and technical team with responsibility for the portal), and forward projections indicate the levels will continue to rise or remain at optimum levels into the longer term.
Visual Appeal & Innovation	1	Feedback indicates that the portal is considered to be difficult to navigate, is not considered to be visually appealing and the purpose and function of the site is not clear for the user when accessing the site.
	2	Feedback indicates that the portal is easy to navigate, the options provided within it are assessed as visually appealing and the user is able to view information and overlays of information without difficulty. Visual aspects of the portal are assessed as providing new information and perspectives to support end users within the context of professional, community and/or personal information requirements.
	3	The portal has visual aspects that are unique and not found at other sites. Navigation is intuitive and the data sets enable the presentation of imagery, sound or visual landscapes that are unique (3D and 4D). The visual aspects of the portal are presented in a way that enables the user to access (or provide if required) information that captures what they view as integral to the cultural landscape of the region.
Access marked By Frequency of Use and High Rates of User Returns	1	End users indicate that they visited the portal between 1 – 5 times and were unlikely to visit again unless requiring one off very specific information.
	2	End users indicated that they visited the portal on a repeat basis and were likely to access the site on a monthly - bimonthly basis, as relevant to their personal, professional and/or community life.
	3	End users indicated that they visited the site, on average, on a weekly basis and that access occurred whenever there was a need to manage knowledge building and/or planning of relevance to their community. These returns involve a mixture of information gathering and information input – an embedded process of information exchange.

Appendix A:

Sustainability Model - Rating Scale and Criteria for Ratings Allocation

Factor	Rating Scale: Allocated at the Point of Analysis: Interview, Survey and Analytics Data	
Quality of Information	1	The quality of information, as assessed by end users, was consistently viewed as being of a low standard in terms of accuracy and appropriateness of content for meeting user needs.
	2	The quality of information, as assessed by end users, was consistently viewed as being of a medium standard in terms of accuracy and appropriateness of content in meeting user needs. Beginning trends are emerging that individuals are taking responsibility for addressing the quality issue through information exchange and feedback, as required.
	3	The quality of information, as assessed by end users, was consistently viewed as being of a high standard in terms of meeting user needs and, in instances where there is a quality issue, end users consistently see this as a collective issues and ensure that this is addressed through provision of feedback and/or the provision of new information, as required.
Usefulness of Content	1	There were few or no examples able to be provided of instances in which the content of the HUL web portal was assessed as having been useful in meeting the personal, professional, community needs of end users.
	2	There were numerous examples able to be provided of instances in which the content of the HUL web portal was able to be assessed as having been useful in meeting the professional, personal and/or community based needs of end users.
	3	There were consistent and significant examples of usefulness of portal content in supporting and meeting the needs of the individual, the workplace, the sector and the community across a range of issues and requirements.
Community Connection/ Ownership	1	There were no identifiable and measurable indicators of community connection/ownership identified between the HUL web portal and the broad range of end users that make up the communities of relevance to HUL.
	2	There were some identifiable and measurable indicators of community connection/ownership identified between the HUL web portal and the broad range of end users that make up the communities of relevance to HUL.
	3	There were strong, consistent and readily measurable indicators of community connection/ownership identified between the HUL web portal and the broad range of end users that make up the communities of relevance to HUL.

Appendix A:

Sustainability Model - Rating Scale and Criteria for Ratings Allocation

Factor	Rating Scale: Allocated at the Point of Analysis: Interview, Survey and Analytics Data	
Relevance of Content	1	The content included is not representative of the broad range of user groups that are integral to an inclusive and representative resource. There was no inclusion of the broad spectrum of elements (from physical to value based) that make up a cultural landscape. Content is rarely, if ever, reviewed for relevance.
	2	The content included picks up a reasonable proportion of the broad range of user groups that are integral to an inclusive and representative resource. Includes a majority of the broad spectrum of elements (from physical to value based) that make up a cultural landscape. Review for content relevance occurs intermittently with end user group involvement.
	3	The content is completely relevant and appropriate to the location in which it is being used. All potential user groups that are integral to the building and management of content in an inclusive and representative resource have been included. The content covers the broad spectrum of elements (from physical to value based) that make up a cultural landscape. It is constantly reviewing content to maximise relevance. This occurs with end user group involvement at each point of the knowledge building and planning process.
Capacity for User Input	1	There were few or no indicators found that there were established processes in place to maximise inclusiveness across the broad range of end user groups that were likely to result in any level of end user 'power' in management and development of the HUL web portal.
	2	There were a number of indicators found that there were well established processes in place to maximise inclusiveness across the broad range of end user groups that were likely to result in any level of end user 'power' in management and development of the HUL web portal.
	3	There were clear and well documented processes and mechanisms in place to facilitate the allocation of roles and responsibilities and to establish processes of inclusiveness across the broad range of end user groups. The nature of these process could be assessed as being likely to result in good level of end user 'power' in management and development of the HUL web portal.
Flexibility for Changing Information/Content	1	There were very few or no identified examples of instances in which content changes aimed at a better reflection and representation of culturally relevant information and resources were identified by end users. There was no indication that these had been critically reviewed, with the aim of putting in place measures to address these.
	2	There were some examples, of instances in which content changes aimed at a better reflection and representation of culturally relevant information and resources were identified by end users. There was an emerging indication that these had been critically reviewed, with the aim of establishing measures to address these.
	3	There was an overt and consistent commitment to the ongoing identification and inclusion of changes aimed at a better reflection and representation of culturally relevant information. Resources were identified by end users, and were critically reviewed, with the aim of ensuring ongoing flexibility, change and inclusion.

Appendix A:

Sustainability Model - Rating Scale and Criteria for Ratings Allocation

Factor	Rating Scale: Allocated at the Point of Analysis: Interview, Survey and Analytics Data	
Level of Trust	1	There were few messages and/or there was specific negative feedback provided, throughout embedded feedback mechanisms and through research processes, relating to end users trust of the content of the portal. There was minimal confidence expressed that content was usable and representative of important aspects of their cultural historic urban landscape.
	2	There were a range of examples found, throughout embedded feedback mechanisms and through research processes, that end users trusted the content of the portal and were confident that it was usable and representative of important aspects of their cultural historic urban landscape. There was a good level of confidence expressed in the fact that planners and managers would incorporate content considered to be important for the end user in conceptualising and representing their cultural urban landscape.
	3	There was an overt and consistent message provided, throughout embedded feedback mechanisms and through research processes, that end users trusted the content of the portal and were confident that it was usable and representative of important aspects of their cultural historic urban landscape. There was a very strong level of confidence expressed in the fact that planners and managers would incorporate content considered to be important for the end user in conceptualising and representing their cultural urban landscape.

Appendix B: The HUL Online Survey

Historic Urban Landscape Ballarat Web Portal Survey

In conjunction with the City of Ballarat, the Centre for eResearch and Digital Innovation (CeRDI) at Federation University Australia has developed the Historic Urban Landscape (HUL) Ballarat web portal (www.hulballarat.org.au), which currently incorporates Visualising Ballarat (www.visualisingballarat.org.au). This web portal is part of the strategies developed for Ballarat, as a member of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Historic Urban Landscape Global project. The HUL Ballarat web portal enables users to easily access authoritative and credible heritage information and the ability to share in the vision of the HUL program.

Dr Angela Murphy, together with Alison Ollerenshaw, Jennifer Corbett and Dr Michelle Graymore, is undertaking research to examine preliminary issues around access to the HUL Ballarat web portal, its quality and usability, and the options and opportunities for further development. The research team is seeking to use the collected data to inform the extension of HUL Ballarat and Visualising Ballarat, to prepare academic journal articles and conference papers, and may also be shared via a report to project partners and the funding organisation.

As you attended the Ballarat Symposium on Historic Urban Landscapes in February 2015 or have expressed an interest in HUL Ballarat, we invite you to complete this online survey. The survey will take approximately 15 minutes to complete and the data collected will play a key role in improving the website and portal to ensure it continues to be useful and effective in the future.

This project received approval from Federation University Australia's Human Research Ethics Committee (Approval number: A15-078) and the Plain Language Information Statement is available to review in full. For further details about this research please contact Dr Angela Murphy on (03) 5327 6198.

1. Have you accessed the HUL Ballarat web portal?

Yes No

If yes go to question 3.

2. Why have you not accessed the HUL Ballarat web portal?

Didn't know about it Didn't have internet access Too busy
 Not interested Other: _____

3. How did you find out about the HUL Ballarat web portal?

Community group Mailing list Workplace
 Social media Word of mouth Other: _____

If you answered no to question 1, go to question 17.

4. Which information on the HUL Ballarat web portal have you accessed? (tick all that apply)

[See change](#)

[Talk about Ballarat](#)

- Before and after
- Photo map
- Timeline
- Image gallery
- Videos
- 3D terrain map
- Visualising Ballarat
- Facebook: Historic Urban Landscape
- Facebook: Have you seen old Ballarat Town
- Wiki: Ballarat District Industrial Heritage Project
- Wiki: PROV
- Events and meetups

[Show your Ballarat](#)

[Research the Historic Urban Landscape](#)

- Where is Ballarat East?
- Photo map
- Panoramic landscapes
- Miners Rest memories
- Where do I find Ballarat information?
- Research community login
- Resources
- Knowledgebase

5. From the list below, please indicate all the reasons you have accessed the HUL Ballarat web portal:

- As part of my job
- Personal interest
- To better understand aspects of Ballarat's historic buildings and landscapes
- Other: _____
- As part of my role in a community group
- Local/family history research

If you did not select as 'as part of my job', go to question 7.

6. Please specify your job role:

- Researcher/Historian
- Real Estate
- Genealogist
- Engineer
- Arts
- Other: _____
- Town Planner
- Landscape/Environment

7. Were you looking for something specific on the HUL Ballarat web portal?

- Yes
- No

If no, go to question 11.

8. Could you find what you were looking for?

- Yes
- No

If yes, go to question 10.

9. Did you find what you were looking for elsewhere?

- Yes
- No

10. Please provide more details about what you were looking for and how you found it:

11. Please estimate how often you access the HUL Ballarat web portal:

- Daily Once a week A few times a week
 Less than once a month Once a month A few times a month
 Never

12. How useful are the resources on the HUL Ballarat web portal?

- No use (1)
 (2)
 Moderately useful (3)
 (4)
 Extremely useful (5)
 Unsure

13. Please provide your reasons for your response?

14. Please rate the importance of the following elements of the HUL Ballarat web portal for you/your organisation:

	Not important		Neutral		Very important		
	(1)	(2)	(3)	(4)	(5)	Unsure	
See change	<input type="checkbox"/>						
Show your Ballarat	<input type="checkbox"/>						
Talk about Ballarat	<input type="checkbox"/>						
Research the Historical Urban Landscape	<input type="checkbox"/>						

15. Please rate the quality of content for the following elements of the HUL Ballarat web portal:

	Poor		Neutral		Excellent		
	(1)	(2)	(3)	(4)	(5)	Unsure	
See change	<input type="checkbox"/>						
Show your Ballarat	<input type="checkbox"/>						
Talk about Ballarat	<input type="checkbox"/>						
Research the Historical Urban Landscape	<input type="checkbox"/>						

16. Please rate the following design features of the HUL Ballarat web portal:

	Poor (1)	(2)	Neutral (3)	(4)	Excellent (5)	Unsure
Visual display and presentation	<input type="checkbox"/>					
Navigation	<input type="checkbox"/>					
Language	<input type="checkbox"/>					
Finding information quickly	<input type="checkbox"/>					
Links to other resources	<input type="checkbox"/>					
Search functions	<input type="checkbox"/>					
User-friendly interface	<input type="checkbox"/>					

Other: _____

17. What do you see as the strengths of the HUL Ballarat web portal in its current form?

18. Are there any other aspects of the HUL Ballarat web portal that you believe could be enhanced? If so, what and how?

If you answered no to question 1, go to question 27.

19. Are there other materials and data that you think should be included on the HUL Ballarat web portal in the next stage of its development?

20. Has the content of the HUL Ballarat web portal enhanced your knowledge and understanding of Ballarat's unique historical attributes?

Yes Somewhat A little No

21. Please provide reasons for your response:

22. Has using the HUL Ballarat web portal had an impact on your perception and understanding of:

	No Impact		Neutral		Large Impact	
	(1)	(2)	(3)	(4)	(5)	Unsure
Location, history and significance of Ballarat's buildings	<input type="checkbox"/>					
Landscapes, gardens, landmarks, environmental features	<input type="checkbox"/>					
Connections between the present and the past	<input type="checkbox"/>					
Ballarat people, then and now?	<input type="checkbox"/>					
The Ballarat community and your place in it?	<input type="checkbox"/>					

Other: _____

23. Have you and/or your organisation been involved with the development of the HUL Ballarat web portal?

Yes No

24. Please describe your role in this development:

25. Has the HUL Ballarat web portal met your expectations?

Yes No

26. Please provide reasons for your response:

27. What suggestions, if any, do you have for the development and expansion of HUL Ballarat web portal into the future?

28. What is your postcode? _____

29. Should you or your organisation wish to be considered for possible involvement in the establishment of a Establishment Committee for the HUL Ballarat web portal, please provide your details so that the Research and Management Teams can make contact.

Name: _____ Phone number: _____

Email: _____ Preferred days to be contacted: _____

Thank you for your participation. Your responses have been successfully recorded.
If you have any questions, further feedback about this project or would like to participate in future research for this project, please contact one of the following researchers:

Dr Angela Murphy

Phone: 03 5327 6198

Email: aa.murphy@federation.edu.au

Dr Michelle Graymore

Email: m.graymore@federation.edu.au

Alison Ollerenshaw

Email: a.ollerenshaw@federation.edu.au

Jennifer Corbett

Email: j.corbett@federation.edu.au

Appendix C:

Research Study Interview Schedule

Interview Schedule

1. Please tell me about your role and involvement with the Ballarat Historic Urban Landscape (HUL) web portal.

Prompts:

- Establishment of portal
- Input into content and/or data
- Project Management
- Opportunity to discuss planning and development for the portal
- Use in a professional or personal capacity
- Other?

2. What have you used the Ballarat HUL web portal for?

Prompts:

- Your job.
- For your community group.
- Out of personal interest.
- Other?

3. Do you find the Ballarat HUL web portal to be a useful resource? How would you rate its current content and data quality? Is content readily available and easy to access?

4. What do you see to be the strengths of the Ballarat HUL web portal?

5. What do you see are the gaps or limitations of the web portal?

6. What areas of the Ballarat HUL web portal do you think should be developed or expanded further?

7. Do you think this type of resource is valuable for the Ballarat community? How?

8. Do you think that access to the HUL Ballarat web portal has the potential to influence and change the way members of communities connect?

9. How might we engage diverse groups (aged, indigenous, migrants, teenagers, etc.) to use and become involved with the Ballarat HUL web portal?

10. Has the Ballarat HUL web portal met your expectations? Please explain the reasons for your response.

11. What is your understanding of the relationship between the Ballarat HUL web portal and Visualising Ballarat?

12. Do you believe that there are other collections of material that should be included and made accessible through the Ballarat HUL web portal during its next stage of development?

13. Does your organisation have material or data that could be included in/shared with this project? If not, is there potential for this in the future?

14. Would your organisation be interested in being involved with the ongoing development and management of the HUL Ballarat and Visualising Ballarat web portals? If yes, in what ways could you envisage participating?

15. Do you have any further suggestions or comments regarding the development and expansion of the Ballarat HUL web portal?

Appendix D: Accessed Additional Resources

City of Ballarat – Historic Urban Landscape Approach

<http://www.ballarat.vic.gov.au/sh/heritage/historic-urban-landscape-approach.aspx>

HUL Ballarat

<http://www.hulballarat.org.au/>

UNESCO recommendations on Historic Urban Landscapes:

<http://whc.unesco.org/en/activities/638/>

World Heritage Institute for Training and Research in Asia and the Pacific Region under the auspices of UNESCO

(WHITRAP-Shanghai):

<http://historicurbanlandscape.com/>

Appendix F:

Potential Development Ideas and Links

Overview of Potential Development Ideas Put Forward During Data Collection

- Capture and map NOW for the future (example of Ballarat West Development)
- Sound layers to explore the changing city
- Flythrough of city
- Aerial photography
- Development of then and now sliders to be more dynamic: zoom in and out, still to panorama or film, landscapes as well as buildings, art as well as photography, sound
- Now and then sliders showing neglected sites or buildings that have then been reactivated (for example, Forge Pizzeria, laneways etc)
- Visuals showing intangibles like places people have gathered to eat food through time - For example Chinese through to African and Afghani
- More themed walking tours: opportunity to promote Ballarat as a walking city (<http://www.nps.gov/bost/planyourvisit/app.htm>)
- Community driven mapping of meanings and values (Bostonography example)
- Migrant stories (new and old from, for example, the Greek, Polish, Latvian communities). Bring young and new migrants together around stories of migration. You might have an inter-group dialogue like Sudanese speaking to the Dutch about their different experiences of arriving in Ballarat, providing historical perspectives on contemporary issues. Capturing stories of older European migrants and influences on Ballarat, looking at the way migration has shaped the city both architecturally and culturally. Could look at European migrant communities, history of Catholicism etc - all these human movements and the influences on Ballarat from tangible heritage of architecture through to the cultural.
- Building International links through other HUL projects.
- You could have hot spots that light up on pictures with added content ie. Suttons, Northgate Communications. Could create project groups to build content around particular buildings
- Promote heritage skills and trades as part of capturing intangibles
- Mentorship and up-skilling 'I can see a process where early contributors could act as mentors to get others involved'
- Develop ways for users to contribute. Could provide tips, for example the Panorama function on smart phone (enabling). From a management perspective this could be contained around particular events or themes
- Library: past ownership and info around houses, showing people how to research
- Possible links to State Government who are interested in possibilities of overlaying data - PTV, Bus routes, connectivity with trains etc
- A digital map designed for new residents that highlights key buildings and information (even for existing residents) – Example – having children involved in ballet performances and parents not being familiar with the venues of Art Gallery and Mining Exchange)
- Create an annual prize through collaboration between City of Ballarat, FedUni etc. to build content around either Ballarat's past or present (photography etc.)
- Use social media to capture and document stories and activities of various communities, particularly youth. And create shared #tags that are widely known and used to capture the diversity of the city
- Initiate a project with Ballarat Regional Multicultural Council, City of Ballarat and ethnic communities themselves (formal and informal) to see what material people have (images etc) Also get Frances Salenga and Anne Foley involved. Mi Ling-Chinese archives, also Charles Zhang

Collections with potential to be included through Links within web portal

Gold Museum and Sovereign Hill

Data to be contributed via Gold Museum, much is now digitised and happy to share. Also Sovereign Hill is about history but also has its own history - planning around telling this story, ie. Sharing the story of how the place was built with research files, the process of researching and interpreting, videos and audio around gold practices etc. Quality issues but potentially any future content created could go onto HUL. Also potential links between sites.

Wadawurrung Aboriginal Corporation

WADAWURRUNG DYA BAAP NGOB-EEYT CULTURAL HERITAGE MAPPING - 200 sites (just need to look at formatting)
Videos featuring Bryan Powell e.g. ABC Open:
<https://open.abc.net.au/people/18031>

Art Gallery of Ballarat

- 'Ballarat in Pictures' Exhibition and book from 2004 marking the 150th anniversary of Eugene Von Guerard's 'Old Ballarat 1853/54' in 2004. A reprint of the book could potentially be linked in with HUL site
- Current exhibition 'The Inimitable Mr Meek' features early images of Ballarat and is part of a PhD project by Joan Luxemburg. Following the gallery's brief of collecting early images of Ballarat with aesthetic and historic value, this sort of collection and research could be featured on site.
- Collections - some digitised, also searchable through key words like Ballarat. Anne Rowland the registrar is next contact for more on collections, access. i.e. - Lithographs of Francois Cogne Ballarat in 1858, based on photographs

FedUni

- PhD research, for example George Hook on Von Guerard paintings
- Geoffrey Blainey Research Centre and history of the University itself beginning with School of Mines

- Work of Fred Cahir, Keir Reeves and CRCAH, Anne Beggs Sunter, Dave McGinnis - Possible research in future. Possibly collections/projects like the 1993 Ballarat East Cognitive Mapping Exercise etc.
- Performance history with Rex Hardware archives from Arts Academy Live production Course
<https://www.youtube.com/user/UBlive>
- Visual Arts Student work at FedUni - Living Heritage project videos, Angela Campbell recent paper in the Australasian Drama Studies about Living Heritage project

Australiana Research Room, Ballarat Library City of Ballarat

- Oral histories and Heritage Weekend ipad stories- "We just asked a whole lot of people the same question and then we edited all together. And we asked people how the milk used to come to your house. "Ah the milky used to come", "we used to put the billy out" and it just went on until we got to someone about 30 years old and he said "well mum brought it from the supermarket".

City of Ballarat

- Historic design plans and drawings of all the drainage, bridges, streetscapes, historic buildings. So of the plans are 120-130 years old
- Internal data sets ie. Work that is being done around trees or the Avenue of Honour

M.A.D.E

- Digital stories on Youtube, other online exhibitions and content that can be shared within copyright restrictions
<https://www.youtube.com/user/MADEBallarat?feature=watch>
- Eureka on Trial <http://made.org/explore/exhibitions/eureka-on-trial-2/> (good example of a collaboration between PROV and MADE)

Public Records Office Victoria

- Range of links to data bases for document library. Need to be negotiated with Public Records Office Victoria management.

Visualising Victoria's Groundwater

- Links to Visualising Victoria's groundwater or range of environment, natural disaster or others to be negotiated with CeRDI.

Centre for Multicultural Youth

- 5 Things Project - The forum was based on the simple concept that if you had to flee your homeland suddenly what five things would you take? A panel of ten speakers participated and included local Ballarat residents with a lived migrant or refugee experience and local sports, business, media and indigenous leaders. The Ballarat Youth Advisors played an important role in organising this event which provided a unique platform for participants to re-contextualise and imagine the migrant and refugee experience. In lead up to this project three or four older migrants were interviewed about their experiences and these exist as recordings.
- Images that would help show the kinds of activities Centre for Multicultural Youth is involved with: Chai Khana, Catering events, Harmony Festival, Refugee Week, young multicultural youth partaking in events

External Links Referenced

- 1993 Ballarat East Community value project- See this link for the reference on the Victorian Government Library Service. [http://library.intranet.vic.gov.au/client/en_US/VGLS-public/search/detailnonmodal/ent:\\$002f\\$002fSD_ILS\\$002f0\\$002fSD_ILS:60754/one?qu=All+my+lifetime+it+was+there...+%3A+the+valu-ing+of+Ballarat+East%3A+community+perspectives+on+her-itage%2F+a+pilot+project+for+the+National+Trust&rt=false%7C%7C%7CTITLE%7C%7C%7CTitle](http://library.intranet.vic.gov.au/client/en_US/VGLS-public/search/detailnonmodal/ent:$002f$002fSD_ILS$002f0$002fSD_ILS:60754/one?qu=All+my+lifetime+it+was+there...+%3A+the+valu-ing+of+Ballarat+East%3A+community+perspectives+on+her-itage%2F+a+pilot+project+for+the+National+Trust&rt=false%7C%7C%7CTITLE%7C%7C%7CTitle)
- EGold- <http://www.egold.net.au/>
- Bostonography Community Mapping - <http://bostonography.com/>
- Holocaust Museum in Melbourne with Story Pods- <http://www.jhc.org.au/museum/our-museum/storypods.html>
- Walking Tours Boston <http://www.nps.gov/bost/planyourvisit/app.htm>
- Theoretical underpinnings around the term "landscape" and "landscape urbanism"- a term from mid 1990s, Peter Connely- American links and big names in field, like the firm that designed the Highline in NY around looking at cities through its landscape rather than design of buildings. Also in book Reconnecting the City edited by Francesco Bandarin and Ron van Oers- <http://onlinelibrary.wiley.com/book/10.1002/9781118383940>

Appendix G: Individuals and organisations indicating interest in HUL and Visualising Ballarat Management

The following individuals and organisations have indicated an interest in involvement in either membership to a potential Establishment Committee or in having input into HUL and Visualising Ballarat planning and development. They would be make up the mailing list of those who would be involved in an initial recruitment and visioning workshop:

There were a total of 18 individuals indicated on the survey responses that they would be prepared to be contacted for involvement in planning and management processes related to the web portal development. In line with issues of privacy and confidentiality, as established through the HREC ethics approval process, these individuals will not be named within a public document. Their names and contact details are available and accessible to identified researchers and for City of Ballarat staff, as agreed by participants within their survey responses.

The following organisations have indicated they are prepared to be involved in future planning and development for the web portal:

- Sovereign Hill
- The Gold Museum
- Ballarat China Community Group
- WATHCORP Aboriginal Community Based organisation
- Centre for Multi Cultural Youth
- Museum of Democracy at Eureka (in consultancy role)
- RMIT
- Public Records Office of Victoria
- Lateral Plains – Consultancy Group
- City of Ballarat in the following portfolio areas:
 - Heritage Advisory Committee
 - GIS Technical
 - Arts, Culture, events and Australiana Rooms
 - Planning and Community Development Practitioners
 - Assets Management
- Federation University Australia
 - Centre for eResearch and Digital Innovation
 - Centre for Regional Innovation and Competitiveness
 - Collaborative Research Centre in Australian History
 - Faculty of Education and Arts (including Arts Academy)
 - Federation Business School
 - Geoffrey Blainey Research Centre
- Department of Environment, Land Water and Planning
- Ballarat Art Galley

