Urban Heritage Analysis

A handbook about

DIVE

RIKSANTIKVAREN

Integrated conservation is part of the general process of the planning and management of cities and territories in accordance with a multi-referential perspective (economic, political, social, cultural, environmental and spatial); It centers on (but does not limit itself to) the physical and spatial aspects of the consolidated urban areas that are socially recognized as of cultural value and seeks to maintain the integrity, authenticity and continuity of urban areas of cultural value for present and future generations; It emphasizes the conservation of the physical and spatial aspects within the development/transformation process of the city, while seeking sustainable development by transforming the cultural values of the city into assets that add value to all dimensions of the development process (economic, political, social, cultural, environmental and spatial).

Zancheti, S. M., Kulikauskas P., Sá Carneiro A. R., Lapa T. A.. 2004. Bridging the disciplines and cooperative action: interfaces in integrated urban conservation. City & Time 1 (1): Presentation. [online] URL: http://www.ct.ceci-br.org

Sustainable Historic Towns: A Handbook about DIVE - Urban Heritage Analysis.

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Foreword The Way towards DIVE

This handbook about the DIVE method is a result of the project *Communicating Cultural Heritage in Urban Development Processes* (Co-Herit 2007-08). However, it conveys knowhow developed during a long process. In 1999 the Norwegian Directorate for Cultural Heritage was commissioned by the Ministry of Environment to develop knowledge and guidelines for urban and local development. One of the challenges was to develop methodologies for cultural-historical analysis that could be applied practically in planning. Cooperation with Sweden on the DIVE handbook has been linked to two Swedish governmental commissions, *Supporting the development of planning bases for local authorities* and *Capacity building amongst public authorities for conservation and development of culturally valuable built environments*. In Finland the work with DIVE is connected with the development of guidelines for building documentation, evaluation and sustainable use of the cultural heritage.

Area analyses are a widely used tool amongst Norwegian planners, but as of 1999 there was no study of the dynamics of such processes or their practical results. The Directorate for Cultural Heritage therefore commissioned the Norwegian Institute for Urban and Regional Research (NIBR) to execute a qualitative evaluation of some analyses. The results were published in a report, *Area analyses in local planning*. The Directorate then collected documentation from various analyses for comparison and discussion together with state and local planners. The material was published in 2002 on the Directorate's internet site *The Internet Place for Placemaking*. The site presented methodologies as well as practical examples and discussions about process.

This constituted the knowledge base for the Directorate's subsequent involvement in the Interreg project *Sustainable Historic Towns*, where the prototype for the DIVE method was developed together with researchers, architects and municipalities. The name DIVE is derived from the four English words *Describe*, *Interpret*, *Valuate*, *Enable*. These describe the four key steps in the analysis process. At the same time the name conveys how the analysis builds a knowledge base through research and "dives" into the history and past development of a town or area of study. The DIVE method applies methods familiar to planners and cultural historians, and its structure follows process logic as developed in modern communications research.

There is now a range of test material from Norway, Sweden and Finland, of different applications of the DIVE method. The handbooks in Norwegian and Swedish present some of the completed analyses. This web based version of the handbook presents in particular the application of DIVE in Odda, Norway. We express herewith our best wishes to future users and hope that experiences with DIVE will be widely shared and lead to further development of the methodology.

NILS MARSTEIN, *FORMER DIRECTOR GENERAL, NORWEGIAN DIRECTORATE FOR CULTURAL HERITAGE*

Summary

Society's growing interest in the historic and cultural qualities of towns and cities underlines a need for planning and heritage management which focus on urban heritage qualities as development assets. The DIVE-analysis addresses some of the challenges which are encountered when viewing historic and cultural environments as both qualitative and functional resources. The approach encourages cross-disciplinary and cross-sector cooperation, and emphasizes the importance of public participation, communication and dissemination of results.

The four main steps of the DIVE analysis (Describe, Interpret, Valuate and Enable) are compatible with a number of methods and approached found in other areas and professions, e.g. archaeology, landscape planning and urban design. DIVE analyses may be integrated into urban planning procedures, or used as independent knowledge-building tools. Target groups include stakeholders, planners, cultural heritage professionals and decision-makers involved in urban conservation projects and planning, both in the public and private sector.

The DIVE design is the result of two international projects: the Interreg IIIB project *Sustainable Historic Towns: Urban Heritage as an Asset of Development* (SuHiTo 2003-05) and the project *Communicating Heritage in Development Processes* (Co-Herit 2007-08). This DIVE-handbook sums up the results of the two projects, as well as the experiences gleaned from other DIVE related activities in Sweden, Finland and Norway. The first chapter outlines the structure and principles of DIVE, followed by more in-depth explanations of some of the terms and techniques of the DIVE analyses e.g. *time/space matrix, historic legibility, integrity, capacity for change etc.* The second chapter presents a number of case studies in Norwegian, Finnish and Swedish towns, showing how DIVE may be adjusted and used in different circumstances, historic settings and urban situations,

The case example presents an extract of a DIVE analysis carried out in Odda, where a large industrial plant (Odda Smelteverk) was closed down in 2003. The analysis focuses on the site's historic qualities and significance, how buildings and constructions can be put to new use and integrated into the town's physical and commercial structure.

The handbook presents the DIVE concept as it stands at the end of 2008. No doubt, both the theoretical basis and practical implementation of DIVE analyses will evolve through experience and use. As the examples shows, DIVE is flexible and may be used in wide range of circumstances, underlining its strength as a tool which can match the ever evolving rationale of tomorrow's urban development, planning and heritage management.

Introduction

Cultural heritage as a topic in urban and local development

In our towns, new elements are continually being added to what exists; some are worthy of conservation, others have potential for change and integration into new contexts. In Scandinavia and Europe there is a growing interest in the city, and in the communicative, experiential and functional qualities of the cultural heritage. Agents of urban development are to an increasing degree aware of the value creating potential of the city's historical and cultural elements. Hence there is an increasing need for planning and management that emphasizes the positive potential of heritage to a greater degree than has been the case in traditional planning; and that contributes to sustainable development.

Since the 1970s international conventions, charters and declarations in UNESCO, ICOMOS and the Council of Europe have all stressed the need for the work with urban cultural heritage to be better integrated into planning and management practice. This perspective of integration is to a varying extent incorporated into Scandinavian planning and management legislation. Cross sectoral thinking and coordination of interests is a major success factor today in achieving attractive, well functioning and sustainable cities.

The DIVE analysis as a planning and process tool

The importance of cultural heritage as a resource offers new arenas for action, but at the same time it requires strategies and means that are adapted to the current dynamics of the city and of planning itself. The DIVE tool is flexible and methodologically open as well as being interdisciplinary and participatory. This is well suited to contemporary challenges, and to working with the cultural heritage as a qualitative and functional resource in urban or local development processes. Since local contexts must be given high importance, the structure of the DIVE analysis is simple and is based more on *what* issues should be dealt with than on exact instructions as to *how* the work should be done.

DIVE is thus not so much a method as a supporting framework for sifting, discussing and processing information. The process may be planning, local development or heritage analysis. By means of the analysis one clarifies which social, economic, cultural and physical features have been and are important for the area's evolution, which physical traits have played and play a key functional and symbolic role, and which are of secondary importance.

The DIVE process should create an arena for critical and creative thinking. It should stimulate interdisciplinary cooperation and cross sectoral participation. Participation can take various forms depending on the context and available resources: public meetings, surveys, or workshops. Equally important is effective and pedagogic communication of the process, deliberations and results of the analysis.

Applications and target groups

A DIVE analysis can be used in various ways. It may be to highlight the qualities and potential of the cultural heritage in the coming development of an area, or to draw attention to essential historical features in simple or complex areas. The flexible, systematic and transparent nature of the analysis makes it a powerful tool towards achieving well balanced management and development strategies. A DIVE analysis can be used as knowledge base for:

- Management at all levels of cultural heritage, environments and landscapes
- Physical and transport planning at both overview and detail levels
- Impact assessment of programs, plans and projects
- Community planning at the regional and local levels.

Target groups include both private and public sector agents who are working with cultural heritage in the course of planning, local area development and other decision making processes. These groups require a systematic and pedagogic tool enabling them to develop, and communicate to users and the public, knowledge about the qualities and potential of the cultural heritage.

Structure and principles of the DIVE analysis

The analytical process

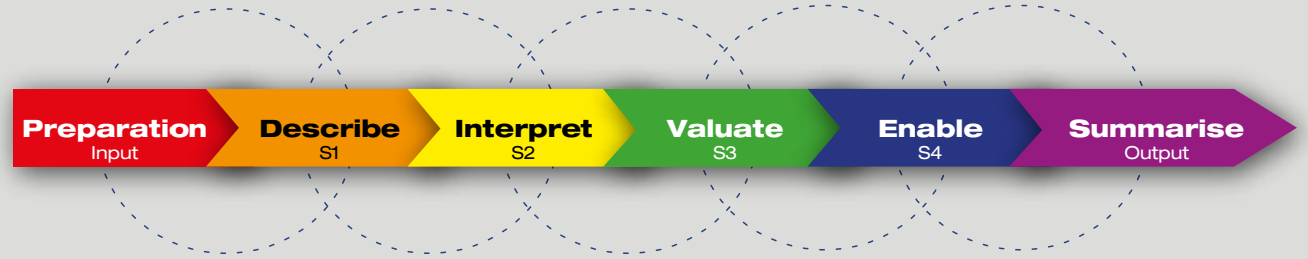
A DIVE analysis can function both as a foundation and support tool for planning work, and as an independent knowledge building process. In both cases the purpose is to transform cultural historical information from passive to operational knowledge through a critical, creative, systematic and goal-orientated process. The cultural-historical profile of the analysis encompasses a broad spectrum of environmental and societal determinants, perceptions and themes. The structure of the analysis is derived from four fundamental questions that influence the relationships and balance between the forces of continuity and change in the area being studied.

D - What does today's landscape and environment tell us about the area's origins, development and character?
I - Why have certain elements and characteristics of the area had a particular significance for the society?
V - Which historical elements and characteristics are of special value, can they be developed and what is their tolerance to changes?
E - How should the area's prioritised historical characteristics and resources be managed and developed, through concrete proposals.

D = Describe, **I** = Interpret, **V** = valuate, **E** = Enable

The questions are addressed in four stages:
S1 - Descriptive phase, S2 - Interpretative phase
S3 - Valuation phase, S4 – Enablement phase

In addition the analysis has an Input stage (preparatory work) and an Output stage (summarising work). A colour code is used to clarify the process described in this handbook.



The DIVE analysis can thus be seen as a knowledge building process in which the different stages are connected like links in a chain.

Note that where this handbook describes the stages of the analysis as independent activities, this is to highlight the various roles of the tasks in the knowledge building process. However, case studies have shown that it is both natural and desirable to let the various stages overlap, and to work in parallel on various parts of the tasks. In order to ensure a smooth, integrated process and productive discussions it may for example be beneficial to work on two stages simultaneously (for example S1 and S2, S2 and S3, S3 and S4).

Stage (work phases)	**Objective**	**Relevant subtasks**
Prepare	Input	Organisation and work plan for the analysis
S1 Describe	Historical character of the area of analysis	Establish a knowledge base, collate, describe and process information about the origins, development and character of the area.
S2 Interpret	Historical meaning of the area	Explore the area's historical legibility, its significant and communicative contents, integrity, authenticity and overall condition.
S3 Valuate	Value and potential of the area	Assess the value, development potential, vulnerability, tolerance and capacity for change of the cultural and historical resources.
S4 Enable	Active intervention	Define the potential field of action for the cultural heritage, suggest strategies and principles, instruments and concrete measures for management and development.
Summarise	Output	Summary of the contents, results and recommendations of the analysis

Input – Preparatory work phase

Goal: Set up the process and program of analysis

Before starting the analysis it is important to assess factors that could affect the execution and subsequent use of the work. To the extent that it is relevant and possible, a program should be developed where the issues, questions and knowledge needs are described. This program functions both as a work brief, table of contents, and checklist for the execution of the analysis

Checklist for the analysis

1. Starting point and goal
Whilst working on the analysis it is important that the stakeholders are clear about why the analysis is being done, what goals are to be reached and what results are expected.

2. Content and focus
Given the objectives and the nature of the area, the main contents and focus of the analysis are worked out, taking into consideration the themes, levels, and historical periods to be studied.

3. Commitment and resources
Regardless of whether the analysis is to function as a knowledge base for planning work or a management process, it is important that full commitment to the work has been obtained and that the required skills and financial needs have been clarified.

4. Progress and coordination
The analysis must be headed by a project leader. A time plan is then established for the different stages of the analysis, discussions and final report. The schedule must where necessary be coordinated with other ongoing plans and processes.

5. Cooperation and public participation
A structure is then set up for interdisciplinary cooperation, for example with a steering committee and a reference group, as well as a plan for how public participation is to be conducted.

6. Communication and accessibility
The analysis and its results must be communicated with clear, pedagogic presentation methods. This implies an analysis of how, when and to whom the material is to be communicated in order to ensure the desired impact.

7. Use and after-use
A plan is then developed for integrating the results of the analysis in the relevant planning or decision making process. Responsibility should be allocated for follow up and safekeeping of the material.

Stage 1 – Descriptive phase

Objective: Highlight the historical character of the area of analysis

History can be found everywhere in our surroundings in the form of traces from the life and work of previous generations. In some places the historical traces are evident whereas in others they can be hard to discover, either because traces are hidden underground or because they have merged with newer historical layers. The starting point for the first stage of the analysis is the following question:

- *What does today's landscape and environment say about the origins, development and character of the area?*

It is in this phase that the knowledge base of the analysis is established, and hence the foundation for understanding how environmental and societal preconditions and conceptions have shaped today's society, surroundings and historical character. The information and degree of detail required should largely be determined in the preparatory work programme in order for the collection of information to be effectively directed towards the challenges that have been identified. Establishment of the knowledge platform for the analysis is well suited for participatory work. The local knowledge that is produced should be as value neutral as possible, in view of the interpretative function of the next stage.

Relevant subtasks in stage 1

A Collect information about the site's origin and development:
In this stage one makes "dives" into the area's historical spaces and contents, uncovering information about historical developments and changes. Information is assembled from available sources as a basis for describing the historical layers and the stories they have to tell.

B Systematise the historical information:
The historical information is then systematised with the aid of time-space matrices, or other techniques that give a good overview of the area's contents and relationships. Needs for additional research and information processing and knowledge gaps are identified.

C Describe and convey the knowledge:
The information and insights gained into the area's historical character are then discussed and described. Maps, illustrations and information overviews are developed to convey the knowledge and results from stage 1 in a pedagogic manner.

Basis and sources: Field investigations, documentation and registration; old maps, drawings and photographs; descriptions, local names, records of local life and history, orally transmitted stories and conversations, traditions, information collected through participation processes, questionnaires, etc.

Techniques: Time-space matrices, historical charts, thematic time windows, photomontages, computer generated images, etc.

Stage 2 – Interpretation phase

Objective: Highlight the historical value of the area

As the world and society changes, so do perspectives about history, both on the individual and the collective levels. Our historical understanding of Place therefore needs to build both on knowledge about the origin, development and character of the place as well as on interdisciplinary interpretation of the historical contexts. The key question is therefore:

- *Why have certain elements and characteristics of the area had particular significance for the society?*

Discussions about the historical significance of the area should include persons with different kinds of knowledge and points of view so as to ensure a broad inter-subjective approach. To the factual and descriptive knowledge base acquired in phase 1, one thus now adds the interpretative layer in phase 2 regarding the area's historical contexts and character. These two together form the main basis for assessing the values and potential of the cultural heritage in phase 3.

Relevant subtasks in stage 2

A Interpret the historical context:
The knowledge from stage one is assessed in order to obtain a deeper understanding of which historical periods, layers and stories, and which of the characteristics of the area, have had particular importance for people and society. The assessment needs to be done from both an historical and a contemporary perspective. Trends and future considerations should also be discussed.

B Investigate the area's historical legibility and condition:
Analyse how accessible and readable the important periods, narrative themes and elements in the landscape and environment are as they are today. Evaluating the condition, integrity and authenticity of the area helps to determine to what extent the physical phenomena effectively represent and express historical significance.

C Describe/convey the historical significance:
Make a concluding summary of the area's historical meaning and legibility. The goal is to describe the area's significance both seen as a whole and in relation to the elements that have been identified as being of particular significance and communicative potential. The description should be presented using maps and illustrations.

Basis and sources: The knowledge base from stage 1 and the description of the historical character.

Techniques: Readability map, as well as techniques used in stage 1 adapted to fit the themes and issues raised in stage 2.

Stage 3 – Valuation phase

Objective: Highlight the cultural historical value and opportunities of the area

In stage 3 the value of the cultural heritage of the area is assessed, as well as the robustness of its cultural historical qualities and their potential for activation and use. This stage builds on the earlier descriptions and interpretative material. Where cultural resources of national significance or protected areas and items are involved, appropriate methodologies and criteria are to be applied. The key question in this stage is the following:

- *Which elements and characteristics are of special value? Can they be developed and what is their tolerance to interventions?*

Participation is important in this stage of the analysis too. In considering the cultural heritage as a social, economic, physical or functional resource, all stakeholders should be given the opportunity to present and discuss views and priorities. These discussions should also focus on the development potential, vulnerability, tolerance and capacity for change of the area and its cultural historical qualities.

Relevant subtasks in stage 3

A Assess the qualities and values of the cultural heritage:
Evaluate the area's qualities in regard to its pedagogic, experiential and functional value. Criteria here will, in addition to cultural historical criteria, include the area's significance, local management objectives, strategies and priorities for developing the area's cultural resources.

B Investigate the development potential and vulnerability of the cultural heritage:
The development potential of the cultural heritage is investigated to shed light on alternative ways of exposing, preserving or developing the site's cultural historical qualities. These options should first be considered without taking into account possible limiting circumstances. Thereafter the vulnerability/tolerance of the cultural heritage is assessed in light of present day conditions and limitations.

C Describe and convey the cultural heritage's capacity to change:
Finally, describe the cultural heritage's capacity to change based on the results of the assessment of the area's values, development potential and vulnerability. This description is to be presented using maps and illustrations, and provides the basis for formulating the potential field of action in the next stage.

Basis and sources: The knowledge base and historical descriptions from stage 1 plus the interpretations from stage 2.

Techniques: Space-time matrices, value and sensitivity maps, scenario studies, illustrations.

Stage 4 – Enablement phase

Objective: Define the potential field of action and intervention

The goal of stage 4 is to define the framework for activation of the cultural historical resources that have been identified during the first three stages of the analysis as being characteristic, meaningful, valuable and more or less targeted for development. The work should encompass both overarching more detailed considerations, depending on the scale and levels of study and challenges of the specific analysis. The critical question in this last phase of the analysis is:

■ *How can the key historical qualities and resources of the area be sustained and how can they be developed?*

The knowledge base, results and arguments developed during the first three stages of the analysis are now applied and formulated further in order to justify the strategies, instruments and approaches that can be used to activate the cultural heritage. The proposals must respond directly to the challenges and issues that formed the starting point for the analysis. They should be presented in a form that facilitates their subsequent use. The proposals should have obtained the approval of the actors who have the relevant expertise and responsibility for follow up.

Relevant subtasks in stage 4

A Define the arena of intervention:
Describe the possible arena of intervention for activating the cultural heritage. The basis for this is the assembled information, conclusions of the interpretative, analytical and evaluation work, the changes envisaged, and specific geographical and managerial or institutional frameworks.

B Suggest implementation strategies and principles:
Discuss strategies and principles for maintaining and developing the cultural heritage of the area. The goal is to establish the main principles and guidelines that should be built into the ensuing planning and implementation processes.

C Propose concrete measures and instruments:
In this final stage, specific advice and recommendations are formulated regarding the development, use and maintenance of the cultural historical resources. These should include an assessment of the most appropriate means for subsequent planning processes, as well as concrete recommendations for interventions.

Basis and sources: The description of the cultural historical character, meaning, values and opportunities.

Techniques: Space-time matrices, maps, illustrations and descriptions and concept sketches.

In this document the phrase "arena of potential intervention", is used to translate the very useful but complex Norwegian word "handlingsrom". The term describes the field of action that is potentially available to the planners or actors. It relates to what measures may be envisaged for preserving, changing and/or activating the heritage in question, both in terms of what kinds of intervention and their extent or scale. The term does not only include the physical elements that may be subject to interventions, but also the non-physical determinants such as stakeholders, legislation, funding and other opportunities and constraints. All of these together constitute the potential for action.

Output – Summarising phase

Objective: Summarise the contents, results and recommendations

Upon completion of the analysis, it remains to summarise the process and contents. The use of this summary phase will depend on the goal of the analysis and it will be applied as necessary; for example as database and underlay for planning decisions. The summary provides a concise overview of the process, main points and conclusions.

Stages (work phases)	Summary of the DIVE analysis
Prepare	the preparations, program and process including plan for participation
S1 Describe	the historical character of the area, especially its particular evolution and characteristics
S2 Interpret	the historical meaning of the area and elements of particular significance and communicative value
S3 Valuate	the area's cultural historical value, development potential, sensitivity and capacity for change.
S4 Enable	the potential arena of intervention in the area, with alternatives and concrete ideas for the preservation and development of prioritised historical qualities and resources.
Summarise	the most important points and issues that need to be integrated into ensuing planning and other processes.

There are often well preserved remains from historical city layers, streets, houses and other structures underground. This archaeological heritage is a key source of information about the development of an area, and these are subject to particular legal guidelines for planning and maintenance. (From the DIVE analysis in Jakobstad).

The DIVE Analysis Terminology and techniques

The preceding chapter described the structure and principles of the DIVE analysis. This chapter looks deeper into the content, terminology and techniques of the analysis. For the purpose of clarity, this chapter's description of the terminology and techniques will follow the same order as the above description of the analysis.

Participation and Communication

Participation

A DIVE analysis should ideally function as an interdisciplinary, participatory and open process for inquisitive, critical and creative ideas. In this way discussions and judgments can be broadly anchored amongst the participants, thus ensuring the legitimacy and desired impact of the work. Participation can take place in various ways depending on requirements and available resources; for example by public meetings, questionnaires, participatory groups, chat pages, blogs, etc. In addition to the democratic aspect of this, a participatory process involves supplementing the collected information with site specific knowledge provided by individuals and groups who have diverse local knowledge and skills.

The diagram below gives recommendations for a participatory process. It is based on a representative working group that comprises people selected according to the knowledge required and the composition and interests of the local community. It functions as a forum for discussion. The number of meetings should reflect the time and resources available, 3-4 meetings being a minimum. The documentation and notes from this process should be retained as part of the analysis material. DIVE analyses may of course also be carried out without too much emphasis on the participatory process in situations where there is a need for a purely academic knowledge base or where the participatory component is ensured in other parts of the process.

Meetings and themes	**Activities**
Preparatory meeting linked to stage 1	Presentation of the program of analysis, challenges and activities in the first phase. Discussion of the project leader's (P) tasks for the next meeting.
Between meetings	P develops a memo for discussion in the work group
S1 The historical character of the area of analysis and connection to stage 2	P presents the memo for discussion in the work group. Clarify tasks and activities leading up to the next meeting
Between meetings	P develops a memo for discussion in the work group
S2 The historical significance of the area of analysis and connection with stage 3	P presents the memo for discussion. Clarify tasks and activities leading up to the next meeting
Between meetings	P develops a memo for discussion in the work group
S3 – The values and opportunities and connection with stage 4	P presents the memo for discussion. Clarify tasks and activities leading up to the next meeting
Between meetings	P develops a memo for discussion in the work group
S4 – The arena of intervention and initiation of final report	P presents the program for discussion in the work group. Clarify structure, content and time frame for the final report
Between meetings	P develops background material, suggestions and issues for the draft report
Summarising and project report meeting	P presents the draft report. Clarify adjustments to the report and inputs to planning processes

2001

1962

1925

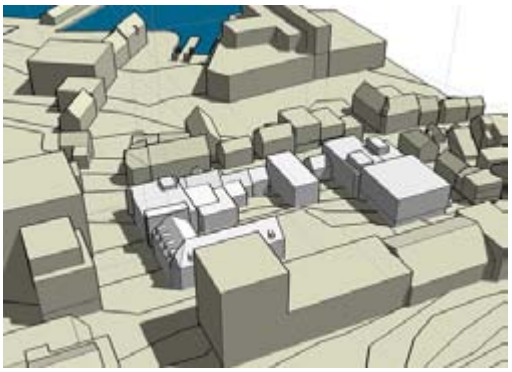
1905

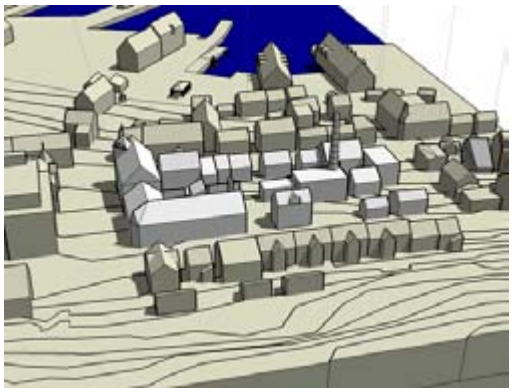
1870

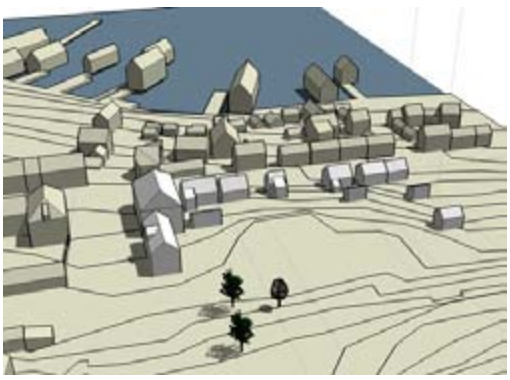
Example of a time sequence from a DIVE analysis of the Glommen area in Falkenberg, Sweden, that shows the development of an area of analysis in the time period 1870-2001 using simple photorealistic visual techniques.

Communication and Presentation

In order for a DIVE analysis to have the intended impact, its contents and process need to be effectively communicated. When the assembled knowledge, interpretations and evaluations are presented using pedagogic and visually effective techniques, an understanding of the goals, results and conclusions is achieved. Reconstructed maps and photorealistic visualisations that clearly show the development of the area of analysis and the environmental and societal contexts are especially effective. They can be used to focus attention on specific characteristics and local qualities. The value of good visuals does not necessarily require precisely historical representation. The presentation's ability to get individuals and local communities involved in the challenges and potential outcomes may be an even more important goal.

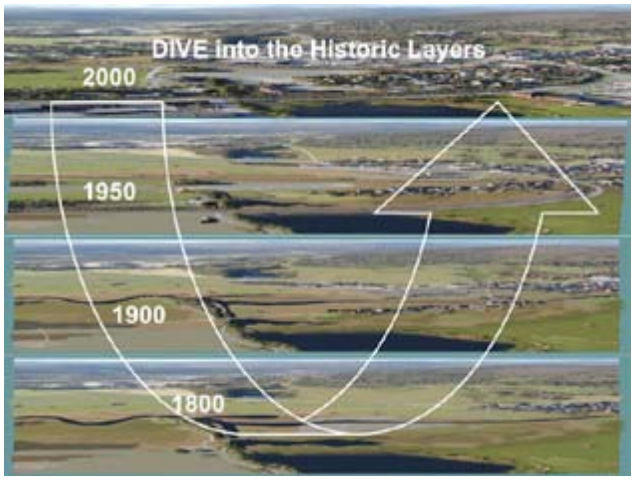




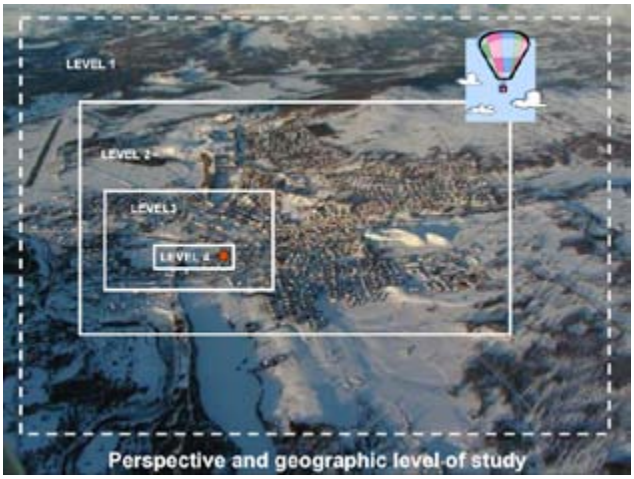


Example of a time sequence from the DIVE analysis in Tromso, Norway presenting development in the form of simple 3D models.

Historical character of the area of study



Time and space: the area analysed is at once an historic space and a repository of knowledge, where developments and stories are "stored" as images. The DIVE analysis enables one to collect information about past conditions and factors that have influenced and shaped the surroundings and environment as we see them today



Perspective: the illustration shows how a DIVE analysis observes the area of study from different heights. High altitude images offer a wide angle view giving the framework for a broad understanding of landscapes and socio-cultural relationships; however, the low resolution of such images gives little detailed information about the landscape and environment. Closer views on the other hand provide details whilst not giving insight into the overall context.

Historic space and repository

When collecting historical information it is useful to consider the area of study as an historic space; a repository of information about the contents, both material and immaterial, of the area and their development over time. History is "stored" in this repository, chronologically and in layers, and can be recreated as visual images. The present is the uppermost, newest and best documented layer; thence the analysis delves layer by layer back through time, in exploratory "dives" uncovering the area's evolution and roots. As one delves deeper the historical traces become weaker and the knowledge gaps increase. Even so, the dives augment our knowledge and ability to understand the area's context and content. The research into the repository and subsequent structuring of the information collected is especially well suited for participatory work.

Historical character /characteristics

In the context of a DIVE analysis, historical character means a description of the broad natural and societal factors that have formed and influenced the area. Such factors include power structures, religion, socio-cultural traits, climate, economy, technology, industry, communications, architectural forms, etc. By characteristics is meant more specific functional, structural and visual aspects and attributes that typify the area; for example patterns of use, traditions, transport and settlement typologies, built form and architecture.

Historical context

By historical context is meant natural and cultural conditions and factors that explain spatial and temporal relationships in the landscape and environment. Every trace of events, land use, production, manufacture and so on tells a story about past natural and socio-cultural conditions. Collecting information about former contexts and interpretation of their significance is amongst the most important parts of a DIVE analysis.

▼ THEME ►	SPACE ◄ Levels of investigation ► society, landscape, built environment			
▲ TIME ▼	**The area's cultural-historical:** • character • significance • values/potential • arena of intervention	**Context, structure, environment, element - Overall level** 	**Context, structure, environment, element - Area level** 	**Context, structure, environment, element - Local level** 	**Context, structure, environment, element - Detail level** 
	Future				
	Present				
	Past				

The space-time matrix can be used throughout the analytical process, as a knowledge-base and basis for discussing the area's character, significance, values/opportunities and arenas for action. The vertical tima axis represents the area's development, both chronologically and topically. The horisontal axis shows the development's physical manifestations - at a number of chosen geographical scales.

Space-time matrix (time window)

In order to be applied effectively, the historical material collected during the "knowledge dives" must be organized as a knowledge database for the interpretative and evaluative phases of the analysis. A useful tool for systematizing this work is the time/space matrix or time window. In this matrix the information on the area's historical contents and relationships can be sorted, stored and communicated. Horizontal and vertical time sequences can be made, at various geographical scales, to illustrate developments in various natural and cultural processes. For internet application the matrices can function as an archive. The "windows" or cells in the matrix can then function as links to further information. These matrices can then be used as reference material and as a starting point for discussions in all the following phases – description, interpretation, valuation and enablement.

Applying the matrix

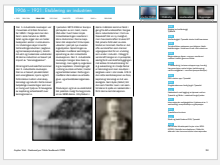
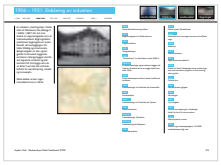
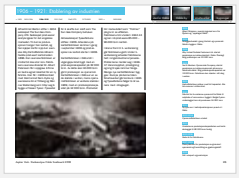
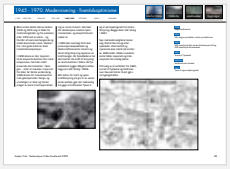
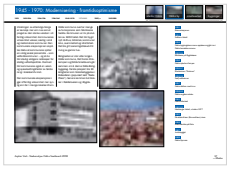
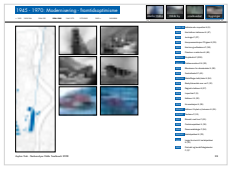
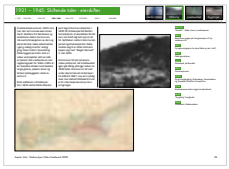
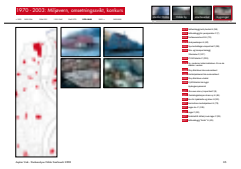
Before using the time/space matrix as a tool for systematization, one must decide how the key parameters of theme, time and space should be expressed and structured. In addition the appropriate level of application and degree of detail must be decided.

Theme: Themes are to be selected in function of the specific knowledge needs, and should relate to both time and space issues. Typical themes may be: development periods, economic base, physical formation processes and events, communications, history of the landscape and built environment, anecdotes from local life, etc. These themes should in the main be determined before starting the analysis. However, other themes may arise during the work as new issues and needs for other kinds of investigation come to light.

Time: Time is depicted on the vertical scale of the matrix, with the present at the top and as many earlier layers or periods beneath as required. Future stages of development can also be added above, where this is useful in order to draw comparisons between future proposals and the existing situation. The manner of subdivision into time periods will vary depending on the themes. Subdivisions may comprise simple mapping of main historical periods and specific local chronologies. There will often be recognizable local historical shifts or turning points that provide a pedagogic justification for the subdivisions chosen. Another, pragmatic approach may be to make subdivisions simply on the basis of what is available by way of historical maps, photographs and other information. One should however avoid too detailed subdivisions since this will demand processing of excessive quantities of historical information.

Space: The horizontal axis of the matrix illustrates the spatial-physical dimension of developments and their expression in the landscape and environment. They are illustrated at various geographical scales. Comprehensive mapping of the area's visible and invisible context and contents requires studies at different levels, from details to the overall picture. These levels are like investigations from different "altitudes". This influences both literally and figuratively the observer's perspective and ability to read, interpret and evaluate. Studying the area from many different heights will increase one's ability to really grasp the "essential identity" of the area. In many cases three or four levels will be appropriate.

Time-space matrix as digital archive

	Overall level	Urban level	Area level	Building level
2003: the present				
1970-2003 environment, economic decline, bankruptcy				
1945-1970 modernization, optimism				
1921-45 unstable times, bankruptcy, new owners				
1906-21 industrialisation; from village to town				
1850-1906 tourism, unspoiled nature				
Før 1850 farming, self-sufficiency, church				

Time-space matrix as digital archive, compiled from the 2008 analysis of Odda, Norway, showing how concise information about historical development can be presented on one page. In the course of the local participation process, four significant scales of intervention and seven significant historical periods were identified.

The historical significance of the area of analysis

Buildings, spaces and urban elements have had varying functions and thus varying historical significance. This is often especially pronounced in the town centre, where elements from earlier phases stand side by side. The Kristiania square, Oslo, 2005.

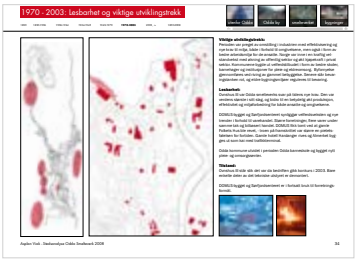
Historical significance

In the DIVE analysis it is above all the historical significance of the area of analysis that determines its value as cultural heritage. It is thus an important challenge to identify which elements, characteristics and relationships have had and have a societal impact. Important periods and stories in the history of the area will not necessarily have left visible traces in the landscape as we see it today. These traces may have been removed, integrated into new elements, or hidden underground. Moreover, there is no guarantee that the historical traces that do exist represent meaningful historical and societal characteristics or stories. The historical traces will most likely have a different meaning for people today than they had for the people who shaped them. The historical space and the significance of the landscape thus need to be interpreted and analysed with these historical and societal contexts in mind.

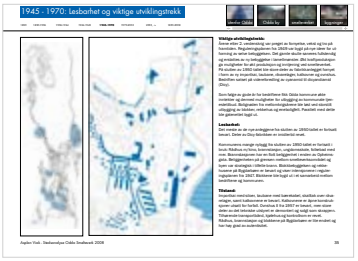
Historical readability

Whether urban or rural, our surroundings are a result of forces of change, events and patterns of use. In some places it is easy to understand the passage of time and the historical traces, whereas in other places it can be hard to perceive the historical development; especially in places that are densely populated with strong pressures of expansion and change. The term historical readability relates to how the past can be 'read' in today's landscape and surroundings. Historical readability could for example be that the pattern of an earlier town plan is still visible in the city, or that the natural harbour conditions that were the origin of the settlement are still discernible. For most people historical readability is probably a necessary precondition for understanding an area's development. Historical readability is therefore and important value in itself.

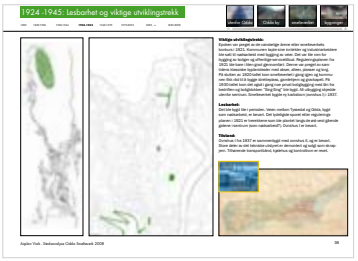
Historical legibility: the original harbour area in Arboga, Sweden. (photo: Municipality of Arboga)



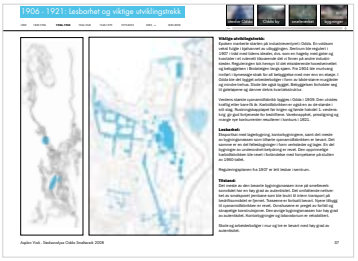
1970-2003



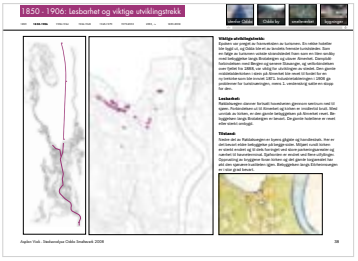
1945-70



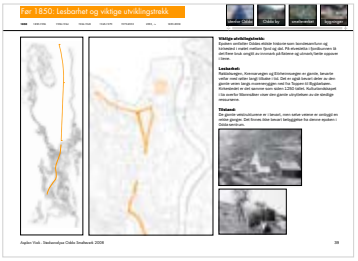
1921-45



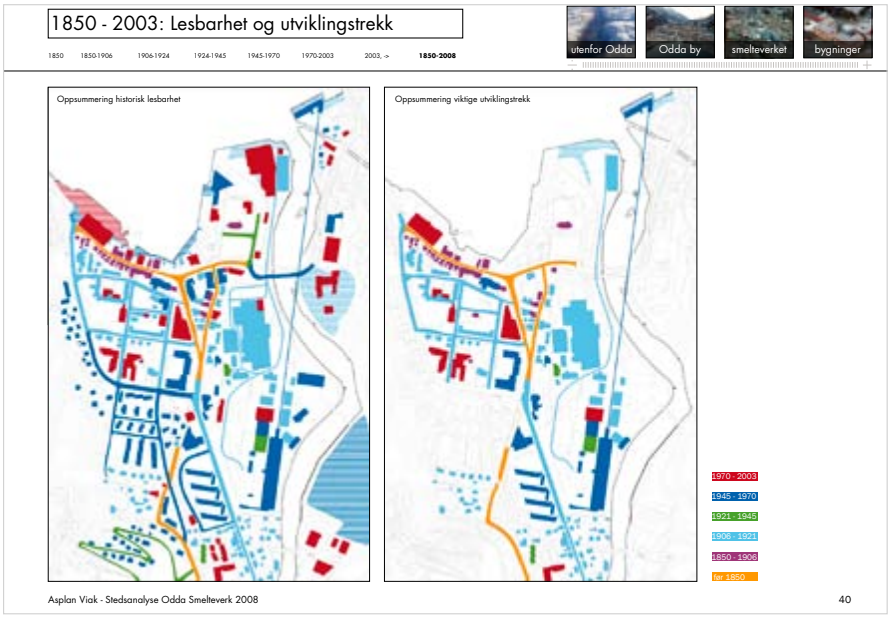
1906-21



1850-1906



Pre 1850



The series on the left, from the 2008 Odda analysis, illustrates readable traces from various periods in the development of the town. In the above illustration these legibility maps are superimposed. Together they present and elucidate the contents and relationships in today's town.

Authenticity and Integrity

Authenticity and integrity are two complex terms that complement each other. Together with the term *historical legibility* they express the degree to which environments, structures and single elements in the landscape and surroundings function as bearers and conveyors of the area's historical character and significance.

The term *authenticity* concerns the origin of the historical resources, in the sense of the characteristics they had at specific times in history. Examples are a renaissance city plan that still has original elements or an authentic modernist house façade from the 1930s. Authenticity can encompass material characteristics, shape and contents of the cultural heritage, the shaping processes involved in development, the social context, functional and structural organization.

An *integrity perspective* describes the degree of functional, structural or visual intactness of the cultural heritage, at the level of the city or area. *Functional integrity* can mean that the use of the buildings in an area (the elements in a system) or an industrial production process (the production equipment) are intact and operating today. *Structural integrity* describes to what extent the elements are physically intact, for example, how much of the original overall pattern is readable in the aforementioned renaissance city plan today. *Visual integrity* concerns how holistically the functional and/or structural characteristics are preserved compared to the original cityscape.

The values and opportunities of the area of analysis

The protective structure for the medieval church ruins in Hamar, Norway. An example of developing cultural heritage by a combination of continuity and change – both as a source of knowledge and as a functional centre for experience. (photo: Directorate for Cultural Heritage, Oslo)

The value of the cultural heritage

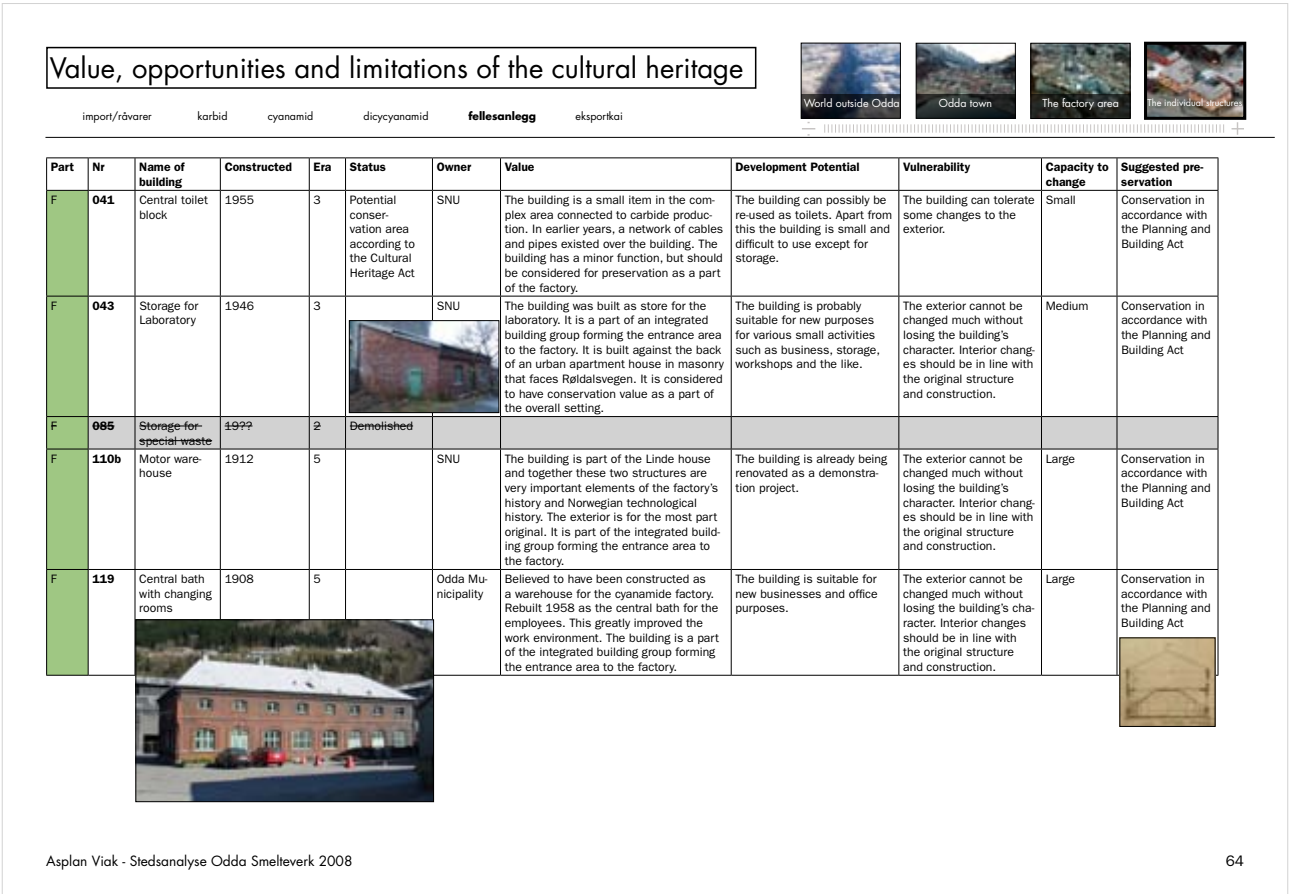
Cultural heritage is an irreplaceable source of knowledge about historical development, people's relationships with each other and nature, past access to and use of resources, economy and patterns of use, and about social, religious and ritualistic life. Preserving this knowledge value enables future generations to pose new questions and reinterpret the past. The more we know about the place and the landscape, the easier it becomes to read and understand. In addition cultural heritage embodies opportunities for various levels of experience. The cultural heritage in our cities and countryside provides continuity, variation, contrast and character. It fosters a sense of recognition and belonging, as well as stimulating curiosity, a desire for knowledge, a sense of wonder and connection to the past. It can also be an important factor in the formation of identity. Cultural heritage also represents utilitarian value and large investments by society that have major significance in terms of sustainability. The safeguarding and development of these values can involve maintenance of buildings, arable land and infrastructure, as well as of traditional knowledge and skills, cultural and social resources, and so on. Cultural heritage authorities use a variety of criteria to evaluate the value of a cultural heritage site. Knowledge value for example is evaluated on the basis of its representativeness, context, authenticity, physical condition, etc. Evaluation covers context and environment but in addition factors such as identity, symbolic value, architectural and artistic quality, etc. Utility value can be assessed on the basis of economic, functional and ecological parameters.

In the DIVE analysis, information from the first two stages of knowledge collection and interpretation forms the foundation for assessing how an area's historical character and significance, legibility, authenticity and integrity all contribute towards an overall cultural evaluation. The value of the cultural heritage is considered as a reflection of the social and cultural contexts it is a part of. How individuals and society as a whole value cultural heritage depends on attitudes and priorities that change over time. For example, buildings and residential structures have historical value if they are considered to be significant expressions of their time or of evolutions through time, either as repositories of knowledge about the past, as sources for experiential discovery, or because they are important seen in a functional perspective.

The Development Potential of Cultural Heritage

In the DIVE analysis, the term *development potential* means that ideas for preservation and active use of the heritage resources are described without significant emphasis on possible pragmatic limitations in the existing situation. The aim is to sketch a portfolio of possibilities, much in the same way that projects aiming to use heritage in non-traditional ways often begin with future scenario exercises that may be both realistic and unrealistic. The practicability of these visions is then assessed, and at that stage factors that come into play are the vulnerability and tolerance to change of the heritage, existing planning or operational limitations, technical, financial and political realities.

Skansen Kronan in Gothenburg, Sweden: a symbolic landmark in the city centre that is extremely vulnerable to modern development pressures (photo: Kulturmiljobild, Swedish National Heritage Board).



Part	Nr	Name of building	Constructed	Era	Status	Owner	Value	Development Potential	Vulnerability	Capacity to change	Suggested preservation
F	**041**	Central toilet block	1955	3	Potential conservation area according to the Cultural Heritage Act	SNU	The building is a small item in the complex area connected to carbide production. In earlier years, a network of cables and pipes existed over the building. The building has a minor function, but should be considered for preservation as a part of the factory.	The building can possibly be re-used as toilets. Apart from this the building is small and difficult to use except for storage.	The building can tolerate some changes to the exterior.	Small	Conservation in accordance with the Planning and Building Act
F	**043**	Storage for Laboratory	1946	3		SNU	The building was built as store for the laboratory. It is a part of an integrated building group forming the entrance area to the factory. It is built against the back of an urban apartment house in masonry that faces Røldalsvegen. It is considered to have conservation value as a part of the overall setting.	The building is probably suitable for new purposes for various small activities such as business, storage, workshops and the like.	The exterior cannot be changed much without losing the building's character. Interior changes should be in line with the original structure and construction.	Medium	Conservation in accordance with the Planning and Building Act
F	~~085~~	~~Storage for special waste~~	~~19??~~	~~2~~	~~Demolished~~						
F	**110b**	Motor warehouse	1912	5		SNU	The building is part of the Linde house and together these two structures are very important elements of the factory's history and Norwegian technological history. The exterior is for the most part original. It is part of the integrated building group forming the entrance area to the factory.	The building is already being renovated as a demonstration project.	The exterior cannot be changed much without losing the building's character. Interior changes should be in line with the original structure and construction.	Large	Conservation in accordance with the Planning and Building Act
F	**119**	Central bath with changing rooms	1908	5		Odda Municipality	Believed to have been constructed as a warehouse for the cyanamide factory. Rebuilt 1958 as the central bath for the employees. This greatly improved the work environment. The building is a part of the integrated building group forming the entrance area to the factory.	The building is suitable for new businesses and office purposes.	The exterior cannot be changed much without losing the building's character. Interior changes should be in line with the original structure and construction.	Large	Conservation in accordance with the Planning and Building Act

Value, potential and limitations of the cultural heritage. Example from the 2008 Odda analysis showing how qualitative assessments from a DIVE process can be assembled in table form.

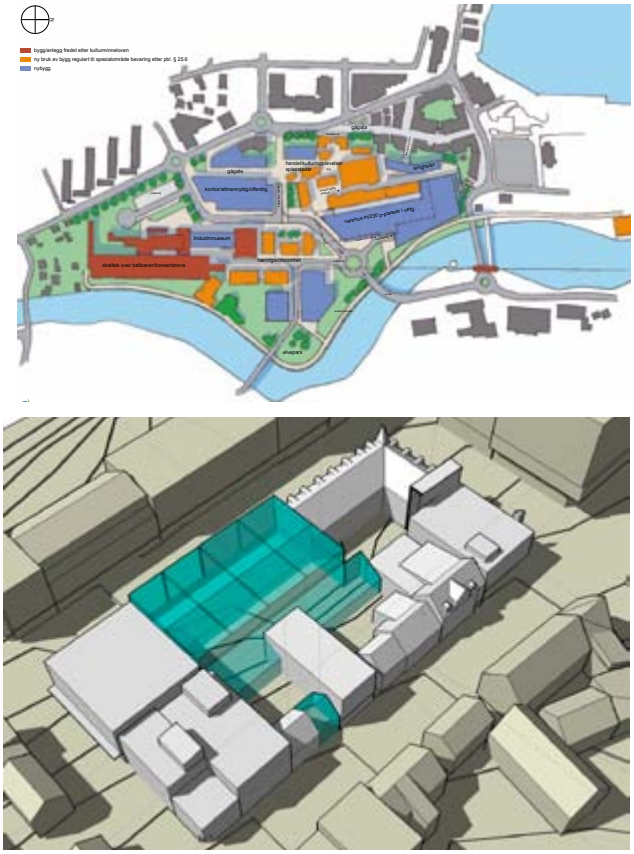
The vulnerability and tolerance of the cultural heritage

A DIVE analysis will often be a part of a planning process addressing issues of change and development in the physical surroundings. It is thus important to assess the vulnerability of existing cultural heritage and its capacity to absorb or benefit from various change scenarios. This enables one to identify which proposals for change are acceptable or not acceptable, seen in relation to established goals for cultural heritage management. The *vulnerability* of the heritage can be defined as the probability for reduction or loss of defined heritage values as a result of proposed internal or external changes. The *tolerance limits* describe the robustness of the cultural heritage, i.e. the point than marks transition from one value level to the next. Exceeding this tolerance point will usually result in reducing the value of the heritage to a lower level.

The cultural heritage's capacity for change

In the DIVE analysis, qualitative assessments of the value of the object of study, its development potential and its vulnerability/tolerance are summed up in what is called the cultural heritage's *capacity for change*. This assessment of the capacity for change is a kind of impact assessment, the goal of which is to delineate the potential arena of intervention in the area of analysis. To what extent it will be possible to adapt and/or develop the cultural heritage in positive ways in the future, given proposed changes in their surroundings, is difficult to convey in exact terms and poses an interdisciplinary challenge. The goal is that the assessment of the capacity for change of the cultural heritage and its surroundings should be applied as an important factor in the final stages of decision making regarding preconditions and frameworks for activating the cultural historical resources.

The arena of action of the area of analysis



Visualising the potential arena of action: Examples of concrete proposals from Odda (top) and Tromsø.

The arena of action

In the DIVE analysis, the term *arena of action* describes the opportunities and frameworks available for management, use and development of the cultural historical resources and values. The description of the arena of action includes an assessment of strategies and principles that can in various ways safeguard the prioritized characteristics and qualities of the heritage, both in the short and long term. In this description it is also natural to include concrete recommendations and opinions as to which instruments and actions can best activate the cultural heritage in relation to the challenges and issues identified. The arena of action should be visualized.

Management strategies and principles

In spatial planning and local development, safeguarding the cultural heritage as a resource demands measures and solutions that require varying management strategies and principles. The goal is to find solutions that respond to the assessments and priorities of the analysis. When formulating the arena of action one must decide what kinds of protection, preservation, planning principles and operation methods will best ensure that the heritage goals are achieved.

The following are amongst the possibilities:

- Narrative preservation, with emphasis on the historical readability and "storytelling ability" of the area of analysis
- Structural preservation, with focus on securing and developing important historical structures
- Anecdotal preservation, with emphasis on preserving the communicative value of individual elements
- Museum-type preservation, with focus on preserving authentic historical qualities
- Consolidation and strengthening of existing elements that may not in themselves be worth preserving but in order to conserve an important totality in an area
- Historical reconstruction as part of an overall heritage management strategy

Instruments and recommendations

The description of strategies and principles should then be followed by advice as to which instruments and recommendations can ensure well integrated and appropriate management of the cultural heritage in the area of analysis. This includes for example what degree of conservation "strictness" is appropriate. Instruments can include:

- Information, knowledge transfers and cooperation with local stakeholders
- Legal instruments such as planning and building regulations, cultural heritage laws and special heritage provisions
- Economic instruments (several sectors may have operational responsibility)
- Preservation and management plans (on both overall and detailed levels)
- Practical tools such as guidelines for safeguarding and maintenance.

Example: The DIVE analysis for Odda, Norway

Situation Analysis: The Odda Carbide Factory

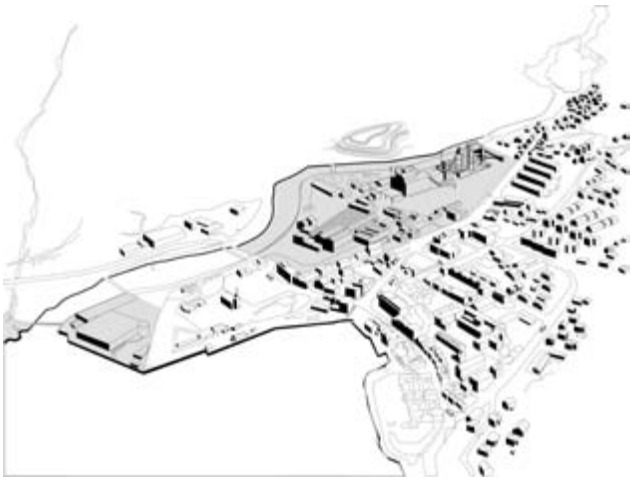
Background

The Odda Carbide Factory went bankrupt in 2003 after 95 years of operation. Consequently one of the Odda community's key industries and employers was gone. The town of Odda had developed largely on the basis of hydropower from nearby Tyssedal and the production of carbide and cyanamide at this factory. Both the factory and Odda town are located on the plain where the river Opo river runs into the Soerfjord, and the area occupied by the factory is about as large as the whole of the town centre. Hence, how to utilize the factory area in new ways quickly became a hot topic for discussion. The goal has been to transform the factory area into a vibrant and integrated part of Odda centre.

In 2007 the municipality presented a plan proposal for the factory area. The county authority objected to the proposal, stressing the need to take the value of national cultural heritage into consideration. In order to move forward, the county municipality and the Directorate for Cultural Heritage recommended that a cultural historical analysis be carried out following the DIVE method.

Background and goal for the analysis

The aim was for the DIVE analysis to highlight the potential arena of action for protection and development of the factory area, providing an improved knowledge base for a revision of the plan proposal. Parallel to the analysis, studies of commerce and traffic in Odda were carried out. This work took place between February and May 2008.



Area of analysis and program

The area of analysis comprised primarily the factory area (Odda Smelteverk, hereafter OS – gray area on sketch). In order to understand the qualities and opportunities of OS, however, descriptions were made on four levels: the world around Odda (OS in a broader perspective); Odda town (OS as an integrated part of the town centre); the factory area (OS as industrial cultural heritage ; the buildings (OS as a collection of process-related and technical structures). Odda municipality appointed a reference group of representative local people to take part in the discussions.

Stage 1: Description – Historical development, content and character

In the first stage of the analysis, one develops the knowledge base that is the starting point for evaluating the qualities and opportunities of a site. The knowledge base should show how environmental and cultural preconditions and factors have shaped the area, and should also highlight the connections between the area's historical "narrative" and the surroundings as they are today. Appropriate geographical boundaries and thematic topics for the analysis are selected on the basis of relevant planning frameworks and contextual factors. In the DIVE analysis for the Odda Carbide Factory four geographical levels ("viewing altitudes") were chosen:

1. *The world around Odda*
2. *Odda town*
3. *The factory area*
4. *The individual structures*

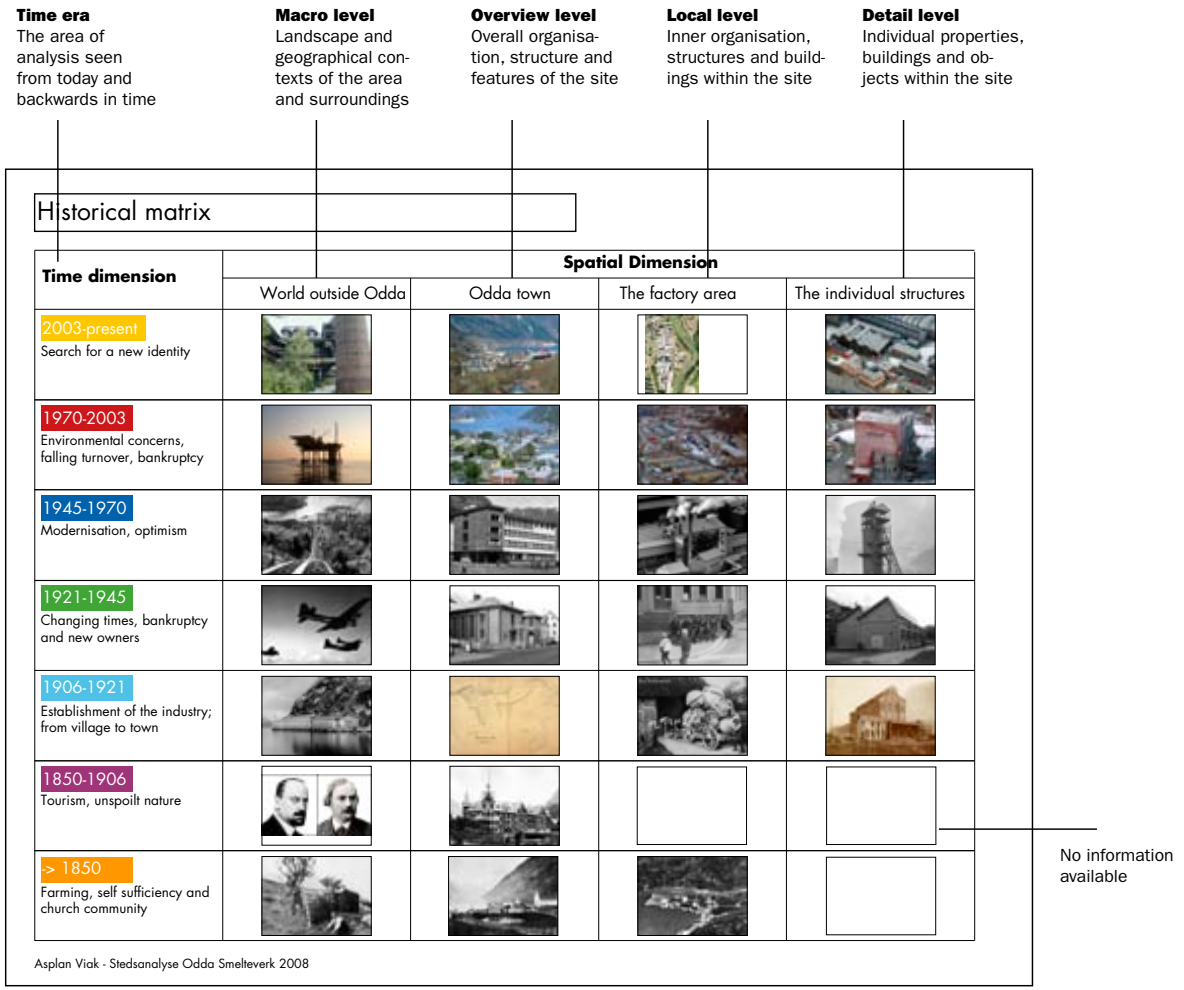
The process involved the following activities:

- *Collecting and mapping historical information*
- *Systematising and organising the information*
- *Elaborating on and processing the knowledge base*

Time windows

The situation at the time of the analysis is the platform for the "dive" into history, since today's townscape contains and conveys functions, structures and visual contents from the past. The existing surroundings can therefore also function as historical clues that can, in an "archaeological" way, be followed back in time through historical layers, in order to uncover the significant historical origins. At the same time one searches for information that can explain the societal context and situation of the historical narratives.

In the analysis a time-space matrix (time window) is used as a tool for systematising and conveying historical information. The matrix gives an overview of the site's historical development, content and relationships. It can then be used throughout the different stages of the analysis.



1906 – 1921: Establishment of the industry

Until 1850 the first industrial revolution was primarily a British phenomenon. It only reached Norway in the second half of the 1800s, and even then only became a modest part of Norway's economy. Typical industries were logging, paper and pulp, textiles and mechanical yards. All were based on imported "technology packages".

The second industrial revolution occurred around the turn of the century. It was based on electrical power, chemistry, and close links between science, technology and industry. This demanded substantial investments that were only made possible by free flows of capital and labour across borders.

In the period between 1870 and 1914 Europe was at the height of its power, whilst the USA caught up steadily. This industrialisation gave rise to great wealth - capital that was then exported to the peripheries of Europe in search of new investments. The flows of capital led to the spreading of the second industrial revolution. It required not only new technology but also new ways of organising capital, resulting in the development of large units, trusts and cartels. This in turn gave rise to employer and worker unions.

Production and use of electricity became feasible during the 1890s. However, large scale use only occurred from the turn of the century. Norway's huge natural wealth in the form of hydropower opened up new possibilities; but what should the power be used for? Private consumption of electricity at the time was minimal. The availability of hydropower was thus often a starting point for industrial development. In addition, the availability of capital was essential, especially since the hydropower plants needed to be connected to industrial production in order to be profitable.
A third factor was technology that could provide marketable products on a large scale. Finding the right combination of hydropower, capital and technology was the hardest part. Sam Eyde (picture) played a key role in achieving this combination.

Asplan Viak - Stedsanalyse Odda Smelteverk 2008

1906
Construction of Tyssedal power station

1908
The Tyssefallene company starts delivering power

1908
Tourism dwindles as a result of the factory activity. The hotels take the industry to court.

1909
Opening of the Bergen railway line, resulting in less traffic through Odda.

1914
First World War, tourism stops completely, artificially high levels of production during the war for fertiliser and ammunition production

1916
DNN Aluminium smelter is established in Tyssedal

1918
The Ringedal dam is completed in upper Tyssedal

1920
Emergency work on road building linking Tyssedal and Odda

1921
International decline following the war, with overproduction and depression

1921
Tyssefallene bankrupt

1921
Strikes and stoppages at DNN in Tyssedal

1923
The Norwegian Labour Party splits from KOMINTERN, but the majority of workers in Odda remain within the Communist International.

1906-1921: Establishment of the industry

Until 1900 Odda was a quiet farming community, but was also becoming an attractive tourist destination. The coming of industry brought a complete change. Very rapid development took place after the factories started. In 1907 a town plan was hastily made. The building council was applying the building law very liberally, leading to haphazard and disharmonic housing. There was a serious lack of housing and efforts were made to stimulate the building industry. Much was built outside the regulated zone and hence without restrictions. As time went on, systems were set up for water supply, sewage and waste.

In 1913 Odda was recognized as a separate administrative district

1906
Founding of Odda Labour Union

1907
Town plan for Odda centre

1907
Youth hall built

1907
Telegraph station

1908
The “Bruce Villa” for the director (demolished in the 1960s)

1908-15
Residences for the officials and tennis court built at Toppen. Area used by both firms after 1924.

1909
Odda Labour Party established; first conflict at the carbide factory.

1909
Workers’ residences for the carbide factory built at Krenkesflot

1909
The “Keisarbrakka” building

1910
Residences for carbide factory workers at Nyland.

1911
Odda post office

1910-14
Worker housing at Tjoadalen.

1912-14
Worker housing at Motippen.

1912
Odda primary school.

1912
Odda Lysverk AS (electricity company) established

1913
Odda became a separate municipality (from Odda sogn)

1913
Chapel

1913
Odda toll station

1913
Odda became a separate police district

1913
The owner of Hotel Hardanger filed a claim against the industry because of pollution, dust and dirt.

1914
Folkets Hus (People’s Hall)

1914
Handelshuset (general store) in the pedestrian street

1914
“Murboligen”, the Brick House

1916
New cemetery

1917
The municipality bought the old Hardanger Hotel for use as town hall

1918
Odda hospital inaugurated

1921
Bankruptcy and large scale layoffs, 1500-1600 jobs lost.

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1906-1921: Establishment of the industry

In 1904 Alfred Ernst Barton set up The Sun Gas Company Ltd. It produced acetylene gas for the British market. The production process requires carbide and so he bought the Swedish company Alby Carbidfabrikk AB that had been producing carbide since 1896. The Swedish factory proved to be too small. The factory director, Dr. Albert Pettersen, was asked to find a more suitable location for a new factory. In 1906 he was contacted by Sam Eyde and the Swedes Knut Tillberg and Marcus Wallenberg, who proposed harnessing the Tysso waterfall in Tyssedal to provide the power that The Sun Gas Company needed.

The share company Tyssefaldene Aktieselskapet was set up in 1906. Work began on the carbide factory in September 1906 and it began producing carbide in 1908. Initial production capacity was 32,000 tons. Of this, 10,000 tons were used for the production of cyanamide. The carbide factory in Odda was one of the largest in the world, whilst the cyanamide factory was the largest in the world in 1909 with a capacity of 12,000 tons. The product was marketed as "Trollmel" (troll or magic flour) because of its effectiveness. The factories were expanded in 1912-1913 and were then able to produce 85-90,000 tons of carbide.

The factories ran smoothly in the years leading up to the First World War. During the war they solely served the interests of the war industry. Problems arose in 1916-1917. Lack of resources, price increases and the war at sea all had an impact on Norway. Many new carbide factories were built in Europe at that time. The carbide factory declared bankruptcy in 1921; the Tyssefaldene hydropower company suffered the same fate two years later.

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1906
Albert Peterson, Swedish engineer, arrived from Rjukan and "discovered" Odda

1906
Construction work began. Carbide and cyanamide factory built in Odda

1908
Alby United Carbide Factories Ltd. started production of calcium carbide in Odda. Planned annual production was 32,000 tons.

1909
North Western Cyanamide Company started production of calcium cyanamide in the same factory area. Annual production capacity was 12,000 tons. The factory was the biggest of its kind in the world

1909
Carbide factory at full capacity, with all twelve ovens operational

1910
A factory was built in Belgium to convert the cyanamide from Odda to ammonium sulphate. Cyanamide capacity was by then 16.000 tons

1911
Testing of a new type of carbide production oven at Odda

1912-1914
New expansion of the cyanamide plant

1913
Expansion of carbide production capacity to 80,000 tons

1915-1916
Good years for the factories

1917-1919
More patents are acquired for production of granulated cyanamide and fertilizer production processes

1919
Drop in exports and production

1906 – 1921: Establishment of the industry








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1912 Storage building C (105)

1912 Cyanamide crusher C (109)

1912 Dicyanamide packing house C (212)

1912 Labour Union and Ombudsman building F (3)

1912 Distribution station dicy/cyan C (101)

1912 Carbide millhouse C (103)

1912 Carbide silo C (103)

1912 Cooling house C (104)

1912 Laboratory F (122)

1912 Storage Oddakalk/ PCC Testing factory C (111)

1912 Odda chalk factory C (110)

1912 Oven buildings II and III C (106)

1912 Paper storage C (108)

1915 Environmental Health and Safety office F (32)

1915-16 Further expansion of the carbide plant

1915-17 Crude cyanamide silo C (114)

1916 Machine and electrical workshop F (120)

1918 Metal and welding workshop F (28)**

19?? Suspension bridge over the Opo river F (6)

Numbers in brackets refer to site map on page 33

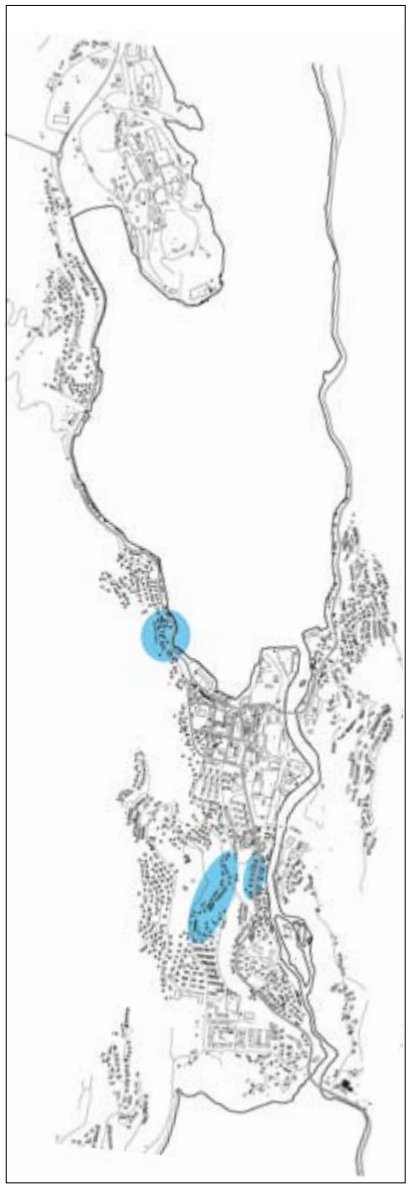
Stage 2: Interpret – historical contents, significance and condition of the cultural heritage

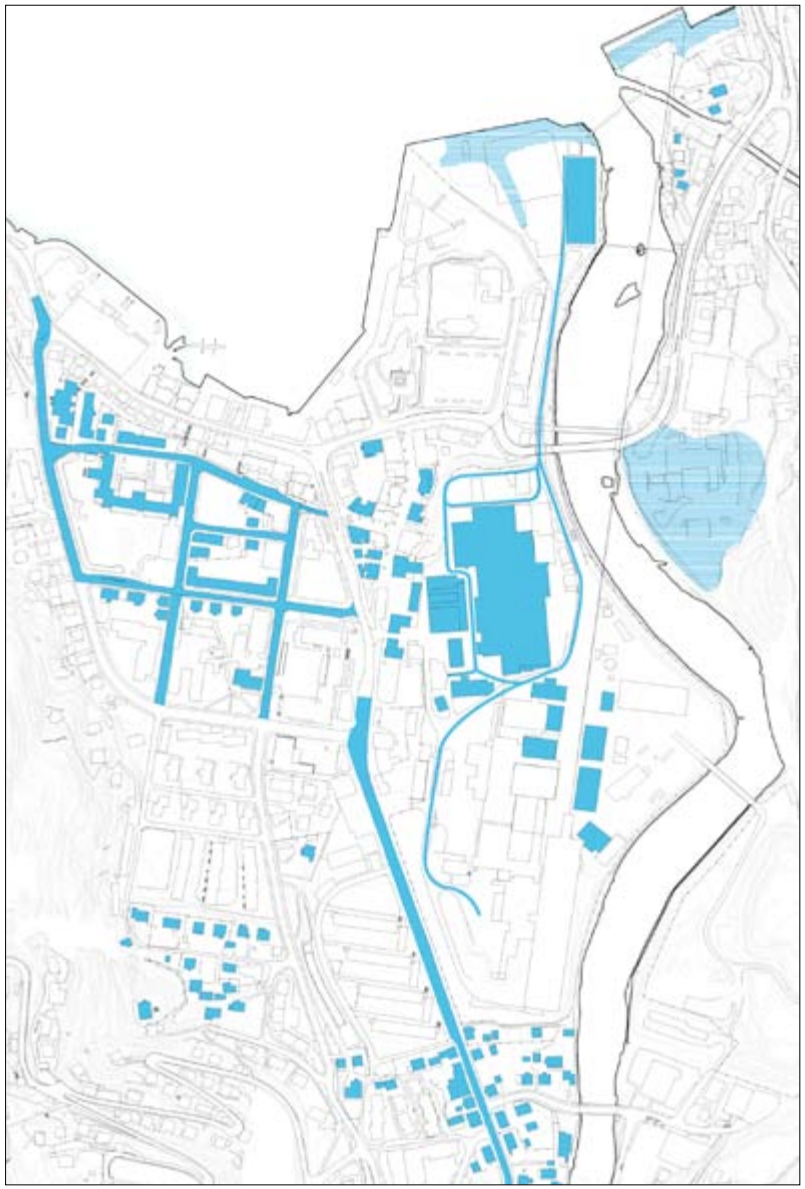
History will always be subject to new interpretations, both as seen by individuals and by society in general. This depends on changing approaches, roles and perspectives. The goal of stage 2 is to interpret and discuss the historical and significant contents of the area being analysed, thus providing a basis for a value based decision making process.

It is not always the key events in the historical process that have left important traces in the environment as we see it today. And the opposite is true too: the traces that are evident are not always of major historical significance. One must thus determine through the area analysis which traces are historically significant and representative of particular periods, layers, stories or themes. Thereafter one must evaluate to what extent their condition renders them useful as communicators of history and social change. Three criteria for determining their condition and communicative value are: historical readability - integrity – and authenticity. Stage 2 of the analysis thus sheds light on the following;

- *Historical meaning and significant contents*
- *Historical readability (condition)*
- *Integrity and authenticity (condition)*

1906-1921: Readability and important development features





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Important development features:
This era marked the beginning of the industrial adventure in Odda. Massive town growth followed. The central area was zoned in 1907 in tune with the ideals of the time, as a garden city with streets and blocks organized in a grid pattern in the same style one finds in other industrial towns. The plan incorporated the existing road network and the buildings in Brotateigen along the seafront. From 1904 onwards construction in masonry was obligatory in the urban zone for all buildings of more than one floor. Workers' residences were erected both in the form of large complexes and smaller wooden houses. A school was also built. The buildings followed the street structure and to some extent form urban blocks. The world's largest cyanamide factory was built in Odda in 1909. After only a few years it expanded significantly. The carbide plant was also one of the largest of its kind. These industries benefited from the arms race that took place before, and during the first half of, the First World War. A lack of resources, price increases and many new competitors led to bankruptcy in 1921.

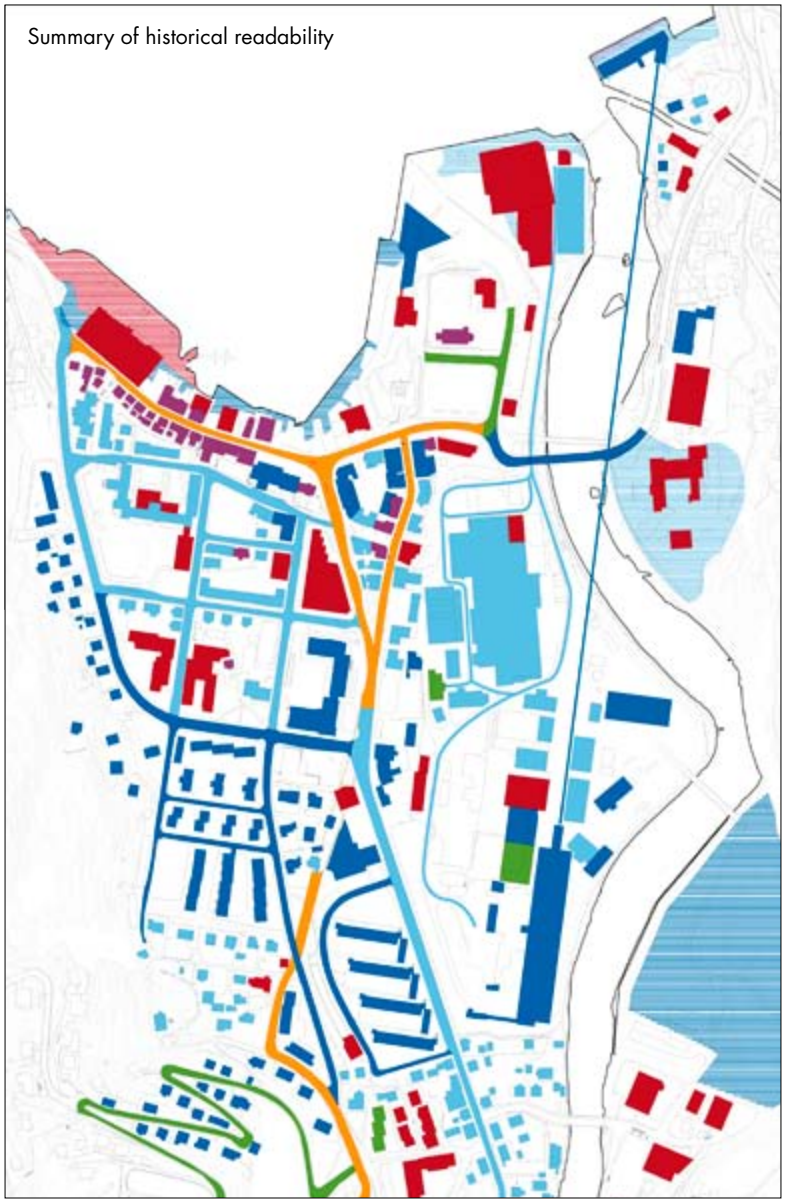
Readability:
The export harbour and warehouse, office buildings, as well as most of the structures that belonged to the cyanamide factory have been preserved. This is also the case with some of the shared buildings such as workshops and storehouses. Some buildings of less significance have been demolished. The original carbide factory was demolished when the factory was being upgraded at the end of the 1950s. The town plan of 1907 is easily readable in the centre of Odda today.

Condition:
Most of the preserved buildings in the factory area have a high degree of authenticity. The extensive network of narrow gauge railway that was used for internal transportation in the factory area has been removed; its spatial layout however is preserved and visible. Recent additions to the cyanamide factory have been demolished. The large oven buildings are deteriorating notably and are structurally shaky. The remaining structures have a high degree of authenticity. The office buildings and laboratory have been renovated.

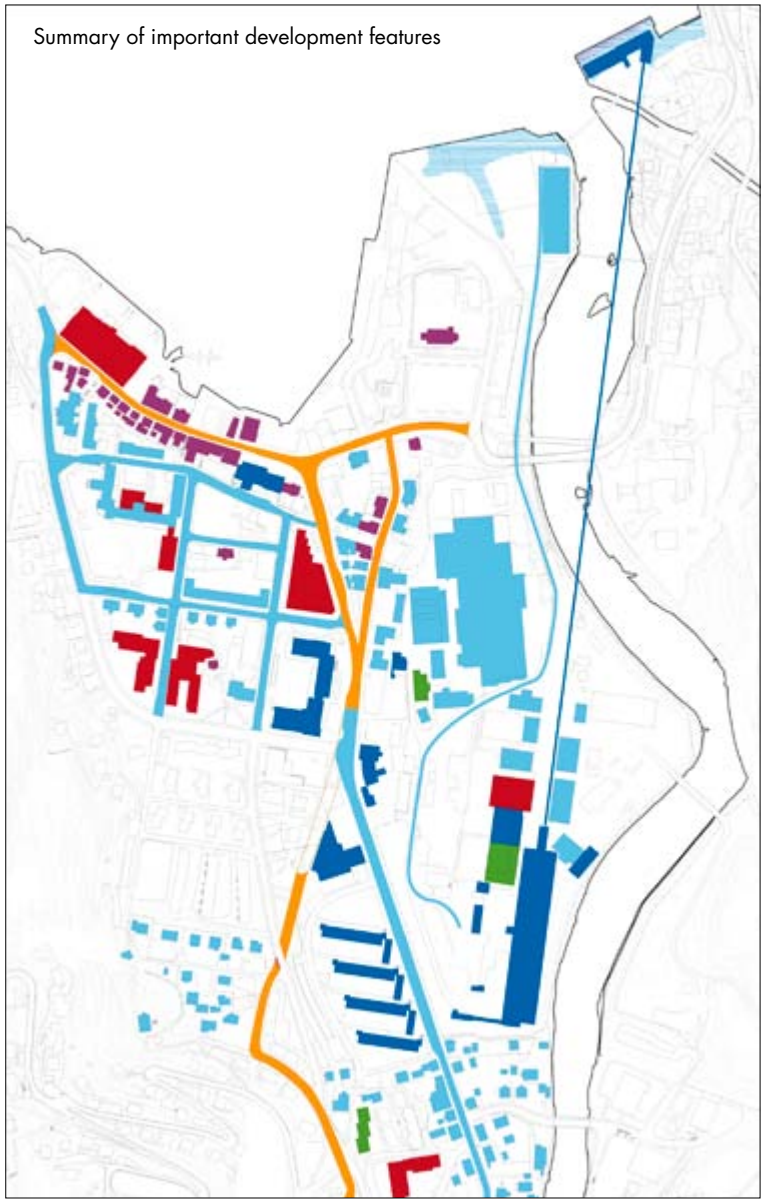
The school and workers' residences are in brick and timber and have been preserved with a high degree of authenticity.

1850-2003: Readability and development features

Summary of historical readability



Summary of important development features



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Stage 3: Valuate – value, opportunities and limitations of the cultural heritage

The task of the third stage of the analysis is to evaluate *qualitative* aspects of the cultural heritage as well as its *opportunities and limitations*. Here the question of value is a key issue; ascribing cultural, historical and architectural value reflects the values and academic attitudes of the time, goals for management and development, and social and cultural situations. Opportunities and limitations can for their part be measured by assessing the *development potential* and *capacity for change.*

The term development potential relates not only to the economic and functional potential of the elements, structures and surroundings, but also to the potential for development of their knowledge-bearing and experiential qualities as cultural resources. When visions for the development of the cultural heritage have been drawn up described, realistic development opportunities and the capacity for change can be evaluated in relation to concrete limitations and restrictions in the situation. This involves evaluation of the vulnerability and tolerance of the historical qualities. In the third stage of the analysis, the following points are evaluated:

- Value of the cultural heritage
- Development potential of the cultural heritage
- Vulnerability and tolerance to intervention of the cultural heritage
- The cultural heritage's capacity for change

Reasons for conservation

The law on cultural heritage defines cultural heritage and cultural environments as follows: *"The term cultural heritage includes all traces of human activity in our physical environment, including localities that are linked to historical events, beliefs or traditions. The term cultural environment relates to areas where the cultural heritage is a part of a bigger picture or context."* In other words, the definition is quite broad. This does not mean that all cultural heritage sites and cultural environments can or should be preserved. Society needs to prioritise and decide what is valuable and should be preserved for the benefit and enjoyment of ourselves and generations to come.

During the proceedings of Parliamentary Proposition no.8, "The government's environmental protection policies and the state of the environment" (Regjeringens miljøvernpolitikk og rikets miljøtilstand) (1999-2000), the parliament confirmed the following goals that outline two perspectives on preservation:

"The diversity of cultural heritage and cultural environments shall be managed and looked after as functional resources, and as a basis for experiences and further development of the physical surroundings.

A representative selection of cultural heritage sites and cultural environments shall be preserved with a long term perspective as cultural resources that provide the basis for experiences."

·

There are many challenges involved in preserving technical-industrial heritage sites. Sites of this kind are subject to continuous adaptation and change in line with technological and economic developments in the company. The cultural heritage is also part of an integral production environment where it can be difficult to select fragments that represent the whole environment. When evaluating the preservation value of cultural heritage there are traditionally three aspects that are given weight. The cultural heritage should: - be *a source of knowledge,* provide *a platform for experience,* and be *a functional resource for the future.*

A Source of knowledge:

Cultural heritage and cultural environments are irreplaceable sources of knowledge about the historical development of our physical surroundings and peoples' relationship to each other and nature. Cultural heritage and cultural environment comprise a storehouse of experience and knowledge. We therefore need to ensure that these sources are preserved in such a way that future generations are given the opportunity to engage in new interpretations of the past. To qualify as a source of knowledge, selection of cultural heritage and cultural environments for preservation builds on the following criteria:

Representativeness: The goal is that the cultural heritage sites selected will illustrate a cross section of history. Variety and diversity are therefore important. The selection must be representative enough to shed light on how society has developed. Tyssedal and Odda are typical examples of the industrial towns built largely around single industries that emerged before the First World War: Odda, Rjukan, Sauda, Høyanger, Løkken Verk, Glomfjord and Eydehavn.

Context and environment: What knowledge can be brought to light also depends on whether we preserve an isolated single structure or a group of elements that are part of a larger context. This context, both in time and space, functionally and socially, gives us knowledge far beyond what a single object can convey. Odda Carbide Factory has to be understood in close relation to the whole community and town of Odda and not least together with the hydropower station in Tyssedal.

Authenticity: This describes the degree of originality, in other words, whether the building has retained its original main form and whether there are still original elements to be found. When evaluating technical industrial heritage, the extent to which technical equipment related to the production processes exists will influence the degree of authenticity. Structures are perishable no matter what materials they are made of. Hence, parts of buildings or even whole buildings in themselves often need to be replaced with new materials of the same type. Even so, authenticity can be maintained either through built form or in terms of construction and production technology.

Value, opportunities and limitations of the cultural heritage

A basis for experience:
People experience cultural heritage and cultural environments in their own ways. This depends on knowledge, attitudes, connection to the place, and which social and/or ethnic group one belongs to. Cultural heritage and cultural environments provide continuity in the physical surroundings. Amongst other things they contribute to creating local character and a sense of belonging. Cultural heritage sites provide variation and contrast in the surroundings and shed light on how man made environments have always been in a process of change. They illustrate not only local specificity, but also influences, correspondences and commonalities across geographical and cultural boundaries.
An important part of an industrial area's preservation value lies in an overall perception of different types of buildings and technical installations that together illustrate a production process. The value of an individual element may be low, but as a part of a larger whole it can be an important source of knowledge about and experience of the site.
The following sub-criteria are applied when selecting cultural heritage and cultural environments as a basis for experience:

Context and environment: There have always been close connections between landscape, natural resources and the man-made environment. The landscape creates spaces, viewpoints and undulations that highlight the area's character and contribute to important experiential qualities. People have then modified the original landscape.

Identity/symbols: Many cultural heritage sites and environments have specific qualities that make them important for feelings of recognition and belonging. This can primarily be linked to two factors: concrete events or specific people that are connected to a place, or to traditions or continuity in the way the area is used. For almost 100 years, Odda Carbide Factory was one of the key industries in the municipality. Generations of people have worked at the factory, and the factory area is a central visual element in Odda town.

Architectural/artistic value:
Experiencing a significant work of art has a unique value, irrespective of the context. In this regard, emphasis is placed on form, structure, choice of materials and detail in relation to an artistic idea and how it was executed. Aesthetic evaluations are central in this context. The industrial architecture at the Odda factory is influenced by international trends of the time, illustrating how the factory was owned by various international firms during its lifespan.

A Functional Resource
There are similarly, criteria related to cultural heritage as functional resources. There is a great benefit to society in re-using structures that already exist rather than building new ones. In this sense the utilisation of cultural heritage and cultural environments contributes significantly to sustainable development. This is first and foremost the case where buildings and environments are preserved. Factors that then need to be evaluated are economy, functional value and ecology. The historical traces can for example be important for outdoor activities and tourism, as well as for the establishment or extension of housing and commercial activity.

Economic considerations are factors such as the physical condition of a building or site. Owners will normally ensure that buildings and sites with functional value and a reasonable physical standard are properly looked after. Maintenance costs are kept low given continuous usage and care, so that their value is secured over time. This is the simplest and most economical form of preservation. Where the physical condition is good, economic and cultural arguments thus support each other, in favour of preservation.

Another factor is to evaluate whether a property is functionally useful. In addition one may need to look at the potential for adapting the usage in relation to changed needs without substantial physical changes.

Many of the smaller buildings at the Odda factory have high re-use potential for new purposes. This is especially the case for the office buildings and the various brick buildings that were used as workshops and stores. On the other hand, large specialized structures such as silos and oven houses are harder to use. These are often only framing structures for complicated "machines" and cannot be re-used in the normal sense of the term. They do however have the potential to be used in a museal way to convey the history of the plant. Their preservation and presentation can be done in a way that provides a dimension of artistic experience.

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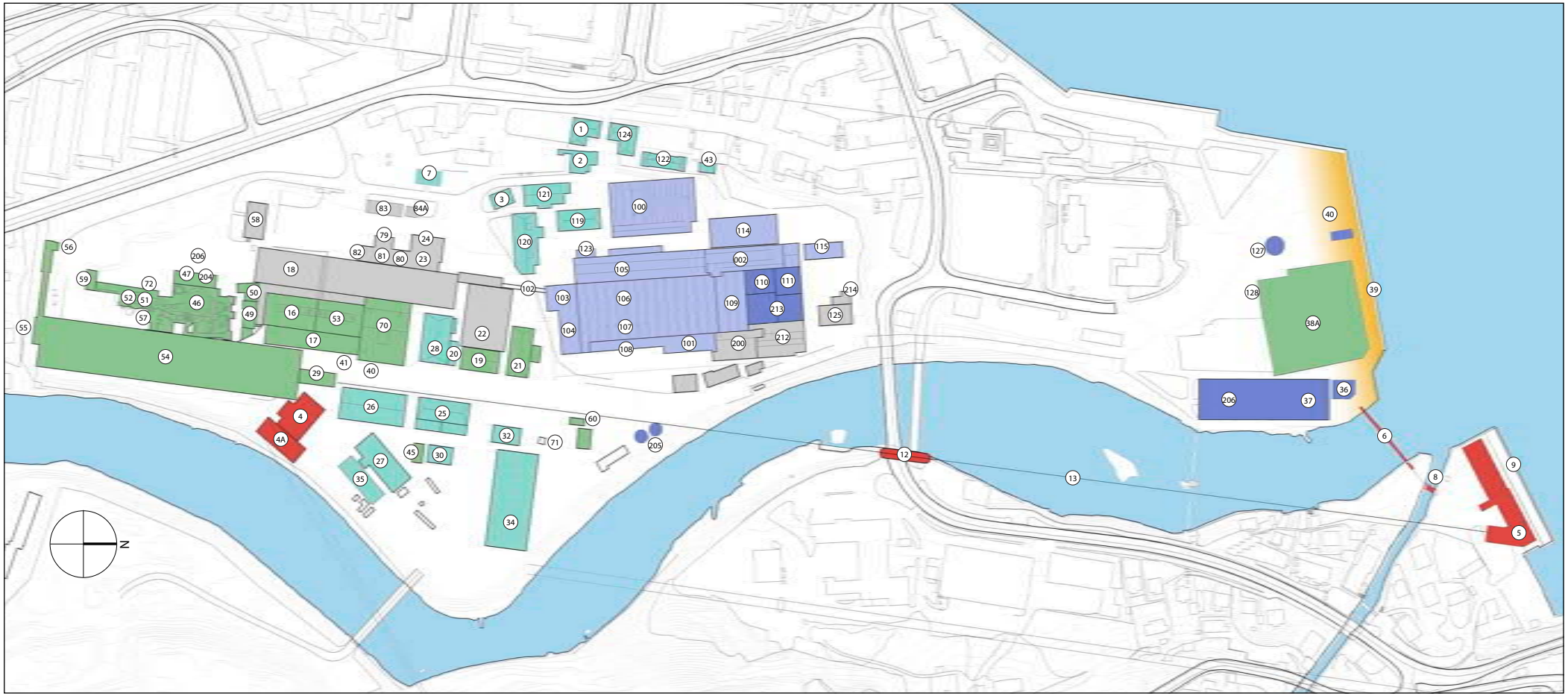
Value, opportunities and limitations of the cultural heritage



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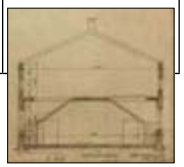
Value, opportunities and limitations of the cultural heritage

Part	Nr	Name of building	Constructed	Era	Status	Owner	Value	Development Potential	Vulnerability	Capacity to change	Suggested preservation
F	**41**	Central toilet block	1955	3	Potential conservation area according to the Cultural Heritage Act	SNU	The building is a small item in the complex area connected to carbide production. In earlier years, a network of cables and pipes existed over the building. The building has a minor function, but should be considered for preservation as a part of the factory.	The building can possibly be re-used as toilets. Apart from this the building is small and difficult to use except for storage.	The building can tolerate some changes to the exterior.	Small	Conservation in accordance with the Planning and Building Act
F	**43**	Storage for Laboratory	1946	3		SNU	The building was built as store for the laboratory. It is a part of an integrated building group forming the entrance area to the factory. It is built against the back of an urban apartment house in masonry that faces Røldalsvegen. It is considered to have conservation value as a part of the overall setting.	The building is probably suitable for new purposes for various small activities such as business, storage, workshops and the like.	The exterior cannot be changed much without losing the building's character. Interior changes should be in line with the original structure and construction.	Medium	Conservation in accordance with the Planning and Building Act
F	**085**	~~Storage for special waste~~	~~19??~~	~~2~~	~~Demolished~~						
F	**110b**	Motor warehouse	1912	5		SNU	The building is part of the Linde house and together these two structures are very important elements of the factory's history and Norwegian technological history. The exterior is for the most part original. It is part of the integrated building group forming the entrance area to the factory.	The building is already being renovated as a demonstration project.	The exterior cannot be changed much without losing the building's character. Interior changes should be in line with the original structure and construction.	Large	Conservation in accordance with the Planning and Building Act
F	**119**	Central bath with changing rooms	1908	5		Odda Municipality	Believed to have been constructed as a warehouse for the cyanamide factory. Rebuilt 1958 as the central bath for the employees. This greatly improved the work environment. The building is a part of the integrated building group forming the entrance area to the factory.	The building is suitable for new businesses and office purposes.	The exterior cannot be changed much without losing the building's character. Interior changes should be in line with the original structure and construction.	Large	Conservation in accordance with the Planning and Building Act 

Stage 4: Activate – cultural historical arena of action and frameworks

The fourth stage of DIVE comprises a synthesis and summary of the analysis process, and this becomes the input contribution to the planning process that the analysis is a part of. During this stage the historical arena of intervention is defined, with the goal of activating the cultural historical resources during the planning. The arena of intervention describes the opportunities for preservation and/or development of the area, both on the overall level and in relation to individual cultural historical elements.

The analysis thus results in advice and recommendations that are adapted to the level on which the ongoing planning operates. The advice and proposals forwarded need to related to the specific challenges addressed by the planning process, and hence answer the questions that were framed at the outset of the analysis.

Challenges of the planning process

The background for this analysis was the debate related to the area plan for the redevelopment of the carbide factory area. Odda municipality's 2007 proposal was met with objections from the county government. The extent of conservation was not in line with the county's 2003 decision for temporary protection of the area. Carbide Oven House III was not included in the plan despite temporary protection. The proposed new road through the area also came into conflict with conservation interests.

In December 2007 the county announced the initiation of a preservation procedure for an area larger than the area that had been temporarily protected. In the area plan, the final boundaries of the area protected according to the Cultural Heritage Act would depend on the degree of conservation as defined in § 25.6 of the Planning and Building Act. The new boundaries included the cyanamide factory and the export warehouse at the harbour.

The owners of the area wished to establish a shopping centre connected to parts of the old cyanamide factory. The groups interested in redeveloping the Almerket area north of the factory supported this idea too. A new shopping complex would compete with existing shops in the centre of Odda. The municipality therefore recognised the need to conduct a market analysis parallel to the work with the situation analysis. The purpose of the market analysis was to assess the potential for expansion of shopping opportunities in Odda centre. The analysis would also give recommendations as to the location of a new shopping complex.

The flow of traffic through Odda created a precarious situation in the core part of the town. National road 13 bisected the town and carried 7200 vehicles per day. A traffic analysis was therefore carried out parallel to the site analysis. This assessed alternative solutions for rerouting the road system through the town centre. The assessment was to ensure that a new road system should be in accordance with the development potential outlined in the situation analysis. The traffic analysis also assessed the impacts of a new road in relation to urban structure, town development, green areas and space utilisation on the factory site.

In sum, the cultural historical analysis together with the market analysis and traffic assessment was to provide recommendations in relation to the following topics:

- Localisation and layout of a new trajectory for the main road rv.13 through Odda centre that takes the cultural environment into consideration
- Shaping of an internal road system for both vehicles and pedestrians that maintains the factory area's development potential
- Localisation and solutions for parking within the area
- Close integration of the plan area with the existing town centre
- Use of space within the factory area, including localisation of a new shopping complex
- Localisation of new structures for various functions: business/ industry, offices, official buildings, public, housing)
- The extent of preservation by applying zoning as a Special Conservation Area as defined by § 25.6 of the Planning and Building Act
- The extent of preservation by protection according to the cultural heritage law.
- The extent of demolition of existing buildings.
-

Stage four in the site analysis thus results in a concrete set of recommendations based on all three analyses. Here the various challenges and issues have necessity to be a solution based on compromises between various interests.

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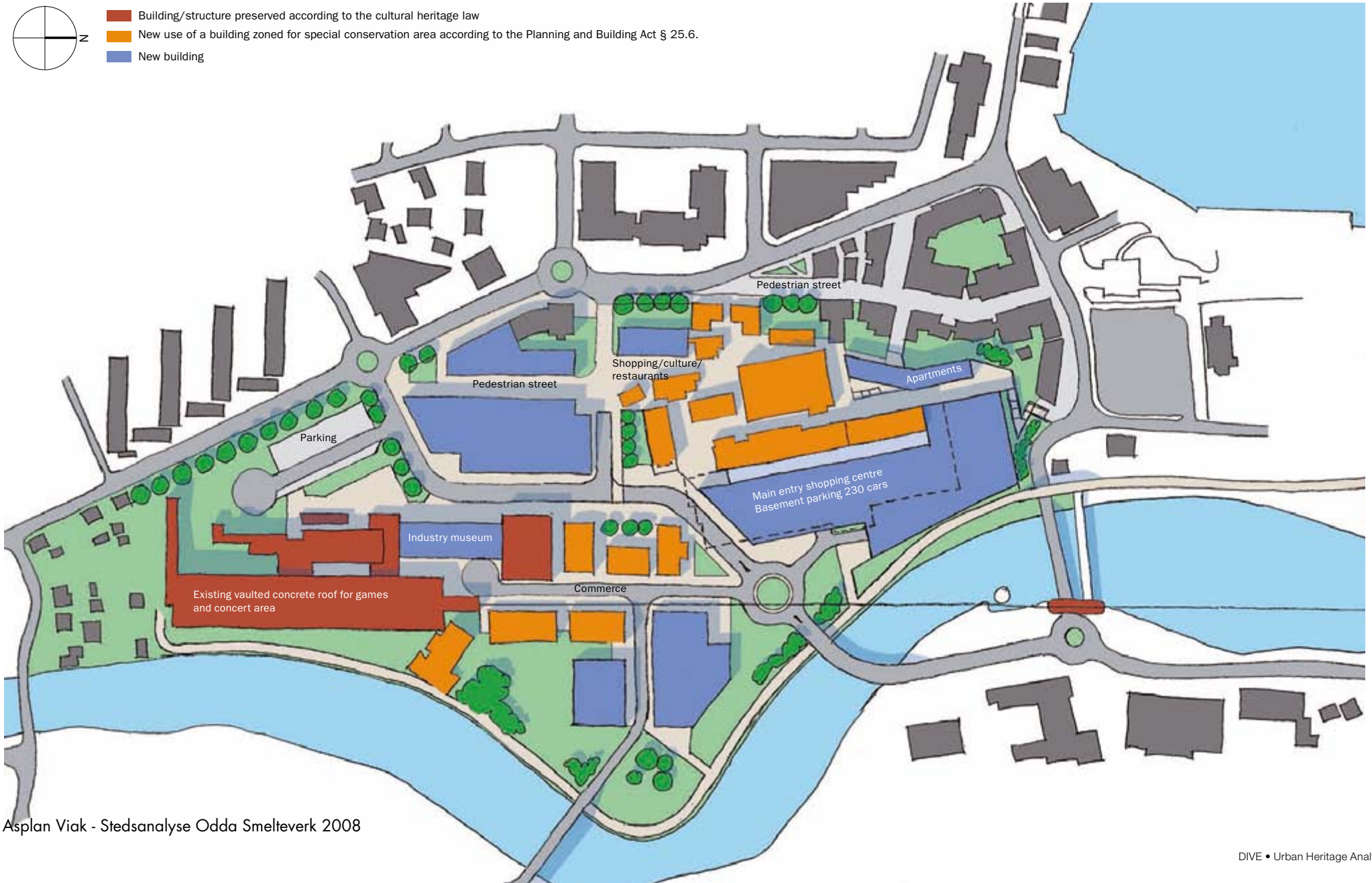
Activate – cultural historical arena of action and frameworks



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Information about the project in Odda

Participants:
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Execution: Harald Tallaksen, Asplan Viak AS
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Participatory group: Per Morten Ekerhovd, Inger Lena Gåsemyr (Hordaland County), Randi Bårdtvedt (The Norwegian Hydropower and Industry Museum NIVM), Odda Handelstandforening, Nina Kongtorp ("Odda Process"), Jostein Soldal (Odda Tourism), Vidar Dagestad (SMB Group), Knut Kvanndal (Smelteverkstomta Næringsutvikling AS), T. Austrud (Roads Department), Øyvind Tømmernes (Youth representative), Vision Invest AS, Bark Architects AS.

Sources:
Odda smelteverk – vurdering av verneverdier, Helge Schjederup sivilarkitekter MNAL as, 2006
Smeltedigelen – en industrisaga, Odda smelteverk gjennom 80 år, 1989.
Hardanger Consult AS, beregninger av takkonstruksjoner i cyanamiden, 2007.
Handelsanalyse for Odda, Asplan Viak v/Astri Rongen, mai 2008.
Trafikkvurdering Odda – Smelteverkstomta, Asplan Viak v/Knut Hellås og Audun Kam.
Stedsanalyse og idékatalog for Odda, ARCUS arkitekter as og Nordplan as v/siv.ark Ketil Kiran og Karen Monnet, 1997..
Reclaiming land and revitalization of the post industrial Odda smelteverk. Mastergradsprosjekt i landskapsarkitektur v/Thea Kvamme Hartmann og Kyrre Tveitereid Westengen, 2007.
A preliminary report to ICOMOS Norway on some Norweigan hydropower and electrochemical sites, v/Stuart B. Smith OBE, MSc, FMA, april 2008.
Various brochures from Odda Smelteverk and Odda Municipality
Odda, Ullensvang og Kinsarvik i gamal og ny tid, bygdesoge bind III, Olav Kollveit, 1967
Vandring i gammal og nutid – veg- og stadsnavn i Odda kommune, Norvald Vethe, 1999
Odda i manns minne – Glimt frå Almeverket og Odda sentrum, Odda Mållag og Odda Industristadmuseum, 1993
Det gamle Odda – et billedalbum, Odda Fotoklubb, 1976-77
Odda – arbeidsfolk fortel, Lasse Trædal, 1988
Interviews with Brita Jordal, NIVM and Svenn Berglie, Odda Municipality
Riksantikvaren, Dag Reinar: DIVE-analyse (kortversjon jan. 2008)

Photographs and illustrations:
Mainly from Asplan Viak's analysis for Odda municipality, May 2008.
Historical photographs from NIVM and the book sources quoted.
Photos from 2008 by Harald Tallaksen, Asplan Viak AS.

Bibliography and links

Useful links
(Integrated Conservation)

Declaration of Amsterdam, 1975
www.icomos.org/docs/amsterdam.html
European Charter of Architectural Heritage, Amsterdam 1975
www.icomos.org/docs/euroch_e.html
Convention for the Protection of the Architectural Heritage of Europe, Granada 1985
www.conventions.coe.int/treaty/en/Treaties/html/121.htm
Charter for the conservation of historic towns and urban areas, Washington 1987
www.international.icomos.org/charters/towns_e.htm
Convention for the Protection of the Archaeological Heritage of Europe (revised), Valletta, 1992
http://conventions.coe.int/Treaty/en/Treaties/Html/143.htm
The European Landscape Convention, Florence 2000
http://www.coe.int/t/dg4/cultureheritage/Conventions/Landscape/
Council of Europe Framework Convention on the Value of Cultural heritage for Society, Faro 2005
http://conventions.coe.int/Treaty/EN/Treaties/Html/199.htm
1994. Nara Document on Authenticity.
http://www.international.icomos.org/naradoc_eng.htm
City&time: International magazine for cultural heritage and urban transformation.
http://www.ct.ceci-br.org/novo/revista/index.php

Litteratur

Choay, Francoise. *The Invention of the Historic Monument*. Cambridge University Press 2001.

Jokilehto J. 2006, World Heritage: «Defining the outstanding universal value». City & Time 2 (2): 1. [online] URL: http://www.ct.ceci-br.org

Jokilehto, Jukka. *A History of Architectoral Conservation*. Butterworth Heinemann 1999.

Jokilehto, Jukka. «Conservation Principles. Selected texts of international, regional and national charters, recommendations and declarations». WHC/Draft/ / December 2001.

Lynch, Kevin. *The image of the city*. Cambridge, Mass. MIT Press 1960.

National Board of Antiquities. *Sustainable Historic Towns – Urban heritage as an Asset of Development. Project Report*. (Ed. Marianne Lehtimäki et al), 2006

Reinar, Dag Arne. «The DIVE Approach.Tool for activating the Development Potential of Cultural Heritage Resources in Urban Planning and Development». Conference Paper: Urban Heritage: Research, Interpretation, Education, Vilnius Gediminas Technical University, Faculty of Architecture, 2007

Riksantikvaren. *Communicating Heritage in Urban Development Processes.* (Ed. Dag Arne Reinar et al), 2009. PDF available at www.riksantikvaren.no.

Rodwell, D. *Conservation and Sustainability in Historic Cities*. Blackwell Publishing 2007

Stovel H. 2007. «Effective use of authenticity and integrity as world heritage qualifying conditions». City & Time 2 (3): 3. [online]. URL: http://www.ct.ceci-br.org

Zancheti, Silvio Mendes (ed. and organiser). «Conservation and Urban Sustainable Development. A Theoretical Framework.» Report from CECI Conference 1999.

Zancheti, S. M.., Kulikauskas P., Sá Carneiro A. R., Lapa T. A.. 2004. «Bridging the disciplines and cooperative action: interfaces in integrated urban conservation». City & Time 1 (1): Presentation. [online] URL: http://www.ct.ceci-br.org

The DIVE analysis method was developed and tested in two international projects:

During the 1990s new cooperative fora were established between the Baltic countries including Norway. Cultural heritage was selected as one of the focal areas. *Sustainable Historic Towns* was the topic for one of the four thematic working groups. The first two years of this work is summarized in the report *Baltic Sea Region Co-operation on Sustainable Heritage Management* (TemaNord 2003:56). In order to further develop this knowledge, funding was applied for from Interreg IIIB for a project on the sustainable management and use of historic urban resources. Titled *Sustainable Historic Towns: Urban Heritage as an Asset of Development* (SuHiTo 2003-05), this is described in a report of the same name (see bibliography). Finland, Sweden and Norway participated with their own projects, pilot towns and partner research institutes. Leadership was by the Finnish National Board of Antiquities (Museiverket), the Swedish National Heritage Board (Riksantikvarieämbetet) and Norwegian Directorate for Cultural Heritage (Riksantikvaren). Norwegian activities included testing elements of a new urban heritage analysis in cooperation with municipalities Mosjøen and Røros, NTNU/SINTEF and NIKU, and the State Housing Bank (Røros). The tentative DIVE approach that was developed in Røros 2004-05 was the result of close collaboration between the municipal planning and cultural heritage department (Fjæran, Eggen), architects hf arkitekter (Prøsch), Berg and Østvang, (Østvang, Krokan Berg) and landscape architects Feste Tynset (Bakke).

The SuHiTo project was followed up in the project *Communicating Heritage in Urban Development Processes* (Co-Herit 2007-08). The objective was to test and further develop the DIVE methodology in various contexts. In Lithuania the project partner was the Faculty of Architecture of Vilnius Gediminas Technical University, with DIVE being applied in teaching and student projects. In Finland Museiverket and the town of Jakobstad were the partners, in Sweden, Riksantikvarieämbetet and the municipality of Arboga, in collaboration with researchers from KTH in Stockholm (Olsson & Berglund). Here the main theme was "citizens, cultural context and planning". The Swedish National Heritage Board also executed versions of the DIVE analysis for Arboga as well as Gothenburg. Norway was lead partner in Co-Herit and a DIVE analysis for a central urban block in Tromsø was produced in partnership with that city (Prøsch). The Odda analysis was executed by Asplan Viak (Tallaksen). These activities are described in the report *Co-Herit. Communicating Cultural Heritage in Urban Development Processes. www.riksantikvaren.no*

About DIVE

DIVE is a method of cultural heritage analysis for landscapes, cities and environments. It is a creative, investigative, open, dynamic and interdisciplinary work process. The analysis collects, systematizes, organizes and communicates knowledge about the cultural heritage to provide a basis for developing good, sustainable communities. Through four goal-oriented stages, passive historical information about the cultural character, significance and value of an area is transformed into operational knowledge about the area's potential and possibilities for intervention.

Applications of DIVE

The DIVE methodology is applicable as a knowledge base at various levels of spatial planning and management. It is useful in many processes: cultural, environmental and landscape management; local and regional transport planning; master planning; detailed planning; impact assessment of development programs and projects, etc.

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