



WORLD HERITAGE VALUE IN DUBROVNIK ASSESSING IMPACTS OF CHANGES -on values and impacts

DUBROVNIK February 6, 2015 KL

OLD CITY OF DUBROVNIK

WORLD HERITAGE

under pressure

WORLD HERITAGE ON THE GROUND

- **World Heritage global value**
- **Site, buffer zone and setting**

ASSESSING IMPACTS OF CHANGES

- **What is the heritage at risk?**
- **What is an impact?**

HERITAGE IMPACT ASSESSMENT as a tool

- **Function and contents of a HIA**
- **Case studies of HIA framework**

GLOBAL SIGNIFICANCE

Outstanding Universal Value (OUV)

One integrated value which includes:

- **criteria for inscription**
“ WHY ”
- **condition;**
authenticity and integrity
“WHAT”
- **management capacity**
“ HOW ”

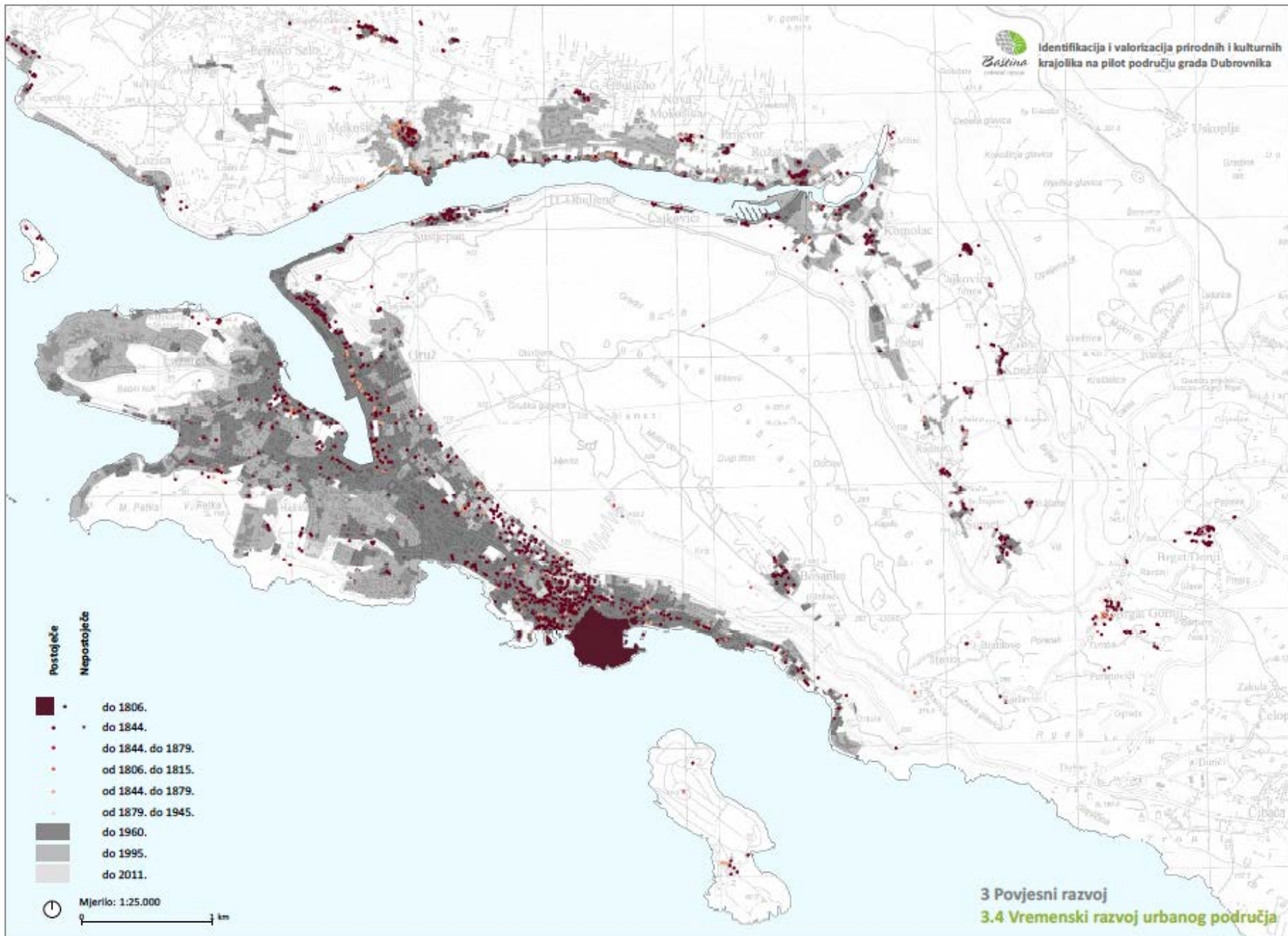
Outstanding Universal Value of OLD CITY OF DUBROVNIK World Heritage

KEY THEMES

1. The medieval city and its territory

A historic urban landscape

Masterpiece of a medieval planned city highly advanced architecture, urban planning and infrastructure



- Postojeće**
Nepostojeće
- do 1806.
 - do 1844.
 - do 1844. do 1879.
 - od 1806. do 1815.
 - od 1844. do 1879.
 - od 1879. do 1945.
 - do 1960.
 - do 1995.
 - do 2011.

Mjerilo: 1:25.000
1 km



-  voda
-  akvadukt
-  karavanski put
-  put
-  put 19 stoljeće
-  puteljak
-  puteljak 19 stoljeće
-  serpentine
-  staza



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0 1 km

3 Povijesna osnova

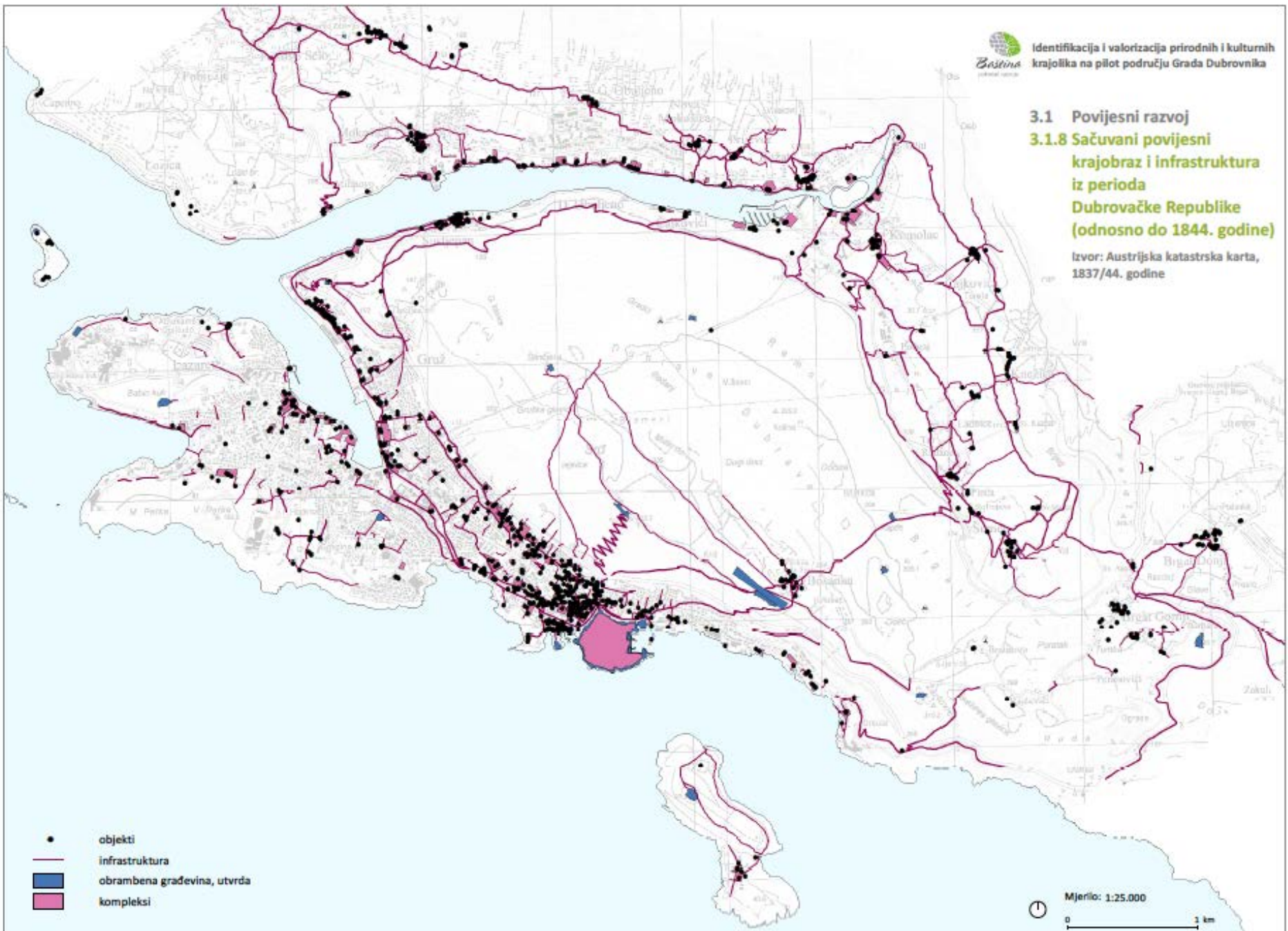
3.2 Urbana povijesna infrastruktura

3.1 Povijesni razvoj
3.1.8 Sačuvani povijesni
krajobraz i infrastruktura
iz perioda
Dubrovačke Republike
(odnosno do 1844. godine)

Izvor: Austrijska katastrska karta,
1837/44. godine

- objekti
- infrastruktura
- obrambena građevina, utvrda
- kompleksi

Mjerilo: 1:25.000
0 1 km





3.1 Povijesni razvoj

3.1.5 Povijesna infrastruktura: Gospodarska infrastruktura

Izvor: Austrijska katastarska karta, 1837/44. godine



GLOBAL VALUE OF OLD CITY OF DUBROVNIK

KEY THEMES

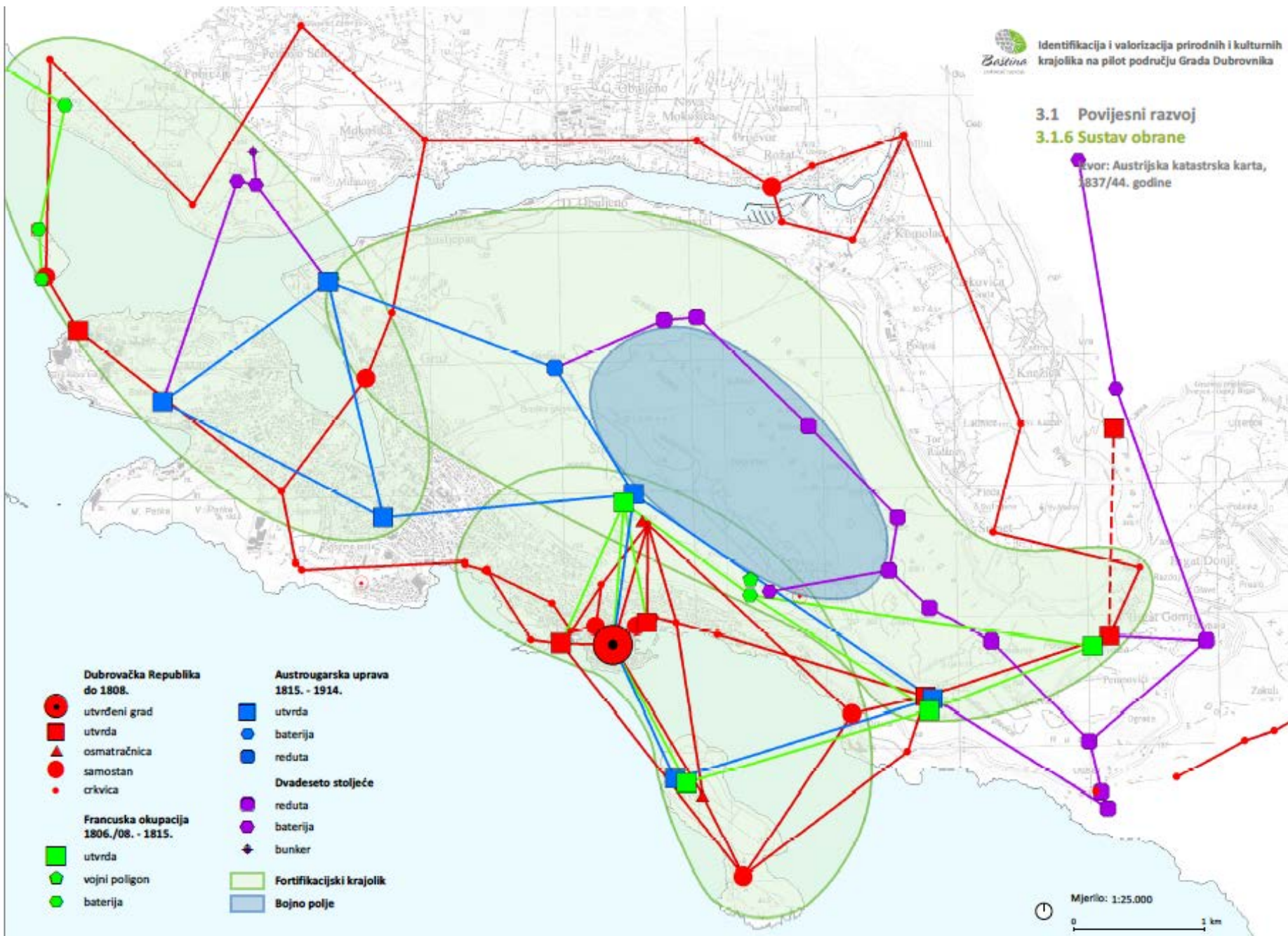
2. **The defense system in Dubrovnik Republic**

The defense landscape

A fortified medieval town in a strategic position at the foot of Mt Srd with its well preserved comprehensive defense system

3.1 Povijesni razvoj 3.1.6 Sustav obrane

Izvor: Austrijska katastrska karta, 1837/44. godine

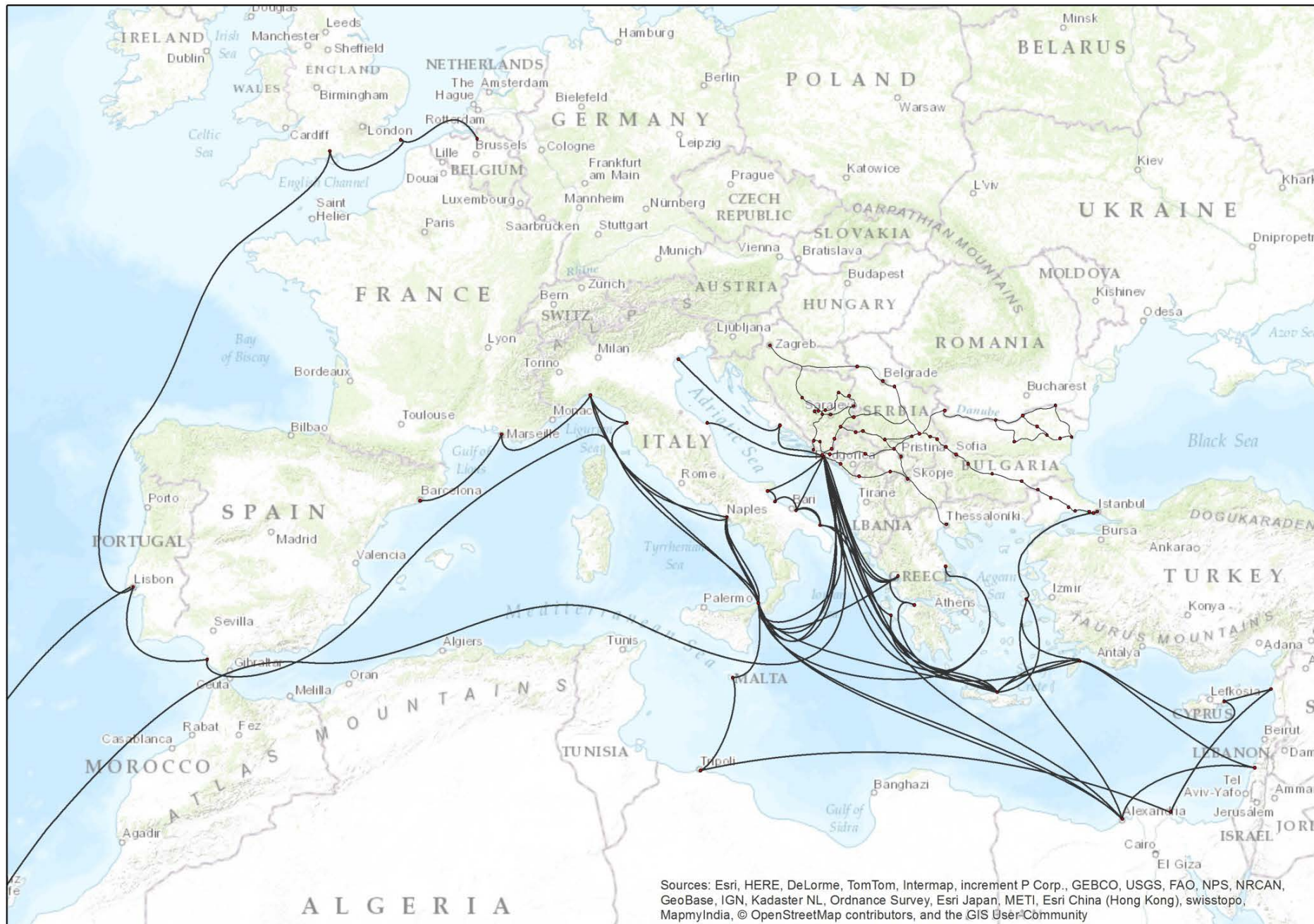


GLOBAL VALUE OF OLD CITY OF DUBROVNIK

KEY THEMES

3. The global trade and political landscape

An important Mediterranean maritime and trading hub from the 13th century with economic, political and associative importance



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

GLOBAL VALUE OF OLD CITY OF DUBROVNIK

KEY THEMES

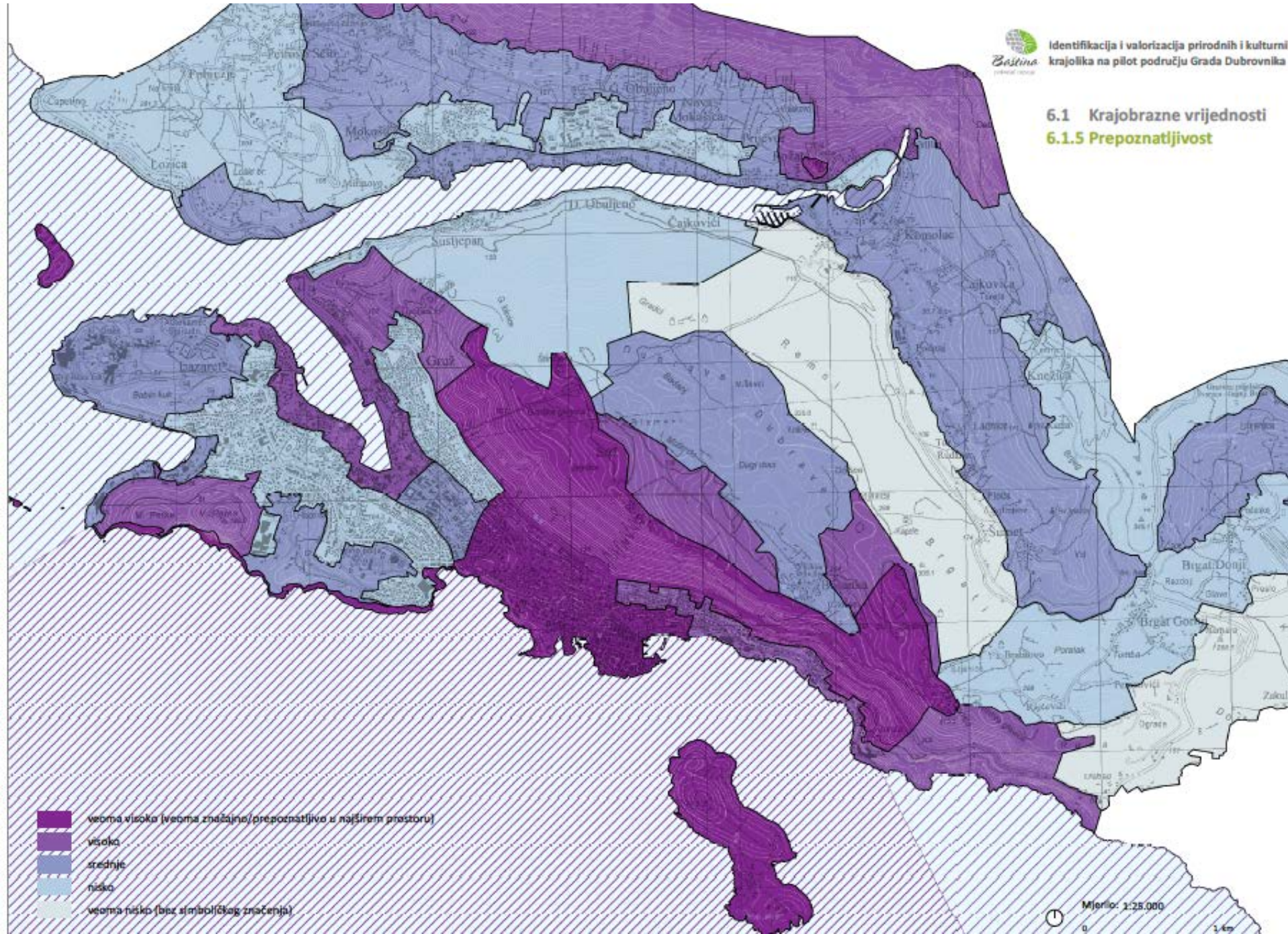
4. **Dubrovnik identity**

The associative landscape

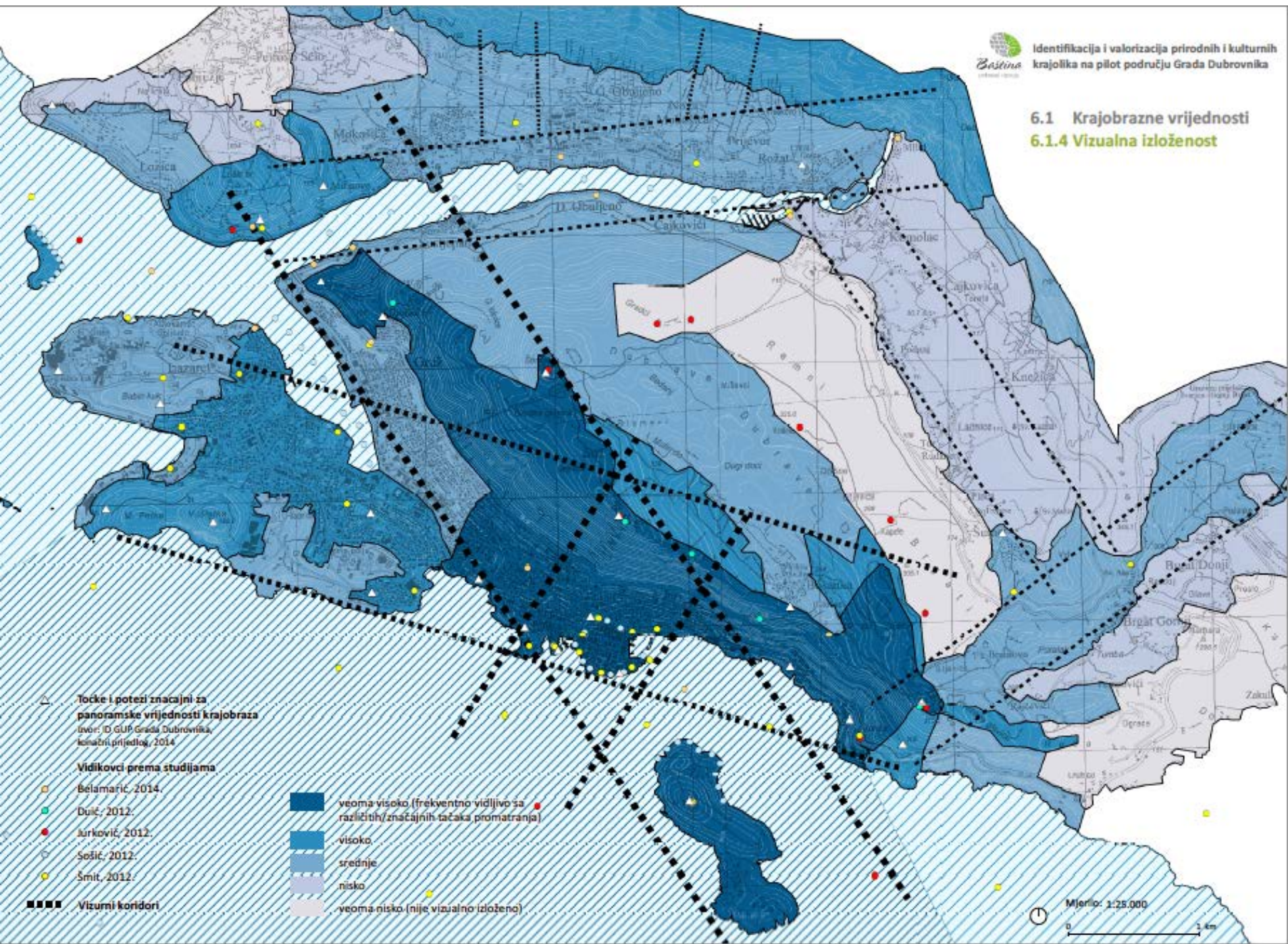
A strong perceptual integrity of Dubrovnik in its maintained strategic position on the Dalmatian coast. High awareness of the inhabitants of the memories and beauty linked to the city and its territory.

6.1 Krajobrazne vrijednosti

6.1.5 Prepoznatljivost

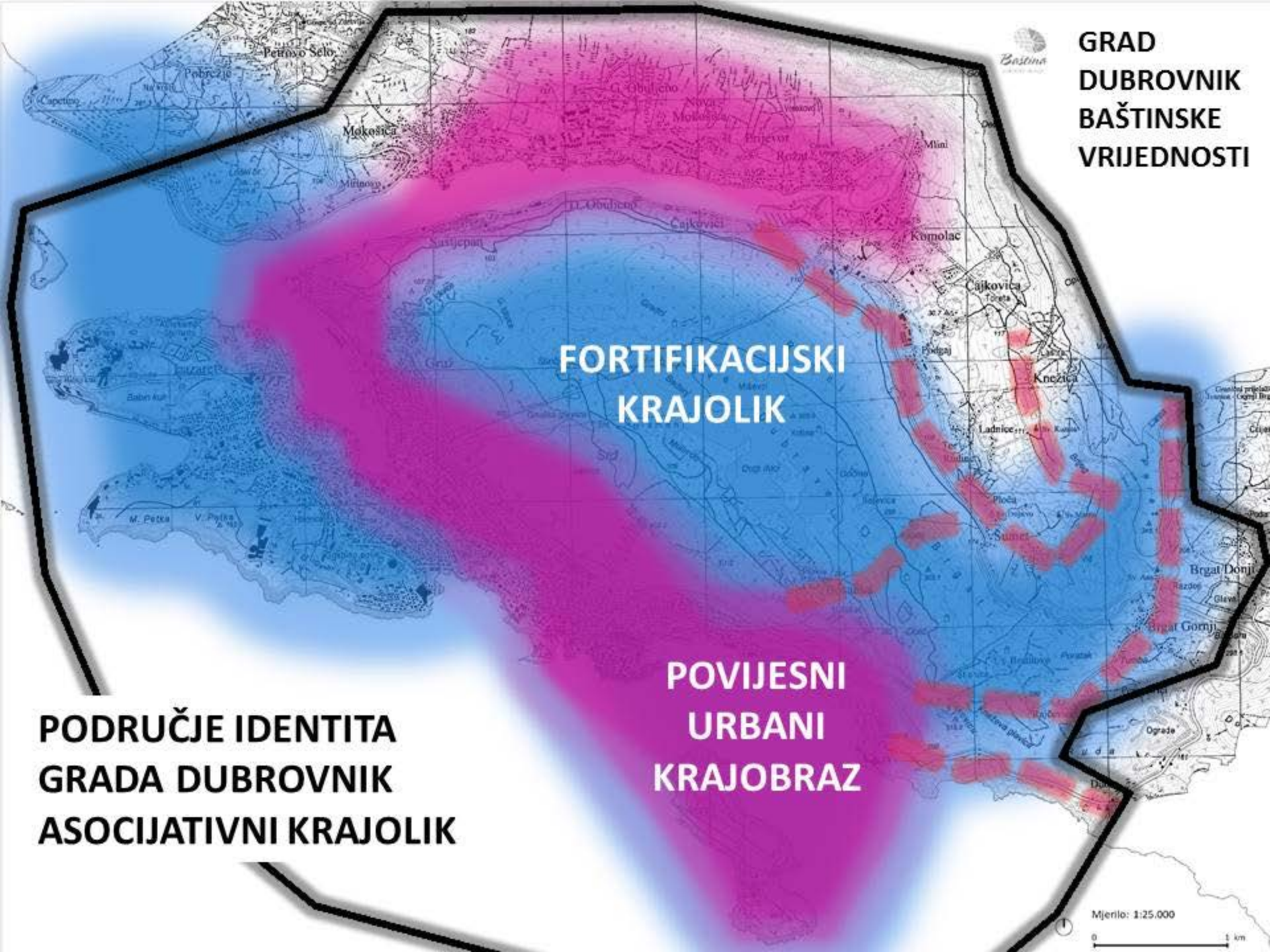


6.1 Krajobrazne vrijednosti
6.1.4 Vizualna izloženost





GRAD DUBROVNIK BAŠTINSKE VRIJEDNOSTI



**PODRUČJE IDENTITA
GRADA DUBROVNIK
ASOCIJATIVNI KRAJOLIK**

**FORTIFIKACIJSKI
KRAJOLIK**

**POVIJESNI
URBANI
KRAJOBRAZ**

Mjerilo: 1:25.000
0 1 km

World Heritage property, buffer zone and setting

Property

includes the Outstanding Universal Value

Buffer zone

Protects, enhances and adds to the value

Setting

a wider area which is part of or contributes to the significance of the World Heritage property. It includes intangible heritage, associations and the current cultural, social, economic context.

Setting does not need to have set boundaries

OUTSTANDING UNIVERSAL VALUE

“on the ground”

ATTRIBUTES or key features

- **Physical elements**
 - aqueduct
- **Relationships**
 - functional and associative relationship between the Old City and Mt Srd
- **Processes**
 - continuity of the central position of the Old City
- **Associative**
 - spirit and feeling, memories, ceremonies

CATEGORY	VALUE	ATTRIBUTES
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INTANGIBLE
 TANGIBLE

Historic/ architecture and urban planning	Masterpiece of an architectural and urban complex from 13 th century	The The advanced urban layout; public spaces and street grid, public, private and sacred buildings and complexes in their setting
	Historic Urban landscape	The comprehensive medieval historic urban landscapes with walled city, industrial suburbs, garden villas and summer residences
	Defense landscape	Entire defense system in its strategic location with Mt Srd and its plateau, coast with Lokrum and other islands, communication routes on land and sea, communication routes, The Main town wall with towers donjons and bastions, barbicans, the moat and Kase breakwater, Arsenal, The fortresses inland and on islands ,
	Strong maritime and trading hub in the Mediterranean	The strategic location along the coast with trade routes, caravans



Scientific / technical	Highly advanced municipal infrastructure and health care system Craftsmanship	Harbour breakwater protection Trade routes Exclusion zones Advanced Quarantine orphanage Architecture Engineering Shipbuilding
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Aesthetic/ artistic	Art	Original location of artworks in public edifices and sacral buildings International influences in art
Associative	Political and cultural centre	International exchange and influences, Strong visual identity of a strategic position on the Dalmatian coast Medieval city with its summer villas and recreational areas
Political	Dubrovnik Republic as a political and administrative power	Fortification system Harbour and public buildings. Warehouses buildings related to administration High public awareness of the identity and value of the city by citizens Living city International relations, consulates
Socio- economic	Trade and commerce	Harbours and trade routes on lands and sea salt pans
Ecological	Advanced Urban infrastructure from 15 th century Urban agriculture Agriculture	Aqueducts, Water and sewage system Garden urbanism on the slopes of Mt Srd , cultural landscape with terraces Rural areas, pastoralism and agricultural production for the city; fields and terraces

The quality and condition of the World Heritage attributes

AUTHENTICITY: truthfulness

THEME 1:

Dubrovnik maintains its complete late-medieval urban complex including urban plan, architecture and advanced urban infrastructure

THEME 2:

The entire defense system in its strategic position on the coast, islands and the Mt Srd is still legible.

The quality and condition of the World Heritage attributes contd

AUTHENTICITY: truthfulness

THEME 3:

The importance of Dubrovnik as a major trade hub and political power is demonstrated by the maintained strategic position, trade routes by sea and land, harbours, shipyards, custom houses , warehouses etc. and consulates abroad and cultural influences.

THEME 4:

The high awareness of the inhabitants of the values and beauty of their town is witnessed in the conservation works and in the celebrations ; St Blaise.

The quality and condition of the World Heritage attributes contd

INTEGRITY: wholeness and robustness

THEME 1:

Historic integrity: The medieval urban complex of Old City of Dubrovnik within the city walls and with its medieval urban/ industrial suburbs, garden villas and summer residences and urban infrastructure

THEME 2 and 3:

The political and economic importance of the fortified city is still represented by all parts of its comprehensive defense system and their relation in the landscape, fortifications, harbours, trade and impressive strategic position with Mountain Srd and the surrounding islands.

THEME 4:

The functional and visual integrity of the Old City of the Dubrovnik is maintained, however vulnerable for new developments.

The function of an Heritage Impact Assessment (HIA)

Heritage is not only an object, impacts are not only visual

HIA can be used as a

- Decision making tool
 - As objective as possible
 - Transparent and accountable
- Proactive planning tool
 - Clarifies for all stakeholders the key components of World Heritage OUV, its status and significance
 - Sets out priorities in management function as management plan strategic objectives
- Monitoring tool
 - Can be used as a database for monitoring programs



The function of an Heritage Impact Assessment (HIA) –think about:

- **Any change** which can have an impact must be assessed – regardless the location
- **Community benefit** is taken into account
- HIA takes into account **the context, setting and links** with the territory
- Impacts can be **positive** – they can strenghten , support and enhance the cultural resource
- One factor of change can have both **positive and negative** impacts, for example tourism
- **Cumulative impacts** – impacts over time – are often the most crucial for cultural heritage
- **Management capacity / response** is also part of OUV and to be assessed

Heritage Impact Assessment Dubrovnik project

What we could not do:

(please see ICOMOS HIA Guidance 2011)

- A ' FULL' HIA targeting a specific change or threat
- Carry out a whole HIA process
- Develop the whole content of an HIA

Heritage Impact Assessment Dubrovnik project

What we did:

- Provide database for the OUV
- Identify aspects to be considered
in an HIA
- Develop an HIA framework
and test it in two cases
 - Summer villas
 - Interrelation between Mt Srd and
World Heritage property

HIA FRAMEWORK

STEP 1

What is the heritage at risk and why is it important – how does it contribute to OUV?

STEP 2

Does a change or a development proposal impact on OUV?

STEP 3

What is the scale and severity of the impact?

STEP 4

A summary of impacts and their effect

STEP 5

How can these impacts be avoided, reduced or mitigated?

Summary of factors that may have an impact on Old City of Dubrovnik World Heritage

FACTOR	NATURE OF IMPACT				ORIGIN	
	positive	negative	current	potential	inside	outside
Buildings and development	x	x	x	x	x	x
Transportation infrastructure	x	x	x	x		x
Utilities or Service Infrastructure	x	x	x	x	x	x
Pollution, Environmental threat		x	?	x	x	x
Climate change and severe weather events		x		x		x
Biological resource use / modification	x	x	x	x		x
Social/cultural uses of heritage	x	x	x	x		x
Other human activities		x	x	x	x	x
Management and institutional factors	x	x	x	x	x	x

For each attribute, a summary description and grading

ATTRIBUTE (description)	NATURE OF IMPACT (description)	IMPACT GRADING Major/Moderate/ Minor/
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HISTORIC URBAN LANDSCAPE/ DEFENSE LANDSCAPE/ASSOCIATIVE LANDSCAPE

Impact grading	Architecture and urban structure	Historic landscape	Intangible Cultural Heritage Associations
Major (loss of OUV)	Change to key historic buildings and urban structure such that the resource is totally altered Comprehensive change to the setting of the Old City	Change to most or all key historic landscape elements fundamental changes to use or access resulting in a total change to historic landscape character and loss of OUV	Major changes that affect the intangible heritage activities or associations, visual links and cultural appreciation
Moderate (significant modification)	Change to many key buildings/ building elements Change to the setting	Change to significant key historic landscape elements, visual change to many key aspects, noticeable changes in use resulting in limited change to historic landscape character	Considerable changes to area that affect the ICH activities or associations, visual links or cultural appreciation
Minor (slight change)	Change to key historic building elements Change to setting of an historic building and urban..	Change to few landscape elements, slight visual changes, limited change to historic landscape character	Changes to area that affect the ICH activities or associations, visual links or cultural appreciation
Negligible very minor	Very minor changes to historic building elements or setting that hardly affect it	Very minor changes to key historic landscape elements, virtually unchanged visual effects,	
No change			

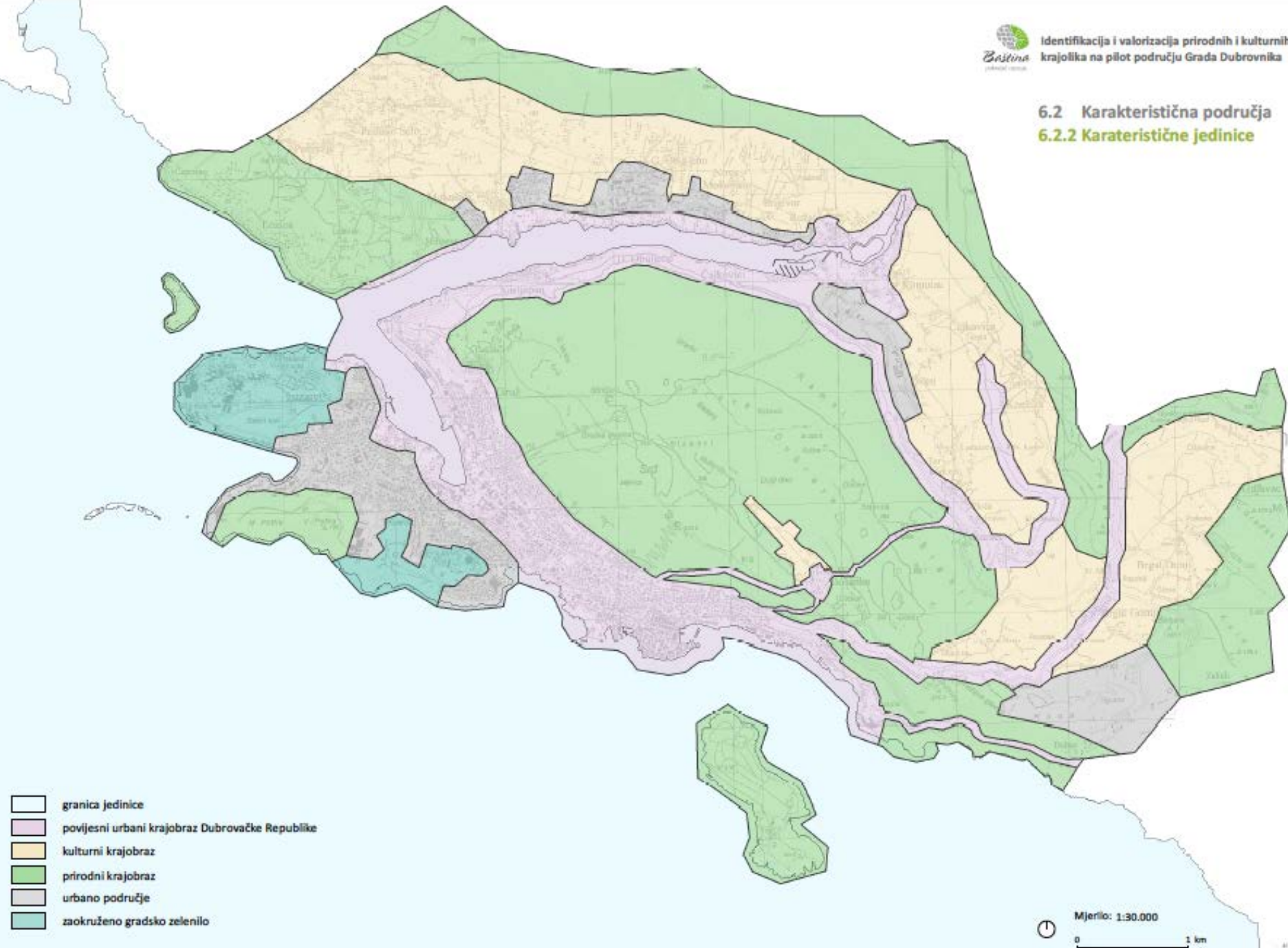
<u>Housing:</u> - urban sprawl / - high rise / changes to skyline - urban and real estate development <u>Commercial development</u> - large commercial complexes privatization of public spaces <u>Major visitor accommodation and associated infrastructure</u> - hotels, golf courses, resorts - permanent high cost tourism facilities (parking , pontoons, jetties, observatories, etc <u>Interpretative and visitation facilities</u> - trails, information centres, - moorings, marker buoys			
<u>Transportation infrastructure</u> <u>Ground transport infrastructure</u> - new access roads, car parks, transport depots <u>Air transport infrastructure</u> - runways, helicopter platforms, <u>Marine transport infrastructure</u> - harbour and port facilities <u>Effects arising from use of transportation infrastructure</u>			
<u>Utilities or Service Infrastructure</u> <u>Water infrastructure</u> <u>Renewable energy facilities</u> <u>Localised utilities / major linear utilities</u>			
Pollution, Environmental threats -wind erosion, humidity, water			
Climate change and severe weather events, ecological events - fire, floods, earthquake, erosion			
Biological resource use / modification - land conversion, rural, agriculture, forestry			
<u>Social/cultural uses of heritage</u> - impacts of tourism; visitor pressure - religious and associative uses - society's valuing of heritage - changes in traditional ways of life and knowledge systems - identity, social cohesion, changes in local population and community			
Other human activities, - illegal activities -deliberate destruction of heritage			
Management and institutional factors - Management plan - legal framework -financial and human resources ...			

HIA FRAMEWORK

VALUE OF HERITAGE ASSET	SCALE AND SEVERITY OF CHANGE / IMPACTS				
	No Change	Negligible Change	Minor Change	Moderate Change	Major Change
	SIGNIFICANCE OF EFFECT OR OVERALL IMPACT (ADVERSE or BENEFICIAL)				
Key attributes <i>The result for each attribute in Step 3</i>	0	2	3	1	0
World Heritage properties VERY HIGH	Neutral	Slight	Moderate / Large	Large / Very Large	Very Large

6.2 Karakteristična područja

6.2.2 Karakteristične jedinice



- granica jedinice
- povijesni urbani krajobraz Dubrovačke Republike
- kulturni krajobraz
- prirodni krajobraz
- urbano područje
- zaokruženo gradsko zelenilo



STEP 1: WHAT IS THE HERITAGE AT RISK AND HOW DOES IT CONTRIBUTE TO THE OUV

- Related to all key themes of the World Heritage value
- Attributes (list of attributes) in each category:
 - Historic/architecture and urban planning
 - Scientific / technical
 - Aesthetic / artistic
 - Political
 - Ecological
 - Associative
- The authenticity and integrity is very high due to the historic, functional and visual continuity and setting
- The state of conservation: no major changes in land-use. The natural heritage/vegetation and built heritage are vulnerable



STEP 2: DOES THE PROPOSED CHANGE HAVE AN IMPACT ON THE ATTRIBUTES?

FACTOR	NATURE OF IMPACT			
	positive	negative	current	p
Buildings and development				
Dominant new developments		x	x	
Urban sprawl		x	x	
Privatization of public spaces		x	x	
Interpretative and visitation facilities, trails, information centres	x		x	
Changes in use (residential, tourism,commercial)	x	x	x	
Transportation infrastructure				
New roads, widening of roads, car parks		x	x	
Effects arising from traffic infrastructure - light , sound, vibrations, pollution, visual disturbance		x	x	
Utilities or Service Infrastructure				
Renewable energy facilities; wind, solar etc		x		
Powerlines, cell phone towers,		x		
Pollution, Environmental threats				
Air, water, waste,		x	x	
Climate change and severe weather events				
fire, erosion, earthquake		x	x	
Biological resource use / modification				
land conversion , forestry		x	x	
Social/cultural uses of heritage				
Impacts of tourism, visitor pressure				
Society's valuing of heritage	x	x	x	x
changes in traditional ways of life and knowledge systems				
identity, social cohesion				
Management response				
Management plan, legal framework	x	x	x	

Mt SRD SLOPES												
ATTRIBUTES / KEY FEATURES	Impacts on AUTHENTICITY							Impacts on INTEGRITY				
	Buildings & fabric				Context & setting							
	form&design	material	use & function	traditions, techniques mgt systems	location,historic orientation	intangible	character, spirit feeling	visual	functional	historical	management capacity	
Mt Srd with its slopes and ridge is a key element of the Dubrovnik historical and present identity, its fortification system and its historic urban and rural landscape												
Key element in the fortification system of Dubrovnik	-	-	-	-	-	-	-	-	-	-	-	
Key element of Dubrovnik urban complex ; garden urbanism with road pattern and design, the relationship with urban greenery, gardens and natural vegetation	-	-	-	-	-	-	-	-	-	-	?	
Garden villas : Architecture and design	-	-	-	-	-	-	-	-	-	-	?	
Villages (Bosanka) as part of the rural territory of Dubrovnik	-	-	-	-	-	-	-	-	-	-		
Mt Srd slopes natural and cultural landscape with cultivated terraces	0	0	0	-	-	-	-	-	-	-	?	

Strategic visual and functional location with high importance for the setting of City of Dubrovnik	0	0	-	-	-	-	-	-	-	-	-
Symbolic image of Dubrovnik documented in paintings and drawings since Middle Ages until today	-	-	-	-	-	-	-	-	-	-	-

Add more questions when relevant:



STEP 3: WHAT IS THE SCALE AND SEVERITY OF THE IMPACT?

ATTRIBUTE (summary description)	NATURE OF IMPACT (summary description)	IMPACT GRADING Major/Moderate/ Minor/ Negligible/ No change
<p>Mt Srd with its slopes and ridge is a key element of the Dubrovnik historical and present identity, its fortification system and its historic urban and rural landscape</p>	<p><i>(an example for a non-specific urban, road or other development within or outside the area)</i></p> <p>The historic and symbolic image of Dubrovnik will be compromised by any changes</p> <p>New roads and increased traffic will have a negative impact on the character of the Mt Srd</p> <p>Key visual and functional linkages in the fortification system between Mt Srd and the walled city will be disturbed by any new changes, with a specific importance of the mountain ridge of Mt Srd</p> <p>Disruption of the historic structure of the rural landscape of Dubrovnik</p> <p>Potential danger of erosion</p>	<p><i>(an example for a non-specific development)</i></p> <p>SCALE AND SEVERITY: Moderate / Major change (significant modification – loss of OUV)</p> <p>SIGNIFICANCE Large / Very Large</p>



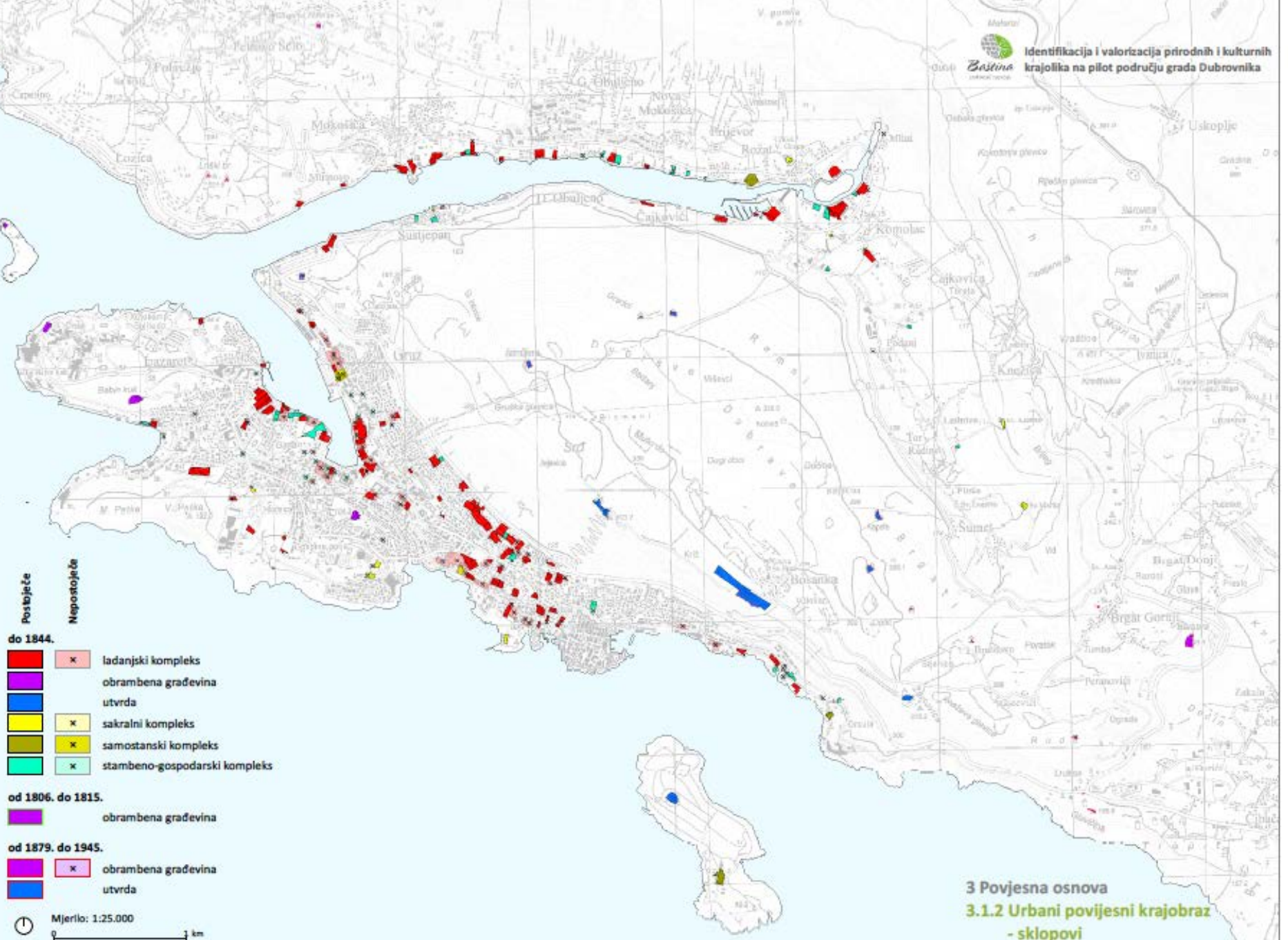
STEP 1: WHAT IS THE HERITAGE AT RISK AND HOW DOES IT CONTRIBUTE TO THE OUV

about:

The significance of the attributes:

The authenticity and integrity can be graded according to the individual residences and to the whole complex of residences along the Bay, for example by

- Number of existing villas
- Historical importance of each complex or villa
- Location and completeness of the individual villas including gardens and terraces and waterfront parterres
- State of conservation; reconstructions, demolitions, additions, including gardens and terraces



- | | | |
|--------------------------|--------------------|-------------------------------|
| Postojeće | Nepostojeće | |
| | | ladanjski kompleks |
| | | obrambena građevina |
| | | utvrda |
| | | sakralni kompleks |
| | | samostanski kompleks |
| | | stambeno-gospodarski kompleks |
| od 1806. do 1815. | | |
| | | obrambena građevina |
| od 1879. do 1945. | | |
| | | obrambena građevina |
| | | utvrda |

Mjerilo: 1:25.000

CONCLUSIONS

World Heritage of Old City of Dubrovnik is closely integrated with the landscape

The whole project area is contributing to the OUV

The existing spatial planning tools do not address the interlinkages between the OUV key elements or the landscape as a whole

