What is PIANC?

- What is PIANC?
- What does it do?
- Why should I care?
- How to get involved
- WG 158
PIANC is ... THE World Association for Waterborne Transport Infrastructure

• ...a forum where professionals around the world join forces to provide expert advice on cost-effective, reliable and sustainable infrastructures to facilitate the growth of waterborne transport.
• ... a leading partner for government and private sector in the design, development and maintenance of ports, waterways and coastal areas.
• ...a non-political and non-profit organization,
• PIANC brings together international experts on technical, economic and environmental issues pertaining to waterborne transport infrastructures.
• PIANC members include national governments and public authorities, corporations and interested individuals.
• Working Groups develop written guidance on relevant maritime topics

Ron Coles - W. R. Coles and Associates, Nashville TN
WG 158 – Masterplans for the Development of Existing Ports

• Diverse membership in Working Group 158:
  – Steven Cork, Nigel Bodell & Peter Hunter (UK)
  – Mathias Ludicke, Iven Kramer & Oliver Schwarz (Germany)
  – Sip Meijer & Sander Dekker (The Netherlands)
  – Rafael Escutia (Spain)
  – Brad Froyland (UAE)
  – Pasquale Pizzimenti (Italy)
  – Jason Sprott (Australia)
  – Herve Houis & Andre Merrien (France)
  – Ron Coles (USA)
PIANC Report 158
Masterplans for Existing Ports

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10 Project Assessment and Optimization
11 Preparation and Implementation of the Masterplan

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Nashville TN
With Our Time Today

• Overview
  – What is a port masterplan?
  – Challenges for existing ports
  – Overview of port planning
  – Case Study Examples
  – Closing and Contact Info

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What is a port masterplan?

• A port masterplan establishes policies and guidelines to direct the future development of a port.

• The main purposes of a port masterplan are to:
  – Clarify the port’s strategic plans for the medium and long term
  – Assist local/regional planning and transport network providers in preparing their own development strategies
  – Inform port users, employees, and local communities how they can expect the port to develop over the coming years

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# Timeframes for Masterplanning

Port planning can cover different issues and encompass different periods of time:

<table>
<thead>
<tr>
<th>Period of time</th>
<th>Infrastructure</th>
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<tbody>
<tr>
<td>20-30 years</td>
<td>Master Plan</td>
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<td></td>
<td>Long Term Development</td>
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<td>5-10 years</td>
<td>Strategic Plan</td>
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<td>Investment Planning</td>
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<td>Medium Term Development</td>
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<td>1-5 years</td>
<td>Project Planning</td>
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<td>Business Planning</td>
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<td>Port Zoning</td>
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The Masterplan
describes how a port must
grow and adapt in accordance with the
evolution of future demand, changes in
transport technologies and other factors.

- Masterplanning is long-term planning, ideally over 25 to
  30+ years.

- The Masterplan defines requirements for port expansion
  as well as its integration into the environment and the off-
site transport network.

- Short- or medium-term planning can lead to solutions that
  limit alternative development options, and therefore
  needs long term context.

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Guiding principles

- Port layout recommendations should be **definitive** enough to provide guidance, yet **flexible** enough to incorporate future changes into the forecasted scenarios.

- Masterplanning should **allow some future proofing** of the critical parameters that otherwise could produce the (early) obsolescence of infrastructure:
  - Water depths at the quay wall
  - Landside operational and storage areas
  - Hinterland connections

- The port must be able to **develop in phases**. Development in phases enables the progressive adaptation of the port extensions to meet future demands.

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Many ports are encountering difficulties in achieving their main objective as a port—to efficiently meet service demand. There are several possible reasons for this:

- Rapid traffic growth can overload port capacity.
- Increasing vessel sizes may limit scheduled calls or reduce efficiency.
- Management structure/systems or outdated handling equipment may lead to inefficient operations.
- Existing port layout and site may limit options for growth and expansion.
- Inland transportation connections may be congested.
Preparation of a port masterplan

Issues to be addressed:

- Review of existing port facilities and operations
- Traffic forecasting—to help define future requirements
- Terminal planning and KPIs—to cater for future growth
- Hinterland links—to ensure effective operation of the port
- Project evaluation and optimization—to determine the best way forward
- Environment and “green ports”
- Finance and phased implementation

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US Inland Waterways System

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Typical Barge Dimensions
195′ x 35′ or 60m x 11m
1750 imp tons or 1800 metric tons
Modern River lock is 1200 x 110 ft (366m x 34m)

Older are 600 x 110 ft (183m x 34m)
Barge Tows on the Mississippi River

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Marine Highways Connect the Heartland of the USA to global markets
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Ports are multi-modal hubs of commerce
Steel, minerals and other cargoes support local and regional jobs

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Aeres IX Rocket Components for NASA
Owensboro, Kentucky
300 acre (125 hectare) port complex on the Ohio River in Western Kentucky

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ORA Goals:
Economic development – jobs and tax base
ORA supports local family wage jobs
The use of aluminum in car/truck bodies in the USA:

- .09 million m tons in 2012
- 18 million tons in 2025 (projected)
- Globally – 158 million tons!
Strategic investments are needed to capture increased aluminum trade. The volume of imported aluminum (T-bars, sows, etc.) will likely increase.
What do these ports have in common?

*Planning resulted in success!*  
They were prepared when opportunity presented itself

Logical plan for phased development, making best use of resources

Creation of sites for industries (jobs and tax base) to lessen risk for the developer, and to attract industries which need water transportation

Yellow Creek – steel (large fabricated items, auto related), silicon 
CCPA – energy and minerals, plastics additives  
Tulsa – oil field and power plant equipment, ag  
ORA – ag, aluminum (auto for future), LMX, NYMX, IT systems

Management structure, marketing and business systems as well as physical improvements
Plan for Success!

- Port Master Planning – a key to success for all ports
- Logical path for future – provides direction, focus, and priorities – with plan for phased development
- Important Communications Tool
- To obtain the book: “WG 158 - Masterplans for the Development of Existing Ports”, or participate in a Working Group, contact www.pianc.org
- Ron Coles, W. R. Coles and Associates, www.wrcoles.com, ron@wrcoles.com