Intracoastal Waterway
Charrette
Charting the Future for Palm Beach County

Work in Progress Presentation
May 15, 2008
TREASURE COAST REGIONAL PLANNING COUNCIL

The Study Area
How The Master Plan Was Created:

Public Process:
Friday, May 9, 2008

Charrette Steering Committee Members

Gary Hines, Business Development Board
Kevin Johns, PBC Economic Development
Jim Murley, Florida Atlantic University / CUES
David Roach, Florida Inland Navigational District
Rob Robbins, PBC Environmental Resources Management
Jamie Titcomb, Gold Coast League of Cities
Randy Whitfield, Palm Beach Metropolitan Planning Organization

Thank You!!!
Presenting the Citizens’ Ideas

A Few of the Things We Heard…

- increase public access to the water via parks, bridges, riverwalks
- restore spoil islands and habitat areas; allow camping and public access
- construct more public fishing piers & riverwalks
- explore water taxi programs to interconnect marine destinations
- clean and enhance canals, especially C-51
- add more canoe/kayak launch sites in ICWW and portages in canal spillways
- connect natural areas to each other
- improve upland and water transit access to waterway and marine destinations
- create a County-wide water taxi system with different kinds of taxi stops
- make boat ramps more efficient with staging docks and day docks
- expand waterway destinations – day docks, spoil islands, restaurants
- remove derelict boats and clean waterway; explore mooring fields
- support marine industries with incentives and dredging (Mega-Yacht Mile)
- utilize bridge replacement to increase public access, fishing opportunities
- maintain clear views to the water
- encourage use of green buildings, LEED standards, renewable resources
- expand educational programs about natural resources, history, hydrology
- support marina villages and other marine destinations (e.g., PGA “4 Corners”)
- promote rebuilding of natural shoreline or plantings along existing sea walls
Thank You
Palm Beach Atlantic University!

The Citizens’ Master Plan
The Challenge of the Plan

• 43 miles of Waterway!
• Three key focus areas:
  – Land Use
  – Transportation
  – Economics
• Many Different Chefs
  – 37 regulatory plans
  – 24 local governments (PBC + 23 cities)

THE BIG ISSUES

➤ Expand Public Access
➤ Protect Natural System
➤ Water-Based Transportation
➤ Marina Villages & Destinations
➤ Enhance Eco-Tourism
➤ Promote Sustainable Economics
Intracoastal Opportunities

- Public Access
- Natural System
- Transportation
- Marina Villages & Destinations
- Eco-Tourism
- Sustainable Economics

Expanding Public Access
Who Uses the Intracoastal?

Boaters … of all shapes & sizes

Who Uses the Intracoastal?

Non-Boaters … of all walks of life
Public Parks

Public Parks & Preserves

Waterfront Parks
- Preservation Land
- City Parks
- County Parks
- State Parks
Public Marinas & Boat Ramps

Riverwalks & Promenades
Bridges = Public Access

Bridge Replacement

Bridges
The following are Palm Beach County operated and maintained drawbridges.
- County Road 707 Bridge in Jupiter
- Donald Ross Road Bridge in Juno
- East Camino Real Road Bridge (Boca Club) in Boca Raton
- George Bush Boulevard Bridge in Delray Beach
- Linton Boulevard Bridge in Delray Beach
- Palmetto Park Road Bridge in Boca Raton
- Ocean Avenue/Lantana Bridge in Lantana
- Southwest 15th Avenue (Woodbright Road) in Boynton Beach

State Department of Transportation operated and maintained drawbridges:
- Boca Inlet Bridge in Boca Raton
- Flagler Bridge in West Palm Beach/Palm Beach
- I-95 High Bridge (I-95 700) in Jupiter
- Jupiter Federal Bridge in Jupiter
- Lake Avenue Bridge in Lake Worth/Palm Beach
- PGA Boulevard Bridge in Palm Beach Gardens
- Parker Bridge in North Palm Beach
- Royal Park Bridge in West Palm Beach/Palm Beach
- Southern Boulevard Bridge in West Palm Beach/Palm Beach
- Spanish River Bridge in Boca Raton

Future Public Access Opportunities
Waterfront Street-End Parks

Before

After

A Lesson from Lantana

Street-End Parks

Neighborhood Waterfront Access
Street-End Parks

Protecting the Natural System
ICWW Characteristics

Palm Beach County ICWW

43 miles in length

30 miles of natural rivers, lakes and lagoons

13 miles of man made canal sections

Lake Worth Lagoon Restoration

- 49 Construction Projects
  - Water Quality Projects
  - Habitat Enhancement Projects
  - Sewage Treatment
  - 6 Artificial Reefs
  - 12 Monitoring Projects
  - 184 ac habitat created / restored

- 450 sq. mile watershed
- Urban, Built-Out
- Older Construction
- Direct Discharge:
  - Inadequate
  - Untreated
- Loss of Habitat
Comprehensive Everglades Restoration Program (CERP)
Snook Islands

Dredge Holes in the Lagoon

Figure 17. Dredge Hole Study site locations in Lake Worth Lagoon, Florida (FDEP 2000b).

LWL Dredge Hole Assessment Study
Creation of Mangrove Islands

Shoreline Restoration

Eliminate the "dead zones"!
Increasing Water-Based Transportation

Transportation on the Intracoastal

- Intracoastal is a mixed use transportation corridor in Palm Beach County
  - Port of Palm Beach – home to majority of ICWW cargo traffic; infrequent barges also
  - Port is home to limited passenger vessel operations – providing gambling excursions – other passenger service has ceased
  - Several water taxi services exist in Palm Beach County – these services primarily provide slow speed service focused on entertainment and tourism markets
  - Personal recreational vehicles dominate the waterway
Port of Palm Beach - Transportation Hub

- **Niche port**
  - Break-bulk (lumber and steel)
  - Bulk cargo (asphalt, cement, molasses, sugar, and fuel oil)
  - Containers (20-foot equivalent units)
  - Cruise (single-day)
  - Port traffic forecast to grow 3.5 percent annually through 2015

- **Constrained water, terminal, and landside access**
  - New warehouse under construction
  - South Gate project will enhance port access and shift internal/external traffic patterns
  - Rail improvements planned
  - Dredging project advancing

Traffic on the Intracoastal Waterway

- **Port of Palm Beach** - 4 million tons of cargo in 2006 (234,000 total on ICWW from Jax to Miami)
- Federal channel: 7 - 15 feet deep; ongoing maintenance dredging
- Barge service for specific industrial hubs (power plants)
- Marine industries serve boating community, but mega yachts have limited access
- Palm Beach County - four inlets but only Lake Worth (a.k.a. Palm Beach) is federally maintained (navigable) channel
- Recreation traffic - personal crafts, excursion services & limited water taxis
Port of Palm Beach
Planned Waterway Improvements

Water Access for Deepwater Yachts
Water Taxis

Key Issues for Success Waterborne Service
Successful Service Requires Consideration of Many Variables

- Identify the right technology – performance, impact, cost
- Define a competitive service
- Quantify market demand
- Differentiate service from other initiatives
- Provide ability to compare service to other initiatives
- Identify and address key connectivity and accessibility issues
- Build regional support
- Integrate service into regional transportation system
Examples of Successful Water Service
Many Success Stories But Specific Conditions Must Exist

- Most profitable services in captive markets
- Fare-box revenues usually do not cover operating costs – 40% to 60% is typical
- Multiple sailings are essential for commuters
- Most competitive passenger services are those that cut mileage and travel time
- Services tend to operate a mix of vessels operating 15 to 35 knots – faster boats can attract more riders at significant cost
- Need strong landside connections and good management of community & environmental impacts

Successful Waterborne Services Exist Today
Florida is Home to Many Successful Water Services
Successful Waterborne Services Exist Today

Riviera Beach

PALM BEACH WATER TAXI
Shuttle Transfer Service

The Palm Beach Water Taxi is your connection to the best destinations, events & attractions in Palm Beach County. Forget about traffic and parking hassles as our Captains do the driving on the beautiful intercoastal waterway. No matter your destination, a Palm Beach Water Taxi cruise is a wonderful beginning or ending to your outing. The 07-21 way to travel is Palm Beach County!

http://watertaxi.homestead.com/ShuttleService.html

Successful Waterborne Services Exist Today

Palm Beach Gardens

http://www.panama-hatties.com/
Successful Waterborne Services Exist Today

Jacksonville

Regular Hours
- Sunday - Thursday: 11:00 a.m. to 9:00 p.m
- Friday and Saturday: 11:00 a.m. to 11:00 p.m

Fort Lauderdale

http://watertaxi.com/FortLauderdale/FLLHome.Asp
Successful Waterborne Services Exist Today
New Smyrna Beach

FARES
Round Trip: Adult $12, Children 6-12 $5, Family $20
One way: Adult $6, Children 6-12 $3, Family $15
(children under 4 free)

SCHEDULED STOPS

DAILY DEPARTURES (TUESDAY-SUNDAY)
From the Following Locations
MARINE DISCOVERY CENTER
162 North Causeway, New Smyrna Beach
Daily: 11 am, 1 pm, 3 pm, 5 pm
Additional Departure Saturday/Friday: 9 am
Friday & Saturday: 7 & 9 pm

DOWN THE HATCH RESTAURANT
Ponce Inlet
Daily: 11:45 am, 1:45 pm, 3:45 pm, 5:40 pm
Saturday: 9:45 am
Friday & Saturday: 7:45 & 9:45 pm

http://www.watertaxi-nsb.com/

Water Taxi Service Assumptions

- Low speed vessels with speeds ranging from 4 knots to 15 knots
- Wake wash will be critical factor in narrow zones due to impact on property/parked vessels
- Five minute penalty assumed for loading/unloading
- Each additional stop adds five minutes
- 30 & 60 minute alternatives illustrated
- Manatee speed restrictions present throughout majority of waterway
Water Taxi Opportunities

Manatee Zone Speed Restrictions
## Water Taxi Operating Matrix

<table>
<thead>
<tr>
<th>Service Level</th>
<th>Trip Time</th>
<th>Knots Per Hour</th>
<th>Miles Per Hour</th>
<th>Miles Per Minute</th>
<th>Route Length</th>
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<tbody>
<tr>
<td>3-Knot Service</td>
<td>30</td>
<td>3.00</td>
<td>3.5</td>
<td>0.06</td>
<td>1.7</td>
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<td>60</td>
<td>3.00</td>
<td>3.5</td>
<td>0.06</td>
<td>3.5</td>
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<tr>
<td>5-Knot Service</td>
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<td>5.8</td>
<td>0.10</td>
<td>2.9</td>
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<td>5.8</td>
<td>0.10</td>
<td>5.8</td>
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<tr>
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<td>10.00</td>
<td>11.5</td>
<td>0.19</td>
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<td></td>
<td>60</td>
<td>10.00</td>
<td>11.5</td>
<td>0.19</td>
<td>11.5</td>
</tr>
</tbody>
</table>

### Water Taxi - Estimated Headways

- **Water Taxi Stops**
  - Existing
  - Pending
  - Proposed
Potential High Speed Passenger Service

- Port of Palm Beach (and Fort Lauderdale) provided high speed service to the Bahamas in the past; both discontinued (operating costs, demand, permitting)
- Miami, Fort Myers, and Marco Island currently provide seasonal high speed service to Key West; service time competitive with auto
- Palm Beach has had some interest in service to Key West
- Service to Bahamas seen as feasible in the future based on economic recovery and build out of the Bahamian islands

Successful Waterborne Services Exist Today
Key West Express

http://www.seakeywestexpress.com/
Potential High Speed Passenger Service

Multi-Modal Connections
Creating Marina Villages & Destinations

Marina Villages & Destinations

Marine Destinations
- Jupiter - "Riverwalk/Marina Village"
- PBG - "PGA Four Corners"
- Riviera Beach - "Marina District"
- WPB "Waterfront Commons"
- Lake Worth "Jewel Cove"
- Lantana "Pubic Point"
- Boynton Beach "Marina Village"
Jupiter: Riverwalk/Marina Village

Palm Beach Gardens: PGA “4 Corners”
Palm Beach Gardens: *PGA “4 Corners”*
Riviera Beach: Marina District

West Palm Beach: Waterfront Commons
Lake Worth: *Jewel Cove*
Lantana: *Public Point*

Boynton Beach: *Marina Village*
A System of Intracoastal Destinations

Water Taxi Stops
- Existing
- Pending
- Proposed

Marine Destinations
- Jupiter - "Rivertalk/Marina Village"
- PBG - "PGA Four Corners"
- Riviera Beach - "Marina District"
- WPB "Waterfront Commons"
- Lake Worth "Jewel Cove"
- Lantana "Public Point"
- Boynton Beach "Marina Village"

Quality Materials & Design
Quality Design Standards & Materials

Kayak Storage

Small Boat Storage

Rowing Storage

Expanding Eco-Tourism
Snook Island

Added Public Access & Environmental Education

Eco-Tourism Opportunities

"Jewel Cove" - Lake Worth
Greenways & Blueways

East Coast Greenway
A Trail Connecting Cities
from Maine to Florida
Proposed Route Corridor

Florida Circumnavigational Saltwater Paddling Trail

Northeast Everglades Natural Area
Paddling Trails
Paddling Trails

Expanding Canoe/Kayak Access

Improved Portage Opportunities
Sustainable Economic Outlook

Economic Context

Understanding the waterway as an economic system
- Existing demographic & market conditions
- Marine industries snapshot
- Preliminary economic outlook/forecasts
- Preliminary strategies & recommendations
Economic Context

Key Industry Sectors
- Marine industries/Port of Palm Beach
- Hospitality/tourism/lodging
- “Workplace” employment (office/industrial)
- Supporting resident/visitor services (retail)
- Recreation

Study Area
- From Atlantic Ocean to I-95
- 43 miles in length
- 52,700 acres
- Diverse mix of public & private uses
- Includes working & recreational waterfront
Existing Conditions

Existing Land Uses

Table 1: Land Uses (Acres), Study Area, 2008

<table>
<thead>
<tr>
<th>Area</th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Institutional</th>
<th>Agriculture</th>
<th>Airport/Recreation/ Marina/ Open Space</th>
<th>Undetermined</th>
<th>Total</th>
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<tbody>
<tr>
<td>Area 1</td>
<td>4396</td>
<td>841</td>
<td>169</td>
<td>131</td>
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<td>884</td>
<td>163</td>
<td>131</td>
<td>1133</td>
<td>151</td>
<td>70</td>
<td>527</td>
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<tr>
<td>Area 3</td>
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<td>817</td>
<td>121</td>
<td>131</td>
<td>1133</td>
<td>151</td>
<td>70</td>
<td>527</td>
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<td>151</td>
<td>70</td>
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<td>945</td>
<td>277</td>
<td>2055</td>
<td>99</td>
<td>0</td>
<td>268</td>
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</table>

Total: 20,096 3,237 4,086 2,152 11,272 1,94 143 9,056 2,237 3,609

Percent of Total: 38.1% 6.1% 8.2% 4.1% 21.4% 0.4% 0.3% 17.2% 4.2%

Source: Palm Beach County MPO; Economics Research Associates, May 2008

Table 2: Vacant Land by Use (Acres), Study Area, 2008

<table>
<thead>
<tr>
<th>Area</th>
<th>Vacant Residential</th>
<th>Vacant Commercial</th>
<th>Vacant Industrial</th>
<th>Vacant Institutional</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
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<td>175</td>
<td>7</td>
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<td>174</td>
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<td>Area 2</td>
<td>426</td>
<td>321</td>
<td>221</td>
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<td>972</td>
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<tr>
<td>Area 3</td>
<td>304</td>
<td>217</td>
<td>45</td>
<td>8</td>
<td>660</td>
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<tr>
<td>Area 4</td>
<td>343</td>
<td>169</td>
<td>8</td>
<td>1</td>
<td>561</td>
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<tr>
<td>Area 5</td>
<td>291</td>
<td>76</td>
<td>10</td>
<td>0</td>
<td>377</td>
</tr>
</tbody>
</table>

Total: 2,117 941 803 88 3,859

Percent of Total: 56.7% 24.1% 12.2% 2.4%

Source: Palm Beach County MPO; Economics Research Associates, May 2008
Existing Land Uses

- Notable findings:
  - 44% residential
  - Large percentage of land in institutional uses (public, civic, medical, education)
  - 9,000 acres of recreation/open space
  - 3,600 acres of “vacant” land — is it developable?
  - 6,500 acres of “workplace” uses

Study Area Demographics

- 426,500 residents in 180,000 households
- Comprises 32% of County: fair share
- Low densities: 3.4 HHs/acre
- If fair share is maintained, 90,000 new residents by 2020
- Suggests 38,000 new, permanent HHs (units)
- At current residential development patterns, 11,000+ acres required
- Seasonal residents likely to demand additional new units
Study Area Market Conditions

- **83 million SF** of “workplace” real estate provides **240,000 jobs**
- While the study area’s workplace inventory comprises 46% of County, it captures *only* 23% of absorption: **3.8 million SF/year**
- This suggests *greater* commercial growth in outlying County, *opportunities for intervention*

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Study Area Market Conditions

- County attracts 4.7 million annual visitors—*only* 8% of *overnight* guests are foreign
- Activities include: leisure (33%), business (51%), conventions (7%)
- County contains 12,500 hotel rooms
- Marina villages contain 4,600 rooms (37% of total)
- 5-year trends: *decline* in annual occupancies from 73% to 63%
Marine Industries Snapshot

- Broadly defined industry with multiple sectors:
  - Boat building; boat dealers; shipping; repair; yacht brokers; rentals; marinas; electronics/equipment
- Marine industry “cluster” not clearly defined, difficult to quantify
- *Reported* county-wide marine-related jobs range from 16,500 to 18,000+
- Study area *reportedly* contains 6,000+ jobs in 350+ firms
Marine Industries Snapshot

Marine Industries Snapshot
Marine Industries Snapshot
Preliminary Economic Outlook

- Study area contains 240,000 jobs—44% of the County total
- If fair share is maintained, study area expected to add **50,000 new jobs** by 2020
- Suggests *demand* for up to **17 million SF** of workplace uses—where should it go?
- Marina villages expected to capture 25% of County population growth thru 2020
Preliminary Economic Outlook

- Growth in key sectors required to enhance demand for new hotel development
- Key sectors include: *net new* visitors (domestic & international), office, convention delegates
- Strengthen “branding” of ICW natural features—water-based recreation, eco-tourism

Strategies & Recommendations
Strategies & Recommendations

**Marine industries**
- Can the cluster be enhanced? – **YES!**
- Better definition & understanding of its industry components
- Gauge the industry’s regional competitive position
- Coordinated public policies that **preserve the working waterfront**
- Strategic public & private investment
- Economic development strategies to include: financial/regulatory incentives, workforce development, business recruitment, workforce housing

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**Strategies & Recommendations**

**Marina Villages**
- Each is unique & distinct with different visions
- Future development will be tied to:
  - Geography
  - Local market conditions
  - Varying economic strategies
  - History/culture
Strategies & Recommendations

Marina Villages: Boynton Beach

Strategies & Recommendations

Marina Villages: Jupiter
Strategies & Recommendations

Marina Villages: Riviera Beach

Strategies & Recommendations

Marina Villages: West Palm Beach
Port of Palm Beach - Transportation Hub

Niche port
- Break-bulk (lumber and steel)
- Bulk cargo (asphalt, cement, molasses, sugar, and fuel oil)
- Containers (20-foot equivalent units)
- Cruise (single-day)
- Port traffic forecast to grow 3.5 percent annually through 2015

Constrained water, terminal, and landside access
- New warehouse under construction
- South Gate project will enhance port access and shift internal/external traffic
- Rail improvements planned
- Dredging project advancing

Preliminary Recommendations
Required Cooperation

- Local Governments (cities & county)
- Citizens
- Agencies
- Private Sector

Expanded Public Access

- Pursue more public access with bridge renovation & replacement
- Protect & enhance waterfront parks
- Explore waterfront street-end parks & access
- Activate parks & add natural surveillance
- Include/expand public access with land use changes & development approvals
Protected Natural Systems

- Continue successful Lagoon restoration efforts
  - Spoil island restoration
  - Dredge hole conversions
- Explore upland & inland stormwater treatment opportunities
- Increase environmental education opportunities

Water-Based Transportation

- Evaluate water taxi opportunities
- Increase water taxi docks
  - Marina Villages
  - Public Parks
- Explore outbound ferry services
- Add staging docks in new/existing boat ramps
- Implement County/local marina projects
- Designated Anchorages (public, public/private, private)
Marina Villages & Destinations

• Design projects with Intracoastal “front-door”
• Maintain meaningful public access
• Strengthen connections with upland transportation
• Promote green/LEED buildings & designs
• Branding with thematic signage, landscaping
• “Dark sky” lighting
• Redevelopment opportunities for enhanced stormwater quality treatment
• Incentives to retain “signature” waterfront businesses

Expanded Eco-Tourism

• Continued program of Lagoon restoration
• Dredge hole restoration
• Improve spoil island habitat and access
• Formalize system of canoe/kayak launches
• Investigate portage opportunities along canals
• Expand educational programming
• Create system of educational signage & kiosks
• Encourage sustainable development practices & technologies
Sustainable Waterway Economics

- Preserve & enhance working waterfront
- Improve understanding of marine industries “cluster”
- Further analyze marina villages
- Prioritize strategic investment decisions
- Integrated economic development policies
- Consider “no net loss” policies

Thank You