Delaware Valley Goods Movement Task Force
SJ-PIDN: Good Public Policy

Congestion Mitigation  Economic Development  Efficiency/Flexibility
SJ-PIDN Objective

- Enhance Southern NJ, Philadelphia, PA & Wilmington, Del’s economic redevelopment initiatives and promote job growth while providing a cost effective alternative to intermodal trucking between northern and southern New Jersey
SJ-PIDN Key Elements

- Motivating Factors
- Terminal Location
- Market
- Stakeholders
- Business Plan
  - Service Parameters
  - Capital Investment
  - Cost & Revenue Comparison
- Public Benefits
- Synergy
- Recommendation
- Next Steps
PIDN – Motivating Factors

- Significant Volume Increases

**Rank by U.S. Discharge Port (July 2004 – June 2005)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Port</th>
<th>Discharge 2004</th>
<th>Discharge 2005</th>
<th>Discharge 2006</th>
<th>Discharge 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New York-New Jersey</td>
<td>37.0%</td>
<td>2,367,706</td>
<td>2,122,256</td>
<td>11.6%</td>
</tr>
<tr>
<td>2</td>
<td>Charleston</td>
<td>13.7%</td>
<td>876,621</td>
<td>769,934</td>
<td>13.9%</td>
</tr>
<tr>
<td>3</td>
<td>Virginia ports¹</td>
<td>12.9%</td>
<td>824,537</td>
<td>761,423</td>
<td>8.3%</td>
</tr>
<tr>
<td>4</td>
<td>Georgia ports²</td>
<td>11.3%</td>
<td>723,665</td>
<td>623,347</td>
<td>16.1%</td>
</tr>
<tr>
<td>5</td>
<td>Miami</td>
<td>7.2%</td>
<td>457,614</td>
<td>448,670</td>
<td>2.0%</td>
</tr>
<tr>
<td>6</td>
<td>Delaware River ports³</td>
<td>4.9%</td>
<td>315,562</td>
<td>293,374</td>
<td>7.6%</td>
</tr>
<tr>
<td>7</td>
<td>Port Everglades</td>
<td>4.0%</td>
<td>256,169</td>
<td>219,392</td>
<td>16.8%</td>
</tr>
<tr>
<td>8</td>
<td>Baltimore</td>
<td>3.8%</td>
<td>244,930</td>
<td>211,737</td>
<td>15.7%</td>
</tr>
<tr>
<td>9</td>
<td>Jacksonville</td>
<td>2.3%</td>
<td>143,961</td>
<td>148,459</td>
<td>-3.0%</td>
</tr>
<tr>
<td>10</td>
<td>Boston</td>
<td>1.1%</td>
<td>72,053</td>
<td>69,796</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

**Total Top 10 Discharge Ports**

- New York-New Jersey: 98.3%
- Charleston: 6,282,816
- Virginia ports: 5,668,387
- Georgia ports: 10.8%
- Delaware River ports: 11.1%

Notes:
- TEU count includes all containerized oceanborne cargo discharged at U.S. ports, including imports from Puerto Rico.
- U.S. port range does not include discharge ports in Puerto Rico or Canada. The report does chart Puerto Rico and Canadian origin ports and entities as available.
- Last overseas port cargo may have prior cargo carriage, and U.S. first discharge port cargo may have further cargo carriage to destination.

1. A.P. Moller-Maersk, parent of Maersk Sealand, acquired Royal P&O Nedlloyd, parent of P&O Nedlloyd in August. The two carriers’ totals are shown combined.
2. TUI AG, parent of Hapag-Lloyd, has made an offer to acquire CP Ships, whose brands include ANZDL, Canada Maritime, CAST, Contship Containerlines, Italia Line, Lykes Lines and TMM Lines.
3. Virginia ports include Hampton Roads and Richmond.
4. Georgia ports include Savannah and Brunswick.
5. Delaware River ports include Philadelphia, Chester, Camden, Salem, Pennsauken, Gloucester, Eddystone, and Wilmington, Del.

PIDN – Motivating Factors

- Roadway Congestion
  - Annual cost of regional congestion is nearly $2 billion*
  - As Gas Price ↑ Gap ↓

Price of Crude Oil
Above $60/Barrel

* - Texas Transportation Institute 2003
PIDN – Motivating Factors

- Current over-the-road price to shippers
  - Phase 1 = $380.00 RT or approx $2.00 per mile
    - excludes hidden costs

- Real Cost is some 2.5 times higher
  - Generates actual transport price is upwards of $950.00 RT

Source: National Geographic
**PIDN – Motivating Factors**

- **Forecast**
  - Increased Containerized Trade Volumes
  - Increased Roadway Congestion
  - Continued NJ Terminal Congestion
  - Regional Growth Not Enough
- **Impact:**
  - Loss of Efficiency
  - Higher Port Costs
  - Less Direct Cargo
  - Less Competitive Region
  - Less Jobs

Is there a Cost Effective, Environmentally Sensitive Alternative?
Phase 1: Potential NJ Sites

- Broadway Terminal
- Gloucester City
- Paulsboro BP
- Deepwater Dupont
- Salem Mid Atlantic Shipping and Stevedoring
Phase 1: Broadway Terminal Site Plan

- Container Handling Area: 14 Acres
- Potential Expansion Area: 6.5 Acres
- Potential Expansion Area: 7.5 Acres
- Potential Expansion Area: 9.1 Acres
- Existing Rail Infrastructure
- Potential Berth
- Potential Expansion Area 14 Acres
- Container Handling Area 14 Acres
Local Roadway Plan

- Access Via Broadway & Morgan Street Interchange

**PIDN Location**

- Broadway Ave - 9,000 ADT
- PIDN Add 335 boxes/wk Yr 1 increasing to 500 /wk by Yr 5
- 1% to 3% increase per day

Source: NJDOT
Business Plan – Regional Market

Business Plan – Target Market

Total TEUs
Export 56,968
Import 251,564
TOTAL 308,532

%Share by Port

New Jersey 49%
Other North Atlantic 22%
West Coast (Direct) 7%
West Coast (Whse) 20%
Canadian Ports 49%

Business Plan – Market Capture Forecast

Projected Annual Volumes for South Jersey PIDN
Dense Trade Cluster via the PONYNJ

![Graph showing projected annual volumes for South Jersey PIDN with different volume levels for low, medium, and high market captures across different years.](chart.jpg)
Business Plan – Stakeholders

- **Private entities**
  - Shipping Line
  - Port of NY&NJ Terminal Operator
  - Trucking Company
  - Warehouse & Distribution Center
  - Shipper / Consignee
  - Consortium Manager
  - Container-on-Barge Service Provider

- **Public Entities (NJ Focus)**
  - New Jersey DOT
  - South Jersey Port Corp.
  - Delaware Valley Regional Planning Commission
  - Delaware River Port Authority
  - New Jersey EDA
  - Port Authority of NY&NJ
  - Other State Port Authorities
  - Other State DOT’s / EDA’s
  - Municipalities / Counties
Business Plan – Stakeholders

**PUBLIC SECTOR**
- SJPC: Willing
- DRPA: Willing
- NJEDA: Willing
- Other Regional Agencies: Willing
- PANY&NJ: Willing

**PRIVATE SECTOR**
- NJDOT / DVRPC: Willing
- ILA Local: Semi-willing $$
- Terminal Operator: Not willing $$
- Tug Operator: Willing $
- Local Drayage: Semi-willing $
- NYSA / Carrier(s): Not willing $$$$$

**PIDN Container-on-Barge Feeder Service**
- Semi-willing $$
Business Plan – SJ Arrangement

- SJPC / NJDOT
  - Manage Service Contracts
  - Profit / Loss Responsibility
  - Berth & Upland Facilities
  - Profit Sharing with Carrier

- Ocean Carrier*
  - Minimum Vol. Guarantee
  - NJ Lift Rate & Conditions
  - SJ Lift Rate & Conditions
  - Profit Sharing with SJPC

Service Contracts
- Est Rate
- PONY & NJ Terminals
- Stevedores on Delaware River
- Tug & Barge Provider
- Chassis Pool
- Local South NJ Trucking
- Other Trucking

* - or other combination of deep sea vessel operator & terminal operator
Why Barge In Lieu Of Rail?

- Rail opportunity is mid to long term – not near term
- Hurdles for rail use include:
  - Scheduled passenger and freight train service windows
  - Multiple railroads: Amtrak, NJT / SNJLRL, Septa, Conrail, CSX, NS
  - Operational issues include:
    - Single vs. double equipment – impacts road crew deadhead
    - Height and weight limitations (i.e. lack of double stack clearance along entire route)
    - Crewing requirements
    - North East Corridor fees
  - Yard concerns include: controlled access, air brake inspections, available storage tracks & train make-up
Business Plan – Service Parameters

- PONYNJ Marine Terminal(s)
  - Modify gang size; Lock-in “Lifts/Hour” Handling Criteria
- Tug & Barges – maximize efficiency
- SJ PIDN Terminal Operator (SJPC)
  - Stevedoring (Delaware River Stevedores)
  - Wharfage & Dockage
  - Storage / Demurrage
  - Direct to In-Terminal Yard or Stack
- Terminal Drayage (Champion Trucking)
- Local Drayage (Various Trucking Companies)
- Value Added Activity / Acreage Available
  - SJPC, NJEDA, City of Camden
  - VAL services may consist of: stripping / stuffing, repackaging, parts assembly, US Customs clearance, quality assurance inspections, product upgrades, installation of accessories, preparation for retail sale, commodity processing and inventory management
Business Plan – Capital Requirements
(minimal public $ at outset)

• Marine terminals and associated infrastructure:
  – Preliminary estimate*: $0.0 million

• Equipment
  – Barges $0.0 million
  – Cranes $0.0 million
  – Yard Equipment $1.0 million
  – Other Equipment $0.5 million

  – Total ± $1.5 million*

* – Assumes startup operations via SJPC’s existing facilities and lease of major equipment, i.e., barges and cranes if necessary at a later date
Business Plan – Revenue / Cost Comparison

Year

Unit Cost

Revenue

Cost

Probable
Achievable
Opportunistic
OTR
OTR + 25% Fuel Surcharge
OTR + 25% Fuel Surcharge + MT Return @ $50
OTR + 25% Fuel Surcharge + MT Return @ $50 + VAL Revenue @ $100
OTR + 25% Fuel Surcharge + MT Return @ $50 + VAL Revenue @ $100 + NYSA Assessment @ $110
## Business Plan – Subsidy Costs

### Cumulative Subsidy

<table>
<thead>
<tr>
<th>Year</th>
<th>Probable</th>
<th>Achievable</th>
<th>Opportunistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$11.68</td>
<td>$9.68</td>
<td>$7.76</td>
</tr>
<tr>
<td>2</td>
<td>$24.19</td>
<td>$19.91</td>
<td>$15.82</td>
</tr>
<tr>
<td>3</td>
<td>$37.01</td>
<td>$30.39</td>
<td>$24.04</td>
</tr>
<tr>
<td>4</td>
<td>$50.16</td>
<td>$41.14</td>
<td>$32.43</td>
</tr>
<tr>
<td>5</td>
<td>$63.67</td>
<td>$52.19</td>
<td>$41.00</td>
</tr>
<tr>
<td>6</td>
<td>$77.55</td>
<td>$63.53</td>
<td>$49.76</td>
</tr>
<tr>
<td>7</td>
<td>$91.84</td>
<td>$75.20</td>
<td>$58.73</td>
</tr>
<tr>
<td>8</td>
<td>$106.55</td>
<td>$87.24</td>
<td>$68.03</td>
</tr>
<tr>
<td>9</td>
<td>$121.88</td>
<td>$99.79</td>
<td>$77.72</td>
</tr>
<tr>
<td>10</td>
<td>$137.63</td>
<td>$112.68</td>
<td>$87.65</td>
</tr>
</tbody>
</table>
Public Benefits - Full Marginal Cost

- FMC
  - Costs from additional traffic movements
  - Direct Operating Cost
  - Direct Travel Time Cost
  - Congestion Cost
  - Accident Cost
  - Infrastructure Cost
  - Air Pollution Cost
  - Noise Cost

![Marginal Cost for Peak and Off-Peak Hour vs. Trip Distance](image)

<table>
<thead>
<tr>
<th>VOT</th>
<th>Trip Segment (miles)</th>
<th>Number of Trip Segments in 164 miles RT</th>
<th>FMC per Trip Segment</th>
<th>Total FMC (RT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average FMC</td>
<td>$7.6</td>
<td>12</td>
<td>12.6</td>
<td>$7.153</td>
</tr>
<tr>
<td>Distribution FMC</td>
<td>$32.3</td>
<td>80</td>
<td>2.05</td>
<td>$120</td>
</tr>
</tbody>
</table>
### Public Benefits Quantified

#### Total Social Cost-Savings: 1 Container = 3 Cars

<table>
<thead>
<tr>
<th>Total FMC (RT)</th>
<th>Container Throughput Per Year</th>
<th>Number of Cars Removed From Traffic Due to Barge Operation</th>
<th>Total Social Cost Savings (million)/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$246.0 (VOT=$7.6)</td>
<td>18,720</td>
<td>56,160</td>
<td>$13.81</td>
</tr>
<tr>
<td>$492.0 (VOT=$32.3)</td>
<td>18,720</td>
<td>56,160</td>
<td>$27.63</td>
</tr>
</tbody>
</table>

#### Total Social Cost-Savings: 1 Container = 4 Cars

<table>
<thead>
<tr>
<th>Total FMC (RT)</th>
<th>Container Throughput Per Year</th>
<th>Number of Cars Removed From Traffic Due to Barge Operation</th>
<th>Total Social Cost Savings (million)/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$246.0 (VOT=$7.6)</td>
<td>18,720</td>
<td>74,880</td>
<td>$18.42</td>
</tr>
<tr>
<td>$492.0 (VOT=$32.3)</td>
<td>18,720</td>
<td>74,880</td>
<td>$36.84</td>
</tr>
</tbody>
</table>

Minimum = $13.8 million per year  
Average = $20.7 million per year
Benefits – Locale Specific

**Southern NJ PIDN Node**
- Job Generation
- Marine Terminal
- VAL
- Warehousing
- Wage & Business Taxes

**Delaware Valley**
- DRPA Waterfront Master Plan
- Potential New Terminals
  - Paulsboro
  - Greenwich
  - Carney’s Point
  - Southport
  - Others (PA/DE)

**Northern NJ PIDN Hub**
- Job Generation
- Marine Terminal
- Tug & Barge
- Reduced Congestion
- On-Terminal
- Roadway
- Air Quality Improvement

**NJTP – I95**
- Reduced VMTs
- Reduced Congestion
- Reduced Wear-and-Tear
- Reduced Accidents
- Air Quality Improvement
Business Plan – Synergies

- VAL
- Integration with PA & DE maritime nodes ("8"-loop)
- Backhaul
- These are medium to long-term opportunities; however, they will have a catalyst effect in the short-term
Business Plan – Wrap Up

• Market
  – At a minimum, 140,000 TEUs – 82,500 containers
  – 20% capture is 315 boxes/week

• Once-weekly service - $10 MM subsidy
  – $ 4 MM oper. revenue vs. $14 MM oper. costs

• Twice-weekly service - $13.5 MM subsidy
  – $ 4 MM oper. revenue vs. $17.5 MM oper. Costs

• If 2-year service, then $21.5 - $28.5 MM investment

• Benefits are $27.5 – $41.5 MM

• Go / No-Go “fork in the road/river”
Considerations for **No-Go**

- Principal users are “non-committal” – seemingly have other priorities
- Transport policy environment is not yet ready
- Requires combined alignment of high-productivity, low costs and VAL services
- Key question:
  - Stakeholders need to determine by means of a comparative analysis whether available funds could generate even more incremental public benefits via other initiatives.
Considerations for **Go**

- B/C Ratio > 1 = Good Public Policy
- Regional congestion relief w/out local impacts
- Creates regional multi-modal competition
- Builds upon existing SJ economic and residential base
- Has potential to attract new SJ investment
- Enhances SJ economic development and job generation initiated by other programs
  - NJEDA’s focus on warehouse / distribution / port Initiatives and potential identification of a revenue allocation district
  - Southern NJ waterfront master plan (DRPA)
  - City of Camden’s master plan
  - Camden’s ERB renaissance initiative
- Enables multi-agency buy-in in NJ / PA / DE
- Enhances regional redundancy
If Go – Target Issues

• Institutional issues to be integrated are:
  – Adopt uniform ILA and terminal handling ‘PIDN’ provisions
  – Plan terminal operations with flexibility to assure negotiated ‘PIDN’ lift rates are maintained
  – Necessity of VAL to cover shortfalls
  – Disincentives to reduce truck traffic
  – Pursue short-haul rail opportunity as more northern NJ facilities come online
  – Modify NYSA’s tonnage assessment process and/or terminal lease provisions
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