American Association of Port Authorities

MAXIMIZING INVESTMENT AND UTILIZATION

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Two perspectives

How to increase use of the facility

How to improve the capacity of the facility

issues

Issues

- Cruise terminals have a very low utilization rate
  - Seasonally
  - Weekly
  - Daily
  - Hourly
- Whenever ports begin to optimize use, new competitive facilities are created lowering the use
- Cruise lines push for certain dates and times keeping utilization low
- Terminals are becoming increasingly more expensive
- Low utilization = low capital capacity

What drives low utilization?

- Interport competition
  - Come to my port – I will offer a Saturday berth
- Lack of cruise line competition
- Inability for ports to have meaningful discussions with cruise lines
- Lack of desire by cruise lines to change timing
  - Imagine an airport where people only begin vacations in the weekend?
- Lack of recognition of the strategic place of the port

berth utilization

?

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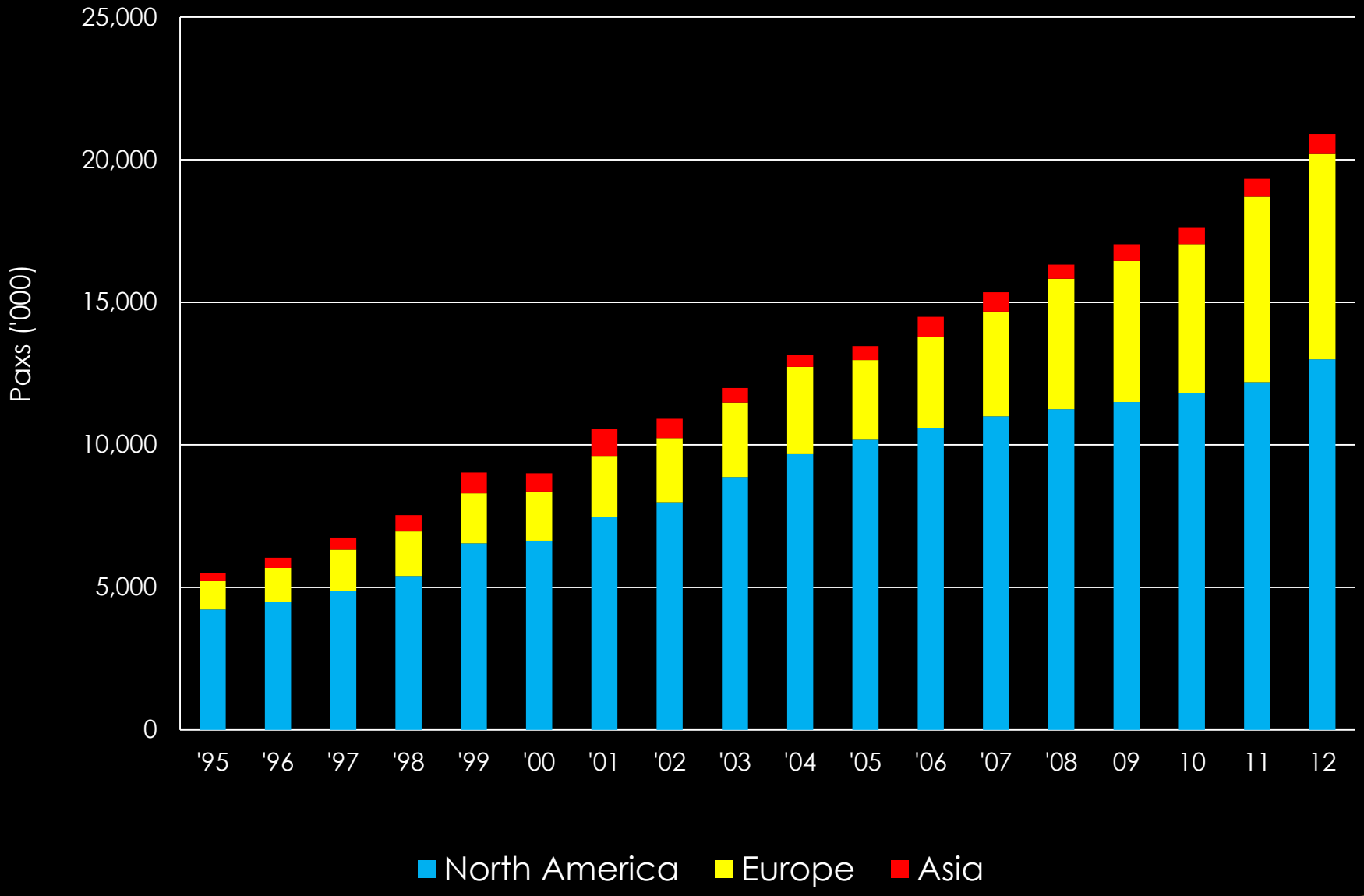
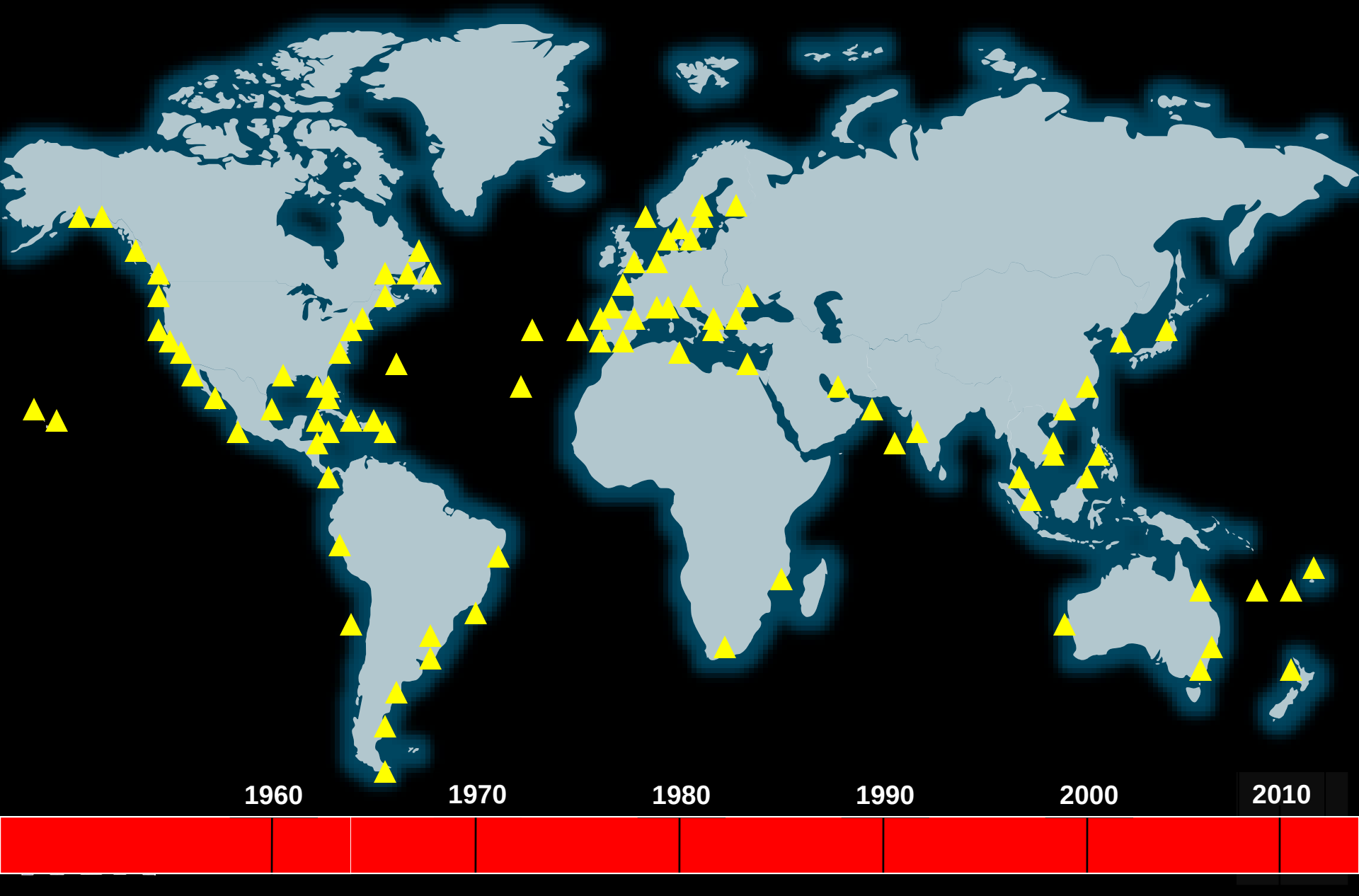
Global growth



Global expansion



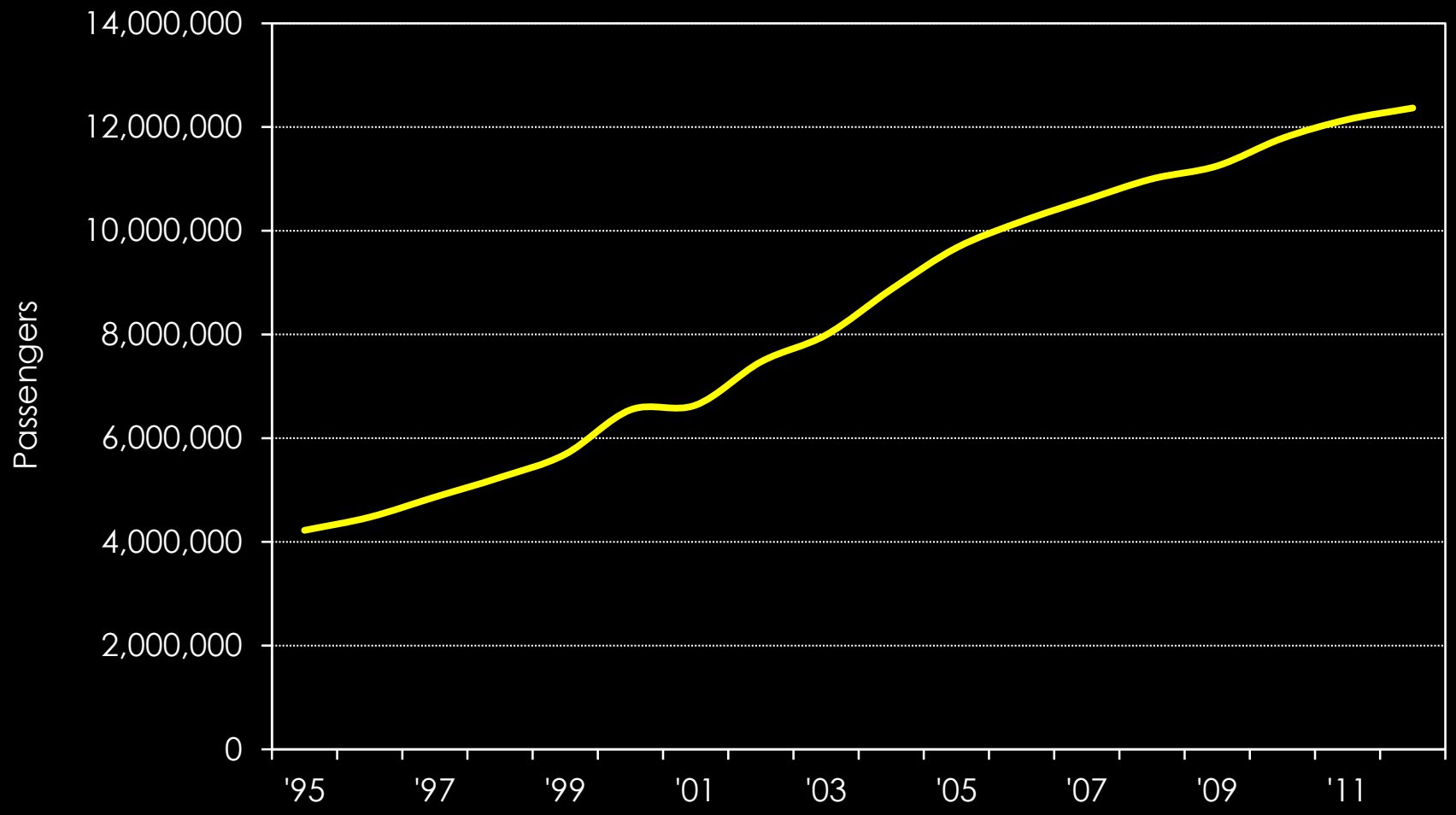
Growth factors affecting ports

- Natural potential for development
- Timing of cruise line expansion and strategy
- Interline competition
- Seasonality (by month)
- Daily fluctuations

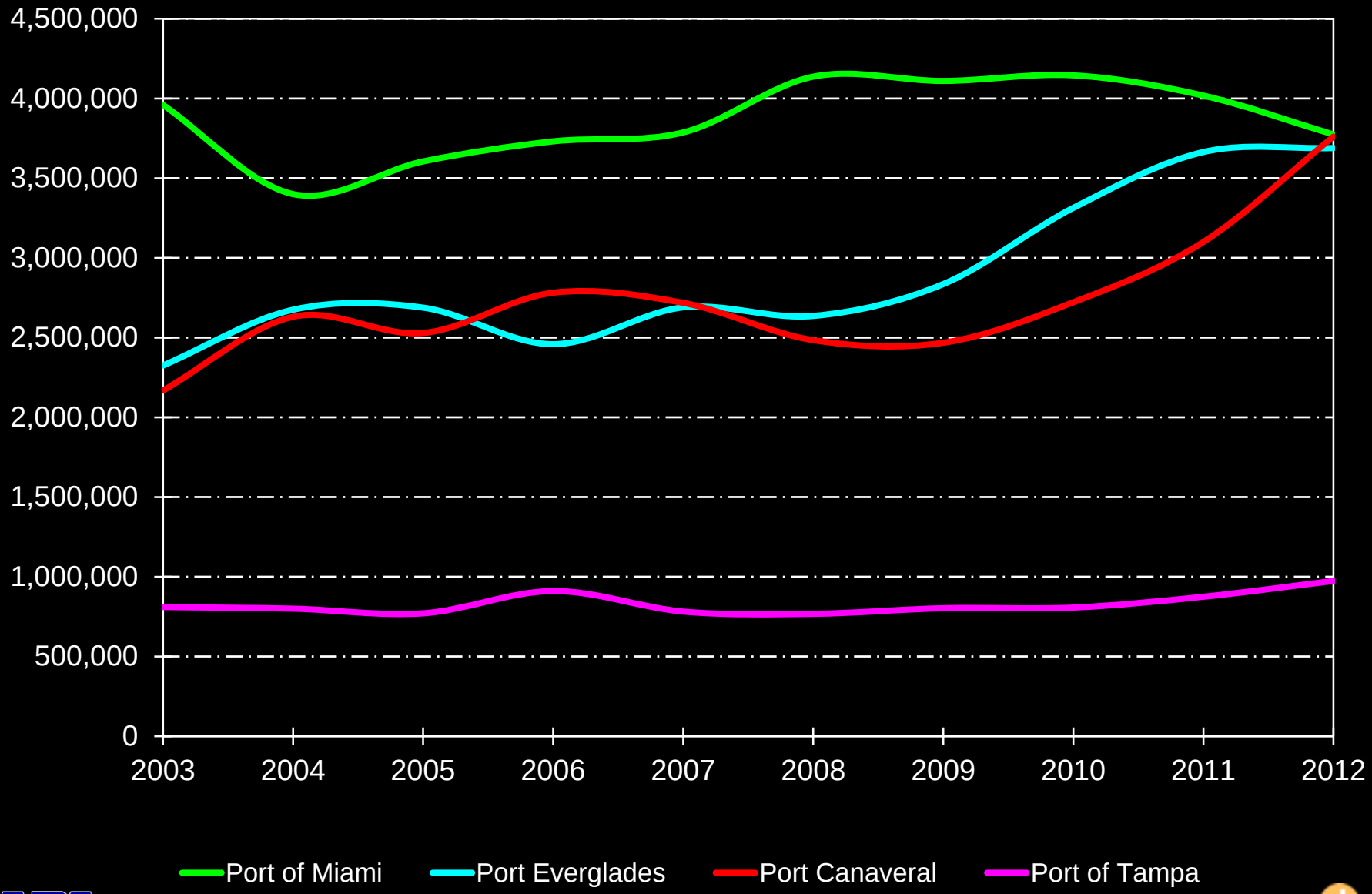
The 5 phases of port growth

1. Growth through small ships
2. Growth through increases in ships and ship size
3. Growth through increases in ship size and decreases in numbers of ships
4. Growth through increases in size and number of ships
5. Back to growth in ship size

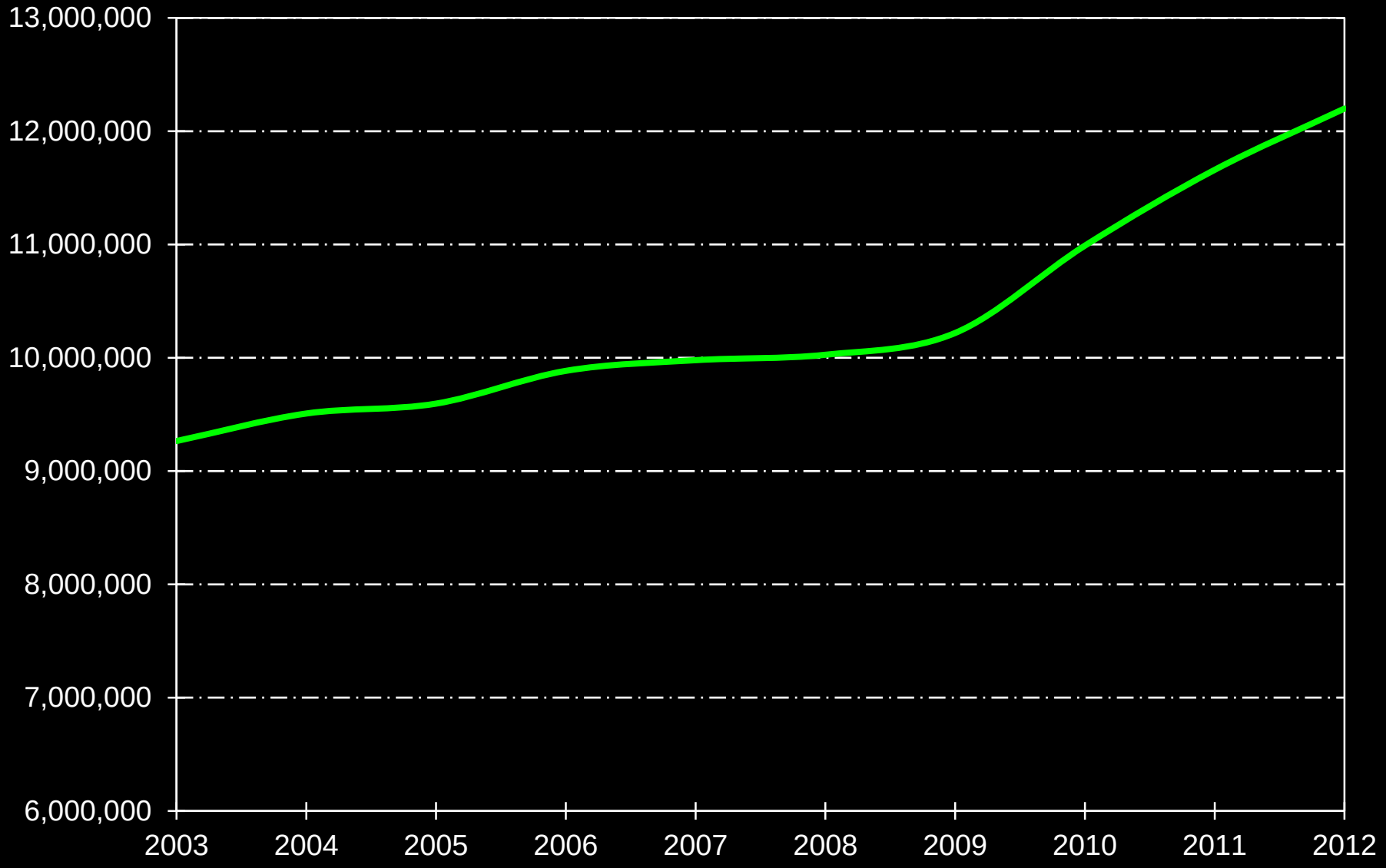
North American passengers



Regional homeport passengers (multi-day)



Florida homeport passengers

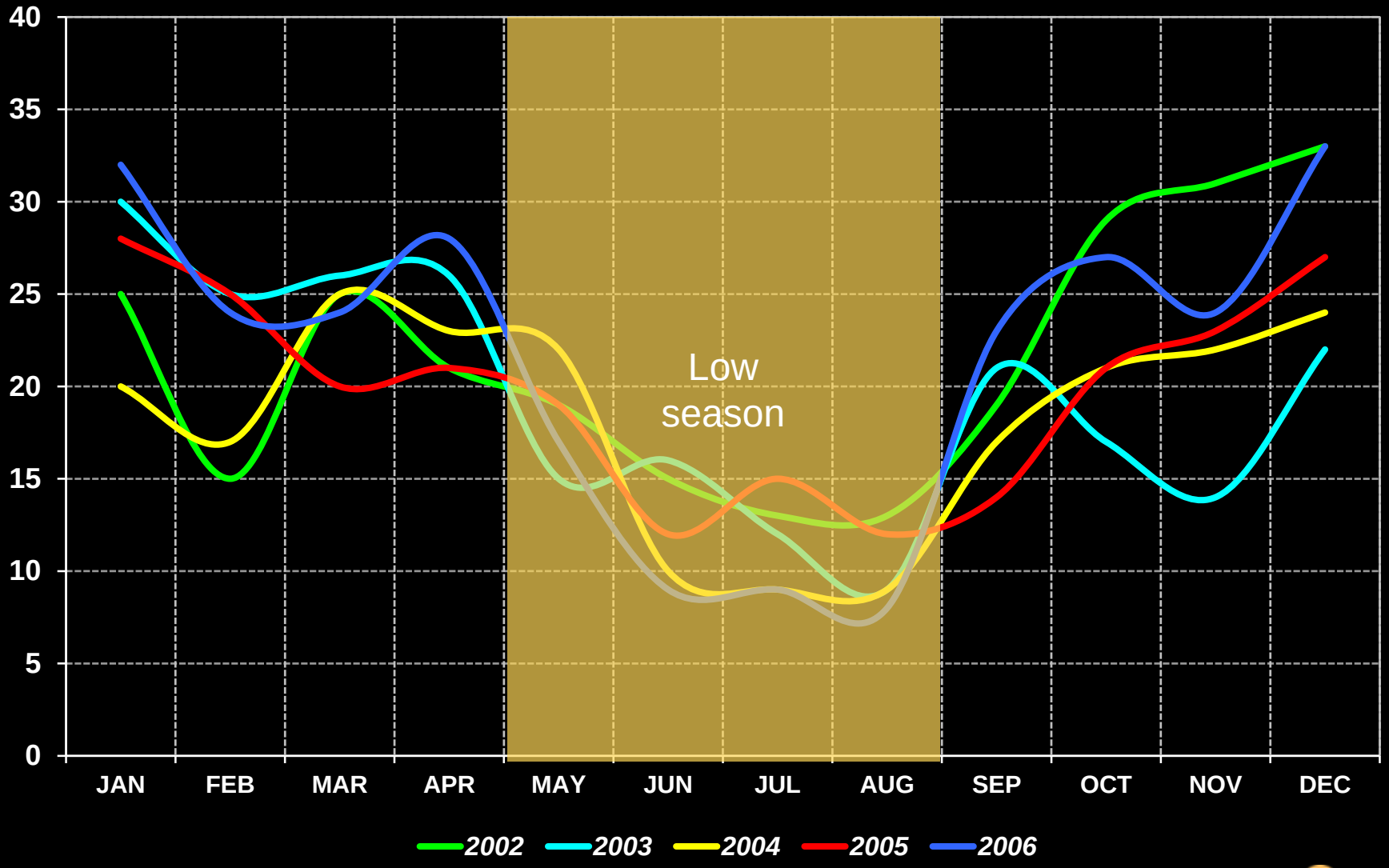


Keys

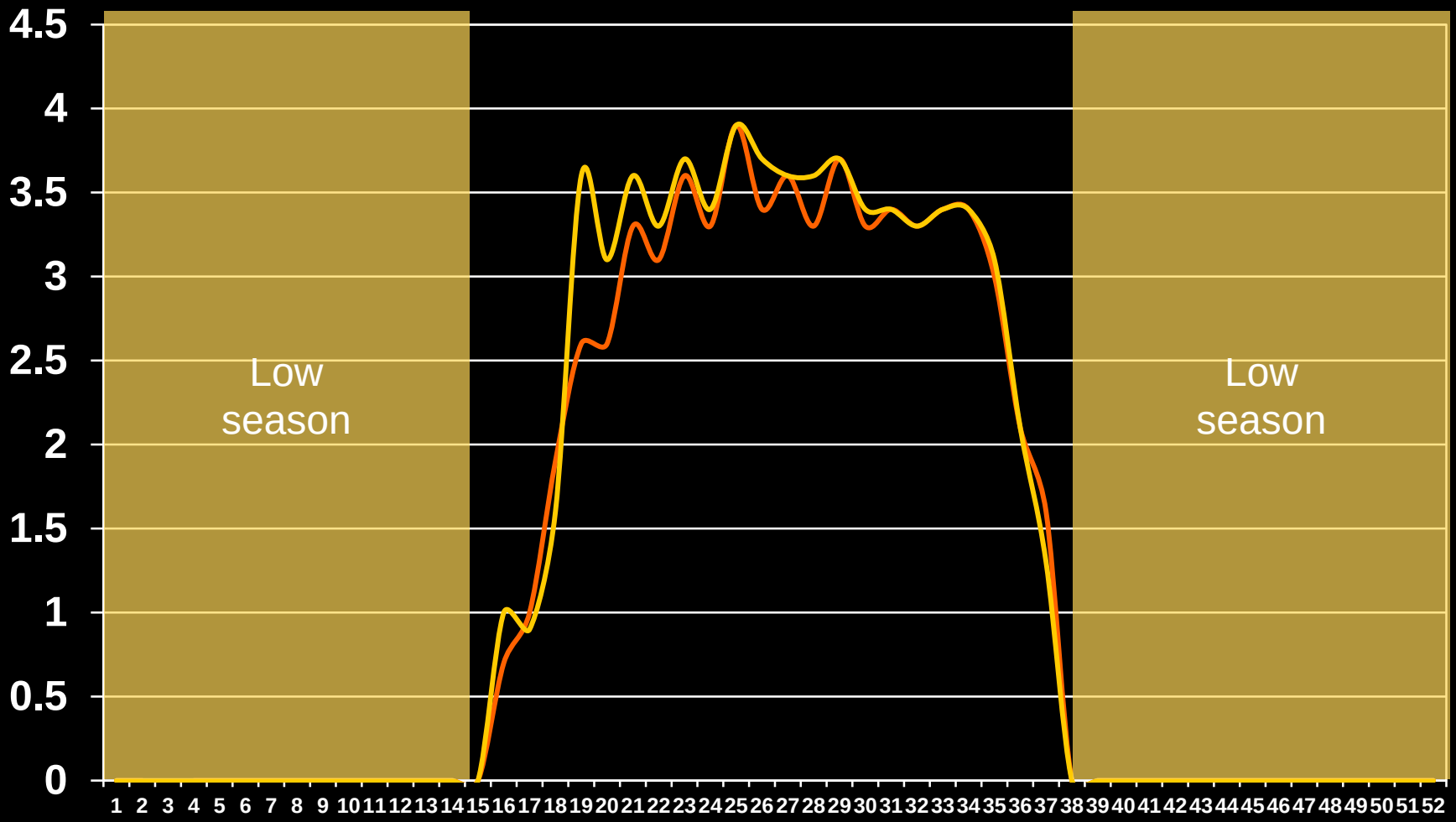
- Growth is not unlimited or linear
- Growth occurs in steps as capacity is added
- Lines tend to compete with each other at the same port, therefore causing large and fast increases
- There are glass ceilings at each port
  - Growth will diffuse to many ports as the lines continue to globalize
  - Lines do not compete with themselves
  - Capacity issues

Seasonality

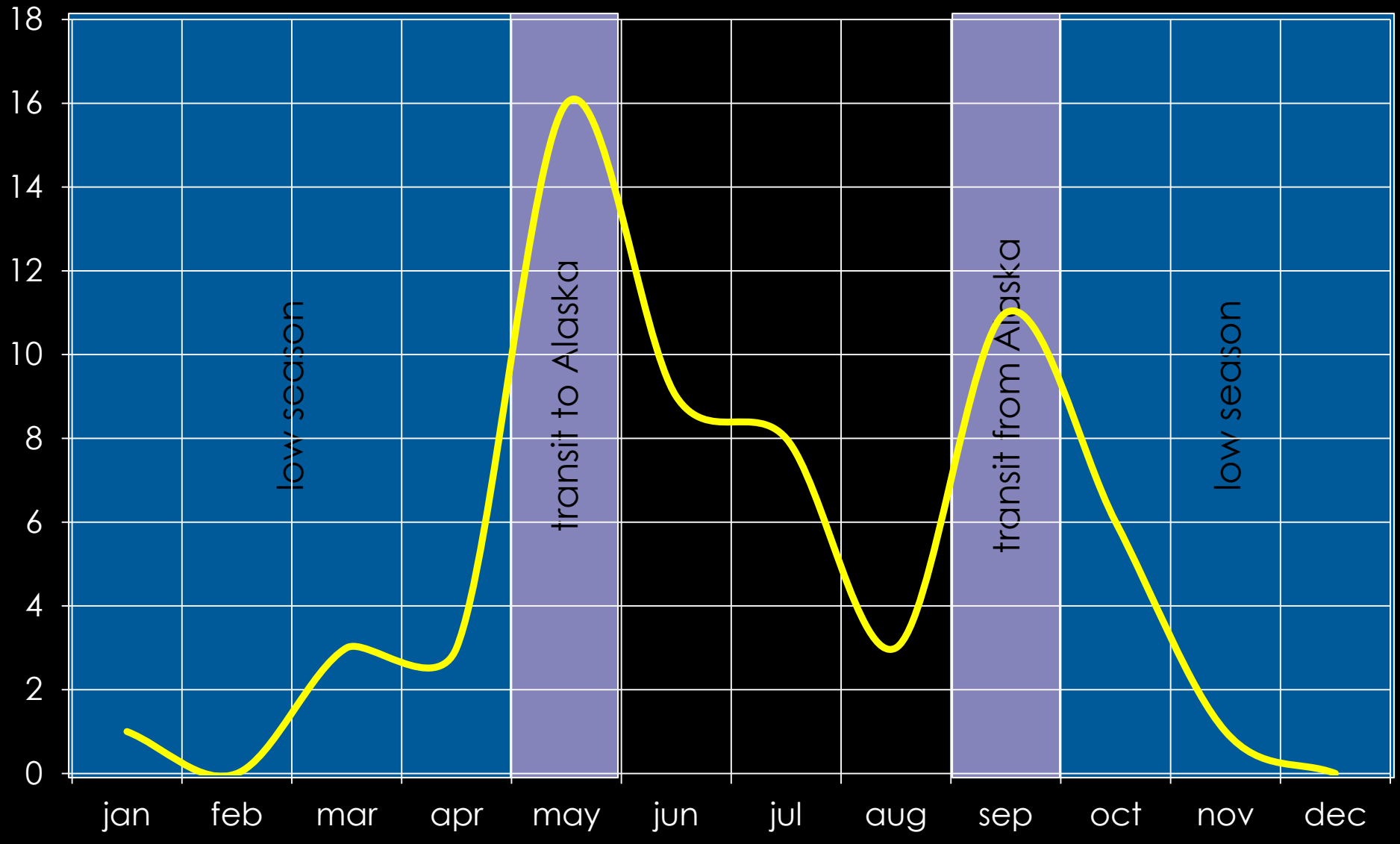
Warm weather seasonality (Los Angeles)



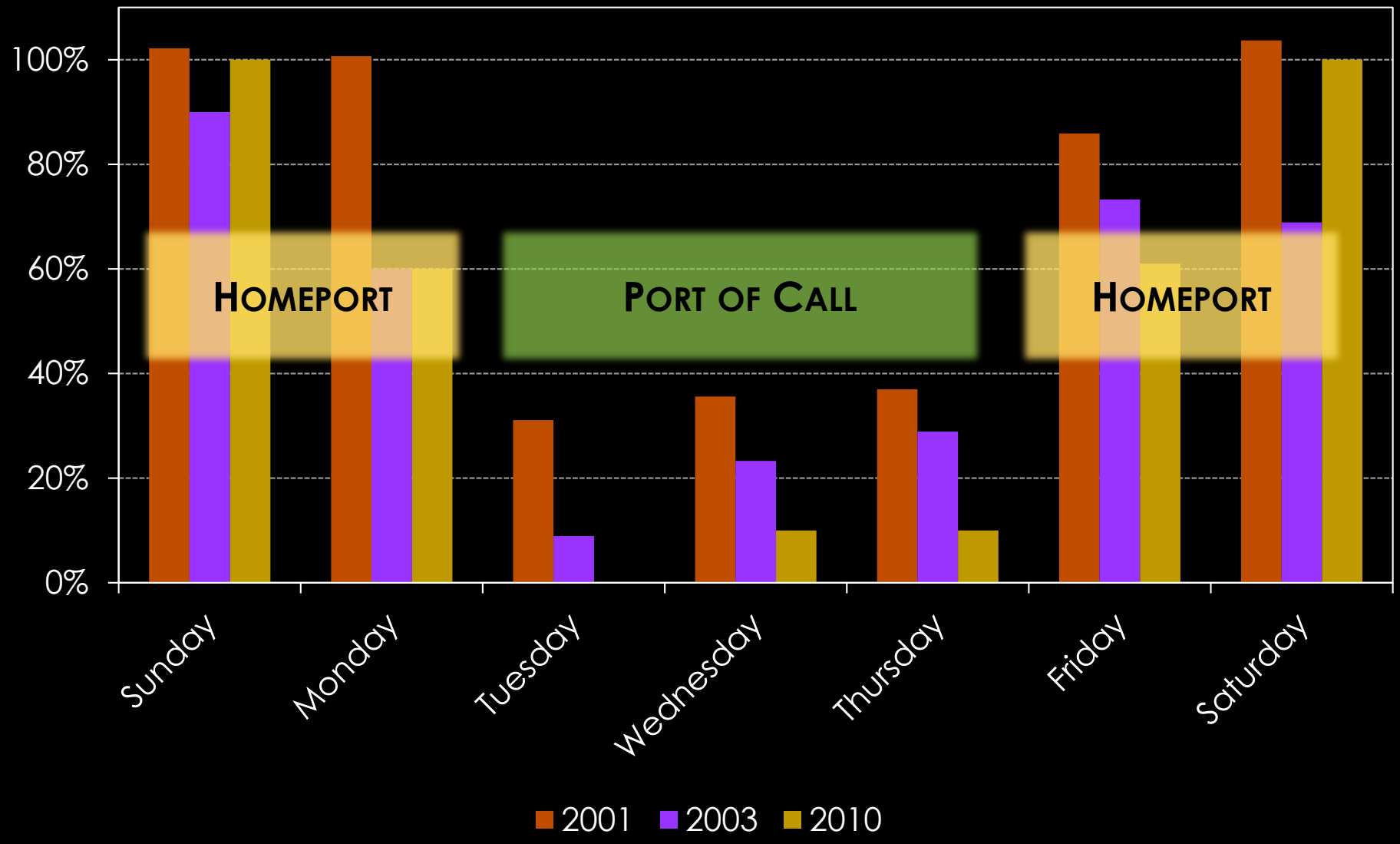
Cold weather seasonality (Alaska)



Yearly seasonality (SF)



Berth demand by day



Current trigger for facility demand

- Very specific for each port
- Driven by:
  - Seasonality
  - Peaking patterns
- On average each homeport should handle 300,000 passengers per berth increasing to 500,000
- Designing a new facility cannot be triggered by a single event
  - A port cannot build for a single peak day or week
- Provide facilities once the weekend berth occupancy reaches 90%
- Most ports wait for a customer to request a berth they don't have

North America homeport terminal demand

- If we add 100 more ships in the next 15 years
- Assume 50% to other markets
- These 50 ships will require = 75 homeport berths/week
- If 40% are seasonally deployed that translates into 105 berths/week
- Utilization of 4 days a week = 25 terminals
- Utilization of 5 days a week = 20 terminals

WE WILL OUTSTRIP NA CRUISE PORT CAPACITY IN LESS THAN 10 YEARS AND ONLY IF:

- build larger ships
- weekday departures
- full use of the entire coastal port system

costs

2

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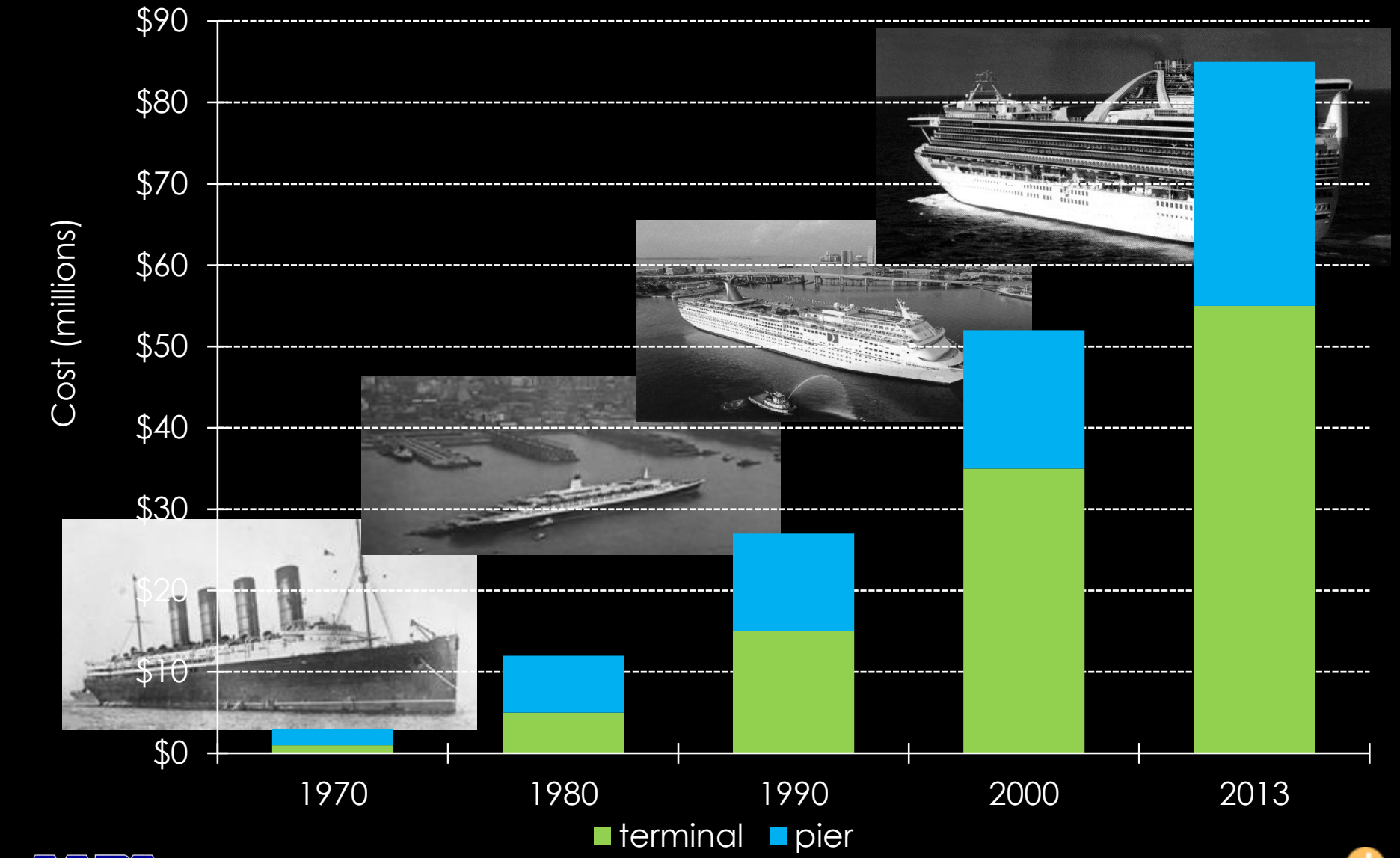
Both scenarios offer challenges

- Start-up ports
  - Lack of certainty
  - High start-up costs
  - Low volumes
  - Slow ramp up to profitability
- Legacy ports
  - Fixing an old terminal could be as expensive as a new one
  - Incremental increases
  - Rare that legacy ports have huge jumps in traffic
  - Usually large incremental costs

Development costs



What is driving the costs?

- Inflation
- Size
- Parking
- Equipment
- Security
- Two level operations
- Multiple gangways
- Elevators, escalators

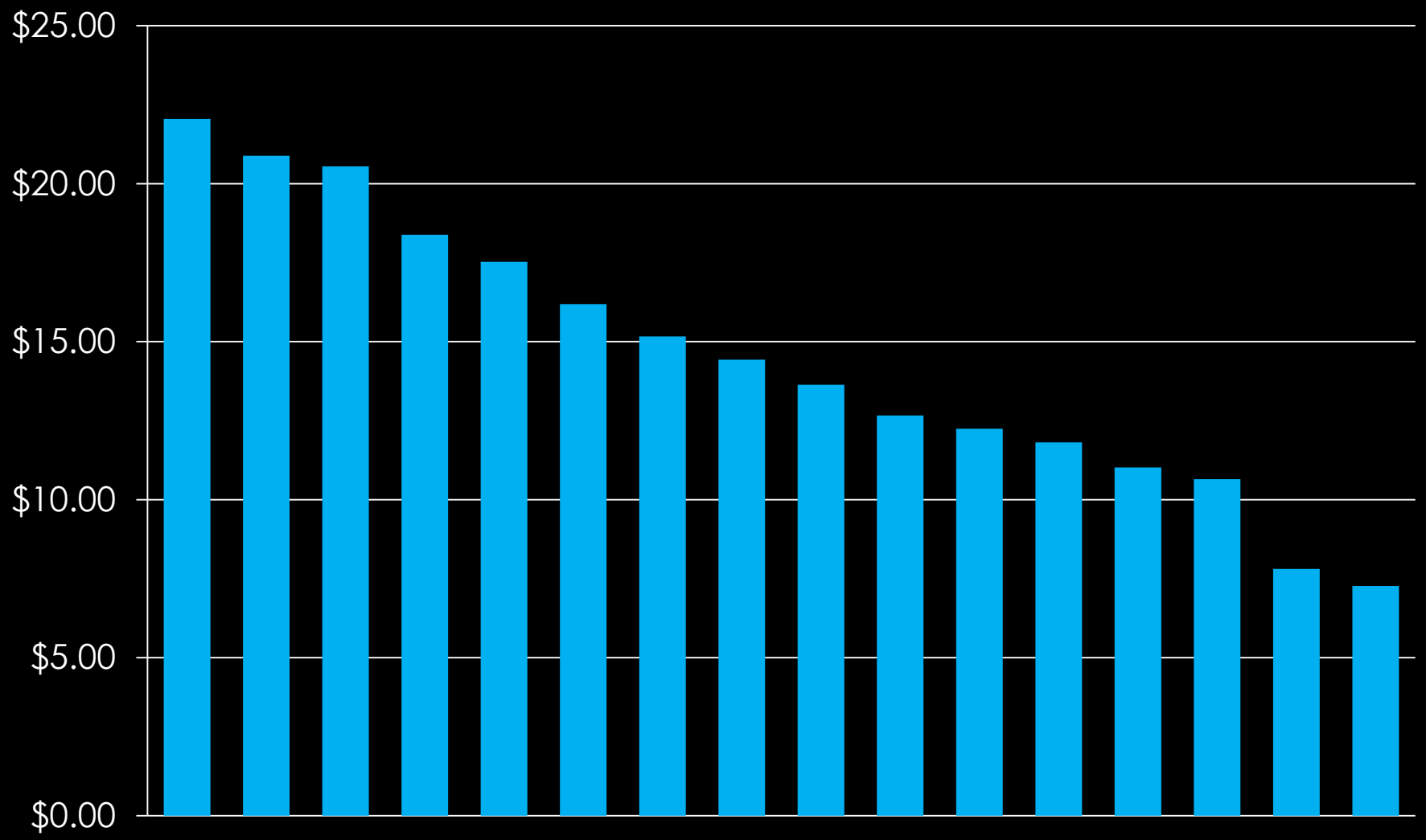
20 to 25 terminals at $50 to $100 million

=

$1 to $2.5 billion in investment

income

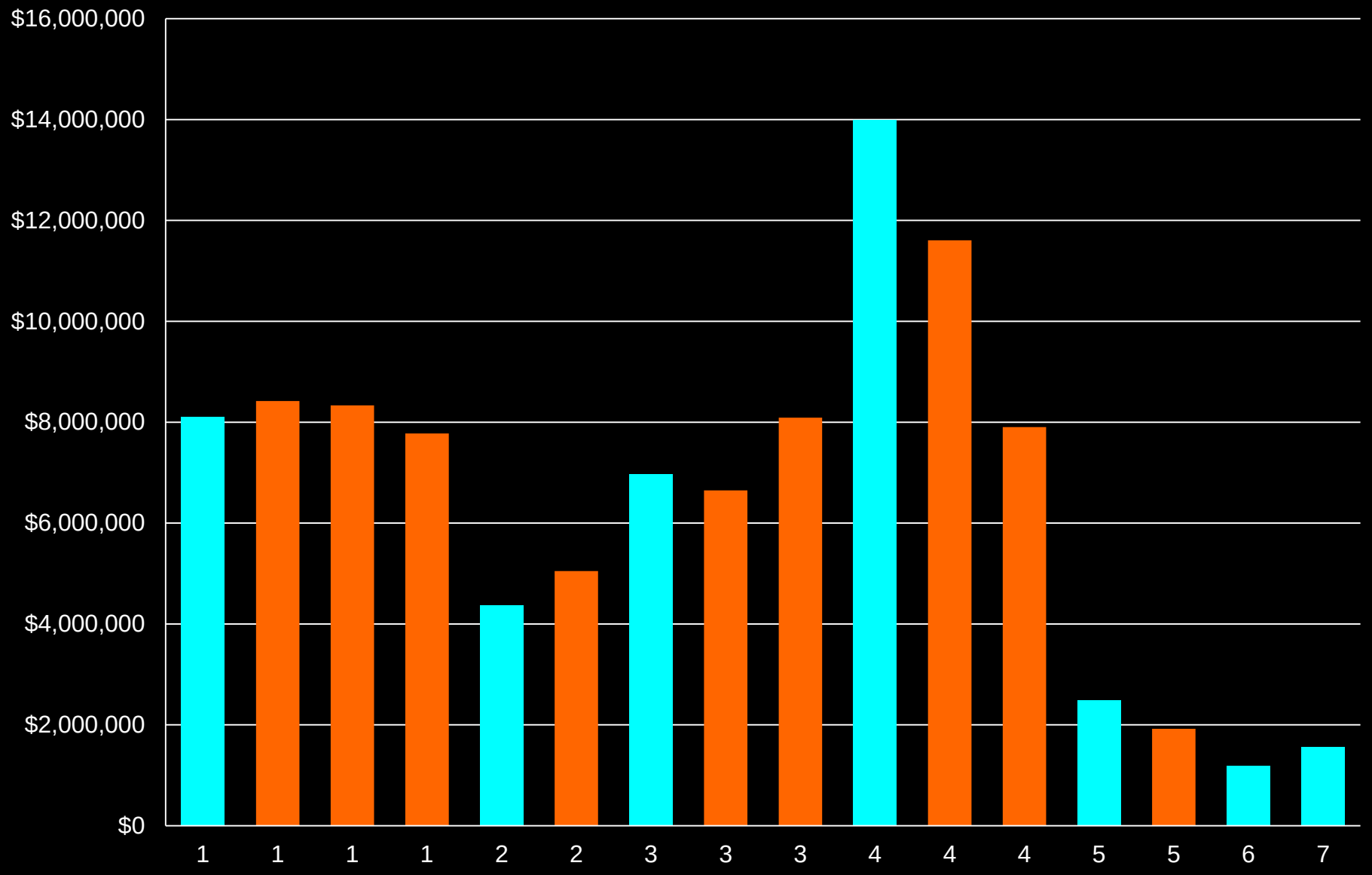
Marine gross income per passenger (major US home ports)



Revenues

- On average the total per passenger charge in the US is $14.52
- This varies widely by region
  - West coast is lowest at $9.01
  - North Atlantic is highest at +$19.00
  - Legacy ports average at $15.51

Gross revenues per terminal



Evolution of cruise line involvement

Agreements

- Cruise lines are strategically looking for longer agreements
- They know that cost will be switching more favorably to the ports in the future
- They want to control the remaining berths

- Ports are signing agreements at record rates

Optimization

- Agreements and pricing need to begin to reflect the pricing realities of the peaking patterns to:
  - Incentivize higher utilization
  - De-incentivize overbuilding
- Differences need to be meaningful to affect change
- The concept can be developed for the full group of itineraries to make it meaningful to all

Two perspectives

How to increase use of the facility

How to improve the capacity of the facility

What does this mean

- Getting it right from the start
- Building for expansion
- Building for changes
- Do not overbuild

designs

4

Two types of development

- Legacy ports
  - Are redeveloping older terminals for the new realities
- Start-up ports
  - Are developing for new capacity from the on-set

solutions

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Realities today

- All ports started with low cost solutions
- Using existing abandoned berths and warehouses
- Low investments

- Those easy solutions are all exhausted
- Few if any berths are available

- Ports are building new

Concepts

- New concepts must be utilized
- More expensive at first – but cheapest in the long-run
- Break the mold and look to future common sense solutions

Legacy vs. new ports

- Legacy ports
  - The legacy ports have huge problems
  - Most built cheap and fast and now the solutions are complicated and expensive
  - Most terminals over 10 years old are obsolete
  - Yet the volumes are marginally larger

- New ports
  - Have huge jumps in volumes
  - No track record to be decisive

Existing growth development model

- Ports wait for the cruise line to call
- Then you have at best 24 months to deliver a facility

- But…….

- Terminals are now much more complicated, expensive and difficult to execute

- Planning is essential

criteria

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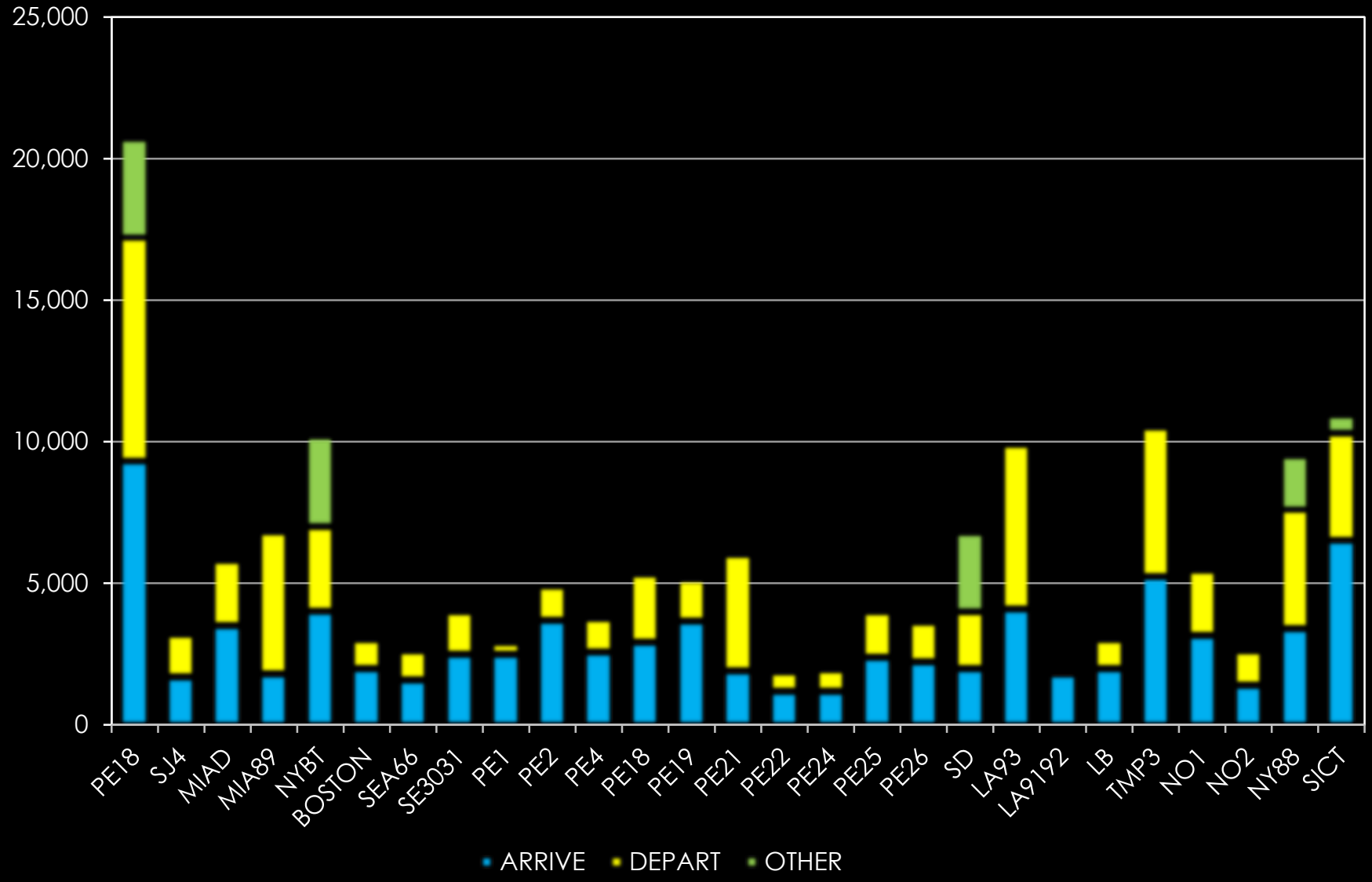
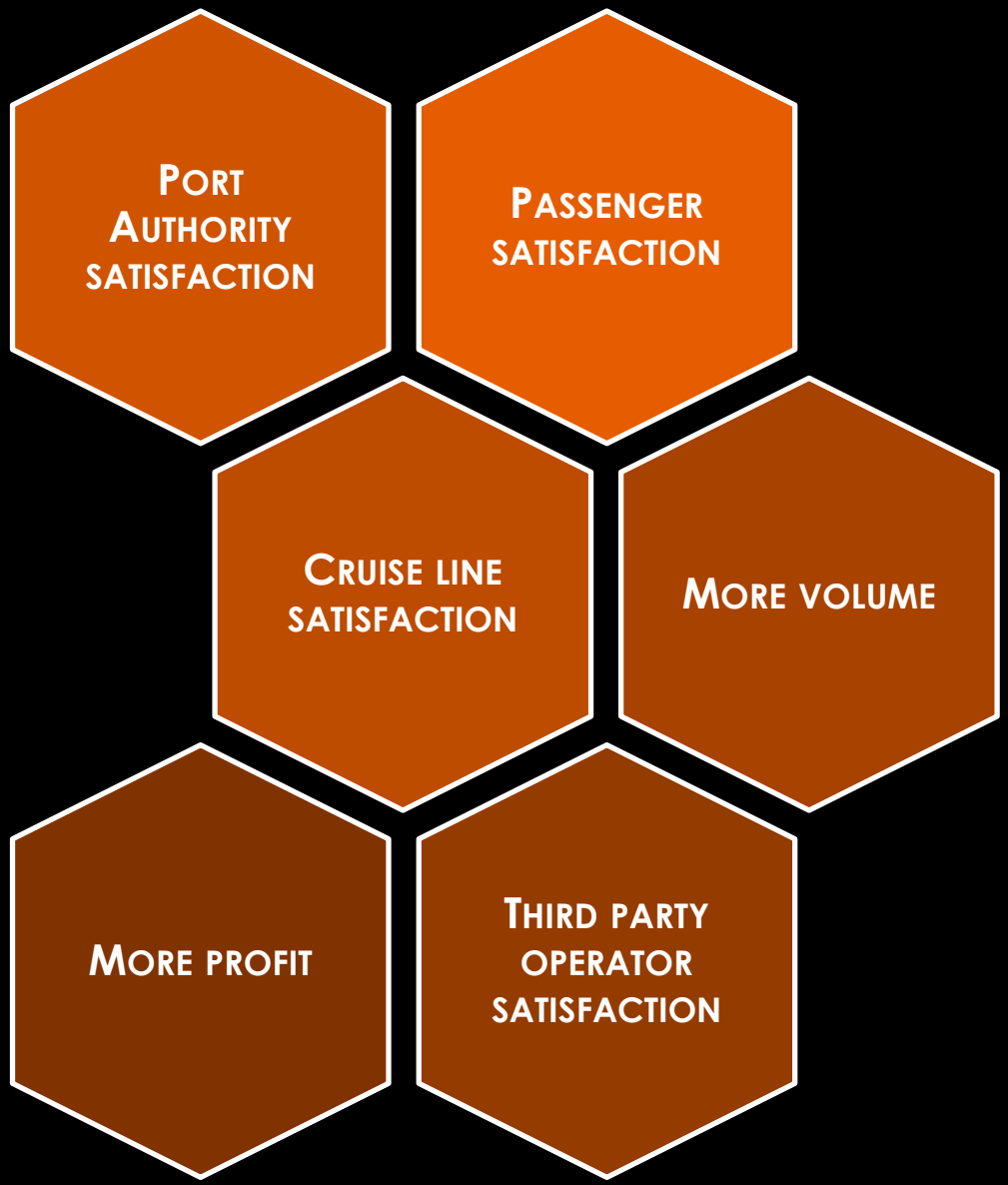
Terminals

- More complex
  - Security
  - CBP
  - Baggage handling
- More expensive
- Ever changing
- Transportation issues

Cruise terminal area comparison (mt²)



How do we measure success?



General guidelines (homeport)

- Currently depending on region or size:

- **North American** terminals can vary from 3.5 to 7.0 mt^2 per passenger
- **European** terminals vary from 1.6 to 3.0 mt^2 per passenger
- **Asian** terminal are being designed with +4.0 mt^2 per passenger

Performance standards

- Passenger experience
  - Time
  - Flow
  - Queues
  - Spaciousness
  - Direction
  - Friendliness
- Cruise company
  - Cost
  - Efficiency
  - Labor
  - Turn around time
  - Passenger experience
- Ports
  - Revenues and costs
  - Volumes

Performance standard

- Establish levels of terminal performance to match frequency or likelihood of demand
- Size the terminal with the Base Design Load (**BDL**)
  - Time to clear the ship
- Provide processing capacity for Peak Design Load (**PDL**)
  - Flow and capacity
- Concentrate on throughput improvements to reduce space needs

7 conclusions

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Conclusions

- Optimize traffic
  - Do not over build
  - Create pricing to reflect the scarcity of the asset and the demand
  - Adjust pricing to incentivize full use
  - Promote 24-7 use of the facilities

- Optimize design
  - Get it right
  - Master plan
  - Design to a standard

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