Impact of Draft Restrictions at the Port of Houston

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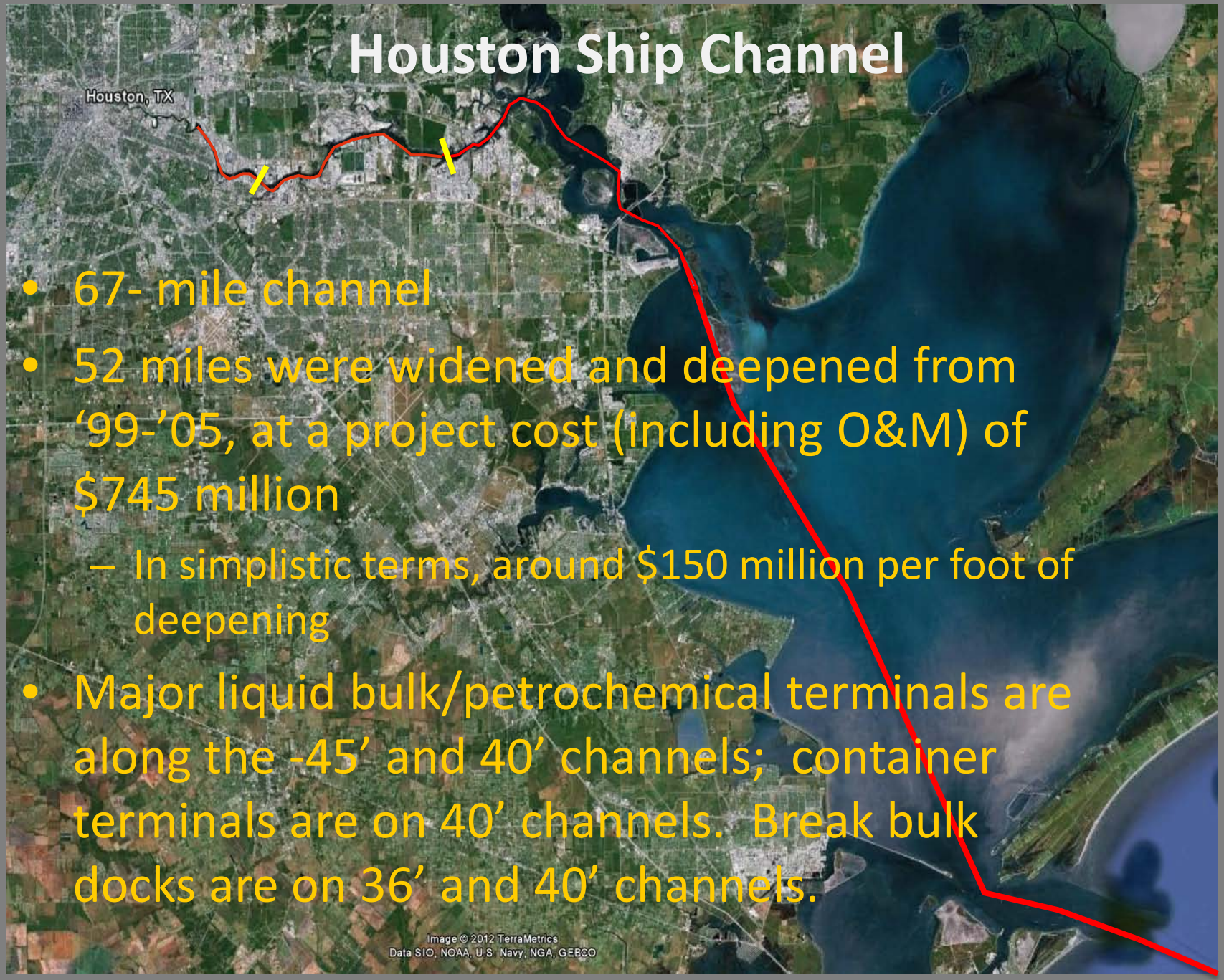
PORT OF HOUSTON AUTHORITY

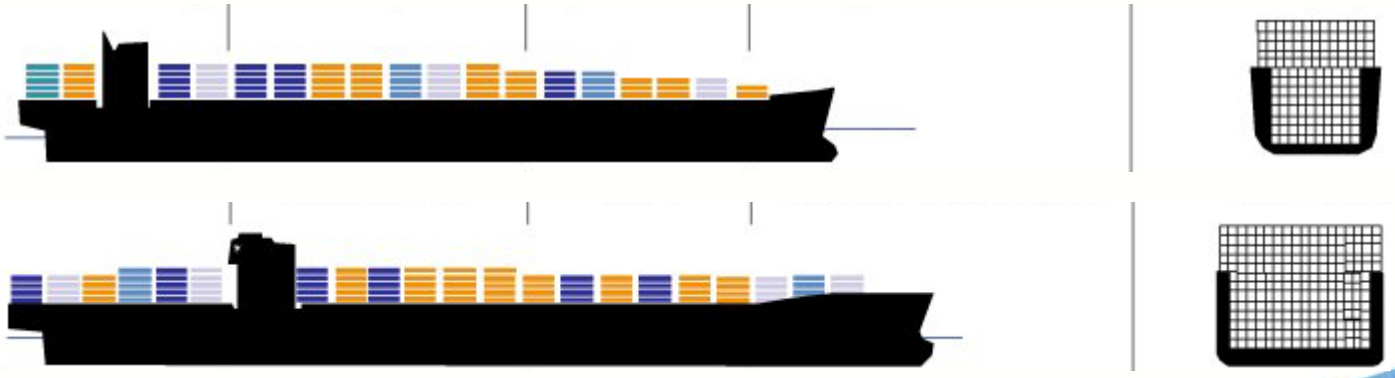
Houston Ship Channel



- 67- mile channel
- 52 miles were widened and deepened from '99-'05, at a project cost (including O&M) of $745 million
  - In simplistic terms, around $150 million per foot of deepening
- Major liquid bulk/petrochemical terminals are along the -45' and 40' channels; container terminals are on 40' channels. Break bulk docks are on 36' and 40' channels.

Vessel drafts

- World-wide fleet trend: larger capacity ships, for overall efficiency
  - Longer, deeper draft, broader beam
- HSC ship calls are following that trend, and shipping lines forecast continued growth in ship size

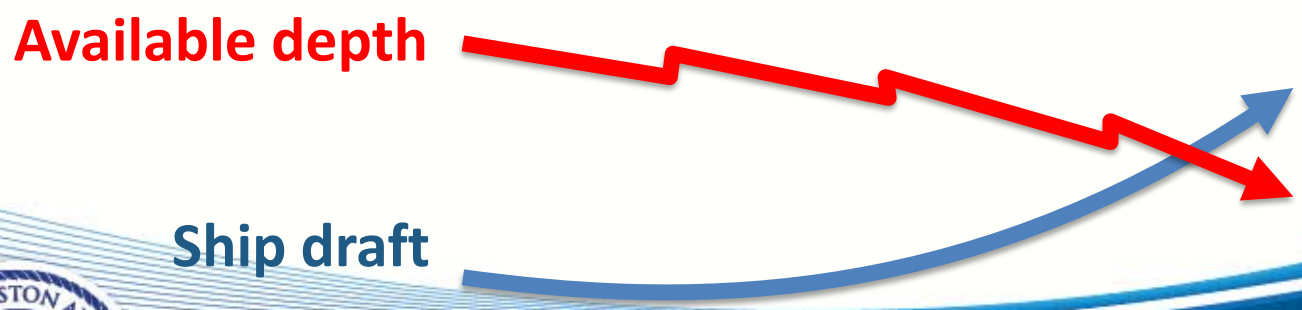


Containers at Bayport and Barbours Cut

- Increasing exports is a national priority
- 60% of PHA loaded containers are exports
- In the past 10 years:
  - LOA has increased by about 10%; beam about 5%; movements have doubled
  - Drafts for arrivals has increased 5%, and by 12% for departures (over 2.5' difference)
  - Both terminals currently see post-panamax ships that could draw more than 44' of water

Vessels trends and Observations

- Ships calling to Houston "push" the limit of our channels to achieve efficiency
  - Ships often call at reported depths within a foot of authorized depth
  - Some export vessels have reported drafts at the authorized channel depth



Cost Impacts

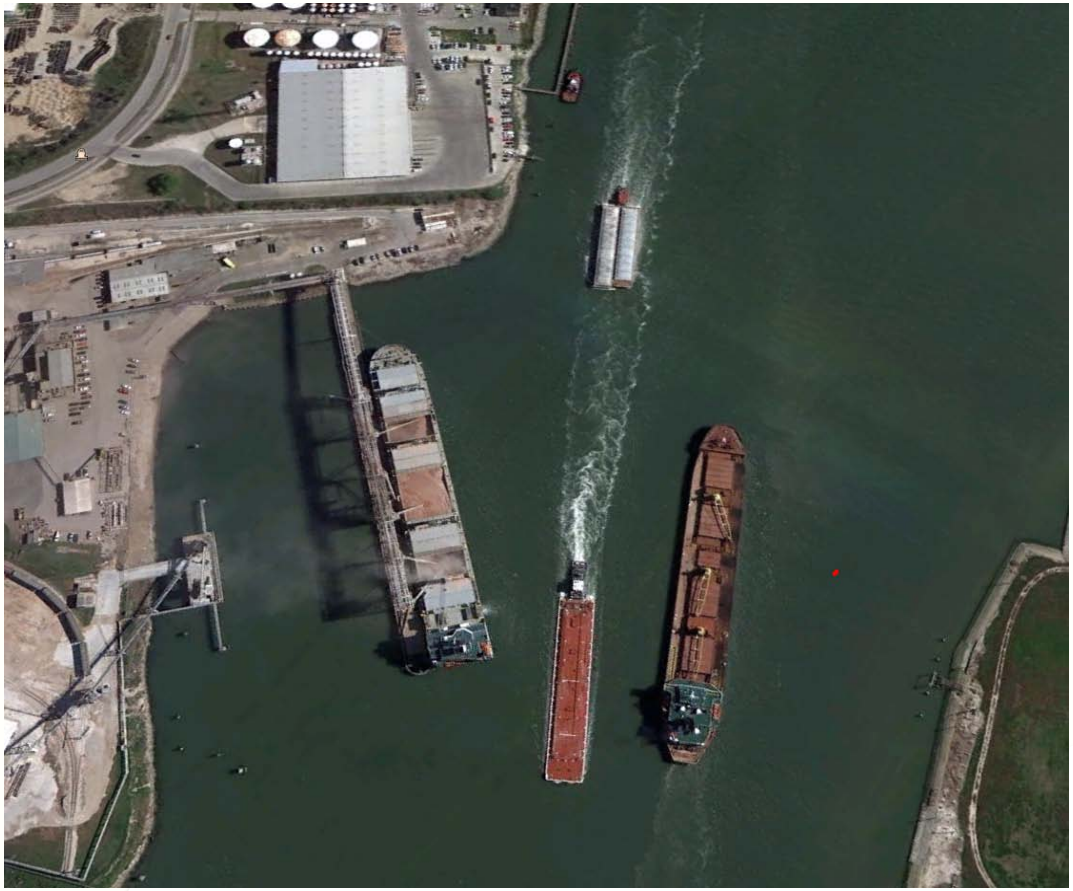
- Light loading
  - Lost business
  - Unit cost increases
- Partial cargo discharges at multiple locations
- Maneuvering restrictions—costs
- Daylight-restricted vessel operations

(Texas Transportation Institute, 2010)

Other Impacts

HSC is a narrow channel

- Full depth is often available only on middle half of the channel
- Lack of full-width authorized depth, with other factors, introduces risk in the area of navigation safety



Effect of Lack of Channel Maintenance

- 2008, actual cost (light loading, other restrictions) was $37 million
  - At least 89 ships were affected
- HSC users push the limit of channels: one foot of additional loss of depth throughout the system would have cost $281 million in 2008—and even more today
- Loss of a foot of draft would cost the container lines more than $11.5 million a year (2009 estimate)

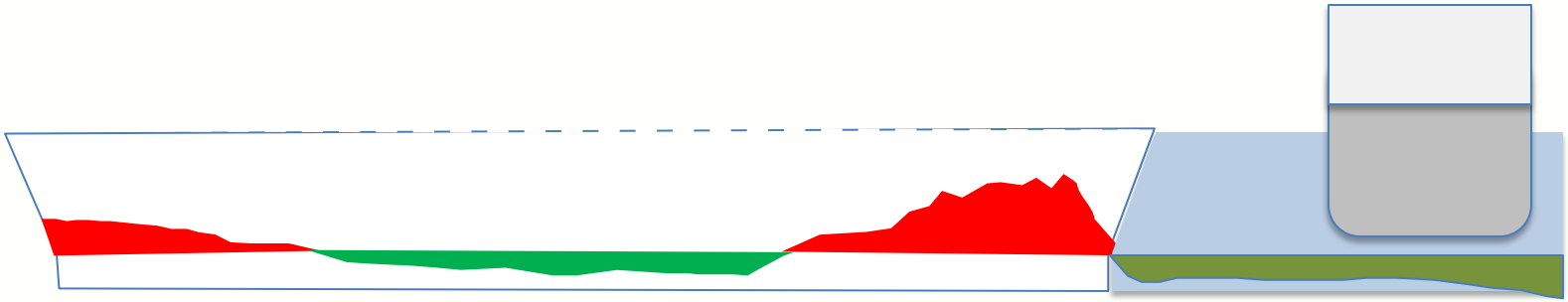
Draft Limitations-Examples

- August 2012—shoaling at the inner bar of the entrance channel reduced draft for Houston, Galveston, Texas City to 43.5’; Corps was able to clear the shoaling by mid-Oct; funding limited previous advance maintenance to only 1 foot.
  - 18 terminal berths operate at depths of -44.5’ or deeper
  - Overall impact? Probably 10x the cost to do the emergency dredging

(Actual)

Draft Limitations-Examples (2)

- Channel reach is 12 months from scheduled maintenance dredging. In one segment, channel infill on the right 1/4 reached as much as 7'—which was restricting use of a new 45' private terminal along the channel. The district was able to mod an existing contract, and reduce that obstruction



(Notional)

Summary

- Houston industry is significantly effected by draft restrictions resulting from insufficient funding
- PHA is a nationally-significant, “irreplaceable” port
- Saving funds by limiting advance maintenance in a port like Houston is a lose-lose proposition—it costs the Corps more, and costs industry dearly