

HOUSTON SHIP CHANNEL EXPANSION CHANNEL IMPROVEMENT PROJECT (HSC ECIP)



Public Meeting
19 October 2017

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“The views, opinions and findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation.”



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STUDY PURPOSE & AUTHORITY

STUDY PURPOSE: NAVIGATION

Reduce transportation costs while providing for safe, reliable navigation on the Houston Ship Channel (HSC) system

NON-FEDERAL SPONSOR:

Port of Houston Authority



STUDY AUTHORITY:

Section 216 of The Flood Control Act of 1970, P.L. 91-611
Dated December 31, 1970
(33 U.S.C. 569a)



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HOUSTON SHIP CHANNEL SYSTEM

Segment

Existing Channel Characteristics & Problems

Boggy Bayou to Turning Basin

- **Narrow Channel,**
- **Insufficient channel depth**
- **Constrained vessel size**
- **Light loading, one-way traffic**

Barbours Cut Channel

- **Narrow channel**
- **Challenging configurations (flare)**

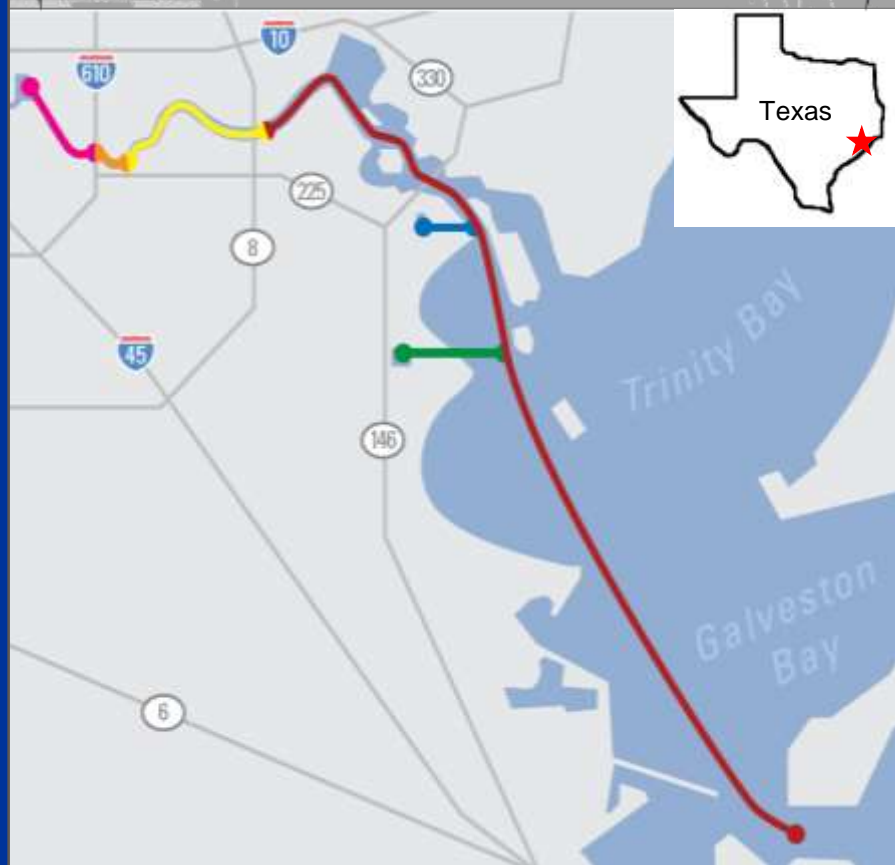
Bayport Ship Channel

- **Narrow channel**
- **challenging configurations (flare)**
- **High shoaling**

Bay Reach

- **Narrow channel**
- **Challenging configurations (bends)**
- **Congestion**
- **Constrained vessel size, one-way traffic**

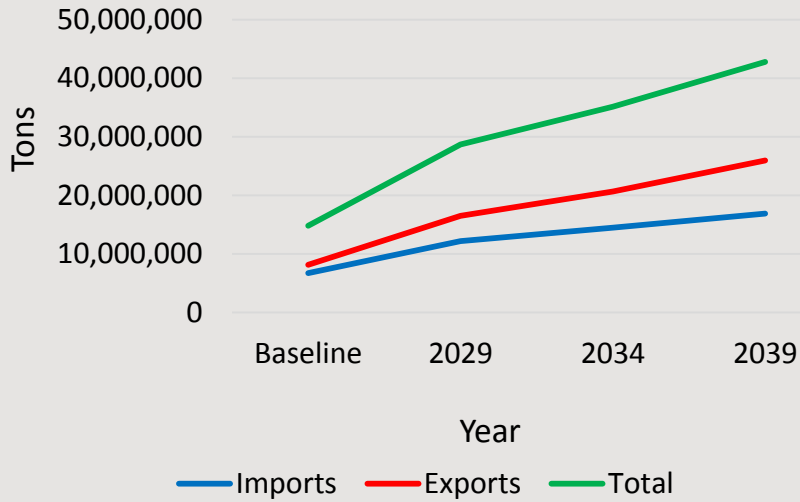
THE STUDY AREA



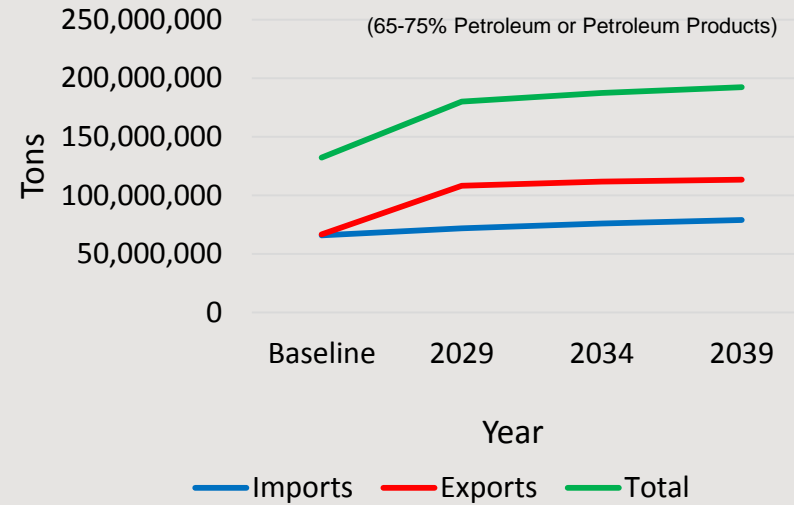
Segment	Type	Class	LOA	Beam	Draft
	Bulk Carrier	70k-110k Bulker	750	106	45
	Tanker	Panamax size	610	106	44
	Vehicle Carrier	Ro-Ro	640	106	34
	Bulk Carrier	Panamax	810	106	44
	Tanker	Suezmax	935	164	54
	Tanker	Aframax	850	138	54
	Containership	Gen III	1,100	158	49
	Containership	Gen III	1,200	140	49

FUTURE WITHOUT PROJECT FORECASTS

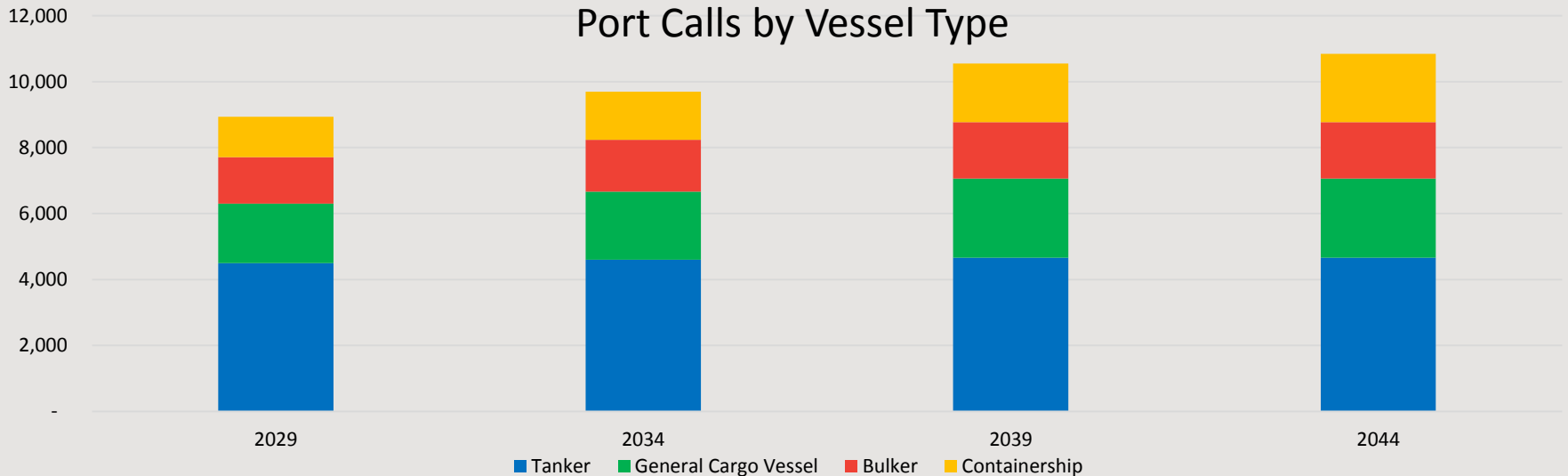
CONTAINERS



BULK COMMODITIES



Port Calls by Vessel Type



SCREENING

45 Measures

INITIAL SCREENING:

- ✓ Do measures meet study objectives?

SECONDARY SCREENING:

- ✓ Environmental
- ✓ Engineering
- ✓ Infringes on Other Federal Projects
- ✓ Regulatory Permits Issued?
- ✓ Houston Pilot Input

NON-STRUCTURAL

Terminal Improvements

Adjusting Vessel Speed

Additional Tug Assist

Use of Tides & Lightering

Traffic Management (Vessel Tracking System or VTS)

Channel Deepening

Channel Widening

Channel Deepening

Channel Widening

New/Improved Turning Basins

Flare Modifications or Bend Easings

New/Improved Turning Basins

Flare Modifications or Bend Easings

Channel Deepening

Channel Widening

Multipurpose Moorings

Shoaling Attenuation or Sediment Barrier

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New/Improved Turning Basins

Flare Modifications or Bend Easings

Multipurpose Moorings

Shoaling Attenuation or Sediment Barrier

Offshore Oil Pipeline (ex. LOOP)

Carried Forward to Develop Alternative Plans

STRUCTURAL

ALTERNATIVES 1 – 4

Alternative 1

"Minimum System-Wide Plan" (No Bay Widening)

Minimum plan that benefits all target vessels

Alternative 3

"Suezmax Plan"

Targets increased use of Suezmax-sized bulk liquid tankers

Alternative 2

"Bay Plan"

Addresses container ships more completely and efficiently

Alternative 4

"Aframax Plan"

For future increased use of Aframax tankers in upper channel



ALTERNATIVES 5 – 8

Alternative 5

"Bulkers, Tankers, & Vehicle Carrier Plan"

Targets more efficient use of the uppermost part of the HSC by these vessels

Alternative 7

"Upper Channel Mooring Plan"

Same as Alternative 6, but closer to source of most trips to further reduce total trip distance

Alternative 6

"Bay Mooring Plan"

Reduces frequent tanker trips back out to Gulf anchorages & refuge for disabled ships

Alternative 8

"Comprehensive Plan"

The best parts of Alternatives 1-7



BENEFIT-COST ANALYSIS (\$000)

Alt	First Cost	Project Cost + OMRR&R	AAEQ Costs	AAEQ Benefits	Net Benefits	BCR ≥1.0
No Action	<ul style="list-style-type: none"> • <i>Future Without Project</i> • <i>Does not meet the study objectives.</i> • <i>Baseline scenario against which benefits, costs and impacts of all other alternatives are compared.</i> 					
1	\$513,900	\$848,900	\$27,700	\$59,700	\$32,000	Yes
2	\$706,300	\$1,304,300	\$40,800	\$47,700	\$6,900	Yes
3	\$527,000	\$1,018,300	\$31,300	\$26,100	\$(5,200)	No
4	\$129,900	\$312,100	\$8,500	\$60,700	\$52,200	Yes
5	\$98,400	\$126,700	\$4,600	\$36,800	\$32,200	Yes
6	\$94,600	\$164,100	\$5,200	\$2,100	\$(3,100)	No
7	\$47,600	\$116,200	\$3,300	\$3,300	\$-	Yes
8 (650')¹	\$950,000	\$1,849,700	\$56,800	\$123,100	\$66,300	Yes
8 (820')²	\$1,451,800	\$2,727,200	\$84,700	\$123,100	\$38,400	Yes

¹ Alternative 8 includes bay widening to 650 feet plus measures for further evaluation; lower range.

² Alternative 8 includes bay widening to 820 feet plus measures for further evaluation; higher range.



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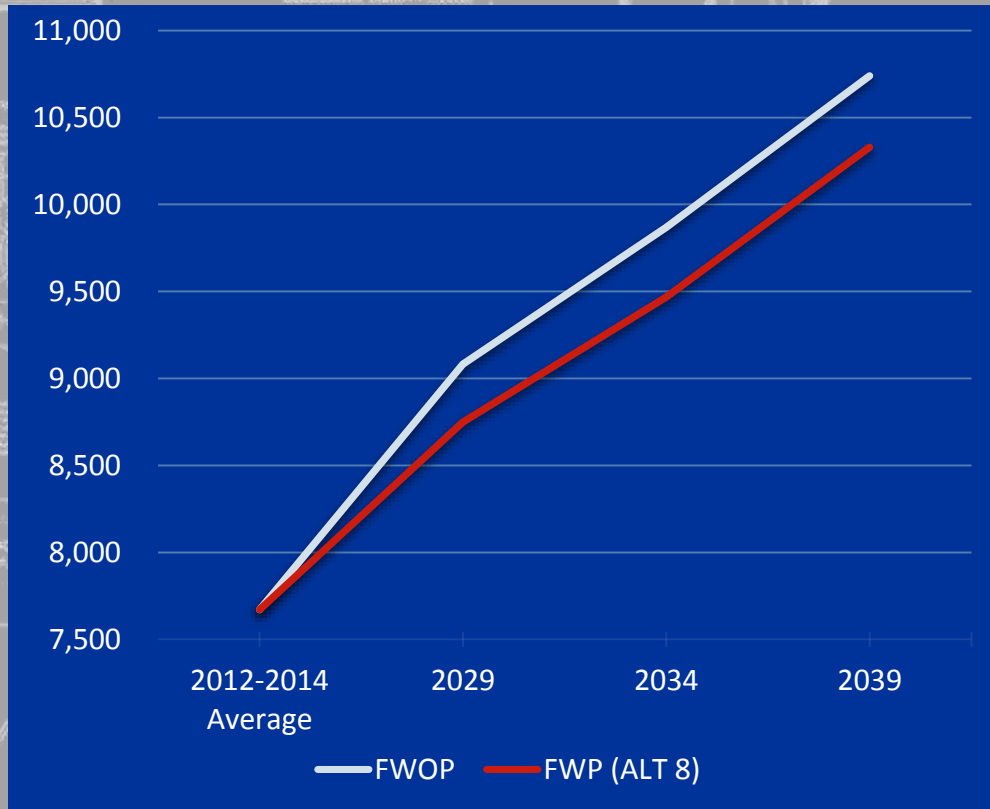
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THE TENTATIVELY SELECTED PLAN



FUTURE WITHOUT PROJECT VS. WITH PROJECT VESSEL CALLS



- Load vessels deeper
 - Reduces total yearly vessel calls
 - Reduces shipping costs
 - Reduces congestion
 - Reduces average wait and transit times by 3 hours
- *Delay time reductions would be more significant in the future when congestion is expected to grow.*

Potential Time Reduction Per Vessel (hrs)			
2029	2034	2039	2044
2.3	2.6	3.0	3.2



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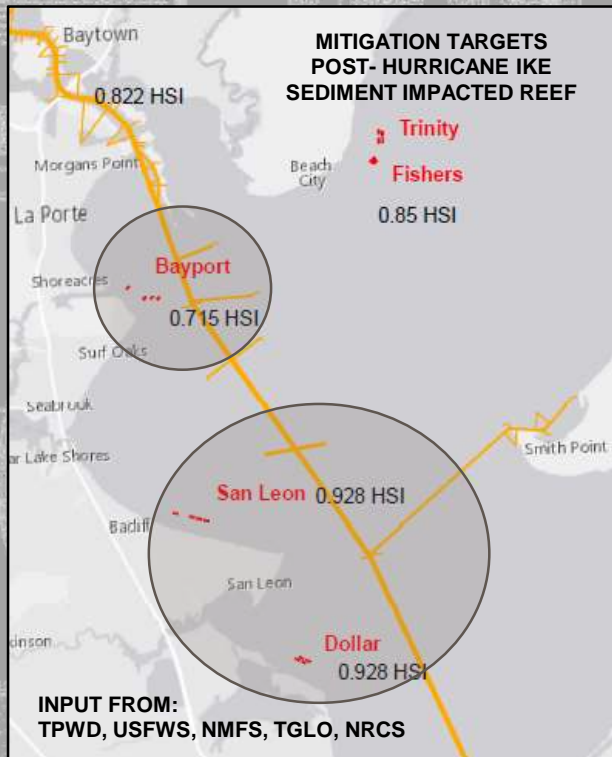
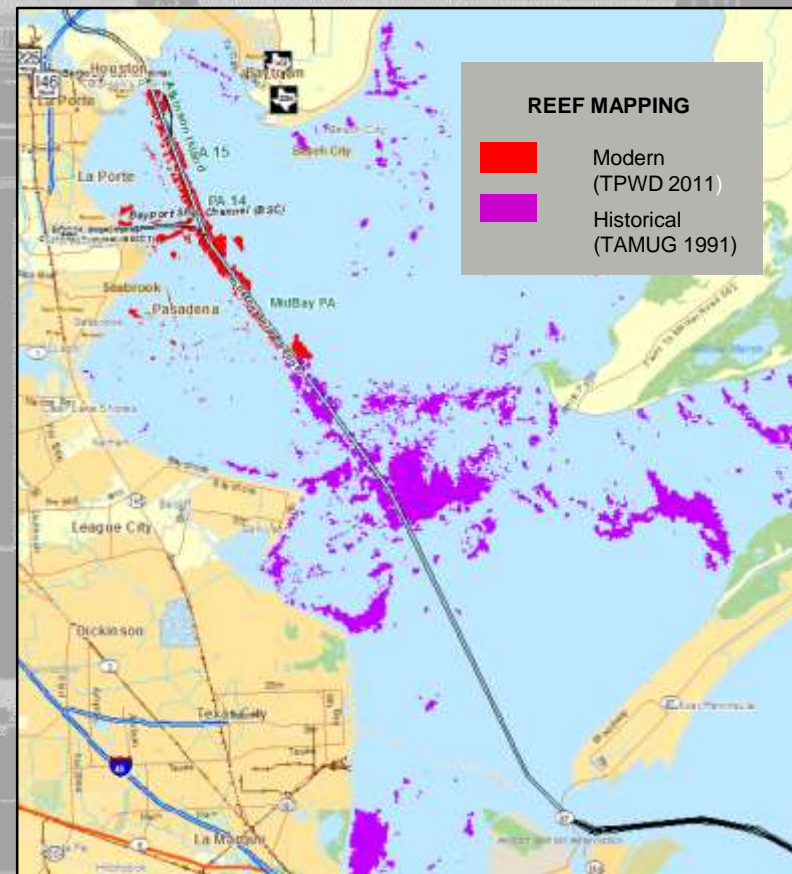


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POTENTIAL IMPACTS AND MITIGATION

TSP IMPACTS	w/ 650-foot wide bay channel		w/ 820-foot wide bay channel	
	New Work	50-Year O&M	New Work	50-Year O&M
DREDGED MATERIAL QUANTITIES	28 MCY	79 MCY	53 MCY	117 MCY
PERMANENT OYSTER REEF IMPACTS	474 acres		543 acres	
OYSTER MITIGATION	427 - 551 acres		487 - 632 acres	



OTHER IMPACTS:

- Temporary impacts from deepening unvegetated estuarine bay/river bottom
- Salinity, surge & other hydrodynamic effects (being modeled by ERDC)
- Threatened and Endangered Sea Turtles
 - potential impacts from limited use of hopper dredging
 - standard BMPs would help in an effort to minimize adverse impacts
- ❖ *Impacts to seagrasses, wetlands or other T&E Species not anticipated*

NEXT STEPS

➤ Public Participation

- 25 October 2017 – 2nd Public Meeting (Galena Park High School)
- 13 November 2017 – written comments due on Draft Report – EIS

➤ Dec 2017 through May 2019

- Detailed Engineering and Environmental Analysis and Further Refinement of TSP
- Development of Dredged Material Placement Plan

➤ May 2019 - Final Feasibility Study and Environmental Impact Statement

➤ October 2019 – Chief of Engineer's Report



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PUBLIC PARTICIPATION AND COMMENTS:

*Who do I contact for more
information or to provide comments?*

**MAIL: U.S. Army Corps of Engineers, Galveston District
Attn: Dr. Kelly Burks-Copes, Coastal Section,
Regional Planning & Environmental Center
P.O. Box 1229
Galveston, Texas 77553 1229**

E-MAIL: HSC-ECIP@usace.army.mil

*All comments must be received or postmarked by **November 13, 2017***

More information available online at:

<http://www.swg.usace.army.mil/Missions/Projects/HoustonShipChannelExpansion.aspx>



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