

# Throughput Assumptions

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## Throughput Spreadsheets

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11/11/2010		<b>STILL NEEDED</b>	Data calculated/estimated by CDM		New update info Iteris Mar-23		Info provided by APL Apr-7		Info updated per 4/15 Mtg		Info updated per 5/3 Mtg		Info provided by APL 4/30		Info provided by Iteris 5/11		Info provided by Iteris 5/21		Info updated				
		Added from Needs List	New update info Iteris Mar-17		Info provided by APL Mar-23		Info provided by APL Mar-24		Info updated per 4/26 Mtg (incl subsequent responses to data requests)		Info provided by APL 5/6 through 5/10		Info provided by APL 5/20		Info provided								
		CEQA Baseline (July 2008-June 2009)	NEPA Baseline					Proposed Project					Alt 1 No Project <sup>k</sup>					Alt 2 No Federal Action <sup>k</sup>					
		2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027		
Annual TEUs <sup>a,b</sup>		1,128,080	1,906,000	1,948,201	2,033,536	2,118,871	2,153,000	1,906,000	2,702,000	2,912,000	3,122,000	3,206,000	1,906,000	1,948,201	2,033,536	2,118,871	2,153,000	1,906,000	1,948,201	2,033,536	2,118,871	2,153,000	
Annual Ship Calls:																							
Size Category		Assumed Capacity																					
1000	<2,000	2						0	0	0	0												
2000	2,000-2,999	0						0	0	0	0												
3000	3,000-3,999	7						0	0	0	0												
4000	4,000-4,999	59	26	26	26	26	26	78	78	52	26	26	26	26	26	26	26	26	26	26	26	26	26
5000	5,000-5,999	177	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
6000	6,000-6,999	2	156	156	156	156	156	156	156	104	156	156	156	156	156	156	156	156	156	156	156	156	156
7000	7,000-7,999	0						0	0	0	0												
8000-9000	8,000-9,999	0				52	52	0	52	104	104	0	52	52	52	52					52	52	
10000	10,000-10,999	0						0	0	52	52												
Total Annual Ship Calls		247	234	234	234	286	286	234	286	338	364	390	234	234	234	286	286	234	234	234	286	286	
Peak Day Ship Calls <sup>c,d</sup>		3	3	3	3	3	3	3	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3
Op hours - Ships		16 hr/day, 7 day/wk	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7
Mean Cranes per Ship <sup>e</sup>		3.2	3.5	3.5	3.5	3.5	3.5	3.5	3.7	3.7	4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Gross Dock Crane Productivity (lifts/hour) <sup>f</sup>		24	24	25	25	27	27	24	25	25	27	27	24	25	25	27	27	24	25	25	27	27	
Annual Truck Trips (Total, one-way)		998,728	1,701,940	1,739,620	1,815,820	1,892,020	1,922,500	1,701,940	2,412,720	2,600,240	2,879,170	3,003,160	1,701,940	1,739,620	1,815,820	1,892,020	1,922,500	1,701,940	1,739,620	1,815,820	1,892,020	1,922,500	
No. of Annual TEUs by Truck (local + near dock)		729,868	1,238,900	1,266,331	1,321,798	1,377,266	1,399,450	1,238,900	1,756,300	1,892,800	2,084,163	2,168,163	1,238,900	1,266,331	1,321,798	1,377,266	1,399,450	1,238,900	1,266,331	1,321,798	1,377,266	1,399,450	
% Annual TEUs by Truck (total)		64.7%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	66.8%	67.6%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	
Annual Local Truck Trips		804,388	1,387,047	1,417,756	1,479,857	1,541,959	1,566,799	1,387,047	1,966,319	2,119,144	2,266,606	2,324,859	1,387,047	1,417,756	1,479,857	1,541,959	1,566,799	1,387,047	1,417,756	1,479,857	1,541,959	1,566,799	
% Annual TEUs Local Truck Trips		54.1%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	
No. of Annual TEUs to Local		610,291	1,048,300	1,071,511	1,118,445	1,165,379	1,184,150	1,048,300	1,486,100	1,601,600	1,717,100	1,763,300	1,048,300	1,071,511	1,118,445	1,165,379	1,184,150	1,048,300	1,071,511	1,118,445	1,165,379	1,184,150	
Annual Near Dock Truck Trips		194,340	314,893	321,864	335,963	350,061	355,701	314,893	446,401	481,096	612,564	678,301	314,893	321,864	335,963	350,061	355,701	314,893	321,864	335,963	350,061	355,701	
No. of Annual TEUs to Near Dock Railyard		119,576	190,600	194,820	203,354	211,887	215,300	190,600	270,200	291,200	367,063	404,863	190,600	194,820	203,354	211,887	215,300	190,600	194,820	203,354	211,887	215,300	
% of Total Truck Trips to Near Dock Railyards		19.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	21.3%	22.6%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	
% Annual TEUS to Near Dock Rail by Truck		10.6%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	11.8%	12.6%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
Peak day truck trips (total) <sup>f</sup>		5,093	6,438	6,581	6,869	7,157	7,273	6,438	9,127	9,836	10,892	11,361	6,438	6,581	6,869	7,157	7,273	6,438	6,581	6,869	7,157	7,273	
Peak day TEUs moved by trucks (total) <sup>f</sup>		3,722	4,687	4,790	5,000	5,210	5,294	4,687	6,644	7,160	7,884	8,202	4,687	4,790	5,000	5,210	5,294	4,687	4,790	5,000	5,210	5,294	
Truck Idling time(min)		10 in/1 out-gate	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	
Truck on-terminal drive time and distance		8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.7mile	8 min/1.7mile	8 min/1.7mile	8 min/1.7mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	
Op hours - Truck gate		20hr/day 4 x week, 10hr/day 2 x week	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	
D. Container Trips related to Vsl lifts <sup>g</sup>		417,067	707,943	723,618	755,313	787,009	799,686	707,943	1,003,600	1,081,600	1,190,950	1,238,950	707,943	723,618	755,313	787,009	799,686	707,943	723,618	755,313	787,009	799,686	
E. Gate Moves related to Vessel lifts		553,815																					
H. Gate moves <u>not</u> related to Vessel lifts		33,672																					
% Dual Transaction Gate Moves		30%																					
F. # Dual Transaction Gate Moves		166,145																					
% Single Transaction Gate Moves		70%																					
G. # Single Transaction Gate Moves		387,671																					
One-way Truck Trips (F+G*2) related to Vsl lifts		941,486																					
One-way Trips (.32H+1.36H) not related to Vsl lifts		57,242																					
Total One-way Truck trips		998,728																					
Annual Rail Trips (Total)		1,676	2,197	2,221	2,270	2,317	2,336	2,197	2,627	2,831	2,876	2,953	2,197	2,221	2,270	2,317	2,336	2,197	2,221	2,270	2,317	2,336	
Annual TEUs by Rail		517,789	857,700	876,690	915,091	953,492	968,850	857,700	1,215,900	1,310,400	1,404,900	1,442,700	857,700	876,690	915,091	953,492	968,850	857,700	876,690	915,091	953,492	968,850	
% Annual TEUS by Rail (total) <sup>j</sup>		45.9%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	
% TEUS by On-dock rail <sup>e</sup>		35.3%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	33.2%	32.4%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	
% TEUS by Near Dock <sup>m</sup>		10.6%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	11.8%	12.6%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
No. of TEUS by On-dock rail		398,212	667,100	681,870	711,738	741,605	753,550	667,100	945,700	1,019,200	1,037,837	1,037,837	667,100	681,870	711,738	741,605	753,550	667,100	681,870	711,738	741,605	753,550	
On-Dock train TEU capacity (avg, Eastbound) <sup>n</sup>		284	377	382	392	402	406	377	466	466	504	504	377	382	392	402	406	377	382	392	402	406	
On-Dock train TEU capacity (avg, Westbound) <sup>n</sup>		272	361	366	376	385	389	361	446	446	483	483	361	366	376	385	389	361	366	376	385	389	
Off-Dock train TEU capacity (avg, Eastbound) <sup>n</sup>		504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	
Off-Dock train TEU capacity (avg, Westbound) <sup>n</sup>		484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	
On-Dock TEUs Eastbound		203,088	339,950	347,477	362,697	377,917	384,005	339,950	481,923	519,378	525,006	524,850	339,950	347,477	362,697	377,917	384,005	339,950	347,477	362,697	377,917	384,005	
On-Dock TEUs Westbound		195,124	327,																				

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11/11/2010		in mtg 6/17 by APL 6/14	Data calculated by CDM Info provided by Iteris 6/22 & 6/23	Revised 7/12/2010 Info provided by Iteris 9/16/10	Revised by APL in mtg 11/04/10	Source: APL Workshop 03-14-10.xls Revised by APL 11/05/10 Revised per APL mtg 11/09/10																
		Alternative 3 – Reduced Project: Four New Cranes					Alternative 4 – Reduced Project: No New Wharf					Alternative 5 – Reduced Project: No Space Assignments					Alternative 6 – Proposed Project with Expanded On-dock Rail Yard					
		2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027	
<b>Annual TEUs<sup>a,b</sup></b>		1,906,000	2,102,000	2,302,417	2,502,833	2,583,000	1,906,000	2,263,000	2,479,667	2,696,333	2,783,000	1,906,000	2,702,000	2,912,000	3,122,000	3,206,000	1,906,000	2,702,000	2,912,000	3,122,000	3,206,000	
<b>Annual Ship Calls:</b>																						
<b>Size Category</b>	<b>Assumed Capacity</b>																					
1000	<2,000																					
2000	2,000-2,999																					
3000	3,000-3,999																					
4000	4,000-4,999	26	26	26	26	26	26	26	26	26	26	26	78	78	52	26	26	78	78	52	26	
5000	5,000-5,999	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	
6000	6,000-6,999	156	104	156	208	208	156	104	156	208	156	156	156	156	104	156	156	156	156	104	156	
7000	7,000-7,999																					
8000-9000	8,000-9,999		52	52	52	52		52	52	52	104		0	0	104	104		0	0	52	104	104
10000	10,000-10,999												0	0	52	52		0	0	52	52	52
<b>Total Annual Ship Calls</b>		234	234	286	338	338	234	234	286	338	338	234	286	338	364	390	234	286	338	364	390	
<b>Peak Day Ship Calls<sup>c,d</sup></b>		3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	3	4	4	4	4	
<b>Op hours - Ships</b>		21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	21/7	
<b>Mean Cranes per Ship<sup>e</sup></b>		3.5	3.7	3.7	4.2	4.2	3.5	4.0	4.0	4.5	4.5	3.5	3.7	3.7	4.5	4.5	3.5	3.7	3.7	4.5	4.5	
<b>Gross Dock Crane Productivity (lifts/hour)<sup>f</sup></b>		24	25	25	27	27	24	25	25	27	27	24	25	25	27	27	24	25	25	27	27	
<b>Annual Truck Trips (Total, one-way)</b>		1,701,940	1,876,960	2,055,920	2,234,880	2,306,460	1,701,940	2,020,720	2,214,200	2,407,660	2,485,050	1,701,940	2,412,720	2,600,240	2,879,170	3,003,157	1,701,940	2,412,720	2,600,240	2,787,760	2,862,760	
<i>No. of Annual TEUs by Truck (local + near dock)</i>		1,238,900	1,366,300	1,496,571	1,626,842	1,678,950	1,238,900	1,470,950	1,611,783	1,752,617	1,808,950	1,238,900	1,756,300	1,892,800	2,084,163	2,168,163	1,238,900	1,756,300	1,892,800	2,029,300	2,083,900	
<i>% Annual TEUs by Truck (total)</i>		65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	66.8%	67.6%	65.0%	65.0%	65.0%	65.0%	65.0%	
<b>Annual Local Truck Trips</b>		1,387,047	1,529,685	1,675,534	1,821,383	1,879,719	1,387,047	1,646,847	1,804,529	1,962,195	1,879,266	1,387,047	1,966,319	2,119,144	2,266,606	2,324,857	1,387,047	1,966,319	2,119,144	2,271,969	2,333,092	
<i>% Annual TEUs Local Truck Trips</i>		55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	55%	
<b>No. of Annual TEUs to Local</b>		1,048,300	1,156,100	1,266,329	1,376,558	1,420,650	1,048,300	1,244,650	1,363,817	1,482,983	1,530,650	1,048,300	1,486,100	1,601,600	1,717,100	1,763,300	1,048,300	1,486,100	1,601,600	1,717,100	1,763,300	
<b>Annual Near Dock Truck Trips</b>		314,893	347,275	380,386	413,497	426,741	314,893	373,873	409,671	445,465	459,784	314,893	446,401	481,096	612,564	678,300	314,893	446,401	481,096	515,791	529,668	
<i>No. of Annual TEUs to Near Dock Railyard</i>		190,600	210,200	230,242	250,283	258,300	190,600	226,300	247,967	269,633	278,300	190,600	270,200	291,200	367,063	404,863	190,600	270,200	291,200	312,200	320,600	
<i>% of Total Truck Trips to Near Dock Railyards</i>		18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	21.3%	22.6%	18.5%	18.5%	18.5%	18.5%	18.5%	
<i>% Annual TEUs to Near Dock Rail by Truck</i>		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	11.8%	12.6%	10.0%	10.0%	10.0%	10.0%	10.0%	
<b>Peak day truck trips (total)<sup>f</sup></b>		6,438	7,100	7,777	8,454	8,725	6,438	7,644	8,376	9,108	9,401	6,438	9,127	9,836	10,892	11,361	6,438	9,127	9,836	10,546	10,830	
<i>Peak day TEUs moved by trucks (total)<sup>f</sup></i>		4,687	5,169	5,661	6,154	6,351	4,687	5,564	6,097	6,630	6,843	4,687	6,644	7,160	7,884	8,202	4,687	6,644	7,160	7,677	7,883	
<i>Truck Idling time(min)</i>		10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	10/1	
<b>Truck on-terminal drive time and distance</b>		8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.6 mile	8 min/1.72 mile	8 min/1.72 mile	8 min/1.72 mile	8 min/1.72 mile	8 min/1.6 mile	8 min/1.72 mile	8 min/1.72 mile	8 min/1.72 mile	8 min/1.72 mile	8 min/1.6 mile	8 min/1.7mile	8 min/1.7mile	8 min/1.7mile	8 min/1.7mile	
<b>Op hours - Truck gate</b>		20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	20/4, 10/2	
<b>D. Container Trips related to Vsl lifts<sup>g</sup></b>		707,943	780,743	855,183	929,624	959,400	707,943	840,543	921,019	1,001,495	1,033,686	707,943	1,003,600	1,081,600	1,190,950	1,238,950	707,943	1,003,600	1,081,600	1,159,600	1,190,800	
<b>E. Gate Moves related to Vessel lifts</b>																						
<b>H. Gate moves not related to Vessel lifts</b>																						
<b>% Dual Transaction Gate Moves</b>																						
<b>F. # Dual Transaction Gate Moves</b>																						
<b>% Single Transaction Gate Moves</b>																						
<b>G. # Single Transaction Gate Moves</b>																						
<b>One-way Truck Trips (F+G*2) related to Vsl lifts</b>																						
<b>One-way Trips (.32H+1.36H) not related to Vsl lifts</b>																						
<b>Total One-way Truck trips</b>																						
<b>Annual Rail Trips (Total)</b>		2,197	2,308	2,412	2,504	2,544	2,197	2,389	2,495	2,484	2,563	2,197	2,627	2,831	2,876	2,953	2,197	2,627	2,831	2,876	2,953	
<i>Annual TEUs by Rail</i>		857,700	945,900	1,036,088	1,126,275	1,162,350	857,700	1,018,350	1,115,850	1,213,350	1,252,350	857,700	1,215,900	1,310,400	1,404,900	1,442,700	857,700	1,215,900	1,310,400	1,404,900	1,442,700	
<i>% Annual TEUs by Rail (total)<sup>j</sup></i>		45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	45.0%	
<i>% TEUs by On-dock rail<sup>e</sup></i>		35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	33.2%	32.4%	35.0%	35.0%	35.0%	35.0%	35.0%	
<i>% TEUs by Near Dock<sup>m</sup></i>		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	11.8%	12.6%	10.0%	10.0%	10.0%	10.0%	10.0%	
<i>No. of TEUs by On-dock rail</i>		667,100	735,700	805,846	875,992	904,050	667,100	792,050	867,883	943,717	974,050	667,100	945,700	1,019,200	1,037,837	1,037,837	667,100	945,700	1,019,200	1,092,700	1,122,100	
<b>On-Dock train TEU capacity (avg, Eastbound)<sup>n</sup></b>		377	400	424	449	458	377	420	446	472	482	377	466	466	504	504	377	466	466	504	504	
<b>On-Dock train TEU capacity (avg, Westbound)<sup>n</sup></b>		361	384	407	430	439	361	403	428	453	462	361	446	446	483	483	361	446	446	484	484	
<b>Off-Dock train TEU capacity (avg, Eastbound)<sup>n</sup></b>		504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	504	
<b>Off-Dock train TEU capacity (avg, Westbound)<sup>n</sup></b>		484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	
<b>On-Dock TEUs Eastbound</b>		339,950	374,908	410,654	446,400	460,698	339,950	403,624	442,268	480,912	496,370	339,950	481,923	519,378	525,006	524,850	339,950	481,923	519,378	556,833	571,815	
<b>On-Dock TEUs Westbound</b>		327,150	360,792	395,192	429,592	443,352	327,150	388,426	425,615	462,804	477,680	327,150	463,777	499,822	512,831	512,987	327,150	463,777	499,822	535,867	550,285	
<b>On-Dock Train Trips Eastbound<sup>n</sup></b>		902	937	969	994	1,006	902	961	992	964	995	902	1,035	1,116	1,052	1,052	902	1,035	1,116	1,116	1,146	
<b>On-Dock Train Trips Westbound<sup>n</sup></b>		905	941	972	998	1,01																

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11/11/2010	STILL NEEDED	Data calculated/estimated by CDM					New update info Iteris Mar-23					Info provided by APL Apr-7					Info updated per 4/15 Mtg					Info updated per 5/3 Mtg					Info provided by APL 4/30					Info provided by Iteris 5/11					Info provided by Iteris 5/21					Info updated																																												
	Added from Needs List	New update info Iteris Mar-17					Info provided by APL Mar-23					Info provided by APL Mar-24					Info updated per 4/26 Mtg (incl subsequent responses to data requests)					Info provided by APL 5/6 through 5/10					Info provided by APL 5/20					Info provided																																																						
		CEQA Baseline					NEPA Baseline					Proposed Project					Alt 1 No Project <sup>k</sup>					Alt 2 No Federal Action <sup>k</sup>																																																																
		(July 2008-June 2009)					2012 <sup>l</sup>					2015					2020					2025					2027																																																											
Locomotive engine size (HP) <sup>q</sup>		4,000					4,000					4,000					4,000					4,000					4,000					4,000																																																						
Hours on Port per trip (Eastbound) <sup>q</sup>		2.5					2.5					2.5					2.5					2.5					2.5					2.5																																																						
Hours on Port per trip (Westbound) <sup>q</sup>		1.0					1.0					1.0					1.0					1.0					1.0					1.0																																																						
On-Dock Locomotives per design day		15					18					18					20					20					21					18					18					20					20					21																																		
Total Line-Haul Locomotives per design day		19					22					22					24					25					26					22					22					24					25					26																																		
Op hours - Railyard		16 hr/day, 7 day/wk					18/7					18/7					18/7					18/7					18/7					18/7					18/7					18/7																																												
Terminal Acreage (total) <sup>l</sup>		291					291					291					347					347					347					291					291					291					291																																							
Permit 773		261					261					261					317					317					317					261					261					261					261																																							
Space Assignment		30					30					30					30					30					30					30					30					30					30																																							
Building Space, sq ft (total)																																																																																						
Number of Berths																																																																																						
Berth numbers		302-305					302-305					302-305					302-305					302-305					302-305					302-305					302-305																																																	
Useable Berth Space <sup>s</sup>		4					3.5					3.5					3.5					3.5					3.5					3.5					3.5																																																	
No. of Wharf Cranes		12					12					12					18					24					24					12					12					12					12																																							
Yard Equipment																																																																																						
Type		Average HP/Load Factor <sup>q</sup>					Total Annual Hours by type <sup>l</sup>					Total Annual Hours by type <sup>l</sup>					Total Annual Hours by type <sup>l</sup>					Total Annual Hours by type <sup>l</sup>					Total Annual Hours by type <sup>l</sup>																																																											
Electric Wharf Crane		NA					29,718					46,176					47,247					49,033					50,818					51,532					46,176					47,247					49,033					50,818					51,532																													
Forklift (Diesel)		110 / 0.2					5,960					6,807					6,874					6,986					7,097					7,142					6,807					6,874					6,986					7,097					7,142																													
RMG cranes		NA / 0.2					9,453					18,720					18,720					18,720					18,720					18,720					18,720					18,720					18,720					18,720					18,720																													
Rub-trd Gantry Crane		600 / 0.2					0					640					672					725					779					800					640					672					725					779					800																													
Top handler		332 / 0.24					13,767					24,778					25,724					27,302					28,879					29,510					24,778					25,724					27,302					28,879					29,510					24,778					25,724					27,302					28,879					29,510				
Side pick		227 / 0.24					1,530					5,148					5,990					7,394					8,798					9,360					5,148					5,990					7,394					8,798					9,360					5,148					5,990					7,394					8,798					9,360				
Yard tractor		230 / 0.16					291,100					571,350					581,906					599,500					617,094					624,130					571,350					581,906					599,500					617,094					624,130					571,350					581,906					599,500					617,094					624,130				
Type		Average HP/Load Factor <sup>q</sup>					Peak Day Hours by type <sup>l</sup>					Peak Day Hours by type <sup>l</sup>					Peak Day Hours by type <sup>l</sup>					Peak Day Hours by type <sup>l</sup>					Peak Day Hours by type <sup>l</sup>																																																											
Electric Wharf Crane		NA					176					176					176					176					176					176					176					176					176					176					176																													
Forklift (Diesel)		110 / 0.2					21					24					24					25					25					24					24					25					25					24					24					25					25																			
RMG cranes		NA / 0.2					54					54					54					63					72					54					54					63					72					54					54					63					72																			
Rub-trd Gantry Crane		600 / 0.2					0					56					56					64					64					56					56					64					64					56					56					64					64																			
Top handler		332 / 0.24					128					180					180					188					202					208					180					180					188					202					208					180					180					188					202					208				
Side pick		227 / 0.24					15					23					23					23					23					23					23					23					23					23					23					23					23																			
Yard tractor		230 / 0.16					2,104					2,117					2,117					2,117					2,060					2,153					2,117					2,117					2,117					2,060					2,153					2,117					2,117					2,060					2,153									
Type		Average HP/Load Factor <sup>q</sup>					Propane Consumption, gal					Propane Consumption, gal					Propane Consumption, gal					Propane Consumption, gal																																																																
Forklift (Propane)		81 / 0.3, Annual fuel ->					4,412					5,499					5,553					5,644					5,734					5,770					5,499					5,553					5,644					5,734					5,770					5,499					5,553					5,644					5,734					5,770				
Forklift (Propane)		81 / 0.3, Peak day fuel ->					16					20					20					20					21					20					20					20					21					20					20					20					21																			
Annual CHE hrs / Peak Day CHE hrs		141					256					261					268					280					272					256					261					268					280					272					256					261					268					280					272									
Non-Container Vehicle Trips																																																																																						
Shift Splits <sup>h</sup>		599 day/407 night/35 hoot					611/425/125					616/445/127					624/477/130					632/510/133					635/523/134					611/425/125					616/445/127					624/477/130					632/510/133					635/523/134																																		
Peak Daily Workers		1,041					1,161					1,188					1,231					1,275					1,292					1,161					1,188					1,231					1,275					1,292					1,161					1,188					1,231					1,275					1,292									

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11/11/2010		in mtg 6/17 by APL 6/14		Data calculated by CDM Info provided by Iteris 6/22 & 6/23		Revised 7/12/2010 Info provided by Iteris 9/16/10		Revised by APL in mtg 11/04/10		Source: APL Workshop 03-14-10.xls Revised by APL 11/05/10		Revised per APL mtg 11/09/10									
		Alternative 3 – Reduced Project: Four New Cranes					Alternative 4 – Reduced Project: No New Wharf					Alternative 5 – Reduced Project: No Space Assignments					Alternative 6 – Proposed Project with Expanded On-dock Rail Yard				
		2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027	2012 <sup>1</sup>	2015	2020	2025	2027
Locomotive engine size (HP) <sup>q</sup>		4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Hours on Port per trip (Eastbound) <sup>q</sup>		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Hours on Port per trip (Westbound) <sup>q</sup>		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
On-Dock Locomotives per design day		18	20	26	26	26	18	26	26	26	28	18	26	28	28	28	18	26	28	30	30
Total Line-Haul Locomotives per design day		22	24	32	32	32	22	32	32	32	34	22	32	34	36	38	22	32	34	38	38
Op hours - Railyard		18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7	18/7
Terminal Acreage (total) <sup>l</sup>		291	291	291	291	291	291	302	302	302	302	291	317	317	317	317	291	347	347	347	347
Permit 773		261	261	261	261	261	261	302	302	302	302	261	317	317	317	317	261	317	317	317	317
Space Assignment		30	30	30	30	30	30	0	0	0	0	30	0	0	0	0	30	30	30	30	30
Building Space, sq ft (total)																					
Number of Berths																					
Berth numbers		302-305	302-305	302-305	302-305	302-305	302-305	302-305	302-305	302-305	302-305	302-305	302-306	302-306	302-306	302-306	302-305	302-306	302-306	302-306	302-306
Useable Berth Space <sup>8</sup>		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.5	4	4	4	3.5	4.5	4	4	4
No. of Wharf Cranes		12	16	16	16	16	12	18	18	18	18	12	18	24	24	24	12	18	24	24	24
Yard Equipment																					
Type	Average HP/Load Factor <sup>o</sup>	Total Annual Hours by type <sup>i</sup>					Total Annual Hours by type <sup>i</sup>					Total Annual Hours by type <sup>i</sup>					Total Annual Hours by type <sup>i</sup>				
Electric Wharf Crane	NA	46,176	50,391	54,702	59,012	60,736	46,176	53,966	58,693	63,421	65,312	46,176	62,524	68,062	73,601	75,816	46,176	64,325	69,113	73,901	75,816
Forklift (Diesel)	110 / 0.2	6,807	6,981	7,158	7,336	7,407	6,807	7,134	7,332	7,531	7,610	6,807	7,608	7,879	8,150	8,259	6,807	7,696	7,931	8,165	8,259
RMG cranes	NA / 0.2	18,720	19,804	20,912	22,021	22,464	18,720	20,816	22,087	23,359	23,868	18,720	22,850	24,249	25,648	26,208	18,720	23,305	24,515	25,875	27,144
Rub-trd Gantry Crane	600 / 0.2	640	3,984	7,404	10,824	12,192	640	11,970	18,846	25,722	28,472	640	20,037	26,608	33,179	35,808	640	13,959	17,473	20,986	22,392
Top handler	332 / 0.24	24,778	31,696	38,769	45,843	48,672	24,778	34,134	39,812	45,491	47,762	24,778	46,173	53,422	60,671	63,570	24,778	43,484	48,419	53,354	55,328
Side pick	227 / 0.24	5,148	6,955	8,802	10,649	11,388	5,148	7,551	9,009	10,467	11,050	5,148	8,776	10,005	11,234	11,726	5,148	9,176	10,238	11,301	11,726
Yard tractor	230 / 0.16	571,350	622,822	675,454	728,085	749,138	571,350	675,632	738,922	802,212	827,528	571,350	780,886	851,876	922,866	951,262	571,350	784,805	841,119	898,441	926,198
Type	Average HP/Load Factor <sup>o</sup>	Peak Day Hours by type <sup>i</sup>					Peak Day Hours by type <sup>i</sup>					Peak Day Hours by type <sup>i</sup>					Peak Day Hours by type <sup>i</sup>				
Electric Wharf Crane	NA	176	224	224	224	224	176	224	224	240	272	176	224	288	320	320	176	256	288	320	320
Forklift (Diesel)	110 / 0.2	24	25	25	26	26	24	25	26	27	27	24	27	28	29	29	24	27	28	29	29
RMG cranes	NA / 0.2	54	63	72	81	81	54	72	81	81	90	54	81	90	90	90	54	81	90	90	99
Rub-trd Gantry Crane	600 / 0.2	56	64	80	96	112	56	100	121	142	163	56	110	126	168	168	56	94	126	142	158
Top handler	332 / 0.24	180	226	233	234	247	180	210	234	247	255	180	247	263	299	314	180	211	242	250	266
Side pick	227 / 0.24	23	23	23	23	23	23	23	23	23	23	23	23	31	31	39	23	23	31	31	31
Yard tractor	230 / 0.16	2,117	2,372	2,432	2,479	2,505	2,117	2,477	2,535	2,677	2,956	2,117	2,573	3,049	3,344	3,377	2,117	2,764	3,032	3,240	3,300
Type	Average HP/Load Factor <sup>o</sup>	Propane Consumption, gal					Propane Consumption, gal					Propane Consumption, gal					Propane Consumption, gal				
Forklift (Propane)	81 / 0.3, Annual fuel ->	5,499	5,639	5,783	5,927	5,984	5,499	5,763	5,924	6,084	6,148	5,499	6,146	6,365	6,584	6,672	5,499	6,217	6,407	6,596	6,672
Forklift (Propane)	81 / 0.3, Peak day fuel ->	20	20	21	21	21	20	21	21	22	22	20	22	23	23	24	20	22	23	23	24
Annual CHE hrs / Peak Day CHE hrs		256	248	263	279	283	256	259	276	285	267	256	289	269	265	270	256	274	266	266	268
Non-Container Vehicle Trips																					
Shift Splits <sup>h</sup>		611/425/125	646/486/139	682/547/153	718/609/166	732/634/233	611/425/125	709/563/149	769/647/164	828/730/244	852/764/251	611/425/125	811/660/221	878/740/284	946/819/347	973/851/372	611/425/125	804/685/244	855/753/300	906/822/355	926/849/377
Peak Daily Workers		1,161	1,271	1,382	1,493	1,599	1,161	1,421	1,580	1,802	1,867	1,161	1,692	1,902	2,112	2,196	1,161	1,733	1,908	2,083	2,152

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11/11/2010	<b>STILL NEEDED</b>	Data calculated/estimated by CDM	New update info Iteris Mar-23	Info provided by APL Apr-7	Info updated per 4/15 Mtg	Info updated per 5/3 Mtg	Info provided by APL 4/30									
	Added from Needs List	New update info Iteris Mar-17	Info provided by APL Mar-23	Info provided by APL Mar-24	Info updated per 4/26 Mtg (incl subsequent responses to data requests)	Info provided										
	<b>CEQA Baseline</b> <i>(July 2008-June 2009)</i>	<b>NEPA Baseline</b>					<b>Proposed Project</b>					<b>Alt 1 No Project<sup>k</sup></b>				
		2012 <sup>l</sup>	2015	2020	2025	2027	2012 <sup>l</sup>	2015	2020	2025	2027	2012 <sup>l</sup>	2015	2020	2025	2027
	<i>Notes:</i>															
	a	Baseline throughput generated by LAHD Wharfingers Office														
	b	Future throughput developed by Port throughput model. Numbers represent physical capacity. Actual throughput levels may be lower due to market conditions.														
	c	When there are 3 peak vessel calls, the analysis assumes 1 vessel in and 1 vessel out per day.														
	d	When there are 4 peak vessel calls, the analysis assumes 2 vessels in and 2 vessels out per day.														
	e	38% represents a particularly high percentage usage of on-dock rail. On-dock rail has averaged 33-34% both in the five years prior to baseline and the time since baseline.														
	f	Useable Terminal Acreage														
	g	Useable berth space refers to the amount of space available to berth vessels and is dependent on vessel sizes. As ships get bigger, a fixed wharf length will have less berth space.														
	h	Day/Night/Hoot shift splits														
	i	CHE (except forklifts) annual and peak day operating hours provided by APL (J. Cutler) on April 30, 2010 via email (1:28 pm).														
	j	Future TEUs moved by rail (total of on-dock and off-dock rail) is assumed to be approximately 45 percent, based on historical APL statistics.														
	k	The NEPA Baseline, Alternative 1 - No Project, and Alternative 2 - No Federal Action are assumed to have identical levels of activity (TEUs, Truck Trips, Rail Trips, etc.) for each year.														
	l	Activity levels in 2012 are assumed to be identical for all alternatives; 2012 Ship calls were estimated by APL to be equal to 2015 NEPA Baseline ship calls.														
	m	Near dock (off-dock) TEUs are split between ICTF (UP) and Hobart (BNSF). Currently, ~70% goes to ICTF and ~30% goes to Hobart - this will be the assumption for the CEQA Baseline. All future cases will assume the same 70%/30% split.														
	n	Average TEUs/train developed by CDM from data provided by POLA and APL in meeting of 6/30/2010. APL provided TEUs/train for 2015 through 2025 for NEPA Baseline, PP, and Alts 1 - 6.														
	o	Average horsepower (HP) and load factor provided by Starcrest (A. Agrawal) on March 11, 2010 via email (9:19 am). For tophandlers, sidepicks, and yard tractors, the first HP given is for 2008 and the second is for 2009.														
	q	Number of locomotives per train, locomotive horsepower, load factor, and idling times obtained from 2008 EI report (Starcrest 2009) for on-dock railyards.														
	r	Peak day truck trips and TEUs based on average day in peak month; peak month truck trips are 9.33% of annual trips per input from Iteris. Assumes that peak month TEUs are also 9.33% of annual TEUs moved by truck. Assumes 20 gate move days/month.														

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