



CAC Construction Update

January 13, 2015

Transbay Transit Center

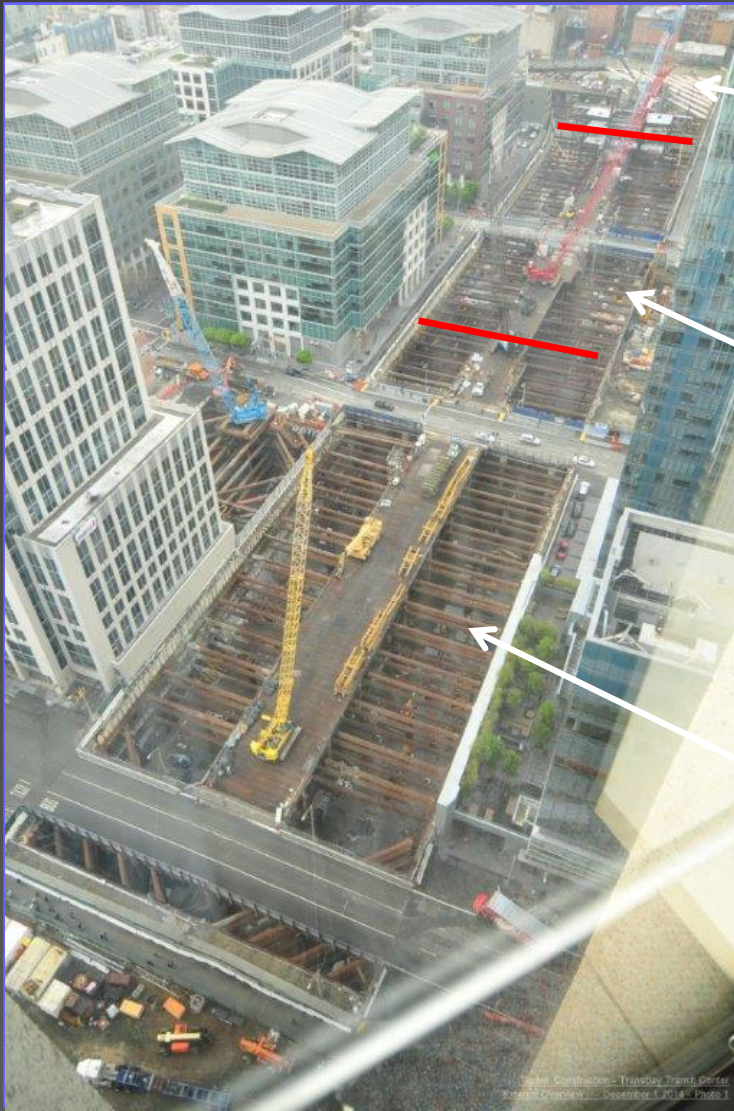
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Transbay Transit Center

Current Project Overview



Western Zone – Gridlines 1 to 10

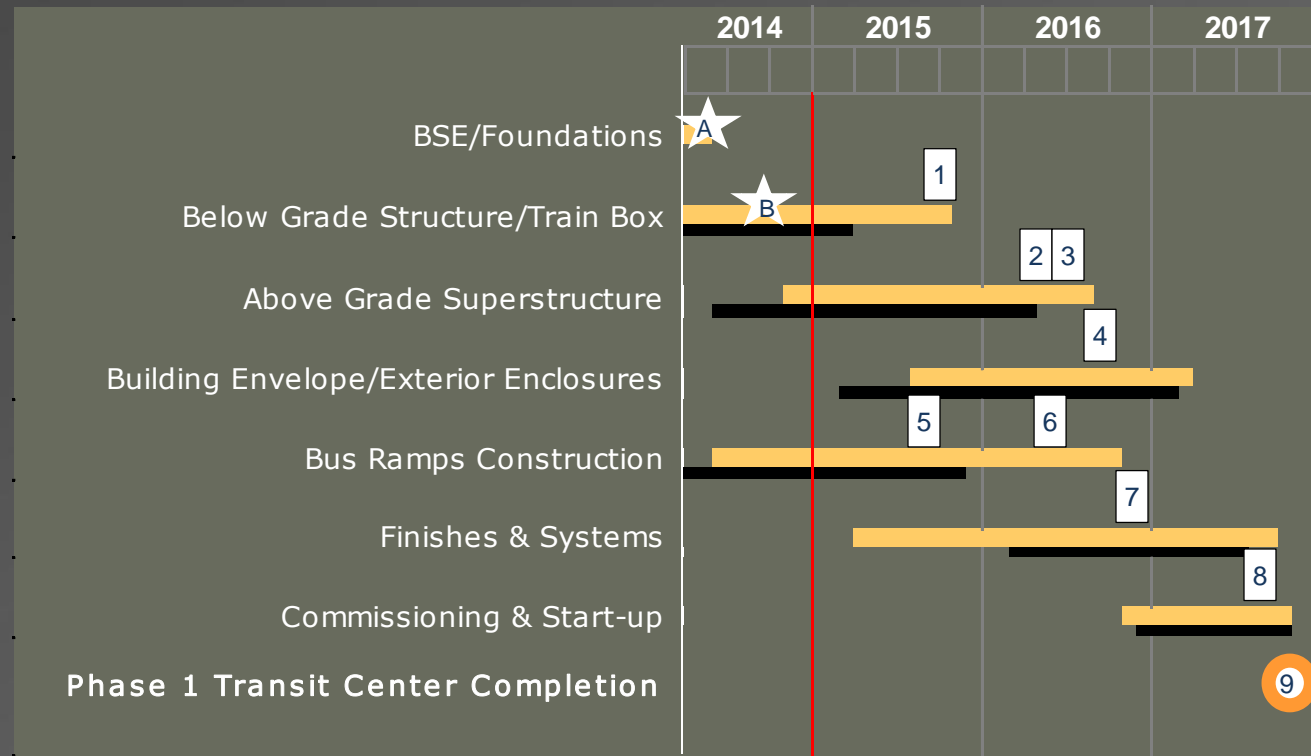
Central Zone – Gridlines 10 to 20

Eastern Zone – Gridlines 20 to 35



Project Status – Schedule

#	Milestone	Current
1	Complete TG 6.0 Below Grade Concrete	Q4 2015
2	Complete Structural Steel Erection and Welding	Q1 2016
3	Complete Above Grade Concrete	Q2 2016
4	Building Watertight	Q3 2016
5	Complete Bus Ramp Below Grade Concrete	Q3 2015
6	Complete Bus Ramp Viaduct and Cable Stay Bridge	Q2 2016
7	Permanent Power to Building	Q4 2016
8	Building Ready for Bus Driver Training	Q3 2017
9	Substantial Completion	Q4 2017



* The current critical path of the project is as follows; structural steel fabrication and erection (GL's 10 -16), central zone lift 3 walls and eastern zone lower concourse slab, wall lifts 1, 2 & 3 and re-bracing.

Current Schedule
 Baseline Schedule

★ = Completed Work; A) excavation through “rat” slab installation (re-bracing remains). B) mat foundation slabs.



Project Status – Active Milestones

#	Milestone	Planned	Actual / Current
1	Complete TG 6.0 Below Grade Concrete	Q4 2015	Q4 2015
	Milestone Activity Start	March 2013	Jul 17, 2013 (A)
	Milestone Activity Finish	June 2015	November 2015
	Percent Complete as of this Date	64%	88%
2	Complete Structural Steel Erection and Welding	Q1 2016	Q1 2016
	Milestone Activity Start	July 2014	Oct. 29, 2014 (A)
	Milestone Activity Finish	Dec. 2015	Mar 2016
	Percent Complete as of this Date	11%	5.8%



Project Status – Contingency Tracking (\$millions)

Trend	Design Contingency	Construction Contingency	CM/GC Contingency	Program Reserve	Escalation	Total Contingency & Reserve
Baseline Budget Amounts (July 2013)	\$8.2	\$62.5	\$36.4	\$87.5	\$30.3	\$224.9
Contingency Usage Through Nov. 2014	(\$3.0)	(\$8.0)	(\$1.7)	(\$72.5)	(\$9.3)	(\$94.5)
Remaining Baseline Budget Amounts (Nov. 2014)	\$5.2	\$54.5	\$34.7	\$15.0	\$21.0	\$130.3
Utility Relocation Change Orders						(\$0.0)
BGS Change Orders		(\$0.0)				(\$0.0)
2 Trade Package Awards (12/11/14)	(\$0.1)	(\$0.0)		(\$0.0)	(\$0.2)	(\$0.3)
Total Draws/Addds December 2014	(\$0.1)	(\$0.0)	\$0	(\$0.0)	(\$0.2)	\$1.4
Remaining Balances	\$5.1	\$54.5	\$34.7	\$15.0	\$20.8	\$130.0

Project Status – Safety Statistics

	2011	2012	2013	2014 (through Dec. 31 st)
Total Craft Hours by Year	206,256	421,488	315,000	375,615
Number of Recordable Incidents	3	6	3	13
Number of Lost Time Incidents	1	0	0	3
WO Project Annual RIR / National Annual BLS RIR Average / California RIR Average	2.95 / 3.6 / 3.8	2.85 / 3.4 / 3.6	1.90 / 3.8 / 4.0	6.92 / tbd / tbd
WO Project Annual LTIR / National Annual BLS LTIR Average / California LTIR Average	0.98 / 1.9 / 1.8	0.00 / 1.8 / 1.7	0.00 / 1.5 / 1.9	1.60 / tbd / tbd

NOTES:

RIR = recordable incident rate, LTIR = lost time incident rate.

These rates are calculated as follows: RIR and LTIR = (# of recordable or lost time incidents for the year X 200,000) / actual hours worked.

* BLS is the Bureau of Labor Statistics, U.S. Department of Labor and State of California, it takes these agencies more than 18 months to produce the statistics after year's end.



Period Summary

- There were three recordable safety incidents this period; however, there were no lost time incidents reported. Each incident involved workers completing reinforcing steel work. The incidents have been reviewed and corrective action taken.
- There have been over 1,315,000 craft hours completed, excluding demolition, through December 31, 2014. An increase of over 40,000 hours since our last construction update.
- In preparation for structural steel erection the access trestle disassembly has been completed between gridlines 10 and 13. Disassembly is in progress between gridlines 13 and 14.
- Structural steel erection is in progress between gridlines 10 and 13.
- Steel trial assembly and fabrication continues in all Structural Steel fabrication shops.



Period Summary

- In the eastern zone, wall lifts 1 & 2 continue, followed by re-bracing and Lower Concourse formwork. Column concrete placement is now 70% complete in the eastern zone.
- Placement of third lift train box walls is nearly complete in the western zone, only four wall sections remain.
- Lower Concourse slab placement is complete in both the western and central zones.
- Eastern zone Lower Concourse slab placements have begun. A total of 4 of 16 have been completed. Total placement of lower concourse slabs is over 65% complete with 22 of 36 finished.
- On the Bus Ramp project, both pylon 9 barrette piles have been completed, tested and approved and 9 of 29 CIDH piles have been completed.



Below Grade Concrete Progress Through December 31, 2014

Steel Erection Zones	1st Lift Walls	1st Lift Walls Poured	1st Lift Walls Percent	2nd Lift Walls	2nd Lift Walls Poured	2nd Lift Walls Percent	3rd Lift Walls	3rd Lift Walls Poured	3rd Lift Walls Percent
Western	35	35	100%	35	35	100%	35	31	89%
Central	20	20	100%	20	20	100%	20	16	80%
Eastern	35	31	88%	35	18	51%	35	0	0%
Total	90	86	95%	90	73	81%	90	47	52%

Steel Erection Zones	Columns	Columns Poured	Columns Percent	Lower Concourse Decks	Lower Concourse Poured	Lower Concourse Percent
Western	62	62	100%	10	10	100%
Central	48	48	100%	10	10	100%
Eastern	66	48	77%	16	4	25%
Total	176	158	90%	36	24	67%



Western Zone Activity



Above Left: West end train platform level with lower concourse formwork removed.

Above and Below Right: Beginning of layout and formwork for bike and vehicle ramp from street level to lower concourse.





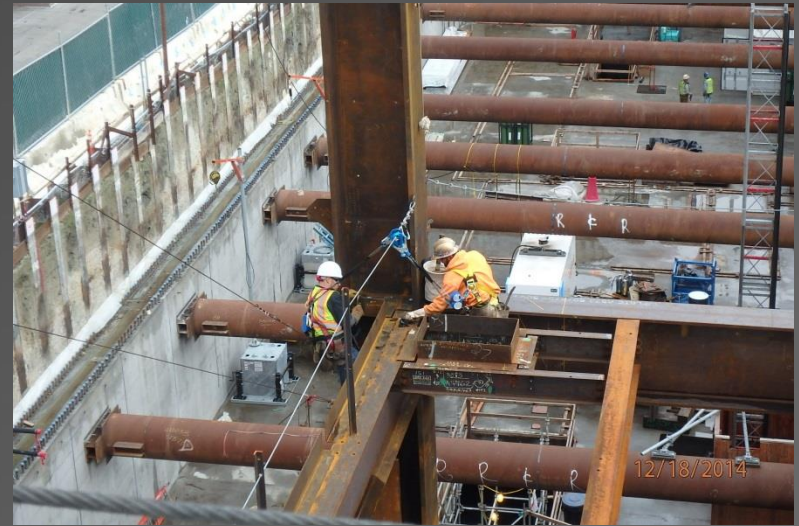
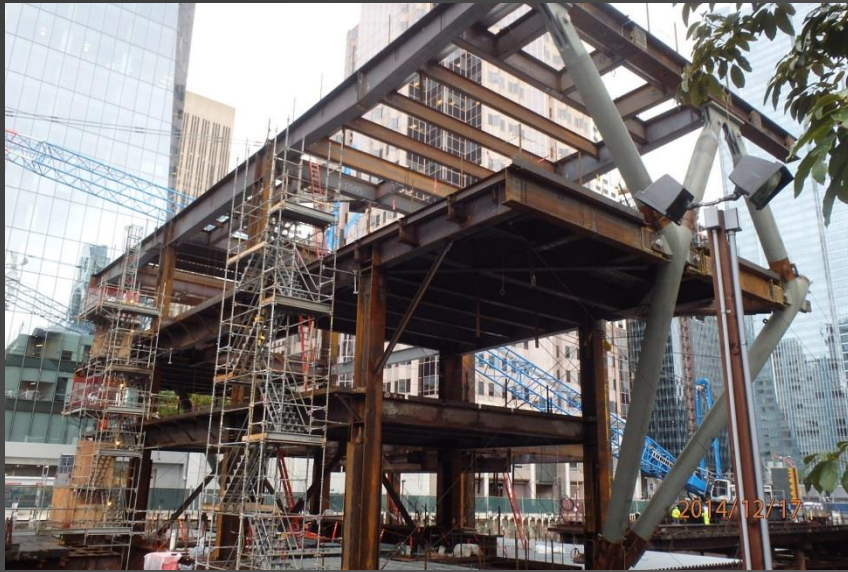
Central Zone Activity



Above and Right: Removal of next section of access trestle for continuation of steel erection.



Central Zone Activity



Ongoing steel erection activities.

Ceremonial Column (above ground starting point).





Eastern Zone Activity



Above: East wall first lift, waterproofing in place.
Above Right: Lower concourse formwork and reinforcing.
Below Right: First lift walls in progress.





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Ongoing Structural Steel Fabrication



Above and Right: Ongoing structural fabrication at Oregon's Thompson Metal Fabrication.



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Cast Node Fabrication as of December 31, 2014

Casting Group	Totals	Shipments Mar.-May	Shipment May-June	Shipment August	Shipment September - October	Shipment November - December	Shipment January - February	Total Shipped to Date
Ground Level - Atchison 19,600 - 46,300 lbs	35	8	6	8	2	0	0	24
Bus Deck - Amite 9,500 - 22,800 lbs	75	16	5	10	16	8	0	55
Roof Level - Atchison 4,400 - 5,400 lbs	138	32	32	14	24	12	0	114
Light Columns	56	N/A	0	8	0	33	0	41
Totals	304	56	43	40	42	53	0	234



Bus Ramp and Bridge

- Current Status
 - Contractor demolition of portions of original bus ramp foundations continues.
 - CIDH Piles in progress, total of 9 CIDH piles completed through December 31st.
 - CIDH Piles will continue over the next 60 days.
 - Both previously completed Pylon 9 Barrett piles have passed CSL testing.





Bus Ramp and Bridge



Above Left: Demolition of existing foundation.



Above Right: Drilling CIDH pile.



Construction

The Next 90 Days

- Next 30 Days (Jan.)
 - Continue Lower Concourse decking, rebar and concrete in eastern zone.
 - Complete foundation walls (lift 3) and re-bracing in the western zone.
 - Continue foundation walls (lifts 1 & 2), re-bracing and columns in the eastern zone.
 - Continue Structural Steel and Cast Node fabrication.
 - Continue Bus Ramp work on the CIDH piles.
 - Continue structural steel work onsite.
 - Continue MEPF Coordination.
 - Start stair and ladder fabrication.
- Next 60-90 Days (Feb. – Mar.)
 - Continue concrete foundation walls and columns of the Train Box at various levels in central and eastern zones.
 - Continue Lower Concourse decking, rebar and concrete in the eastern zone.
 - Continue re-bracing in western and eastern zones.
 - Continue Bus Ramp and Bridge work; CIDH, demolition and utility re-location.
 - Continue structural steel erection and fabrication and cast node fabrication.
 - Continue MEPF coordination.

Bay Area Regional Labor Breakdown

	Through December 2014	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	452,240	34%
North Bay (Marin, Napa, Sonoma)	45,819	4%
South Bay (San Mateo, Santa Clara)	120,299	9%
San Francisco	234,948	18%
Other*	465,053	35%
Totals	1,318,359**	100%

*Other includes workers from throughout California including the Central Valley as well as workers from out of state who are onsite for specific tasks.

**Total hours are for the Transit Center construction work and do not include the initial Demolition work represented by a total of approximately 55,000 craft hours.

Bay Area Regional Apprentice Hours Breakdown

	Through December 2014	
Location	Total Apprentice Hours	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	56,808	26%
North Bay (Marin, Napa, Sonoma)	10,373	5%
South Bay (San Mateo, Santa Clara)	31,133	14%
San Francisco	68,098	31%
Other*	51,330	24%
Totals	217,742	100%

*Other includes workers from throughout California including the Central Valley as well as workers from out of state who are onsite for specific tasks.



Labor Breakdown by Trade through December 2014

Classification	TTC Building and RUP's*
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	184
Cement Mason	76
Electrical – Utility Lineman	28
Electrician	47
Field Surveyor	36
Iron Worker	443
Laborer and Related Trades	691
Operating Engineer	420
Pile Drivers	174
Plumber	22
Roofer and Waterproofoer	39
Sheet Metal	5
Teamsters	169
Tile Setters / Finishers	7
Water Well Driller	9
Totals	2,393

* Relocation of Utilities Project



Transbay Transit Center

Questions?

