



Construction Update

October 9, 2014

Transbay Transit Center

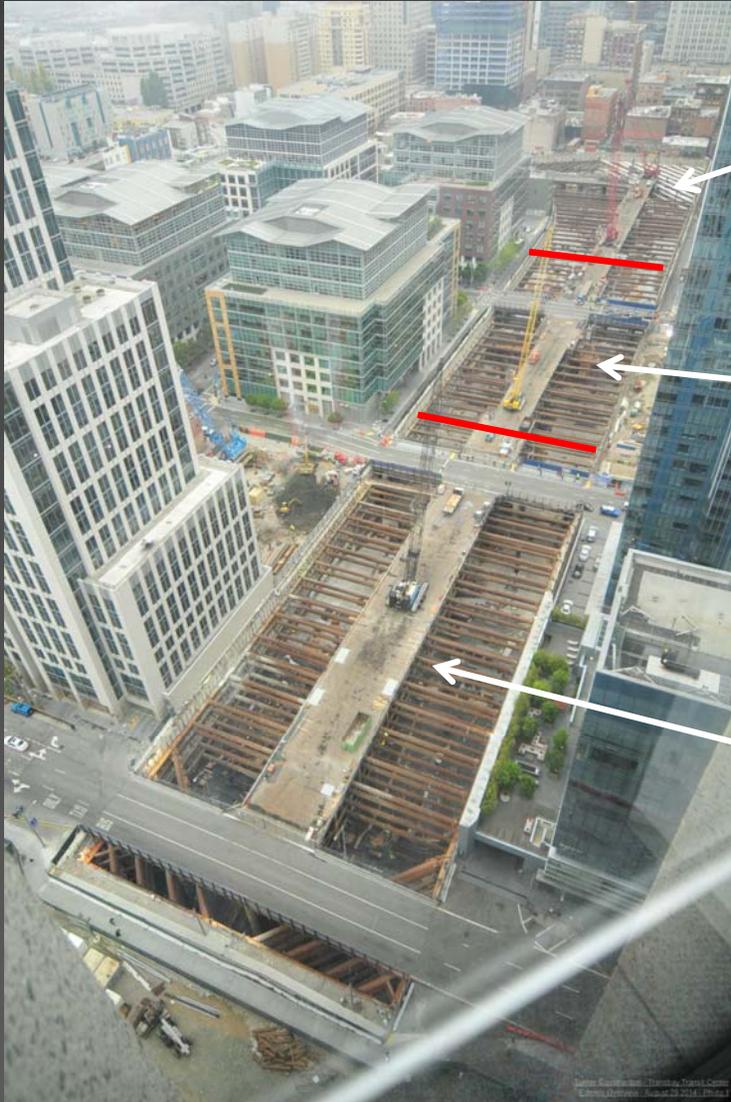
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Current Project Overview



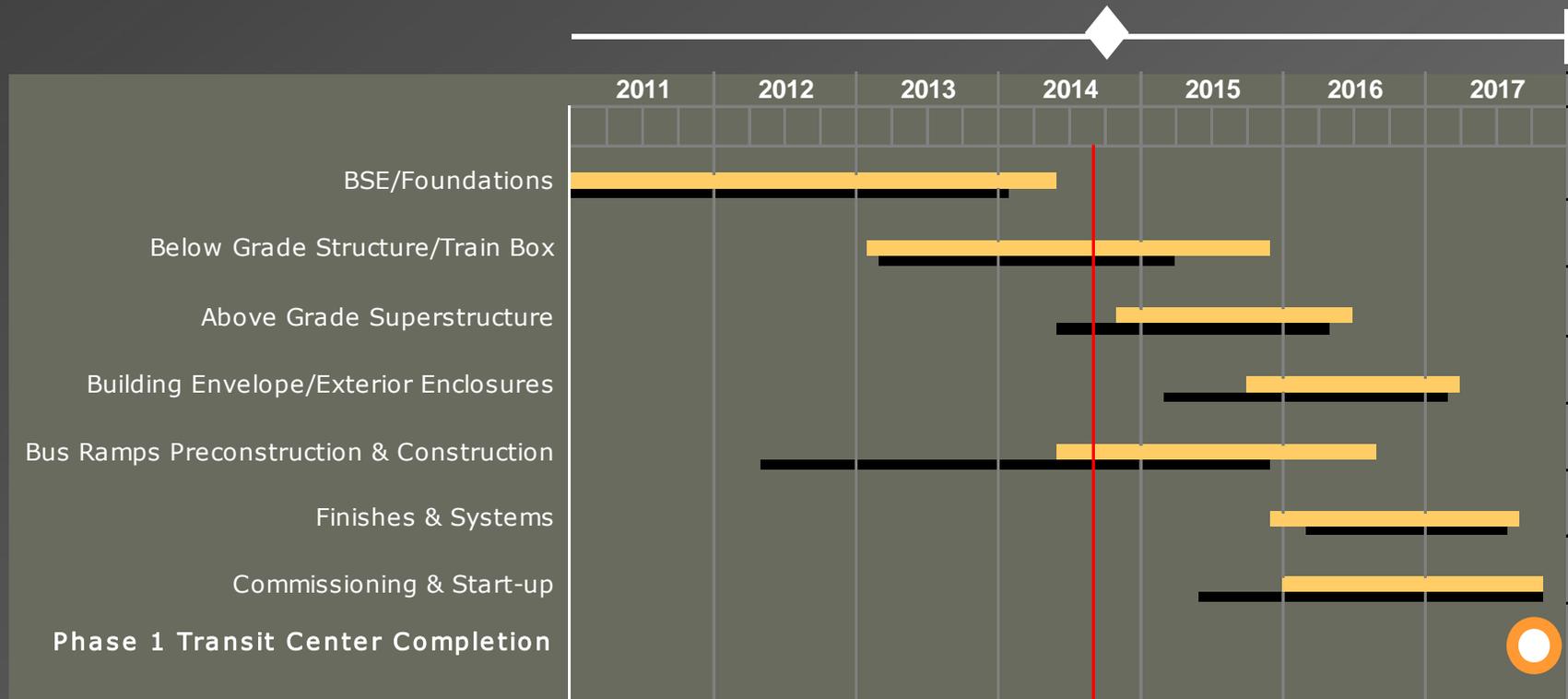
Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20

Eastern Zone – Gridlines 20 to 35



Project Status – Construction Schedule (Critical Items*)



* The current critical path of the project is as follows; structural steel fabrication (GL's 10 -16), central zone lift 3 walls, structural steel fabrication (GL's 16 – 20) and eastern zone train box mat slab, walls lifts 1 & 2 and re-bracing.

Current Schedule 
Baseline Schedule 



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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 August 2014	(\$1.8)	(\$3.3)	(\$1.2)	(\$44.5)	(\$2.6)	(\$53.4)
Remaining Baseline Budget Amounts (August 2014)	\$6.4	\$59.2	\$35.2	\$43.0	\$27.7	171.5
Utility Relocation Change Orders		(\$0.1)				(\$0.1)
BGS Change Orders		(\$0.3)	(\$0.6)			(\$0.9)
BSE Change Orders		\$1.7				\$1.7
3 Trade Package Awards (9/11/14)	(\$0.8)			(\$0.2)	(\$1.8)	(\$2.8)
Total Draws/Add September 2014	(\$0.8)	\$1.3	(\$0.6)	(\$0.2)	(\$1.8)	(\$2.1)
Remaining Balances	\$5.6	\$60.5	\$34.6	\$42.8	\$25.9	\$169.4



Project Status – Safety Statistics

	2011	2012	2013	2014 (through Sep. 30 th)
Total Craft Hours by Year	203,560	421,488	315,000	258,649
Number of Recordable Incidents	3	6	3	10
Number of Lost Time Incidents	1	0	0	3
WO Project Annual RIR / National Annual BLS RIR Average / California RIR Average	2.95 / 3.10 / 3.8	2.85 / 3.20 / 3.6	1.90 / tbd* / tbd*	n/a
WO Project Annual LTIR / National Annual BLS LTIR Average / California LTIR Average	0.98 / 0.90 / 1.8	0.00 / 1.10 / 1.7	0.00 / tbd* / tbd*	n/a

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. As a result, 2013 statistics are not yet available.



Period Summary

- There were two first aid incidents and a lost time incident this period. The lost time incident involved a worker tripping while carrying material. To arrest his fall he put his hand out and broke his wrist. Corrective actions have been implemented.
- Lower Concourse slab placement is 80% complete in the central zone and over 50% complete in the western zone.
- There have been over 1,190,000 craft hours completed, excluding demolition, through September 30, 2014. An increase of over 28,000 hours since our last construction update through August.
- The trial assembly of the perimeter Basket Columns continues in Oregon. Gridline 10 basket columns have been completed and have been sent to the paint shop.



Period Summary

- Third lift train box walls will continue in the central zone and begin in the western zone.
- The final mat foundation section, 16, is currently scheduled to be placed on October 11th.
- AWSS work completed, final paving to be completed by mid October.
- In the eastern zone, wall lifts 1 & 2 are in progress followed by re-bracing and column placement.
- Remaining Lower Concourse pours in the western zone will be completed by October 13th.
- The first 18 of 36 Lower Concourse decks have been completed.



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Below Grade Concrete Progress Through September 30, 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	2	6%
Central	20	20	100%	20	20	100%	20	16	80%
Eastern	35	20	57%	35	0	0%	35	0	0%
Total	90	75	83%	90	55	61%	90	18	20%

Steel Erection Zones	Columns	Columns Poured	Columns Percent	Lower Concourse Decks	Lower Concourse Poured	Lower Concourse Percent
Western	62	62	100%	10	5	50%
Central	48	44	92%	10	9	90%
Eastern	66	0	0%	16	0	0%
Total	176	106	60%	36	14	39%



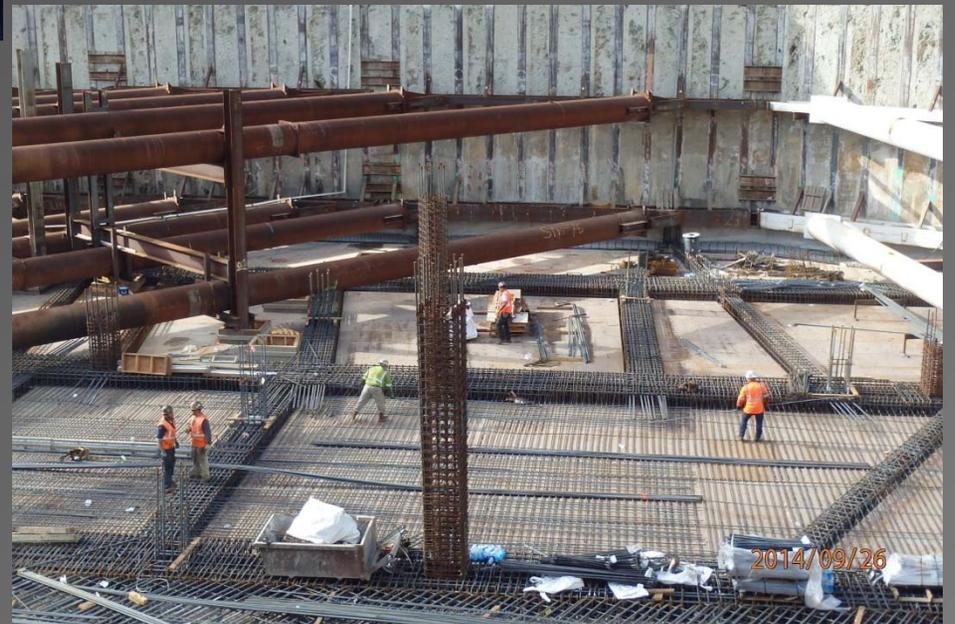
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Western Zone Activity



Left: Early morning Lower Concourse concrete pour.

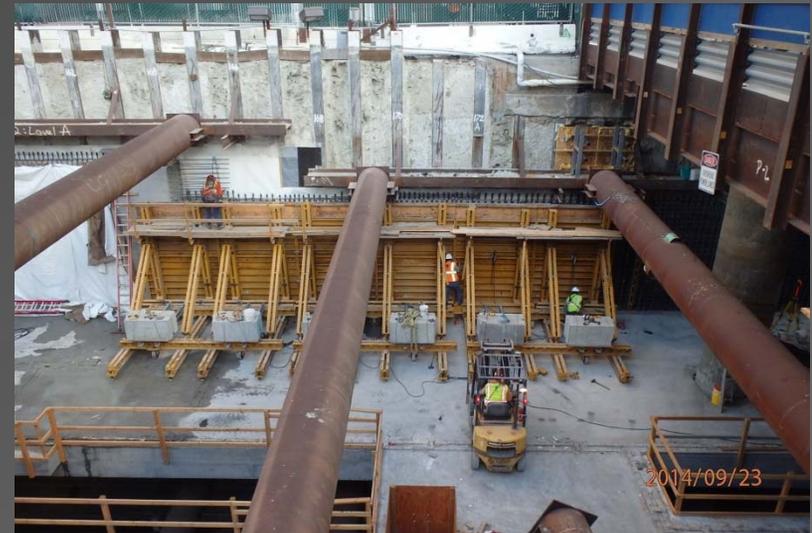
Right: West end Lower Concourse formwork and reinforcing steel.





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Central Zone Activity



Above: RA Level bracing in place and A Level bracing and water removed.

Upper Right: Third lift walls underway.

Lower Right: Train Box level cleared of bracing.





Eastern Zone Activity



Above: Positioning seismic joint, note rail system.

Upper Right: Seismic joint installation.

Lower Right: Mat Slab #16, final mat slab, reinforcing steel in progress.





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Eastern Zone Activity



Above Left: Wall lift 1 reinforcing steel installation.

Above Right: Stripping Train Box level column.

Left: Lift 2 walls in progress, column concrete placement in progress.



Structural Steel Fabrication

Steel Fabrication

- Continue cast node fabrication in Louisiana and Kansas.
- Continue cast node shipments to Oregon and Washington.
- Continue fabrication of structural steel in Oregon and Washington.
- Continue fabrication of structural steel in Vallejo, CA.
- Continue fabrication of structural steel in San Bernardino, CA.
- Skanska crane mobilization to start with crane body delivery on October 9th.

Steel Erection : West of First Street

October 2014 – Deliver steel sections and start erection below grade near Shaw Alley.

Steel Erection : First – Fremont

February 2015 – Deliver steel sections and start erection First St. to Fremont St.

Steel Erection : Fremont – Beale

October 2015 – Deliver steel sections and start erection Fremont St. to Beale St.



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Structural Steel Fabrication

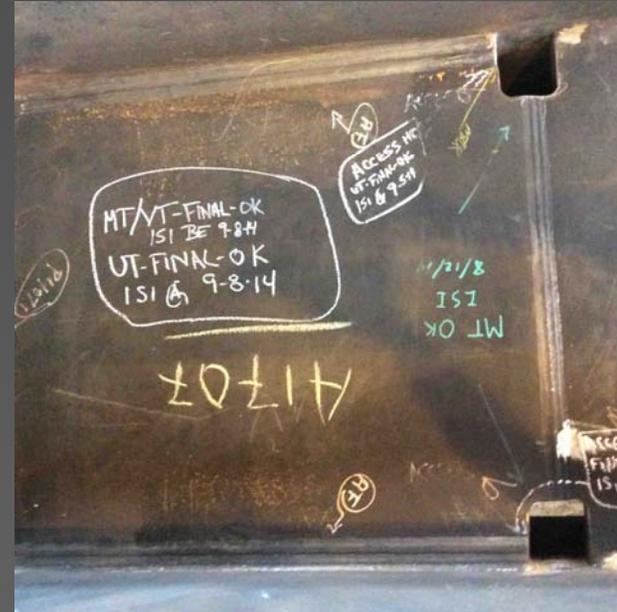


Above : Trial assemblies continue in Oregon.

Left: Primed and completed cast node to pipe assemblies.



Structural Steel Fabrication



Above Left: Transfer beam in Oregon.

Above Right: Quality Assurance inspector sign-offs.

Left: Column assembly in Vallejo.



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Cast Node Fabrication as of September 30, 2014

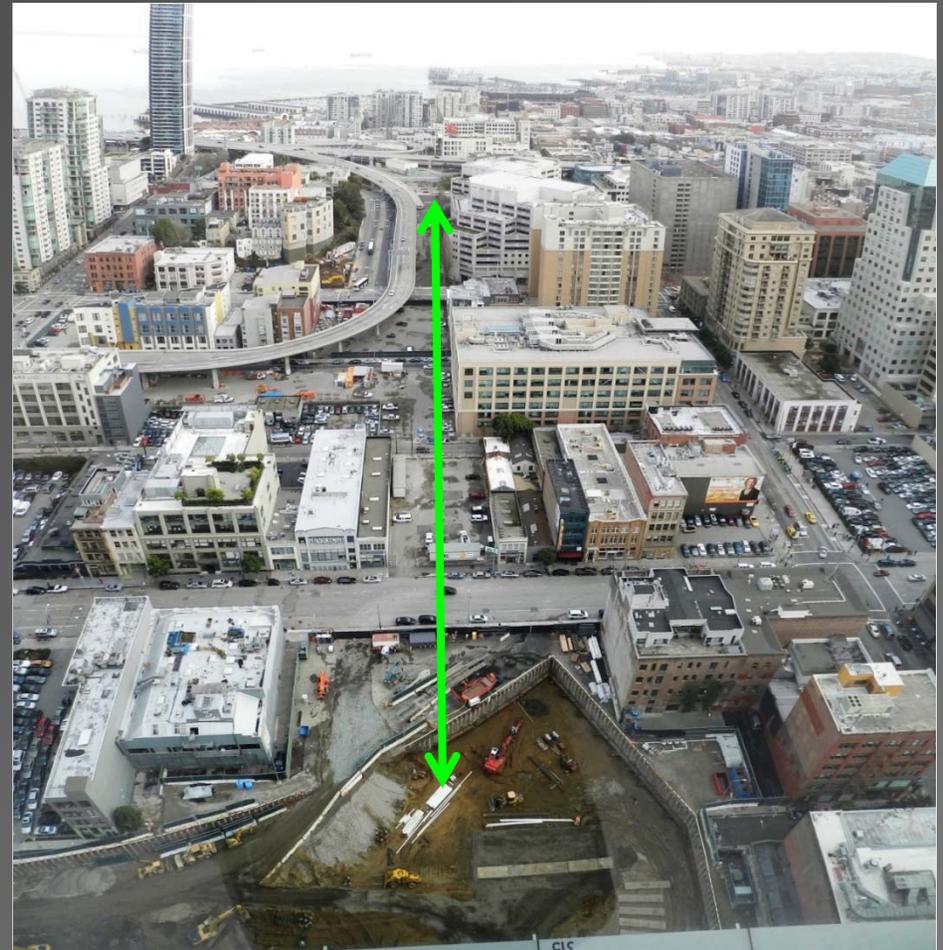
Casting Group	Totals	In-Process Pattern Completion	In-Process Casting and Machining	Release 1 Shipments Mar.-May	Release 2 Shipment May-June	Release 3 Shipment August	Release 4 Shipment September	Release 5 Shipment December	Release 6 Shipment December	Total Shipped to Date
Ground Level - Atchison 19,600 - 46,300 lbs	35	16	9	8	6	8	2	0	0	24
Bus Deck - Amite 9,500 - 22,800 lbs	75	32	21	16	5	10	6	0	0	37
Roof Level - Atchison 4,400 - 5,400 lbs	138	2	15	32	32	14	9	0	0	87
Light Columns	56	27	48	N/A	0	8	0	0	0	8
Totals	304	77	93	56	43	40	17	0	0	156

Note: In-Process Casting quantity does not include already shipped nodes.



Bus Ramps and Bridge

- Current Status
 - Contractor submittals in progress.
 - Contractor demolition of portions of original bus ramp foundations continues.
 - CIDH Piles to start October 13th with casings.
 - Pylon 9 Barrette Pile work to start October 13th.





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Bus Ramps and Bridge



Left: Preparation for Pylon 9 Barrette Pile.

Right: Demolition and preparation for CIDH piles.





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Utility Relocation - AWSS Installation Update

- AWSS work from Fremont Street to Beale Street along Mission Street has been completed. It is anticipated that final paving at the Fremont Street intersection will be completed by mid October.





Construction

The Next 90 Days

- Next 30 Days (Oct.)
 - Continue Lower Concourse decking, rebar and concrete in all zones. Complete Lower Concourse concrete in western zone.
 - Continue foundation walls (lift 3) and re-bracing in the central and west zones.
 - Continue foundation walls (lifts 1 & 2) and columns in the eastern zone.
 - Place final mat slab, #16, in zone 4.
 - Continue Structural Steel and Cast Node fabrication.
 - Continue Bus Ramp work. Start Barrette and CIDH piles.
 - Start structural steel work onsite.
- Next 60-90 Days (Nov. – Dec.)
 - Continue concrete foundation walls and columns of the Train Box at various levels in west, central and eastern zones.
 - Continue Lower Concourse decking, rebar and concrete in the eastern zone.
 - Continue re-bracing in all zones.
 - Continue Bus Ramp and Bridge work; CIDH and Barrette Piles.
 - Continue Structural Steel and Cast Node fabrication.
 - Structural steel erection gridlines 10 to 12.
 - Begin MEPF coordination.



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Bay Area Regional Labor Breakdown

	Through September 2014	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	404,580	34%
North Bay (Marin, Napa, Sonoma)	41,003	3%
South Bay (San Mateo, Santa Clara)	108,055	9%
San Francisco	214,508	18%
Other*	430,551	36%
Totals	1,198,697**	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.



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Bay Area Regional Apprentice Hours Breakdown

	Through September 2014	
Location	Total Apprentice Hours	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	49,750	26%
North Bay (Marin, Napa, Sonoma)	8,608	4%
South Bay (San Mateo, Santa Clara)	28,791	15%
San Francisco	63,748	33%
Other*	42,607	22%
Totals	193,504	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.



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Labor Breakdown by Trade through September 2014

Classification	TTC Building and RUP's*
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	170
Cement Mason	65
Electrical – Utility Lineman	28
Electrician	46
Field Surveyor	34
Iron Worker	336
Laborer and Related Trades	637
Operating Engineer	376
Pile Drivers	157
Plumber	21
Roofer and Waterproofor	39
Sheet Metal	5
Teamsters	166
Tile Setters / Finishers	7
Water Well Driller	9
Totals	2,139

* Relocation of Utilities Project



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Bidder Survey/Contractor Outreach Implementation Update



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Bidder Survey by Leland Saylor Associates

Recommendations:

- Update estimates to capture current market pricing
 - Estimates updated February 2014
- Review CDs and bid manual to eliminate perceived design-build responsibility
 - Design build responsibility deleted for MEP trades
- Provide flexibility through use of performance specifications
 - Performance specifications implemented for metal awning and glazing packages



Bidder Survey by Leland Saylor Associates

Recommendations:

- Review bid packaging to better match scope to trade
 - Bid packages revised
- Review general requirements
 - Large early bid packages (BSE and Concrete) included general requirements. These have been deleted for all subsequent trade packages.
- Survey SBE availability for trade packages
 - Updated SBE goals for specialty trade packages based on current SBE availability while maintaining overall goal



Contractor Outreach

- Additional bidder outreach to clarify scope of work for upcoming trade packages
 - Extensive outreach efforts have resulted in improved bidder participation.
- Streamline Bidding Manual language/clarify language
 - Completed
- Minimize redesign needed to incorporate value engineering and scope reduction measures
 - Completed



Contractor Outreach

- Subguard
 - Implemented
- Continue to streamline payment processing
 - Ongoing
- Continue aggressive SBE outreach
 - Ongoing



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Questions?

