



Construction Update

February 2016

Transbay Transit Center

TJPA





Transbay Transit Center

Current Project Overview



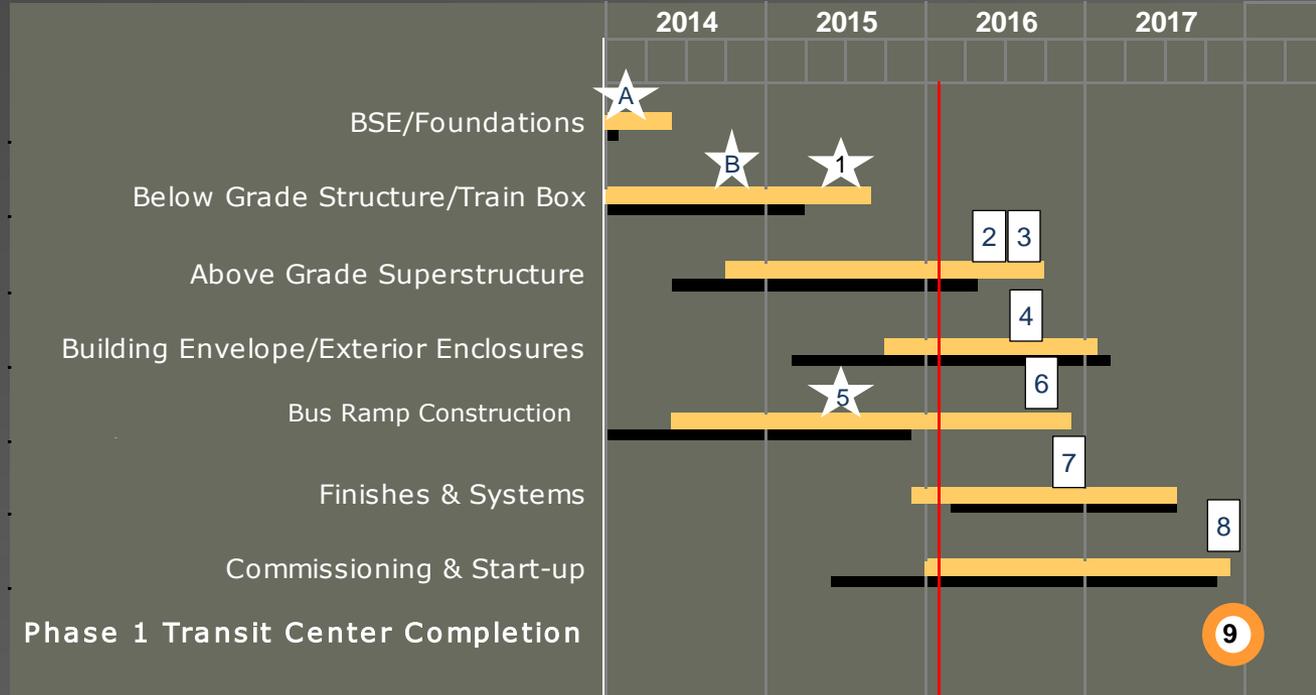
Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20

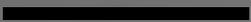
Eastern Zone – Gridlines 20 to 35

Project Status – Schedule

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



* The current critical path of the project is as follows; structural steel welding, roof (park) level structural concrete slabs and walls and glass floor.

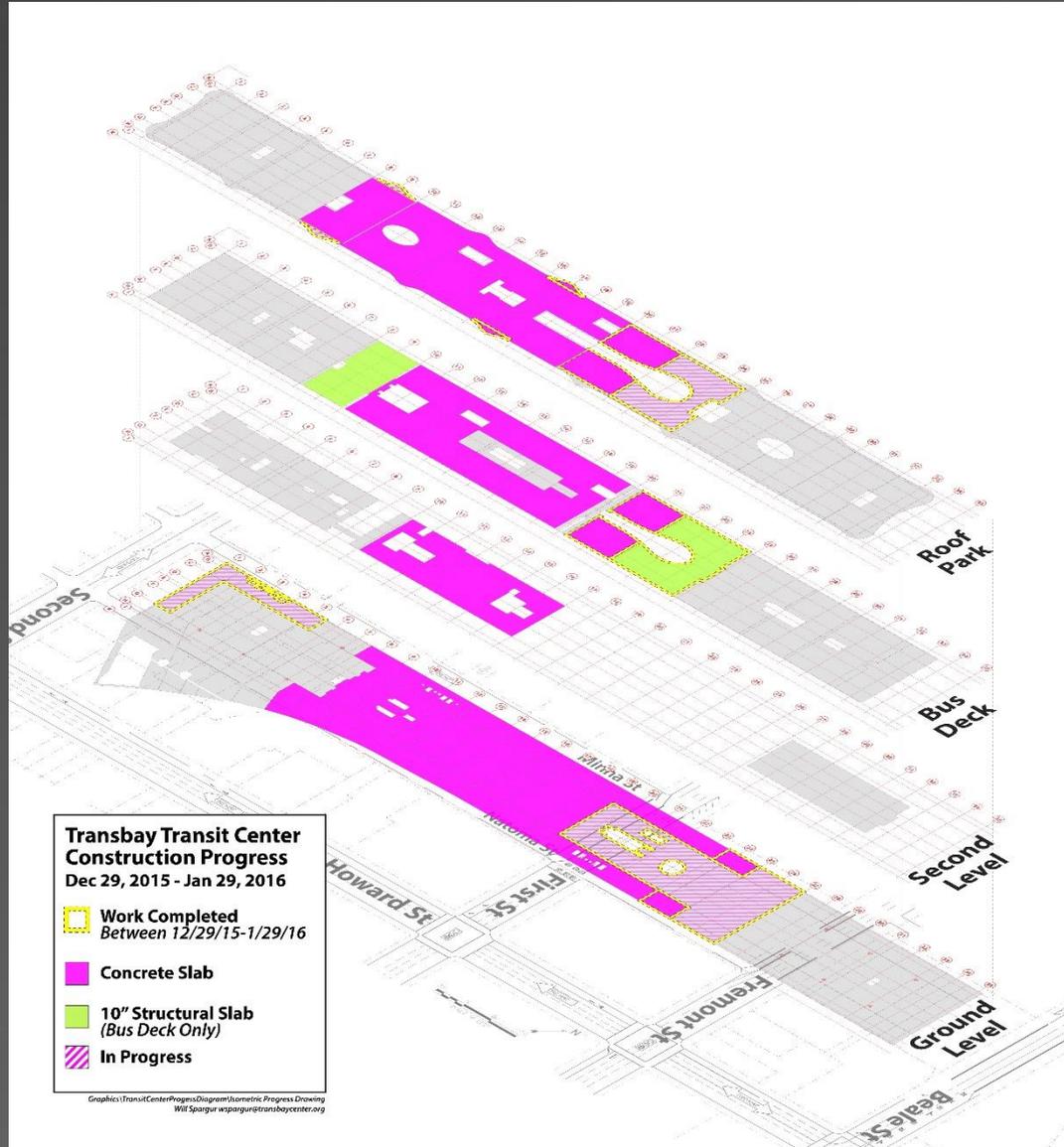
Current Schedule 
 Baseline Schedule 

★ = Completed Work; A) TG03 excavation through “rat” slab installation (re-bracing complete 9/18/15).
 B) mat foundation slabs complete 10/11/14.
 1) TG 6.0 Below Grade Concrete complete 8/10/15.
 5) Bus Ramp below grade concrete July 2015.



Project Status – Active Milestones

#	Milestone	Planned	Actual / Current
2	Complete Structural Steel Erection and Welding	Q1 2016	Q2 2016
	Milestone Activity Start	July 2014	Oct. 29, 2014 (A)
	Milestone Activity Finish	Dec. 2015	April 2016
	Percent Complete as of January 31, 2016	100%	90%
3	Complete Above Grade Concrete Decks	Q2 2016	Q3 2016
	Milestone Activity Start	December 2014	February 2015 (A)
	Milestone Activity Finish	June 2016	August 2016
	Percent Complete as of January 31, 2016	77%	58%





Project Status – Contingency Tracking (\$millions)

	Construction Contingency	CM/GC Contingency	Program Reserve	Total Contingency & Reserve
Baseline Budget Amounts (Nov 2015)	\$59.5	\$30.7	\$5.0	\$95.1
Contingency Usage Through Dec 2015	(\$4.7)	(\$0.3)	(\$1.1)	(\$6.1)
Remaining Baseline Budget Amounts (Jan 2016)	\$54.8	\$30.4	\$3.9	\$89.1
Structural Packages Change Orders	(\$2.3)	0.1		(\$2.2)
Bus Ramp Change Orders	(\$1.2)	0.0		(\$1.2)
Exterior Awning Change Orders	(\$1.4)	0.1		(\$1.3)
MEP Change Orders	(\$0.2)	0.0		(\$0.2)
Total Draws/Adds Jan 2016	(\$5.1)	0.2	(\$0)	(\$5.0)
Remaining Balances	\$49.7	\$30.6	\$3.9	\$84.1

Project Status – Safety Statistics

Project Safety	2010 / 2011 / 2012 / 2013	2014	2015	2016 (through Jan. 31)
Total Craft Hours by Year	942,744	375,615	610,968	78,872
Number of Recordable Incidents	12	13	11	0
Number of Lost Time Incidents	1	4	1	0
WO Project Annual RIR / National Annual BLS* RIR Average / California RIR Average	2.54 / 3.6 / 3.8	6.92 / 3.3 / 3.0	3.60 / tbd / tbd	tbd / tbd / tbd
WO Project Annual LTIR / National Annual BLS LTIR Average / California LTIR Average	0.32 / 1.9 / 1.8	1.60 / 1.9 / 1.8	0.33 / tbd / tbd	tbd / 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 for January 2016

Project Wide

- There were two recordable incidents in December. There were no recordable or lost time incidents in January. The December incidents have been investigated and corrective measures implemented.
- Project wide there have been over 2,000,000 craft hours completed (excludes demolition) through January 31, 2016. This is an increase of over 165,000 craft hours since our last update in December.

Western Zone (GL 1-10)

- Structural steel erection is complete from GL1 to GL10.
- Structural steel welding and decking is in progress from GL2 to GL6 (target completion 2/19/16).
- Concrete (north Eyebrow) falsework, formwork and rebar in progress from GL1 to GL3.
- Concrete placement for interior equipment pads and partition walls continues.
- Foundation slab preparation work continues at Stair 201, the west end exit stair.

Period Summary for January 2016

Central Zone (GL 10-20)

- Mechanical, Electrical and Plumbing (MEP) trades continue with overhead rough-in work at all levels between GL8 and GL27.
- Fireproofing continues at Lower concourse, L2 Mezzanine and Bus Deck.
- Stair installation continues with a total of 6 stairs complete and 7 in progress.
- Roof level structural concrete slab and perimeter walls are completed GL10 to GL20. Roof scallop walls and all roof perimeter walls are complete in this zone.

Eastern Zone (GL 20-35)

- Erection of structural steel was completed on January 8th.
- Trestle removal has been completed.
- Structural steel welding continues from GL27 to GL34.
- Welding and final bolting of structural steel projected to complete in late April 2016.
- Ground, Bus Deck and Roof Level concrete in progress from GL20 to GL25.
- Falsework and formwork for Ground Level concrete in progress from GL25 to GL27.



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Superstructure Concrete Progress Through January 31, 2016

Steel Erection Zones	4 th Lift Walls	4 th Lift Walls Poured	4 th Lift Walls Percent	Ground Level Decks	Ground Level Poured	Ground Level Percent
Western	27	24	89%	17	2	12%
Central	20	20	100%	10	10	100%
Eastern	35	30	86%	15	5	33%
Total	82	74	90%	42	17	40%



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Superstructure Concrete Progress Through January 31, 2016

Steel Erection Zones	Bus and Level 2 Decks	Bus and Level 2 Poured	Bus and Level 2 Percent	Roof Level Decks	Roof Level Poured	Roof Level Percent
Western	18	2	11%	9	2	22%
Central	17	17	100%	10	10	100%
Eastern	21	5	24%	14	2	14%
Total	56	24	43%	33	14	42%



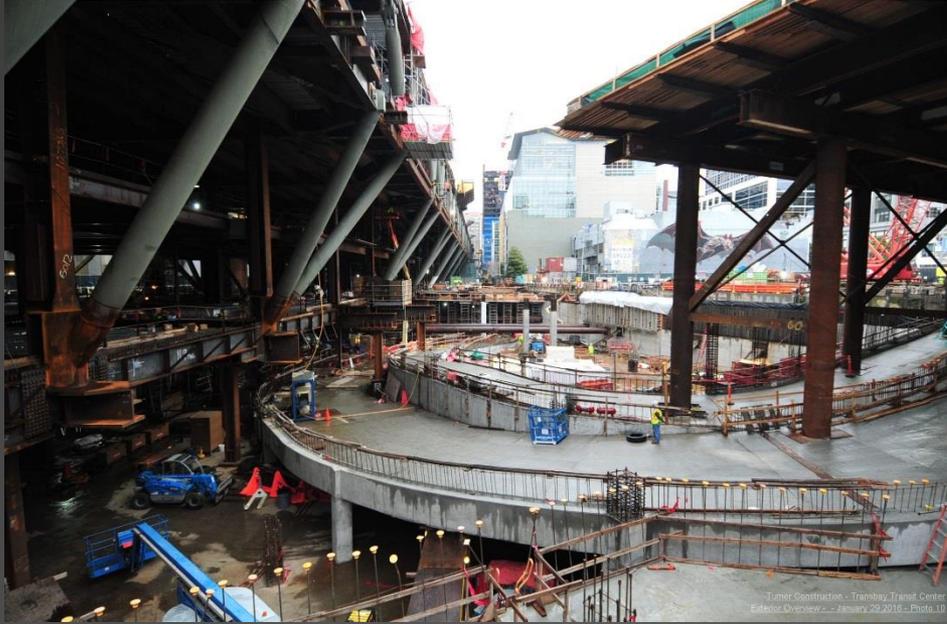
Western Zone Activity



Above: Northwest corner eyebrow falsework, formwork and rebar in progress.

Below: Welding continues at Bus Deck level.





Above: Vehicle and bike ramp in progress at west end of project. Bus ramp falsework above ramps. Structural steel welding in progress.

Below: 4th lift walls in progress southwest corner of the project.





Central Zone Activity



Above: Roof Park perimeter walls and decks complete.

Right: MEPF Overhead Rough-in and spray on fireproofing continues.





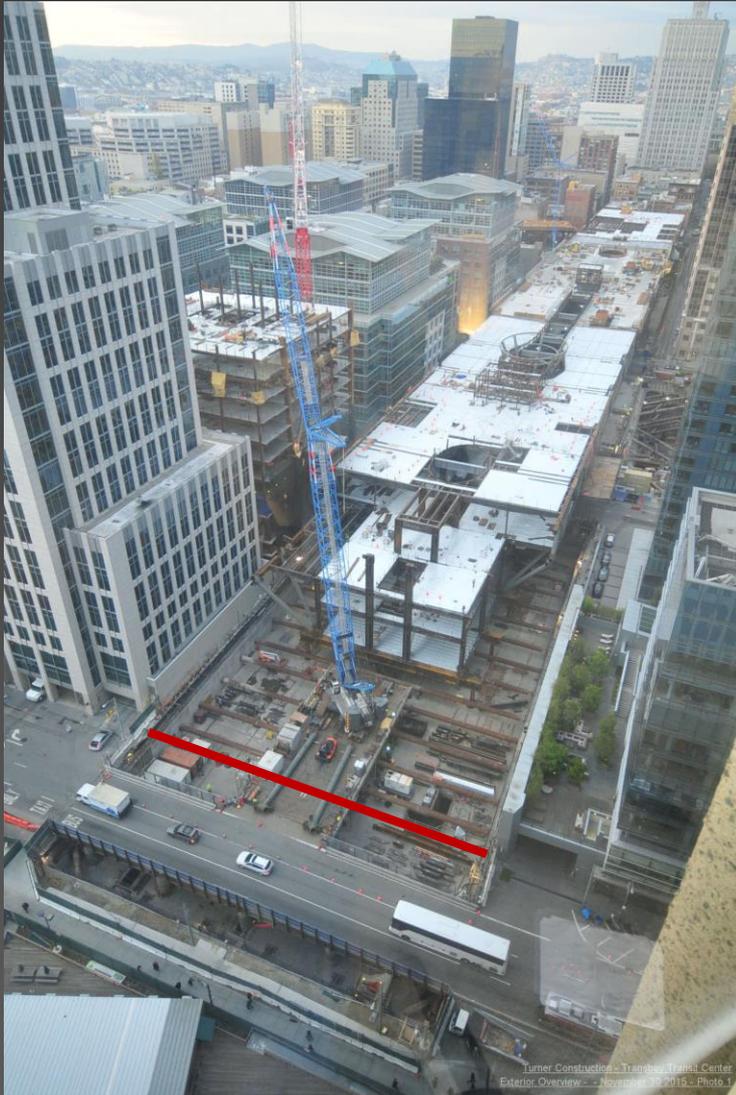
Central Zone Activity



Above: Work continues at all level near light column and glass floor location.
Above Right: Bus deck concrete placement progress.
Below Right: Bus deck level spray on fireproofing continues.



Eastern Zone Activity



November 30, 2015



January 29, 2016



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Eastern Zone Activity

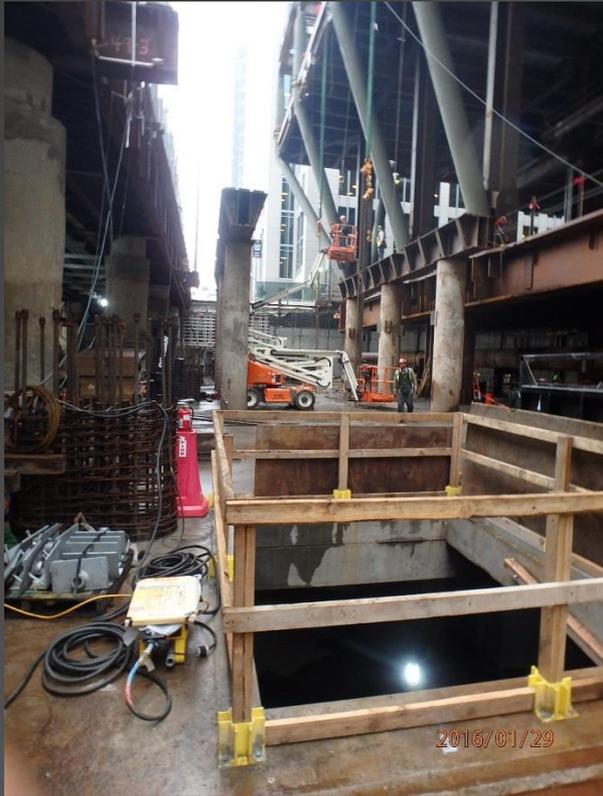


Structural Steel
Erection Topping Off –
January 8, 2016





Eastern Zone Activity



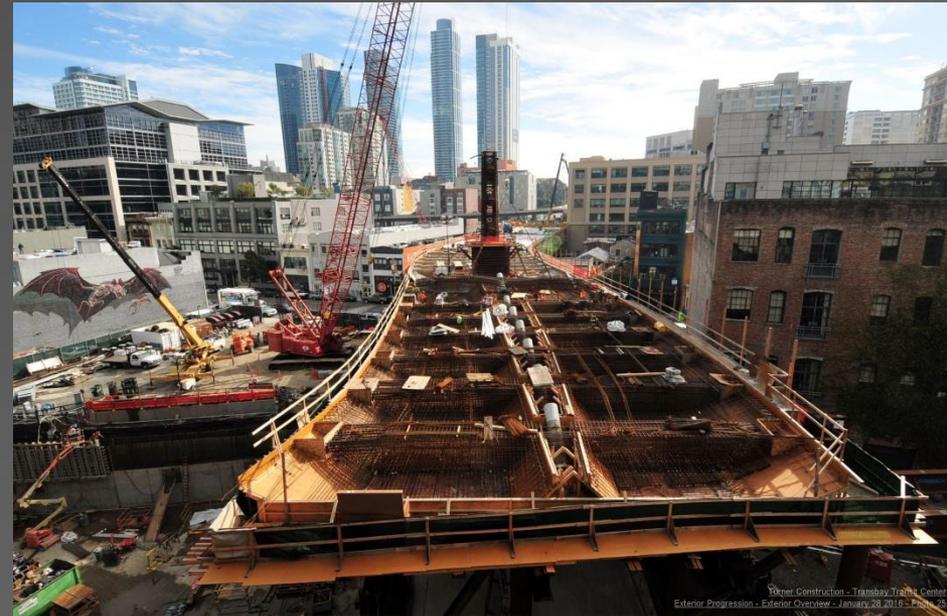
Above: Steel erection complete and trestle removal near completion.
Above Right: Welding in progress.
Below Right: Preparation for Eyebrow concrete placement.



Bus Ramp and Cable Stay Bridge as of January 31, 2016

Current Status

- At the Bay Bridge off-ramp near Harrison Street and Folsom street, construction on abutments and retaining walls continues.
- North side of Howard Street Cable Stay Bridge reinforcing steel continues.
- Three of seven cable saddles for the bridge have been installed.
- Next Pylon 9 concrete pour is scheduled for early February.
- Tehama Street viaduct deck poured on January 25th.
- South portion of Howard Street Cable Stay Bridge stem and soffit poured on January 26th.
- Folsom Street deck pour currently scheduled for February 13th (post Super Bowl).





Bus Ramp and Cable Stay Bridge



Above : Abutment work continues.



Above Right: Preparing for deck pour.



Below Right: Concrete placement at Tehama Street viaduct deck.



Construction

The Next 30 – 90 Days

• Next 29 Days (Feb.)

- Complete structural steel welding in the western zone.
- Complete 4th lift walls in western zone.
- Continue MEPF rough-in of metal decks and slabs western and eastern zones.
- Continue the concrete deck placement in the eastern zone and western zone.
- Continue roof top (park level) concrete perimeter wall and scallop wall placement in eastern zone and start this work in western zone.
- Continue Bus Ramp viaduct and Cable Stay Bridge soffit, stem and deck installations.

• Next 29 Days (Feb.)

- Start W1 Exterior Awning node attachment.
- Continue installation of perimeter clips for metal panel installation.
- Continue spray on fireproofing.
- Continue construction of CMU walls.
- Continue installation of plumbing and fire protection piping.
- Continue construction of walls and equipment pads in central zone electrical rooms.
- Continue Bus Deck crash rail and deck reinforcing and concrete.



Construction

The Next 30 – 90 Days

- **Next 60 - 90 Days (Mar. – Apr.)**

- Complete 4th lift walls in the eastern zone.
- Complete welding of structural steel in the eastern zone.
- Continue decks and slabs in western and eastern zones.
- Continue Bus Ramp viaduct and Cable Stay Bridge soffit and stem formwork, rebar and concrete.
- Start Bus Ramp rebar and concrete placement at Harrison and Clementina Streets' viaduct.
- Continue roof top (park level) concrete perimeter and scallop wall placement, western and eastern zones.

- **Next 60 - 90 Days (Mar. – Apr.)**

- Start W1 Exterior Awning onsite assembly and installation (late March).
- Continue installation of perimeter clips for metal panel installation.
- Continue spray on fireproofing.
- Continue construction of CMU walls.
- Continue installation of plumbing and fire protection piping.
- Continue Bus Deck crash rail and deck reinforcing and concrete.

Bay Area Regional Labor Breakdown

	Through January 2016	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	851,811	42%
North Bay (Marin, Napa, Sonoma)	70,643	4%
South Bay (San Mateo, Santa Clara)	188,715	9%
San Francisco	317,191	16%
Other*	579,839	29%
Totals	2,008,199**	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 January 2016	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	126,288	34%
North Bay (Marin, Napa, Sonoma)	21,455	6%
South Bay (San Mateo, Santa Clara)	48,900	13%
San Francisco	101,775	27%
Other*	74,658	20%
Totals	373,076*	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 January 2016

Classification	TTC Building and RUP's
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	367
Cement Mason	96
Electrical – Utility Lineman	28
Electrician	88
Field Surveyor	41
Iron Worker	977
Laborer and Related Trades	904
Operating Engineer	507
Pile Drivers	233
Plumber	44
Rofer and Waterproofofer	40
Sheet Metal	9
Teamsters	190
Tile Setters / Finishers	7
Water Well Driller	9
Plasters	5
Totals	3,588



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Questions?

