



Construction Update

January 2016

Transbay Transit Center

TJPA





Transbay Transit Center

Current Project Overview



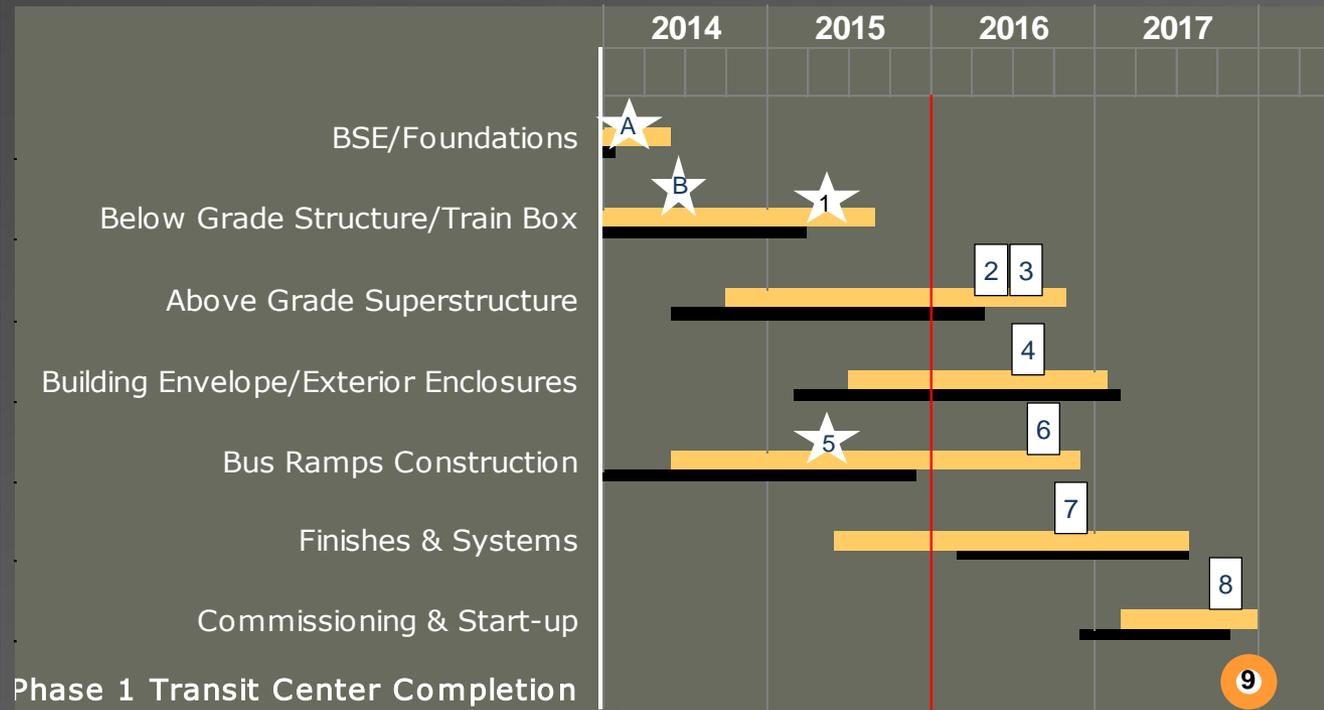
Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20

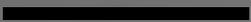
Eastern Zone – Gridlines 20 to 35

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	Q3 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 fabrication, erection, 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.



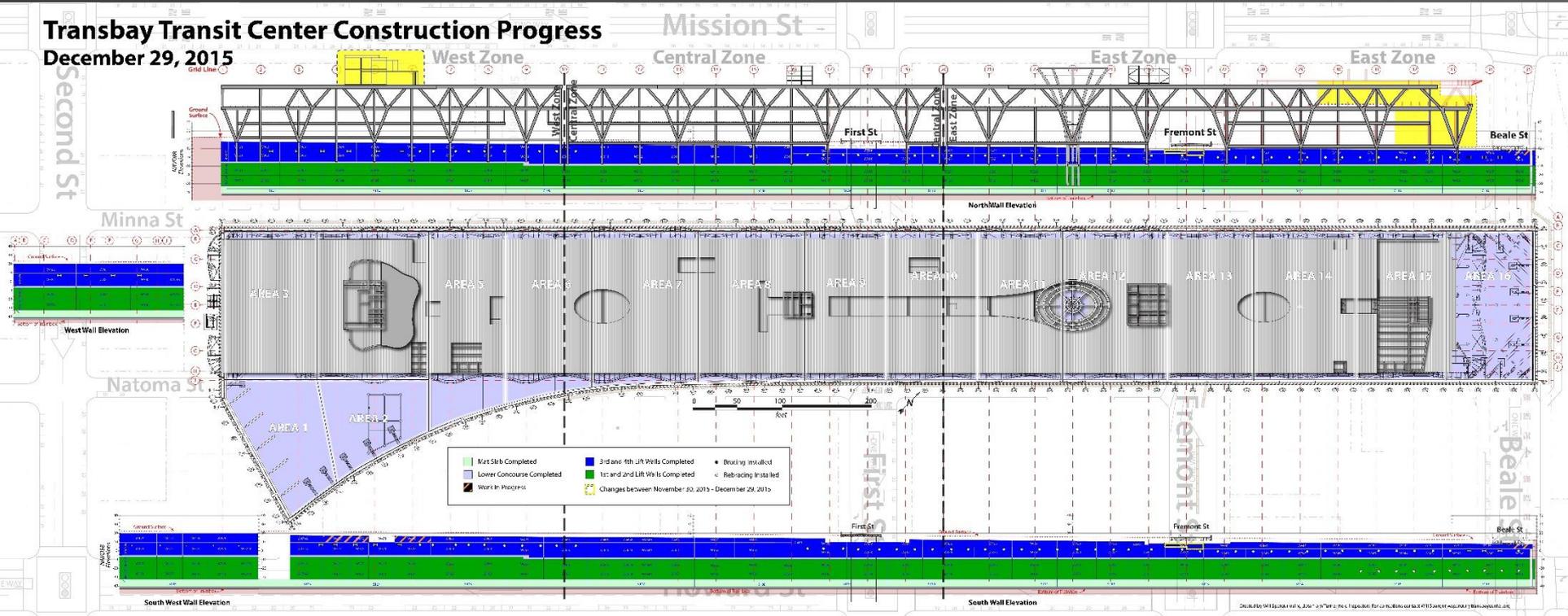
Project Status – Active Milestones

#	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 December 31, 2015	100%	85%
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 December 31, 2015	68%	52%



Project Status Diagram

Transbay Transit Center Construction Progress
December 29, 2015





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 Nov 2015	(\$1.0)	\$0.0	\$0.0	(\$1.0)
Remaining Baseline Budget Amounts (Dec 2015)	\$58.5	\$30.7	\$5.0	\$94.1
Structural Packages Change Orders	(\$0.8)			(\$0.8)
Bus Ramp Change Orders	(\$0.9)			(\$0.9)
Glass Curtain Wall Change Orders	(\$1.2)			(\$1.2)
Below Grade Change Orders	(\$0.4)	(\$0.3)		(\$0.7)
Utility Relocation Change Orders	(\$0.3)			(\$0.3)
Award of TG17.1 - Signage/Graphics			(\$1.1)	(\$1.1)
Total Draws/Adds Dec 2015	(\$3.6)	(0.3)	(\$1.1)	(\$5.0)
Remaining Balances	\$54.8	\$30.4	\$3.9	\$89.1

Project Status – Safety Statistics

Project Safety	2010 / 2011 / 2012	2013	2014	2015 (through Dec. 31)
Total Craft Hours by Year	627,744	315,000	375,615	610,968
Number of Recordable Incidents	9	3	13	11
Number of Lost Time Incidents	1	0	4	1
WO Project Annual RIR / National Annual BLS* RIR Average / California RIR Average	2.87 / 3.6 / 3.8	1.90 / 3.8 / 4.0	6.92 / 3.3 / 3.0	3.60 / tbd / tbd
WO Project Annual LTIR / National Annual BLS LTIR Average / California LTIR Average	0.32 / 1.9 / 1.8	0.00 / 1.8 / 1.7	1.60 / 1.9 / 1.8	0.33 / 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 December 2015

Project Wide

- There were two recordable incidents in December. They included a worker being hit by a falling tool and a worker striking himself while installing bolts. Both have been investigated and corrective measures implemented.
- Project wide there have been nearly 1,930,000 craft hours completed (excludes demolition) through December 31, 2015. This is an increase of over 90,000 craft hours this period.

Western Zone (GL 1-10)

- Structural steel erection is complete from GL1 to GL10 as of December 5, 2015. Crane de-mob was December 6, 2016.
- Structural steel welding is in progress from GL3 to GL7.
- Steel erection, welding and decking is complete from both GL1 to GL3 and GL7.5 to GL10.
- Concrete placement for interior equipment pads and partition walls continues.
- Foundation slab preparation work continues at Stair 201, the west end exit stair.
- West end construction trestle has been removed.

Period Summary for December 2015

Central Zone (GL 10-20)

- Mechanical, Electrical and Plumbing (MEP) trades continue with 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 5 stairs complete and 7 in progress.
- Roof level structural concrete slab and perimeter walls are complete GL10 to GL20. Roof scallop walls completed GL12 to GL13 and GL17 to GL18.

Eastern Zone (GL 20-35)

- Fabrication of Structural Steel is complete.
- Structural steel erection is now complete from GL25 to GL31.
- Trestle removal has been completed.
- Structural steel erection continues from GL31 to GL33.2. Erection of final structural steel member is scheduled for January 8, 2016.
- Welding and final bolting of structural steel projected to complete in April 2016.
- Ground, Bus Deck and Roof Level concrete in progress from GL20 to GL23.



Transbay Transit Center

Superstructure Concrete Progress Through December 31, 2015

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	23	85%	17	2	12%
Central	20	20	100%	10	10	100%
Eastern	35	30	86%	15	3	20%
Total	82	73	89%	42	15	36%



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Superstructure Concrete Progress Through December 31, 2015

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	0	0%	14	1	7%
Total	56	19	34%	33	13	40%



Western Zone Activity



Above: Structural steel erection completion at the west end.
Above Right: South face of project, structural steel complete.
Below Right: Removal of trestle finger. Final trestle piece at west end.



Central Zone Activity



Above: CMU work continues at Train Level.

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





Central Zone Activity



Above: Roof level scallop wall formwork.
Above Right: Roof deck concrete placement.
Below Right: Preparation for ground level deck placement, east of First Street.





Eastern Zone Activity



Above: Preparing for wall pours that frame the glass floor.

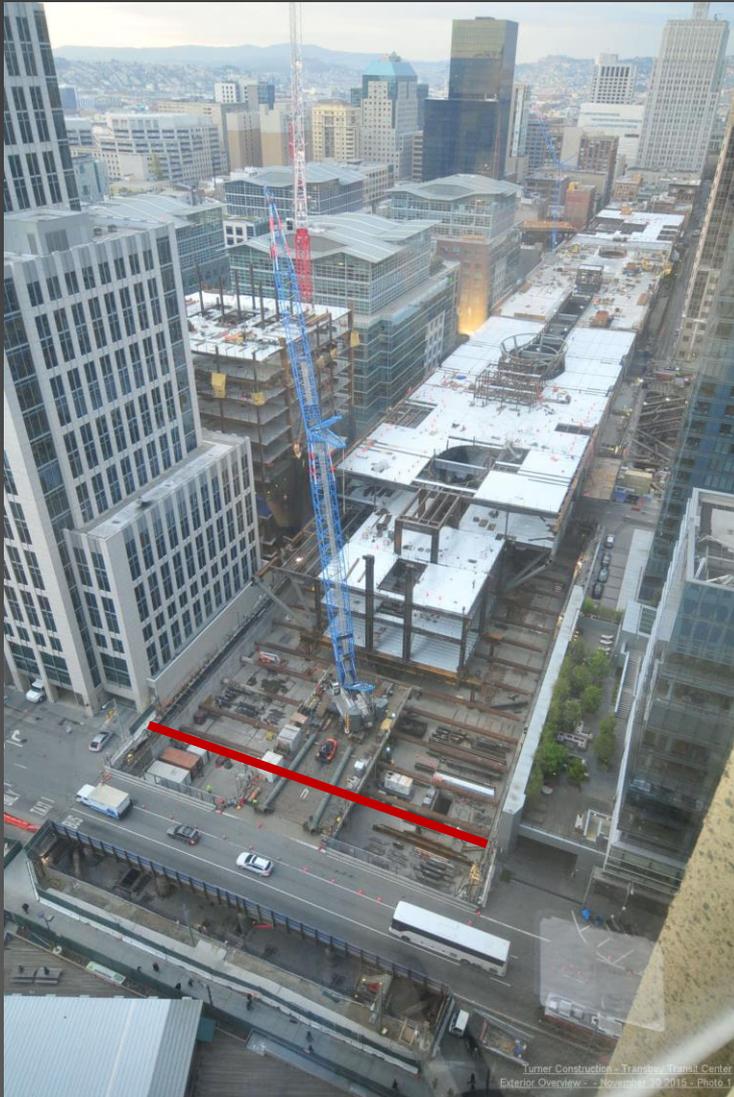
Above Right: Ground level deck pour preparation.

Below Right: Bus deck level concrete, preparations for topping slab.

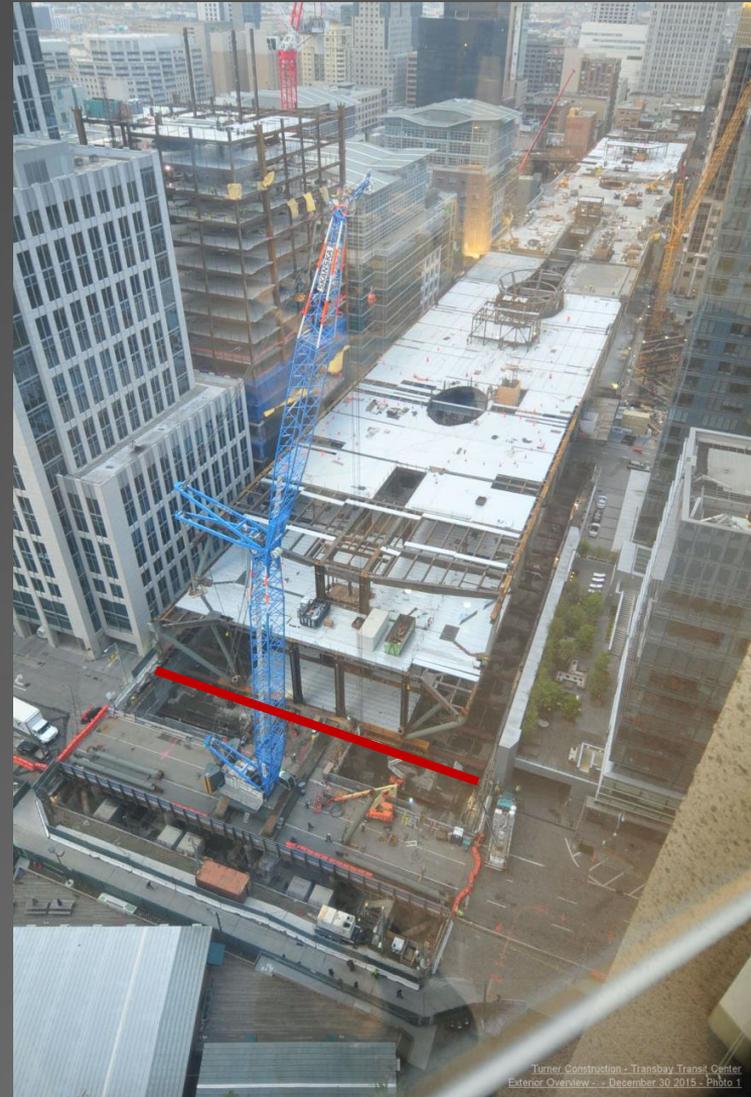




Eastern Zone Activity



November 30, 2015



December 30, 2015

Steel Erection and Beale Street

Started
11/12/15

Forty-seven days of day and night work.
Includes five rain day allowance and does
not include holiday weekend work.

Complete steel
erection and de-mob
crane by 1/15/16,
welding continues.

Phase 1: Nov. 12 to Nov. 19; all Beale Street lanes open at all times.

Phase 2: Nov. 20 to Dec. 8; Beale Street, one lane closed, two lanes open at all times.

Phase 3: Dec. 5 9 to Dec. 12 47; Beale Street, two lanes closed, one lane open at all times.

Phase 4: Dec. 13 48 to Jan. 16; **ALL** Beale Street lanes to be **CLOSED** with the exception of a single lane to be re-opened between 3:30 pm and 7:30 pm only.

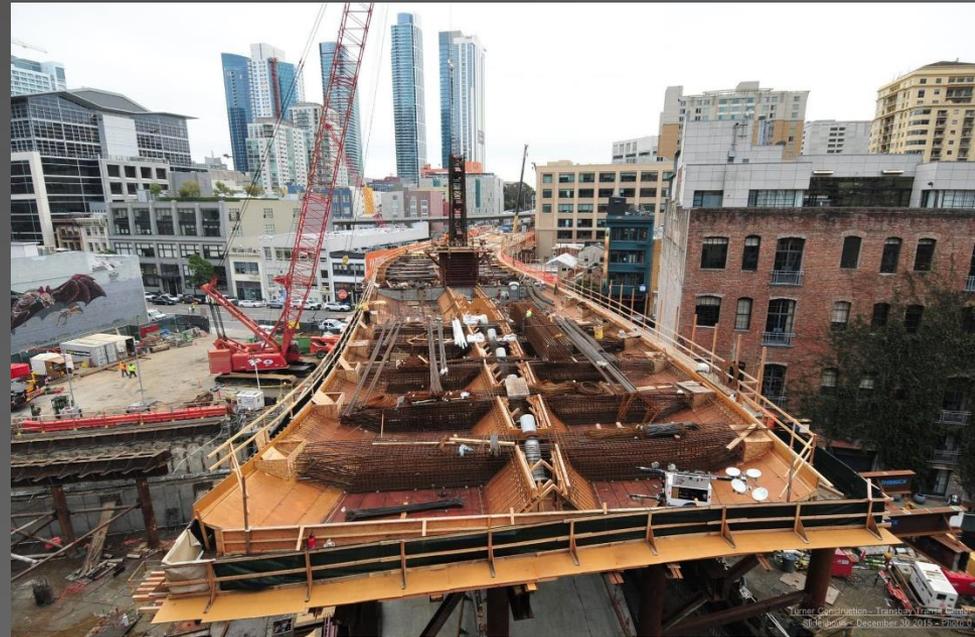
CURRENT STATUS: As of January 4th, final perimeter steel beams placed at park level, on track for Jan. 8th topping out. Crane removal planned for 1/10/16, ahead of schedule



Bus Ramp and Cable Stay Bridge as of December 31, 2015

Current Status

- At the Bay Bridge off-ramp near Harrison Street and Folsom street, construction on abutments and retaining walls continues.
- Howard Street Cable Stay Bridge reinforcing steel continues in preparation for concrete placement, anticipated January 22nd.
- Three of seven cable saddles for the bridge have been installed.
- All cable guides have been set in place.
- Tehama Street viaduct deck pour scheduled for January 25th.
- Folsom Street viaduct stem and soffit poured on December 12th.





Transbay Transit Center

Bus Ramp and Cable Stay Bridge



Above: Abutment along Harrison Street.



Above and Below Right: Preparing for deck pour.





Construction

The Next 30 – 90 Days

• Next 30 Days (Jan.)

- Complete structural steel erection in the eastern 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 central zone and start this work in western zone.
- Continue Bus Ramp viaduct and Cable Stay Bridge soffit, stem and deck installations.

• Next 60 - 90 Days (Feb. – Mar.)

- Complete 4th lift walls in the eastern zone.
- Complete welding of structural steel in the western 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 rebar and concrete placement at Harrison, Clementina and Howard Street viaduct.
- Continue roof top (park level) concrete perimeter and scallop wall placement.

Bay Area Regional Labor Breakdown

	Through December 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	807,502	42%
North Bay (Marin, Napa, Sonoma)	66,910	4%
South Bay (San Mateo, Santa Clara)	181,361	9%
San Francisco	307,050	16%
Other*	566,504	29%
Totals	1,929,327**	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 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	124,365	35%
North Bay (Marin, Napa, Sonoma)	18,690	5%
South Bay (San Mateo, Santa Clara)	45,455	13%
San Francisco	98,555	28%
Other*	70,002	19%
Totals	330,413*	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 December 2015

Classification	TTC Building and RUP's
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	350
Cement Mason	93
Electrical – Utility Lineman	28
Electrician	84
Field Surveyor	39
Iron Worker	941
Laborer and Related Trades	884
Operating Engineer	499
Pile Drivers	230
Plumber	39
Rofer and Waterproofofer	40
Sheet Metal	9
Teamsters	185
Tile Setters / Finishers	7
Water Well Driller	9
Plasters	5
Totals	3,485



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Questions?

