



# Construction Update

October 2015

## Transbay Transit Center

**TJPA**





**Transbay Transit Center**

# Current Project Overview



Western Zone – Gridlines 1 to 10

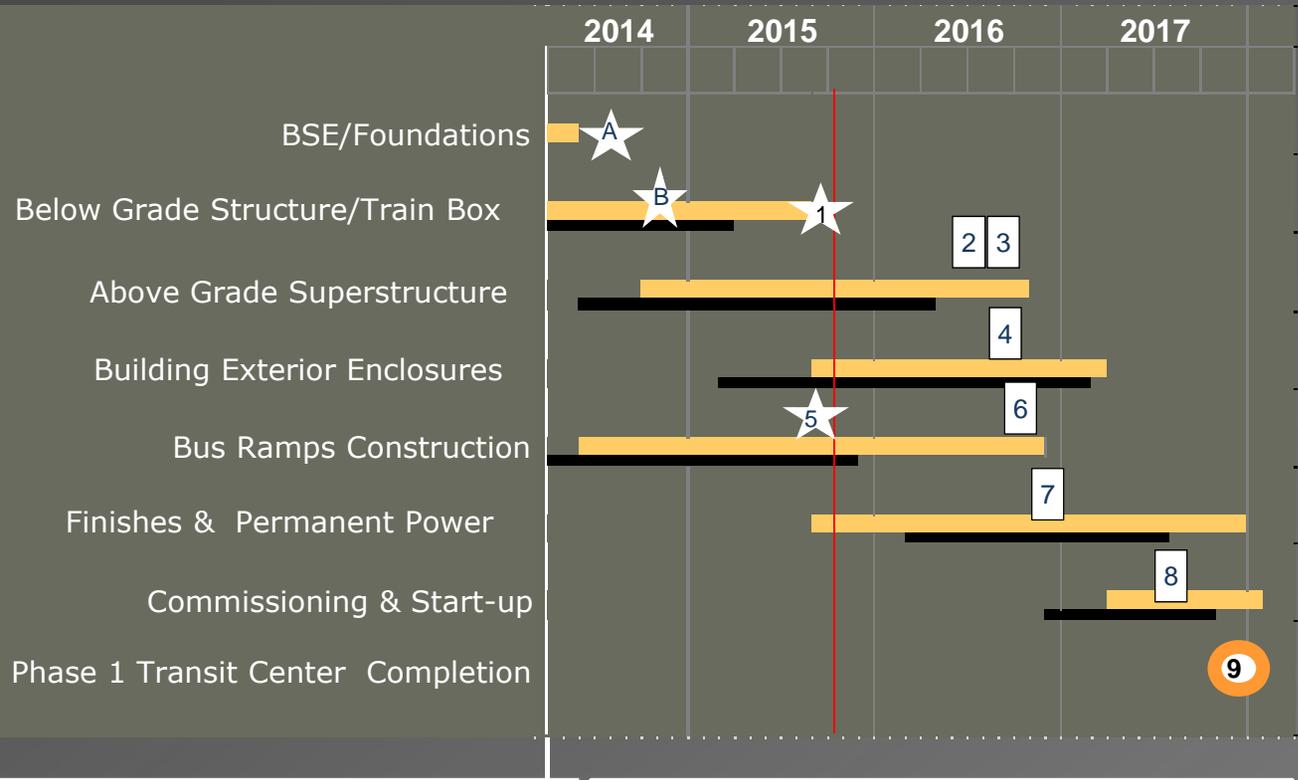
Central Zone – Gridlines 10 to 20

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	Q3 2017
9	Substantial Completion	Q4 2017



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

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.



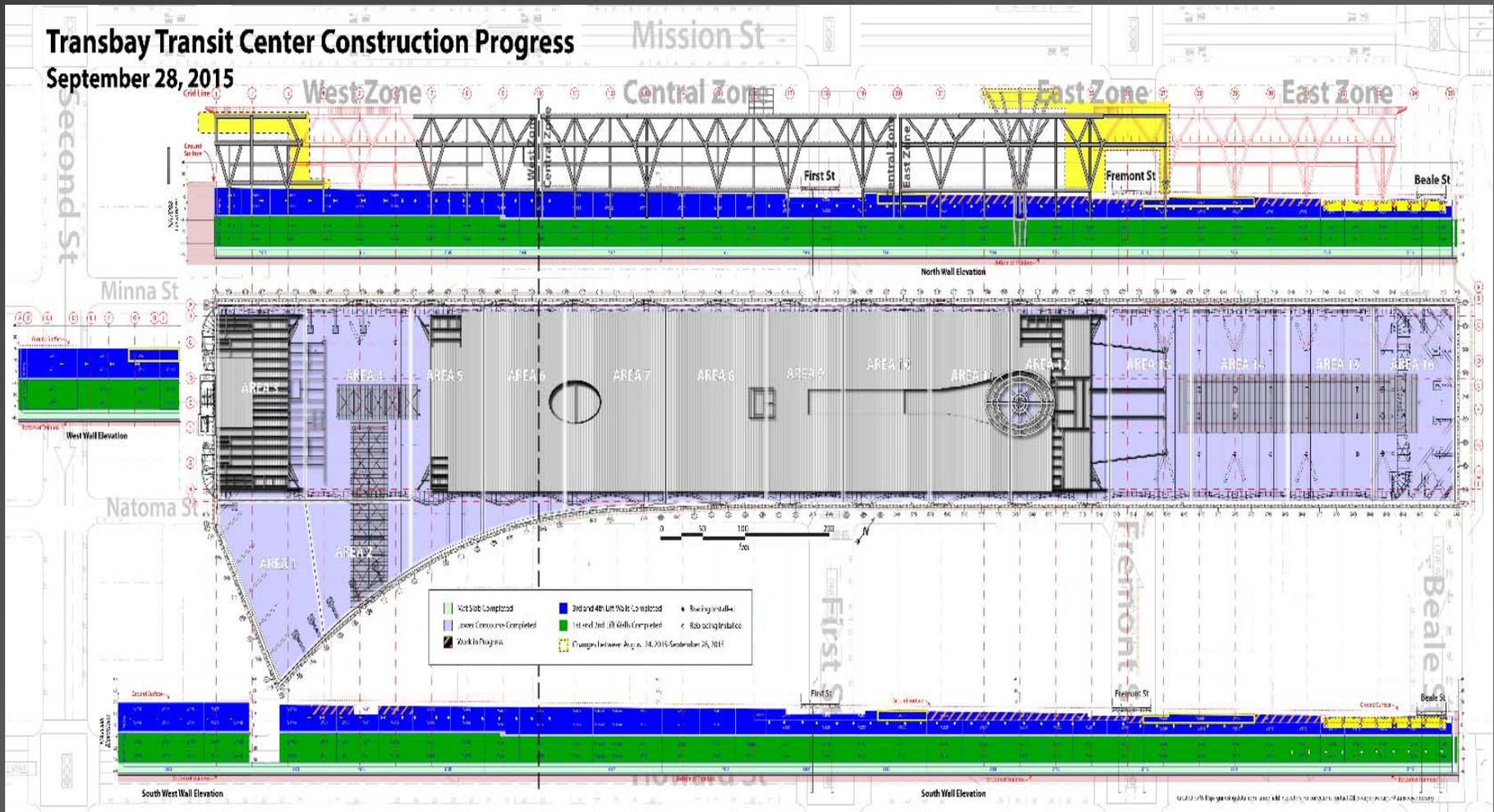
# Project Status – Active Milestones

#	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	June 2016
	Percent Complete as of September 30, 2015	83%	61%
3	Complete Above Grade Concrete	Q2 2016	Q3 2016
	Milestone Activity Start	December 2014	February 2015 (A)
	Milestone Activity Finish	Jan. 2017	Jan. 2017
	Percent Complete as of September 30, 2015	35%	31%



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## Project Status Diagram





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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 Aug 2015	(\$4.0)	(\$28.5)	(\$17.4)	(\$79.0)	(\$16.0)	(\$144.9)
Remaining Baseline Budget Amounts (Aug 2015)	\$4.2	\$34.0	\$19.0	\$8.5	\$14.3	\$80.1
Structural Steel Change Orders		(\$0.2)				(\$0.2)
Bus Ramp Change Orders		\$0.7				\$0.7
Below Grade Change Orders		(\$0.0)				(\$0.0)
July-September Trade Package Awards	(\$1.8)	(\$10.7)		(\$6.9)	(\$12.7)	(\$32.1)
Total Draws/Adds Sep 2015	(\$1.8)	(\$10.2)	(\$0.0)	(\$6.9)	(\$12.7)	(\$31.6)
Remaining Balances	\$2.5	\$23.8	\$19.0	\$1.5	\$1.6	\$48.4



# Project Status – Safety Statistics

Project Safety	2010 / 2011 / 2012	2013	2014	2015 (through Sep. 30)
Total Craft Hours by Year	627,744	315,000	375,615	401,696
Number of Recordable Incidents	9	3	13	6
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 / tbd / tbd	tbd / 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 / tbd / tbd	tbd / tbd / tbd

NOTES: Injury August 7 was reclassified as Lost Time injury. Injured foot later required surgery in September

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 September 2015

## Project Wide Safety

- There were no recordable injuries this period. However the injury from August 7 was changed to a lost time injury when the injured foot later required surgery.
- WOJV has investigated each incident and corrective measures have been put in place.
- WOJV continues with their weekly safety recognition program.
- Project wide there have been over 1,720,055 craft hours completed (excludes demolition) through September 30.
- Project wide increase of 50,043 craft labor hours since our last construction update for August.

## Western Zone (GL 1-10)

- Structural steel erection is complete with welding in progress from GL 1 to GL 3.
- Steel fabrication is complete for all steel in the western zone. Steel for GL 4 to GL 6 being delivered.
- Trestle removal preparations have begun for GL4 to GL6 with trestle removal scheduled for the first week of October.
- Steel erection and welding is complete GL 7 to GL 10.
- Falsework for ground level decks in progress GL7 to GL10.
- Concrete placement for interior partition walls continues.



# Period Summary for September 2015

## Central Zone (GL 10-20)

- Mechanical, Electrical and Plumbing (MEP) trades continue with rough-in work on the metal deck at all levels between GL 8 and GL 20.
- Stair installation continues between in the central zone with a total of 5 stairs in progress.
- Level 1, Level 2 and Bus Deck structural concrete is complete between GL 10 and GL18.
- Roof level structural concrete slab is complete GL 10 to GL 15. Roof perimeter walls are well underway GL 10 to GL 15.

## Eastern Zone (GL 20-35)

- Structural steel crossed over Fremont Street on September 26-27. This work requires a nightly full closure of Fremont Street and is scheduled for completion of overnight steel assembly work on October 11<sup>th</sup>.
- Light column is now fully erected with structural welding well underway. The Light Column welding will complete in early October.
- 4<sup>th</sup> lift concrete walls started in late August ahead of steel and continue on site between Fremont Street and Beale Street.



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# Superstructure Concrete Progress Through September 30, 2015

Steel Erection Zones	4 <sup>th</sup> Lift Walls	4 <sup>th</sup> Lift Walls Poured	4 <sup>th</sup> Lift Walls Percent	Ground Level Decks	Ground Level Poured	Ground Level Percent
Western	27	23	85%	17	0	0%
Central	20	20	100%	10	9	90%
Eastern	35	6	17%	15	0	0%
Total	82	49	60%	42	9	21%



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# Superstructure Concrete Progress Through September 30, 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	0	0%	9	0	0%
Central	17	15	88%	10	4	40%
Eastern	21	0	0%	14	0	0%
Total	56	15	27%	33	4	12%



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## Western Zone Activity



West end progress with  
Grid Lines 1-3 steel erection.



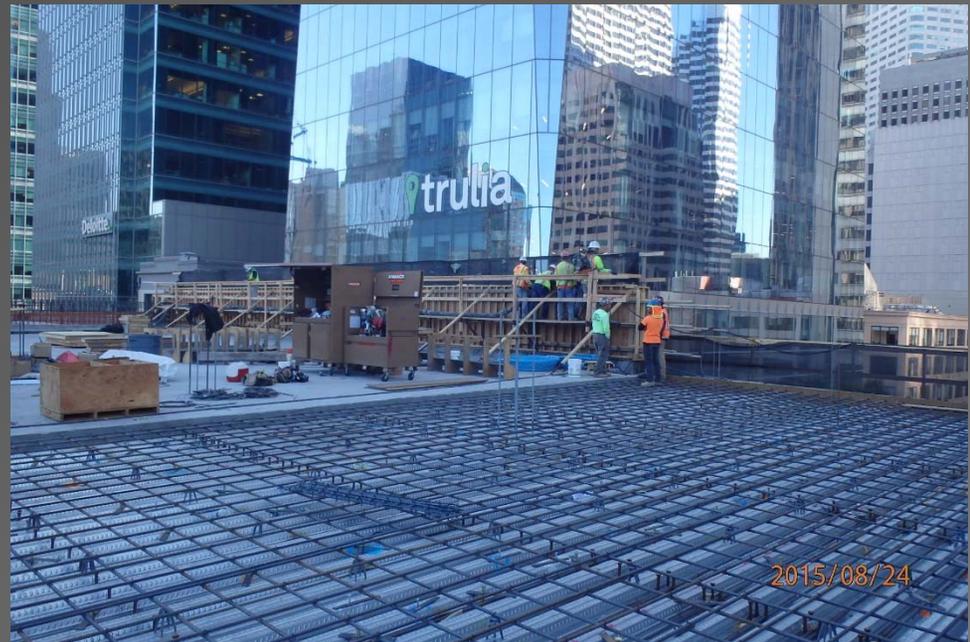
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# Central Zone Activity



Above: Ongoing stair installation.

Right: Reinforcing for roof deck and formwork for roof top perimeter walls.





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## Central Zone Activity

Ground Level:  
“Eyebrow”  
Concrete Deck  
Slab Falsework –  
erecting between  
Grid Line 10 and  
Grid Line 8.





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# Eastern Zone Activity Steel Assembly



Steel assembly adjacent to  
Fremont Street.

# Eastern Zone Activity Light Column



Light Column viewed from Fremont Street  
looking west.

# Eastern Zone Activity Steel over Fremont Street

Fremont Street steel  
crossing.

September 26-27





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# Eastern Zone Activity Steel over Fremont Street



Steel overcrossing  
September 30



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# Bus Ramp and Cable Stay Bridge as of September 30, 2015

- Current Status
  - Constructing abutments and retaining walls at the Bay Bridge off-ramp near Harrison Street and the area between Harrison and Folsom street.
  - Howard Street Cable Stay Bridge soffit formwork is now complete. Poured concrete for the first link beam on September 25<sup>th</sup>.
  - Tehama Street viaduct overcrossing soffit pour is scheduled for mid October.
  - Folsom Street viaduct overcrossing soffit pour is scheduled for late October.





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# Bus Ramp and Cable Stay Bridge

Cable stay  
bridge north  
span - including  
newly installed  
cable sleeves.





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# Bus Ramp and Viaduct



**Above: Wall of Abutment #2 for the future dedicated Bus Ramp viaduct (North of Harrison Street).**

**Right: Reinforcing of Abutment #1 formwork for the future Bay Bridge Off-ramp viaduct (South of Harrison Street).**





# Construction The Next 30 Days

- **Next 30 Days (Oct.)**

## **Central & Western Zone**

- Continue structural steel erection for the balance of the western zone.
- Complete MEPF rough-in of metal decks and slabs in the central zone and continue with decks and slabs in the western zone.
- Complete the concrete deck placement in the central zone and start concrete deck placement in the western zone.
- Continue with the roof top concrete perimeter wall placement in the central zone and start roof top “scallop” wall concrete placement.
- Continue with stairs construction in the central zone.

- **Next 30 Days (Oct.)**

## **Eastern Zone**

- Continue 4th lift walls concrete placement in the eastern zone.
- Complete the welding of the Light Column. Continue welding of the structure in the eastern zone.
- Complete steel erection over Fremont Street in the eastern zone.
- Continue structural steel fabrication, delivery and erection in eastern zone.

## **Bus Ramp Project**

- Continue Bus Ramp viaduct and Cable Stay Bridge soffit and stem wall formwork. Start concrete placement at both Folsom and Tehama Street.



# Construction

## The Next 90 Days

- Next 90 Days (Nov.-Dec.)

### Central & Western Zone

- Complete the structural steel erection in the western zone. Continue welding of all connections; Grid lines 3 to 7.
- Continue the MEPF rough-in of metal decks and slabs of the western zone.
- Continue with the concrete deck placement in the western zone.
- Continue with the roof top perimeter wall and the “scallop” wall concrete placement in the central zone.
- Continue with stairs in the central zone and start stairs in the western zone.
- Start CMU wall construction in the central zone.
- Start Spray Applied Fireproofing in the central zone.

- Next 90 Days (Nov.-Dec.)

### Eastern Zone

- Continue 4th lift walls concrete placement in the eastern zone.
- Complete the structural steel fabrication for the eastern zone.
- Continue with steel erection and welding of the structure in the eastern zone.
- Preparations for steel erection impact to Beale Street.

### Bus Ramp Project

- Continue Bus Ramp viaduct and Cable Stay Bridge soffit formwork. Continue concrete placement above Folsom, Tehama & Howard Streets including Cable Stay Bridge soffits, stem and link beams.



# Construction

## The Next 90 Days

- Next 90 Days (Nov.-Dec.)

Contractors recently mobilized to site:

- Crown-Corr Inc. (Exterior Awning, and Glass Curtain Walls)
- Fisk Electric (Electrical and low voltage conduits)
- Desert Mechanical Inc. (Plumbing and HVAC)
- Olson & Co. Steel (Miscellaneous Metals)
- Transbay Fire Protection Inc. (Fire sprinkler system)
- Southwest Specialty Contractors (Metal Ceiling Systems)
- Skanska USA Building (Interiors, CMU walls, Wall framing, etc.)

- Next 90 Days (Nov.-Dec.)

New Contractors mobilizing to site:

- Clayton National (Fire proofing)
- Best Contracting Services (Waterproofing systems)
- McKendry Door Sales (Overhead Coiling Doors and Grilles)
- Shimmick Construction Co. Inc. (Bollards and Barriers)
- Pacific Erectors Inc. (Metal Wall Panels)
- Gordon N. Ball Inc. (Civil/Site Work at Grade and Ground Level Landscaping)
- Concrete North Inc. (Concrete Topping Slabs, Bus Crash Rail, Expansion Joints)



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# Bay Area Regional Labor Breakdown

	Through September 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	665,928	39%
North Bay (Marin, Napa, Sonoma)	60,763	4%
South Bay (San Mateo, Santa Clara)	157,894	9%
San Francisco	284,560	17%
Other*	537,119	31%
<b>Totals</b>	<b>1,706,264**</b>	<b>100%</b>

\*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 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	105,420	34%
North Bay (Marin, Napa, Sonoma)	14,005	5%
South Bay (San Mateo, Santa Clara)	38,066	12%
San Francisco	84,058	28%
Other*	62,998	21%
<b>Totals</b>	<b>304,546*</b>	<b>100%</b>

\*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 2015

<b>Classification</b>	<b>TTC Building and RUP's*</b>
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	291
Cement Mason	89
Electrical – Utility Lineman	28
Electrician	78
Field Surveyor	38
Iron Worker	743
Laborer and Related Trades	803
Operating Engineer	475
Pile Drivers	221
Plumber	36
Roofer and Waterproofoer	40
Sheet Metal	8
Teamsters	181
Tile Setters / Finishers	7
Water Well Driller	9
<b>Totals</b>	<b>3,090</b>

\* Relocation of Utilities Project



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# Questions?

