



# Construction Update

October 2015

## Transbay Transit Center

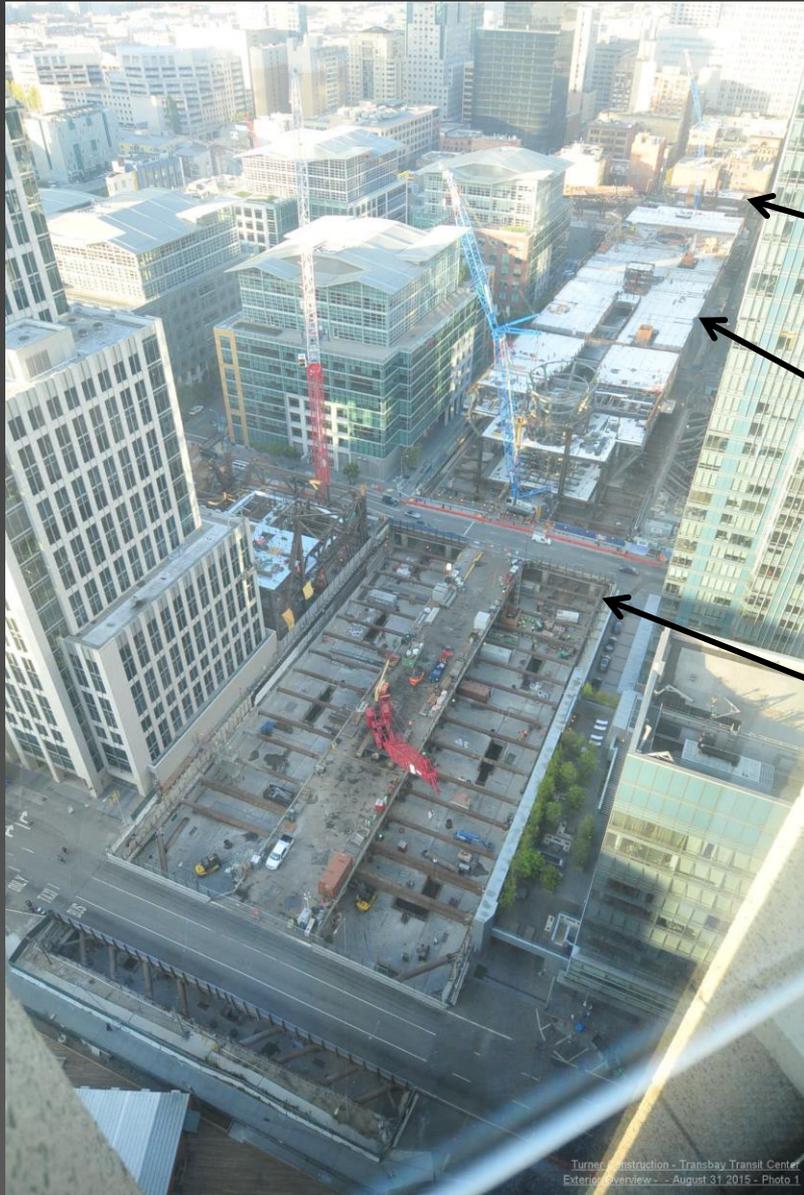
**TJPA**





Transbay Transit Center

# Current Project Overview



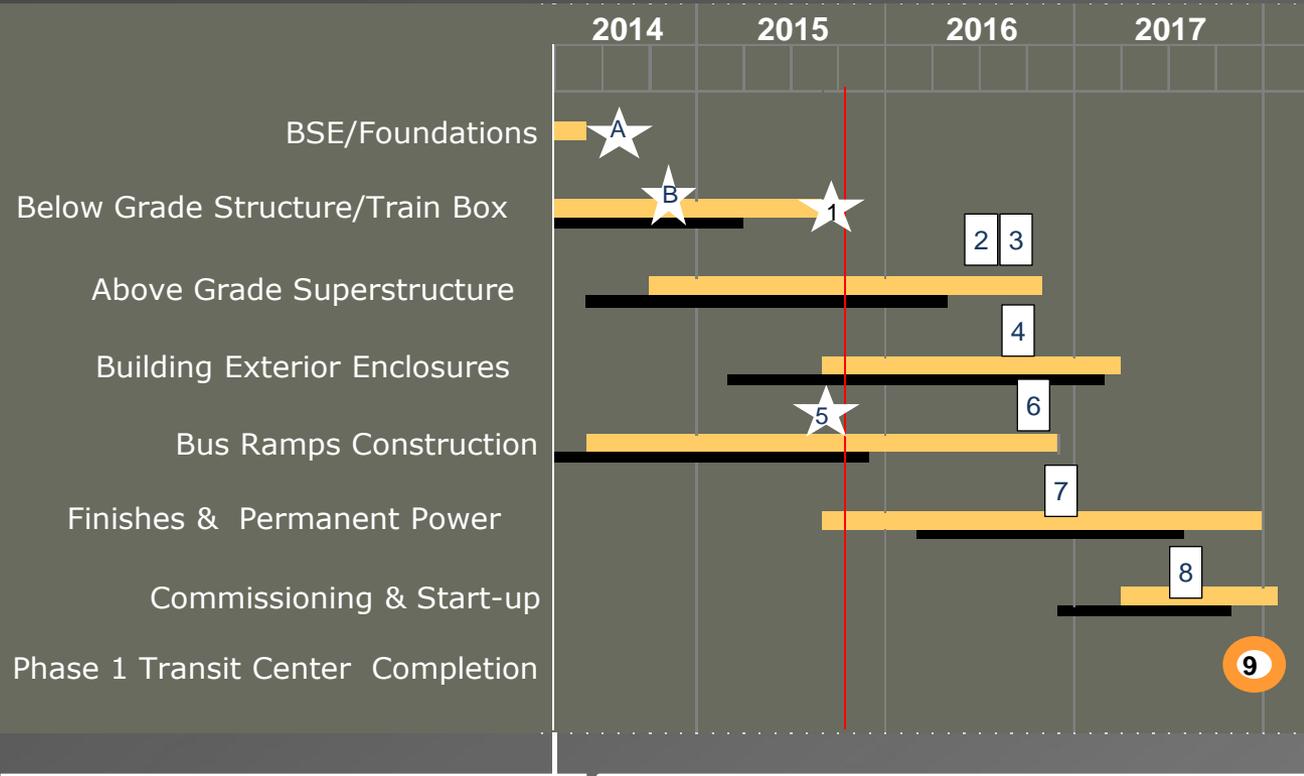
Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20

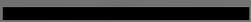
Eastern Zone – Gridlines 20 to 35

# 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.

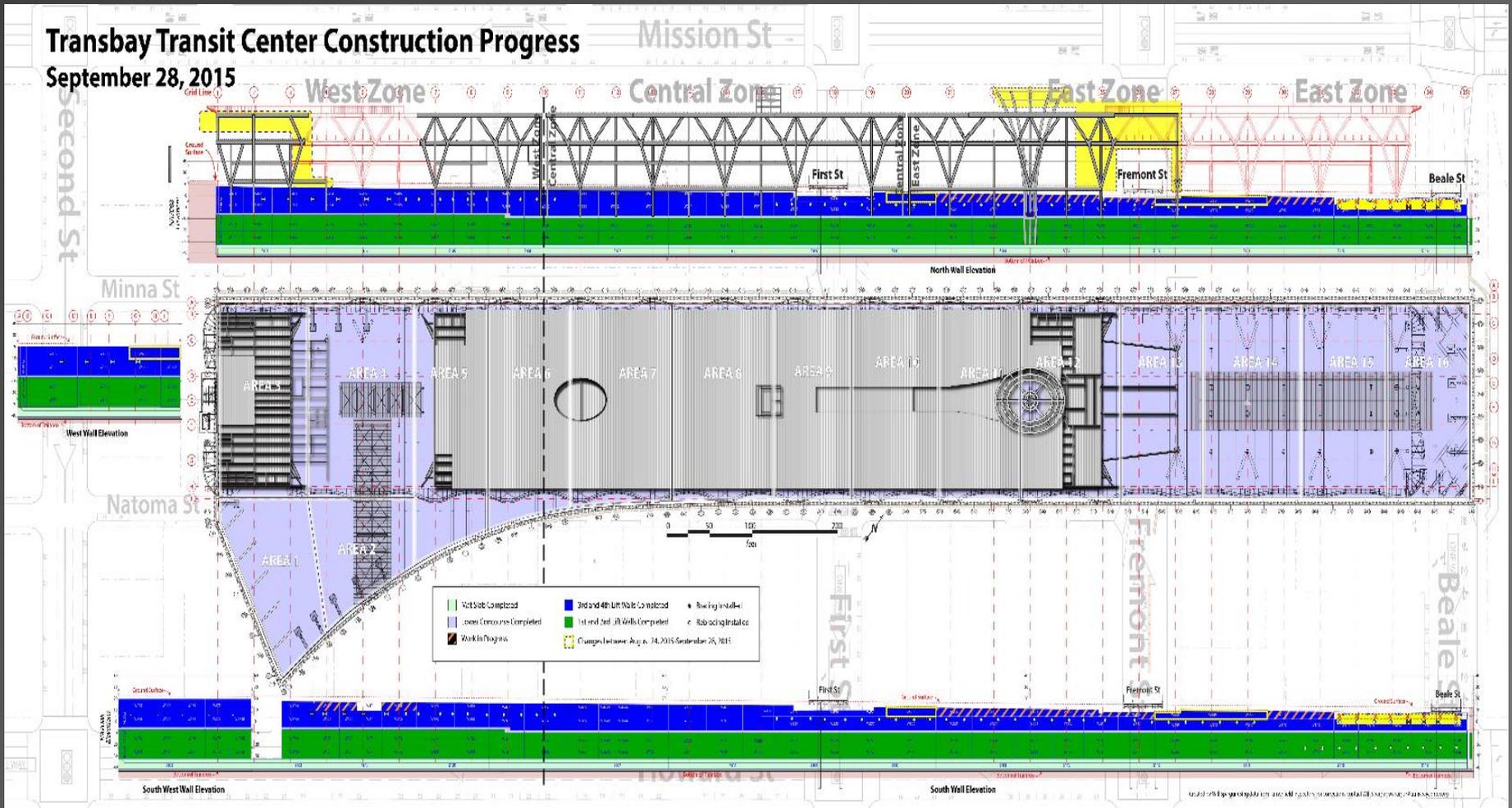


# Project Status – Active Milestones

#	Milestone	Planned	Actual / Current
<b>2</b>	Complete Structural Steel Erection and Welding	<b>Q1 2016</b>	<b>Q2 2016</b>
	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%
<b>3</b>	Complete Above Grade Concrete	<b>Q2 2016</b>	<b>Q3 2016</b>
	Milestone Activity Start	December 2014	February 2015 (A)
	Milestone Activity Finish	Jan. 2017	Jan. 2017
	Percent Complete as of September 30, 2015	35%	31%



## Project Status Diagram





# 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/Addds 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%



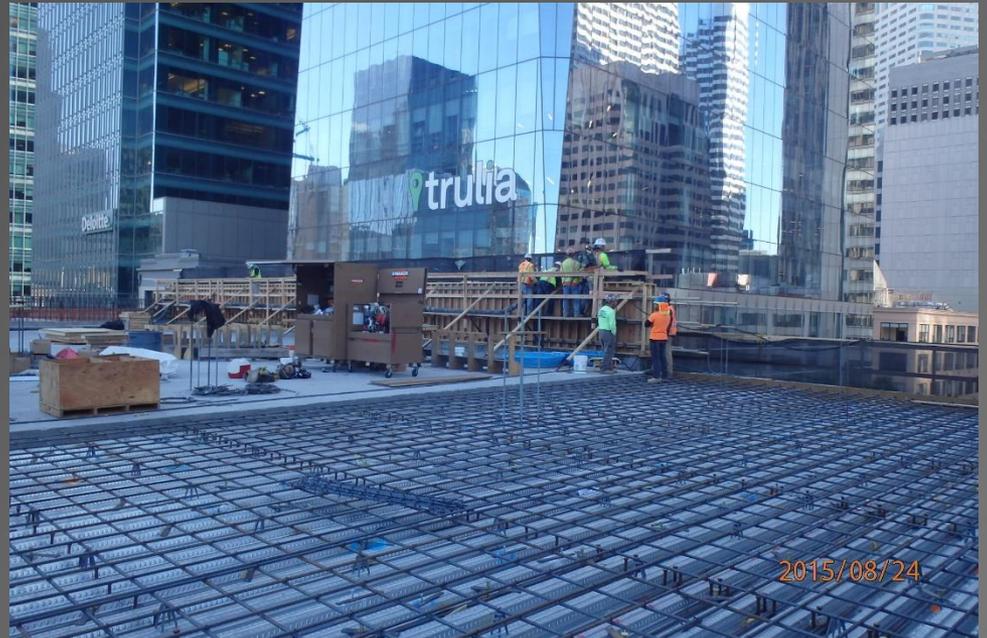
West end progress with  
Grid Lines 1-3 steel erection.



# Central Zone Activity



Above: Ongoing stair installation.



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



**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.



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# 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



# 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.



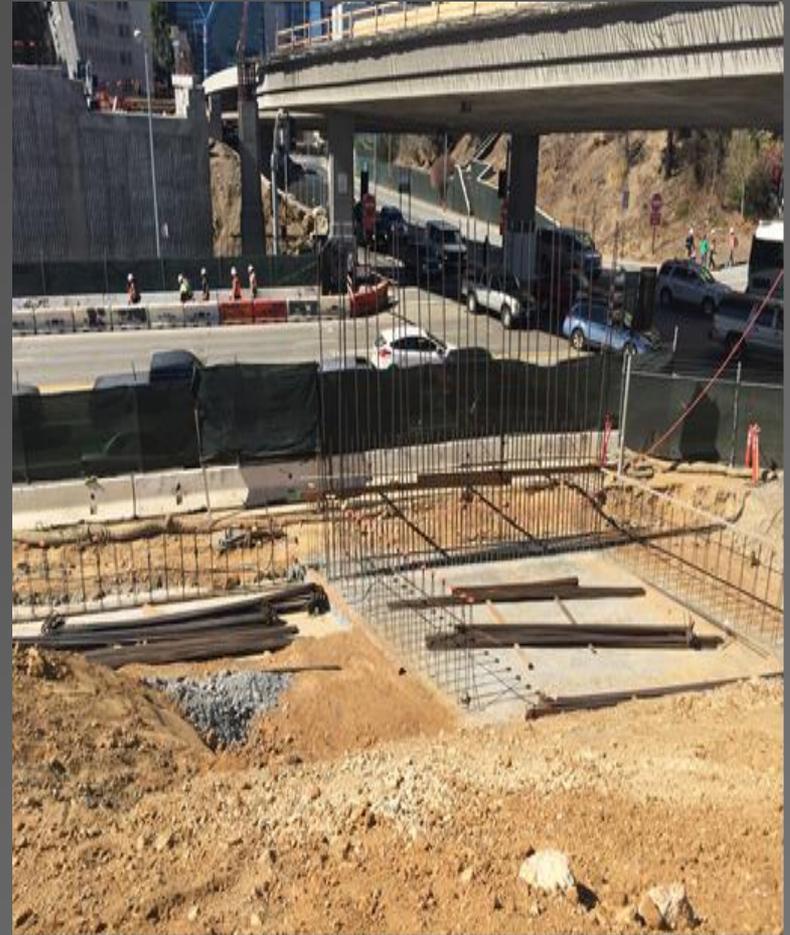


# Bus Ramp and Viaduct



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)

# 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.

# 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.



# Labor Breakdown by Trade through September 2015

Classification	TTC Building and RUP's*
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?

