



Construction Update

November 2015

Transbay Transit Center

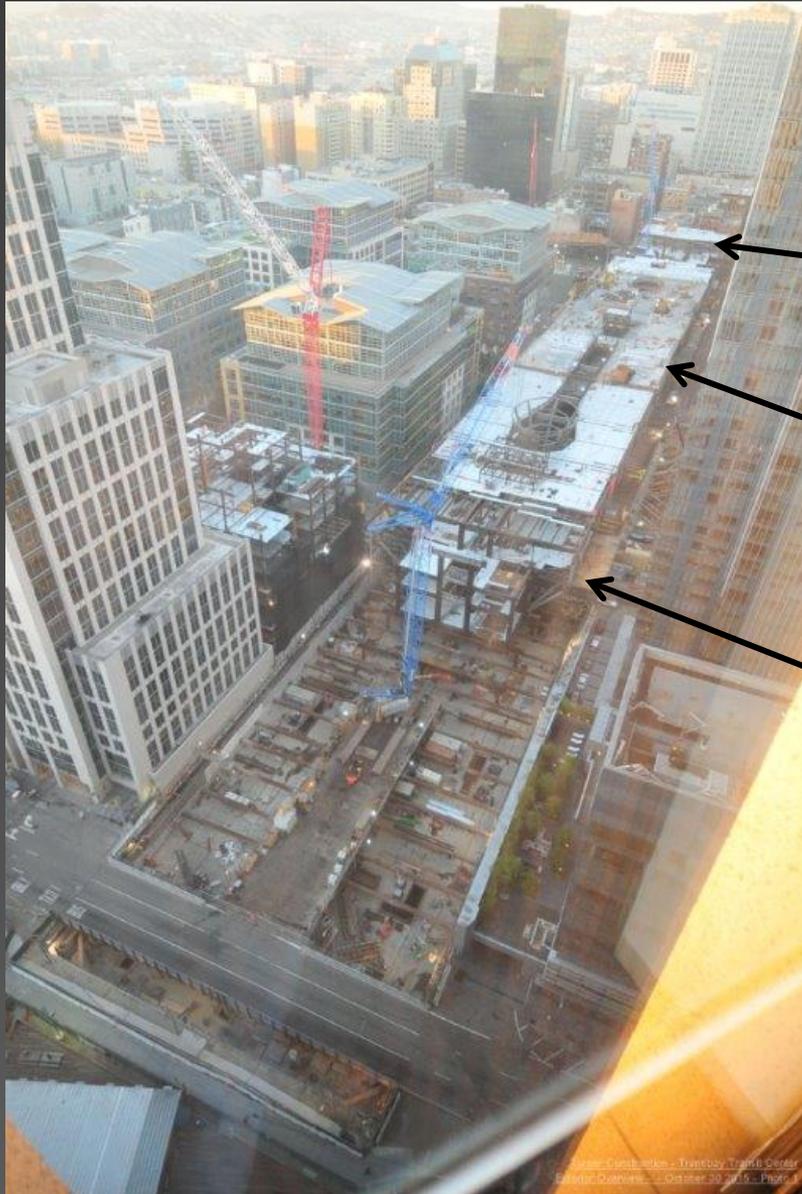
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Transbay Transit Center

Current Project Overview



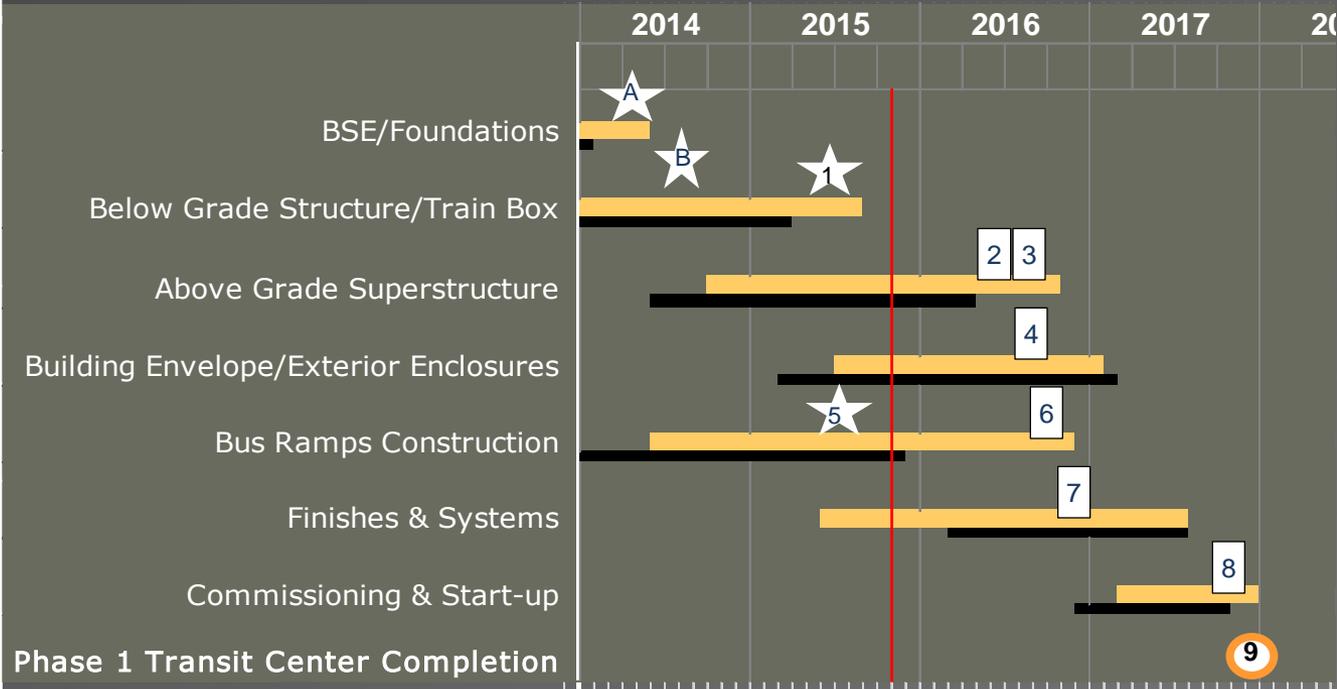
Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20

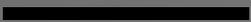
Eastern Zone – Gridlines 20 to 35

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 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

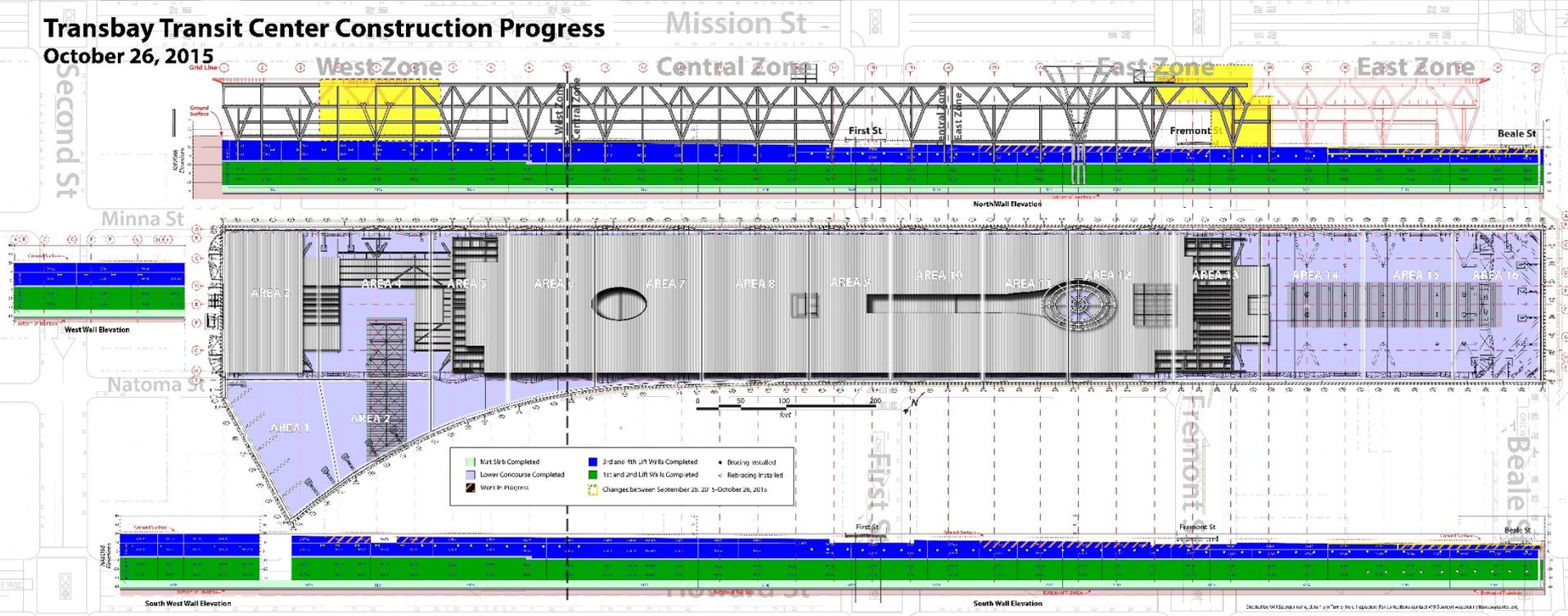
#	Milestone	Planned	Actual / Current
2	Complete Structural Steel Erection and Welding	Q1 2016	Q2 2016
	Milestone Activity Start	July 2014	Oct. 29, 2014 (A)
	Milestone Activity Finish	Dec. 2015	April 2016
	Percent Complete as of October 30, 2015	88%	77%
3	Complete Above Grade Concrete	Q2 2016	Q3 2016
	Milestone Activity Start	December 2014	February 2015 (A)
	Milestone Activity Finish	Jan. 2017	October 2016
	Percent Complete as of October 30, 2015	42%	31%



Transbay Transit Center

Project Status Diagram

Transbay Transit Center Construction Progress
October 26, 2015





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 Sept. 2015	(\$5.5)	(\$38.7)	(\$17.4)	(\$85.9)	(\$28.7)	(\$176.2)
Remaining Baseline Budget Amounts (Oct 2015)	\$2.7	\$23.8	\$19.0	\$1.6	\$1.6	\$48.7
Below Grade Change Orders			(\$0.6)			(\$0.6)
Structural Packages Change Orders		(\$0.2)				(\$0.2)
Bus Ramp Change Orders		(\$0.5)				(\$0.5)
Column Covers Change Order		(\$6.8)				(\$6.8)
Glass Curtain Wall Change Orders		(\$1.2)				(\$1.2)
Metal Ceilings Partial Release		(\$2.3)				(\$2.3)
Logistics Packages Change Orders			(\$0.1)			(\$0.1)
Utility Relocation Change Orders		(\$0.2)				(\$0.2)
Total Draws/Adds Oct 2015	\$0.0	(\$11.3)	(\$0.7)	\$0.0	\$0.0	(\$12.0)
Remaining Balances	\$2.7	\$12.5	\$18.3	\$1.6	\$1.6	\$36.8

Project Status – Safety Statistics

Project Safety	2010 / 2011 / 2012	2013	2014	2015 (through Oct. 31)
Total Craft Hours by Year	627,744	315,000	375,615	490,734
Number of Recordable Incidents	9	3	13	9
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:

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 October 2015

Project Wide

- There were three recordable injuries this period. Incidents included a nail to the finger, a twisted ankle and a laceration.
- Each incident has been reviewed and corrective action taken.
- Project wide there have been over 1,800,000 craft hours completed (excludes demolition) through October 31, 2015. This is an increase of over 89,000 craft hours this period.

Western Zone (GL 1-10)

- Structural steel erection is complete from GL1 to GL4.
- Trestle removal was completed in early October from GL4 to GL7.
- Structural steel erection is in progress from GL4 to GL7.
- Steel erection and welding is complete from both GL1 to GL3 and GL7 to GL10.
- Concrete placement at ground level decks completed from GL7.5 to GL10.
- Concrete placement for interior partition walls continues.
- Work continues at Stair 201, the west end exit stair.



Period Summary for October 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 23.
- Stair installation continues with a total of 5 stairs in progress.
- Ground Level, Level 2 and Bus Deck structural concrete is complete between GL 10 and GL19. Concrete at GL19 to GL20 scheduled for 11/30/15.
- Roof level structural concrete slab is complete GL 10 to GL 20. Roof perimeter walls are well underway GL 10 to GL 17.

Eastern Zone (GL 20-35)

- Light column is now fully welded and inspected.
- 4th lift concrete walls continue between Fremont Street and Beale Street.
- Fabrication of Structural Steel continues in three shops (TMF in WA, XKT in CA and Firetrol in NY).
- Structural steel erection is now complete from GL25 to GL27 over Fremont Street.
- Trestle removal and structural steel erection continues from GL27-29.



Transbay Transit Center

Superstructure Concrete Progress Through October 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	11%
Central	20	20	100%	10	9	90%
Eastern	35	18	51%	15	0	0%
Total	82	61	74%	42	11	26%



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Superstructure Concrete Progress Through October 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	0	0%	9	0	0%
Central	17	15	88%	10	10	100%
Eastern	21	0	0%	14	0	0%
Total	56	15	27%	33	10	30%



Western Zone Activity



Above: Formwork for trainbox lid at southwest corner.

Above Right: Trainbox lid “eyebrow” formwork at north side Shaw Alley.

Below Right: West and central zone structural steel is now connected.



Central Zone Activity



Above: Light column welding now complete.

Above Right: Trainbox lid "eyebrow" formwork at south side.

Below Right: Preparing light column base plate bolts.





Eastern Zone Activity



Above: Steel erection across Fremont Street and still going.
Above Right: 4th lift waterproofing installation at Beale Street, east end.
Below Right: Installation of vertical joint at east end in preparation of 4th lift walls.





Bus Ramp and Cable Stay Bridge as of October 30, 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.
- Installation of cable saddles and cable guides for the bridge has begun.
- Tehama Street viaduct overcrossing soffit poured on Nov. 5th.
- Folsom Street viaduct overcrossing reinforcing steel continues in preparation for the soffit pour scheduled in November.





Bus Ramp and Cable Stay Bridge



Above: Abutments and retaining walls at Harrison Street.

Above Right: Viaduct formwork and reinforcing steel at Frame 1.

Below Right: Viaduct formwork, reinforcing and embedded items in Frame 3.





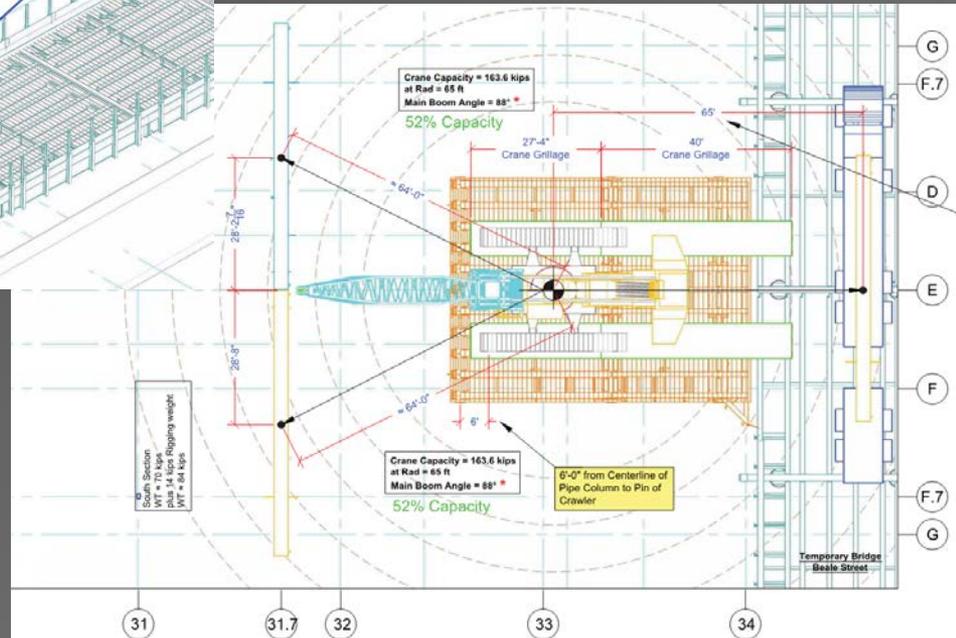
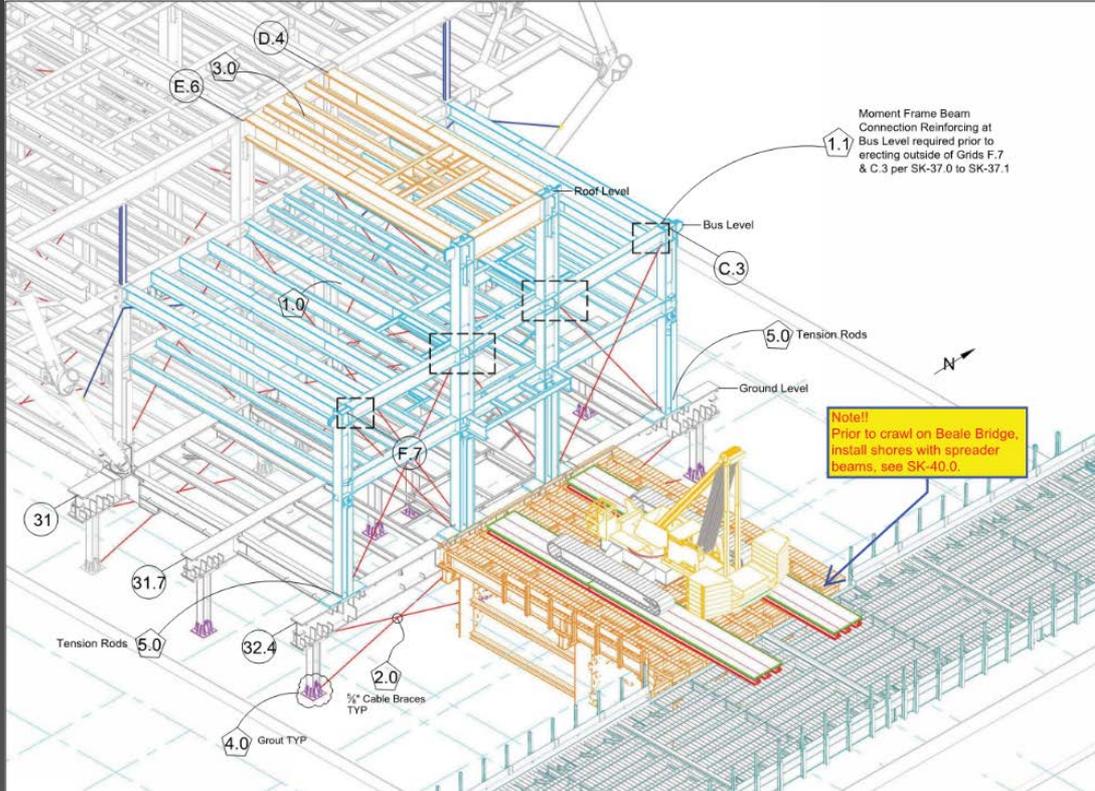
Construction

The Next 30 – 90 Days

- **Next 30 Days (Nov.)**
 - Complete structural steel erection in the western zone and de-mobilize crane.
 - Continue MEPF rough-in of metal decks and slabs in central and western zones. Start MEPF rough-in for the eastern zone.
 - Complete the concrete deck placement in the central zone and continue concrete deck placement in western zone.
 - Continue roof top (park level) concrete perimeter wall placement. Complete first “scallop” wall concrete placement.
 - Continue Bus Ramp viaduct and Cable Stay Bridge soffit and stem wall formwork.
- **Next 60 - 90 Days (Dec. – Jan.)**
 - Complete 4th lift wall concrete placement in the eastern zone.
 - Complete structural steel erection in the eastern zone.
 - Continue welding of structure in the western and eastern zones.
 - Continue decks and slabs in western and eastern zones.
 - Continue Bus Ramp viaduct and Cable Stay Bridge soffit and stem wall formwork.
 - Continue rebar and concrete placement at both Folsom and Tehama Street viaduct.
 - Continue roof top (park level) concrete perimeter and scallop wall placement.

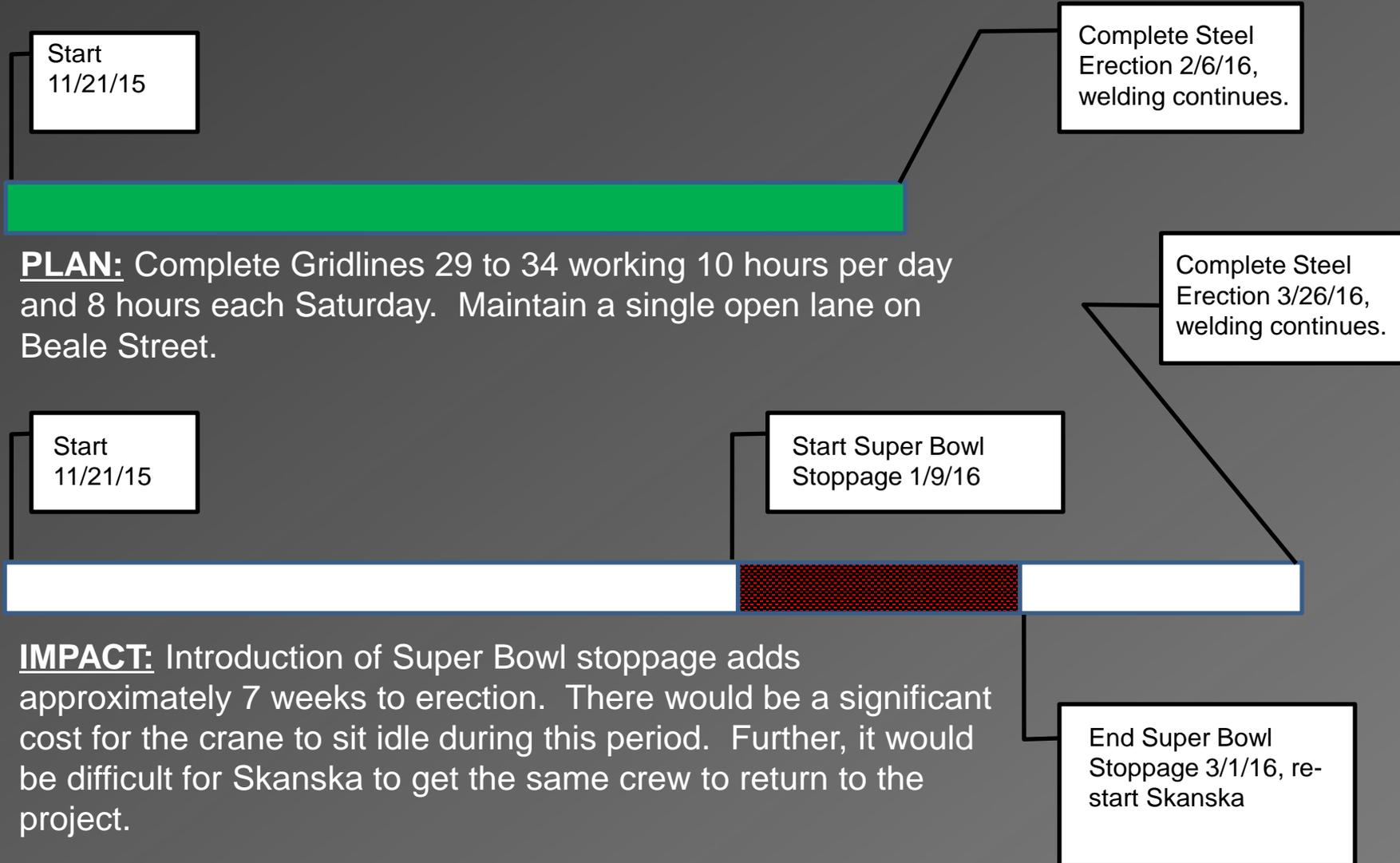


Steel Erection and Beale Street





Steel Erection and Beale Street



Super Bowl 50 Street Use Activities

1/9/16

1/23/16



Remove OCS lines Market to Embarcadero

1/23/16

1/30/16



Build Super Bowl City tents.

1/31/16

2/7/16



SUPER BOWL WEEK ACTIVITIES

2/8/16

2/13/16



Remove Super Bowl City tents.

2/14/16

2/28/16



Replace OCS lines Market to Embarcadero



Proposed Mitigation Plan to Avoid SB 50 Delay

Start
11/09/15

Fifty 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.

REVISED PLAN TO AVOID DELAY TO COMPLETION:

De-energize and remove OCS lines from Beale Street (requires bus re-route or use of diesel) from Nov. 19, 2015 through Jan. 16, 2016. Skanska adds a second shift. Shift #1 continues to work the five 10 hour days and eight hours on Saturday while Shift #2 works five 8 hour days and eight hours on Saturday.

Phase 1: Nov. 9 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. 9 to Dec. 17; Beale Street, two lanes closed, one lane open at all times.

Phase 4: Dec. 18 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.

Bay Area Regional Labor Breakdown

	Through October 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	732,530	41%
North Bay (Marin, Napa, Sonoma)	63,680	4%
South Bay (San Mateo, Santa Clara)	169,219	9%
San Francisco	294,528	16%
Other*	549,135	30%
Totals	1,809,093**	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 October 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	117,371	36%
North Bay (Marin, Napa, Sonoma)	14,813	5%
South Bay (San Mateo, Santa Clara)	40,091	12%
San Francisco	87,668	27%
Other*	64,116	20%
Totals	324,059*	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.



Labor Breakdown by Trade through October 2015

Classification	TTC Building and RUP's*
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	337
Cement Mason	90
Electrical – Utility Lineman	28
Electrician	81
Field Surveyor	38
Iron Worker	807
Laborer and Related Trades	859
Operating Engineer	478
Pile Drivers	226
Plumber	37
Roofer and Waterproofor	40
Sheet Metal	8
Teamsters	181
Tile Setters / Finishers	7
Water Well Driller	9
Totals	3,269

* Relocation of Utilities Project



Transbay Transit Center

Questions?

