



# Construction Update

July 10, 2014

# Transbay Transit Center

**TJPA**





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# Current Project Overview



Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20

Eastern Zone – Gridlines 20 to 35



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# Period Summary

- There was one recordable safety incident this period. An ironworker performing rebar installation strained his back. Corrective actions have been implemented.
- The Safety Fest was held on June 20<sup>th</sup>. It was a huge success and very well received by the field team. Four training stations including fall protection and heat illness prevention were included.
- There have been over 1,100,000 craft hours completed, excluding demolition, through June 30, 2014. An increase of over 50,000 hours since our last construction update.





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# Period Summary – Safety Statistics

	2011	2012	2013	2014 (through June 30 <sup>th</sup> )
Total Craft Hours by Year	203,560	421,488	315,000	157,787
Number of Recordable Incidents	3	6	3	6
Number of Lost Time Incidents	1	0	0	2
WO Project Annual RIR / National Annual BLS RIR Average / California RIR Average	2.95 / 3.10 / 3.8	2.85 / 3.20 / 3.6	1.90 / tbd* / tbd*	n/a
WO Project Annual LTIR / National Annual BLS LTIR Average / California LTIR Average	0.98 / 0.90 / 1.8	0.00 / 1.10 / 1.7	0.00 / tbd* / tbd*	n/a

## 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. As a result, 2013 statistics are not yet available.



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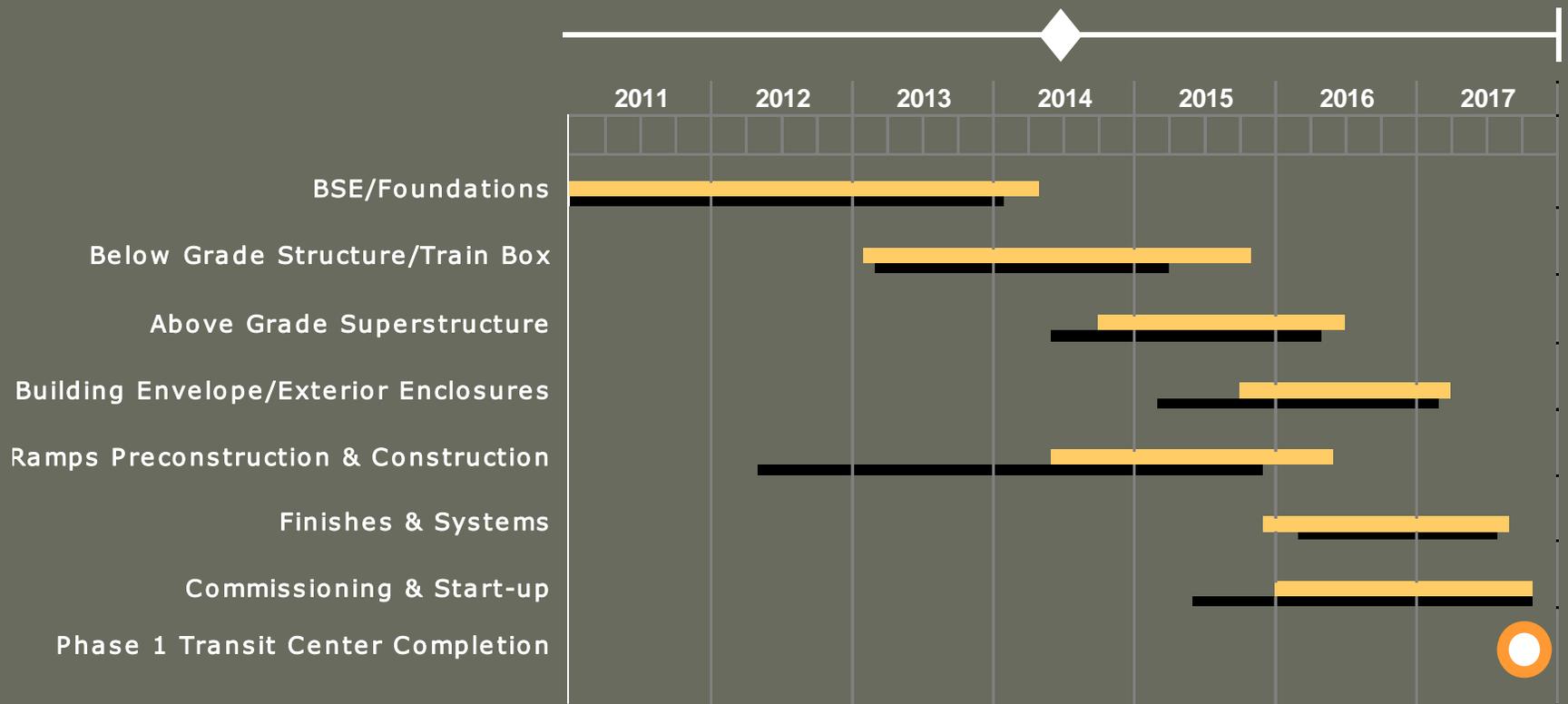
## Period Summary

- Wall and column concrete placement continues between the Rail Level and the Lower Concourse in the west and central zones.
- Lower Concourse slab rebar, embedded plumbing and embedded electrical is in progress, in anticipation of concrete placement, in the central and western zones.
- The first four of 36 Lower Concourse decks have been completed.
- Re-Bracing, following wall placement, continues in the western, central and now the eastern zones.
- Waterproofing and protection slab work continues in preparation for future mat foundation pours in the eastern zone.
- Mat Foundation pour #12 was completed on June 28<sup>th</sup>.

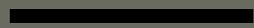


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# Construction Schedule – Critical Items\*



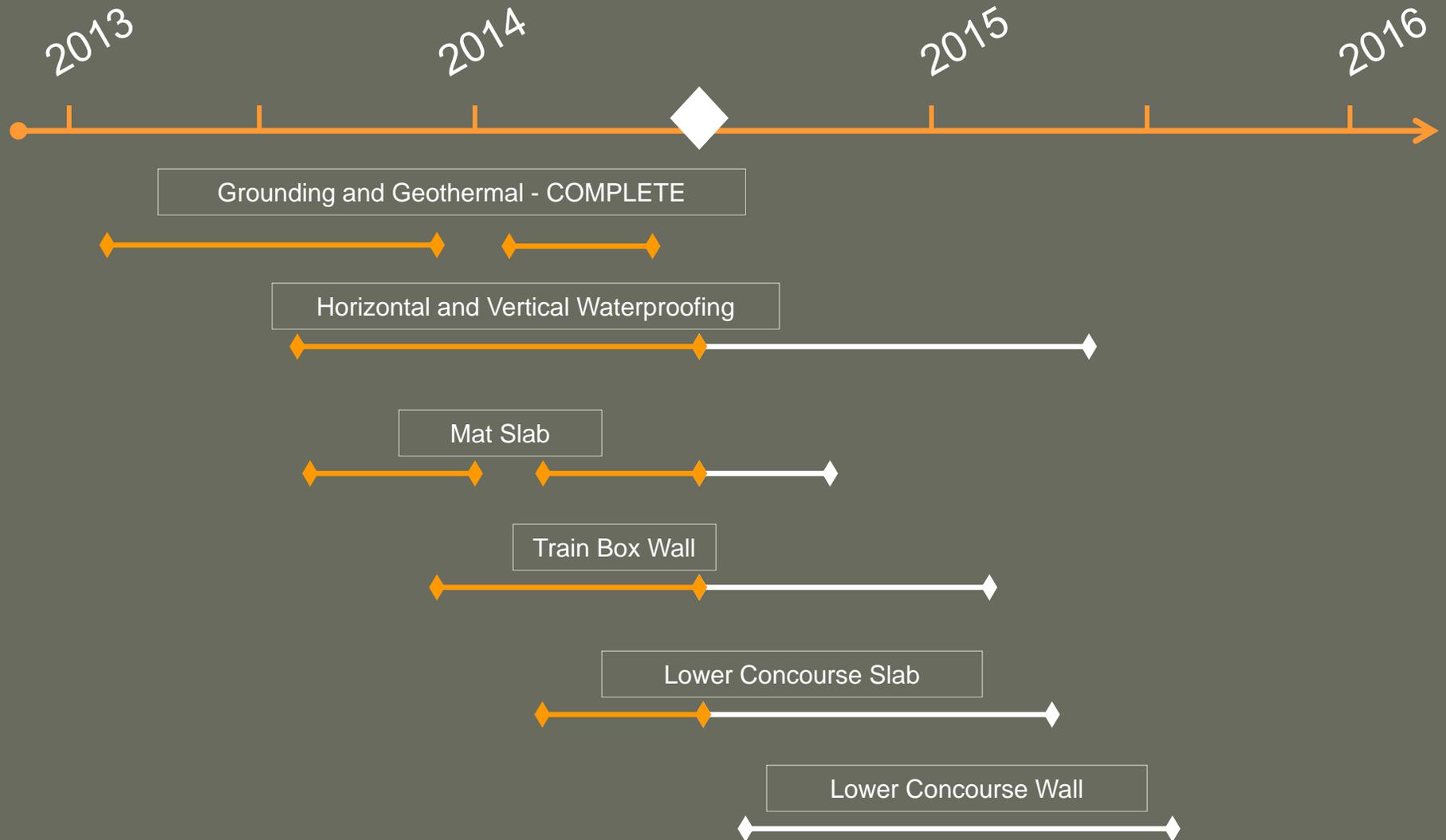
\* The current critical path of the project is as follows; structural steel fabrication, west end train box walls lift 3, lower concourse decks, central and east end train box walls lifts 1 and 2 and re-bracing.

Current Schedule   
Baseline Schedule 



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# Below Grade Concrete Timeline Summary





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# Below Grade Concrete Progress Through June 30, 2014

Zone	Total Columns	Columns Complete	Percent Complete	Total 1st Lift Walls	1st Lift Walls Complete	Percent Complete	Total 2nd Lift Walls	2nd Lift Walls Complete	Percent Complete
Western	62	62	100%	35	35	100%	35	19	54%
Central	44	40	91%	20	20	100%	20	18	90%
Eastern	62	0	0%	35	2	6%	35	0	0%



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# Western Zone Activity



Walls and Columns



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# Western Zone Activity



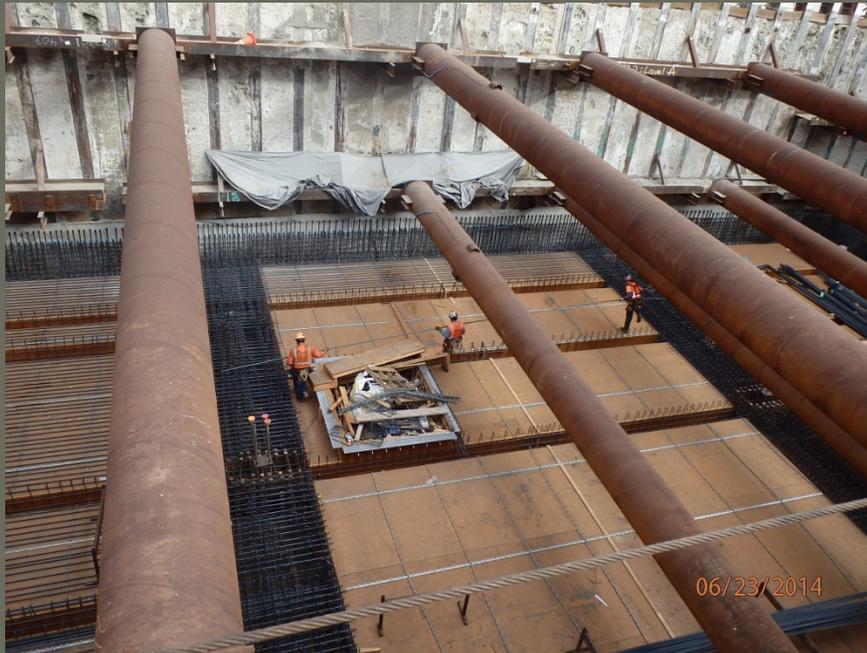
Lower Level walls and Concourse Deck.





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# Central Zone Activity



Lower Concourse Deck.





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# Central Zone Activity



Lower Concourse Deck placed.





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# Eastern Zone Activity



Mat Slab #12 Placement.

Light Column Anchor Bolts.





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# Eastern Zone Activity



Prepping for next Mat Slab Placement.





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## Train Box Mat Slab Concrete Placement

Four (4) mat slabs remain to be placed.

**Current Scheduled Dates:**

Slab 13 – July 19

Slab 14 – August 2

Slab 15 – August 16

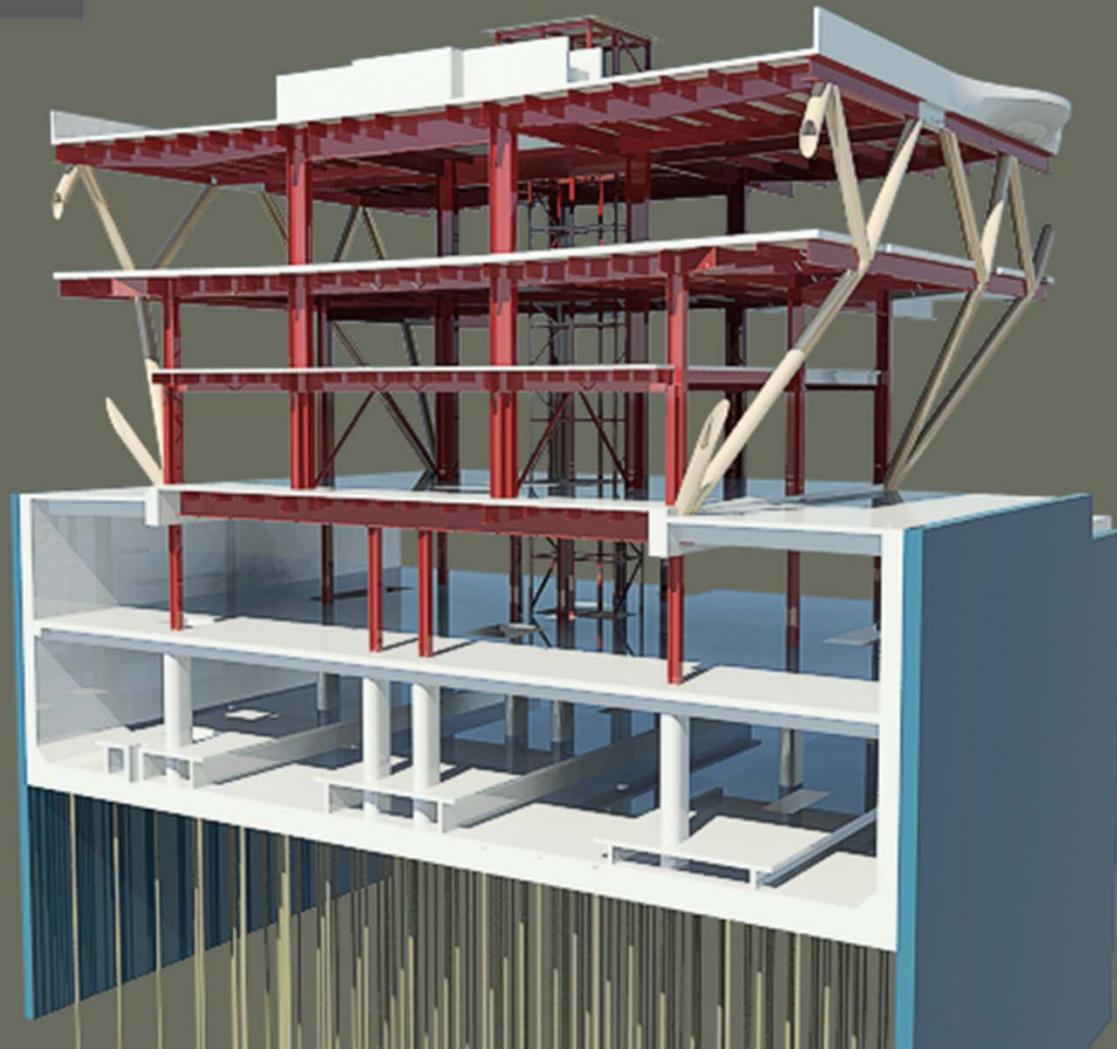
Slab 16 – September 6





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# Structural Steel





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# Structural Steel Fabrication

## Steel Fabrication

- Continue cast node fabrication in Louisiana and Kansas.
- Continue cast node shipments to Oregon and Washington.
- Continue fabrication of structural steel in Oregon and Washington.
- Continue fabrication of structural steel in Vallejo, CA.
- Continue fabrication of structural steel in San Bernardino, CA.

## Steel Erection : West of First Street

October 2014 – Deliver steel sections and start erection near Shaw Alley.

## Steel Erection : First – Fremont

January 2015 – Deliver steel sections and start erection First St. to Fremont St.

## Steel Erection : Fremont – Beale

October 2015 – Deliver steel sections and start erection Fremont St. to Beale St.



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# Structural Steel Fabrication

Work Proceeding at  
Thompson Metal  
Fabricators





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# Structural Steel Fabrication

Work Proceeding at  
Thompson Metal  
Fabricators





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# Structural Steel Fabrication

Work Proceeding at  
Oregon Iron Works –  
Preheating and  
Welding on to a Cast  
Node





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# Cast Node Fabrication as of July 7, 2014

Casting Group	Totals	In-Process Pattern Completion	In-Process Casting and Machining	Release 1 Shipments March-May	Release 2 Shipment May-June	Release 3 Shipment Jul - Aug	Release 4 Shipment October	Release 5 Shipment December	Release 6 Shipment December
Ground Level - Atchison 19,600 - 46,300 lbs	35	12	5	8	9	2	0	0	0
Bus Deck - Amite 9,500 - 22,800 lbs	75	23	13	16	10	2	0	0	4
Roof Level - Atchison 4,400 - 5,400 lbs	138	2	54	32	32	6	0	0	0
Light Columns	56	26	40	N/A	0	0	0	0	0
<b>Totals</b>	<b>304</b>	<b>63</b>	<b>112</b>	<b>56</b>	<b>51</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: In-Process Casting quantity does not include already shipped nodes.

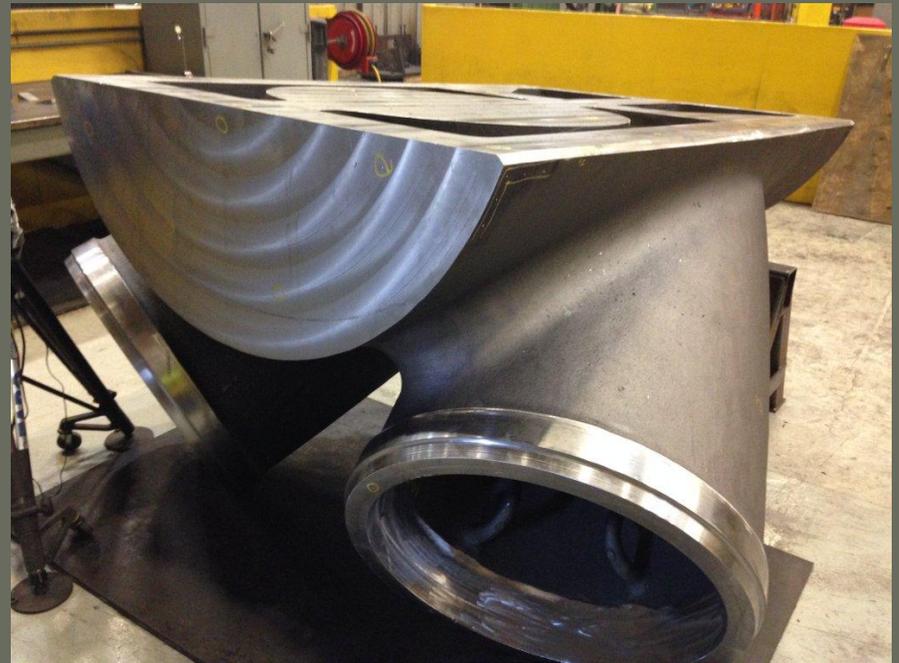


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# Cast Node Fabrication



Type 6 Nodes





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## Cast Node Fabrication



Node Type 1, machining completed, ready for inspection and shipping.

Various node types ready for final inspection.





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# Cast Node Fabrication

Type 71 and 72  
Nodes





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## Utility Relocation - AWSS Installation Update

AWSS work continues at night at direction of SFMTA/MUNI to accommodate bus traffic. Work on Mission between Beale and Fremont was stopped June 24<sup>th</sup> as a result of a new PG&E conflict. Work to continue on Aug. 3<sup>rd</sup> after PG&E clears conflict.

### To Go- In Progress :

Fremont – Beale Street; anticipate completion by end of August.





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# Construction The Next 90 Days

- Next 30 Days (July)
  - Continue concrete foundation walls and columns in western, central and eastern zones.
  - Continue Lower Concourse concrete deck rebar and embedded piping/electrical in the central and western zones.
  - Continue placing Lower Concourse slabs in central and western zones.
  - Place mat slab 13 in zone 4.
  - Complete waterproofing for mat slab pours 15 - 16.
  - Continue Structural Steel and Cast Node fabrication.
  - Start Bus Ramp work between Harrison and Howard Streets.
- Next 60-90 Days (Aug. – Sept.)
  - Continue concrete foundation walls and columns of the train box in west, central and east zones.
  - Continue Lower Concourse decks in central zone and western zone.
  - Start re-bracing eastern zone
  - Place mat slabs 14 through 16 in eastern zone.
  - Complete AWSS work along Mission Street.
  - Continue Bus Ramp work.
  - Continue Structural Steel and Cast Node fabrication.



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# 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 May 2014	(\$1.7)	(\$1.3)	(\$1.1)	(\$28.6)	(\$0.0)	(\$32.7)
Remaining Baseline Budget Amounts (May 2014)	\$6.5	\$61.2	\$35.3	\$58.9	\$30.3	\$192.2
Utility Relocation Change Orders		(\$0.3)				(\$0.3)
BGS Change Orders		(\$0.2)				(\$0.2)
<b>Total Draws in Jun 14</b>		<b>(\$0.5)</b>				<b>(\$0.5)</b>
<b>Remaining Balances</b>	<b>\$6.5</b>	<b>\$60.7</b>	<b>\$35.3</b>	<b>\$58.9</b>	<b>\$30.3</b>	<b>\$191.7</b>



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# Bay Area Regional Labor Breakdown

Labor by Area	Through June 2014	
Location	Total Hours Completed	Hours Percent
East Bay (Alameda, Contra Costa, Solano)	370,569	34%
North Bay (Marin, Napa, Sonoma)	36,625	3%
South Bay (San Mateo, Santa Clara)	98,362	9%
San Francisco	195,818	18%
Other*	399,057	36%
<b>Totals</b>	<b>1,100,431**</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 June 2014	
Location	Total Apprentice Hours	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	43,681	26%
North Bay (Marin, Napa, Sonoma)	6,892	4%
South Bay (San Mateo, Santa Clara)	26,568	16%
San Francisco	58,051	34%
Other*	34,049	20%
<b>Totals</b>	<b>169,241</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 June 2014

Classification	TTC Building and RUP's*
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	116
Cement Mason	59
Electrical – Utility Lineman	28
Electrician	44
Field Surveyor	30
Iron Worker	273
Laborer and Related Trades	623
Operating Engineer	367
Pile Drivers	145
Plumber	17
Roofer and Waterproofor	37
Sheet Metal	5
Teamsters	166
Tile Setters / Finishers	7
Water Well Driller	9
<b>Totals</b>	<b>1,969</b>

\* Relocation of Utilities Project



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# Questions?

