



# Construction Update

June 2015

## Transbay Transit Center

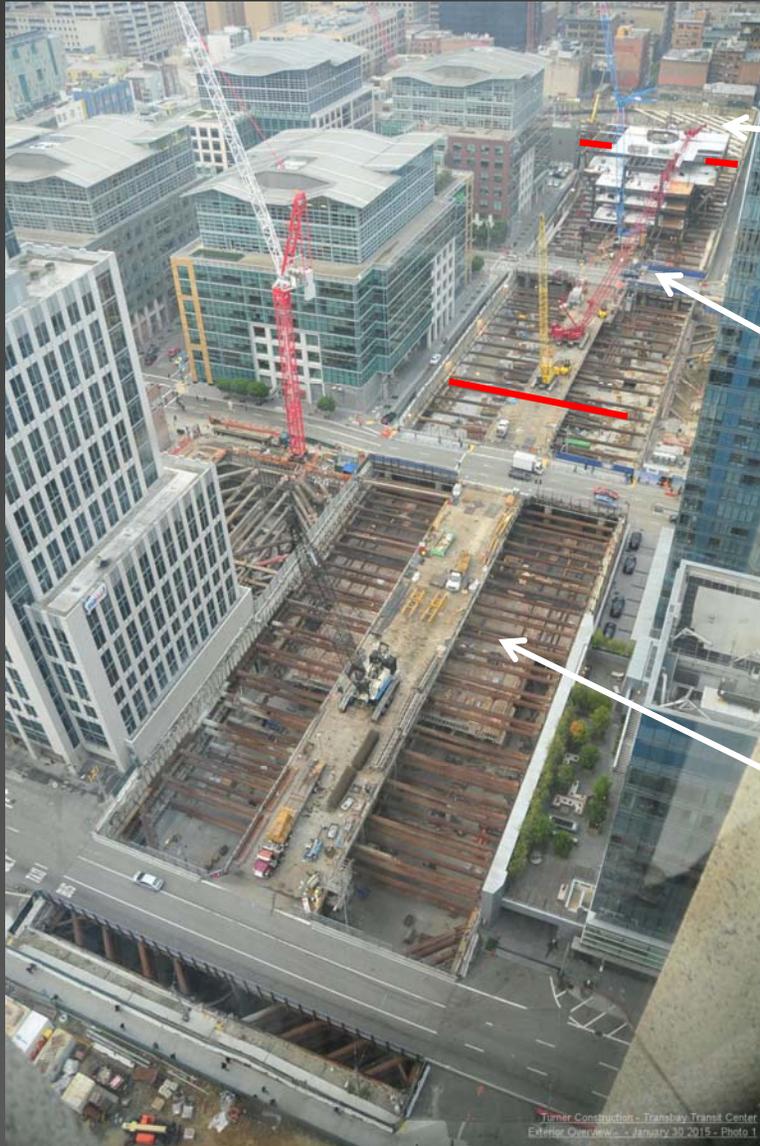
**TJPA**





Transbay Transit Center

# Current Project Overview



Western Zone – Gridlines 1 to 10

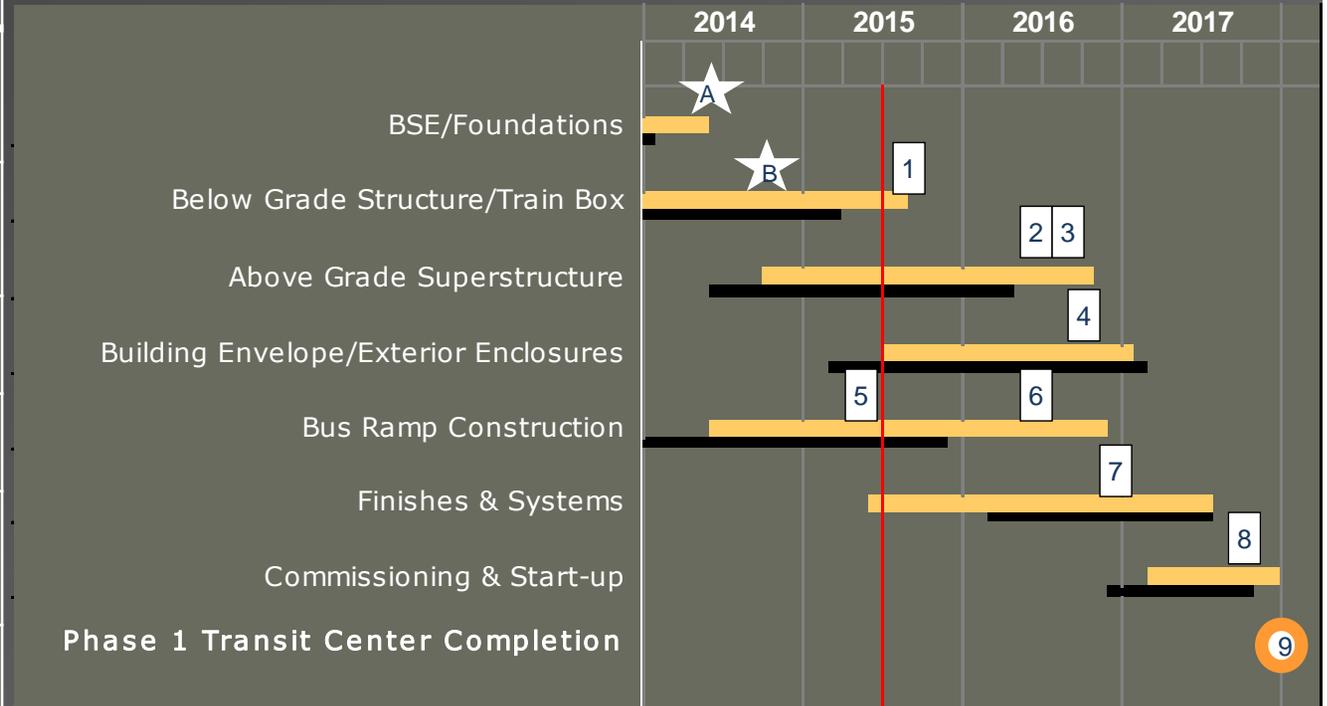
Central Zone – Gridlines 10 to 20

Eastern Zone – Gridlines 20 to 35



# Project Status – Schedule

#	Milestone	Current
1	Complete TG 6.0 Below Grade Concrete	Q3 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	Q2 2015
6	Complete Bus Ramp Viaduct and Cable Stay Bridge	Q2 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 and erection, and wall lift 3 and re-bracing in the eastern zone.

Current Schedule   
 Baseline Schedule

★ = Completed Work; A) excavation through “rat” slab installation (re-bracing remains). B) mat foundation slabs.



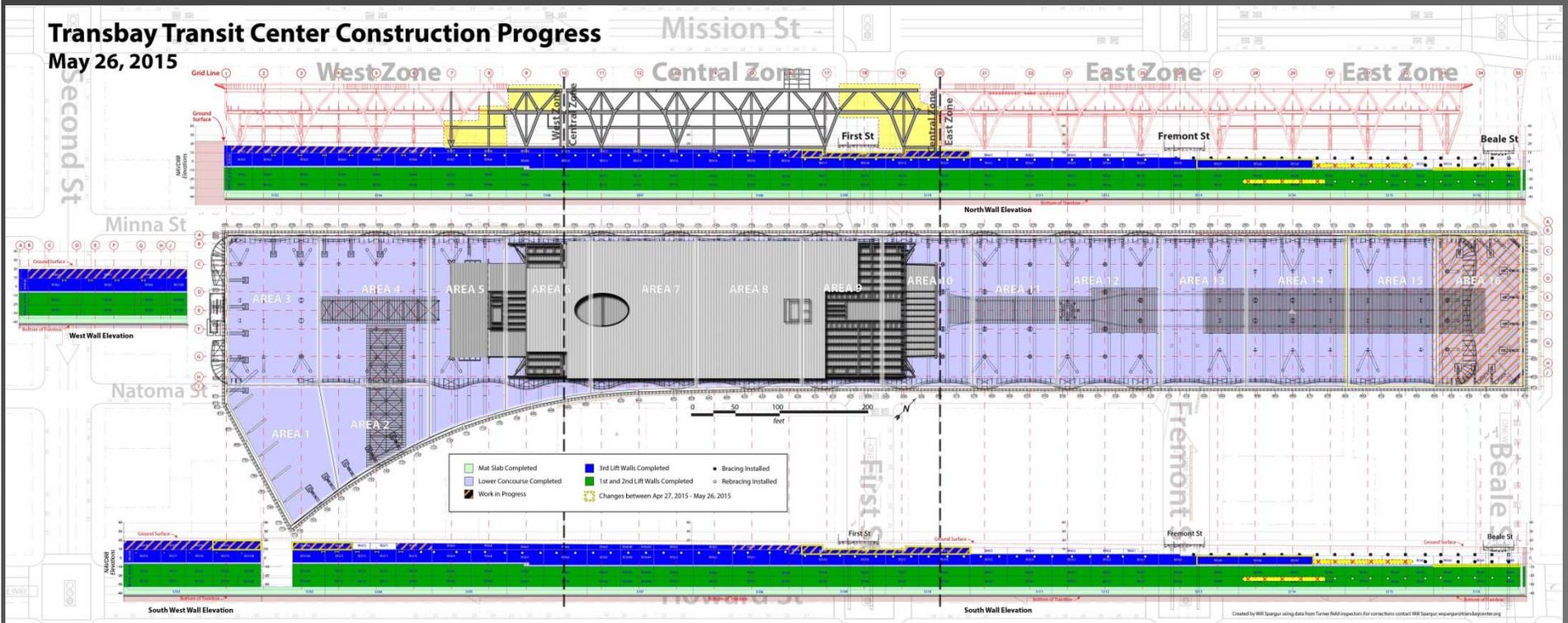
# Project Status – Active Milestones

#	Milestone	Planned	Actual / Current
1	Complete TG 6.0 Below Grade Concrete	Q3 2015	Q3 2015
	Milestone Activity Start	March 2013	Jul 17, 2013 (A)
	Milestone Activity Finish	June 2015	September 2015
	Percent Complete as of May 31, 2015	97%	97%
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	Apr. 2016
	Percent Complete as of May 31, 2015	61%	34%



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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 April 2015	(\$3.4)	(\$24.3)	(\$9.2)	(\$80.4)	(\$11.6)	(\$128.9)
Remaining Baseline Budget Amounts (April 2015)	\$4.8	\$38.2	\$27.2	\$7.1	\$18.7	\$96.0
BSE Change Orders			(\$2.5)			(\$2.5)
Below Grade Structure Change Orders			(\$4.8)			(\$4.8)
Structural Steel/Concrete Change Orders		(\$0.1)				(\$0.1)
Bus Ramp Change Orders		(\$0.0)				(\$0.0)
Trade Package Awards	(\$0.1)			(\$1.6)	(\$1.4)	(\$3.1)
Total Draws/Adds May 2015	(\$0.1)	(\$0.1)	(\$7.4)	(\$1.6)	(\$1.4)	(\$10.6)
Remaining Balances	\$4.7	\$38.1	\$19.8	\$5.5	\$17.3	\$85.4



# Project Status – Safety Statistics

	2010 / 2011 / 2012	2013	2014	2015 (through May 31 <sup>st</sup> )
<b>Total Craft Hours by Year</b>	<b>627,744</b>	<b>315,000</b>	<b>375,615</b>	<b>196,298</b>
<b>Number of Recordable Incidents</b>	<b>9</b>	<b>3</b>	<b>13</b>	<b>1</b>
<b>Number of Lost Time Incidents</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>
<b>WO Project Annual RIR / National Annual BLS RIR Average / California RIR Average</b>	<b>2.87 / 3.6 / 3.8</b>	<b>1.90 / 3.8 / 4.0</b>	<b>6.92 / tbd / tbd</b>	<b>tbd / tbd / tbd</b>
<b>WO Project Annual LTIR / National Annual BLS LTIR Average / California LTIR Average</b>	<b>0.32 / 1.9 / 1.8</b>	<b>0.00 / 1.8 / 1.7</b>	<b>1.60 / tbd / tbd</b>	<b>tbd / tbd / tbd</b>

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 May 2015

- There were no recordable or lost time safety incidents this period.
- There have been over 1,500,000 craft hours completed, excluding demolition, through May 31, 2015. This is an increase of over 70,000 hours since our last construction update.
- Steel fabrication continues in all Structural Steel fabrication shops. For now, Skanska is still taking advantage of six different fabrication facilities.
- Structural steel has been erected from gridline (GL) 8 to GL 20. Welding and decking is in progress from GL 15 to GL 20. Deck areas have been turned over to follow on trades between GL 10 to GL 15.
- Structural steel erection with Crane #1 continues and is currently in progress eastward from GL 20. Work over First Street will be completed, including welding and decking, this month. Crane #2, steel erection continues west between GL 8 and GL 5.



## Period Summary for May 2015

- In the eastern zone, the final Lower Concourse deck placement occurred on May 30<sup>th</sup>. Re-bracing and 3<sup>rd</sup> lift wall concrete placement continues.
- In the western zone, falsework, rebar and concrete work on the vehicle / bike ramp as well as interior partition walls continues. In addition, the first Trainbox Lid (eyebrow portion) pour occurred on June 6<sup>th</sup> between GL 10 and GL12.
- Above Grade concrete work continues; 4<sup>th</sup> lift walls are complete between GL 7 and GL 16.
- MEP trades have begun rough-in work on the metal deck at both the ground level and 2<sup>nd</sup> level between GL 10 and GL 15.
- Stair installation, begun last month, continues between GL 10 and GL 15
- Work on the Bus Ramp / Bridge portion of the project continues. A significant milestone was achieved this period with the start of falsework for the viaduct portion of the work. Falsework began at Bent 2 on the south side of Folsom Street.



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# Below Grade Concrete Progress Through May 31, 2015

Steel Erection Zones	1st Lift Walls	1st Lift Walls Poured	1st Lift Walls Percent	2nd Lift Walls	2nd Lift Walls Poured	2nd Lift Walls Percent	3rd Lift Walls	3rd Lift Walls Poured	3rd Lift Walls Percent
Western	35	35	100%	35	35	100%	35	35	100%
Central	20	20	100%	20	20	100%	20	20	100%
Eastern	35	35	100%	35	35	100%	35	18	51%
<b>Total</b>	<b>90</b>	<b>90</b>	<b>100%</b>	<b>90</b>	<b>90</b>	<b>100%</b>	<b>90</b>	<b>93</b>	<b>81%</b>

Steel Erection Zones	Columns	Columns Poured	Columns Percent	Lower Concourse Decks	Lower Concourse Poured	Lower Concourse Percent	4th Lift Walls	4th Lift Walls	4th Lift Walls
Western	62	62	100%	10	10	100%	35	9	26%
Central	48	48	100%	10	10	100%	20	10	50%
Eastern	66	66	100%	16	16	100%	35	0	0%
<b>Total</b>	<b>176</b>	<b>176</b>	<b>100%</b>	<b>36</b>	<b>36</b>	<b>100%</b>	<b>90</b>	<b>19</b>	<b>21%</b>



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## Western Zone Activity



Above Left : View of west end from northwest corner.



Above Right: Ongoing steel erection.



Below Right: Vehicle / bicycle ramps and future temporary support of cable stay bridge.



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# Central Zone Activity



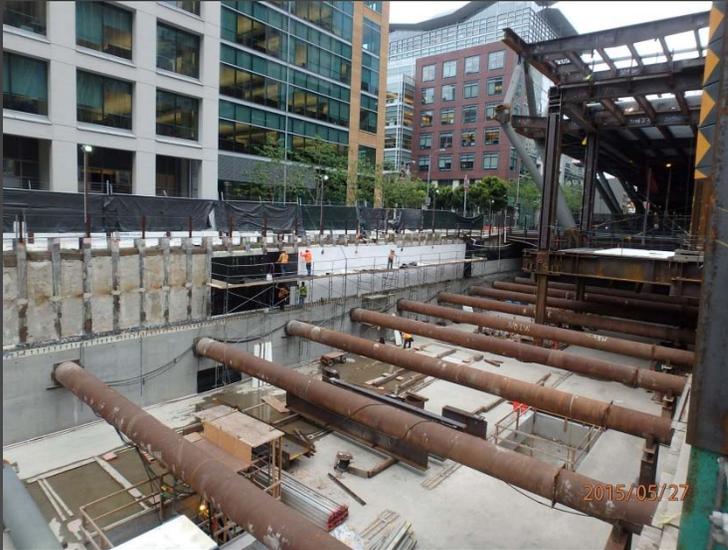
Structural steel erection crossing  
First Street.





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# Central Zone Activity



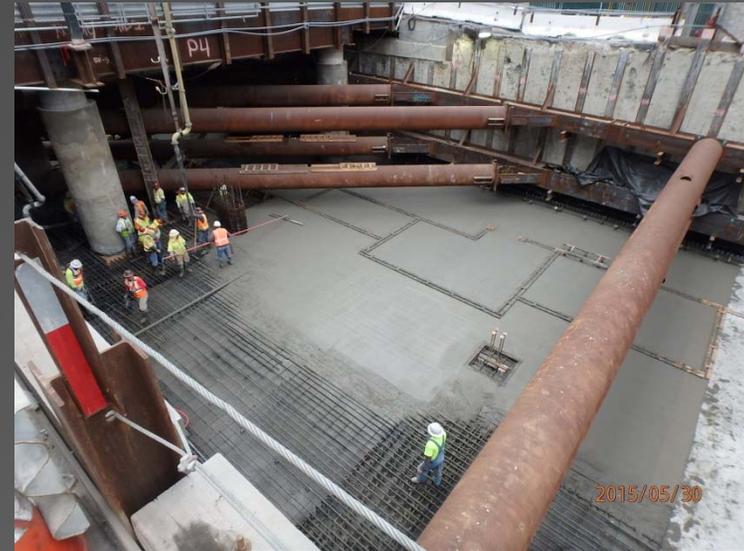
Above: 4<sup>th</sup> lift wall preparation.



Above Right: Stair installation work continues.



Below Right: Formwork for Train Box lid (eyebrow) concrete placement.



Final Lower Concourse concrete placement was May 30, 2015. Bid Package TG 06, Below Grade Concrete, has placed over 98,000 cubic yards of concrete to date.



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# Ongoing Structural Steel Fabrication



Above: Light column ring ready for shipping from XKT in Vallejo.

Above and Below Right: Light column legs in fabrication at XKT in Vallejo.





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# Cast Node Fabrication as of May 31, 2015

Casting Group	Totals	Shipments Mar.-May	Shipment May-June	Shipment August	Shipment September - October	Shipment November - December	Shipment January – April	Total Shipped to Date
Ground Level - Atchison 19,600 - 46,300 lbs	35	8	6	8	2	0	9	33
Bus Deck - Amite 9,500 - 22,800 lbs	75	16	5	10	16	8	20	75
Roof Level - Atchison 4,400 - 5,400 lbs	138	32	32	14	24	12	24	138
Light Columns	56	0	0	8	0	33	15	56
Totals	304	56	43	40	42	53	68	302

Of the 304 total cast nodes required for the project, a total of 302, or 99%, have shipped. The two remaining nodes (Beale Street, ground level) will ship this month



## Bus Ramp and Bridge as of May 31, 2015

- Current Status
  - All columns have been placed.
  - Pylon 9 formwork and concrete placement continues.
  - Bent number 8 and the associated columns for the south end of the Cable Stay Bridge were completed.
  - Cable Stay Bridge saddle materials are in fabrication.
  - Abutments and retaining walls, near Folsom and Harrison Streets, are in progress.
  - Falsework submittals were completed and approved this month. Falsework began the first week on June.





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## Bus Ramp and Bridge



Above: Looking south at Pylon 9 for Cable Stay Bridge.

Right: Start of falsework for Bus Ramp viaduct at Bent 2, south side of Folsom Street.





# Construction

## The Next 90 Days

- Next 30 Days (Jun.)
  - Continue 3<sup>rd</sup> lift walls and re-bracing in the eastern zone.
  - Continue structural steel fabrication and complete cast node fabrication. Ship final cast nodes.
  - Continue Bus Ramp abutment and MSE wall work, above grade concrete and viaduct falsework.
  - Continue structural steel erection and 4<sup>th</sup> lift wall construction in the western and central zones.
  - Continue MEPF Coordination and rough-in for decks in central zone.
  - Continue stair and ladder fabrication. Continue stair installation.
- Next 60-90 Days (Jul. – Aug.)
  - Continue 3<sup>rd</sup> lift walls and re-bracing work in eastern zones.
  - Continue Bus Ramp and Bridge work including falsework, abutments, columns and Pylon 9.
  - Continue structural steel fabrication and delivery.
  - Continue trestle removal and structural steel erection in the western and central zones.
  - Continue installation of stairs and ladders.
  - Continue superstructure concrete in central zone.
  - Continue MEPF deck rough-in of embeds, blockouts and sleeves.



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# Bay Area Regional Labor Breakdown

	Through May 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	556,900	37%
North Bay (Marin, Napa, Sonoma)	52,593	3%
South Bay (San Mateo, Santa Clara)	137,900	9%
San Francisco	259,752	17%
Other*	507,512	34%
<b>Totals</b>	<b>1,514,657**</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 May 2015	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	77,935	30%
North Bay (Marin, Napa, Sonoma)	13,004	5%
South Bay (San Mateo, Santa Clara)	33,674	13%
San Francisco	75,417	29%
Other*	58,907	23%
<b>Totals</b>	<b>258,937*</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 May 2015

<b>Classification</b>	<b>TTC Building and RUP's*</b>
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	233
Cement Mason	78
Electrical – Utility Lineman	28
Electrician	55
Field Surveyor	38
Iron Worker	622
Laborer and Related Trades	748
Operating Engineer	452
Pile Drivers	200
Plumber	26
Roofer and Waterproofor	40
Sheet Metal	5
Teamsters	178
Tile Setters / Finishers	7
Water Well Driller	9
<b>Totals</b>	<b>2,762</b>

\* Relocation of Utilities Project



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# Questions?

