



# CAC Construction Update

December 9, 2014

## Transbay Transit Center

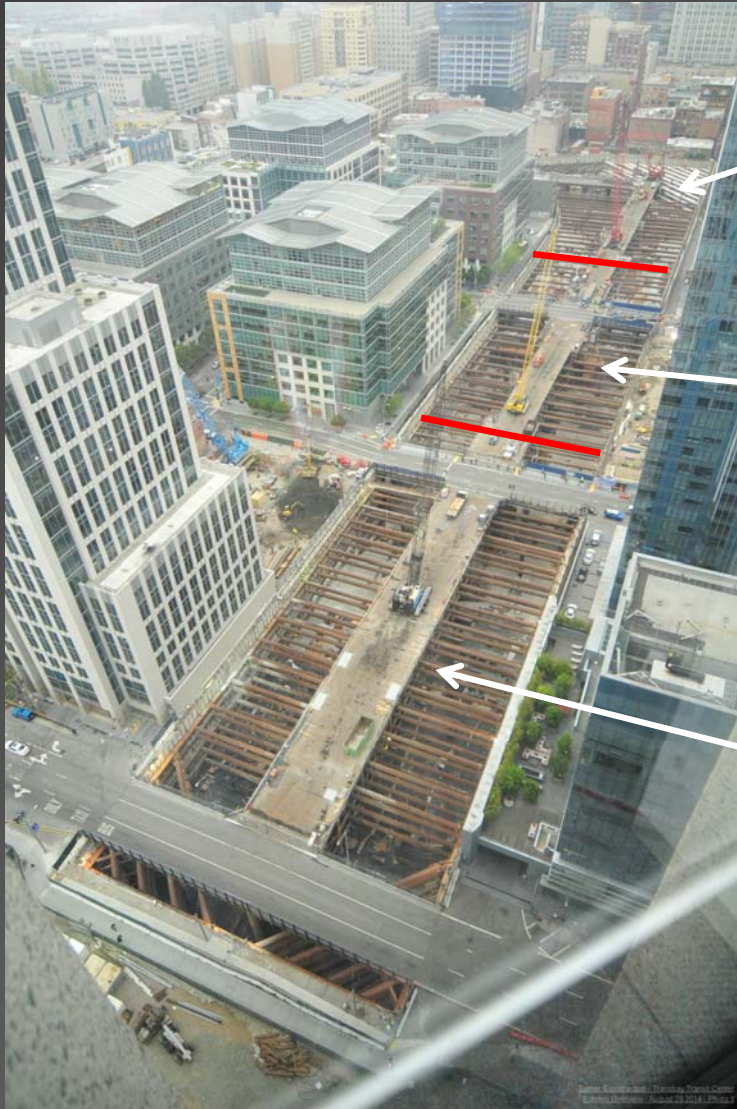
**TJPA**





Transbay Transit Center

# Current Project Overview



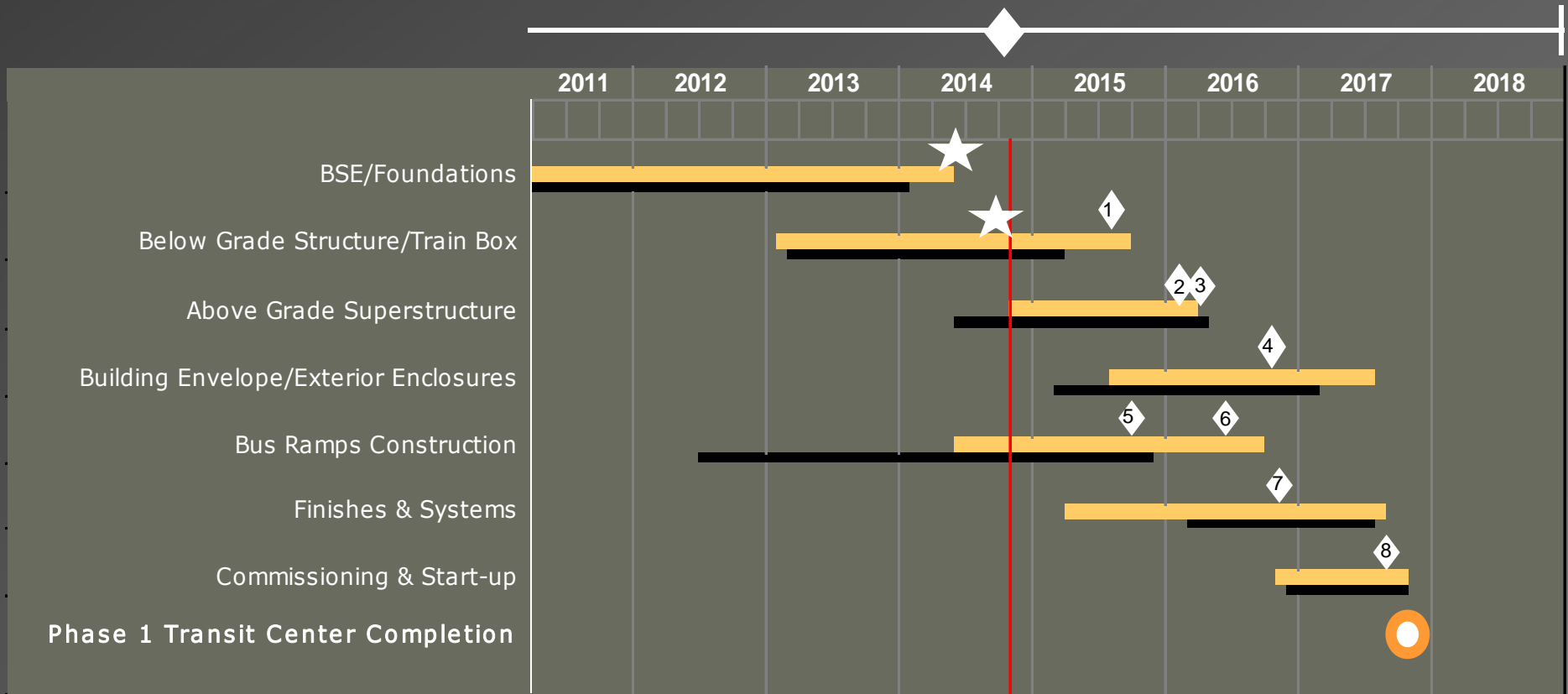
Western Zone – Gridlines 1 to 10

Central Zone – Gridlines 10 to 20


Eastern Zone – Gridlines 20 to 35




# Project Status – Construction Schedule (Critical Items\*)



\* The current critical path of the project is as follows; structural steel fabrication and erection (GL's 10 -16), central zone lift 3 walls and eastern zone lower concourse slab, wall lifts 1, 2 & 3 and re-bracing.

Current Schedule   
 Baseline Schedule 

 = Completed Work (BSE work excluding re-bracing and bridges, final Mat Slab placement)



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## **Project Status – Construction Schedule (Milestones)**

<b>#</b>	<b>Milestone</b>	<b>Current</b>	<b>Prior</b>
<b>1</b>	Complete Lower Concourse Slabs and Walls	<b>Q4 2015</b>	
<b>2</b>	Complete Structural Steel Erection and Welding	<b>Q1 2016</b>	
<b>3</b>	Complete Above Grade Concrete	<b>Q2 2016</b>	
<b>4</b>	Building Watertight	<b>Q3 2016</b>	
<b>5</b>	Complete Bus Ramp Below Grade Concrete	<b>Q3 2015</b>	
<b>6</b>	Complete Bus Ramp Viaduct and Cable Stay Bridge	<b>Q2 2016</b>	
<b>7</b>	Permanent Power to Building	<b>Q4 2016</b>	
<b>8</b>	Building Ready for Bus Driver Training	<b>Q3 2017</b>	



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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 Oct. 2014	(\$2.5)	(\$2.8)	(\$3.5)	(\$45.1)	(\$5.1)	(\$59.0)
Remaining Baseline Budget Amounts (Oct. 2014)	\$5.7	\$59.7	\$32.9	\$42.4	\$25.2	\$165.9
Utility Relocation Change Orders						(\$0.0)
BGS Change Orders		(\$0.05)				(\$0.05)
Bus Ramp Change Orders		(\$0.01)				(\$0.01)
2 Trade Package Awards (11/13/14)	(\$0.5)	(\$5.2)	(0)	(\$27.4)	(\$4.2)	(\$37.3)
Total Draws/Adds November 2014	(\$0.5)	(\$5.2)	(\$0)	(\$27.4)	(\$4.2)	(\$37.3)
Remaining Balances	\$5.2	\$54.5	\$32.9	\$15.0	\$21.0	\$128.6



# Project Status – Safety Statistics

	2011	2012	2013	2014 (through Nov. 30 <sup>th</sup> )
<b>Total Craft Hours by Year</b>	<b>203,560</b>	<b>421,488</b>	<b>315,000</b>	<b>333,537</b>
<b>Number of Recordable Incidents</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>10</b>
<b>Number of Lost Time Incidents</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>WO Project Annual RIR / National Annual BLS RIR Average / California RIR Average</b>	<b>2.95 / 3.6 / 3.8</b>	<b>2.85 / 3.4 / 3.6</b>	<b>1.90 / 3.8 / 4.0</b>	<b>n/a</b>
<b>WO Project Annual LTIR / National Annual BLS LTIR Average / California LTIR Average</b>	<b>0.98 / 1.9 / 1.8</b>	<b>0.00 / 1.8 / 1.7</b>	<b>0.00 / 1.5 / 1.9</b>	<b>n/a</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

- There were no recordable or lost time safety incidents this period.
- There have been over 1,275,000 craft hours completed, excluding demolition, through November 30, 2014. An increase of over 34,000 hours since our last construction update.
- Daily structural steel deliveries continue.
- In preparation for structural steel erection between gridlines 11 and 12 access trestle disassembly will begin December 4<sup>th</sup>.
- Structural steel erection is in progress between gridlines 10 and 11.
- Steel trial assembly and fabrication continues in all Structural Steel fabrication shops.



## Period Summary

- In the eastern zone, wall lifts 1 & 2 are continue, followed by re-bracing. Column concrete placement is now over 50% complete.
- Placement of third lift train box walls continued in the western and central zones.
- Lower Concourse slab placement is complete in both the western and central zones.
- Lower Concourse slab placements have begun in the eastern zone with the completion of two. Placement of lower concourse slabs are over 50% with 22 of 36 completed.
- On the Bus Ramp project, both pylon 9 barrette piles have been completed and 6 of 29 CIDH piles have been completed.





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# Below Grade Concrete Progress Through November 30, 2014

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	10	29%
Central	20	20	100%	20	20	100%	20	16	80%
Eastern	35	22	63%	35	12	34%	35	0	0%
<b>Total</b>	<b>90</b>	<b>77</b>	<b>86%</b>	<b>90</b>	<b>67</b>	<b>74%</b>	<b>90</b>	<b>26</b>	<b>29%</b>

Steel Erection Zones	Columns	Columns Poured	Columns Percent	Lower Concourse Decks	Lower Concourse Poured	Lower Concourse Percent
Western	62	62	100%	10	10	100%
Central	48	48	100%	10	10	100%
Eastern	66	34	52%	16	2	13%
<b>Total</b>	<b>176</b>	<b>144</b>	<b>82%</b>	<b>36</b>	<b>22</b>	<b>61%</b>



# Western Zone Activity



Above Left: West end train level, lower concourse formwork being removed.



Above Right: Southwest end reinforcing for 3<sup>rd</sup> lift walls.

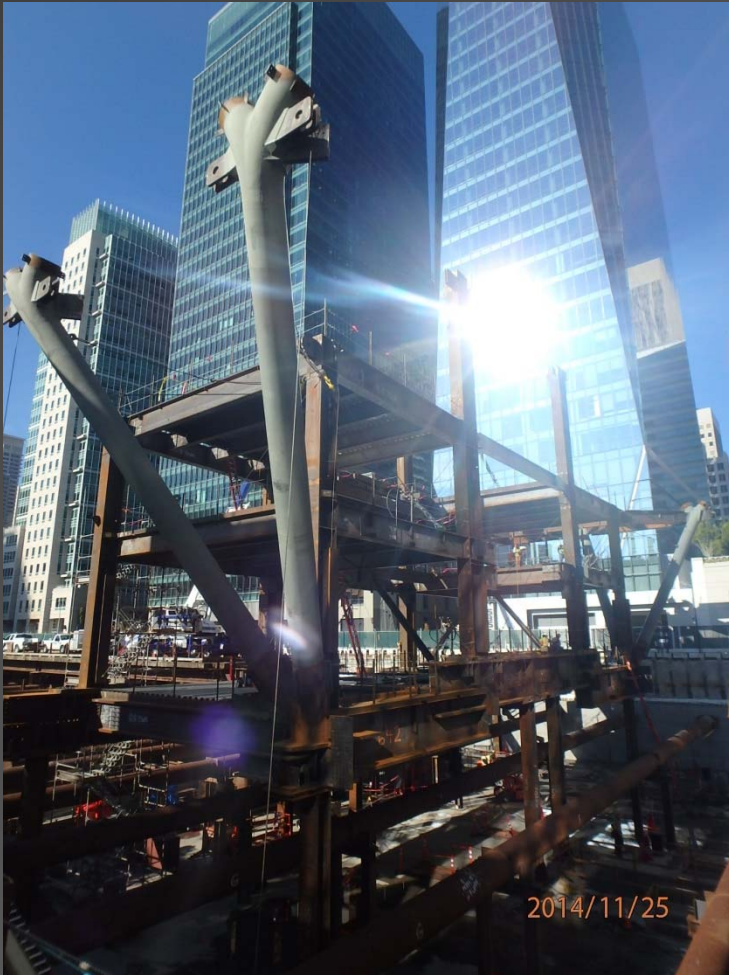


Below Right: West end lower concourse level interior walls and waterproofing ready for 3<sup>rd</sup> lift walls.



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## Central Zone Activity



Above: Southside ground floor cast node and pipe columns to bus deck.



Above: Ground, mezzanine and bus deck level steel erected.



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## Central Zone Activity



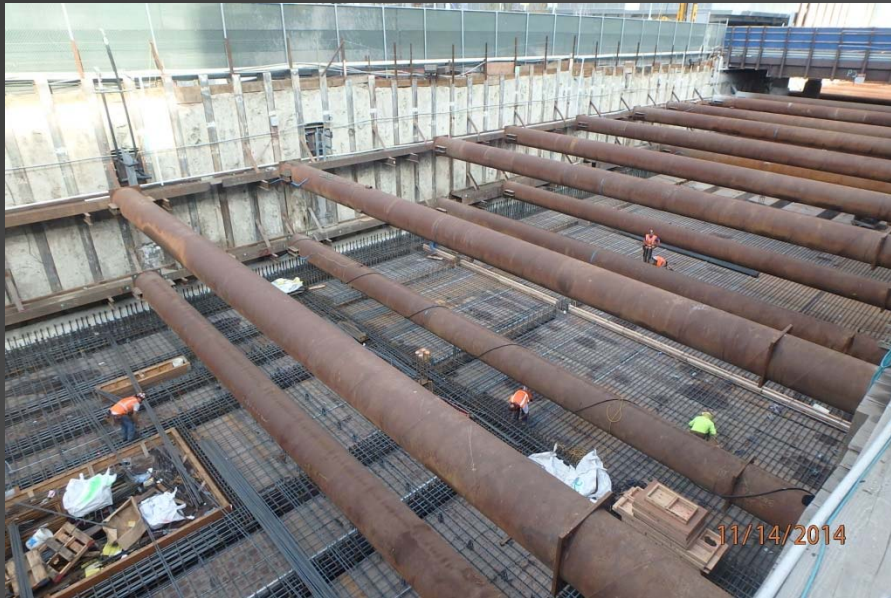
Above: Cast nodes and pipe columns connecting bus deck and roof park.

Below Left: Ground floor to bus deck.



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# Eastern Zone Activity



Above: Preparation for Lower Concourse slab placement, first in eastern zone.

Right: Eastern zone re-bracing in preparation for 2<sup>nd</sup> lift walls.





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# Structural Steel Fabrication



Above and Right: Steel fabrication continues in Vallejo at XKT.





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# Cast Node Fabrication as of November 24, 2014

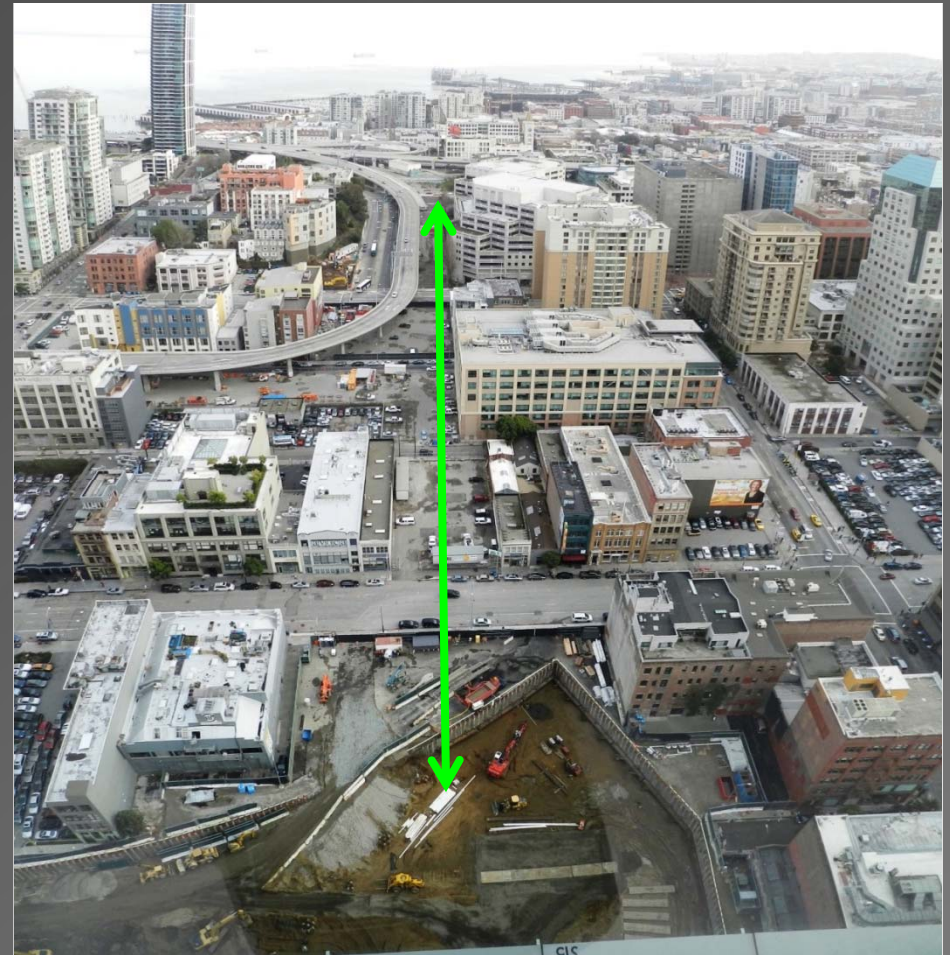
Casting Group	Totals	Shipments Mar.-May	Shipment May-June	Shipment August	Shipment September - October	Shipment November - December	Shipment January - February	Total Shipped to Date
Ground Level - Atchison 19,600 - 46,300 lbs	35	8	6	8	2	0	0	24
Bus Deck - Amite 9,500 - 22,800 lbs	75	16	5	10	16	4	0	51
Roof Level - Atchison 4,400 - 5,400 lbs	138	32	32	14	24	10	0	112
Light Columns	56	N/A	0	8	0	14	0	22
Totals	304	56	43	40	42	28	0	209

Additional Information: 90% of all nodes have been cast. Of the shipped nodes, 187, or 75% are for the main structure and 22, or 39% are for the light column.



# Bus Ramps and Bridge

- Current Status
  - Contractor demolition of portions of original bus ramp foundations continues.
  - CIDH Piles in progress, total of 6 CIDH piles completed.
  - Pylon 9 Barrette Piles; first completed on November 11<sup>th</sup>, second and final completed November 21<sup>st</sup>.







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## Bus Ramps and Bridge



Above Left: Drilling a CIDH Pile.

Above Right: Installing rebar cage into second Barrette Pile, Pylon 9.



# Construction

## The Next 90 Days

- Next 30 Days (Dec.)
  - Continue Lower Concourse decking, rebar and concrete in eastern zone.
  - Continue foundation walls (lift 3) and re-bracing in the west and eastern zones.
  - Continue foundation walls (lifts 1 & 2), re-bracing and columns in the eastern zone.
  - Continue Structural Steel and Cast Node fabrication.
  - Continue Bus Ramp work on the CIDH piles.
  - Continue structural steel work onsite.
  - Continue MEPF Coordination.
- Next 60-90 Days (Jan. – Feb.)
  - Continue concrete foundation walls and columns of the Train Box at various levels in west, central and eastern zones.
  - Continue Lower Concourse decking, rebar and concrete in the eastern zone.
  - Continue re-bracing in western and eastern zones.
  - Continue Bus Ramp and Bridge work; CIDH, demolition and utility re-location.
  - Continue structural steel erection and fabrication and cast node fabrication.
  - Continue MEPF coordination.



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# Bay Area Regional Labor Breakdown

	Through November 2014	
Location	Total Hours Completed	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	433,276	34%
North Bay (Marin, Napa, Sonoma)	44,106	3%
South Bay (San Mateo, Santa Clara)	116,534	9%
San Francisco	228,341	18%
Other*	454,024	36%
<b>Totals</b>	<b>1,276,281**</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 November 2014	
Location	Total Apprentice Hours	Percent of Total
East Bay (Alameda, Contra Costa, Solano)	53,301	25%
North Bay (Marin, Napa, Sonoma)	9,785	5%
South Bay (San Mateo, Santa Clara)	30,535	15%
San Francisco	66,664	32%
Other*	49,335	23%
<b>Totals</b>	<b>209,620</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 November 2014

<b>Classification</b>	<b>TTC Building and RUP's*</b>
Inspectors – Soils / Material Test	43
Carpenters and Related Trades	180
Cement Mason	75
Electrical – Utility Lineman	28
Electrician	47
Field Surveyor	35
Iron Worker	384
Laborer and Related Trades	669
Operating Engineer	399
Pile Drivers	165
Plumber	22
Roofer and Waterproofor	39
Sheet Metal	5
Teamsters	166
Tile Setters / Finishers	7
Water Well Driller	9
<b>Totals</b>	<b>2,273</b>

\* Relocation of Utilities Project



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# Questions?





# CAC Presentation

December 9, 2014

# Transbay Transit Center

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# Transbay Transit Center Phase 1 Construction (millions)

## Awarded to Date (direct cost)

Transit Center	\$781.08
Utility Relocations	\$20.06
Demolition Old Terminal	\$16.48
Temporary Terminal	\$20.65
<u>Bus Ramp</u>	<u>\$56.23</u>
<b>Total</b>	<b>\$894.43</b>

<u>Recommended Award Dec. 2014</u>	<u>\$ 6.01</u>
<b>Total Award through Dec. 2014</b>	<b>\$900.44</b>

## Upcoming TTC Trade Packages (direct cost)

Budget	\$207.74
<u>CM/GC Estimate*</u>	<u>\$238.42</u>
<b>Balance</b>	<b>(\$ 30.68)</b>

Roof Top Park (above slab elements): \$38.00

\*Amount does not include above slab roof-top-park elements





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# TG 15.1: Dock Levelers & Bumpers



## Scope of Work

- Dock Levelers
- Bumpers
- Truck Restraints
- Bin Lifters





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## TG 15.1: Dock Levelers & Bumpers

### Bid Summary

Bid Date:	October 29, 2014
Budget:	\$148,230
CM/GC Estimate:	\$211,489
SBE Goal:	15%
Prequalified Bidders:	5
Bids Received:	2
Bid Range:	\$137,777-\$160,000

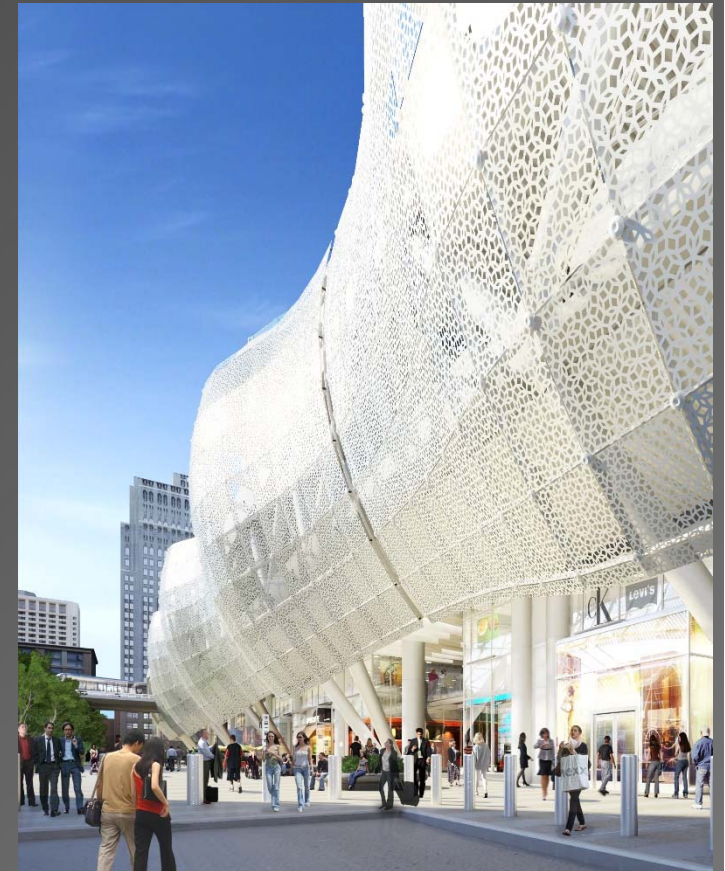


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## TG 15.1: Dock Levelers & Bumpers

Bidder	Shimmick Construction Company, Inc.	McKendry Door Sales, Inc.
Bid Amount	\$160,000	\$137,777

- McKendry submitted the lowest responsive bid. McKendry's bid included 85% Small Business Enterprise (SBE) participation, exceeding the 15% SBE goal.
- It is recommended to award Trade Group TG15.1: Dock Levelers and Bumpers to McKendry for the amount of \$137,777.



## Scope of Work

- Fixed and retractable bollards
- Wedge barriers for vehicle access control
- Impact attenuators (crash cushions)



## Bid Summary

Bid Date:	November 18, 2014
Budget:	\$6,207,162
CM/GC Estimate:	\$8,224,203
SBE Goal:	10%
Prequalified Bidders:	7
Bids Received:	4
Bid Range:	\$5.875-\$23.70



## **TG07.9: Bollards and Barriers Bid Results & Recommendation**

	<b>A-1 American Fence, Inc.</b>	<b>Electronic Innovations, Inc.</b>	<b>Shimmick Construction Company, Inc.</b>	<b>Taber Construction, Inc.</b>
<b>Bid Amount</b>	<b>\$23,700,000</b>	<b>\$7,484,175</b>	<b>\$5,875,000</b>	<b>\$7,700,000</b>

- Shimmick submitted the lowest responsive bid. Shimmick’s bid included 10% Small Business Enterprise (SBE) participation, meeting the 10% SBE goal on the package.
- It is recommended to award TG07.9: Bollards and Barriers to Shimmick for the amount of \$5,875,000



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# Questions?

