



Phase 1 Final Revised Baseline Budget

Approved June 9, 2016

# Transbay Transit Center

**TJPA**





# Phase 1 Budget History

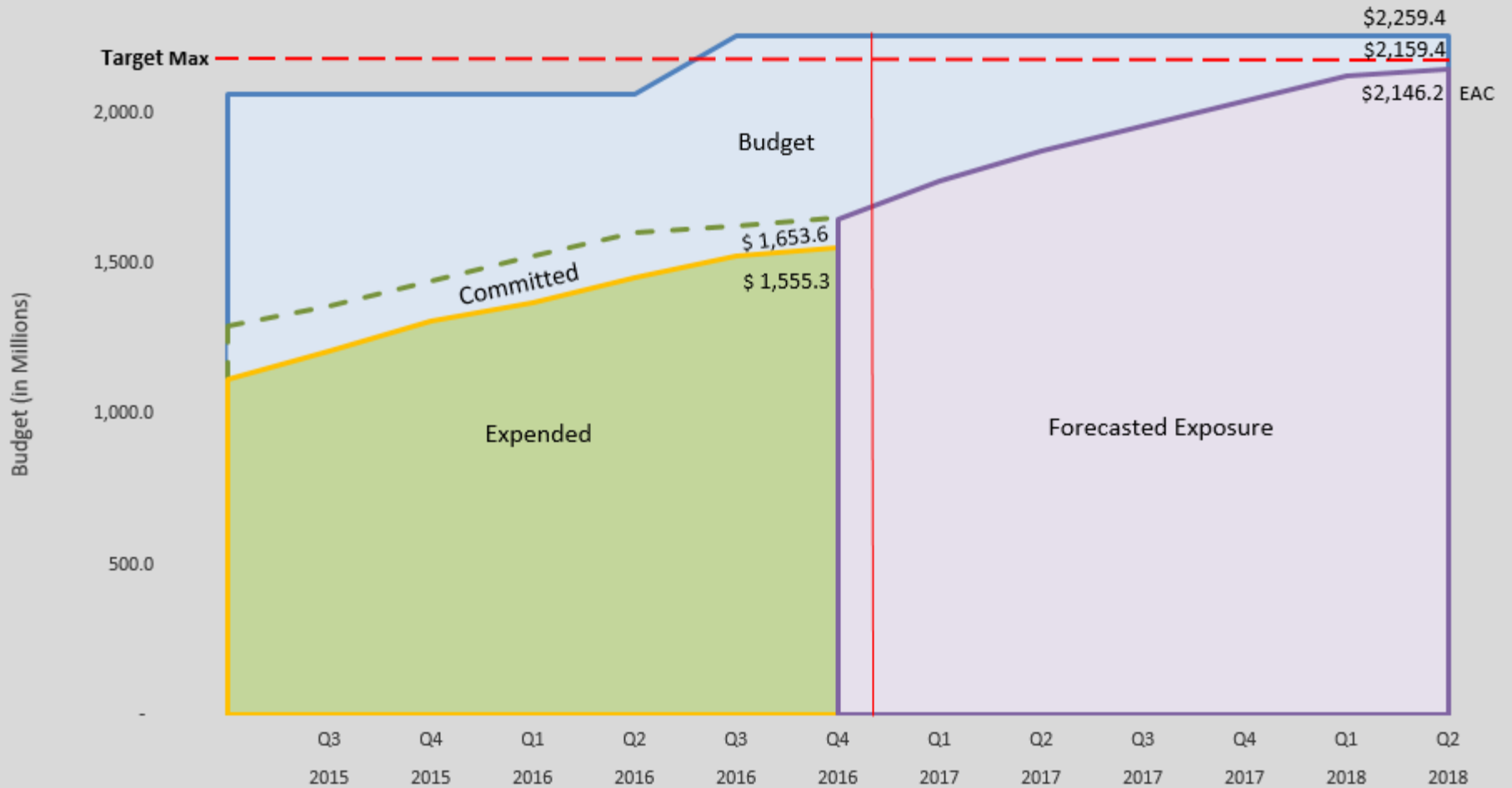
(\$ millions)	May 2010 Baseline Budget	July 2013 Budget Revisions	June 2016 Final Baseline Budget Revisions	Total Adjustments to the 2010 Baseline Budget	Total Adjustments by Percentage
Construction Trade Packages		\$104.10	\$265.40	\$369.50	55%
Risk & Vulnerability Assessment		\$56.80	\$0	\$56.80	9%
Programwide Costs (Soft Costs)		\$35.00	\$14.90	\$49.90	7%
Contingencies and Reserve		\$114.50	\$79.70	\$198.20	29%
Subtotal		\$310.40	\$360.00	\$670.40	
<b>Budget Total</b>	<b>\$1,589.00</b>	<b>\$1,899.40</b>	<b>\$2,259.40</b>		



## Phase 1

### Transbay Transit Center

Data thru: September 16



69% Program Budget  
83% Contract Time



# Phase 1 Budget & Expenditures (in millions)

(\$ Millions)	<u>Budget</u>	<u>Committed</u>	<u>Expended</u>	<u>Balance</u> (Budget less Committed Costs)
Construction Costs	\$1,457.3	\$1,101.7	\$1,029.8	\$355.6
Program-wide Costs (Soft Costs)	\$595.3	\$551.9	\$525.5	\$43.4
Contingencies & Reserves	\$206.9	\$0.0	\$0.0	\$206.9
<b>TOTAL</b>	<b>\$2,259.5</b>	<b>\$1,653.6</b>	<b>\$1,555.3</b>	<b>\$605.9</b>



# Phase 1 Funding

<b>Sources</b>	<b>Amount (\$millions)</b>	<b>Expended to Date</b>	<b>Balance</b>
Land Sales	\$515.60	\$435.80	\$79.80
FRA Grants	\$402.70	\$401.30	\$1.40
TIFIA Loan	\$171.00	\$0.00	\$171.00
Bridge Loan	\$154.00	\$128.70	\$25.30
FTA Grants (including One Bay Area Grant)	\$68.40	\$61.10	\$7.30
FEMA Grants	\$0.10	\$0.10	\$0.00
Regional Measures 1 & 2	\$197.40	\$195.00	\$2.40
AB 1171	\$150.00	\$146.40	\$3.60
San Francisco Prop K	\$139.30	\$123.00	\$16.30
AC Transit Capital Contribution	\$39.40	\$37.30	\$2.10
Regional Transportation Improvement Program	\$10.20	\$10.20	\$0.00
Miscellaneous Local	\$12.70	\$11.90	\$0.80
San Mateo County Sales Tax	\$4.50	\$4.50	\$0.00
Transit Center District Plan (Mello-Roos CFD)	\$146.60	\$0.00	\$146.60
City Financing	\$247.50	\$0.00	\$247.50
<b>Total Funds</b>	<b>\$2,259.40</b>	<b>\$1,555.30</b>	<b>\$704.10</b>

Note: Expenditures include retention withheld, but not paid out.



# Transbay Transit Center

## Phase 1 Final Baseline Budget

(\$millions)	Budget (Jun 2016)	Subsequent Budget Adjustments	Current Budget
<b>Construction Costs</b>			
TTC Construction*	\$ 1,204.0	\$ -0.6	\$ 1,203.4
Bus Ramp*	\$ 57.5	\$ 0.1	\$ 57.6
Temp Terminal	\$ 20.7	\$ -	\$ 20.7
Bus Storage*	\$ 20.0	\$ -	\$ 20.0
Utility Relocation	\$ 21.4	\$ 4.7	\$ 26.1
Demolition	\$ 16.5	\$ -	\$ 16.5
CM/GC Costs (Fee, Bond, Subguard)	\$ 112.7	\$ 0.3	\$ 113.0
<b>Subtotal Construction Costs</b>	<b>\$ 1,452.8</b>	<b>\$ 4.5</b>	<b>\$ 1,457.3</b>
<b>Programwide Costs (Soft Costs)</b>			
Design	\$ 179.8	\$ -	\$ 179.8
Construction Management	\$ 75.9	\$ -	\$ 75.9
Pre-Construction	\$ 31.3	\$ -	\$ 31.3
Art	\$ 2.0	\$ -	\$ 2.0
Right Of Way	\$ 76.6	\$ -	\$ 76.6
Program Management/Program Controls	\$ 101.5	\$ -	\$ 101.5
Administration/Legal/Financial/etc.	\$ 123.8	\$ -	\$ 123.8
<b>Subtotal Soft Costs</b>	<b>\$ 595.3</b>	<b>\$ -</b>	<b>\$ 595.3</b>
<b>Contingencies and Program Reserve</b>			
CM/GC Contingency	\$ 32.5	\$ -0.8	\$ 31.7
Construction Contingency	\$ 61.8	\$ -11.6	\$ 50.2
Program Reserve	\$ 117.0	\$ 7.9	\$ 124.9
<b>Subtotal Reserves</b>	<b>\$ 211.3</b>	<b>\$ -4.5</b>	<b>\$ 206.9</b>
<b>Total Phase 1 Program</b>	<b>\$ 2,259.4</b>	<b>\$ 0.0</b>	<b>\$ 2,259.4</b>

\*Budget includes design contingency and escalation



# Contingency Tracking (in Millions)

	Construction Contingency	CM/GC Contingency	Program Reserve	Total Contingency & Reserve
Baseline Budget Amounts	\$61.8	\$32.5	\$116.9	\$211.3
Contingency Usage Through Aug 2016	(\$11.0)	(\$0.1)	(\$0.0)	(\$11.1)
Remaining Baseline Budget Amounts (Aug 2016)	\$50.8	\$32.4	\$116.9	\$200.2
Total Draws/Addds Sep 2016	(\$0.6)	(\$0.7)	\$8.0	\$6.7
<b>Remaining Balances</b>	<b>\$50.2</b>	<b>\$31.7</b>	<b>\$124.9</b>	<b>\$206.9</b>

### Uses of Contingency this period

- Final TG06.0 (Below Grade Structure) changes, Misc. changes to Superstructure packages.
- Savings from TG27.1 (Data Network & Systems Integration) bid package award added to Program Reserve.

# Risk Assessment Update for the \$2.259B Approved Budget

## Mitigated

Confidence Level	<u>Bottom Up Model</u>		<u>Top Down Mode (FTA)</u>	
	EAC	Anticipated Savings	EAC	Anticipated Savings
30%	\$ 2,146	\$ 114	\$ 2,157	\$ 103
50%	\$ 2,149	\$ 110	\$ 2,183	\$ 76
70%	\$ 2,154	\$ 105	\$ 2,216	\$ 43

- Assumes schedule is mitigated for December 2017 Substantial Completion, minimal claims, adherence to schedule and strict control over change orders.

NOTE: The information above are based on Risk Management Committee Meeting No. 8, in September 2016.





- **Schedule Mitigation**
- **Buy America Compliance**
- **Future Claims from trade contractors**
- **Compatibility Issues between various Building Management Systems and Communication Systems**
- **Market pricing - IP Network and Bus Storage**

NOTE: The information above are based on Risk Management Committee Meeting No. 8, in September 2016.

# Phase 1 Construction Cost Update

as of September 2016

## Awarded to Date (direct cost)\* (\$ millions)

Transit Center	\$ 1,194.14
Utility Relocation	\$ 26.11
Demolition Old Terminal	\$ 15.48
Temporary Terminal	\$ 20.65
Bus Ramp	\$ 57.62
<b>Total Awards to Date</b>	<b>\$ 1,314.00</b>

\*Amounts include executed change orders



# Phase 1 Construction Cost Update

## Remaining Work to be Awarded (\$ millions)

<b>Trade Packages (Bids/RFPs)</b>	
IP Network/Security Software (Audio Visual, PSIM, ECS/MNS)	\$ 9.00
Bus Storage Facility	\$ 20.02
<b>Subtotal</b>	<b>\$ 29.02</b>
<b>Strategic Change Orders</b>	
Traction Control	\$ 3.00
Artwork	\$ 1.46
Mission Street Island	} \$5.42
301 Mission Wall Replacement	
IP Network (DAS & physical interconnections)	
Extending Natoma sidewalk to 2 <sup>nd</sup> Street	
<b>Subtotal</b>	<b>\$ 9.88</b>
<b>Total</b>	<b>\$ 38.90</b>



# Construction Update

November 2016

## Transbay Transit Center

**TJPA**





# Major Construction Progress/Retired Risks

## Overview

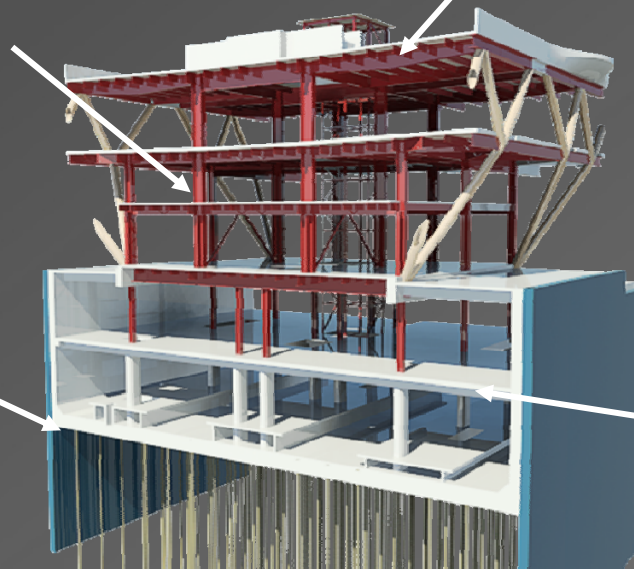
- Construction more than 70% complete.
- Over \$900 million work performed by all trades to date.

## Above Grade concrete

- **TG7.2: \$52.9M @ 99%.**
- Last concrete pour in Fall 2016.
- Completion Fall 2016.

## Excavation/Shoring

- **TG3.0: \$235M @ 99%.**
- 3500 feet of CDSM shoring wall installed.
- Internal Bracing, Trestle Access and 3 Temporary Bridges installed.
- 640,000 cubic yard excavation completed in February 2014.



## Structural Steel

- **TG7.1R: \$193M @ 99%.**
- First above-grade steel arrived on Nov 7, 2014.
- Steel “topping-out” in January, 2016.
- 100% of steel is fabricated & installed.
- 100% of cast nodes complete.
- Steel welding completed April 2016.

## Trainbox

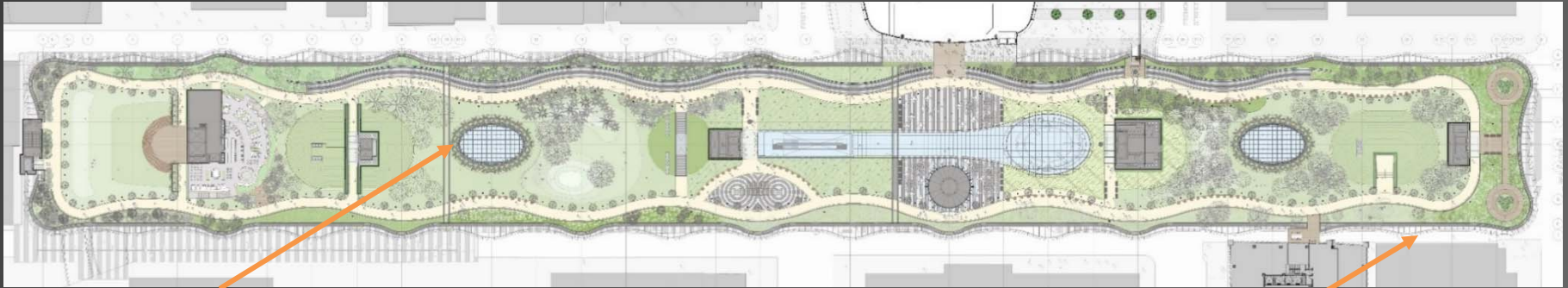
- **TG6.0 \$124.6M @ 99%.**
- 1896 micropiles installed.
- 10 miles of geothermal piping installed.
- Approximately 110,000 cu yds of concrete poured.



**Transbay Transit Center**

# Major Construction Ongoing

## Rooftop Park (\$33M)



Skylights\* (cost incl. in curtain walls)

W-1 Awning\* (\$37M)

### Mechanical Electrical Plumbing (\$140M)

- Heating Ventilation and Air Conditioning Systems
- Electrical, Communications, and Security Systems
- Plumbing, Waste Water, Sprinkler Systems

Curtain Walls\* Ceilings\* (\$30M) (\$80M)

### Civil and Site Work (\$103M)

- Pedestrian/Vehicular Paving
- Ground Level Landscaping
- Removal of Temporary Bridges
- Topping Slabs
- Bus Ramp



\* Design build/assist trade package

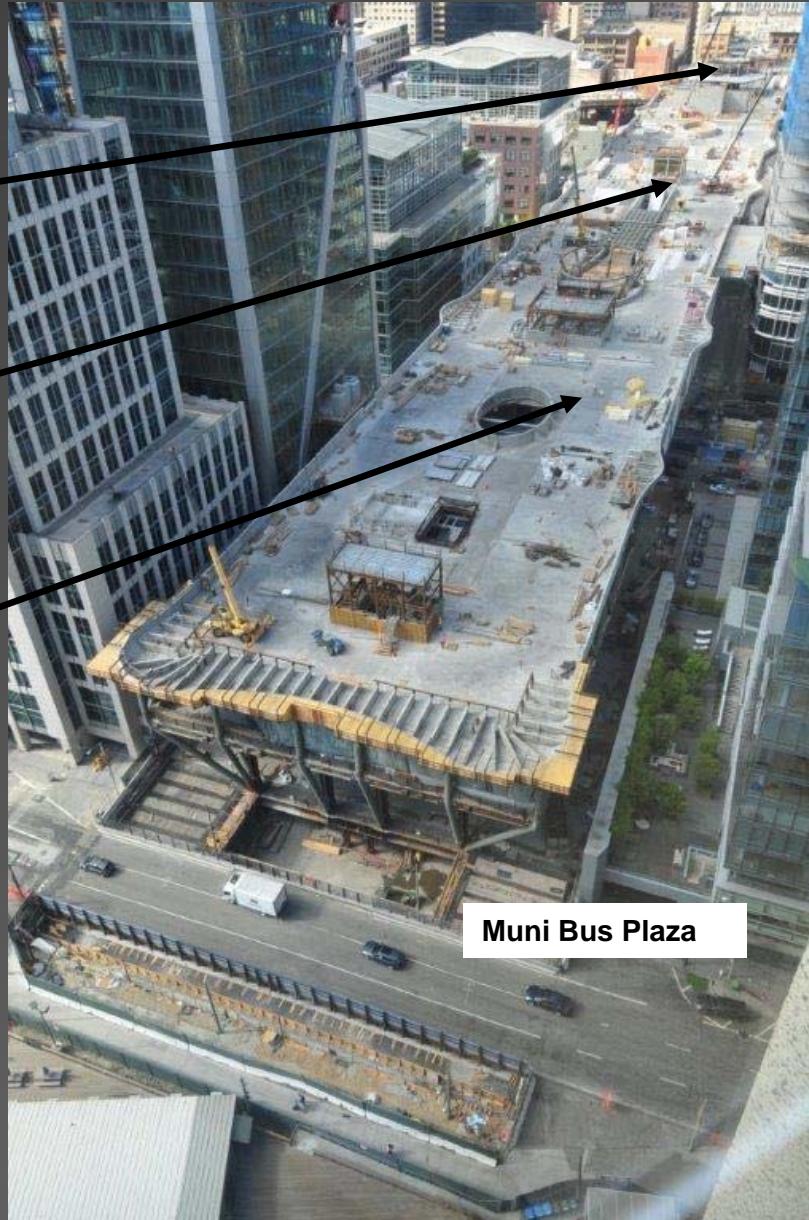


## Transbay Transit Center

Western Zone  
Gridlines 1 to 10

Central Zone  
Gridlines 10 to 20

Eastern Zone  
Gridlines 20 to 35



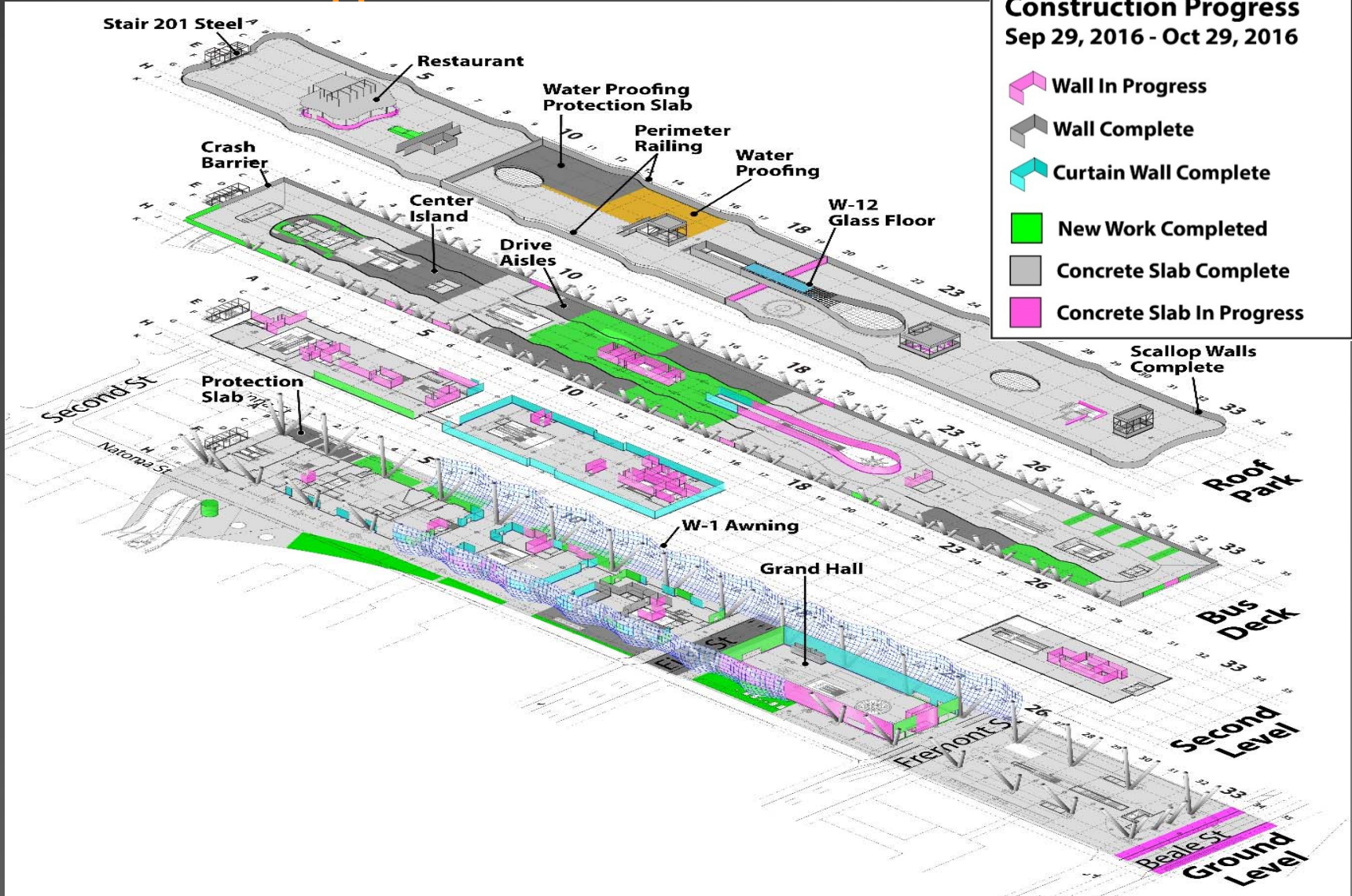
Muni Bus Plaza

# Project Overview

1. Recent Activity
2. Upcoming Activity
3. Schedule
4. Bus Storage Facility
5. Challenges



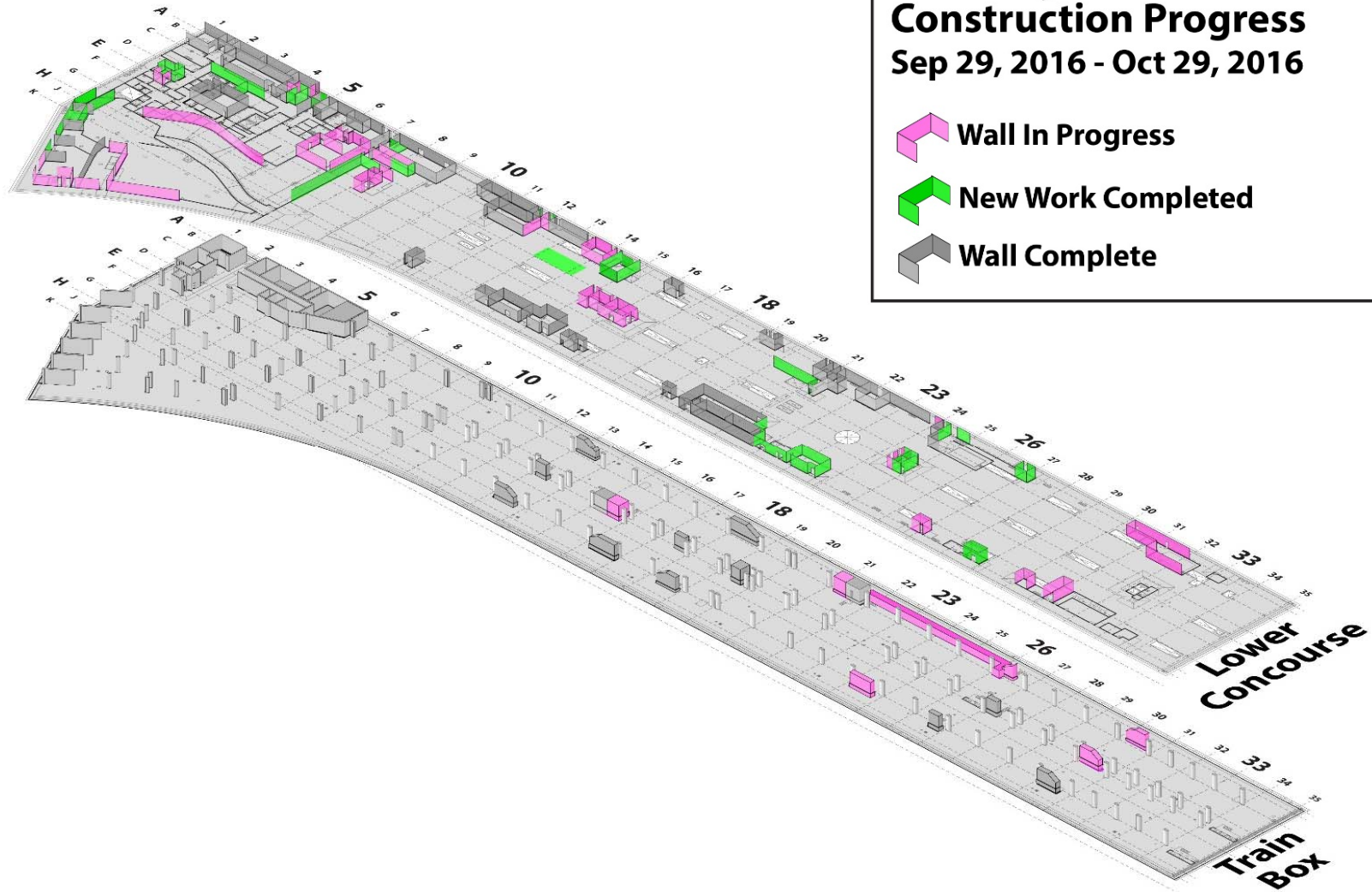
Transit Center – Upper Levels





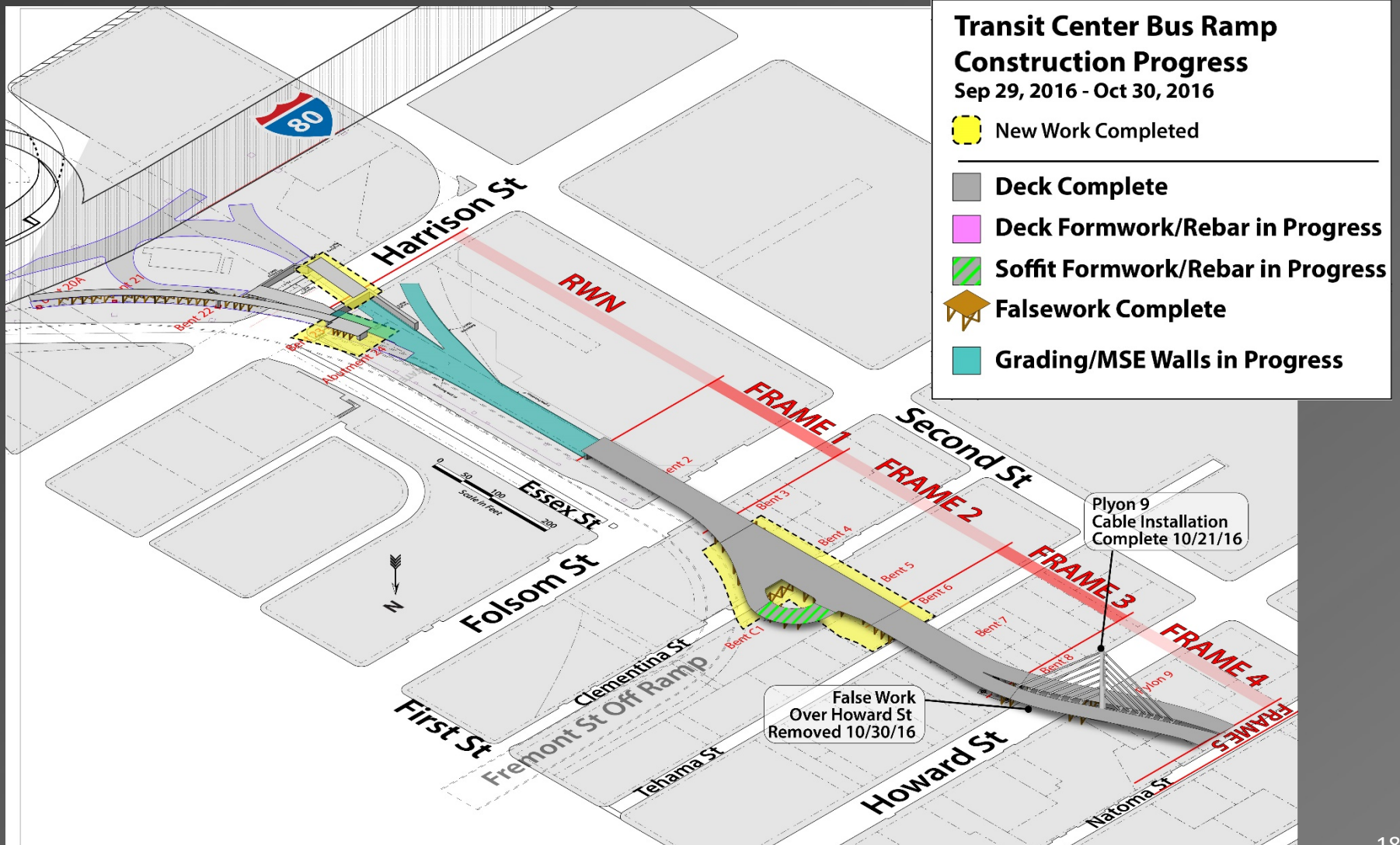


## Transit Center – Concourse and Train Level





## Bus Ramp and Cable Stay Bridge





## Western Zone (GL 1-10)

- Western Skylight framing delivered and being assembled.
- Bus Deck waterproofing, curbs and drive aisle concrete continues.
- Glass Curtain Wall continues at Ground Level and Level 2.
- Mechanical/Electrical/Plumbing/Fire Sprinkler (MEPF) hangers and systems installation continues at all levels.
- Electrical switchgear and transformer equipment delivered to site.
- Concrete Masonry Unit (CMU) wall installation nearing completion.



### Central Zone (GL 10-20)

- Rooftop Waterproofing system being installed with protection slab pour following closely behind.
- Rooftop Glass Floor glazing panels completed in Central Zone.
- Rooftop Glass Canopy framing at Escalator 407/408 has commenced.
- Bus Deck Glass Curtain wall around the main Escalator 407/408 framing and glazing being installed.
- All levels continue with MEPF hangers and systems installation.
- Electrical switchgear and transformer equipment delivered to site.





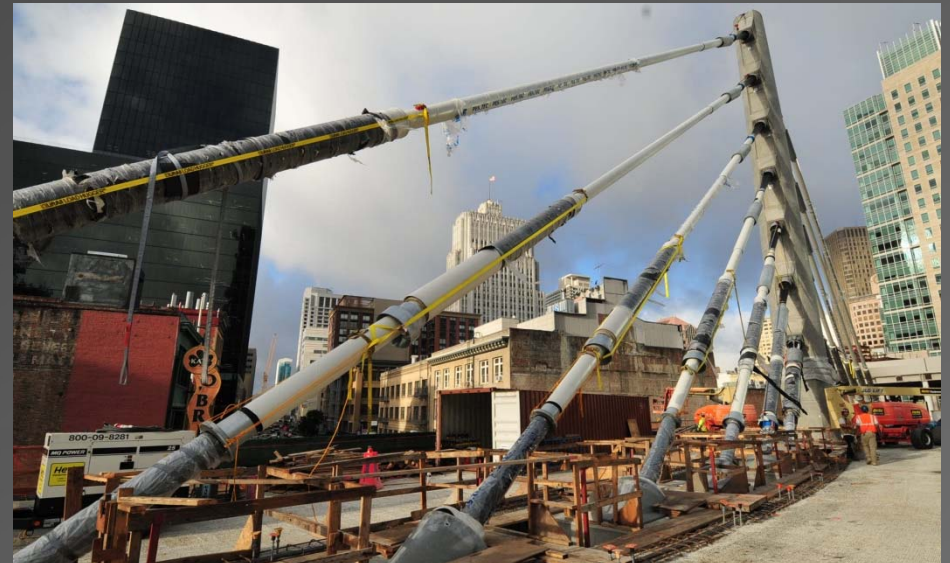
## Eastern Zone (GL 20-35)

- Rooftop Glass Floor glazing panels continue to be installed.
- Light Column Skylight framing delivered and being assembled.
- Exterior Awning installation continues in the Eastern Zone west of Fremont.
- Bus Deck waterproofing, curbs and drive aisle concrete continues.
- Bus Deck crash Bollards delivered.
- Grand Hall Glass Curtain walls framing and glazing work continues.
- The last structural concrete Trainbox pour under Beale St. occurred on Nov. 4th.
- Lower Concourse and Trainbox MEPF continues.



## Bus Ramp Bridge

- Cable Stay Bridge specialty contractor, VSL, completed all 7 of 7 cable installations. Falsework was removed @ Howard Street.
- Drop-in span connection to Transit Center is fabricated with installation beginning the week of Nov. 7th.
- Mechanically Stabilized Earth (MSE) and retaining wall work progressing.
- Viaduct Frame 2 concrete deck @ Clementina St. was poured in October.





### Western Zone

- Continue Rooftop Restaurant concrete.
- Continue Roof miscellaneous concrete.
- Complete Bus Deck waterproofing and concrete for drive aisle and passenger island concrete.
- Set Switchgear & Transformers.
- Continue MEPF at all levels.

### Central Zone

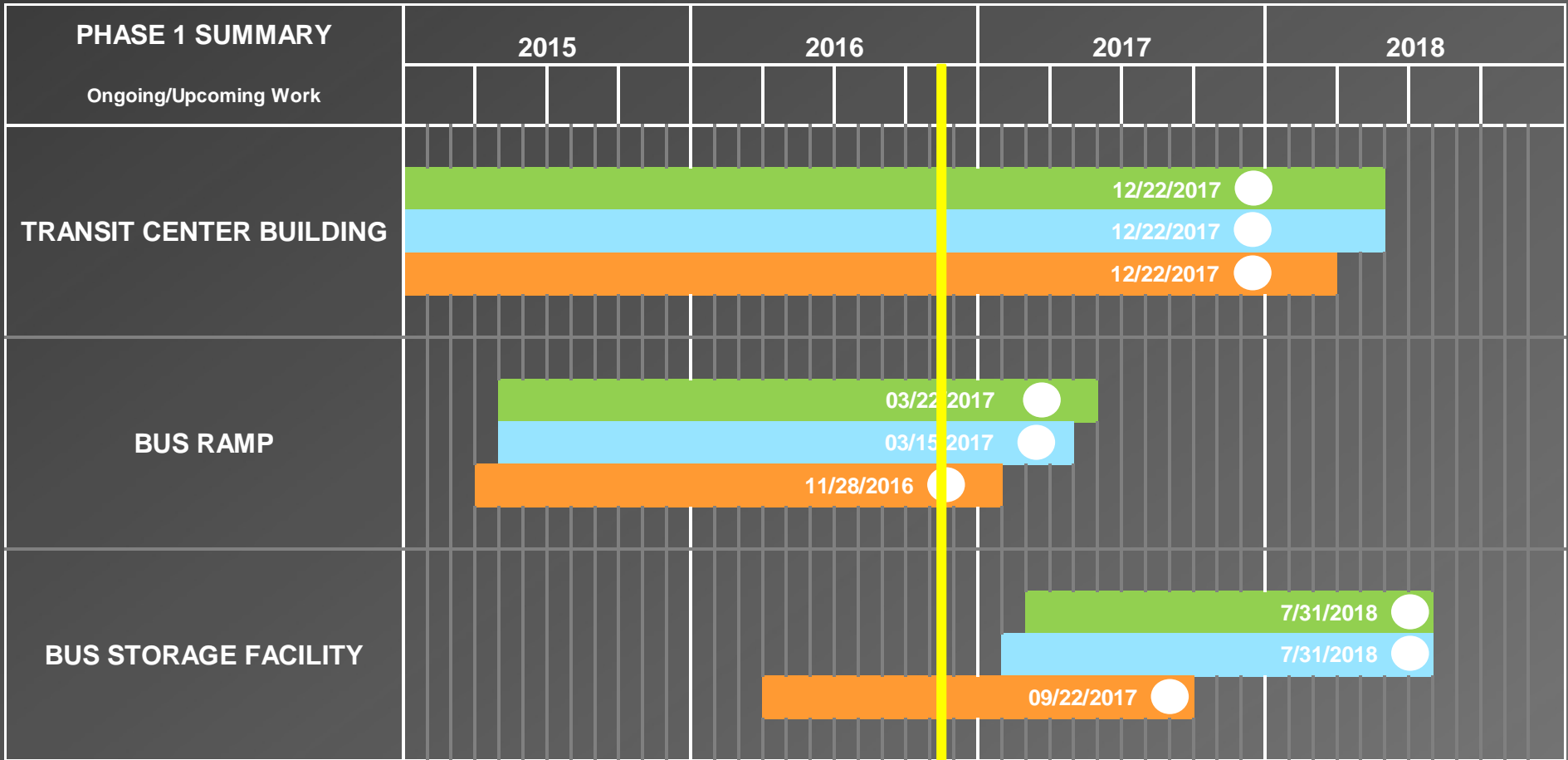
- Complete Rooftop Waterproofing north section including the protection slab.
- Complete Rooftop Glass Floor glazing.
- Complete the Bus Deck waterproofing.
- Complete Bus Deck curbs/drive aisle/passenger island concrete.
- Set Switchgear & Transformers.
- Continue MEPF at all levels.

### Eastern Zone

- Complete Rooftop Glass Floor glazing.
- Complete Rooftop Light Column skylight framing.
- Continue Bus Deck waterproofing and concrete for drive aisle and passenger island concrete.
- Continue Grand Hall glass curtain wall.

### Bus Ramp Bridge

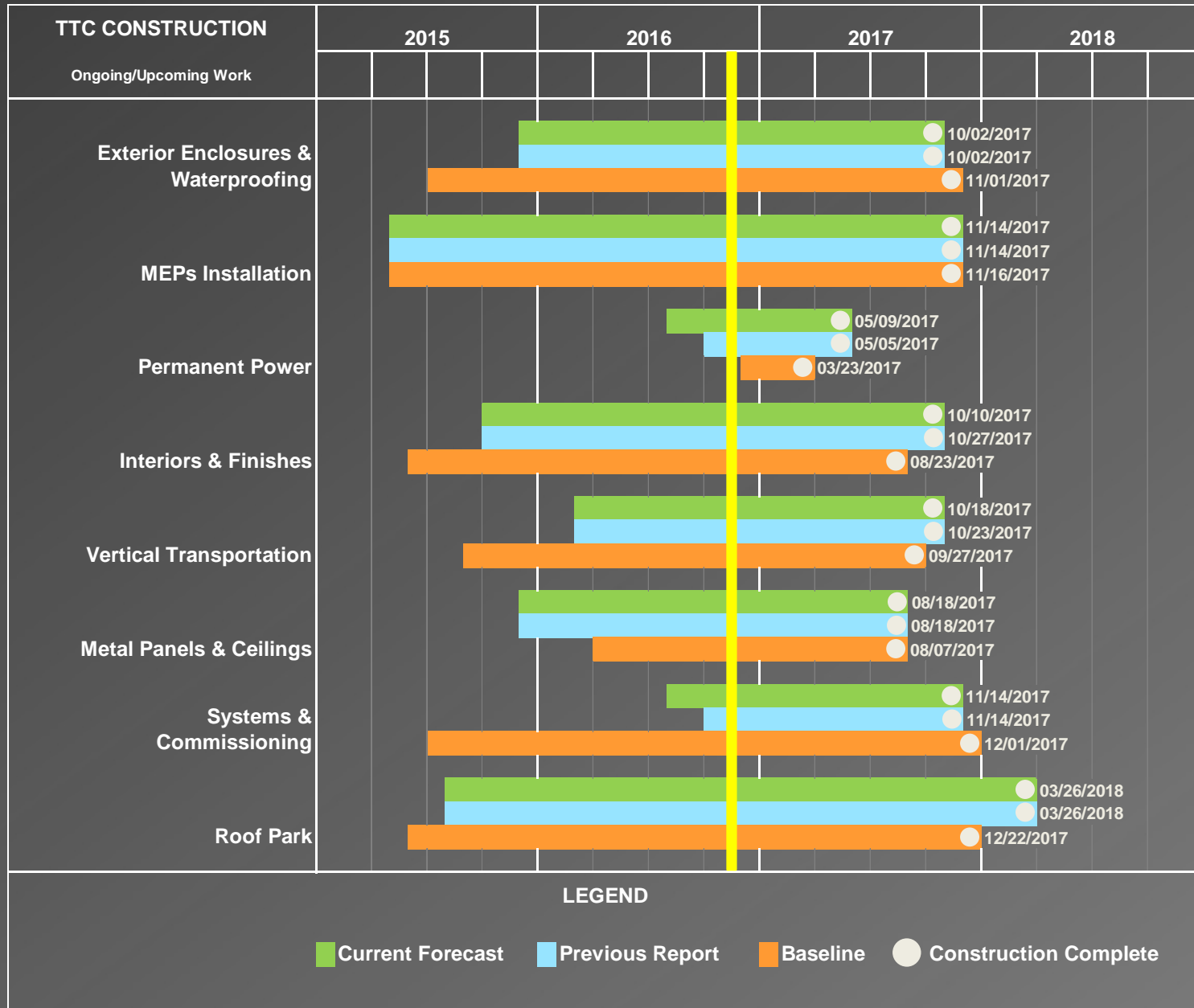
- Set the armor for the Cable Stay Bridge cables.
- Start erection of the Frame 5 steel span early November.
- Pour the Stem & Soffit concrete of the Bus Ramp turnaround mid November.
- Continue MSE and retaining wall construction between Folsom street and Harrison street.



### LEGEND

- Current Forecast
- Previous Report
- Baseline
- Substantial Completion







## Planning and Construction

- Formal lease and MOU being drafted to reflect CTC agreement for 85% reduction in lease rate.
- BSF Bidding Period: 12/8/16 - 2/8/17
- Archaeology Field work : 2/13/17 - 4/10/17
- Anticipated Contract Award: 3/9/2017
- Construction Duration: 14-18 months (range due to A+B bid process)
- BSF anticipated opening is Fall 2018 (after the Transit Center operations have commenced).



## Schedule

Contractor Forecast has stabilized with established Recovery Schedule.

### Mitigation Update

1. Strategic overtime work and resequencing around Grand Hall continues.
2. Additional acceleration opportunities in discussion as we introduce more MEP and Finish Trades on site.
3. Introduced a degree of prefabrication of Terrazzo Floor divider pattern to improve quality and reduce trade work congestion at Grand Hall.



## Operational Readiness

### Concerns:

1. Master Lessee Delayed On-Boarding Impact.
  - Building Systems Commissioning.
  - Building Systems Testing, Training and Hand Off.
2. Timely Transit Operator's Transition.
  - Route "Sign-On" & Driver Training Schedules.
  - Transit Operator's Tenant Improvements, Fixtures, Furniture, & Equipment.

### Mitigation Strategies:

1. Master Lessee engagement first quarter 2017 – January preferred.
2. Transit Operator Transition Teams Formulated.
3. Bi-weekly Transition Planning Meetings Initiated.
4. Elevate Attention and Granularity of Transition Plan Nov. 2016 through 2017.

