



**SFMTA**  
Municipal  
Transportation  
Agency



**San Francisco  
Planning  
Department**

# **T-Third – Phase 3 Concept Study**








**Plans and Programs Committee  
Item 10  
December 9, 2014**

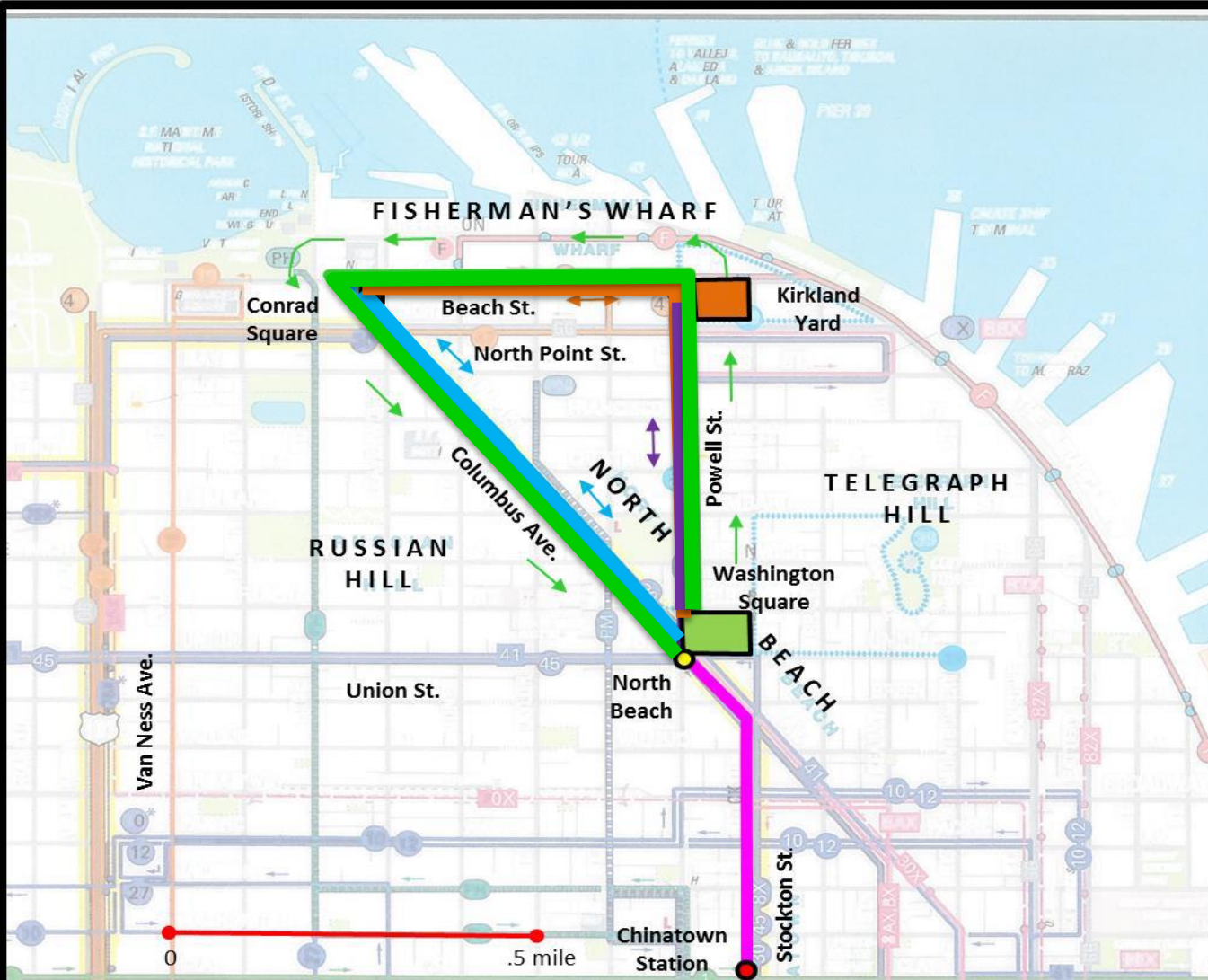
# Origins of the Study

- **Interest in the extension due to T-Third Phase 2 (Central Subway) – especially after tunnel boring machines reach North Beach; preserving right-of-way**
- **Interest from the Board of Supervisors (Sup. Chiu), public**
- **Funds approved for limited consultant assistance by SFCTA Board – March 2014**
  - **Three agency team: SFMTA, SFCTA and SF Planning Department**
- **Concept Study started in March 2014 and a draft report completed in October 2014**

# Concept Alignments

## T-Third – Phase 3 Conceptual Alignment Alternatives

-  Option 1:  
Columbus Avenue (2-way)
-  Option 2A  
Powell Street (2-way)
-  Option 2B  
Powell Street (Option 2A) +  
Beach Street (2-way)
-  Option 3  
Powell Street–Beach  
Street–Columbus Avenue  
(One-way Loop)
-  Concept Station Site
-  T-Third Phase 2  
(Existing tunnels – no tracks)
-  Central Subway Station



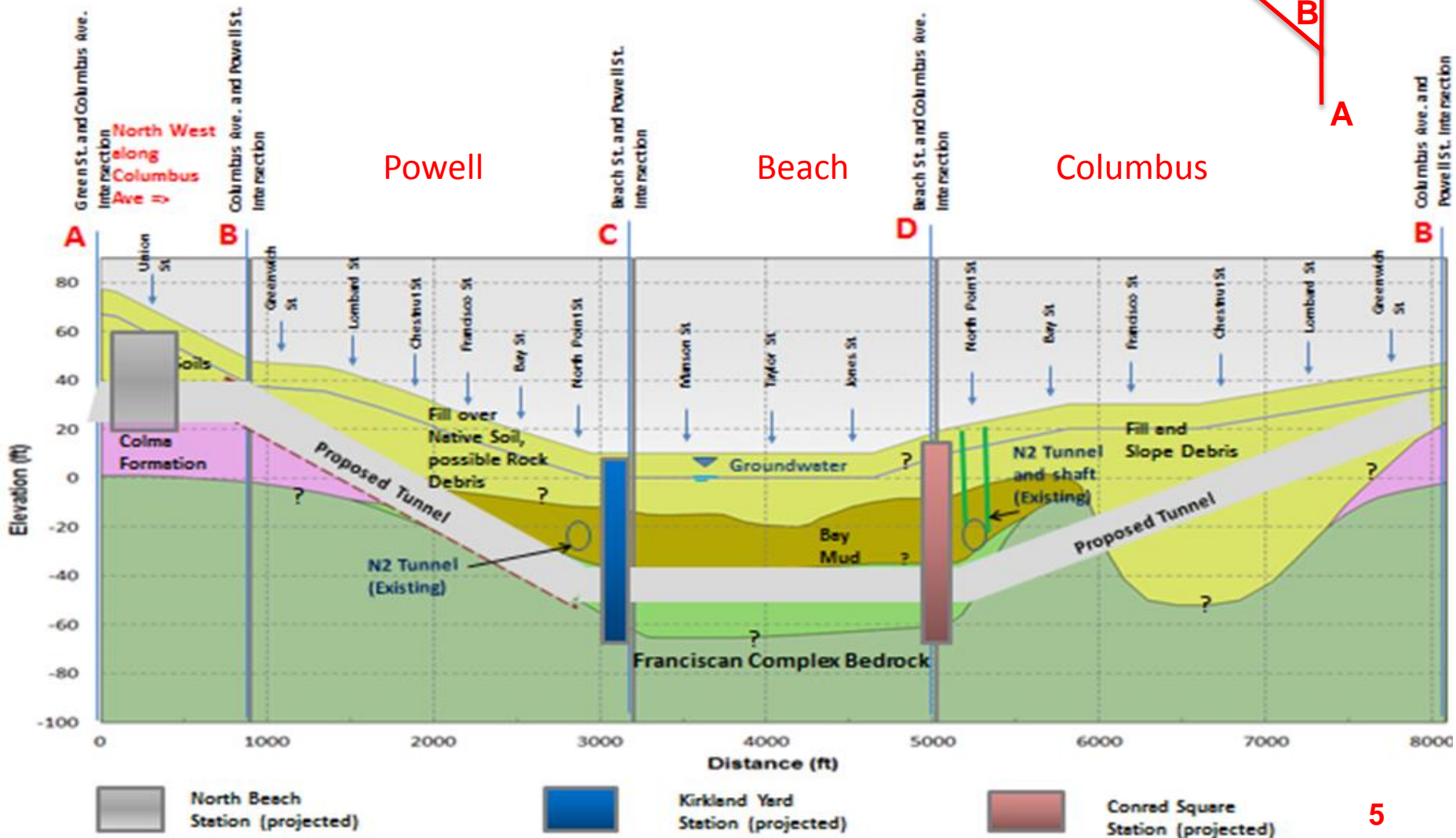
# Concept Alignments

Number	1-1	1-2	2A-1	2A-2	2A-3	2A-4	2A-5	2A-6	2B-1	2B-2	2B-3	2B-4	3-1	3-2
Street (s)	Columbus		Powell						Powell-Beach				One-Way Loop	
Subway / Surface	Subway / Surface	Subway	Subway / Surface	Subway	Subway / Surface	Subway	Subway / Surface	Subway	Subway / Surface	Subway	NOT FEASIBLE	NOT FEASIBLE	Subway / Surface / Subway	Subway
Station (s)	North Beach Conrad Square	North Beach Conrad Square	North Beach Kirkland Yard	North Beach Kirkland Yard	North Beach Kirkland Yard	North Beach Kirkland Yard	North Beach Kirkland Yard	North Beach Kirkland Yard	North Beach Kirkland Yard Conrad Square	North Beach Kirkland Yard Conrad Square	NOT FEASIBLE	NOT FEASIBLE	North Beach Kirkland Yard Conrad Square	North Beach Kirkland Yard Conrad Square

**Data Highlights**

- 4 Corridors**
- 14 Concept Alignments**
- 2 or 3 stations**
- Subway and Subway-Surface combination**

# Constructability Ground Cross Sections



# Constructability Issues



Areas of possible liquefaction

*Data Highlight*  
*No Fatal Flaws*

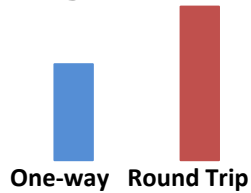
Areas at risk with sea-level rise



- Area at risk with 1.4 meter sea-level rise
- Proposed potential alignment
- Proposed potential station

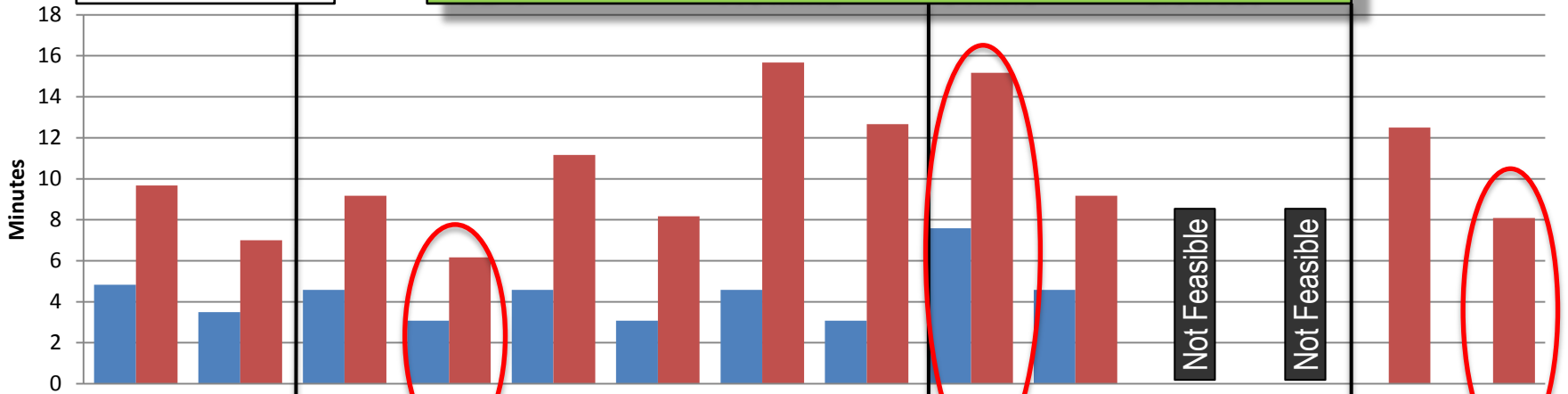
# Travel Time Estimates

## Legend



## Data Highlights

Concept	One-way	Round Trip	Rating
2A-2	3 mins	7 mins	fastest
3-2 Loop	N/A	8 mins	fastest loop
2B-1	7½ mins	15 mins	slowest



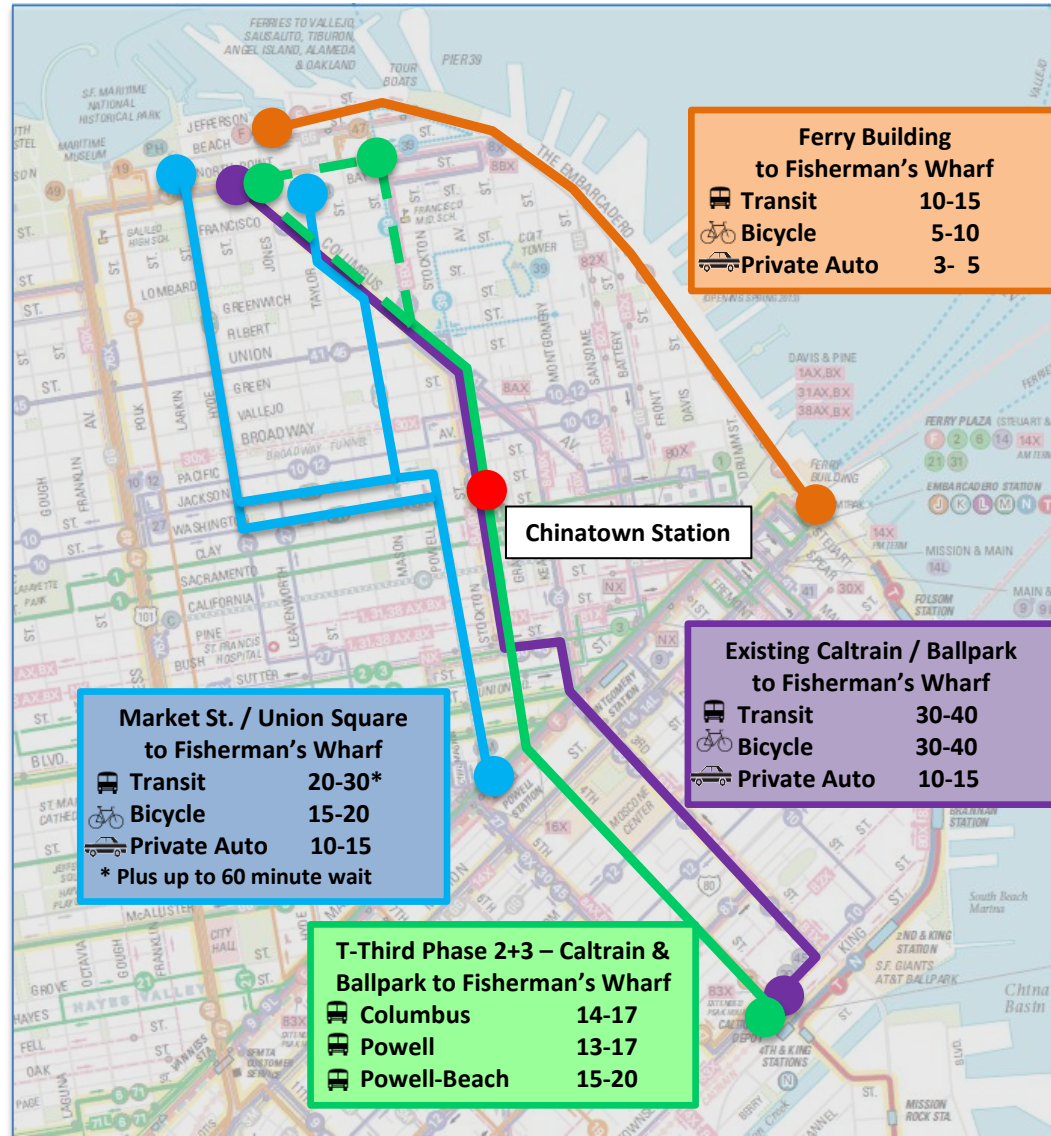
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# Travel Time Comparison

## Data Highlight

*50% - 65% quicker than existing transit service*



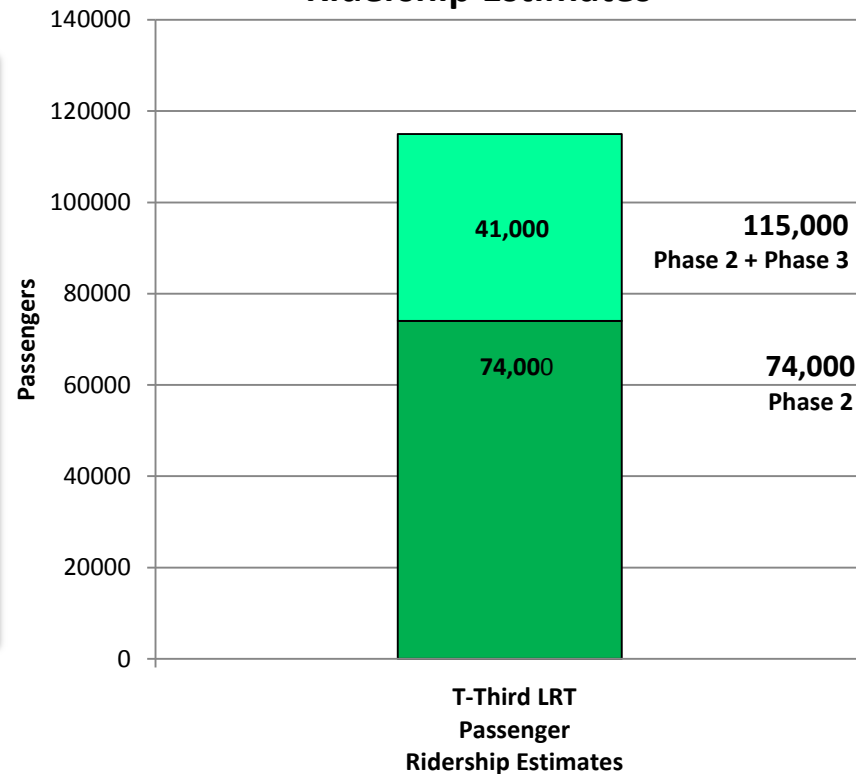


# Daily Ridership Estimates

## Data Highlights

- *55% increase in T-Line passenger levels*
- *At least 1/4 of the increase is from new trips on the Muni system*
- *Up to 3/4 of new trips are passengers moving to the T-Line, relieving overcrowding and pass-ups on buses, cable cars, and the F-Line*

**T-Third  
Alignment 1-2  
Daily  
Ridership Estimates**

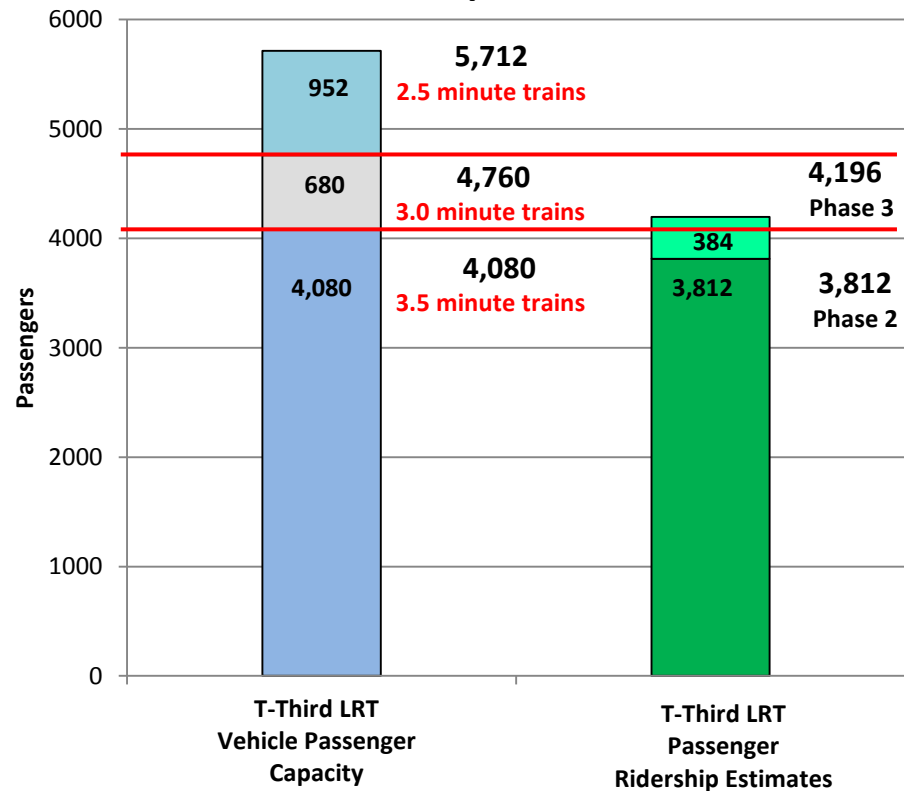


# Peak Ridership and Capacity

## Data Highlights

- *At the maximum load point (MLP) – T-Line trains spaced no more than 3 minutes apart will be required to meet projected passenger levels*
- *Peak ridership changes less than daily ridership due to the all-day nature of demand in these neighborhoods.*
- *By 2030, T-Line trains are scheduled at 2.5 minutes apart in the peak period*

**T-Third  
 Concept Alignment 1-2  
 Peak Hr. / Peak Direction  
 Ridership Estimates**



# Existing Land Use

**Data Highlights**

**Planning Department analyzed:**

- Land Use
- Demographic conditions
- Development potential

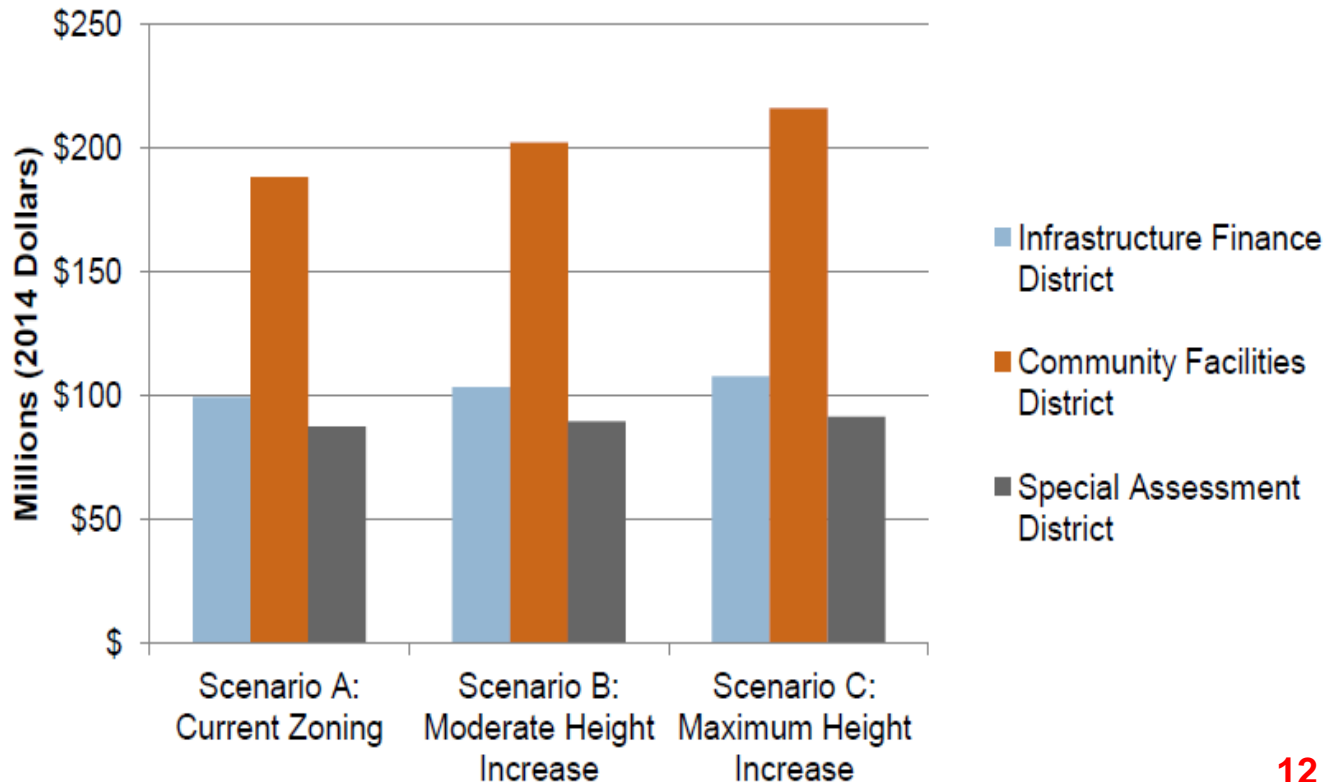


# Value Capture Opportunities

## Estimated Bonding Capacity of local financing mechanisms\*

### Concept Alignment 1-2 analysis

(\* all figures in 2014 dollars)



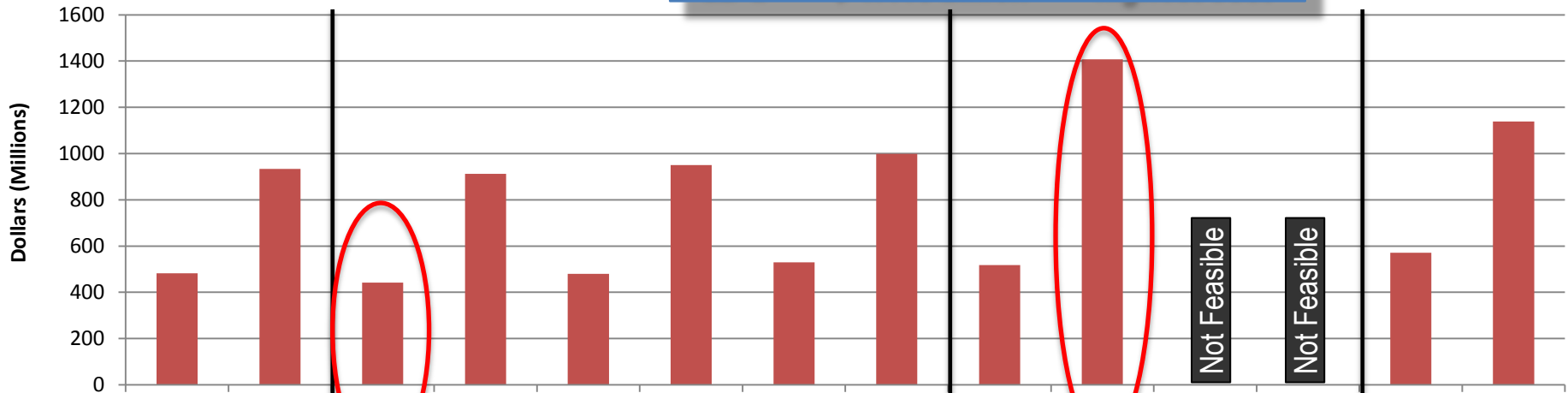
### Data Highlights

- **CFD = \$180-\$220 million**  
 - 2/3 voter approval
- **IFD = \$100-\$110 million**  
 - 55% voter approval
- **SpAD = \$90 million in**  
 - simple majority approval
- **Modest revenue differences between current zoning and limited zoning increases**

# Capital Costs (2014 \$ Estimate)

## Data Highlights

Concept	Cost Estimate	Rating
2A-1	\$ 440 million	lowest cost
2B-2	\$ 1.410 billion	highest cost

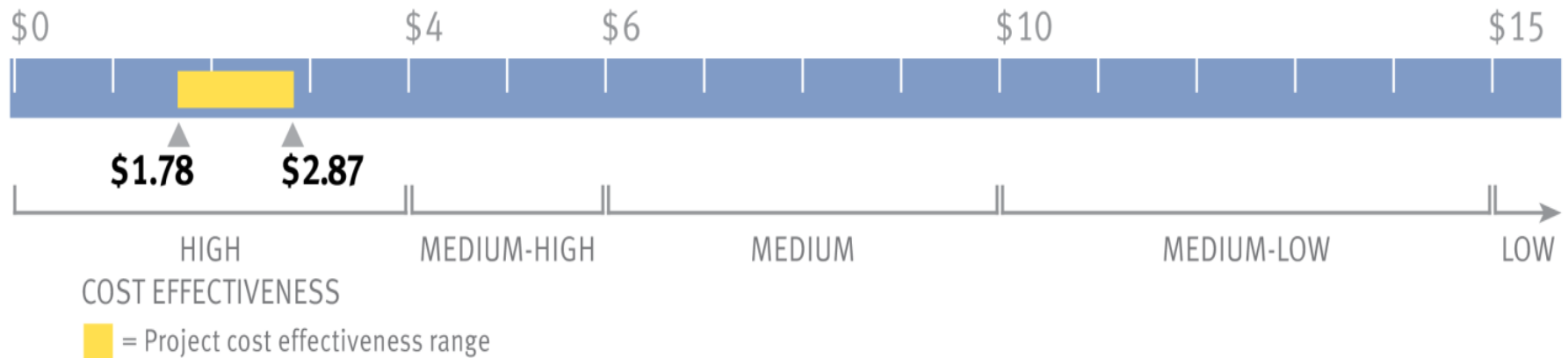


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# Cost / Benefit Analysis

## Central Subway Phase III Cost Effectiveness with Federal Transit Administration New Starts Breakpoints



### Data Highlight

**\$1.78\* - \$2.87\* = 2040 projected cost per new trip – (FTA Formula)  
 Concept Alignment 1-2 (low cost and high cost estimate)**

*\* Costs are in 2014 dollars*

# Potential Funding

## **Federal Sources**

Federal Transit Administration (FTA)  
New Starts program

## **Land Use Value Capture**

Infrastructure Finance District (IFD)  
Community Facilities District (Mello-Roos) (CFD)  
Special Assessment District (SpAD)

## **Local Sources**

Sales Tax (Proposition K)  
Future Transportation Funding Measures

## **Other Sources**

Joint Development ?

# North Beach Station



## Rail to North Beach Facts

- *New environ. review process required*
- *Tradeoffs with different construction methods*
- *Offstreet construction access lessens neighborhood disruption*

## Pagoda Palace Site Facts

- *SFMTA has active lease until May 10, 2015 to use parcel as a TBM retrieval site*
- *SFMTA has “right of first refusal” to purchase if owner decides to sell property*
- *Owner preparing to build 19 units of housing*



# Summary Evaluation Of Concept Alternatives

Number	1-1	1-2	2A-1	2A-2	2A-3	2A-4	2A-5	2A-6	2B-1	2B-2	2B-3	2B-4	3-1	3-2
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Passenger Experience	0	+	0	+	-	-	-	-	-	+	NF	NF	0	+
Operational Efficiency	-	+	-	+	-	0	-	-	-	+	NF	NF	+	+
System Performance	0	+	0	+	0	+	-	-	0	+	NF	NF	+	+
Local Operations	-	+	-	+	-	0	-	-	-	+	NF	NF	-	+
Infrastructure Resiliency	+	+	0	+	0	-	0	-	0	+	NF	NF	0	0
Construction Disturbance	-	0	-	0	-	-	-	-	-	-	NF	NF	-	-
Capital Const. Cost and Risk	+	0	+	0	+	0	+	0	+	-	NF	NF	+	0
<b>Total</b>	-1	5	-2	5	-3	-2	-4	-6	-3	3	NF	NF	1	3
Capital Cost (2014 \$\$) (millions)	407-482	848-933	367-442	837-912	406-480	875-950	454-529	924-999	443-518	1,333-1,408	NF	NF	496-571	1,087-1,139
Constructability Rating	4	5	3/4	4	3/4	2	3/4	2	3/4	4	1	2	3	3/4

# Concept Alignments

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# Next Steps

**SF Transportation  
Plan Update (2014)**

Use data in  
SF  
Transportation  
Plan

**T-Third Phase 3  
Concept Study (2014)** → **Share with public  
and SF officials**

Use data in  
Rail Capacity  
Strategy

**SFMTA Rail Capacity  
Strategy (2014-2015)**

**MTC - San Francisco Bay Area  
Core Capacity Transit Study (2015)**