Muni Subway Expansion project

Railvolution
October 10, 2016
Agenda

• SF rail history and context
• Existing conditions
• Proposed project and benefits
• Status and next steps
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Rail has been a part of SF history for 100+ years. Major early investments: Twin Peaks Tunnel, Sunset Tunnel, Stockton Tunnel

Mayor Rolph at the controls of Streetcar 117 for the opening of the Twin Peaks Tunnel | February 3, 1918
Like most cities, we removed most of our streetcars...

Why not all?

Images courtesy Chris Arvin, “Where the streetcars used to go” sfstreetcars.co

Tunnels!
Fast forward to 1970s, introduction of BART
Muni Metro hybrid system is born - creating complex operational conditions

- Running in both subway and on street in mixed traffic
- Multiple lines merging into one subway tunnel, entering/exiting through three portals
- Five-car modern high-floor station platforms in new subway stations
Fast forward to 2016: now we are bursting at the seams!
We’ve made a lot of improvements and have more on the way:

- “Red carpet” transit only lanes for Rapid Network (rail + bus) and expanded transit signal priority
- Maintenance campaigns have driven up on-time performance
- Central Subway – first tunnel in SF since BART, opens 2019
But more is needed and there’s a renewed effort to think BIG and visionary.

Supes endorse need for subway master plan

San Francisco transportation planners will be busy over the next year coming up with a plan to find neighborhoods in The City that could possibly benefit from a subway system.
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Then and Now

Source: San Francisco’s West of Twin Peaks; Arcadia, 2006, p. 61
What problems are we trying to solve?
## Rail Crowding

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Projected Percent of Capacity Filled (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Neighborhoods</td>
<td>90%</td>
</tr>
<tr>
<td>Richmond</td>
<td>112%</td>
</tr>
<tr>
<td>Sunset</td>
<td>131%</td>
</tr>
<tr>
<td>Mission</td>
<td>65%</td>
</tr>
<tr>
<td>Bayshore</td>
<td>58%</td>
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</tbody>
</table>

### Sunset / Metro

**2015**
- 13,500 Capacity
- 111% Occupancy
- 15,000 Demand

**2015 Conditions**
- 4,550 People in Cars
- 9,700 Transit Trips
- 750 Bike/Ped

**2015 - 2040 Capacity Expansion**
- 2020: 14,600 Capacity, 107% Occupancy, 15,800 Demand
- 2025: 14,800 Capacity, 112% Occupancy, 16,600 Demand
- 2030: 14,800 Capacity, 118% Occupancy, 17,500 Demand
- 2040: 14,800 Capacity, 131% Occupancy, 19,400 Demand

Source: Metropolitan Transportation Commission Core Capacity Transit Study Briefing Book
Transit-car conflicts: re-current delay
ATTN: Northbound #moceanview delay @ Junipero Serra/19th due a non Muni vehicle blocking.

Update: Northbound #moceanview is blocked by a non Muni vehicle at Junipero Serra/19th. Shuttles supplementing service.

11/25/2014
Median station access a safety challenge
19th Avenue is part of 12% of miles of street
Where 70% of all severe and fatal collisions in San Francisco occur
Growth is coming

Planned New Housing Units

Image Credit: San Francisco Planning Department data as cited in SFCTA, San Francisco Transportation Plan 2040
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We started by studying partial grade separations
And then came up with the Full Subway proposal
What are the benefits?
Increased rail capacity due to 4-car trains

New stations built for 4-car long trains would allow 2x as much capacity for each slot in the tunnel.
Increased rail capacity due to improved reliability

Shorter Trains
One-car trains reduce the capacity of the tunnel, as they must maintain the same minimum following distance as any other train.

OPTIMAL SPACING
To assure safety, the train control system keeps a minimum time buffer between trains.

OPTIMAL SPACING

ELONGATED SPACING
When trains run late, they increase spacing in the tunnel, reducing capacity.
Safety and public realm improvements

**Existing**

**Proposed**
Benefits and costs

$2.5-$3 Billion

Must compete for limited funding against other worthy projects.

- A less crowded train
- Faster, more reliable trips on Muni Metro
- Safe station access
- Safe comfortable street
- Improve environment/ quality of life
Ongoing community engagement since 2012
M-Line plans get good response

Community feedback included in drive to minimize travel times

By: Andrea Stone
City Planning Staff Writer

Community feedback included in drive to minimize travel times.

M-Ocean View Muni project

Benefits of the M-Ocean View and Bridge plan

- Safety

- Transit

- Economic development

- Environment

- Quality of life

- Vision zero

- Green jobs

- Livability

- Access

- Sustainability

- Resilience

- Equity

- Climate change

- Energy efficiency

- Innovation

- Health

- Mobility

- Pollution

- Transportation

- Community

- Planning

- Public safety

- Safety

- Security

- Sustainability

- Transportation

- Water quality

- Housing

- Housing affordability

- Land use

- Livability

- Mobility

- Quality of life

- Resilience

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Technical work completed includes:
- Conceptual alignment
- Conceptual profile
- Conceptual station designs
- Caltrans project initiation document
- Preliminary environmental assessment
- Capital cost estimates
I am also presenting tomorrow Tuesday 10/11
7:30-10pm

“Battle of the Modes” Tuesday 7:30-10pm
during Pecha Kucha Slam, Great American
Music Hall 859 O’Farrell Street

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