



FOR IMMEDIATE RELEASE

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****PRESS RELEASE****

Tunnel Boring Machine “Mom Chung” Launches, Commencing Construction of First Central Subway Tunnel *Under 4th Street, massive machine begins building San Francisco’s first new subway tunnel in decades*



San Francisco—The San Francisco Municipal Transportation Agency (SFMTA), which oversees transportation in the city, including the Municipal Railway (Muni), today announced that tunnel boring machine (TBM) Mom Chung has launched, commencing construction beneath downtown San Francisco of one of the Central Subway’s two tunnels. The tunnels are a key component in extending the Muni Metro T Third Line through SoMa, Union Square and Chinatown.



The 350-foot-long, 750-ton machine began her journey under 4th Street this week. Over the next 10 months, Mom Chung will travel north under 4th Street, Stockton Street and Columbus Avenue, excavating and constructing San Francisco’s first new subway tunnel in decades.

An identical machine, named Big Alma, has arrived in San Francisco to construct a tunnel parallel to Mom Chung’s. After about six weeks of assembly underground, Big Alma will begin tunneling.

The public may follow the TBMs on Twitter at [@MomChungtheTBM](https://twitter.com/MomChungtheTBM) and [@BigAlmatheTBM](https://twitter.com/BigAlmatheTBM). Their approximate locations will be posted on the Central Subway Google Map: <http://goo.gl/maps/U639m>.

Edwin M. Lee, *Mayor*

Tom Nolan, *Chairman*

Cheryl Brinkman,
Vice-Chairman

Malcolm Heinicke, *Director*

Jerry Lee, *Director*

Joél Ramos, *Director*

Cristina Rubke, *Director*

Edward D. Reiskin
Director of Transportation

“We are one step closer to building the 21st century transportation system our world-class city needs,” said Mayor Edwin M. Lee. “The Central Subway and its tunnels are essential to building and maintaining a reliable, modern public transportation system for San Francisco residents and connecting our diverse communities.”

“The Central Subway means more jobs, less congestion, and improved air quality for future generations,” said Board of Supervisors President David Chiu. “I am excited for Mom Chung’s launch and this major transportation improvement for our city.”

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Mom Chung and Big Alma will excavate and construct the 1.5-mile-long tunnels at a pace of approximately 40 feet per day, though their pace will vary based on ground conditions and other factors. Most of their journey will be through two major ground formations: the Franciscan complex, a bedrock formation that forms Nob Hill; and the Colma formation, a dense mixture of sand and clay. The TBMs will be so far beneath the surface – between 40 and 120 feet underground – that no vibration or noise will be felt above ground when they pass below.

“This is exciting for San Francisco – we are now building the city’s first new subway tunnel since the 1980s,” said Tom Nolan, chairman of the SFMTA Board of Directors. “With rapid transit on 4th Street and Stockton Street, through SoMa, Union Square and Chinatown, we’ll significantly speed up and improve transportation through some of our most congested areas.”

“By extending the T Third Line through SoMa, Union Square and Chinatown, we’re connecting major job and population centers to rapid transit and vastly improving transportation in areas that are expected to grow in coming years,” said SFMTA Director of Transportation Edward D. Reiskin. “The Central Subway and its tunnels are allowing us to realize the decades-long vision of bringing fast, efficient transit to the crowded 4th and Stockton corridors.”

Each TBM consists of a rotating cutter wheel (the cutter head), a cylindrical steel shell (the shield) and a 300-foot train of tunnel-building mechanisms (the trailing gear). The cutter head, a spinning excavator at the front of the machine, pumps out an environmentally safe, soap-like foam to condition the ground as it cuts through the earth like a cheese grater. Once loosened, spoils pass through holes in the cutter head and onto a large screw. The screw carries the spoils onto a series of conveyors for transport out of the tunnel.

To launch, the machine pushed off of a steel frame as its cutter head began to spin. As it tunnels, the machine will stop every five feet to install the concrete segments that make up the tunnel’s lining. The concrete segments are installed within the back of the TBM’s cylindrical shield. The machine lifts the segments into place, and then crews bolt them together. Hydraulic jacks within the shield then push off of the newly installed tunnel lining, propelling the massive machine forward. A crew of about 10 people operates the machine and bolts the tunnel segments together.

The Central Subway is expected to open to the public in 2019. For more information, visit www.centralsubwaysf.com.

Video Clips of the work being done below the surface (these may take a few minutes to load due to their size):

1. The cutter head of tunnel boring machine Big Alma:
www.centralsubwaysf.com/sites/default/files/ftp/mom_chung_launch/DSC_5947.MOV

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2. Mom Chung's trailing gear, with Big Alma in the background:
http://www.centrlsubwaysf.com/sites/default/files/ftp/mom_chung_launch/DSC_5975.MOV
3. Some of the first ground spoils fall from the back of Mom Chung's trailing gear. When tunneling is farther along, crews will use vehicles to transport this material out of the tunnel:
http://www.centrlsubwaysf.com/sites/default/files/ftp/mom_chung_launch/DSC_6052.MOV
4. A welder works on Mom Chung's trailing gear:
http://www.centrlsubwaysf.com/sites/default/files/ftp/mom_chung_launch/DSC_6071.MOV
5. Ground spoils travel on a conveyor for transport out of the tunnel:
http://www.centrlsubwaysf.com/sites/default/files/ftp/mom_chung_launch/DSC_6072.MOV
6. Another shot of ground spoils traveling on a conveyor for transport out of the tunnel:
http://www.centrlsubwaysf.com/sites/default/files/ftp/mom_chung_launch/DSC_6150.MOV

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Established by voter proposition in 1999, the SFMTA, a department of the City and County of San Francisco, oversees the Municipal Railway (Muni), parking and traffic, bicycling, walking and taxis. With five modes of transit, Muni has approximately 700,000 passenger boardings each day. Over 1 million people get around this city each day and rely on the SFMTA to ensure safe and reliable travel by transit, walking, bicycling, taxi and driving.

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