

Downtown Rail Extension (DTX) Ridership Forecasting & Benefits Analysis

Progress Update



**San Francisco
County Transportation
Authority**

**San Francisco Peninsula Rail Program
Executive Steering Committee**

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Presentation Outline



- Work Program Context
- DTX Ridership Forecasting:
 - Ridership Forecasting Tools & Approach
 - Range of Results to Date
 - Next Steps
- DTX Benefits Analysis
 - Benefits Case Framework
 - Headline Benefits
 - Next Steps

DTX Comprehensive Work Plan Tasks



Task 3.3 (MOU Task 10B) DTX Demand Forecasts

Key Activities:

- Definition of scenarios and assumptions
- FTA “STOPS” model development and application
- Long-range forecasting to underpin benefits assessment

Task 3.2 (MOU Task 10A) DTX Benefits Assessment

Key Activities:

- Planning analyses to estimate project benefits
- Input into development of FTA project evaluation/rating
- Input to re-branding and public outreach activities

Ridership Forecasting



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Ridership Forecasting Tools



Multiple tools to forecast DTX ridership, with different methods and purposes:

Caltrain
Business Plan

CHSRA
Business Plan

SFCTA
“SF-CHAMP”

FTA
“STOPS”

Operator-level system planning

*Long-term network
planning and
project benefits
analysis*

*FTA-mandated model
framework for federal
project evaluation*

Approach to Forecasting DTX Ridership



DTX Benefits Case

Caltrain Ridership

SF-CHAMP
Forecasts

+

HSR Ridership

CHSRA
Forecasts

FTA Project Evaluation

Caltrain Ridership

STOPS
Forecasts

+

*HSR Ridership**

STOPS
Forecasts

** Scope of HSR ridership and benefits included in FTA evaluation subject to New Starts requirements and FTA guidance*

HSR Ridership Forecast



HSR ridership forecast from CHSRA:

- Year 2040 forecast, assuming completion of Phase 1 (SF to LA) with 4 trains/hour per direction (peak)
- 2040 forecast of **approximately 36,000 daily HSR boardings + alightings in San Francisco:**

2040 HSR Daily Ridership	All Trips
Systemwide	106,000
San Francisco – Salesforce Transit Center	32,000
San Francisco – 4 th & Townsend	4,000

- HSR forecast subject to update through CHSRA Business Plan process

Updated forecasts of DTX Caltrain ridership being prepared using SF-CHAMP and STOPS tools:



Year	Scenario	Caltrain Service Level (peak tphpd*)	SF-CHAMP	STOPS
2019	Baseline	5	●	●
	"2019" No-Project	6		●
	"2019" With-Project	6		●
2040	No Project	6	●	●
	Project	6	●	●
	No Project	8	●	●
	Project	8	●	●
2050	No Project	6	●	
	No Project	8	●	
	Project	8	●	
	Project + Link21	TBD	●	

2019 Analysis:
Baseline and FTA-required "current land use" forecast

2040 Analysis:
FTA future horizon year

2050 Analysis:
Long-term analysis to feed benefits case and align to RTP horizon

* tphpd = trains per hour per direction

SF-CHAMP: 2050 Key Assumptions



- **Land Use** – regional land use consistent with adopted MTC Plan Bay Area 2050
- **Transportation Network** – MTC Plan Bay Area 2050 baseline committed project list
- **Caltrain Service Plan / Service Pattern** – Caltrain Business Plan scenarios for 6 tph and 8 tph

Caltrain Ridership: Initial SF-CHAMP Results – Summary



Preliminary Forecast Range (2040/2050)*

Metric	Preliminary Forecast Range (2040/2050)*
Caltrain Ridership @ Salesforce Transit Center (ons + offs)	~50,000 - 75,000 / day
Caltrain Ridership @ 4 th & Townsend (ons + offs)	~20,000 - 25,000 / day
Incremental Caltrain Ridership with DTX (system-wide boardings)	~10,000 - 20,000 new Caltrain riders / day
Share of Caltrain System-wide Ridership using DTX (including 4 th & Townsend)	~45-50% of Caltrain system-wide ridership

* Preliminary Forecast Range reflects rounded range of SF-CHAMP results across 2040 & 2050 “With Project” scenarios, under differing service level assumptions.

Caltrain Ridership: Initial SF-CHAMP Results – Scenario Detail



	Year 2040		Year 2040		Year 2050	Year 2050	
	No Project 6tph	Project 6tph	No Project 8tph	Project 8tph	No Project 6tph	No Project 8tph	Project 8tph
Caltrain peak / off-peak tphpd*	6/4	6/4	8/6	8/6	6/4	8/6	8/6
DTX	No	Yes	No	Yes	No	No	Yes
Caltrain System-wide Boardings	125,000	135,000 +11k +9%	154,000	168,000 +14k +9%	153,000	191,000	209,000 +18k +9%
STC Ons + Offs (Caltrain)	0	47,000	0	60,000	0	0	75,000
4 th & King/Townsend Ons + Off (Caltrain)	53,000	19,000 -34k -64%	66,000	22,000 -44k -67%	65,000	79,000	27,000 -53k -66%

* tphpd = trains per hour per direction

Comparison to Caltrain Business Plan Forecasts



SF-CHAMP and Caltrain Business Plan forecasts are in a comparable range for overall system and DTX ridership:

Source	Scenario	Daily Caltrain Boardings	STC + 4th & King/Townsend Ridership
Caltrain Business Plan	2030 8 tph, with DTX	142,000	78,000
Caltrain Business Plan	2040 8 tph, with DTX	185,000	101,000
SFCTA SF-CHAMP	2040 8 tph, with DTX	168,000	82,000
SFCTA SF-CHAMP	2050 8 tph, with DTX	209,000	102,000

Ridership Forecasting – Next Steps



FTA STOPS and Project Evaluation:

- Continue to develop and apply STOPS model, in consultation with FTA
- Determine approach to representation of HSR in STOPS analysis, subject to FTA guidance and in context of project financial plan
- Finalize service plan assumptions for No-Project and With-Project scenarios
- Prepare final ridership forecasts to support FTA submittals

SF-CHAMP and Benefits Case

- Additional 2050 SF-CHAMP forecasting, including Link21 scenario
- Coordination and inputs to benefits analysis

DTX Benefits Case Framework



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Purpose of the DTX Benefits Case

Purpose: To analyze, organize, and communicate the most significant benefits of the DTX Project

Objectives:

- Communicate project benefits to stakeholders, decision-makers, and the public
- Inform project re-positioning/re-branding
 - Position DTX as a project of regional, statewide, and national significance
- Support efforts to secure funding
- Guide further technical planning work

Headline Benefits

The Benefits Case will be structured around key project benefit categories:



Mobility: DTX will make traveling throughout the Bay Area and California faster, more reliable, and more connected.



Economy: DTX will support economic competitiveness and improve access to jobs.



Community: DTX will support climate and equity goals for the Bay Area and California.



Future-Forward: DTX is a foundational step in the next generation of rail expansion for the Bay Area, Northern California, and the State.

Mobility: DTX will make traveling throughout the Bay Area and California faster, more reliable, and more connected.

- Reduces travel time for transit trips to/from San Francisco and the Peninsula.
- Improves the passenger experience by eliminating transfers and reducing wait times.
- Increases regional travel capacity and relieves pressure on congested highway corridors by encouraging rail trips along the Peninsula rail corridor.
- Provides a one-seat ride between the South Bay, the Peninsula, and downtown San Francisco.
- Enables seamless transfers at Salesforce Transit Center to destinations throughout the region.
- Offers a competitive alternative to driving.

Economy: DTX will support economic competitiveness and improve access to jobs.

- Supports innovation and knowledge sharing by connecting workers, employers, academic institutions, and major industries.
- Improves access to jobs and key destinations.
- Addresses the jobs-housing imbalance by linking core housing and major employment centers.
- Supports job growth along the rail corridor.
- Supports regional housing and sustainable development goals.
- Improves regional economic productivity by reducing travel time for commuters.
- Boosts the economy through construction jobs.

Community: DTX will support climate and equity goals for the Bay Area and California.

- Supports transit-oriented land use and sustainable growth in housing and employment.
- Improves access to jobs and opportunities for disadvantaged communities.
- Improves travel choices for low- and no-vehicle households.
- Reduces greenhouse gas emissions.
- Supports healthy communities by improving regional air quality and encouraging active transportation.
- Supports regional and state climate and equity goals.

Future-Forward: DTX is a foundational step in the next generation of rail expansion for the Bay Area, Northern California, and the state.

- Provides statewide connectivity by bringing California High-Speed Rail into downtown San Francisco.
- Enhances connectivity for the 21-county megaregion by providing a foundational investment for the Link21 program.
- Positions rail as a mode of choice for trips between San Francisco, the Peninsula, and San Jose/South Bay.
- Increases the benefits of two major regional transit investments: Caltrain Electrification and the Salesforce Transit Center.



Benefits Case – Next Steps



- Quantitative and qualitative analysis, based on ridership forecasting and other technical inputs
- Preparation of initial benefits case document and summary materials
- Coordination with project re-branding task

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