Study Introduction:
SamTrans Adaptation & Resilience Plan

Board of Directors

May 2019

Study Scope

Study Cost $218,120 Awarded October 2018	
Caltrans Grant	SamTrans Match
$193,102	$25,018

- The study will analyze SamTrans facilities' vulnerability to climate change impacts, including extreme heat and sea level rise, storm surge and flooding.
- The study will identify, evaluate and estimate costs for adaptation strategies to make SamTrans more resilient to these impacts.

Study Purposes

- Advise the Board of the scale of climate risks facing the organization
- Minimize the cost of climate impacts to SamTrans
- Inform short-, mid- and long-term capital investment, facilities and operational decisions
- Provide Action Alternatives that can be integrated into planning and policy
- Identify opportunities for SamTrans to mitigate climate impacts

What Other Agencies Have Done

- Integrated resilience into asset management
- Created resilient design standards
- Invested in new resilient infrastructure
- Prepared for long-term disaster management
- Modified or moved operations
- Hardened infrastructure

Bus Route Between Sepulveda and Roscoe Stations, Orange Line

Background:

The high speed bus route is located in an area with a high number of extreme heat days and experiences a high number of engine and air conditioning failure road calls. This area is

The Orange Line – route between Sepulveda and Roscoe Stations received an overall resiliency score of 6.4.

The network scored high in the following indicators: maintenance – day to day; compliance with current codes; availability of alternate route/mode choice; re-routing and communication plans.

The assessment scored low in the following indicators: implementation of resilience strategies based on design criteria; existence of vehicle, facility and busway design criteria to address resilience; awareness of supplier utility robustness; awareness of supplier utility redundancy; and supplier backup plan procedures.

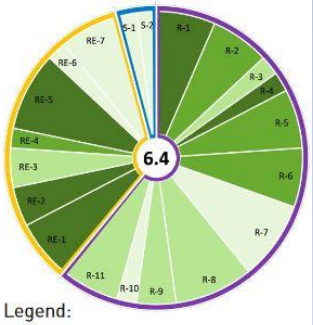
Given that safe-to-fail is a relatively new approach, this was not considered for the design and construction of the Orange Line.

Resiliency Score = 6.4

Robustness = 6.1

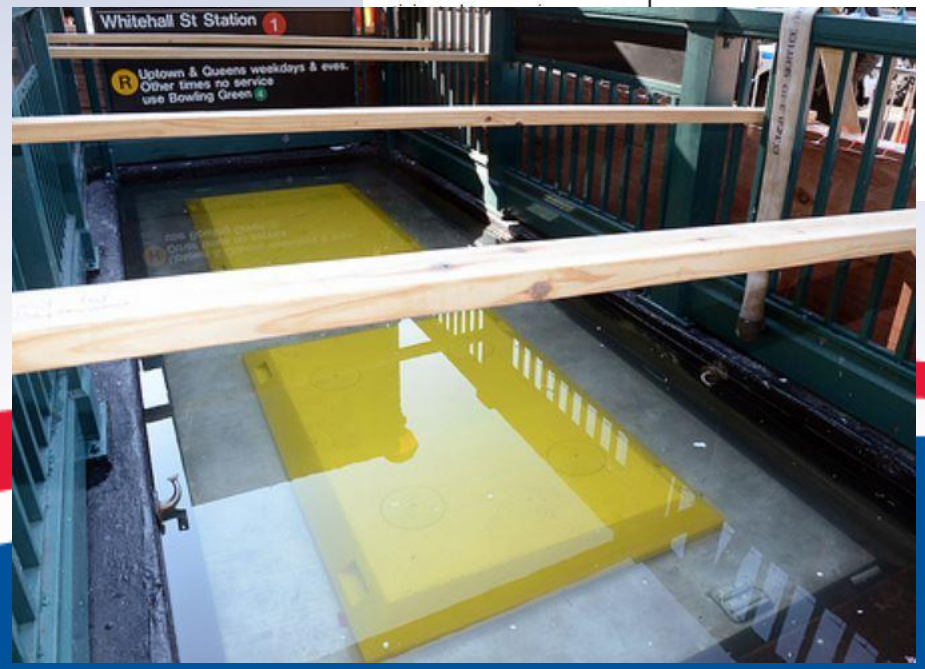
Redundancy = 7.3

Safe-to-Fail = 2.5

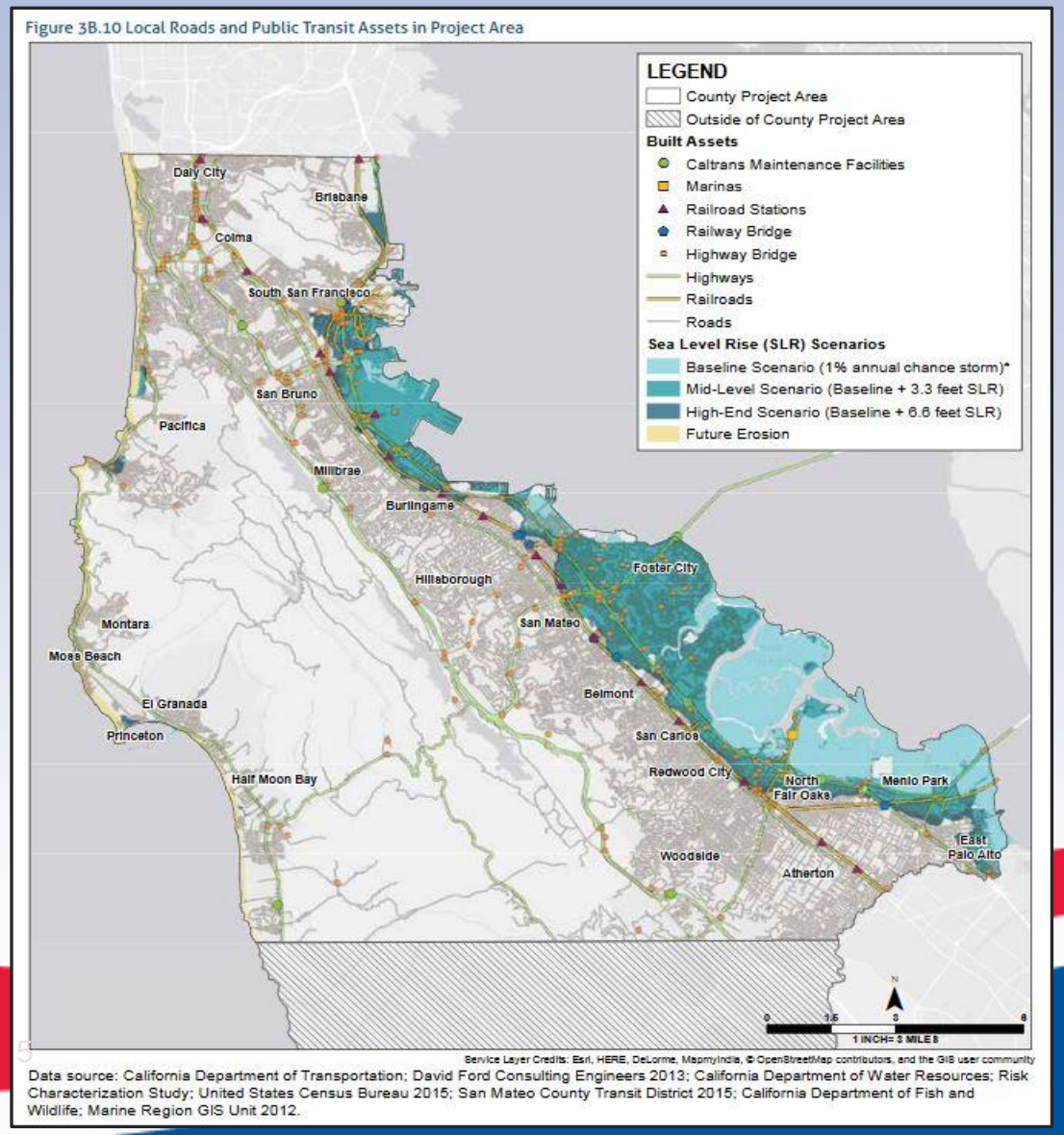


Legend:

Principle	Score
Robustness	4 (Most resilient)
Redundancy	3
Safe-to-fail	2
	1 (Least resilient)
	NA/Incomplete



San Mateo County Projected Climate Change Impacts



"Local Roads & Public Transit Assets in Project Area"

County of San Mateo Sea Level Rise Vulnerability March Assessment 2018

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SamTrans Plan Builds on Existing Resources

Date	Project Title
February 2017	Climate Change and Health Profile Report San Mateo County
March 2018	San Mateo County Sea Level Rise Assessment
2010 - Present	Adapting to Rising Tides
2017 - Present	Resilient By Design
2019 - Present	Sea Change San Mateo County

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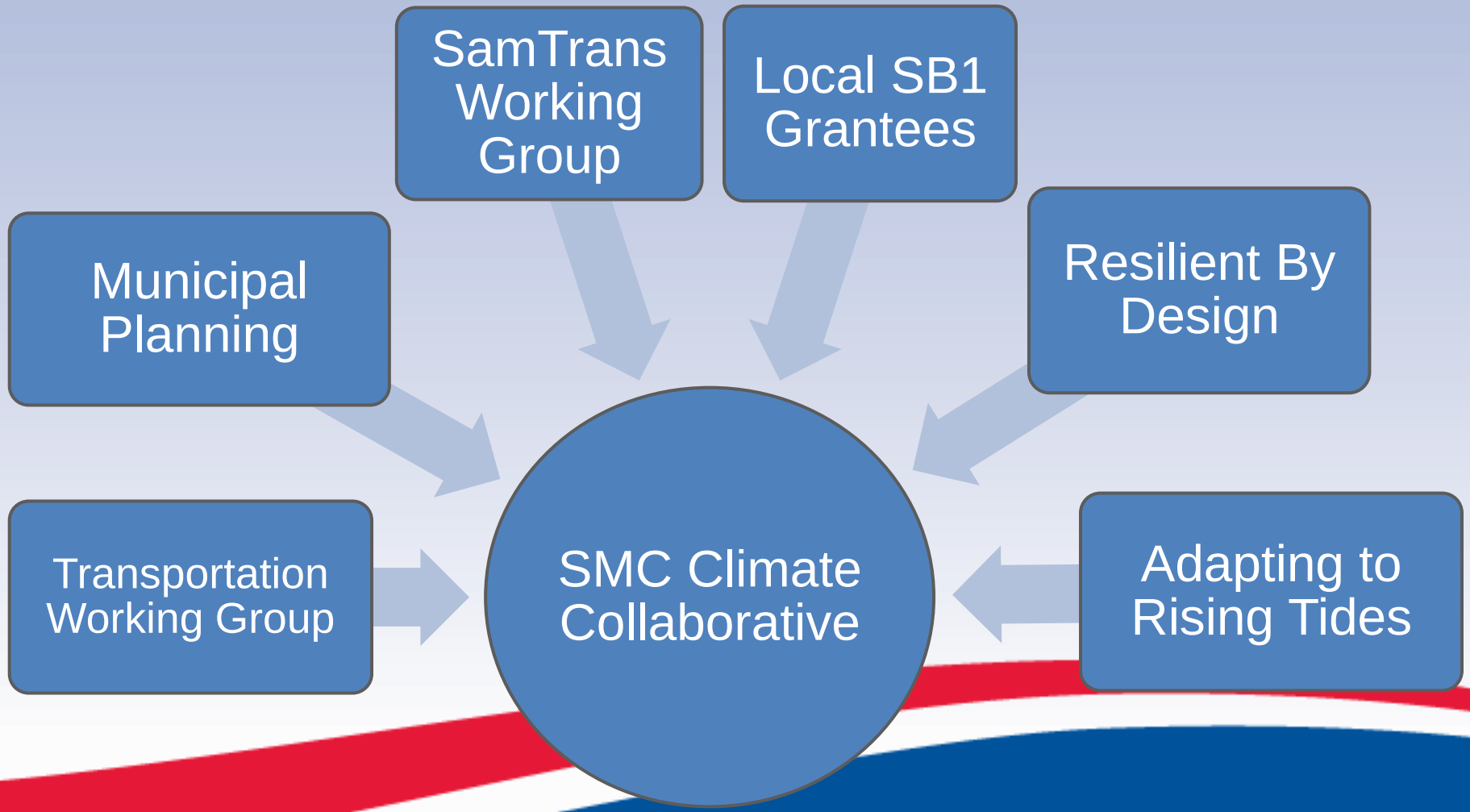
SamTrans Coordinating Regionally



Project Management Structure

SamTrans Board of Directors

General Manager
Jim Hartnett

Executive Steering Committee
Carter Mau (Deputy GM)
April Chan (Planning)
Derek Hansel (Finance/Treasury)
David Olmeda (Operations)
Seamus Murphy (Communications)

SamTrans Project Management Team
Amelia Timbers (Planning, Sustainability)
Christy Wegner (Planning Director)

Advisory Team/ TAC
Representatives from:
- Caltrans
- SamTrans Facilities
- San Francisco Airport
- San Carlos Airport
- City of South San Francisco
- City of San Carlos
- County of San Mateo
- BCDC Adapting to Rising Tides
- Resilient By Design
- MIG

Louis Berger/ WSP
Consultant Support

Study Deliverable Schedule

July 2019	North and South Base Sea Level Rise, Storm Surge and Fluvial Vulnerability Assessment
December 2019	SamTrans Heat Vulnerability Assessment
January 2020	Event Scenario Memo
February 2020	Workshops Discussing Study at Bus Bases
July 2020	North & South Base Sea Level Rise, Storm Surge, Flood and Heat Action Alternatives
October 2020	Action Alternatives Lifecycle Cost and Benefit Evaluation
February 2021	Final Adaptation & Resilience Plan

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Board Review

May 2019	Study Introduction
Spring 2020	Update Board on Key Findings of Interim Deliverables
Winter 2020	Review Draft Study, Action Alternatives & Costs
Spring 2021	Adopt Study

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Questions?

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