

# CALTRANS FREIGHT RESEARCH

DIVISION OF RESEARCH, INNOVATION AND SYSTEMS INFORMATION

OFFICE OF STRATEGIC FREIGHT PLANNING

CALIFORNIA FREIGHT ADVISORY COMMITTEE MEETING

NOVEMBER 9, 2023

# BACKGROUND

---

- THE DIVISION OF RESEARCH AND INFORMATION SYSTEMS (DRISI) COORDINATES WITH FUNCTIONAL AREAS *THROUGHOUT THE DEPARTMENT*, INCLUDING THE OFFICE OF STRATEGIC FREIGHT PLANNING
- CALTRANS DISCRETIONARY BUDGET 2023-2024
  - TOTAL: ~\$16 MILLION
- HISTORICALLY HAS PRODUCED VALUABLE, WELL-REGARDED RESEARCH

# WHY DO FREIGHT RESEARCH?

---

- IDENTIFYING PROBLEMS AND PROPOSING SOLUTIONS IN AN ACADEMIC WAY
- PUBLIC SERVICE – JUSTIFYING PUBLIC-SECTOR DECISION-MAKING
- DEVELOPING PUBLIC-PRIVATE PARTNERSHIPS
- DEVELOPING DATA AND REFINING ANALYSIS TOOLS
- MODELING THE EFFECT OF “THE NEW” ON KEY METRICS
- TESTING NEW CONCEPTS AND TECHNOLOGY IN A CONTROLLED ENVIRONMENT



# EXAMPLES OF FREIGHT RESEARCH NEEDS

---

- CONDUCT A DEDICATED TRUCK LANE FEASIBILITY STUDY
- IDENTIFY ALTERNATE FREIGHT ROUTE TO MAINTAIN FREIGHT MOVEMENT AT TIMES OF DISRUPTION BY DISASTER
- ENCOURAGE FREIGHT MODE SHIFT TO RAIL AND WATER TO REDUCE VMT AND GHG EMISSIONS FROM ROADWAY FREIGHT TRANSPORT WHERE AND WHEN VIABLE.

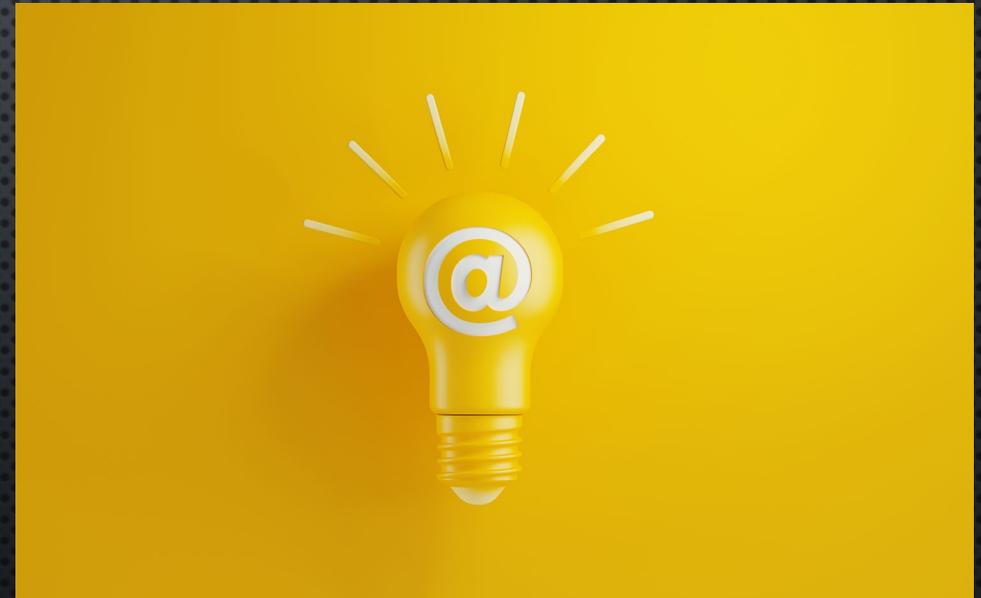


HOW IS NEW RESEARCH DEVELOPED AT CALTRANS?

# REQUESTING NEW *FREIGHT* RESEARCH

---

- IMPORTANT TO KNOW WHAT PROJECTS ARE DEPARTMENT PRIORITY
- ITEMS NEEDED FOR RESEARCH PROPOSALS
  - BACKGROUND
  - PROBLEM STATEMENT
  - RESEARCH METHODOLOGY AND OUTCOMES
  - EXPECTED PRODUCT
  - IMPACT ON THE STATE OF PRACTICE
- CONTACT:
  - [TRACEY.FROST@DOT.CA.GOV](mailto:TRACEY.FROST@DOT.CA.GOV)
  - [CAMILO.JUAREZ@DOT.CA.GOV](mailto:CAMILO.JUAREZ@DOT.CA.GOV)



# AFTER RECEIVING A REQUEST

---

- STRATEGIC FREIGHT SUBMITS RESEARCH IDEAS TO DOTP.
- DOTP PACKAGES RESEARCH REQUESTS AND SUBMITS TO DRISI FOR EVALUATION IN THE RESEARCH SELECTION PROCESS.
  - DRISI WILL CONVENE A PANEL TO REVIEW AND PRIORITIZE PROPOSALS



# RESEARCH SELECTION PROCESS TIMELINE

---

- **December 15, 2023** - Send research concepts to Office of Strategic Freight Planning
- **January 15, 2024** – DOTP submits new research requests to the Division of Research, Innovation, and System Information
- **February-March 2024** – Scoring of research proposals
- **April 2024** – Research funding decisions announced

THANK YOU!!



# California Freight Mobility Plan 2023 Update

California Freight Advisory Committee Meeting  
November 9, 2023



# California Freight Mobility Plan (CFMP) 2023

- CFMP is a comprehensive plan that governs immediate & long-range planning activities & capital investments with respect to freight movement
- Federal and state compliant
- Built upon the CFMP 2020
- Refined and updated the existing 10 FAST Act elements
- Includes the 7 new IIJA/BIL elements
- Submitted plan to FHWA in July 2023





# CFMP 2023 Approval

We are pleased to  
announce that the  
CFMP 2023 was  
approved by FHWA on  
September 1st!



# Next Steps



State submittal & circulation



Implementation: Utilizing identified strategies to achieve goals.



Looking ahead to.....



# CFMP 2027



We need your Feedback!



What kind of topics would you like to see in the next update of the plan?



Submit ideas to:  
[California Freight Mobility Plan \(CFMP\) 2027 Survey](#)



## QUESTIONS/COMMENTS

Email: [CFMP@dot.ca.gov](mailto:CFMP@dot.ca.gov)

CFMP 2023 located at:  
[California Freight Mobility Plan 2023 | Caltrans](#)

CFMP 2027 Input Survey located at:  
[California Freight Mobility Plan \(CFMP\) 2027 Survey](#)



# California Critical Rural and Critical Urban Freight Corridors Guidelines Update

Ryan Castle

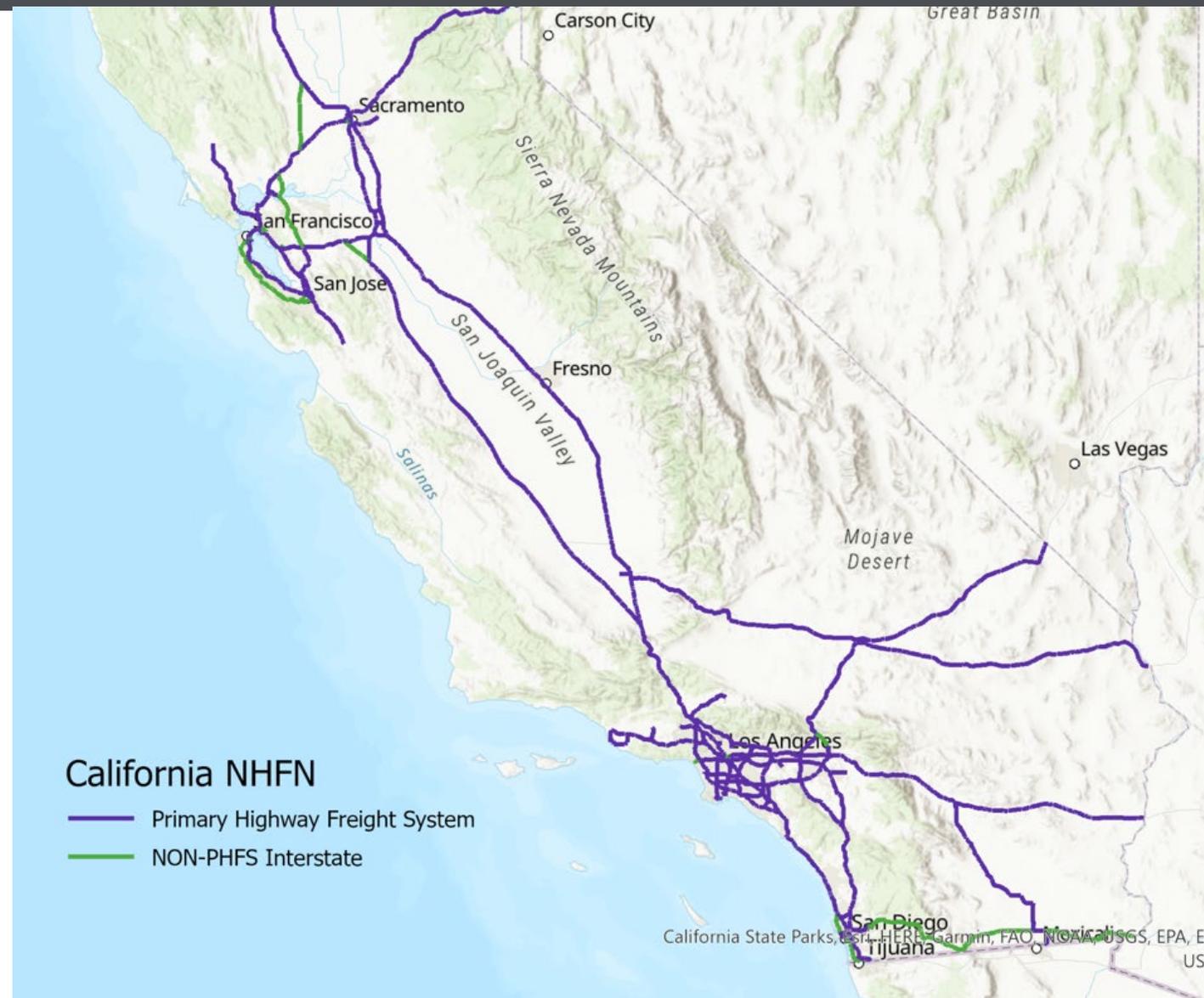
Associate Transportation Planner



*Image Credit: DaVinci AI*

# Background

- FAST ACT/IIJA
- National Highway Freight Network
- TCEP



# Critical Urban Freight Corridors

- 311 Miles for California
- Distributed by MPO's
- Requirements of CUFC's



# Critical Rural Freight Corridors

- 623 Miles for California
- Distributed by Caltrans
- Requirements of CRFC's



# Why are we Updating?

- New Adjusted Urban Area Boundaries
- Updated PHFS Routes
- Enhancing the Guidance



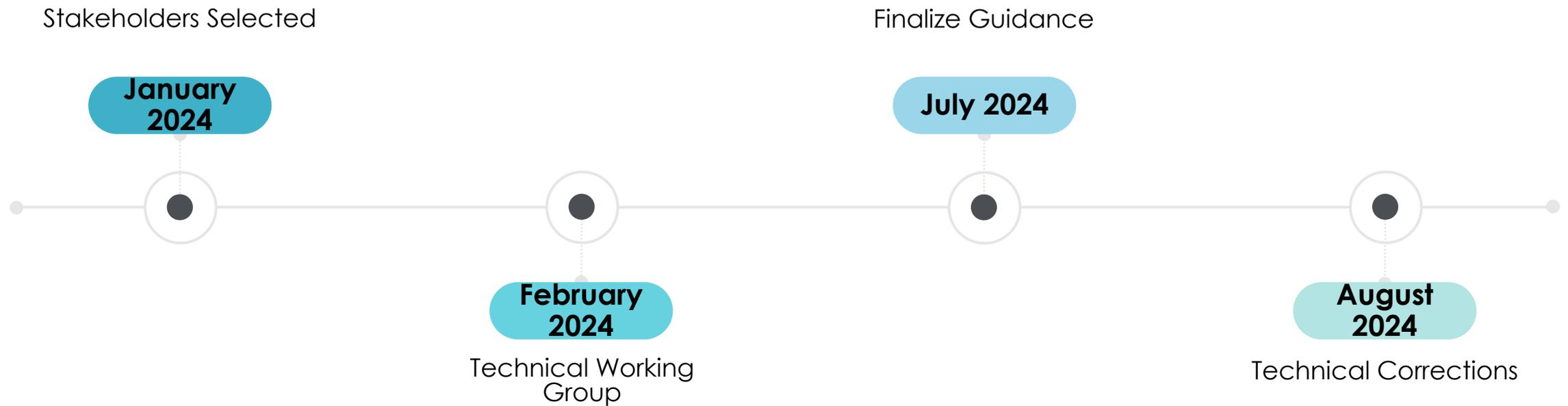
# How will we Update?

- Technical Working Group
- Expertise
- Outreach



Image Credit: DaVinci AI

# Expected Schedule and Upcoming Activities



## **LINKS AND INFORMATION**

[National highway Freight Network and CA Truck Network](#)

[Strategic Freight Planning Website](#)

[Ryan.castle@dot.ca.gov](mailto:Ryan.castle@dot.ca.gov)

# Caltrans System Investment Strategy

CFAC – NOVEMBER 9, 2023

# CSIS Update

- CSIS 2.0
  - Main Document narrative
  - Local Sponsored PID Guidance
- CSIS 3.0
  - Quantitative Metrics
  - Qualitative Metrics



# CSIS Overview

**CAPTI Key Action S4.1:** Develop and Implement a new, data- and performance-driven approach in the Caltrans System Investment Strategy (CSIS) to Align Caltrans Project Nominations with the CAPTI Investment Framework.

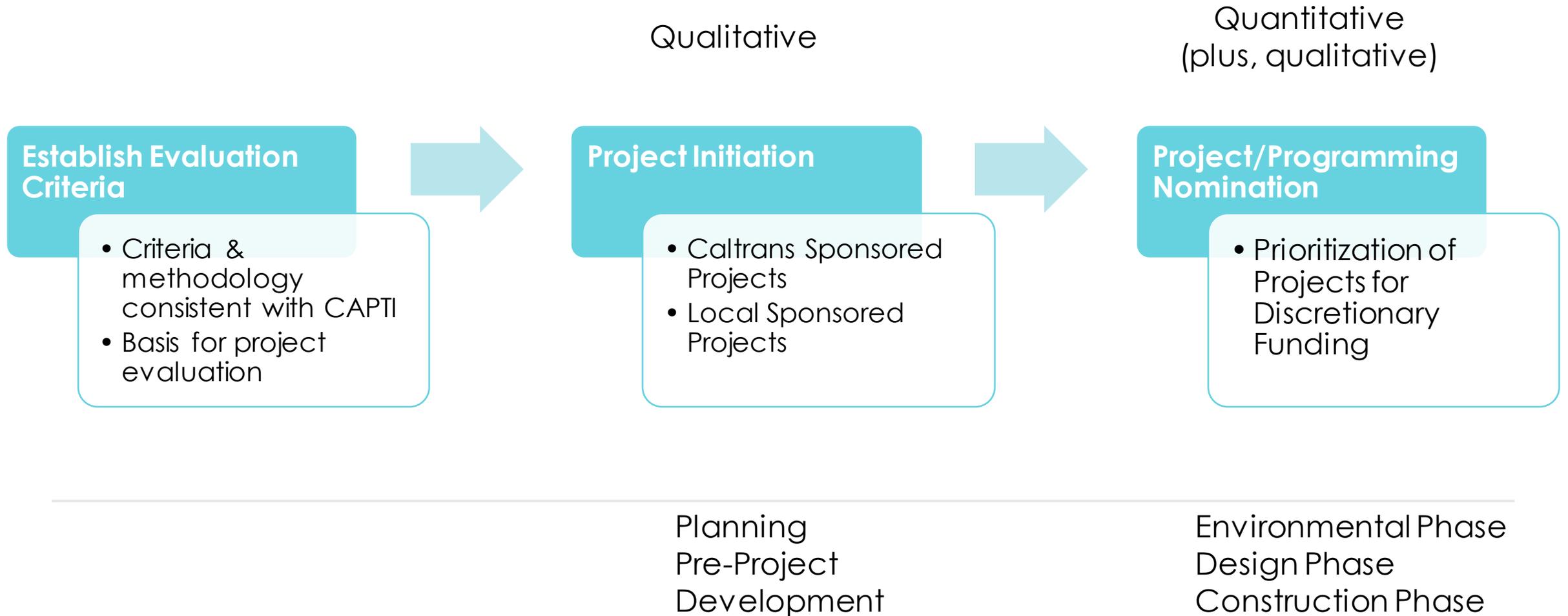
## What is the CSIS?

- *Framework for Caltrans Investment Prioritization*
- Scoring Criterium and Processes for Project Alignment Assessment

## What CSIS is not?

- Does not stop partner projects
  - Does not affect SHOPP
-

# CSIS Evaluation Framework



# CSIS Website

## Caltrans System Investment Strategy (CSIS)

The California Department of Transportation (Caltrans) is committed to leading climate action and advancing social equity in the transportation sector set forth by the California State Transportation Agency (CalSTA) Climate Action Plan for Transportation Infrastructure (CAPTI, 2021). The CAPTI supports the California Transportation Plan (CTP) 2050 (2021) goals that works to meet the State's ambitious climate change mandates, targets, and policies set forth by Executive Order (EO) N-19-19 and N-79-20, signed by Governor Gavin Newsom in 2019 and 2020, respectively.

Caltrans is in a significant leadership role to carry out meaningful measures that advance state's goals and priorities through the development and implementation of the Caltrans System Investment Strategy (CSIS). The CSIS, which implements one of CAPTI's key actions, is envisioned to be an investment framework through a data and performance-driven approach that guides transportation investments and decisions. This framework includes methodologies and processes for how Caltrans should invest billions of dollars of highly competitive fund programs that will address transportation deficiencies while also achieving the CAPTI Guiding Principles.

[CSIS 2.0 Stakeholder Workshop Recording and Presentation](#)

[CSIS Introduction and Executive Summary](#)

[Project Initiation](#)

[Performance Metrics](#)

[Project Nomination](#)

[Letters of Support Templates](#)

### Latest Updates

- [CSIS 2.0 Draft Review - Open Comment Period Closes October 31, 2023](#)

### Equity Considerations

CSIS includes equity in the overall framework.

- [Caltrans Equity Statement](#)
- [The Caltrans Race & Equity Action Plan \(REAP\)](#)

### Climate Action Plan For Transportation-Infrastructure (CAPTI)

- [Final Adopted CAPTI \(July 2021\) \(PDF\)](#)
- [CAPTI Press Release \(July 12, 2021\)](#)
- [CAPTI Frequently Asked Questions](#)
- [CAPTI Website](#)

### State Policies

- [California Transportation Plan 2050](#)
- Executive Orders
  - [EO N-19-19](#)
  - [EO N-79-20](#)
  - [EO N-82-20](#)
  - [EO N-73-20, Broadband for All](#)
- CARB Scoping Plan

# Local Sponsored Project Initiation

- Gather project information from partners
  - District reviews and HQ review projects for conceptual alignment
  - Recommendations for CAPTI alignment
  - Early Project Engagement
  - Does not stop projects
-

# CSIS 2.0 Main Document – Project Nomination

## Program Fit

- Projects are scored high, medium, or low
- Considers the intent of the funding program
- Selects the most competitive projects

## CSIS Alignment

- Project Review Committee (PRC) evaluates responses provided in the intake form
- Subject matter experts (SMEs) score their area of expertise.
- Scores are averaged for each criterion and combined for total score.

Program Fit
High
Medium
Low

---

# CSIS Performance Metrics

Quantitative Metrics	
Safety	Accessibility
Vehicle Miles Traveled (VMT)	Disadvantaged Community (DAC) Traffic Impacts
Land Use and Natural Resource	Disadvantaged Community (DAC) Access to Jobs/destinations
Multimodal and Clean Freight	Passenger Mode Shift
Qualitative Metrics	
Public Engagement	
Climate Adaptation/Resilience	
Zero Emission Vehicle Infrastructure	

# Local-Sponsored Guidance Proposed Schedule



# CSIS METRICS – Constraints & Metric Design

- Focused on SB1 Cycle – projects in earlier phases may not have this level of data, a different methodology will be developed
    - Pre-PID projects for example, are the focus of the prior update
  - **No such thing as a perfect project**
    - CAPTI has nuances, trade-offs
    - Projects that score well on one metric might score poorly on others
    - Focused on alignment
  - Program fit remains the first criteria
  - 8 total quantitative metrics aligned to the various CAPTI Principles
  - Opportunity to advance projects that are CAPTI-aligned
  - Methodology Doc will be sent out for comments
  - Scoring Rubric allows all projects to be scored based on objective criteria, no stack ranking
-

# CSIS Metrics

- Safety
  - Vehicle Miles Traveled
  - Accessibility
  - Disadvantage Communities – Access to Destinations & Jobs
  - Disadvantage Communities – Traffic Impacts
  - Passenger Mode Shift
  - Land Use Natural Resources
  - **Multimodal Freight and Freight Efficiency**
-

# Sample Projects

- In order to understand how the CSIS Metrics will be used, we tested the previous SB1 cycle nominations to Caltrans HQ
- Since the data collection was not aligned to the metrics, we could not score every project on every metric
- Total of 53 Projects were scored
- Exercise allows us to refine the scoring process, but not correct scores for projects that will be resubmitted



Sample Project: SCCP SMARTTrain extension to Windsor

# Freight Metric

- Draft metric:
    - Evaluate sustainability based on the percentage of the project budget dedicated to CA Sustainable Freight Action Plan typologies
    - Evaluate efficiency based on throughput, Truck Travel Time Reliability Index
  - Data required
    - Project location for each freight mode/intervention
    - Project description
  - Scoring: Sustainability Scores
    - 1: Less than 50% of the project budget is dedicated to sustainable freight action plan typologies.
    - 2: Between 50 and 90% of project budget is dedicated to sustainable freight action plan typologies.
    - 2.5: >90% of the project budget is dedicated to sustainable freight action plan typologies.
  - Efficiency Scores:
    - 1: Truck Travel Time Reliability index  $\leq 1.5$
    - 2: Truck Travel Time Reliability index  $> 1.5$
    - 2.5: Increase in Modal Freight OR Truck Travel Time Reliability Index  $\geq 3.0$
-

# Freight Metric Cont.

- Projects score well by:
  - Focusing on sustainable freight elements as a large proportion of project budget
  - Providing specific metrics on increased freight efficiency or promoting a shift to modal freight
- Key Notes:
  - CAPTI Principle: Developing a zero-emission freight transportation system that avoids and mitigates environmental justice impacts, reduces criteria and toxic air pollutants, improves freight's economic competitiveness and efficiency, and integrates multimodal design and planning into infrastructure development on freight corridors.
  - Additional details on freight efficiency measurement are in progress with SMEs



# Freight Scores

## *CYCLE 3 TESTING SCORING*

- The Freight Metric was unable to be scored for Cycle 3 Projects because we did not collect line-item budget level data, and the sustainability metric requires line-item budget data (% of budget dedicated to sustainable freight action plan typologies)
  - Additionally, we did not have time to run the efficiency metric for all the proposed projects
  - However, we identified a few projects that would have scored highly
-

# Freight Projects Detail

- Harbor Drive Project
  - Multiple Sustainable Freight Action Plan typologies
    - The Project will include zero-emission commercial vehicle charging stations (up to three) with electrical conduit infrastructure to assist in the transition of truck fleets to models using sustainable fuels and achieve Portside Community emission reduction targets
- Fresno UPRR Double Track
  - Entirely Modal Freight
  - Shift from Road Freight to Rail



# TCEP – Program Fit Rubric (DRAFT)

Senate Bill 1 Cycle 4 Trade Corridor Enhancement Program and Solutions for Congested Corridor Program

## Introduction

The purpose of the Program Fit Rubric (Rubric) is to determine whether a project is likely to be competitive under either the Senate Bill 1 (SB1) Trade Corridor Enhancement Program (TCEP) or Solutions for Congested Corridors Program (SCCP). Projects are evaluated for consistency with program objectives and evaluation criteria as listed in the California Transportation Commission's (CTC) program guidelines.

## TCEP Program Objectives

The TCEP objective is to fund projects that make infrastructure improvements along corridors that have a high volume of freight movement.<sup>1</sup> The CTC encourages projects that align with California's climate and equity goals and that achieve multiple objectives, such as freight throughput, air quality, and zero emission (ZE) goals.<sup>2</sup>

---

<sup>1</sup> TCEP 2022 Guidelines, Resolution G-22-53

<sup>2</sup> TCEP 2022 Guidelines Section II.11, Eligible Projects

# TCEP Program Fit Rubric

The TCEP Program Fit rubric is intended to build on the program eligibility and project readiness screening to help cull through project nominations and determine relative alignment with the guiding principles of SB1, as well as the Infrastructure Investment and Jobs Act, California Freight Mobility Plan (CFMP), and California Sustainable Freight Action Plan.

Additionally, the rubric gauges project competitiveness based on the TCEP guidelines and evaluation criteria.

Rating	Definition	Description	Examples**
<b>High</b>	<ul style="list-style-type: none"> <li>Project <b>significantly</b> improves freight movement</li> <li>Project aligns with CFMP</li> </ul>	<ul style="list-style-type: none"> <li>Available project information includes quantitative and qualitative evidence indicating that the project is likely to yield benefits for <b>all</b> Freight System Factors and Transportation System Factors*.</li> <li>Project type is included in CFMP Section 6B: Freight Investments.</li> </ul>	<ul style="list-style-type: none"> <li>Truck only lanes</li> <li>Strategic clean truck corridor investments (zero-emission)</li> <li>Freight rail and short line rail improvements</li> <li>Port cargo infrastructure improvements</li> </ul>
<b>Med</b>	<ul style="list-style-type: none"> <li>Project <b>moderately</b> improves freight movement</li> <li>Project aligns with CFMP</li> </ul>	<ul style="list-style-type: none"> <li>Available project information includes quantitative and qualitative evidence indicating that the project is likely to yield benefits for <b>a majority of</b> Freight System Factors and Transportation System Factors*.</li> <li>Project type is included in CFMP Section 6B: Freight Investments.</li> </ul>	<ul style="list-style-type: none"> <li>Truck climbing lanes (does not prohibit passenger vehicles)</li> <li>Passenger rail improvements with indirect freight benefits</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>Project <b>minimally</b> improves freight movement</li> <li>Project aligns with CFMP</li> </ul>	<ul style="list-style-type: none"> <li>Available project information includes quantitative and qualitative evidence indicating that the project is likely to yield benefits for <b>some</b> Freight System Factors and Transportation System Factors*.</li> <li>Project type is included in CFMP Section 6B: Freight Investments.</li> </ul>	<ul style="list-style-type: none"> <li>Managed lanes, passing lanes, auxiliary lanes, and other capacity and operational improvements</li> <li>Mobility hubs that include truck parking</li> </ul>
<b>No</b>	<ul style="list-style-type: none"> <li>Project <b>does not</b> improve freight movement</li> <li>Project does not align with CFMP</li> </ul>	<ul style="list-style-type: none"> <li>No quantitative or qualitative evidence indicating that the project is likely to yield benefits Freight System Factors and Transportation System Factors*.</li> <li>Project type is not included in CFMP Section 6B: Freight Investments.</li> </ul>	<ul style="list-style-type: none"> <li>New lanes on highway with low truck volumes</li> </ul>

\* Freight System Factors - Throughput, Velocity, and Reliability; Transportation System Factors - Safety, Congestion Reduction/Mitigation, Key Transportation Bottleneck Relief, Multi-Modal Strategy, Interregional Benefits, and Advanced Technology

\*\* For discussion purposes: not exhaustive

# CONTACT

## **CSIS PROJECT MANAGER**

Veronica Coleman  
[Veronica.coleman@dot.ca.gov](mailto:Veronica.coleman@dot.ca.gov)

## **OFFICE OF CORRIDOR & SYSTEM PLANNING**

Roy Abboud  
Office Chief  
[roy.abboud@dot.ca.gov](mailto:roy.abboud@dot.ca.gov)

## **CSIS SUPPORT**

David Huff  
[david.huff@dot.ca.gov](mailto:david.huff@dot.ca.gov)

## **DATA AND DIGITAL SERVICES (DDS)**

Hunter Owens  
Data and Research Manager  
[hunter.owens@dot.ca.gov](mailto:hunter.owens@dot.ca.gov)

# 2024 Regional Transportation Plan (RTP) Guidelines Update

MAYRA JIMON

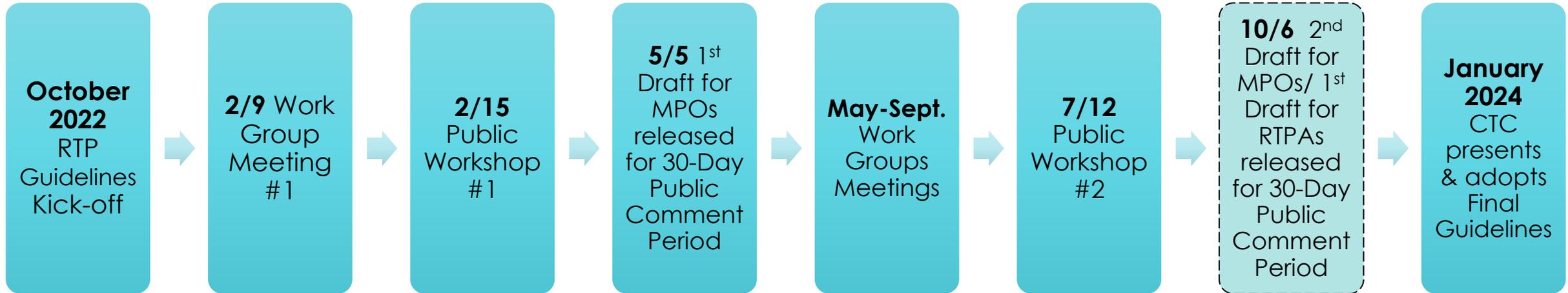
CALTRANS OFFICE OF REGIONAL AND COMMUNITY PLANNING

---



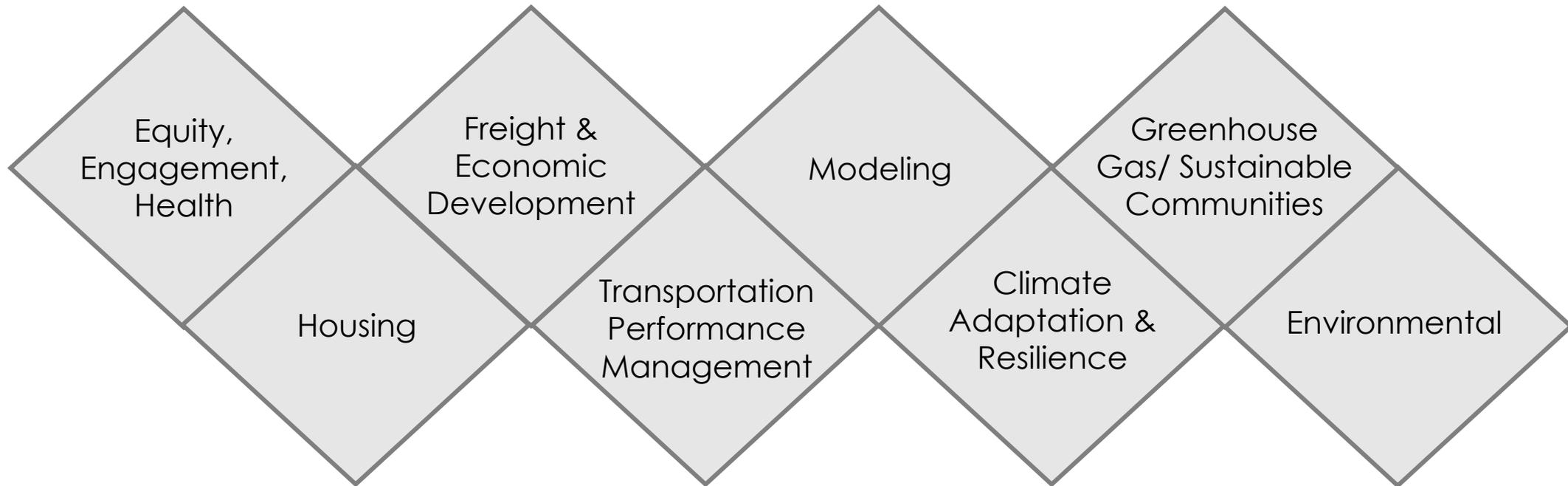


# Project Timeline



# Working Groups

*EIGHT WORK GROUPS WERE FORMED TO INFORM AREAS IDENTIFIED FOR UPDATES*



# Key Updates

- Alignment with performance measurements and asset management
  - Updates for the Bipartisan Infrastructure Law throughout the RTP Guidelines, including:
    - Regional housing planning/ Housing coordination plan (IIJA Section 3002)
    - Community engagement practices, including virtual engagement (IIJA Section 3003)
    - Information on federal environmental justice direction
  - Considerations for Climate Action Plan for Transportation Infrastructure
  - Planning Practice Examples and Resources
-

# Freight Considerations

## *NEW INCLUSIONS FOR 2024*

- The RTP section discussing goods movement should include:
    - Truck parking
    - ZEV infrastructure
    - Identification of inland trade ports
    - Climate impacts
    - Environmental Justice impacts
  - MPOs are encouraged to review the California Freight Mobility Plan 2023 for guidance and ensure consistency while addressing goods movement within their RTPs. The RTPs and the CFMP will ideally function in a feedback loop, as the goods movement strategies and projects identified in RTPs will be incorporated into the next update of the CFMP.
-

# Looking Ahead

- The second public comment period ended on November 6th
    - Drafts can be accessed on CTC's & Caltrans' Websites
    - Public comments to date can be viewed on <https://publish.smartsheet.com/6bbfe1da7a3a4ba89c37ffeccd280019>
  - The Final Drafts will be presented at the December CTC meeting in Southern California and the January CTC meeting in Northern California
  - Both sets of 2024 RTP Guidelines are anticipated to be adopted in January 2024
-

# Thank You!

**For more information on the RTP Guidelines update please visit our webpage:**

<https://dot.ca.gov/programs/transportation-planning/division-of-transportation-planning/regional-and-community-planning/rtp-guidelines-update>

**For questions please contact:** [RTPGuidelines@dot.ca.gov](mailto:RTPGuidelines@dot.ca.gov)

Mayra Jimon - [mayra.f.jimon@dot.ca.gov](mailto:mayra.f.jimon@dot.ca.gov)

Garth Hopkins - [conner.hopkins@dot.ca.gov](mailto:conner.hopkins@dot.ca.gov)

---



# Growing With Care

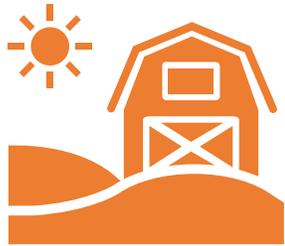
---

**Future of Transportation**

**Steve Schult**

Interagency Freight Program  
California Freight Advisory Commission

# Three Themes



Farming is about family and communities feeding the world for generations.



California's infrastructure will require innovation to fill the gaps that must combine private and public partnerships.



The future is here; we must prepare our networks for alternative fuel distribution networks that build solutions from farm to table.



# Blue Diamond Growers & California Almond Industry

Farming is about family and communities feeding the world for generations.

# Who is Blue Diamond Growers?



Who

*We are a 113-year-old non-profit, farmer-owned cooperative that leads in sustainability, innovation, and food production of almond snack nuts, beverages, and crackers products.*

Brands



Sustainability  
Leader



## Our People

Enabling our growers, employees and communities to thrive



## Our Land

Stewarding healthy orchards and pollinators; innovating for climate solutions, biodiversity and sustainable agriculture



## Our Water

Protecting and enhancing the precious water resources on which we all depend



## Our Almonds

Delivering the highest quality, best tasting and nutritious almond products that delight people around the world

# Almonds, Agriculture and America!



Top 20 Commodities in California, 2019-2021

Commodity	Value and Ranks <sup>1</sup>					
	2019		2020		2021	
	\$1,000	Rank	\$1,000	Rank	\$1,000	Rank
Dairy products, Milk	7,382,830	1	7,265,456	1	7,571,954	1
Grapes	5,398,164	3	4,488,553	4	5,229,902	2
Almonds (shelled)	6,169,100	2	5,251,410	2	5,028,320	3
Miscellaneous crops <sup>2</sup>	5,054,471	4	4,875,731	3	4,955,667	4
Cattle and calves	3,064,300	5	2,736,559	6	3,114,550	5
Berries, All Strawberries	2,286,330	6	2,211,430	8	3,023,230	6
Pistachios	2,082,210	7	2,622,950	7	2,910,600	7
Lettuce, All	1,841,423	8	3,067,771	5	2,029,089	8
Tomatoes, All	1,174,395	10	1,117,840	9	1,181,966	9
Walnuts	1,237,950	9	948,000	11	1,022,250	10
Rice	913,602	12	946,293	12	1,003,864	11
Broilers	843,036	13	690,034	17	996,023	12
Floriculture	1,015,012	11	967,206	10	962,498	13
Oranges, All	699,458	17	858,093	13	901,281	14
Hay, All	786,891	14	678,561	18	839,453	15
Tangerines	679,638	19	795,034	14	815,089	16
Carrots, All	708,872	16	772,549	16	776,367	17
Lemons	688,163	18	614,933	19	638,250	18
Broccoli	746,918	15	782,122	15	631,455	19
Other animals/products	578,569	20	550,316	20	550,316	20

<sup>1</sup> Total value is based on USDA Economic Research Service cash receipts, September 2022 release.

<sup>2</sup> Includes nursery/greenhouse crops (excluding Floriculture), Christmas trees, seed crops, and miscellaneous field, vegetable, berry, tree fruit, and nut crops. Beginning in 2021, industrial hemp is included.

California Agricultural Products Export Values and Rankings, 2019-2021

2021 Rank	Product	2019	2020	2021	Change in Value
					2020 to 2021
		\$1 Million			Percent <sup>1</sup>
1	Almonds	4,901	4,658	4,647	-0.2
2	Dairy and Products	1,805	2,037	2,537	24.6
3	Pistachios <sup>2,3</sup>	2,009	1,669	2,071	24.0
4	Wine <sup>2,3</sup>	1,228	1,143	1,288	12.7
5	Walnuts	1,250	1,246	1,247	0.1
6	Rice	765	831	774	-6.8
7	Table Grapes	743	731	668	-8.7
8	Tomatoes, Processed	623	618	659	6.5
9	Oranges and Products <sup>2,3</sup>	549	597	625	4.6
10	Beef and Products <sup>4</sup>	404	409	572	39.7
11	Strawberries	402	407	475	16.6
12	Hay <sup>2</sup>	338	346	382	10.2
13	Seeds for Sowing	333	311	314	0.9
14	Lettuce	292	292	304	4.4
15	Cotton	437	289	287	-0.9
16	Raisins	257	226	224	-1.0
17	Lemons <sup>2</sup>	203	186	189	2.0
18	Raspberries and Blackberries <sup>2,5</sup>	142	140	162	15.4
19	Prunes	126	122	159	30.4
20	Peaches and Nectarines	119	120	146	21.7

<sup>1</sup> Total export values for each year are rounded to the nearest million dollars. More precise values are used in the percent change calculations.

<sup>2</sup> Export values for 2020 were revised based on updated production data from the U.S. Department of Agriculture/National Agricultural Statistics Service.

<sup>3</sup> Export values for 2019 were revised based on updated production data from the U.S. Department of Agriculture/National Agricultural Statistics Service.

<sup>4</sup> Hides and skins are included in the heading "Beef and Products".

<sup>5</sup> "Raspberries and Blackberries" category also includes exports of mulberries and loganberries.

Source: University of California, Department of Agricultural and Resource Economics

## ALMOND FAST FACTS

- California is home to 7,600 almond farms and 90% of those farms are family owned.
- Many of farms are 3<sup>rd</sup> and 4<sup>th</sup> generation families.
- The Almond economy supports approximately 110,000 jobs and provides \$20B to CA economy.
- 80% of the world's almonds are grown in California and 70% are exported to over 100 countries.

# Blue Diamond Growers High-Level “Visual” Process Flow: Field to Shipment



**Harvest almonds in the field**



**Hull/Shell almonds**



**Send almonds to a receiving station**



**Store almonds in a warehouse by variety & quality**



**Process almonds**



**Package almonds as finished goods**



**Store finished goods**



**Send shipment to customer from a distribution center**

# Almond Orchard Goals and Crop by County



## ALMOND ORCHARD 2025 GOALS roadmap

Specifically, the California almond community has committed to the following goals by 2025:



Reduce the amount of water used to grow a pound of almonds by 20%



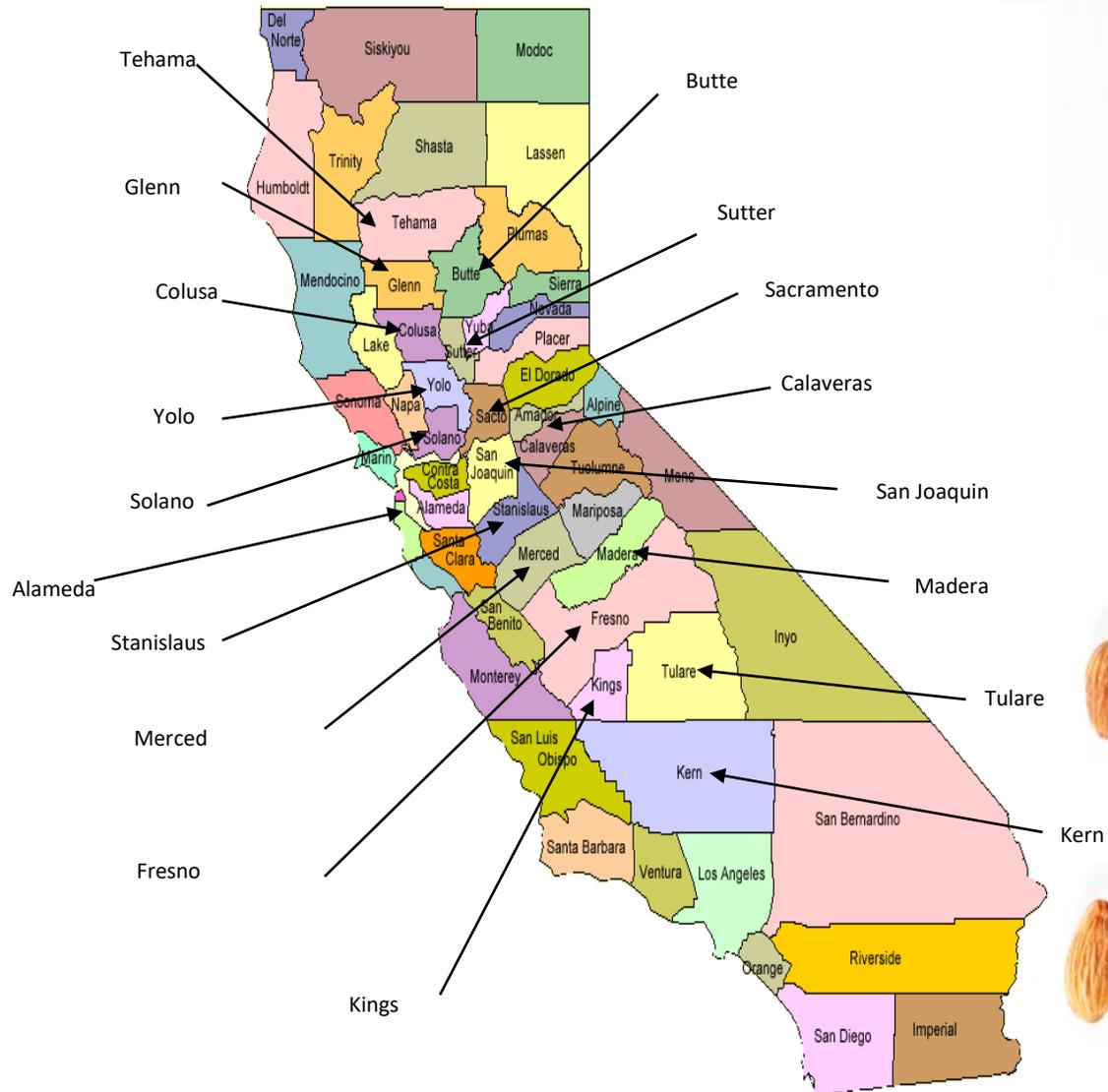
Achieve zero waste in our orchards by putting everything we grow to optimal use



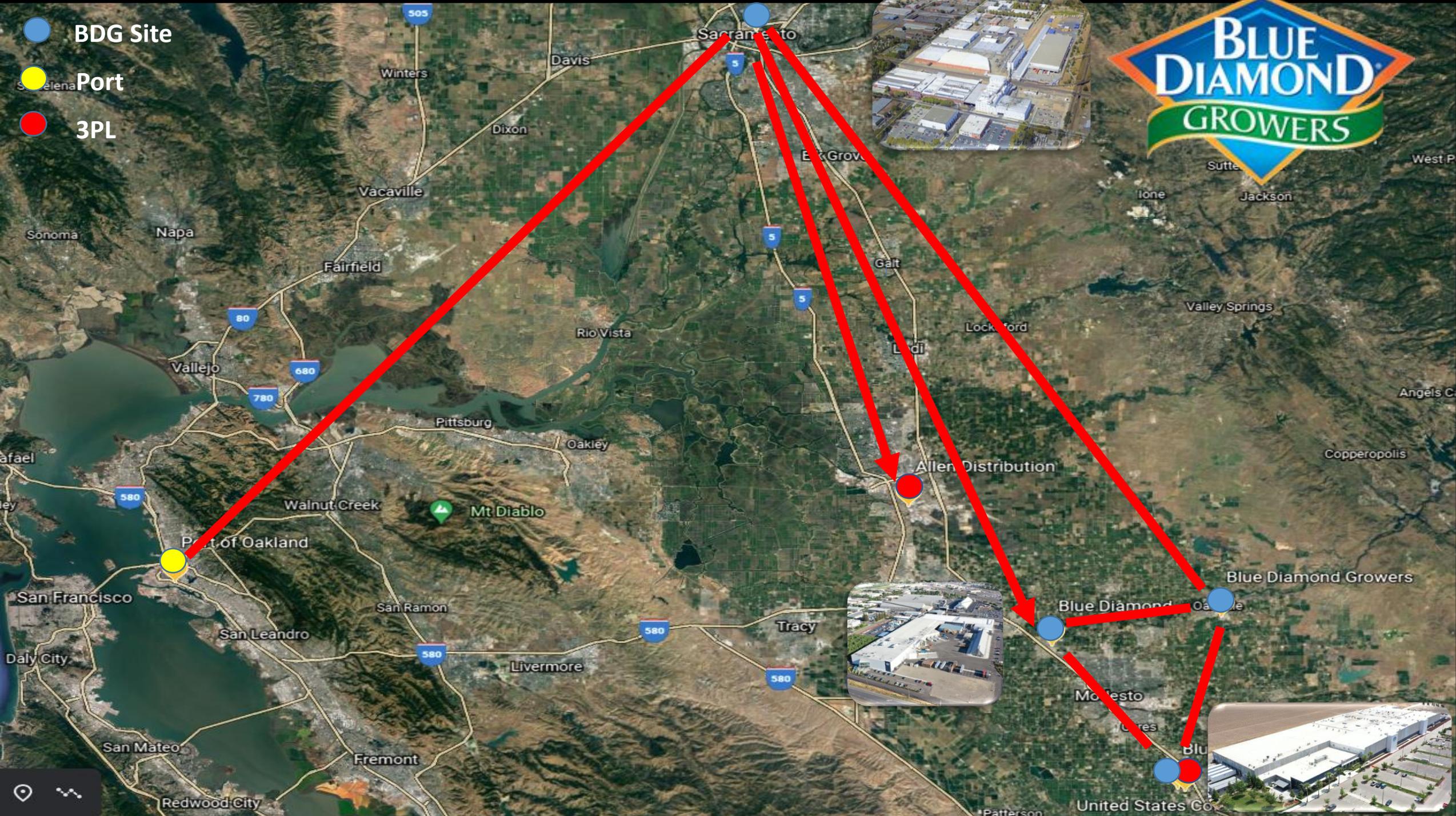
Increase adoption of environmentally friendly pest management tools by 25%



Reduce dust during almond harvest by 50%



- BDG Site
- Port
- 3PL



# Third Party Network



# Global Licensee Partners



# Innovation will require new methods of distribution.

“Because of the history of evolution is that life escapes all barriers. Life breaks free. Life expands to new territories. Painfully, perhaps dangerously,. But life finds a way.”

-Michael Crichton-

# The Almond Express Multi-Port Access



In Gate Oakland

# Port of Los Angeles, California

---



**Creates resiliency to alternative**

# Port of Los Angeles, California





Welcome to Jurassic Park, where life will find a way.

Oakland

Los Angeles

Chicago

LEGEND



EDF1	FY2023	FY2022	FY2021	FY2020	FY2019	FY2018	FY2017
OAKLAND, CA	863,173,398	867,553,036	1,107,307,158	857,603,740	844,520,949	861,761,579	704,764,969
LOS ANGELES, CA	114,203,994	70,279,488	92,194,689	48,027,155	51,838,638	65,701,613	74,512,315
LONG BEACH, CA	99,845,924	112,974,686	112,346,849	130,259,133	96,030,352	99,745,466	67,757,267
NORFOLK-NEWPORT NEWS, VA	40,473,466	6,039	3,726	37,258	13,651	177,519	45,221
HOUSTON, TX	13,545,203	6,874,073	4,073,342	6,827,592	3,094,698	5,561,919	12,238,605
MIAMI, FL	813,985	1,033,074	842,259	739,009	856,749	1,005,058	469,912
PORT EVERGLADES, FL	648,288	475,805	642,571	519,642	512,859	351,497	620,615
SAN FRANCISCO, CA	1,326,749	3,000,237	1,211,350	14,161,214	9,866,360	752,205	787,444
WEST PALM BEACH, FL	106,176	132,998	139,269	133,860	141,837	97,440	197,175
NEW YORK, NY	591,650	228,224	228,828	129,886	98,141	124,547	73,131

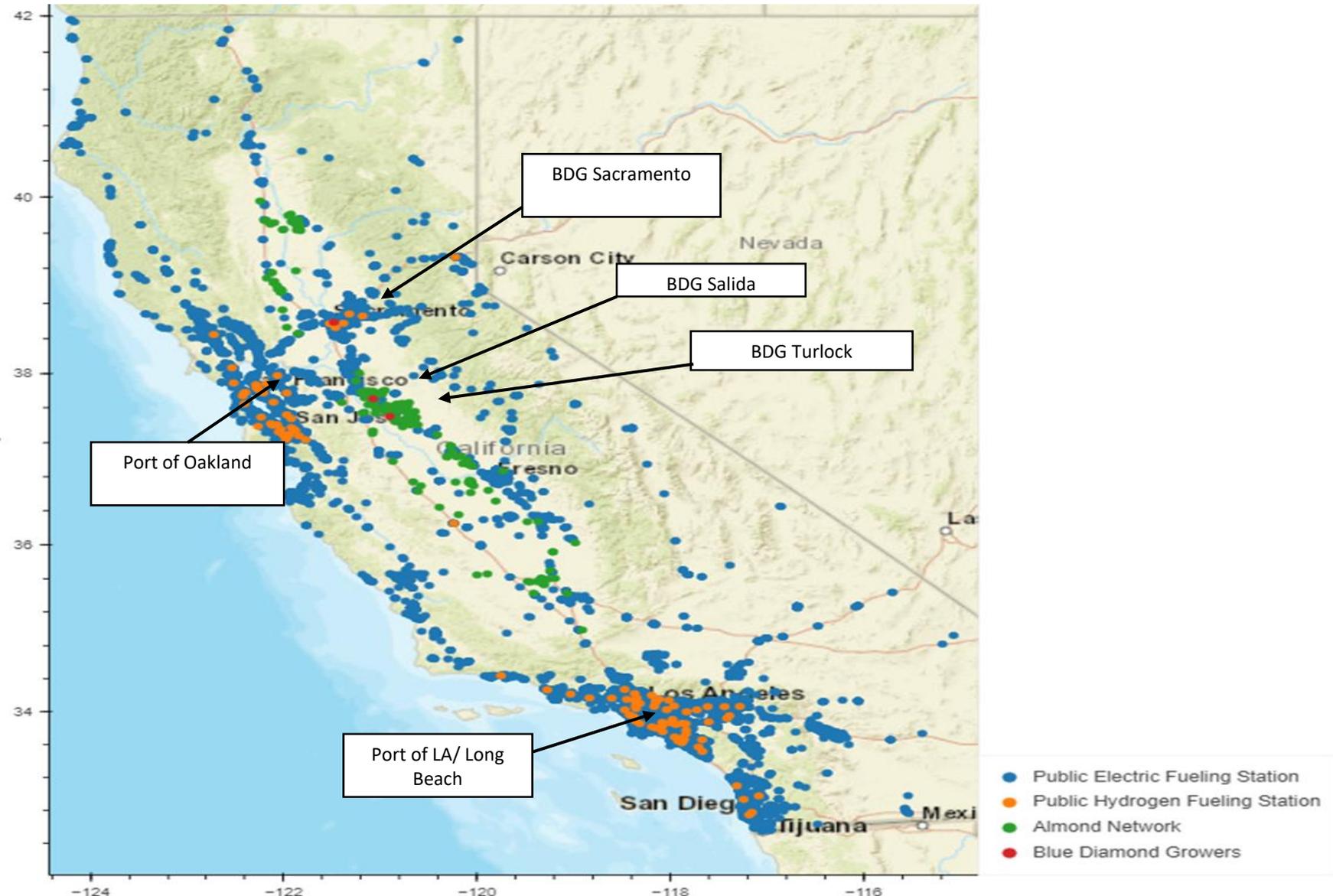
# California Ag will require innovation to sustain the future.

Think Different – Apple

# Blue Diamond Growers and Alternative Fueling Network



- Red dots represent Blue Diamond Growers in Sacramento, Salida and Turlock
- Green dots represent all almond handlers, processors, hullers and shellers,
- Orange dots represent existing public hydrogen fueling stations
- Blue dots represent existing public electric fueling stations



# Location, Location, Location...



## Electric Fueling Station Facility Types

## Hydrogen Fueling Stations Types

	Facility Count
NOT SPECIFIED	13420
HOTEL	486
CAR_DEALER	190
PARKING_LOT	158
BREWERY_DISTILLERY_WINERY	140
SHOPPING_CENTER	126
MUNI_GOV	113
PUBLIC	106
PARKING_GARAGE	84
COLLEGE_CAMPUS	77
OFFICE_BLDG	65
INN	63
UTILITY	59
SHOPPING_MALL	57
SCHOOL	42
HOSPITAL	36
RESTAURANT	33
GAS_STATION	26
PARK	23
AIRPORT	23

	Facility Count
GROCERY	22
OTHER_ENTERTAINMENT	22
LIBRARY	18
MULTI_UNIT_DWELLING	17
PAY_GARAGE	15
REC_SPORTS_FACILITY	15
TRAVEL_CENTER	14
REST_STOP	13
PLACE_OF_WORSHIP	11
BANK	9
NATL_PARK	8
CONVENIENCE_STORE	7
MUSEUM	7
B_AND_B	6
OTHER	6
STREET_PARKING	5
STORAGE	5
MOTOR_POOL	3
FLEET_GARAGE	3
PAY_LOT	3

	Facility Count
STATE_GOV	3
FED_GOV	3
FIRE_STATION	2
STANDALONE_STATION	2
FUEL_RESELLER	2
HARDWARE_STORE	2
CAMPGROUND	2
CONVENTION_CENTER	2
CARWASH	1
RV_PARK	1
TRUCK_STOP	1
ARENA	1
AUTO_REPAIR	1
RETAIL	1
WORKPLACE	1
TNC	1
RESEARCH_FACILITY	1

	Facility Count
GAS_STATION	80
STANDALONE_STATION	9
CONVENIENCE_STORE	4
COLLEGE_CAMPUS	2
MUNI_GOV	1
FUEL_RESELLER	1
OFFICE_BLDG	1

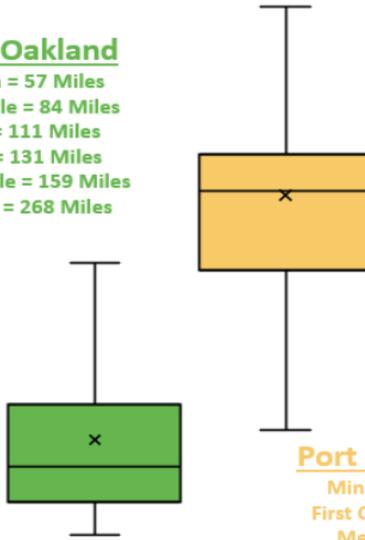
# Our distance to a port and reduced turns/weight will add more trucks to California's infrastructure.



## Distance from Almond Processor\* to Port

### Port of Oakland

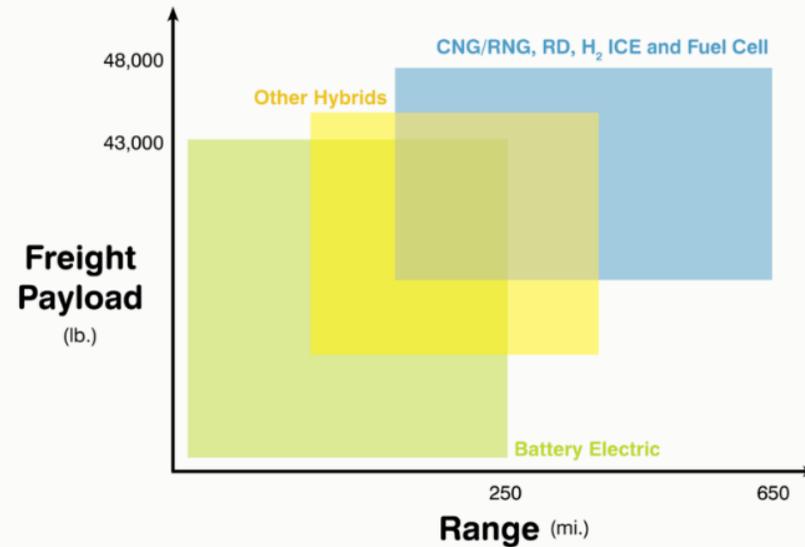
Minimum = 57 Miles  
First Quartile = 84 Miles  
Median = 111 Miles  
Average = 131 Miles  
Third Quartile = 159 Miles  
Maximum = 268 Miles



### Port of Long Beach

Minimum = 139 Miles  
First Quartile = 263 Miles  
Median = 324 Miles  
Average = 321 Miles  
Third Quartile = 351 Miles  
Maximum = 525 Miles

## Optimum Duty Cycle Sweet Spot



# Globally Important Agricultural Zone That Feeds the US and the World



25% of the US food supply



250 crops



Crop value of \$30B



Exports to 100 countries

## TradePort California Cargo Routes



BNSF & UPRR Rail Lines



Highway Corridors



Confidential

Port of Los Angeles  
Port of Long Beach

## Large Consumption Market

- Over 1.1M containers (TEUs) move into and out of the Market Area
- 14M people in the Market Area
- 31M people including the Los Angeles region

### TradePort California Cargo Routes

++++ BNSF & UPRR Rail Lines

— Highway Corridors

TradePort California Market Area and TradePort Hubs

Port of Los Angeles  
Port of Long Beach

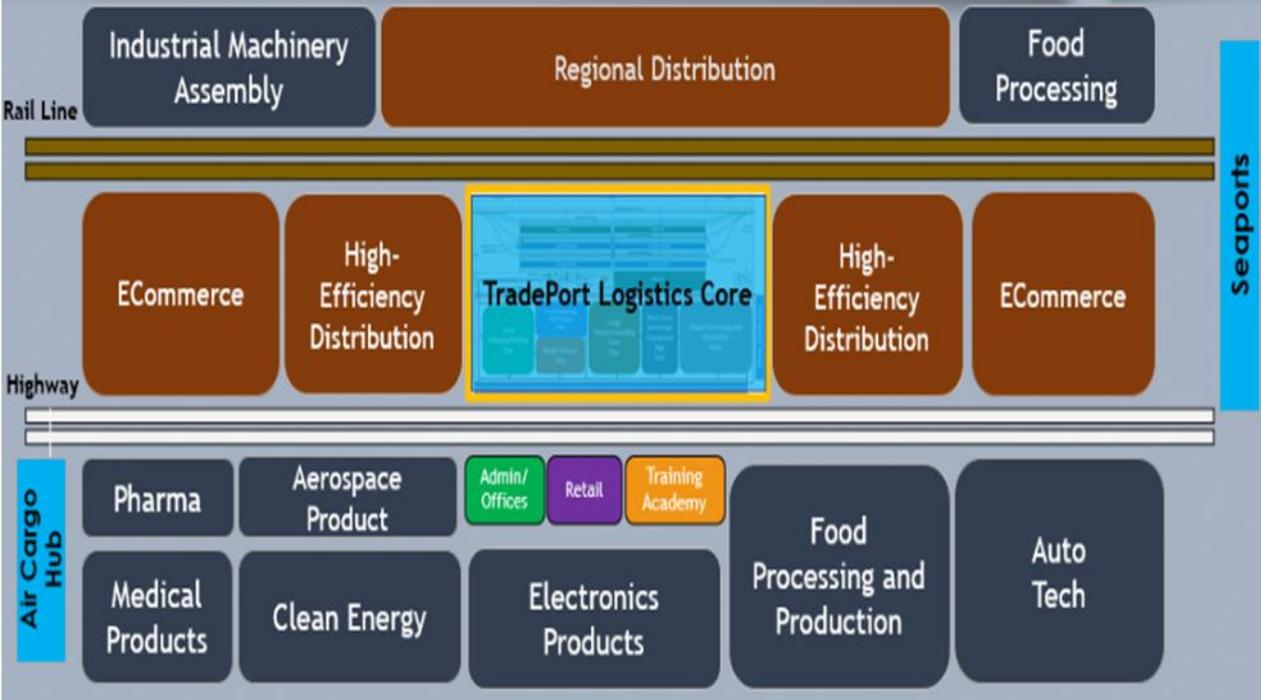


# TradePort California: Creating the Next Generation Trade and Logistics Corridor Advancing US Competitiveness in Key Growth

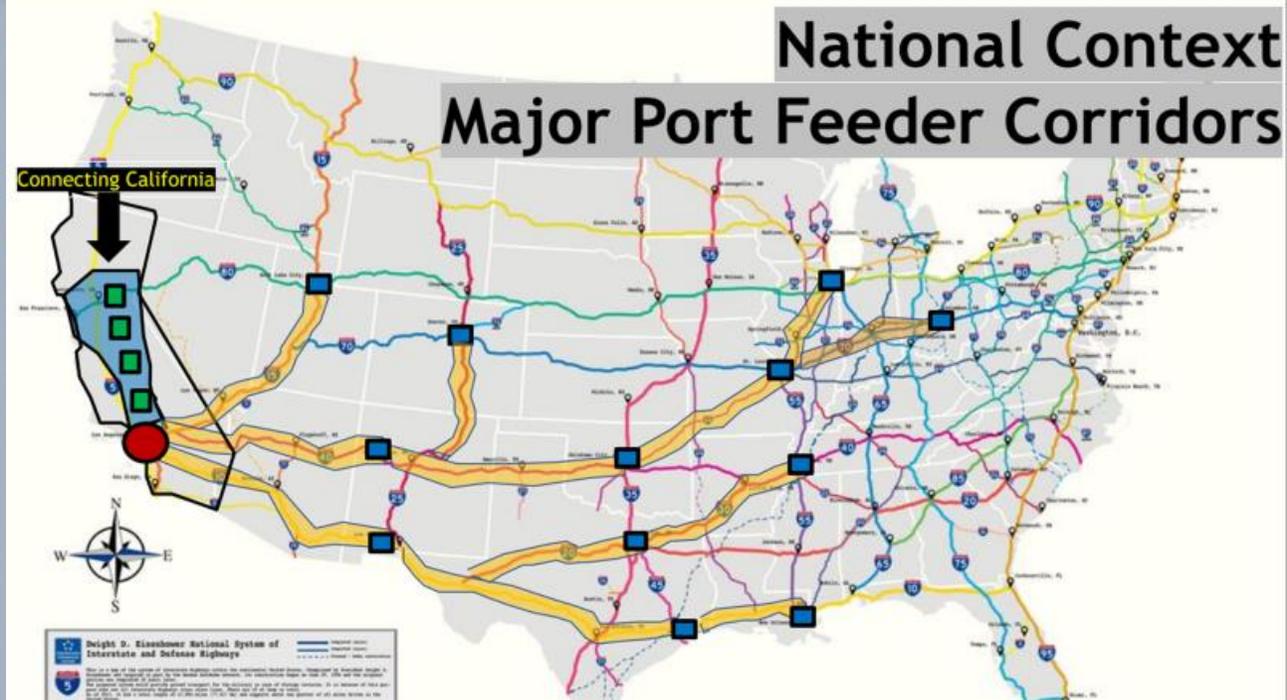


## TradePort California Cargo Routes

- BNSF & UPRR Rail Lines
- ..... Highway Corridors



## National Context Major Port Feeder Corridors



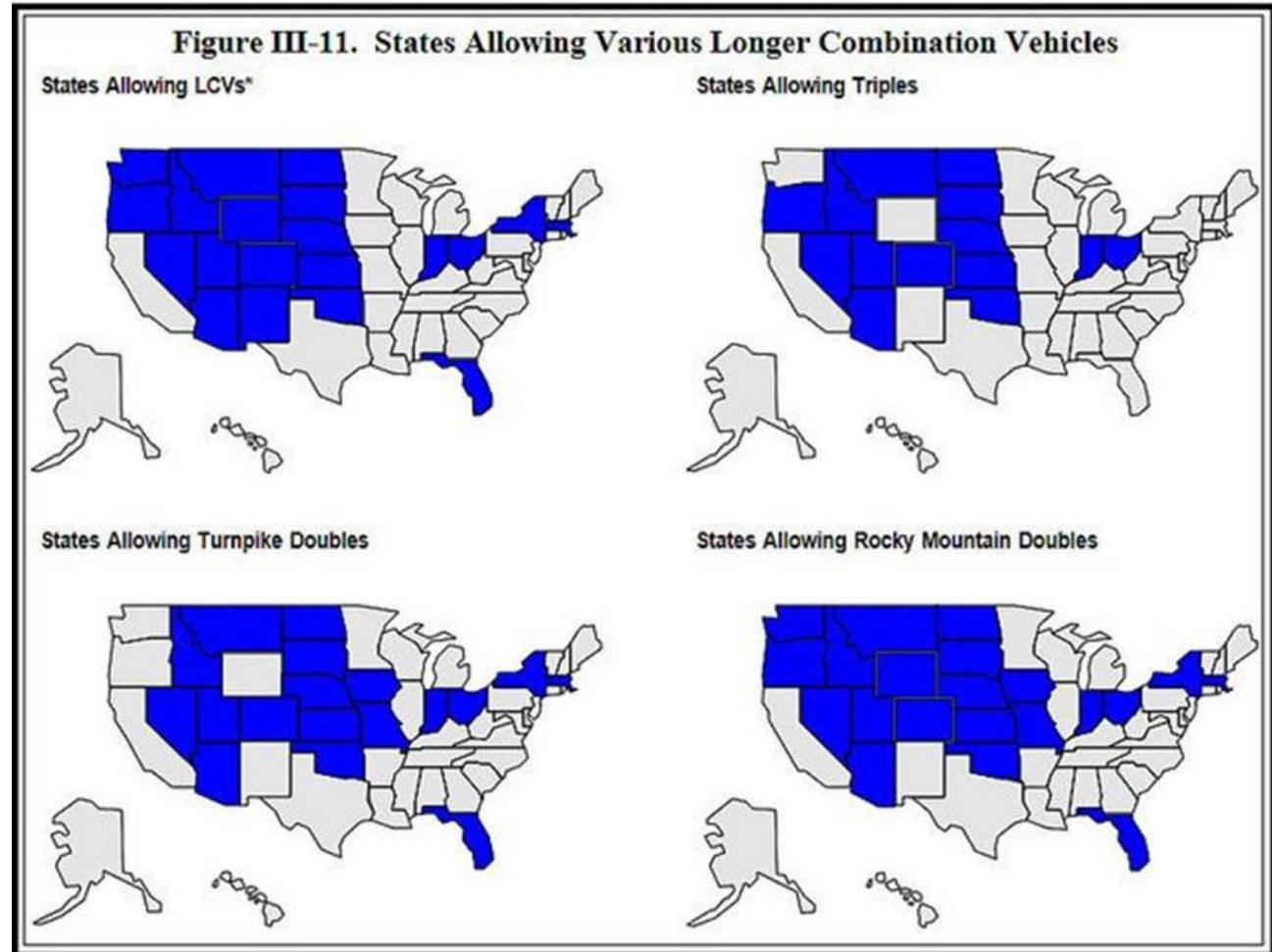


Farming Equipment will need alternatives with Ammonia, Hydrogen and Electric.



# Truck Weight Limits

- To reduce the load and traffic, we need to increase truck weight limits for Ag Cargo.
- Improve structure and safety investment for roads and CHP.
- Lead in identifying key zones and highways to reduce the number of shipments.
- Innovation will require us to follow other states model to sustain our future.



# Recommendations



Partner with public (state and federal), and private inland short and long rail options to reduce dependence on one source.



Build a hybrid modal of electricity and hydrogen to reduce dependency on a singular energy source as the answer for logistics and farming needs.



Increase truck weights to match what other states have figured out.



Partnerships with UC/State University, Private Partnership, State and Federal resources are required to build the worlds most sustainable agricultural ecosystem.

## Goal

*Our Core Four encompass Safety, Equity, Climate Action and Economic Prosperity—all areas that contribute to the delivery of optimal quality of life.*

Thank you!  
&  
Q&A