

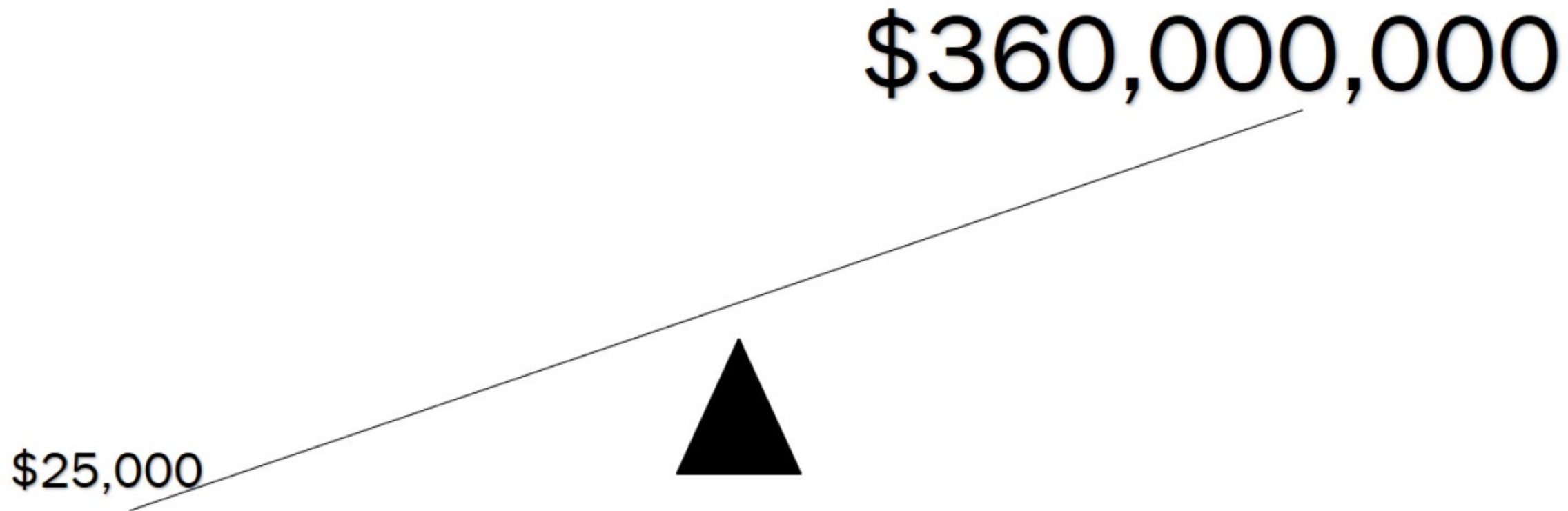
TOWN OF PARADISE RECOVERY UPDATE 2018 CAMP FIRE

April 12, 2023

Marc Mattox, PE
Public Works Director/Town Engineer
Town of Paradise



Leveraging Resources



2018 Camp Fire

- Most destructive wildfire in California history
- Globe's most expensive disaster of 2018
- At least 85 fatalities
- 153,336 acres burned and 18,000 structures destroyed, most of which occurring in the first 12 hours
- Paradise lost 90-95% of all structures
- 2018 population reduced from 27,000 to about 4,000 overnight





Initial Shock

- Immediately following the fire, infrastructure damage was concerning
 - Roads
 - Culverts
 - Hardscape
 - Guardrails
 - Trees
- Town of Paradise the municipal corporation had just lost nearly all population and associated revenues for at least two decades
- Financial solvency was a top concern

Infrastructure Recovery Arms of Government at Work



FEMA



U.S. Department of Transportation
**Federal Highway
Administration**



Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES



Damage Still to Come

- Debris removal from 11,200 structures
- Tree removal associated with in utility, local, state and federal programs
 - Estimated 500,000+ trees removed





BUTTE STRONG

FUND



AARON RODGERS
NORCAL
FIRE RECOVERY
FUND at NVCF



Housing
 Children & Youth Services
 Health & Wellness
 Education
 Community Development
 Business Recovery
 Direct Assistance

\$72M Raised, \$60M+ Granted



December 2019

- Debris Removal Operations scheduled to start any day
- ARRB Van was scheduled for California already
- Town didn't have certain funding or time to procure a vendor
- Town approached NVCF to ask for \$25,000 to pay ARRB for the first of two data collection cycles
- Existing relationships between the non-profit and Town staff were key to approval



Driving Data

- 5 digital cameras and laser system measuring:
 - Google-maps based imagery
 - Deflection bowls and slopes
 - Cracking
 - Rutting
 - Roughness
 - Pavement Distress
 - Friction
- 10,000+ unique measurements

SECTION_ID	ROUTE	FROM	TO	IRI_RIGHT	IRI_LEFT	IRI_AVE	IRI_LANE	RUT_RIGHT	RUT_LEFT	WIDTH
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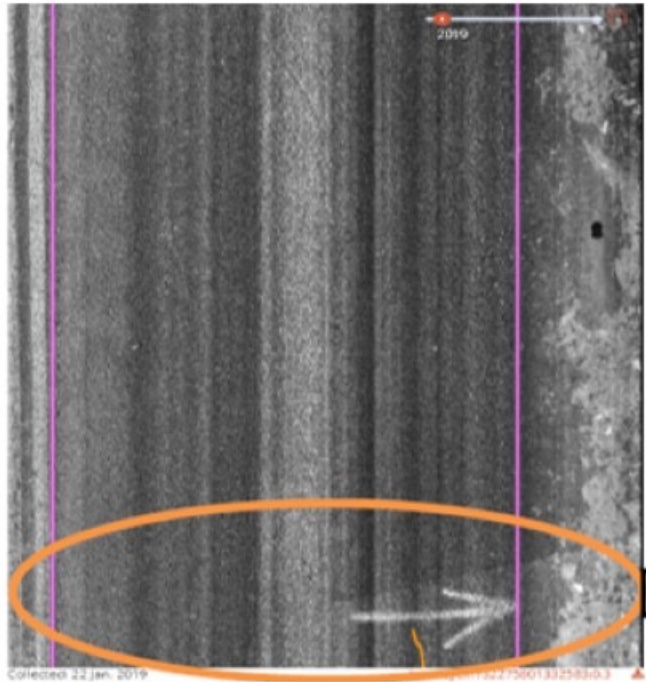


DEBRIS REMOVAL OPERATIONS

- 3.7 million tons removed
 - 10,900 participating properties
 - 4 Golden Gate Bridges
- 28.2 million road miles traveled
 - 305,000 loads
 - 59 round trips to the moon
- Although debris removal operations were continuing and tree removal operations hadn't started, a second data collection cycle was required before September 30, 2019



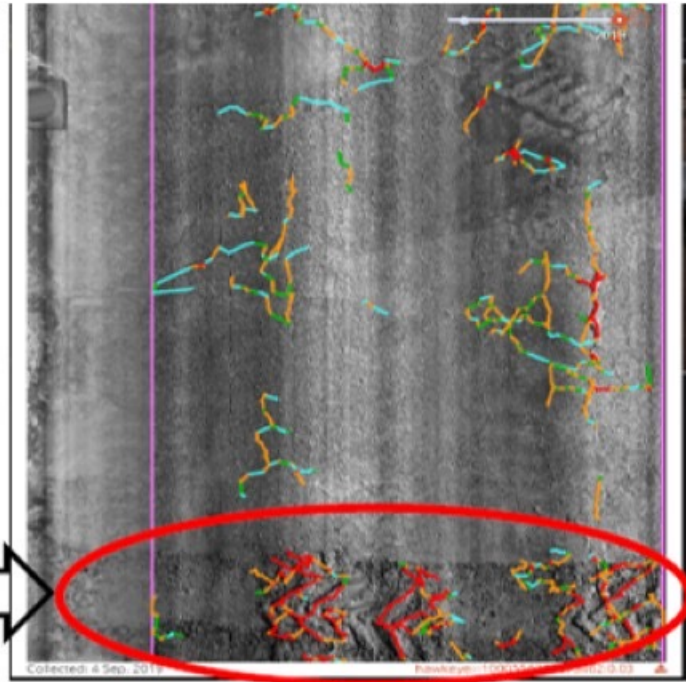
9 MONTH BEFORE & AFTER



Collected: 22 Jan 2019

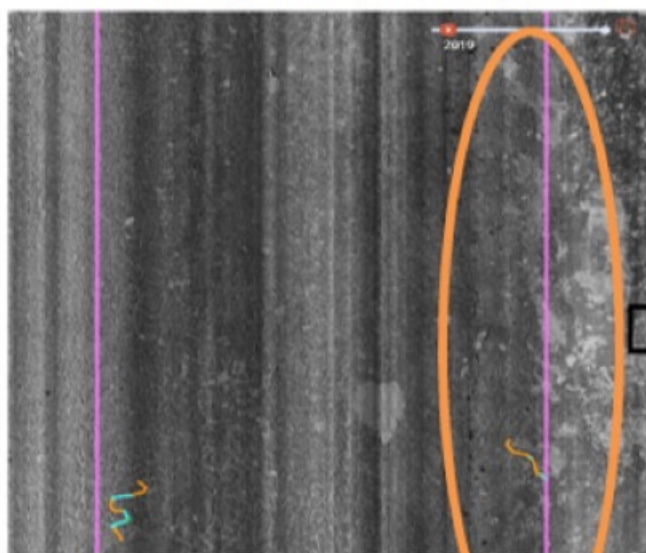
2019

Dean Road (PM 0.27) – January 2019

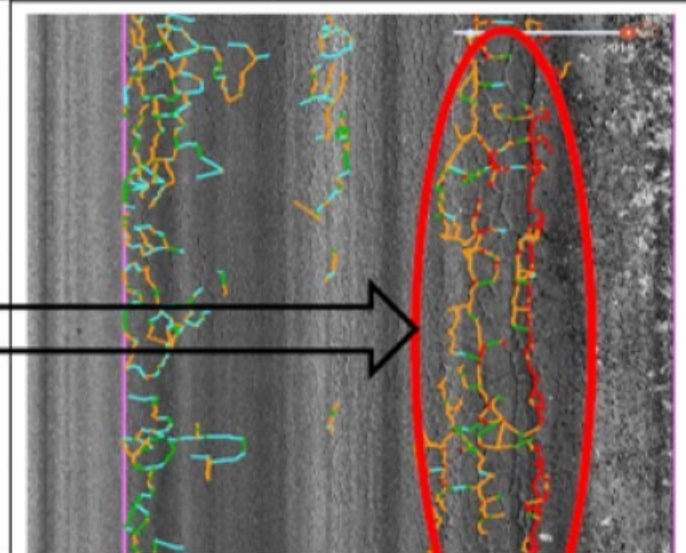


Collected: 4 Sep 2019

September 2019

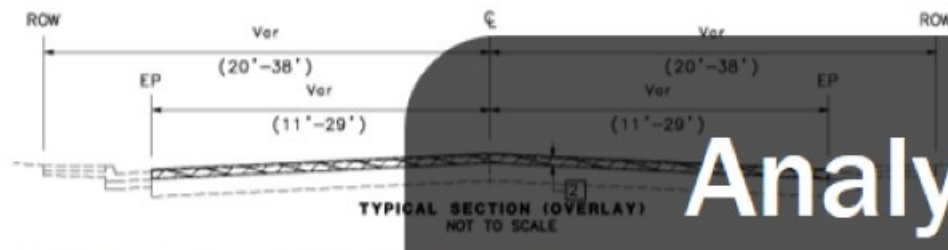
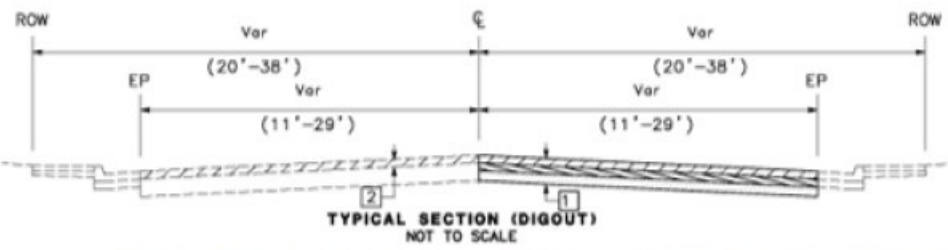


2019

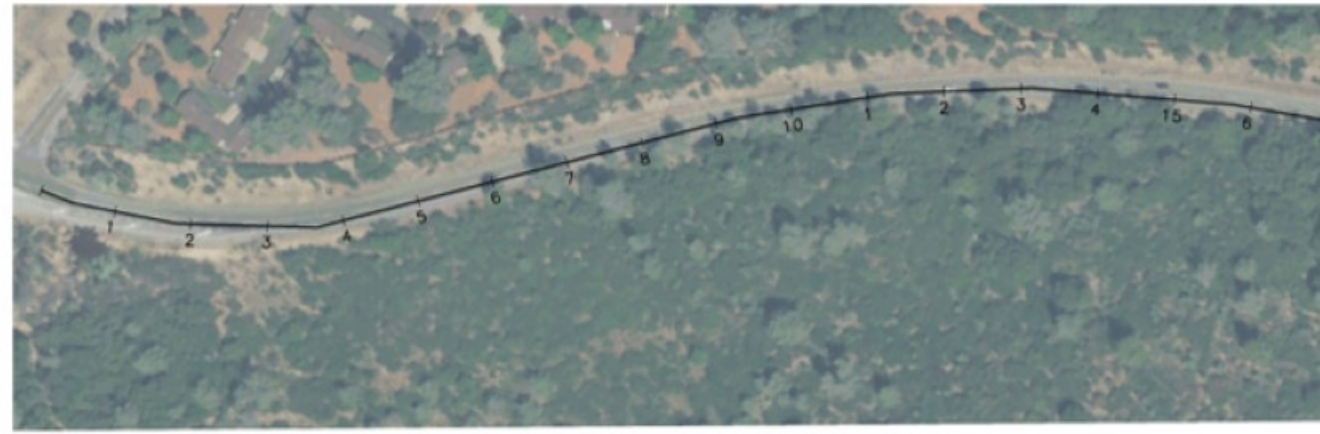


2019

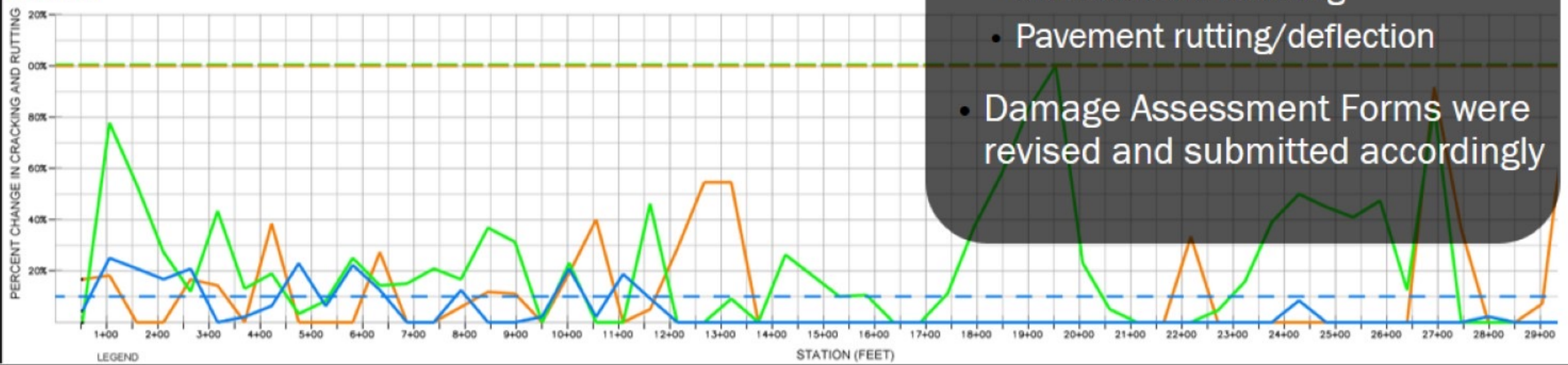
VISUAL AND TABULAR DATA



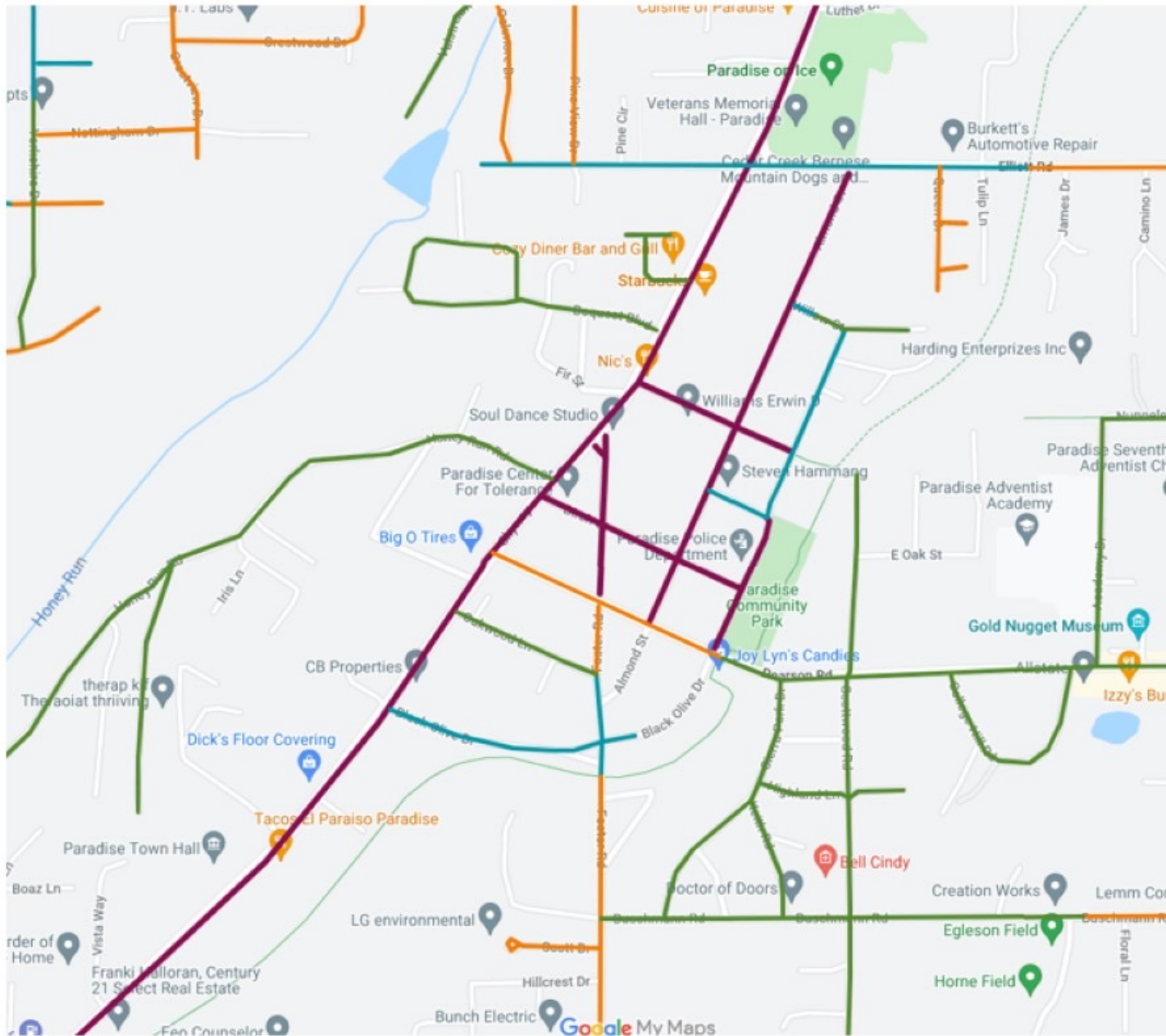
Analysis



DIGOUT (SB LANE)
DIGOUT (NB LANE)



- Using the critical data, analysis was performed by a team of civil and geotechnical engineers to quantify the percent change along each roadway corridors for the two primary factors:
 - Surface area cracking
 - Pavement rutting/deflection
- Damage Assessment Forms were revised and submitted accordingly



First \$100M Approved

- On-system roads approved through Caltrans, Federal Highways Administration (FHWA) under the Emergency Relief Program
- Off-system roads approved through Federal Emergency Management Agency (FEMA) under the Public Assistance process.
- A net total of **\$100M** work has been approved and is planned for construction starting in 2022 through 2025.
 - Dig-outs, overlays, mill & fill, and full depth reclamation

Recovery Priorities



Emergency
Repairs

Roadway
Restoration

Resiliency

Concurrent EDA Grant

- 7-Months post-fire Town of Paradise adopted a Long-Term Recovery Plan (also funded by NVCF)

Safer!

- Improve Evacuation Routes
 - Establish Interconnected Path System
 - Resolve Long, Dead-End Streets
 - Underground Utilities
- January 2020, EDA approves \$1.8M Grant for development of Town Transportation Master Plan

SAFER

WELCOMING

STRONGER

VISION





TMP Process

- Workshops
- Technical Analysis
- Regional Coordination
- Surveys



50 projects
\$600M in Need

Projects

Installation of unobstructed safety turn lanes (increases evacuation capacity)

Connecting dead-end roads

Increasing circulation with new roadway connections

Installation of Class I Bike Paths (doubles as emergency asset)



CDBG-DR Infrastructure Funding



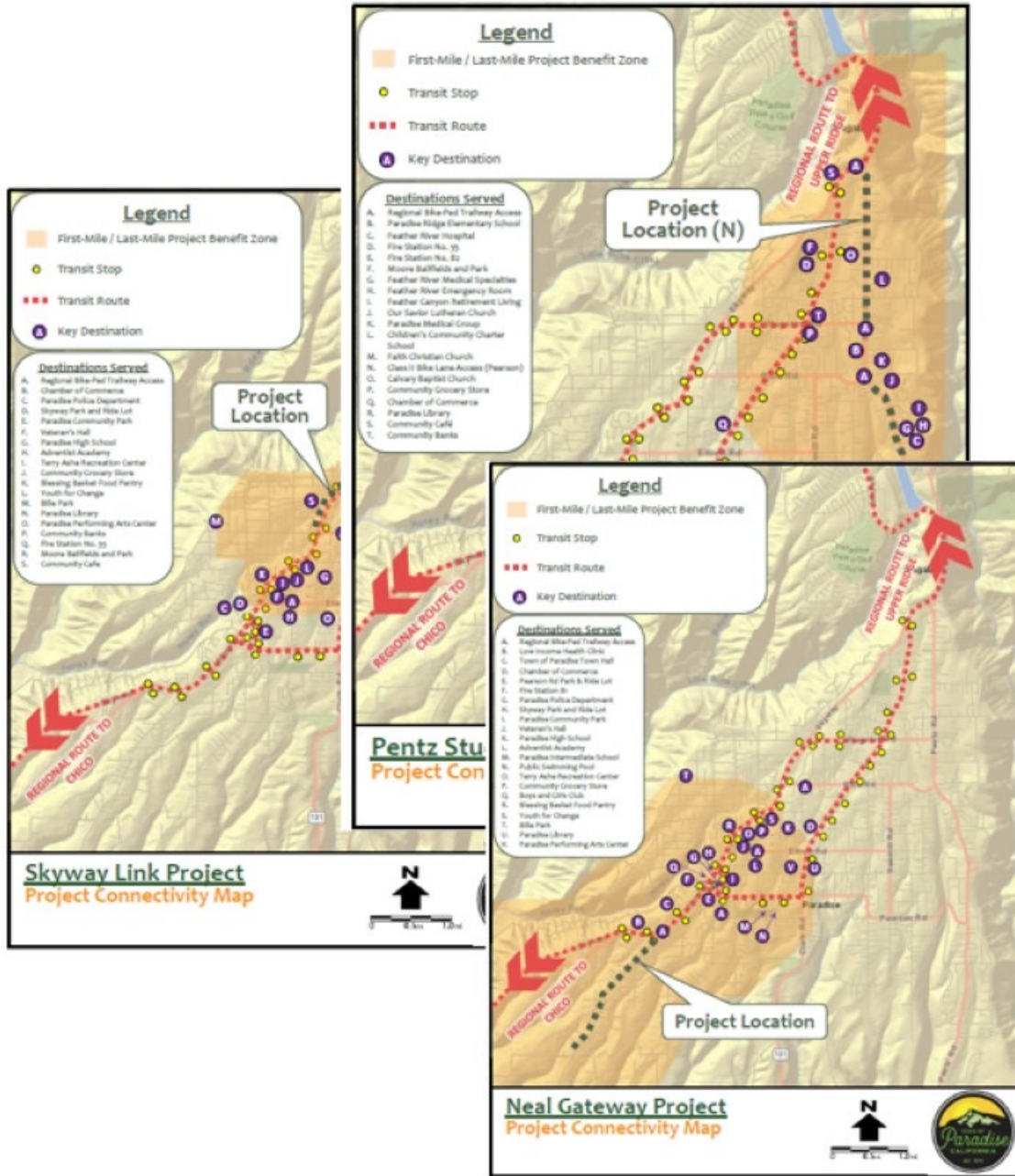
- Congressionally appropriated funding Disaster Recovery funds to support recovery process
- 2018 Allocation for Infrastructure was \$317M
- Paradise submitted 60 projects including match requirements through FEMA Public Assistance, Hazard Mitigation and Emergency Relief – totaling \$800m

Summer 2022 Funding Announcement

Local Jurisdiction	Total Awarded
Butte County	\$72,722,679.61
City of Chico	\$12,388,409.65
City of Malibu	\$47,276.93
City of Redding	\$22,563,043.51
City of Shasta Lake	\$6,326,184.69
Los Angeles County	\$3,788,157.86
Town of Paradise	\$199,592,735.75
<i>Total</i>	<i>\$317,428,488.00</i>



ATP Cycle 6 Funding



- Statewide Component
 - Go Paradise: Pentz Student Pathway \$22M
- Small Urban & Rural Component
 - Go Paradise: Neal Gateway Project \$12M
 - Go Paradise: Skyway Link \$6.7M
- All three projects benefit critical ATP network infrastructure while leveraging other funding to enhance resiliency and evacuation

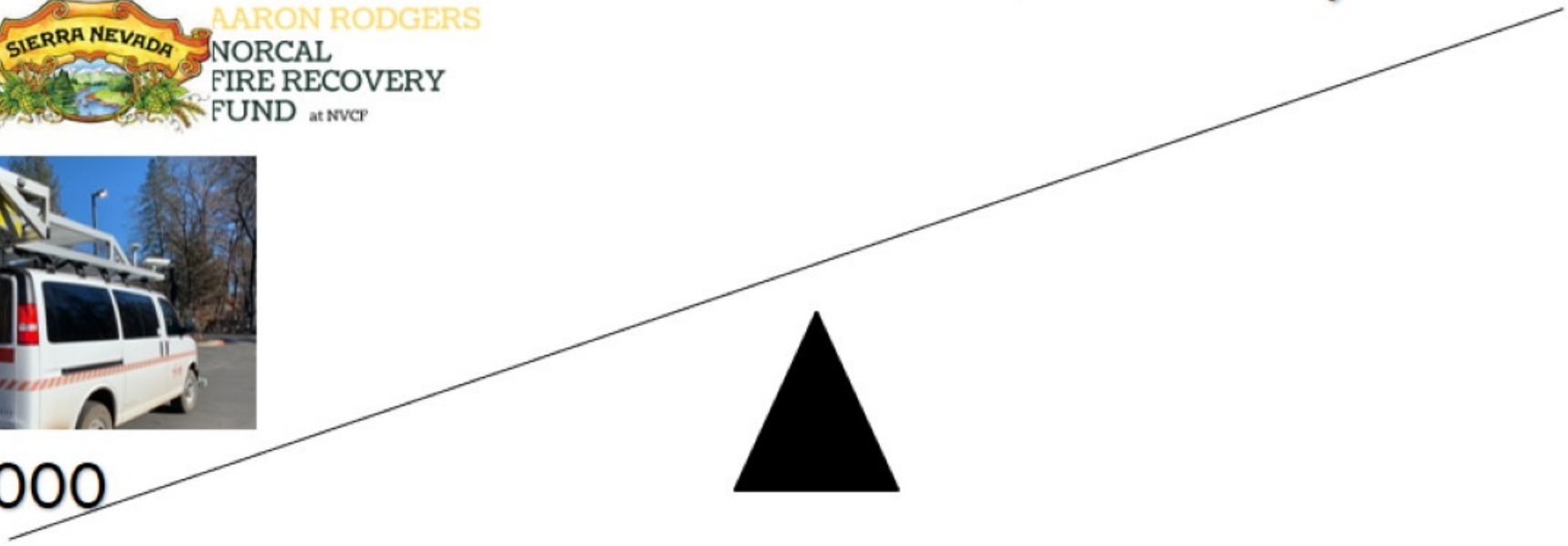


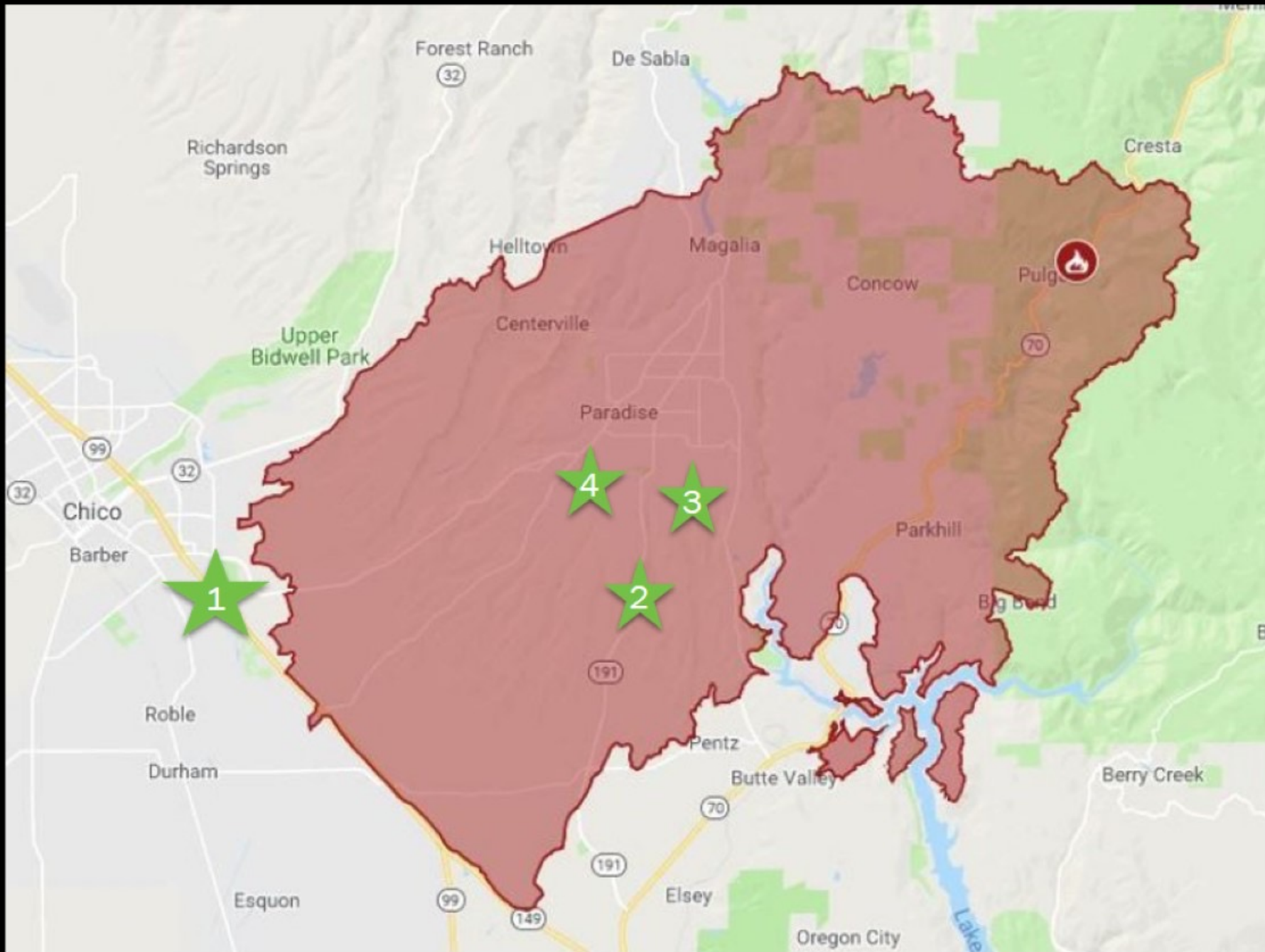
Leveraging Resources It's all connected!

\$360,000,000



\$25,000





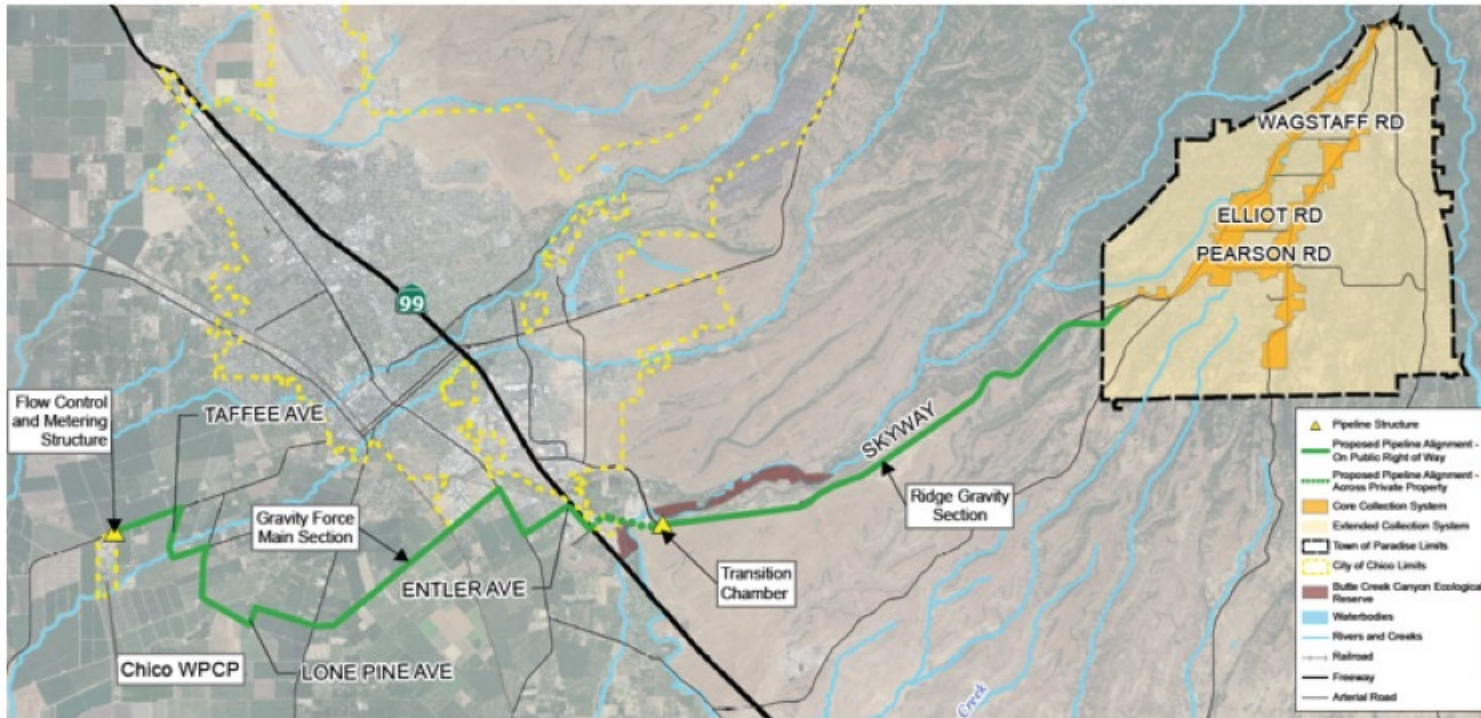
Additional Resiliency Needs

1. Southgate Interchange at SR99
2. SR191 Shoulder Widening
3. Roe Road Extension Phase 2
4. Roe Road Extension Phase 3



Leveraging From Disaster Experience

- Work together, accept help
- Identifying the best and highest use of a given resource
- Maximizing potential and efficiency
- Analyzing risks and taking some
- Plan ahead... carefully
- Make decisions... quickly
- Make mistakes... and learn from them
- **Build relationships before disasters!**



What Else is Happening in Paradise?

- Undergrounding utilities town-wide
- Kicking off Design-Build of Paradise Sewer Project
- Early warning system
- Defensible space projects (public and private)
- IBHS Wildfire Prepared Homes
- Rebuild Activity
 - 3000+ applications
 - 2000+ rebuilt

QUESTIONS?

Marc Mattox, PE
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Town of Paradise

