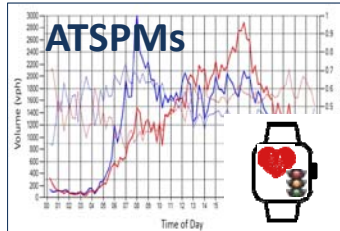


Innovative Deployments to Enhance Arterials (IDEA) Grant Program



Regional Workshop:

- August 23 (10am - 12pm) – Sonoma County Transportation Authority (SCTA), Santa Rosa
- August 23 (2pm - 4pm) – San Mateo County Transit District (SamTrans), San Carlos



Meeting Agenda

1. Introductions
2. Innovative Deployments to Enhance Arterials (IDEA) Overview
 - a. Category 1: Mature, Commercially-available Advanced Technologies
 - b. Category 2: Connected and Autonomous Vehicle Technologies
3. Program Guidelines
 - a. Eligible Projects
 - b. Funding / Match Requirements
 - c. Application Requirements
 - d. Evaluation Criteria
4. Example Projects
5. Schedule and Regional Workshops
6. Q & A



IDEA Grant Program Overview

What is the IDEA Grant Program?

An old grant program combined with a new grant program

Program Goal

To support cities, counties and transit agencies in the deployment of advanced technologies along arterials to enhance mobility, sustainability and safety across all modes

Eligible Projects

- Category 1 (the "Old"):
 - ✓ Formerly referred to as the Next Generation Arterial Operations Program (NGAOP)
 - ✓ Deployment of mature, commercially-available advanced technologies

- Category 2 (the "New"):
 - ✓ Deployment of Connected/Automated Vehicle technologies
 - ✓ Includes potential projects with private partner participation



Total Grant Funding Available

- \$13 million



Program Guidelines



Eligible Projects: Category 1

**Mature,
Commercially-
available Advanced
Technologies**



Signal System Improvements
 - Automated Traffic Signal Performance Measures (ATSPM)
 - Adaptive Signal Systems



Bicycle or Pedestrian Improvements
 - Automated bicycle or pedestrian detection technology for real-time operations
 - Bicycle Green Waves



Transit Improvements for Arterials
 - Transit Signal Priority (TSP) Expansion
 - Queue Jump Lanes



Other Improvements
 - Emergency Vehicle Pre-emption (EVP) Expansion
 - Dynamic Lane Assignment at Signalized Intersections
 - Coordination of Arterial Signals with Ramp Meters



Eligible Projects: Category 2

**Connected and
Automated Vehicle
Technologies**



Bicycle or Pedestrian Improvements
 - Innovative Signal Priority for Active Travelers
 - Vulnerable Road User Protection



Multi-Modal Intelligent Transportation Signal Systems (MMITSS)
 - DSRC Transit Signal Priority (TSP)
 - DSRC Emergency Vehicle Pre-emption (PREEMPT)
 - Intelligent Traffic Signal System (ISIG)



Driving Optimization
 - Eco-Approach and Departure and Signalized Intersections



Integrated Dynamic Transit Operations (IDTO)
 - Transit Connection Protection (T-Connect)
 - Dynamic Transit Operations (T-DISP)

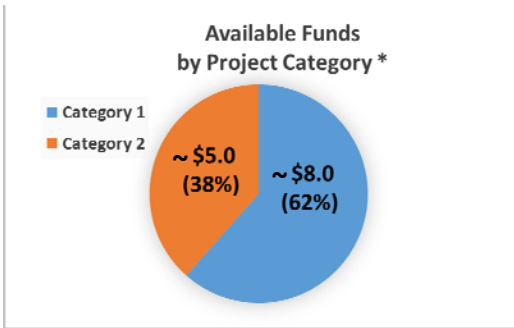


Connected and Automated Vehicles (CAV)
 - Piloting AV technology with or without CV applications
 - Eco-driving
 - Collision avoidance



Funding / Match Requirements

Total Funding Available = \$13 million



*Note: Funding distribution for each category will depend on the pool of candidate projects

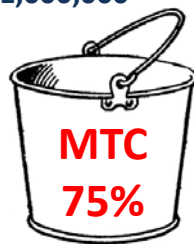
- **Minimum Grant Amount:**
 - ✓ \$250,000
- **Maximum Grant Amount:**
 - ✓ \$3,000,000
- **Minimum Match Requirements:**
 - ✓ Local Cash Match = 15% of total project cost*
 - ✓ In-Kind Match = 10% of total project cost
- **Fund Sources:**
 - ✓ Surface Transportation Program/ Congestion Mitigation and Air Quality (STP/CMAQ)



* For projects with private sector participation, of the total 15% cash match requirement, a private sector partner must provide at least a third of this requirement (i.e., 5% of the total project cost as cash).

Match Requirements – Detailed Example

Total Project Cost = \$1,000,000



| | Federal funds (no sole source allowed) | Local funds | Agency staff time, goods, services rendered |
|--|---|---|--|
| Category 1 Project | \$750,000 | \$150,000 | \$100,000 value |
| Category 2 Project (with Private Partner) | \$750,000 | \$100,000 (agency) \$50,000 (private partner)* | \$100,000 value (agency and/or private partner) |

* Note: One-third of the 15% local cash match must come from a private partner. Also, depending on local agency procurement rules, local funds may or may not be used for sole source contracts.

Application Requirements

Part 1: General Information

- Project sponsor
- Project partner(s), if applicable
- Consent

Part 2: Project Category

- Category 1 only
- Category 2 only
- Combination Category 1 and Category 2

Part 3: Brief Project Description

- Project Title
- Brief Description and Purpose
- Project Location

Part 4: Cost and Funding

- Total Project Cost
- Grant Request
- Match: Local cash, in-kind, private sector (if applicable)

Part 5: Narrative/Cost Proposal

- Detailed project description, justification, roles
- Project Readiness
- Cost Proposal
- Vicinity Map
- Letters of Support
- Other Information

Part 6: Corridor Information

- Signal owner/operator
- Communications, controller, detection information
- Advanced technologies
- Arterial characteristics (e.g., reliever route, Route of Regional Significance, transit route, etc.)
- Volume data (e.g., ADT, peak period, bike/ped, etc.)



Evaluation Criteria

Project Concept (25 points)

- Clarity of project or project concept
- Plan uses innovative technologies (for Category 2 projects)

Implementation (30 points)

- Ability to implement project within two to three years upon receipt of grant funding
- Commitment of specific and sufficient staff
- Demonstrated project management capacity
- Demonstration of support from relevant stakeholders, partners or decision-makers

Project Impact (30 points)

- Potential to reduce emissions
- Potential to provide regional or corridor-level benefits
- Potential to provide benefits to a large number of users

Match (10-15 points)

- 10 points given for meeting minimum match requirements (cash and in-kind)
- Up to 5 additional points will be given for any match over the minimum



Example Projects



Example Project 1: ATSPMs

What are ATSPMs?

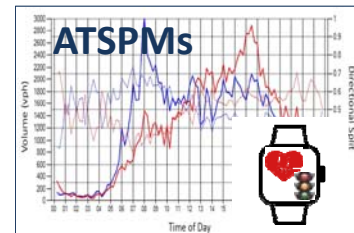
- A fitness tracker for traffic signal systems to monitor performance
- A cost-effective way to improve traditional retiming processes by providing continuous performance monitoring capability using high-resolution data

What are the System Requirements?

- Controller with high-resolution data logger (built-in or stand-alone)
- Communications
- Server
- Data analytics software
- Detection (optional)

What Could Grant Funds Cover?

- Consultant technical assistance
- ATSPM hardware and/or software
- Some infrastructure upgrades/repairs



ATSPM Solutions:

- Econolite
- Live Traffic Data
- Miovision
- Reno A&E
- Sensys Networks
- Trafficware
- Utah DOT's open source firmware



Example Project 2: Bicycle Green Wave

What are Bicycle Green Waves?

- Signal timing coordination for bicycle progression
- Implemented in one or both directions along heavily-traveled bike corridors

Who Has Implemented Green Waves?

- San Francisco (Valencia St, Folsom St, 14th St)
- Portland (N. Williams Ave and N. Vancouver Ave)

What are Good Candidates for Green Waves?

- High bicycle demand
- More than 5 signals
- No existing coordination
- No existing Transit Signal Priority

What Could Grant Funds Cover?

- Consultant technical assistance
- Signage, pavement markings, and/or LED lights, etc.
- Construction



Example Project 3: Eco-Approach and Departure Pilot

What is Eco-Approach and Departure?

- Connected vehicle application that utilizes signal phase and timing (SPaT) and intersection data to optimize vehicle acceleration/braking for emissions
- Automated driving is an optional element

State of Development

- Still in development: simulation tests and testing on a closed track

What Corridors might be Good Candidates for Eco Driving?

- Good detection
- Regular use by fleets (e.g., transit vehicles, city maintenance vehicles, etc.)
- More than 5 signals
- Stop and go traffic but not oversaturated
- Imperfect coordination along corridor
- No active signal priority applications



Source: UC Riverside

What Could Grant Funds Cover?

- Consultant technical assistance
- Application development
- Appropriate hardware and/or software



Example Project 4: Bicycle Detection and Signal Priority

Phase 1 (Category 1 technology)

Deploying sophisticated detection and user discrimination to optimize timing for bikes



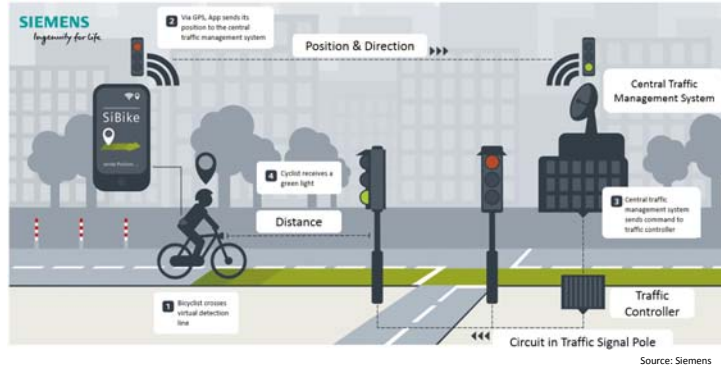
Source: Iteris

What Could Grant Funds Cover?

- Consultant technical assistance
- Application development
- Appropriate hardware and/or software
- Signage, pavement markings

Phase 2 (Category 2 technology)

Piloting smartphone-initiated cyclist signal priority, comparing corridor performance to that under Phase 1 strategies



Schedule

| Activity | Date |
|---|------------------------------------|
| MTC Issues Call for Projects | July 17, 2017 |
| Round 1 Regional Workshops for potential applicants | August 21 and August 23, 2017 |
| Round 2 Regional Workshops (Category 2 projects) | September 7 and September 12, 2017 |

For applications that include only Category 1 Projects:

| | |
|---|------------------------------|
| Applications Due | September 29, 2017 at 4:00pm |
| Evaluation panel completes review of applications and recommends grant awards | October 2017 (tentative) |
| Committee/Commission Approvals of Grant Awards | November 2017 (tentative) |

For all other applications (Category 2-only or Combination Category 1 and Category 2)

| | |
|---|-----------------------------|
| Applications Due | November 17, 2017 at 4:00pm |
| Evaluation Committee completes review of applications and recommends grant awards | January 2018 (tentative) |
| Committee/Commission Approval of Grant Awards | February 2018 (tentative) |



Regional Workshops

| Workshop | Focus | Location | Date/Time |
|-------------|------------------------|--|---|
| Workshop #1 | General | Alameda County Transportation Commission (ACTC) 1111 Broadway, Suite 800, Room B and Room C Oakland, CA 94607 | Monday, August 21, 2017 2:00pm to 4:00pm |
| Workshop #2 | General | Sonoma County Transportation Authority (SCTA) 490 Mendocino Ave #206, SCTA Large Conference Room Santa Rosa, CA 95401 | Wednesday, August 23, 2017 10:00am to 12:00pm |
| Workshop #3 | General | San Mateo County Transit District (SamTrans) 1250 San Carlos Avenue, 2 nd floor Auditorium San Carlos, CA 94070 | Wednesday, August 23, 2017 2:00pm to 4:00pm |
| Workshop #4 | Category 2 Projects | Contra Costa Transportation Authority (CCTA) 2999 Oak Road, Suite 110 Walnut Creek, CA 94597 | Thursday, September 7, 2017 1:00pm to 3:00pm |
| Workshop #5 | Category 2 Projects | Valley Transportation Authority (VTA) 3331 North First Street, Auditorium Building A San Jose, CA 95134 | Tuesday, September 12, 2017 1:00pm to 3:00pm |



Contact Information

General Questions about Program Requirements and Eligibility:

Linda Lee, Arterial Operations Program | llee@mtc.ca.gov, 415.778.5225

Specific Questions about Eligible NGAOP Projects:

Linda Lee, NextGen Arterial Operations Program | llee@mtc.ca.gov, 415.778.5225

Specific Questions about Eligible CAVA Projects:

Rob Rich, Connected/Autonomous Vehicles Program | rrich@mtc.ca.gov, 415.778.6621

