Santa Barbara County Board   February 2nd, 2007

Central Coast
ITS Implementation Plan

Santa Barbara County Association of Governments (SBCAG)

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Presentation Overview

- Central Coast ITS Coordinating Group
- Typical ITS Benefits
- Operational ITS Projects
    - Central Coast (Regional)
    - Santa Barbara
- CCITS Implementation Plan
- ITS Projects (Highlights)
    - Central Coast (Regional)
    - Santa Barbara
- ITS – Operations & Safety Impacts
- Funding Strategies & Options
- CCITS Next Steps…

Central Coast ITS Coordinating Group

- **Association of Monterey Bay Area Governments (AMBAG)**
- **Caltrans (District 5)**
- **Caltrans (Transportation Planning)**
- **California Highway Patrol (CHP)**
- **Federal Highway Administration (FHWA)**
- **Transportation Agency for Monterey County (TAMC)**
- **Monterey-Salinas Transit (MST)**

- **Santa Cruz County Regional Transportation Commission (SCCRTC)**
- **Council of San Benito County Governments (SBtCOG)**
- **Santa Cruz County Regional Transportation Commission (SCCRTC)**
- **San Luis Obispo Council of Governments (SLOCOG)**
- **Santa Barbara County Association of Governments (SBCAG)**
- **Santa Cruz Metropolitan Transit District (SCMTD)**

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Central Coast ITS Implementation Plan

Central Coast ITS Coordinating Group

Why ITS – Operational & Safety Benefits

- **Operational Impacts**
  - Increase roadway capacity & improve travel times
  - Decrease congestion & delay
  - Improve timeliness & accuracy of traveler information (e.g., congestion, closures, incidents, alternate routes)
  - Improve inter-Agency coordination across jurisdictional borders
  - Increase transit ridership & efficiency
- **Safety Impacts**
  - Improve incident management activities (detection, verification, response, & clearance)
  - Decrease the number of "secondary" incidents/accidents
  - Increase driver safety & comfort level
  - Increase preparedness for special considerations (e.g., HazMat spill, fire, landslide)
  - Increase safety at spot-specific locations (e.g., steep hills, sharp curves/bends)
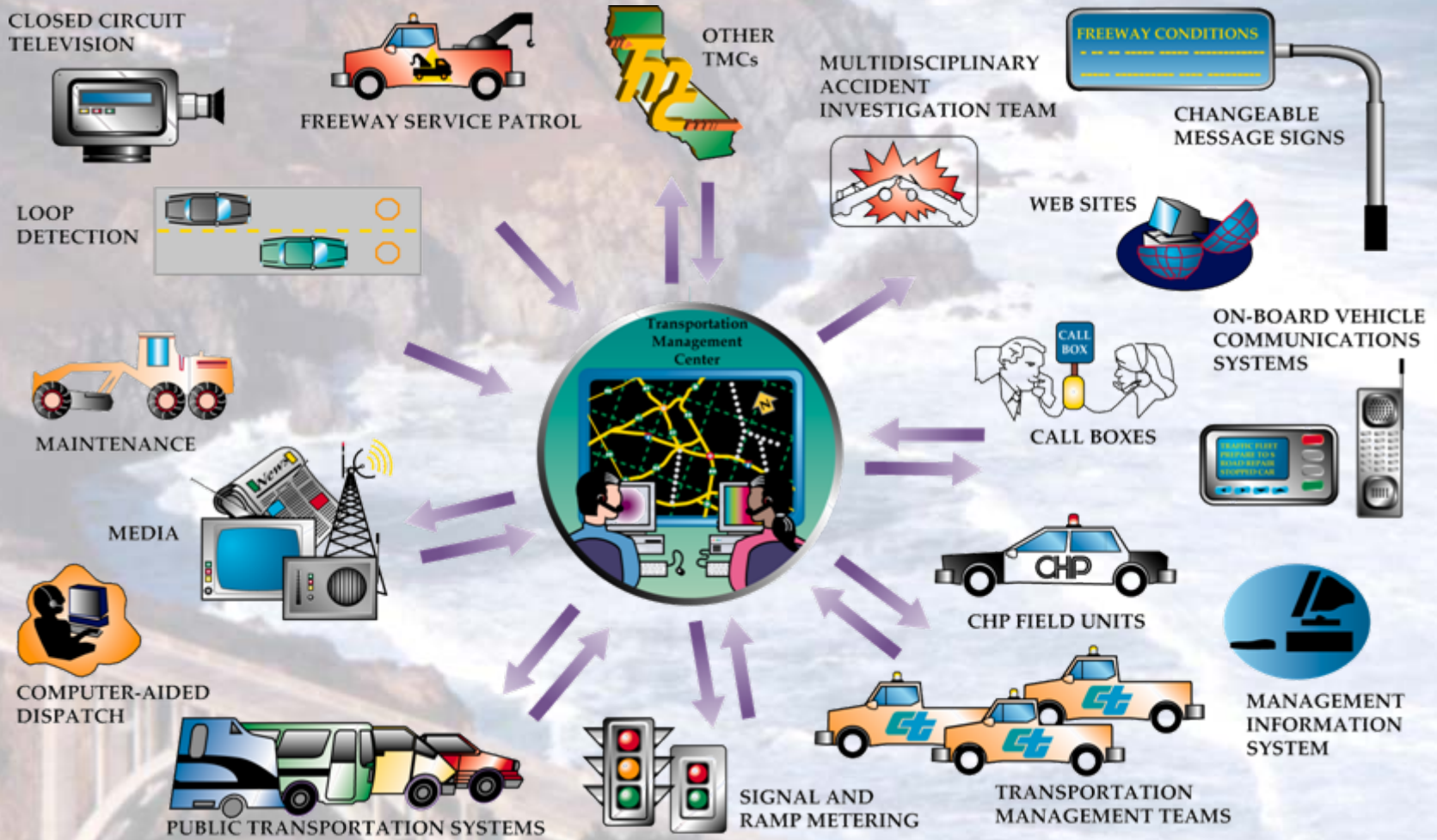
Typical ITS Benefits

- Traffic Control Systems & Signal Coordination
  - 2-13% decrease in fuel consumption
  - 10-12% reduction in travel time
  - 25% decrease in delay
  - 27% reduction in stops
  - 17:1 estimated benefit/cost ratio
- Incident Management Systems
  - 40% reduction in secondary incidents on highway
  - 55% decrease in highway incident closure time
  - 8-minute reduction in the average duration of stall incidents
  - $1.4 million/year savings in delay costs

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Typical ITS Benefits (cont.)

- ## Freeway Management Systems (Ramp Meters)
  - 14% increase in peak period throughput
  - 5 MPH increase in average vehicle speed
  - 5-minute decrease in average trip time
  - 22% reduction in commuter delay

- ## Transit Management Systems
  - Computer Aided Dispatch (CAD) & Automatic Vehicle Location (AVL) Systems/Technologies
    - 9-23% improvement in on-time bus performance
    - 26% decrease in Customer complaints (per 100K boardings)
  - Paratransit Scheduling & Routing System
    - 45% increase in shared rides
    - $500K reduction in operating costs per year

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ITS in the Central Coast

CLOSED CIRCUIT TELEVISION

FREEWAY SERVICE PATROL

OTHER TMCs

MULTIDISCIPLINARY ACCIDENT INVESTIGATION TEAM

FREEWAY CONDITIONS

CHANGEABLE MESSAGE SIGNS

LOOP DETECTION

WEB SITES

ON-BOARD VEHICLE COMMUNICATIONS SYSTEMS

MAINTENANCE

Transportation Management Center

CALL BOXES

MEDIA

COMPUTER-AIDED DISPATCH

CHP FIELD UNITS

MANAGEMENT INFORMATION SYSTEM

PUBLIC TRANSPORTATION SYSTEMS

SIGNAL AND RAMP METERING

TRANSPORTATION MANAGEMENT TEAMS
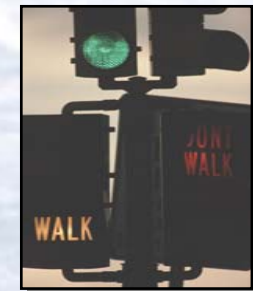
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Central Coast – Operational ITS Projects

- Caltrans District 5 Transportation Management Center (TMC)
  - Located in San Luis Obispo
  - Operational since October 2001
  - Mon-Fri, 6:00 AM – 6:00 PM
- TMC's Regional Activities
  - CHP/Caltrans Dispatching
  - Incident Management
  - Changeable Message Signs (CMS)
  - Closed Circuit Television (CCTV Cameras)
  - Roadway Sensors
  - Ramp Meters
  - Highway Advisory Radio (HAR)
  - Special Events Management

Central Coast ITS Implementation Plan

Santa Barbara – Operational ITS Projects

- Motorist Aid Call Box System

- Freeway Service Patrol
  - Along southern coast segment of US 101

- Traffic Signal Systems
  - Santa Barbara, Goleta, Buellton, Lompoc, Santa Maria, & Solvang

- Ramp Meters
  - US 101 @ Garden St.

- CCTV Cameras
  - US 101 @ Patterson Ave.

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Central Coast ITS Implementation Plan

Santa Barbara – ITS Potential

- CMS
  - (US 101 @ SR 154) (Programmed)
- Transit AVL Systems
  - SBMTD, SMAT, & Lompoc Transit
- Roadway Sensors
  - Along US 101 (Programmed)
- Ramp Meters
  - US 101 @ Carillo St. (Programmed)
- CCTV Cameras
  - US 101 @ SR 154 (Programmed)
  - Santa Barbara County

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Santa Barbara – ITS Potential

- **"Smart" Cards**
  - SBCAG
  - UCSB
- **Advanced Crosswalks**
  - Buellton
  - Goleta
- **SBMTD**
  - Website
  - NextBus Arrival System
  - Kiosks
- **SBCAG**
  - 511
  - Rideshare Matching System

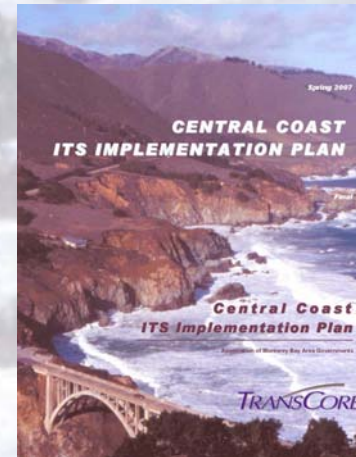*Central Coast ITS Implementation Plan*

CCITS Implementation Plan

- Based on the Central Coast's needs

- Provides a roadmap to implement ITS

- Joint effort by transportation Agencies in the Central Coast to make the most of ITS opportunities

- Lead Agencies responsible to develop, fund, procure, & deploy specific ITS initiatives

CCITS Implementation Plan

- **Central Coast ITS Strategy**
  - Update ITS Projects & sequencing
  - Help "mainstream" ITS into the State & Regional planning processes
  - Provide a strategy for moving forward with ITS
  - Facilitate Agency agreements

- **CCITS Regional Architecture**
  - Develop MPO-specific Architectures to meet Federal requirements & ensure funding eligibility
  - Develop Architecture Implementation & Maintenance Plans
  - Provide Turbo Architecture training

- **CCITS Outreach Materials**
  - Update Logo
  - Update Brochure
  - Film "new" DVD/Video

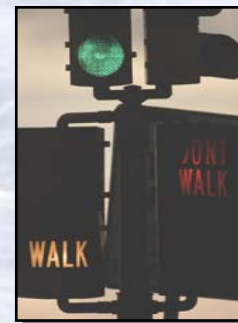# Central Coast ITS Projects (Highlights)

- Caltrans D5 TMC
  - Established & operational
  - Coordination with Caltrans D4 (SF Bay Area) & Caltrans D7 (Los Angeles) TMCs

- Increase the availability & quality of multi-modal traveler information
  - Internet website enhancements
  - Telephone call-in system enhancements

- Enhance CHP & emergency response radio systems

- Expand motorist aid call box system capabilities

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Central Coast ITS Implementation Plan

Central Coast ITS Projects (Highlights)

- Expand cellular phone coverage

- Install additional CCTV, CMS, HAR, roadway sensors, & ramp meters along major roadways

- Improve traffic flow along roadways thru signal upgrades & coordination strategies

- Provide a consistent "smart" card approach for transit, parking, & toll system use

Central Coast ITS Implementation Plan

Santa Barbara ITS Projects (Highlights)

- Expand ITS along US 101
  - CCTV
  - CMS
  - HAR
  - Roadway Sensors
  - Ramp Meters
- Improve coordination of incident management activities
  - Expand Freeway Service Patrol
  - Dynamic traffic & incident management strategies

Santa Barbara ITS Projects (Highlights)

- Improve traffic flow on congested roadways

  - Signal coordination strategies along State St. & Hollister Ave.

  - Install Traffic Control Systems (TCSs) in Santa Barbara & Goleta

  - Establish TMCs for Santa Barbara County & Santa Maria

- Transit ITS Applications

  - Transit Signal Priority

  - Expand AVL Systems

  - "Smart" Cards

Central Coast ITS Implementation Plan

Funding Strategies & Options

- Local & Regional Agencies will need to determine funding priorities
  - ITS Projects will compete against more "traditional" transportation projects
  - Need to "mainstream" ITS Projects into the planning/programming processes (e.g., RTP, CTP, RTIP, STIP, & FSTIP)
- Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU)
  - Authorizes the Federal surface transportation programs for highways, highway safety, & transit (2005 thru 2009)
  - Ensures that ITS Projects are eligible for Federal Funding thru conformance with the CCITS Regional Architecture
  - Added role of MPOs & COGs to determine conformance

Funding Strategies & Options

- State Highway Operation & Protection Program (SHOPP)
  - Partner with Caltrans to apply SHOPP funding to ITS needs
  - Proposition 1B
    - Designated funding for traffic signalization improvements
    - $250 million

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CCITS Next Steps…

- CCITS Implementation Plan Review & Approval
  - Transportation Technical Advisory Committee (TTAC)
  - SBCAG Board
- SBCAG's continued participation within the CCITS Coordinating Group
- Identification/authorization of ITS Project funding
- Continued deployment of ITS Projects identified in the CCITS Implementation Plan

The CCITS Coordinating Group is committed to the success of ITS in the Region & in Santa Barbara!!

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