ECMT-USDOT WORKSHOP ON
FOSTERING SUCCESSFUL IMPLEMENTATION
OF SUSTAINABLE URBAN TRAVEL POLICIES

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Washington D.C.

ITS and Transportation Sustainability
Thomas R. Buick
Maricopa County Department of Transportation
Phoenix, Arizona
ITS and Transportation Sustainability

USDOT-ECMT Workshop on Sustainable Travel

Thomas R. Buick
Director
Maricopa County Department of Transportation
Maricopa County

- 4\textsuperscript{th} largest & 2\textsuperscript{nd} fastest-growing county in nation
- 3 million people now – 5 million in 20 years
- 24 cities and towns
- Over 3000 hazmat facilities
- 30 major dams
- Monsoon season
- Military facilities
- Largest nuclear plant in North America
- Hundreds of potential threat elements
Historically transportation sustainability especially in desert areas has been exceptionally challenging.
Camels

- First domesticated 2500 B.C. in northern Iran and southwestern Turkestan.
- Domestication spread east to Iraq, India, and China.
- Used as pack animals, transportation, a source of fuel (dried manure), felt (hair), and milk.
Where roads existed

they were not always friendly.
Solutions were sometimes complicated.
Floodwaters weakened the railroad bridge over the Rio Salado. The pylons collapsed under the weight of a train.
Wooden Road

- 1915-1926.
- Crossed the sand dunes near Yuma.
- 8 feet wide.
- 16-foot wide turnouts every 1000 feet.
- Constant maintenance to keep sand off of the road, still impassable 1/3 of the time.
- Currently a California Historical Landmark.
In 1884, blocks of ice were placed in a holder under horse carriages. Air was blown inside by means of a fan attached to the axle.
Evaporative coolers were used from 1930s through the 1960s. Passengers in the back seat had a tendency to get wet.
Converting from rural to urban
Freeways

move freight and people.

Loop 202/US60 Interchange
Maricopa County Keeps Growing!
TRAFFIC CONGESTION
A MAJOR CHALLENGE TO THE SUSTAINABILITY OF PRESENT URBAN TRANSPORTATION SYSTEMS
TECHNOLOGICAL BREAKTHROUGHS THAT WERE VITAL TO TRANSPORTATION SUSTAINABILITY

• Advanced Road & Bridge Construction Technology
• Freeway System
• Automobile Technology Advances
• Public Transport

WHAT IS NEXT ......
Intelligent Transportation Systems

(ITS)
Vision and Goals

AZTech™ Goals:

• Integrate the existing ITS infrastructure into a regional system
• Establish a regional travel information system
• Expand the transportation management system for the Phoenix metropolitan area
• Improve incident management
• Improve transit
Fiber Optic Backbone

Service Providers

User Devices

Layer 1: Existing

11/21/96
AZTech™: Top 10 Program Areas

- Regional Operations Coalition
- Systems Integration
- Telecommunications
- Emergency Management
- Incident Management
- Special Event Management
- Advanced Travel Information Systems
- Smart Corridors
- Data Archiving System
- Regional Procurement
EXECUTIVE COMMITTEE & STRATEGY GROUPS

Executive Committee

- Establish Education & Outreach Programs
- Expand & Strengthen Partnerships
- Optimize Regional Operations & Management
- Research & Test New Technological Opportunities
- Plan, Develop, & Deploy Integrated Regional Systems

Structural Groups:

- TMC Operators WG
- T-COM WG
- ATLAS/U of A/ASU
- Kiosk WG
- Data Archiving WG
- Technical Oversight Committee
- Incident Management WG
- Traffic Operations WG
- TMC Operators WG
Transition - network planning, administration, maintenance issues
Future Direction

- expansion to public safety and emergency management agencies
- Leads to future needs
  - provisions for additional agencies at higher bandwidth
  - MAG Regional Community Network (RCN)
SMART Corridors

- **Progress 1998-2002**
  - Deployment and Operations of Phase 1 on 8 corridors
  - Design of Phase 2

- **Current Projects**
  - Phase 2 construction on 10 corridors in Chandler, Gilbert, Glendale, Mesa, Peoria, Phoenix, Scottsdale, and Tempe
  - Reexamining SMART Corridor deployment and operations

- **Future**
  - Continuing deployments
  - Improvement plan and operational guidelines
Program Overview

- Initiated January 2001
- 10 responders in two teams
- 2 program managers
- On-scene support:
AZTech ATIS Program: A Public-Private Partnership

AZTech Public Partner Data Collection Systems

AZTech Private Partner Services

SMART Corridors

AZFMS Website www.az511.com

Region Communications System

TOC

Secondary Traffic Information Broadcasts (Private Sector)

Web

Radio Stations

TV Networks

Invehicle Systems

Kiosks

PDA’s

Traffic Check

WAP Phones

CVO

AZTech ATIS Program: A Public-Private Partnership

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Integrated Operations & Security

PS-213 Anthrax Report

Speed Ranges
- 0-19
- 20-29
- 30-39
- 40-49
- 50+

Locations
- E911 calls
- Ambulance
- Medivac
- Fire
- Police
- Construction
- City Buses
- Maintenance
- Animal Rescue
- Traveler Aid Veh

Hostage Standoff

Stolen Vehicle Alarm

Biohazard Center

Hazmat Center

Earthquake Bridge Collapse

Military Base
AZTech MDI’s Advanced Traffic Management System

- Freeway Management Center
- Emergency Management Center
- Detectors
- Traffic Signals Management Center
- Transits Management Center
- Automated Vehicle Location
- Special Events Management
- Incident Management
- Transit Management Center
- Freeway Management Center
- Emergency Management Center
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- Transits Management Center
- Automated Vehicle Location
- Special Events Management
- Incident Management
- Transit Management Center
AZTech™ ITS MDI’s Awards

1998 Federal Highway Administration’s “Award for Excellence in ITS”
1998 Traffic Technology International’s "Headline Grabber of the Year”
1999 ITS America “Outstanding Achievement Awards” for Regional and Corridor Programs and for Architecture & Standards with other MDI’s
1999 Institute of Transportation Engineers’ Transportation Achievement Award for Operations and ITS Council Partnership Award
1999 International Intelligent Cities, Buildings & Transportation Conference’s “ITS Project of the Year”
Organizing for Future Needs