

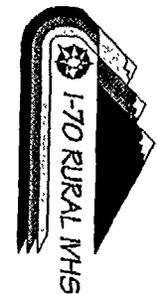
**TABLE V-9**  
**MAPPING OF CORRIDOR-SPECIFIC PROBLEMS/NEEDS TO NPP USER SERVICES**

PROBLEM/NEED	ITS OBJECTIVE	ITS CANDIDATE ACTION	CORRIDOR FUNCTIONAL AREA	NPP BUNDLE/ USER SERVICE
<b>Limited Financial Resources</b>	leveraging funding sources	proactive legislative/organizational change campaign for positive changes/ promotion of technological advances	Institutional Issues	No Direct Correlation
	evaluating and improving current processes and regulations identifying and securing investment partners	high capacity transmission systems through joint rights-of-way usage	Public/Private Partnerships	Maps Across All Bundles
<b>Congestion</b> <b>Road Closures</b> <b>No Alternate Routes</b>	increasing operational capacity	automation of Eisenhower Tunnel area 3:1 lane split operation	Traffic Management/Operations	Travel/Transportation Management/Traffic Control
	reducing delays	extension of Eisenhower Tunnel area 3:1 lane split operation		
	developing better access	upgraded ITS TOCs (Hanging Lake; Eisenhower) to establish regional traffic management and control		
	advancing traffic operations management and control	high occupancy and/or slow-moving vehicle lanes/ramps with automated entry/exit controls		
reducing unnecessary trip-making	remote video surveillance for improved monitoring and response	vehicular probes with 2-way communications links to regional TOCs	Travel/Transportation Management/ Incident Management	
developing incident and congestion management strategies	automatically selected/implemented regional incident/congestion management plans for recurrent and non-recurrent events		Travel Demand Management/Demand Management-Operations	
creating "competitive" travel times/modes	automated surveillance/enforcement of peak period travel restrictions		Electronic Payment/ Electronic Payment Services	
reducing peak period automobile/truck demand	toll collection systems for peak period travel at high-congestion location/times			



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<b>Inadequate Communications Systems</b>	gathering, processing, and disseminating reliable condition data	upgrade voice/data communications celMar reporting program traffic message channels	Communications Systems	Travel-Transportation Management/En-Route Driver Information; Traveler Services Information; Incident Management
	advancing traffic operations management and control	upgrade computer equipment and VMS for automated message handling	Data Collection/Aggregation	Travel Demand Management/Pre-Trip Travel Information; Demand Management and Operations
	evaluating and improving current processes and regulations developing new staff capabilities (training/hiring specialists)	develop data fusion algorithms for multiple applications		Emergency Management/ Notification and Personal Security
<b>Inefficient Management of Goods Movements</b> <b>Commercial Vehicle Use of the Corridor</b>	reducing peak period automobile/truck demand strengthening management/oversight of commercial vehicle operations monitoring hazardous materials transport and overheight/overweight commercial vehicles evaluating and improving current processes and regulations	automate Dumont/Downieville port of entry upgrade Eisenhower Tunnel overheight vehicle detection systems integrate I-70 surveillance/enforcement systems into multi-state one-stop shopping program	Commercial Vehicle Operations	Commercial Vehicle Operations/Electronic Clearance; Automated Roadside Safety Inspection; Commercial Vehicle Administrative Processes; Hazardous Materials Incident Response; Commercial Fleet Management
<b>Limited Confidence in State Government Services</b> <b>Lack of Coordination/ Cooperation</b>	evaluating and improving current processes and regulations creating and supporting a cooperative working environment educating all stakeholders developing new staff capabilities (training)	educational program to "sell" ITS and its potential benefits corridor-wide public acceptance program to inform local interests about ITS developments and actions in-house programs to cross-train current staff in ITS operations and maintenance functions extension of CDOT ITS Implementation Team to include other public and private sector organizations	Education/Training	Maps Across All Bundles



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<b>Ineffective Information Dissemination</b>	reducing delays	highway advisory radio (HAR) and variable message sign (VMS) systems to disseminate information to traveling public	<b>Traveler Information Systems</b>	Travel-Transportation Management/En-Route Driver Information; Traveler Services Information
	reducing accident frequency	real-time traveler information kiosks and broadcasts at public and private facilities (non-transportation)		Travel Demand Management/Pre-Trip Travel Information
	disseminating reliable weather/road/traffic condition data	intelligent rest stops		Public Transportation Operations/En-Route Transit Information
	educating all stakeholders	real-time weather/road/traffic information distribution via the media		Emergency Management/Notification and Personal Security
	reducing unnecessary trip-making			
<b>Shortage of Transit Services</b>	increasing operational capacity	multi-modal transfer centers with traveler information kiosks and links to TOCs and other public facilities	<b>Public Transportation/Alternate Modes</b>	Travel-Transportation Management/En-Route Driver Information; Traveler Services Information
	augmenting transit/bicycle/pedestrian facilities, service, and accessibility	automated tracking of public transportation vehicles to improve scheduling and management of services		Travel Demand Management/Pre-Trip Travel Information
	augmenting transit/bicycle/pedestrian facilities, service, and accessibility	communication links and vehicle sensors for private transit shuttles to serve as probes throughout corridor	Public Transportation Operations/Public Transportation Management; En-Route Transit Information	
<b>Shortage of Transit Services</b>	augmenting transit/bicycle/pedestrian facilities, service, and accessibility	intelligent bicycle system	<b>Traveler Information Services</b>	Travel-Transportation Management/Traveler Services Information
	developing multi-modal opportunities	automated transit referral service for public and private service providers		Travel Demand Management/Pre-Trip Travel Information; Ride Matching and Reservation



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<b>Environmental Impacts</b>	reducing vehicle emissions	mobile emissions testing stations and advisory signage at high-pollution sites voluntary retrofit of vehicles to alternative fuel systems by government agencies and private organizations	Environmental/ Economic Impacts	Travel-Transportation Management/ Emissions Testing and Mitigation
	creating and supporting a cooperative working environment capturing economic benefits	coalition of governments and businesses for exchange of economic development strategies		Maps to Travel-Transportation Management; Travel Demand Management; Public Transportation Operations Bundles
<b>Recurring Incidents at Known Locations</b> <b>Poorly Delineated/Maintained Travel Ways</b> <b>Lack of Personal Travel Security</b> <b>Vehicular/Animal Conflicts</b> <b>Driving Inexperience/ Excessive Speeds</b>	reducing delays reducing emergency response times developing incident management strategies	courtesy patrols for high-incident segments within the corridor alternative service roads for emergency access automated answering/dispatch system for coordinated regional response	Emergency Response	Emergency Management/ Notification and Personal Security; Emergency Vehicle Management
	developing incident management strategies reducing accident frequency and severity gathering, processing, and disseminating reliable road/weather/traffic condition data evaluating and improving current processes and regulations	accident investigation pull-outs at know high incident locations retrofit lighting/reflective coatings in tunnel bores; lighted guidance systems corridor-wide 2-way emergency call boxes sensor/detector actuated warning and predictive systems for pavement surface and weather conditions automatic avalanche/rock slide detection/warning systems at high-hazard locations personal in-vehicle MAYDAY systems sanding/storm water runoff sensor systems excessive speed warning systems animal alert warning system		Safety/Warning Systems

