

Transportation System Management and Operations Strategies

<u>Strategy</u>	<u>Performance Measures That Need Improvement</u>	<u>Primary Available Assets</u>	<u>Secondary Available Assets</u>
Adaptive/Demand Responsive Signal Systems/ Traffic Signal Improvements	Travel Time Index Travel Time Reliability	Bus Routes Frontage Roads Parallel Arterials	
Bike Parking Facilities	Travel Time Index Travel Time Reliability	Parallel Arterials	Light Rail Commuter Rail Bus
Bike Share	Travel Time Index Travel Time Reliability	Parallel Arterials	Bus
Bike/Ped Improvements	Travel Time Index Travel Time Reliability	Parallel Arterials	Light Rail Commuter Rail Bus
Bike/Transit Integration	Travel Time Index Travel Time Reliability	Commuter Rail Light Rail Bus	
Bus Loading Bays	Travel Time Index Travel Time Reliability Crash Rate	Bus Routes	Parallel Arterials
Context Sensitive Design	Crash Rate	No Assets Needed	
Demand Response Transit Operations	Travel Time Index	No Assets Needed	
Park and Ride	Travel Time Index Travel Time Reliability	Commuter Rail Light Rail Bus	*No Current Park and Ride on corridor
Pedestrianized Streets	Travel Time Index Crash Rate	Parallel Arterials	
Ridesharing and Ride matching-Carpool/Vanpool	Travel Time Index		
SOV Trip Reduction Programming / Commuter Financial Incentives	Travel Time Index Travel Time Reliability		
Transit	Travel Time Index		
Transit Fixed-Route Operations	Travel Time Index	Bus Routes HOV/Managed Lanes Frontage Roads Parallel Arterials	
Transit Management	Travel Time Index Travel Time Reliability	Light Rail Commuter Rail Bus HOV/Managed Lane Parallel Arterials	
Transit System Signal Priority	Travel Time Index	No Assets Needed	
Transit Vehicle Tracking	Travel Time Index	Light Rail Commuter Rail Bus	
511 DFW	Travel Time Index Travel Time Reliability	No Assets Needed	
Access Management Improvements (Turn Lanes, Close Driveways)	Travel Time Index Travel Time Reliability Crash Rate	Frontage Roads Parallel Arterials	

<u>Strategy</u>	<u>Performance Measures That Need Improvement</u>	<u>Primary Available Assets</u>	<u>Secondary Available Assets</u>
Active Parking Management	Travel Time Index Travel Time Reliability	No Assets Needed	
Active Traffic Management (Lane Assignment, Re-Striping, Turning Movement and lane use restrictions)	Travel Time Index Travel Time Reliability	Parallel Arterials Frontage Roads	
Bottleneck Removal	Travel Time Index Travel Time Reliability Crash Rate		*Lane Drop must be identified on corridor
Dynamic Pricing		No Assets Needed	*Must be on tolled facilities
Dynamic Routing		No Assets Needed	
Emergency Routing	Travel Time Reliability	Parallel Arterials Parallel Freeway ITS Frontage	
Freight Railroad Grade Crossing	Travel Time Index Travel Time Reliability	Parallel Arterials	
HOV/Managed Lane Management	Travel Time Index Travel Time Reliability	HOV/Managed Lane ITS	
Integrated Transportation Management/Route Guidance	Travel Time Index Travel Time Reliability	No Assets Needed	
Intersection Improvements	Travel Time Index Travel Time Reliability Crash Rate	Frontage Roads Parallel Arterials	
ITS Devices (CCTV, Cameras, DMS, etc.)	Travel Time Index Travel Time Reliability Crash Rate		*If ITS is not densely deployed on corridor
Mobility Assistance Patrol / Courtesy Patrol	Travel Time Index Travel Time Reliability Crash Rate	ITS	Shoulder Availability
Probe Surveillance	Travel Time Index Travel Time Reliability Crash Rate	No Assets Needed	
Regional Traffic Control	Travel Time Index Travel Time Reliability Crash Rate	Parallel Arterials Parallel Freeway ITS Frontage	
Reversible Lane Management	Travel Time Index Travel Time Reliability Crash Rate		Parallel Arterials
Shoulder Utilization Program	Travel Time Index Travel Time Reliability Crash Rate	Shoulder Availability	
Speed Harmonization and Monitoring	Travel Time Index Travel Time Reliability Crash Rate	No Assets Needed	
Strategic Incident Response and Clearance Time Program	Travel Time Index Travel Time Reliability Crash Rate	ITS Shoulder Availability	Frontage Roads Parallel Freeway Parallel Arterials
Traffic Incident Management Training	Travel Time Reliability Crash Rate	No Assets Needed	
Truck Lane Restrictions	Travel Time Index Travel Time Reliability Crash Rate	No Assets Needed	*If Truck Lane Restrictions are not on corridor

Transportation System Management Projects Definition Guide

511 DFW – one-stop phone and web source for up-to-the minute transportation information.

Access Management Improvements (Turn Lanes, Close Driveways) – regulation of interchanges, intersections, driveways and median openings to a roadway.

Active Parking Management – includes a variety of strategies that encourage more efficient use of existing parking facilities, improve the quality of service provided to parking facility users and improve parking facility design.

Adaptive/Demand Responsive Signal Systems/ Traffic Signal Improvements – to improve the efficiency of a signal by upgrading the hardware or through retiming, equipment, installation of new signals or signal improvements that allow traffic signal timing to change or adapt based on traffic demand.

Bike/Ped Improvements – improving conditions for bicycling and walking.

Bike Parking Facilities – involves the infrastructure and equipment (bike racks, bicycle locks, etc.) to enable secure and convenient parking of bicycles.

Bike Share – a service in which bicycles are made available for shared use to individuals on a very short-term basis.

Bike/Transit Integration – the merging of bicycle transport with transit services to further enhance both modes of travel.

Bottleneck Removal – removal of “bottlenecks” where the number of lanes decreases at ramps and interchanges and where there are roadway alignment changes (sharp curves, steep hill, etc.).

Bus Loading Bays – a multi-stop feature for bus stations that can handle a much higher capacity of traffic.

SOV Trip Reduction Program – a program that give commuters resources and incentives to reduce their automobile trips through ridesharing, biking, walking, transit, alternative work schedules, telecommuting, etc.

Commuter Financial Incentives – monetary benefit offered to commuters or employees to encourage behavior or action change which otherwise would not take place.

Context Sensitive Design – refers to roadway standards and development practices that are flexible and sensitive to community values. CSD allows roadway design decisions to better balance economic, social and environmental objectives.

Demand Response Transit Operations – comprised of vehicles operating in response to calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations.

Dynamic Pricing – to improve traffic flow along a corridor by changing or adjusting the price to travel on the facility based on traffic demand.

Dynamic Routing – a device or app that supports automated vehicle location and adjust route the vehicle is traveling based on traffic demand.

Emergency Routing – a device that supports automated vehicle location and dynamic routing of emergency vehicles.

Freight Railroad Grade Crossing – an installation at points where a railroad track crosses a highway at grade.

HOV/Managed Lane Management – highway facilities or a set of lanes where operational strategies are proactively implemented and managed in response to changing conditions. Conceptually, Managed Lanes are based upon flexible operating strategies and active management of the transportation system and provide the perspective needed for integrated operations leading to improved performance.

Integrated Transportation Management/Route Guidance – generates a trip plan, including a multimodal route and associated service information (e.g., parking information), based on traveler preferences and constraints. Routes may be based on static information or reflect real time network conditions.

Intersection Improvements – improving the safety and efficiency of an intersection to increase the performance of the facility.

ITS Devices (CCTV, Cameras, DMS, etc.) – advanced applications which, without embodying intelligence as such, aim to provide innovative services relating to different modes of transport and traffic management and enable various users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks.

Active Traffic Management (Lane Assignment, Re-Striping, Turning Movement and lane use restrictions) – to change the lane markings or other markings on a road, runway or other path.

Mobility Assistance Patrol / Courtesy Patrol – provides assistance to stalled and stranded motorists by helping them to move disabled vehicles from the main lanes of regional highway/freeway facilities and ultimately getting the vehicles operating or off the facility completely.

Park and Ride – serve as collection areas for people transferring to higher occupancy vehicles. Park-and-Rides are often located and designed to serve bus or rail transit, but many are used by carpoolers and vanpoolers as well.

Pedestrianized Streets – areas of a city or town reserved for pedestrian use only in which some or all automobile traffic may be prohibited.

Probe Surveillance – a field-to-vehicle application that covers the interface between roadside equipment and vehicles that are equipped with a short-range communications device. The probe data collected by the field equipment may include link travel times, average speeds, road conditions, environmental conditions, surface weather information, and any other data that can be measured and communicated by passing vehicles. The collected probe information could be sent to a center for processing and distribution.

Regional Traffic Control – an operation center that monitors and controls the traffic signal systems.

Reversible Lane Management – a lane in which traffic may travel in either direction, depending on certain conditions.

Ridesharing and Ride matching - Carpool and Vanpool – two or more people sharing a ride in a car constitutes a carpool. A vanpool constitutes a group of six to fifteen commuters.

Shoulder Utilization Program – the opening of a shoulder to vehicular traffic. Shoulders may be opened to alleviate traffic during peak periods of travel or at the time of an incident.

Speed Harmonization and Monitoring – reduces the speed differential between and within lanes and creates a more uniform and acceptable headway distribution thus reducing the potential for the occurrence of primary accidents.

Strategic Incident Response and Clearance Time Program – incident response and clearance times are collected to gauge the ability for police, fire, emergency medical services and the mobility assistance patrol to respond to and clear a traffic incident.

Traffic Incident Management Training – training program for first responders focusing on a response effort that protect motorist and responders while minimizing traffic impact.

Transit – conveyance or transportation from one place to another, as persons or goods, especially, local public transportation.

Transit Fixed-Route Operations – a service that performs vehicle routing and scheduling, as well as automatic operator assignment and system monitoring for fixed-route and flexible-route transit services.

Transit Management – provides real-time computer analysis of vehicles and facilities to improve transit operations and maintenance. It monitors the location of transit vehicles, identifies deviations from the schedule, and offers potential solutions to dispatchers and operators.

Transit System Signal Priority – an operational strategy that facilitates the movement of transit vehicles (usually those in-service), either buses or streetcars, through traffic-signal controlled intersections.

Transit Vehicle Tracking – monitors current transit vehicle location using an Automated Vehicle Location System. The location data may be used to determine real time schedule adherence and update the transit system's schedule in real-time.

Truck Lane Restrictions – restricting trucks to operate only in certain lanes of the corridor.