

CHALLENGES AND SOLUTIONS

MCCAIN TRANSPARITY® TMS

OVERVIEW

SWARCO McCain's *Transparency* Traffic Management System (TMS) suite allows traffic engineers to proactively manage traffic flow and enhance mobility across an entire traffic network. The modern architecture of McCain *Transparency* TMS is designed to meet the demands of today's transportation network and adapt with the city's needs as they evolve. Improve performance and create a comprehensive traffic management solution with additional McCain *Transparency* companion products, such as Signal Performance Measures (SPM) and Adaptive. Together, the McCain *Transparency* TMS suite will take traffic operations to the next level.



SIGNAL TIMING MANAGEMENT

Challenge	Solution
Remote signal timing parameter changes can be stressful and prone to human or technological errors	An interface that enables confident remote management <ul style="list-style-type: none"> • Intuitive navigation • Clear comparison of controller and central database • Descriptive timing archives • Convenient import/export for offline controllers • Hide unused parameters: Phases, detectors, overlaps, schedules, and features
Managing coordination parameters of multiple intersections can be chaotic and tedious	An interface that allows viewing, editing, and/or importing of optimized parameters for synchronized group of intersections. <ul style="list-style-type: none"> • Group Timing Editor <ul style="list-style-type: none"> • Cycle length • Offset • Phase Splits • Sequence/split diagram • Opens when importing UTDF data from external optimization tools
Misaligned intersection operations and/or reporting to external systems when the local controller timing doesn't match the central system	An interface that alerts users to changes in the field and resolves timing discrepancies <ul style="list-style-type: none"> • Signal Timing Audit <ul style="list-style-type: none"> • On-demand or scheduled with notification • Side-by-side comparison with visual indication of mismatches and corrective measure • Automatic audit with notifications for field modifications

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SPECIAL FUNCTIONS

Challenge	Solution
Special events and abnormal traffic events require active management of signal operations	An interface that allows users to override standard operations and issue specific NTCIP commands to address specific traffic control measures <ul style="list-style-type: none">• Remote Pickle: Manual control enable and manual advance• Remote Preempt Route: For multiple intersections and offers automatic cascade with delay• Virtual Detector: Extend phase duration

CCTV / VIDEO DETECTION FEEDS

Challenge	Solution
Visual confirmation of traffic conditions requires support of video from field devices	An interface that allows users to view a live video feed from the intersections they are actively managing <ul style="list-style-type: none">• Digital Spectrum Integration<ul style="list-style-type: none">• View live streams: CCTV and video detection• Pan, tilt, zoom• Activate presets• View camera information

ADAPTIVE SIGNAL CONTROL

Challenge	Solution
Traditional retiming efforts are expensive, limited to snapshots, and increase the project management workload	An interface that allows traffic controllers to automatically assess traffic conditions and re-time signal coordination parameters while providing a clear understanding of the decision and outcome to supporting staff <ul style="list-style-type: none">• <i>Transparency</i> Adaptive Signal Control<ul style="list-style-type: none">• Evaluate conditions and select operation mode: Free, peer-to-peer, adaptive, TOD coordination• Measure split utilization: Equitably distributes green time• Determine optimal cycle length• Measure directional volume and apply equitable favor to heavy direction

SIGNAL PERFORMANCE MEASURES (SPM)

Challenge	Solution
Traditional traffic controller data does not enable the analysis of signal timing effectiveness	An interface that allows users to regularly and remotely review the details of signal timing operations and identify the benefits of changes and/or specific operations <ul style="list-style-type: none">• McCain <i>Transparency</i> SPM Reports<ul style="list-style-type: none">• Collects hi-resolution event data 24/7• Focuses on key measures: AoG, wait time, split failure• Provides deeper insights than status quo ATSPM reports• Improves operational efficiency significantly• Included as a core feature in McCain <i>Transparency</i> TMS