

ITS SERVICE BOOKS

EXECUTIVE SUMMARY

The Intelligent Transportation Systems (ITS) Section is responsible for conducting research; setting strategic directions; and providing guidance in deployment standards and guidelines through electronic and information technology applications to advance transportation safety and mobility for the Ontario highway networks. The ITS Section supports the overall implementation of ITS in all Regions through investments in exploratory pilot projects, and a deployment support program including technical supports in all ITS-related construction projects, technology transfer and training.

The ITS Service Books are envisioned to transfer knowledge and provide implementation guidance for MTO Regional staff, stakeholders and Services Providers while they identify improvement options to highway operations and undertake planning and design assignments for the deployment of Regional ITS projects.

ITS Service Books enables readers to familiarize and understand the purpose, deployment warrant, system components and architecture, deployment considerations, high-level costing, life cycle, performance measure, case studies and emerging technologies.

The Service Books can be referenced for the following applications:

- Guide Regional staff to identify ITS service(s) as an option to address regional traffic and operational issues during the high-level planning of identifying corridor improvements.
- Guide Regional staff to prepare the Term of Reference for preliminary planning and detail design assignments.
- Guide Service Providers to prepare engineering recommendations and costs in response to Region's traffic and operational needs while undertaking preliminary planning and detail design assignments.
- Use as Education and Training materials to bring awareness and understanding of ITS Services for Regional Traffic/Operations/Engineering staff and external stakeholders.

Each Service Book is structured in a consistent layout which aims to address the following questions:

- What are the ITS Services available?
- When is the ITS Service warranted?
- Where can we deploy it?
- Why are we deploying it?
- How much will it cost?
- What are the measurable benefits?

Important Notices

When referring to these Service Books, readers shall be aware of the following considerations.

- The Service Books are not meant to replace the need for a preliminary or detailed design.
- The Service Books focus on solutions the MTO is familiar with and those that have been deployed. There may be other solutions using newer or other technologies that may meet the needs of the ITS applications. Readers should contact the MTO ITS Section for guidance and recommendations.
- Readers should contact the MTO ITS Section for any active pilot programs of new technology/solutions.
- There may be additional capital, operational, and maintenance costs not encompassed in the cost table within each Service Book. These costs may be approximately 20% of the capital cost provided in the Service Books and will include:
 - ❖ Integration costs with existing MTO systems, processes, and procedures

- ❖ Regional cost variances based on the location of the deployment
- The strategy for procurement may vary and impact project planning and costing methods. Procurement may be based on a standalone contract, integrated into new highway/extension works, pavement/structural rehabilitation works and/or a modification to an existing contract. Furthermore, alternative project delivery approaches may be considered such as ATMS-as-a-Service provided in a design-build-operate-maintain (DBOM) model.

Available ITS Service Books as of April 2019

Ten (10) ITS Service Books are the core services that ITS has provided in the past and will like to continue in future for the first edition. ITS Section will release new ITS Service Books when MTO has new/updated policies that would warrant the deployment of new services. The available Service Books include as follows:

- ITS304 Work Zone Management
- ITS903 Freeway Ramp Metering
- ITS906 Roadside Travel Time Information
- ITS909 Traffic Incident Management – Detection and Traveller Information
- ITS913 Permanent Queue Warning
- ITS914 Work Zone or Temporary Queue Warning
- ITS917 Wildlife Detection and Warning System
- ITS1005 En Route Traveller Information
- ITS1201 Weather Warning System – Field Data
- ITS1202 Weather Warning System – Patrol Data

Revisions and Update

As new technologies emerge and business transformations are mandated by new investment directions, the ITS Section recognize the needs to update these Services Books biennially (every two years) at a minimum.

Between these scheduled updates, Service Books may be updated as required to reflect any changes within MTO and/or the industry.

A version control scheme has been devised to indicate the status of progress for ITS Service Books as the management of changes to documents. Please refer to Version Control for details.