



# **NITTEC STRATEGIC PLAN**

**2007**

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## 1. Introduction

The Niagara International Transportation Technology Coalition (NITTEC) is an organization of fourteen transportation and international border crossing agencies in Western New York and Southern Ontario working together to coordinate transportation facilities and operations, taking advantage of new technologies as appropriate, and sharing information with each other and with the traveling public. NITTEC acts as a Transportation Management Center for the bi-national region, and the coordination of ITS services provided by NITTEC to agencies, jurisdictions and the general public in the region has been recognized as a model for metropolitan areas in New York State.

Among the functions NITTEC currently provides, facilitates and/or assists with are:

- Agency collaboration
- Advanced Traffic Management Systems (ATMS) -- the Crossroads traffic information system
- 24/7 Traffic Operations Center (TOC) that uses the traffic management system and disseminates information to member agencies, police, emergency services and the public
- Traffic, including border traffic, management
- Construction coordination
- Incident management
- Public education
- Roadside assistance
- Development of the regional ITS architecture
- Snow and ice coordination
- Traveler information

Having evolved over the decade since its inception, coalition members embarked on a strategic planning process in 2005 to assess the coalition's mission, services, membership and facilities. In its first decade, NITTEC achieved many major milestones; the development of a strategic plan now has allowed NITTEC to address critical questions about its vision of the region's future, the services it should provide in the future, staffing and space requirements and its organizational structure. The answers to these questions provide the basis for addressing the challenges of the future.

### ***Over a Decade of Accomplishment***

NITTEC management staff, members and affiliated agencies were asked (see Chapter 2 Development of the Strategic Plan) to identify NITTEC's major accomplishments since its inception that they particularly valued. Those identified include:

- Successful regional ATMS operations on NYSDOT and NYSTA highways
- Improved coordination and information sharing among member agencies
- Successful service to the general public through sharing information on emergency situations and, thus, helping to reduce traffic problems

- The opportunity provided for agencies to talk with each other and discuss issues
- Successful preplanning for construction projects by member agencies and special events likely to impact normal traffic flow
- Valuable "call out" service (notification to appropriate personnel about situation and/or need) for NYSDOT and Counties
- A valuable public web site
- Being the central repository for snow alerts
- Initial development and use of internal operational audits and performance measures of effectiveness

Working through its standing subcommittees for the Traffic Operations Center, Technology & Systems, Incident Management and Strategic Planning, NITTEC's most recent accomplishments have been numerous.

In the two-year 2005-2006 period, the NITTEC TOC handled over 85,000 telephone calls from member agencies, transportation stakeholders, law enforcement, media and other citizens. During the same period, the TOC handled over 16,500 incidents.

Still, the Buffalo-Niagara regional system is missing critical ITS elements on the approaches to cross-border bridges and expansion to arterials, including coordination of traffic signal systems with the highway elements. And organizationally, strategic plan interviewees identified the need for continuous in-reach to member agencies' management and executive-level officials, and the need for more focused meetings and agendas that address specific interests (e.g., cross border) and reduce the inconvenience of too many meetings and too much travel. It was in this context that the strategic planning process was developed.

### 2005-2006 NITTEC ACCOMPLISHMENTS

- A new website with live traffic map page and the ability to display CCTV images
- Development of a consistent dynamic message signing strategy and criteria for special events, weather situations and construction projects; development of standards for portable variable message sign use
- Initiatives with the media to disseminate traffic and incident data to the widest possible demographic
- Funding for the City of Buffalo coordinated signal system
- Strengthening of the Incident Management team as the forum for incident management in the region, and development and dissemination of a First Responders training program and Emergency Responder Checklist
- Conducting of post-incident critiques and tracking of incident management and system performance in order to evaluate reliability and effectiveness and identify areas that need improvement
- Outfitted emergency response trailers for quick deployment of traffic control devices to incident scenes
- Updating of the regional ITS architecture, involving extensive stakeholder input, as a roadmap for transportation systems integration and as a planning tool
- Establishment of communication and dispatch protocols for Erie County CHARMS system integration
- Coordination of traffic management plans for major construction projects
- Traveler information planning and strategies for special events
- Providing agency response notification for the snow and ice program
- Establishment of information sharing and communication protocols and coordination with the National Weather Service
- Incorporation of Canadian and US border crossing plans into the Crossroads system, and the finalized Border Traffic Management Plan
- Development of TRANSMIT/Border Implementation Plan and support for cross border installation to provide border crossing time on both sides of the border
- Planning for expanded HAR coverage
- Initiation and completion of a strategic planning process

***Role of the Strategic Plan***

The importance of strategic planning for NITTEC is its ability to guide the organization toward a preferred long-term future. The Strategic Plan also presents intermediate steps that can guide the organization and the region toward solutions to the most pressing transportation challenges of today and tomorrow.

The Strategic Plan has been developed to guide NITTEC toward the realization of a renewed vision of mobility and opportunity in the Buffalo-Niagara region over the next decade of the 21st century and beyond. As the Strategic Plan is implemented, and agencies and the public respond to its mission and strategies, a continuing dialogue is anticipated on the role NITTEC can play in the region's transportation future.

## 2. Development of the Strategic Plan

NITTEC's Strategic Planning Committee developed a scope of work and solicitation for consultant assistance to develop the Strategic Plan. The strategic planning process included the following steps:

### *A. The Strategic Planning Process*

#### 1. Data Collection and Meetings

**Database.** A database of information about NITTEC, member agencies and other stakeholders in the region was collected, including an inventory of regional ITS resources, including:

- Stakeholders' operations and existing systems
- Existing ITS plans of stakeholders and NITTEC
- Existing and planned ITS equipment/systems
- Current NITTEC space arrangement, staff size, TOC, and current state of operations
- Current functionalities and services performed by NITTEC
- Existing NITTEC organizational structure

**NITTEC Management Interviews.** Interviews were conducted with NITTEC management staff to build upon the information collected and focus on concerns and issues that NITTEC and the region face regarding transportation/traffic and technology. Management staff were asked about their vision of the regional ITS system, NITTEC's current mission and how they view the future role of NITTEC in the region, NITTEC goals, needed regional improvements, institutional and policy issues, regional stakeholders, NITTEC membership and organizational structure, management/administrative issues, current functionalities and services performed by NITTEC and potential services.

These interviews also reviewed the current state of practice and opportunities for the future, including:

- Technologies being used
- Potential goals and strategies for NITTEC, including needed improvements, need to maintain 24/7 operations, future technical needs, etc.
- Institutional coordination/integration issues and/or barriers
- Existing technical expertise and resources
- Existing and planned systems and technologies

**Meetings.** Discussions were held initially with the NITTEC Executive Council, the Regional Transportation Coordination and Management Council (RTC/MC), and Strategic Planning Subcommittee to describe the process and purposes of the Strategic Plan, concerns and issues that NITTEC and the region face regarding transportation/traffic and technology, their vision of a regional ITS system and the role that NITTEC should

play in that system. The purpose of these meetings was to gain an understanding of members' goals as participants in NITTEC, their views of NITTEC's objectives, and expectations of the strategic planning process. Later in that process, a draft revised mission statement and alternative approaches for development of such a mission statement, membership criteria and organizational structure, and services to be offered in the future were also discussed with these groups.

## 2. Services

Existing services provided by NITTEC provided the basis for consideration of any additional, alternative and future services on which NITTEC should focus.

**Interviews with NITTEC Members.** Interviews were conducted with member agencies, in many cases with the individual agency's executive leader and principal NITTEC liaison, to gather a variety of observations and perspectives. One focus of these interviews was on existing services provided by NITTEC, as well as any additional or alternative services that could be provided in the future. Interviewees were questioned about their perceptions of regional agencies with the most extensive ITS infrastructure and responsibilities in the region, and that are most reliant on NITTEC for support, as well as criteria for NITTEC membership, such as value, contribution, and other relevant factors.

**Meeting with the Greater Buffalo Niagara Regional Transportation Council (GBNRTC).** An interview also was conducted with the executive leader of the local Metropolitan Planning Organization (MPO), the Greater Buffalo Niagara Regional Transportation Council (GBNRTC) to review and discuss NITTEC's role, with a particular focus on services that would provide mutual benefits to the Coalition and GBNRTC by integrating planning, operations and data sharing efforts and activities, as well as institutional and funding issues.

**Alternative Scenarios for Future NITTEC Services.** Based on the description of existing services provided by NITTEC in Task 1, the input received through the management and member agency interviews, and knowledge of comparable organizations, a list of potential future services for NITTEC, that builds upon its capabilities and perceived strengths and considers coordination and information sharing among agencies and information sharing with the public, was prepared.

After review and concurrence on the list of future services by NITTEC member agencies, the strategic planning process called for creating a matrix matching each category of future services to the additional resources needed to support it, including staffing and facility space. A relative deployment timeline (short, medium and long range) was also developed for each potential future service.

## 3. Organizational Structure and Membership

NITTEC's current organizational structure and membership were reviewed in relationship to its mission and current and potential new services. As part of the interviews with each agency, the agency's expectations and rationale for belonging to and participating in NITTEC was discussed to elicit expectations and understanding of NITTEC's role and

services. Potential new members that could benefit from NITTEC current services also were identified.

#### **4. Facilities Needs**

As part of the data collection effort, an inventory of the current NITTEC space arrangement, equipment, systems, staff size, and functionality was documented. This information then was compared against the NITTEC mission/functions and identified member expectations in relation to providing services. As part of this step in the strategic planning process, any needed changes to better serve NITTEC's mission and accommodate current expectations of services and the prioritized list of future services were considered, including staffing requirements, expansion capability (both immediate and long term), and technology demands on equipment and space.

Using input obtained through the member agency interviews, the advantages/disadvantages of the current co-location with NFTA., and the advantages/disadvantages of co-locating with other potential stakeholders and partners or locating to a separate location -- along with the technical and institutional issues associated with such co-location -- were also considered.

#### **5. Strategic Plan**

The development of this Strategic Plan began with a NITTEC Strategic Planning Committee workshop to assess the strengths and weaknesses of the organization, and the opportunities and threats it faces. These are described in the remainder of this chapter below. Other key elements in the development of the Strategic Plan -- the member agencies' vision of the Buffalo-Niagara region and the role of NITTEC in the region's future transportation system, and the results of the services, organizational structure and membership, and facilities needs analyses -- are presented in subsequent chapters.

The centerpiece of the strategic planning process was the reconsideration of NITTEC's mission statement. The most important attributes of NITTEC now and in the future were distilled from the member agency interviews and presented in the form of a proposed new mission statement and high-level goals. The mission statements of other transportation and other relevant agencies and membership organizations were compiled for comparison. The Strategic Planning Committee then reviewed these examples, and the existing mission statement, to refine the new NITTEC Mission Statement below.

### **NITTEC MISSION STATEMENT**

**The mission of the Niagara International Transportation Technology Coalition (NITTEC) is to improve mobility, reliability and safety on the regional bi-national multimodal transportation network through information sharing and coordinated management of operations.**

## NITTEC STRATEGIC GOALS

Facilitate the use of the bi-national regional transportation network and the ability to move seamlessly from one transportation facility to another.

Provide easily accessible, coordinated, clear and concise, real-time information about traffic conditions, transit times, weather, construction locations, special events, and available transportation options for getting from point of origin to destination.

Maximize the free flow of traffic, reduce congestion and enhance transit operations by coordinating operation of traveler information and transportation management technologies among member agencies.

Facilitate the coordinated management of nonrecurring roadway incidents by providing prompt notification and comprehensive information sharing, and using transportation technologies to divert traffic away from incidents to the extent possible.

Facilitate the coordinated management of regional construction activities from planning and programming through design to construction, including review of regional project programming to identify potential conflicts; identify ITS and operational opportunities within scheduled projects and coordinate ongoing projects through ITS deployment and regional information sharing.

Facilitate the coordinated management of other planned activities affecting regional transportation through advanced information sharing, coordination of planning and scheduling, and the use of information technologies to encourage alternative routes.

Maximize the potential of the bi-national transportation network to strengthen the region's economy and facilitate secure goods movement and personal international travel by effectively coordinating and balancing traffic flows among the areas bridges and their customs operations.

Promote the uniform implementation and application of infrastructure-dependent safety technologies among regional transportation facilities as they become available.

Identify opportunities and strengthen integration of planning and operations, such as data sharing and including operations in the Congestion Management Process.

Continue to build on the strength of the coalition in facilitating interagency communication and information sharing, coordination and consensus building.

Continue to serve as a technical resource and provide a leadership role for member jurisdictions and agencies in the coordinated implementation and use of transportation technologies that improve mobility, reliability and safety on the regional transportation network.

Coordinate the development of a regional concept for transportation operations management plan.

Seek opportunities to structure coalition activities so as to attract mutually-beneficial participation by different levels of government and transportation-related stakeholders in the region.

## ***B. Organizational Self-Assessment***

A consideration of current and future conditions provided an opportunity to identify the strengths, weaknesses, opportunities and threats that confront NITTEC — a “SWOT” analysis. The results helped to establish a framework for the development of the new mission statement and the strategies for services, membership and organizational structure and facilities needs to be implemented.

### **Strengths: What does NITTEC do well?**

Members identified interagency communication and coordination – consensus building – as among NITTEC’s most important strengths. Information sharing is also a primary mechanism for technological coordination among agencies: technological exchange and experience sharing, leading to assurance of regional interoperability, development of standards, compliance and best practices. As the regional ITS technological resource, NITTEC serves as the region’s forum for discussion in an open and neutral environment, problem solving, new ideas and conflict resolution.

Information dissemination is also one of NITTEC’s strengths; members specifically cited construction information gathering and dissemination via variable message signs and Travelers Advisory Reports (TAR), as well as construction coordination, as something that NITTEC does particularly well.

Providing assistance for Incident Management by being the source for information to which local and regional agencies turn was also cited as a particular strength.

NITTEC’s Traffic Operations Center provides 24/7 service, filling service gaps in traffic management at times when other agency centers are not operating.

In general, agencies believe that NITTEC provides good value for the regional dollars that support its operations. One member with experience in addressing similar functions elsewhere in New York State, the New York State Department of Transportation, finds NITTEC to be particularly efficient at what it does, saving money relative to NYSDOT’s costs in other regions.

NITTEC provides leadership for regional interagency coordination, being a professional resource with trained, experienced staff, providing stability and responsibility for development and maintenance of the regional ITS architecture.

Public outreach and information dissemination to the traveling public was also cited as a strength.

### **Weaknesses**

Lack of participation by some agencies was cited as one of the organization’s significant weaknesses. That is one, but not the only, reason for a “disconnect” with some agencies. Lack of education of agencies as to the benefits of membership may contribute to the problem, as well as a perceived inequity of benefits to members.

Lack of focus on its mission – or, perhaps, an unclear mission – was cited as another issue. NITTEC has not been as pro-active in advancing needs regionally as it might have been, including updating the regional ITS architecture.

NITTEC's lack of power to prioritize regionally beneficial ITS projects was cited by another member as a weakness of the organization.

## **Opportunities**

Opportunities for NITTEC were considered in the context of the Strategic Planning Committee members' vision of services and technologies in the region's transportation future (see Chapter 3).

Several of the opportunities cited represent a continuation of and building on the things that NITTEC already does well, for example, continuing to be a technical resource to member agencies, providing a leadership role, and assisting in planning/coordination of construction projects much further in advance.

In its role of multi-agency, multi-modal information dissemination, members foresaw opportunities in providing real-time travel information (global), personalized 511 and other personalized ITS services.

Border crossings represent additional opportunities for NITTEC involvement, particularly for commercial traffic, such as provision of real time travel time information, and coordination/dissemination of international border crossing information among agencies.

NITTEC should seek to develop high-tech partnering opportunities, seek additional funding opportunities (from ITS-related funding sources) and explore the possibility of limited data warehousing sales.

NITTEC might also play a role in transportation security for the region, develop virtual TMCs, and become the clearinghouse for all agencies' travel information.

## **Threats**

The most frequently cited threat to NITTEC relates to how NITTEC can function in relationship to and coordinate with the major U.S. member agencies with headquarters outside of the region (NYSDOT and the New York State Thruway Authority) which must balance regional versus statewide requirements and standards (e.g., for signals and freeway management systems) and possible local redundant operations (NYSTA TSOC and NYSDOT Regional Operation Center).

NITTEC's inability to function as an independent legal entity was seen as a potential threat to the organization. (With no separate legal standing of its own, NITTEC must be "hosted" by another agency that is responsible for employment, contracts, et al.; NITTEC is currently hosted by the Niagara Frontier Transportation Authority.) Lack of broad-based financial support (including from U.S./Canada federal and state/province sources) – in part due to its lack of independent legal standing – was also cited as a threat.

Some of the weaknesses cited in that part of the analysis, such as lack of attendance and participation by some members, were seen as potential threats to the organization, as is insufficient high-level support within some member agencies.

Other potential threats to the organization are employee turnover and the continual evolution of technology – NITTEC's ability to keep up with the technological changes and the costs of keeping up.

### 3. A Vision of the Region's Transportation Future

#### *Strategic Planning Committee Workshop*

In its initial workshop session, members of the Strategic Planning Committee were asked to describe their vision of ITS, traffic information and traffic management – the desired outcomes they would like to see in the Buffalo-Niagara region. Not surprisingly for a technologically-oriented organization, most of those desired outcomes reflect the development and use of existing and new technologies to address current problems.

In describing desired outcomes for the region's transportation future, different time horizons were defined: within the next 5 years, between 5 and 10 years from now, in approximately 10 years from now, and from 10 to 20 years in the future.

#### **Within the Next 5 Years**

- Utilization of ITS data to support GBNRTC's planning efforts
- Incident management linked to diversion plans
- Integration and dissemination of highway and transit information to agencies and the public
- Operation of Driver/Queue Notification System for Canadian-side bridge operations
- Integration of weather information/data for traveler information, and for maintenance operations
- Comprehensive bi-national construction and maintenance coordination

#### **Between 5 and 10 Years from Now**

- Border crossing clearance enhancements, e.g., bridge staffing levels, pre-clearance
- Regional adaptive control of signal operations

#### **Approximately 10 Years from Now**

- Integrated operations based on real time data
- A comprehensive multimodal Transportation Management System, including freeways, arterials, and transit

#### **10-20 Years in the Future**

- ITS and operational improvements that will facilitate mobility for the region

#### *Member Interviews*

During the member agency interviews, the vision of the region's transportation future and NITTEC's role in that vision also were explored. Agencies' responses as to the vision/desired outcomes tended to fall into the categories of: NITTEC as an organization, addressing the particular needs of New York State agencies with headquarters outside the region, bi-national/border crossing issues, and more technology-specific.

### **The NITTEC Organization**

- Consensus achieved on NITTEC's mission, roles and responsibilities
- Confirmed commitment to NITTEC's operation of regional traveler information and traffic management technology systems
- Continued focus on management of, rather than responding to, events
- Increased focus on multi-modal, multi-agency and bi-national aspects
- Coordinated regional evacuation and alternate/diversion routes
- Future funding opportunities, e.g., U.S. federal earmarks, pursued
- Data/information packaged to create revenue and other opportunities
- Engagement with GBNRTC to assure coordinated planning and operations

### **Particular Needs of NYSDOT and NYSTA**

- Proper coordination between regional and central offices:
  - Regional centers will operate and statewide headquarters offices will manage
  - Proper integration between regional and statewide systems
- Coordinated regional and statewide concept of operations plans
- Ability to share operations throughout the state and region
- Standard communications and operations protocols, with NITTEC having authority to make decisions around the approved protocols
- Integration of freeway systems with arterial systems
- NITTEC's coverage expanded to all elements of the National Highway System in the region as well as the strategic truck network
- Regional approaches to construction standardized

### **Bi-National and Cross-Border**

- Increased focus on international commercial traffic and tourism, which are critical to the region's economy
- A coordinated transportation system that serves an enhanced vision of commerce and the need to attract and facilitate industry and business throughout the region
- Provision of information by NITTEC to potential users of the Niagara–Greater Toronto Area (GTA) corridor: trucking, transit and commuter communities
- Engagement with Canadian and U.S. customs/border agencies, through the bridge operators, to address their needs
- Engagement with the bridge operators to coordinate operations, reduce border traffic problems, and redirect traffic among bridges to balance traffic flows
- Integration with other border crossing initiatives, such as those included in the "Action Plan for Intelligent Border Crossing," with a view of pursuing consistency between the NITTEC region crossings and other bi-national crossings

**Technological**

- Integration of systems/information with the EMS service providers
- Crossroads TMS tied into the COMPASS and other systems
- Approved operational procedures
- NITTEC website as one stop shop for regional transportation information
- Use of agency fiber network to share information and images
- Redundancy in management centers provided; NITTEC and others (e.g., COMPASS) providing mutually-supportive back-up for each other

## 4. Services

As part of its strategic planning process, NITTEC reviewed the services it has been providing to member agencies, other agencies and jurisdictions and the general public in the Buffalo-Niagara region in the context of:

- the vision for the future of the region, the organization's strengths and weaknesses, and the opportunities and threats it faces, as identified by members of the Strategic Planning Committee, and
- the new NITTEC Mission Statement

The purpose was to determine which current services NITTEC ought to continue to provide, and which new services should be added during the coming decade and beyond.

### *Current Services*

NITTEC provides real time traffic and roadway information to improve traffic flows and enhance emergency assistance for motorists using the transportation system. Real time information reduces secondary incidents and improves response time by police and emergency vehicles. NITTEC provides real time driving conditions to help motorists make informed decisions so they reach their destinations, safely and efficiently. Less time spent in congested traffic means less energy consumption, less air pollution, reduced secondary incidents and reliable travel times for personal and business travel.

#### **Traffic Operations Center (TOC)**

The NITTEC 24-hour centralized operation center that collects and analyzes real-time traffic information for the purpose of distribution to NITTEC members, stakeholders and the public

#### **Closed Circuit Television (CCTV)**

The system of cameras that provides the TOC with live images of the highway network to identify traffic congestion and assist in incident detection, verification and clearance

#### **Dynamic Message Signs (DMS)**

A series of signs stationed along the highway network that display various messages to inform motorists of traffic conditions

#### **Highway Advisory Radio (HAR)**

Radio system to advise motorists of traffic conditions that may affect their travel, operating in conjunction with an advisory sign system that notifies motorists when a radio message is playing

#### **TRANSMIT**

A system that utilizes E-Zpass to gather vehicle travel time information that can be used for detection of vehicular incidents, traffic congestion, and for notification of existing travel times

**Road Weather Information System (RWIS)**

A series of sensors that gather weather and road information to provide motorists with travel condition forecasts and to assist maintenance crews with the efficient treatment of highway surfaces

**Skyway Closing System**

An advanced warning system that alerts motorists to closures on the Buffalo Skyway in an effort to reduce delays and increase safety

**Advanced Traffic Controllers (ATC)**

A series of traffic signal controllers and counting stations that transmit real-time traffic information to the TOC to assist in incident detection and response and identify traffic congestion

***The Strategic Plan for NITTEC Services***

The visioning exercise undertaken by the Strategic Planning Subcommittee had initially identified a number of potential new technologies to be used in regional operations, and through the subsequent interviews, management and member agencies expanded upon their perceptions of the services NITTEC provides and that it might provide in the future.

The list of future services that NITTEC should provide was considered in terms of how such services can help to fulfill the organization’s mission of improving regional bi-national mobility, reliability and safety through information sharing and coordinated management of operations.

Four general categories of NITTEC services have been defined:

- Construction and Event Planning & Coordination
- Operational Services
- ITS Deployment and Operations
- Other Services

ITS Deployment and Operations is further defined by the type of ITS services and/or elements of the regional ITS system:

- Communications Network
- Advanced Transportation Management Systems (ATMS)
- Regional Network and Center to Center Systems
- Data Warehousing
- Advanced Traveler Information Systems (ATIS)
- Disaster Recovery

**Construction Coordination & Event Planning Services**

Helping to coordinate construction activities and both planned special events and unplanned events, such as those resulting from weather/storms -- by facilitating the means to collect, integrate and share information and by disseminating that information -- were frequently identified as needed, desirable and valued regional services for NITTEC.

NITTEC will provide the following services in the category of Construction Coordination and Event Planning:

- NITTEC will work with agencies to standardize the regional approach to communicate, coordinate and manage construction and special events information.
- NITTEC will coordinate and manage the development and implementation of regional traffic management plans and activities related to construction and special events.
- NITTEC will coordinate and manage the development and implementation of regional evacuation and alternate/diversion routes plans and activities.
- NITTEC will procure a web-based regional event planning tool to collect and integrate information, and coordinate and assist agencies with their planned activities.

Note: Standards based data sharing and communication (i.e., Traffic Management Data Dictionary) will be used as much as possible in these activities.

### **Operational Services**

Coordinated regional traffic management, including but not limited to the ITS elements of the transportation system, was a need and role for NITTEC identified during the interviews. For some time now, NITTEC has been managing operations of ITS elements of the system for a couple of its larger member agencies, and NITTEC's role in coordinating operations has been lauded. Additional member agencies have suggested that NITTEC assume similar responsibilities in the future for existing and new regional system elements, and this operational services role now has been clearly recognized in the new Mission Statement.

NITTEC will provide the following services in the category of Operational Services:

- NITTEC will continue to gather and verify operational information and distribute to agencies and people using the existing CROSSROADS and public web systems.
- NITTEC will continue to operate and maintain existing ITS systems and will continue to provide existing Traffic Operations Center (TOC) services including:
  - Incident Related Activities
  - Roadway Maintenance Related Activities
  - ITS Element Operation, Maintenance, and Service Tracking
  - Construction Coordination and Reporting
  - Weather Monitoring / Snow & Ice Related Activities
  - Amber Alert/Public Service Messaging
- NITTEC will lead and work with agencies to develop an approved regional operational procedure, protocols and policies, coordinated with statewide operational policies as applicable.

## **ITS Deployment and Operations Services**

The impetus for the formation of our “transportation technology” coalition was the desire of regional jurisdictions and agencies to learn and share information about and coordinate a regional approach to ITS technologies. In the next 10 years and beyond, NITTEC will continue to support agencies in the region with the deployment and operations of various ITS elements including:

- Communications Network
  - Advanced Transportation Management Systems
  - Regional Network and Center to Center (C2C) Systems
  - Data Warehousing
  - Advanced Traveler Information System
    - Public Web
    - 511 Interactive Voice Recognition (IVR) & Alert
  - Disaster Recovery
- NITTEC will continue to work with agencies to deploy additional ITS elements in the field and at operations centers.
- NITTEC will work with the appropriate member agencies to assure proper integration between their regional and statewide systems as applicable.
- NITTEC will continue to adopt and deploy any available and upcoming ITS standards.

### **Communications Network**

- NITTEC will work with agencies to utilize the available fiber network and expand it as needed to connect systems and Traffic Management Centers (TMCs) and coordinate and facilitate the use and maintenance of the network. This network will be used to share information and videos among agencies.
- NITTEC will facilitate a communications backup system using a combination of leased line services and wireless network.

### **Advanced Transportation Management Systems (ATMS)**

Currently, NITTEC is providing operations for the following agency ATMS systems: NYSDOT Region 5, NYSTA Buffalo Region, Buffalo and Fort Erie (Peace Bridge) Public Authority, Niagara Falls Bridge Commission, and NYSDOT and NYSTA TRANSMIT system. NITTEC also maintains all elements of these systems that are located within NITTEC’s own facility.

- NITTEC will continue to operate member agencies’ ATMS systems (CROSSROADS) and will provide technical, management, integration and operations and maintenance support services in expansion of existing systems as well as deployment of new systems.
- In agreements with the City of Buffalo and NYSDOT Region 5, NITTEC will soon provide scenario-based operations services for their signal systems. This service will be available to other signal systems in the region.

- The region is expanding TRANSMIT coverage in both countries. NITTEC will provide the ability to integrate, host and operate any future TRANSMIT expansions in the region, and will maintain all operations elements located at NITTEC.
- NITTEC will work with the bridge operators to coordinate operations, reduce border traffic problems, and redirect traffic among bridges to balance traffic flows.
- In the future, NITTEC will be prepared to operate the southern portion of the COMPASS system on behalf of the Ministry of Transportation Ontario, as well as to maintain the system elements required for operation that would be located at NITTEC.
- Overall, NITTEC will expand its operations and coverage within the region with the goal of integrating systems and operations in the region across modes and agencies.

### **Regional Network and Center to Center (C2C) Systems**

- NITTEC will work with agencies to deploy a multi-agency, multi-modal, bi-national transportation information sharing network in the region. This secure network will provide agencies and other approved users the ability to share information, such as regarding:
  - Construction
  - Special events
  - Incidents
  - Weather
  - Transportation conditions
  - Others
- The regional network will provide agencies with the ability to enter their planned construction and special events.
- The regional public web, 511 IVR system and personalized alert system will subscribe to this regional network, via the C2C, as their source of data.
- The regional network will provide data to external information service providers as well as media per adopted information policy.
- NITTEC will work with agencies to adopt and deploy a regional C2C system. This will be used to facilitate the automated data exchange among various systems and with the regional agency network.
- NITTEC will work with others as needed to develop automated data interfaces to the following systems using the adopted C2C product:
  - 911 Computer Aided Dispatch (CAD) System
  - TRANSMIT
  - CROSSROADS
  - CARS
  - City of Buffalo
  - COMPASS
  - Others

### **Data Warehousing**

NITTEC members have identified the need for archiving transportation information for planning and other uses.

- NITTEC will deploy a regional data warehousing tool to archive the information in the regional network and to provide for future use of the data by planning organizations and agencies.

### **Advance Traveler Information System (ATIS)**

#### **Public Web**

- NITTEC will use the regional agency network to expand on the existing regional public web and provide a comprehensive source of transportation information to the traveling public. The regional public web site will be the one stop shop for the public to seek transportation information such as:
  - Roadway and border crossing conditions
  - Transit information
  - Weather
  - Links to transit itinerary system
  - Ride sharing and paratransit
  - Park and Rides and parking

#### **Regional IVR**

- The regional network will be used as the database for future IVR and personalized alert systems. NITTEC will work with NYSDOT, Ministry of Transportation and others to facilitate the deployment of a seamless IVR system across borders and to assure compliance with state/province-wide and other agency requirements and policies.

#### **Personalized Alert System**

- NITTEC will host a personalized alert system that allows the public to register via the website to receive alerts.

#### **Disaster Recovery Sites**

- NITTEC will provide redundancy and fault tolerance features for all systems. This will assure continuous operation in the event of any primary server failures, as well as the ability of the NITTEC TMC to continue its operation.
- Agencies will select a location to serve as the disaster recovery site, providing the ability to resume NITTEC operations in the event of TMC building failure.

#### **Other Services**

- NITTEC will continue to provide the opportunity for agencies to talk with each other, share knowledge and discuss issues.
- NITTEC will continue to work with GBNRTC to coordinate regional transportation planning and operations activities.
- NITTEC will pursue future funding opportunities to employ additional ITS technologies, enhance regional operations and provide information to the public.
- NITTEC will secure funding to promote and advertise regional traveler information to public.
- NITTEC will investigate any potential opportunities to package and sell and/or barter regional transportation information to other information service providers or users to offset portions of the cost of operations.

- NITTEC will investigate the potential to gather and analyze the available data and develop forecasting models to enhance regional transportation operations.
- NITTEC will work with Canadian and U.S. customs/border agencies and the bridge operators to address their needs and assist with their operations.

***Timeline for Services Expansion***

Additional services listed above are planned for implementation in three timeline periods: Current Services and Early Action (2007-2008), Short Term (2009-2012) and Mid-Term (2013-2017). The timeline for introduction of each additional service is shown in Table 4.1.

**Table 4.1 Services Timeline**

Description of Services	Early Action '07 - '08	Short Term '09 - '12	Mid-Term '13 - '17
<b>Construction Coordination &amp; Event Planning</b>			
NITTEC will work with agencies to standardize the regional approach to communicate, coordinate and manage construction and special events information.	x		
NITTEC will coordinate and manage the development and implementation of regional traffic management plans and activities related to construction and special events.	x		
NITTEC will coordinate and manage the development and implementation of regional evacuation and alternate/diversion routes plans and activities.	x		
NITTEC will procure a web-based regional event planning tool to collect and integrate information, and coordinate and assist agencies with their planned activities.	x		
NITTEC will use standards based data sharing and communication (i.e., Traffic Management Data Dictionary) as much as possible in these activities.	x	x	x
<b>Operational Services</b>			
NITTEC will continue to gather and verify operational information and distribute to agencies and people using the existing CROSSROADS and public web systems.	x	x	x
NITTEC will continue to operate and maintain existing ITS systems and will continue to provide existing Traffic Operations Center (TOC) services.	x	x	x
NITTEC will lead and work with agencies to develop an approved regional operational procedure, protocols and policies, coordinated with statewide operational policies as applicable.	x		
<b>ITS Deployment and Operations</b>			
NITTEC will continue to work with agencies to deploy additional ITS elements in the field and at operations centers.	x	x	x
NITTEC will work with the appropriate member agencies to assure proper integration between their regional and statewide systems as applicable.	x	x	x
NITTEC will continue to adopt and deploy any available and upcoming ITS standards.	x	x	x
<b>Communications Network</b>			
NITTEC will work with agencies to utilize the available fiber network and expand it as needed to connect systems and Traffic Management Centers (TMCs) and coordinate and facilitate the use and maintenance of the network. This network will be used to share information and videos among agencies.		x	

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NITTEC will facilitate a communications backup system using a combination of leased line services and wireless network.		<b>x</b>	
<b>Advanced Transportation Management Systems (ATMS)</b>			
NITTEC will continue to operate member agencies' ATMS systems (CROSSROADS) and will provide technical, management, integration and operations and maintenance support services in expansion of existing systems as well as deployment of new systems.	<b>x</b>	<b>x</b>	<b>x</b>
In agreements with the City of Buffalo and NYSDOT Region 5, NITTEC will soon provide scenario-based operations services for their signal systems. This service will be available to other signal systems in the region.	<b>x</b>	<b>x</b>	<b>x</b>
The region is expanding TRANSMIT coverage in both countries. NITTEC will provide ability to integrate, host and operate any future TRANSMIT expansions in the region, and will maintain all operations elements located at NITTEC.	<b>x</b>	<b>x</b>	<b>x</b>
NITTEC will work with the bridge operators to coordinate operations, reduce border traffic problems, and redirect traffic among bridges to balance traffic flows.		<b>x</b>	<b>x</b>
In the future, NITTEC will be prepared to operate the southern portion of the COMPASS system on behalf of the Ministry of Transportation Ontario, as well as to maintain the system elements required for operation that would be located at NITTEC.			<b>x</b>
Overall, NITTEC will expand its operations and coverage within the region with the goal of integrating systems and operations in the region across modes and agencies.	<b>x</b>	<b>x</b>	<b>x</b>
<b>Regional Network and Center to Center (C2C) Systems</b>			
NITTEC will work with agencies to deploy a multi-agency, multi-modal, bi-national transportation information sharing network in the region. This secure network will provide agencies and other approved users the ability to share information.	<b>x</b>	<b>x</b>	
NITTEC will work with agencies to adopt and deploy a regional C2C system. This will be used to facilitate the automated data exchange among various systems and with the regional agency network.	<b>x</b>	<b>x</b>	
NITTEC will work with others as needed to develop automated data interfaces to, among other systems, 911 Computer Aided Dispatch (CAD), TRANSMIT, CROSSROADS, CARS, City of Buffalo, and COMPASS, using the adopted C2C product.	<b>x</b>	<b>x</b>	
<b>Data Warehousing</b>			
NITTEC will deploy a regional data warehousing tool to archive the information in the regional network and to provide for future use of the data by planning organizations and agencies.		<b>x</b>	

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<b>Public Web</b>			
NITTEC will use the regional agency network to expand on the existing regional public web and provide a comprehensive source of transportation information to the traveling public.	<b>x</b>	<b>x</b>	
<b>Regional IVR</b>			
NITTEC will work with NYSDOT, Ministry of Transportation and others to facilitate the deployment of a seamless IVR system across borders and to assure compliance with state/province-wide and other agency requirements and policies.		<b>x</b>	
<b>Personalized Alert System</b>			
NITTEC will host a personalized alert system that allows the public to register via the website to receive alerts.		<b>x</b>	
<b>Disaster Recovery Sites</b>			
NITTEC will provide redundancy and fault tolerance features for all systems. This will assure continuous operation in the event of any primary server failures, as well as the ability of the NITTEC TMC to continue its operation.	<b>x</b>	<b>x</b>	
Agencies will select a location to serve as the disaster recovery site, providing the ability to resume NITTEC operations in the event of TMC building failure.	<b>x</b>		
<b>Other Services</b>			
NITTEC will continue to provide the opportunity for agencies to talk with each other, share knowledge and discuss issues.	<b>x</b>	<b>x</b>	<b>x</b>
NITTEC will continue to work with GBNRTC to coordinate regional transportation planning and operations activities.	<b>x</b>	<b>x</b>	<b>x</b>
NITTEC will pursue future funding opportunities to employ additional ITS technologies, enhance regional operations and provide information to the public.	<b>x</b>	<b>x</b>	<b>x</b>
NITTEC will secure funding to promote and advertise regional traveler information to public.		<b>x</b>	<b>x</b>
NITTEC will investigate any potential opportunities to package and sell and/or barter regional transportation information to other information service providers or users to offset portions of the cost of operations.		<b>x</b>	
NITTEC will investigate the potential to gather and analyze the available data and develop forecasting models to enhance regional transportation operations.		<b>x</b>	
NITTEC will work with Canadian and U.S. customs/border agencies and the bridge operators to address their needs and assist with their operations.		<b>x</b>	

## 5. Resources: Staffing, Equipment and Space Needs and Costs

In order to support expansion of services, NITTEC will require an expansion of staff and equipment. The expansion of staff and equipment will, in turn, require additional space. Both were considered as part of development of this Strategic Plan consistent with the new mission statement and high level goals.

### *Staff*

The Strategic Planning Committee undertook a detailed staffing impacts analysis to determine the additional operations, engineering and administrative staff needed to support each category of services through the Early Action and Short Term periods. The needed additional staff, expressed in terms of Full-Time Equivalents (FTEs) and/or percentages of an FTE is shown in Table 5.1.

A summary of the staffing impacts analysis is shown in Table 5.2. There is a need for four additional staff by the end of 2008, and six more staff by the end of 2012, to support the expanded services called for in this Strategic Plan.

Table 5.3 shows the additional staffing budget required as NITTEC grows from its current staffing level of 12.5 FTEs to a total of 22.5 FTEs by 2012. The cost of the additional staff required by the end of 2008 is calculated in current dollars to be \$285,000 annually, and the additional staff to be added between 2008 and the end of 2012 will require an additional \$375,000 annually, for a total cost of an additional \$660,000 annually for staff by the end of 2012.

### *Equipment and Space*

A space analysis was undertaken to determine how much additional space is needed to house the proposed additional staff and expanded equipment needs required to undertake the additional services. The needed additional space to accommodate the expansion of services and staff through the Early Action and Short Term periods is shown in Table 5.4.

Table 5.4 also shows the additional cost of the space required. In the Early Action period, an additional 200 square feet is required, which at a cost of \$15 per square foot will mean an additional annual budget need of \$3,000. After 2008, there is a need for an additional 1,750 square feet of expansion at an additional annual cost of \$26,250. The total of 5,295 square feet of space needed by the end of 2012 for current and additional staff is estimated to cost about \$80,000 annually.

Table 5.1 Staffing Impacts Analysis by Category of Services

Services	Existing Condition						Additional Staff Early Action (2007-2008)						Additional Staff Short Term (2009-2012)						TOTAL STAFF in 2012	
	Operations		Engineering		Admin.	Total Current Staff	Operations		Engineering		Admin.	Total Additional Staff	Operations		Engineering		Admin.	Total Additional Staff		
	Ops Mgmt	Ops	Systems/ Network	Project Mgmt			Ops Mgmt	Ops	Systems/ Network	Project Mgmt			Ops Mgmt	Ops	Systems/ Network	Project Mgmt				
Construction Coordination & Event Planning							0.50		0.25	0.25										
Operational Services							0.25	1.00	0.25				0.50	2.00						
ITS Deployment and Operations										0.25						0.25				
Communications Network															0.25					
Advanced Transportation Management Systems (ATMS)							0.25		0.25	0.25			0.50		0.25					
Regional Network and Center to Center (C2C) Systems										0.25					0.25	0.25				
Data Warehousing																0.25				
Public Web									0.25											
Regional IVR															0.25	0.25				
Personalized Alert System																				
Disaster Recovery Sites																				
Other Services																				
<b>Total Additional Staff -</b>	<b>1.00</b>	<b>7.50</b>	<b>2.00</b>	<b>1.00</b>	<b>1.00</b>	<b>12.50</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>0.00</b>	<b>4.00</b>	<b>1.00</b>	<b>2.00</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>	<b>6.00</b>	<b>22.50</b>	
	<b>Note 1</b>	<b>Note 2</b>	<b>Note 3</b>	<b>Note 4</b>	<b>Note 5</b>		<b>Note 6</b>	<b>Note 7</b>	<b>Note 8</b>	<b>Note 9</b>			<b>Note 10</b>	<b>Note 11</b>	<b>Note 12</b>	<b>Note 13</b>	<b>Note 14</b>			

**Table 5.1 Notes**

- Note 1: The existing operations manager is also the shift supervisor and in charge of coordinating with agencies
- Note 2: Currently there are 6 full time and 3 part time operators included in the budgeted NITTEC staffing plan
- Note 3: There are two full time staff performing systems engineering work; one can be transitioned to assist with the project management and administrative work upon acquisition of systems engineer (note 8)
- Note 4: The existing staff performs project manager, contractual, administrative and other activities
- Note 5: The current administrative assistant performs secretarial, administrative and office manager roles
- Note 6: Additional shift supervisor to support the operations manager
- Note 7: Additional operator during the night shift
- Note 8: Additional systems engineer with software background
- Note 9: Additional project manager to manage the new technology projects
- Note 10: Additional supervisor for the second shift
- Note 11: Two additional operators to accommodate the increase in services and needs
- Note 12: Additional systems engineer
- Note 13: Additional project manager to manage the new projects
- Note 14: Additional administrative assistance to perform clerk, secretary typist, contract, finance & procurement support roles

Table 5.2 Staffing Impacts Analysis Summary

	Operations		Engineering		Administrative	Total
	Operations Management	Operators	Systems / Network	Project Management		
Existing	1	7.50	2	1	1	12.50
2007-2008	2	8.50	3	2	1	16.50
2009-2012	3	10.50	4	3	2	22.50

Table 5.3 Additional Staffing Budget Required

		Operations		Engineering		Admin.	Total
		Ops Mgmt	Ops	Systems/ Network	Project Mgmt		
Early Action (2007-2008)	Additional Staff	1	1	1	1	0	4
	Additional Budget	\$ 75,000	\$ 45,000	\$ 90,000	\$ 75,000	\$ -	\$ 285,000
Short Term (2009-2012)	Additional Staff	1	2	1	1	1	6
	Additional Budget	\$ 75,000	\$ 90,000	\$ 90,000	\$ 75,000	\$ 45,000	\$ 375,000
Total by 2012	Additional Staff	2	3	2	2	1	10
	Additional Budget	\$150,000	\$135,000	\$180,000	\$150,000	\$ 45,000	\$ 660,000

**Table 5.4 Space Requirements and Cost**

Space Description	Existing Area (sq. ft.)	Additional Space Required (sq. ft.)						2012 NITTEC Space Needs		Notes
		Early Action		Short Term		Total		Sq. Ft.	Cost	
		Sq. Ft.	Cost	Sq. Ft.	Cost	Sq. Ft.	Cost			
Director's Office	345	-	\$ -	-	\$ -	-	\$ -	345	\$ 5,175	No additional space required
TOC	900	-	\$ -	550	\$ 8,250	550	\$ 8,250	1,450	\$ 21,750	Additional space required to accommodate additional CCTV monitors, larger system wide display and 2 operator workstation consoles
Administration	450	-	\$ -	200	\$ 3,000	200	\$ 3,000	650	\$ 9,750	Additional space required to accommodate additional administrative staff by end of Short Term period
Operations Manager	130	100	\$ 1,500		\$ -	100	\$ 1,500	230	\$ 3,450	Additional shared office required by Short Term to accommodate 2 shift supervisors
Engineering Manager/Staff	130	100	\$ 1,500	100	\$ 1,500	200	\$ 3,000	330	\$ 4,950	Additional space required to accommodate 2 additional project management staff
Kitchen	50	-	\$ -	150	\$ 2,250	150	\$ 2,250	200	\$ 3,000	No additional space required
Equipment Room	500	-	\$ -	350	\$ 5,250	350	\$ 5,250	850	\$ 12,750	Additional space required to accommodate expanded equipment
Systems Room	390		\$ -	100	\$ 1,500	100	\$ 1,500	490	\$ 7,350	Additional space required to accommodate additional Systems/Network staff in Early Action period; workbench area required by Short Term period
Systems Storage Closet	50		\$ -	100	\$ 1,500	100	\$ 1,500	150	\$ 2,250	Additional space required by Short Term period to accommodate existing and future equipment storage needs
Conference Room	400	-	\$ -	200	\$ 3,000	200	\$ 3,000	600	\$ 9,000	Additional space required to accommodate expanded conference room to service expanded construction coordination and event planning tasks
<b>Total</b>	<b>3,345</b>	<b>200</b>	<b>\$ 3,000</b>	<b>1,750</b>	<b>\$ 26,250</b>	<b>1,950</b>	<b>\$29,250</b>	<b>5,295</b>	<b>\$ 79,425</b>	

## 6. Membership and Organizational Structure

Based upon the input received from NITTEC member agencies at the initial Strategic Plan Workshop in May 2006 and the subsequent interviews with member agencies and the GBNRTC, the new NITTEC Mission Statement, and the list of current and proposed future services, a new membership structure was considered by the Strategic Planning Subcommittee at its meetings of September and December 2006 and subsequently refined.

At the initial workshop, members agreed that NITTEC had evolved from a forum for discussion of ITS to an organization successfully engaged in multiple functions, and that its membership and organizational structure should reflect NITTEC's current mission. They also recognized that there is a synergy between what an agency/jurisdiction can contribute to NITTEC and the benefits that agency/jurisdiction can derive from participation, and that, perhaps, NITTEC's membership structure might accommodate different levels of membership based on the different needs of each. At the same time, it was acknowledged that although some agencies/jurisdictions may be less active in participation, there is a collective strength in retaining the large number of agencies/jurisdictions currently considered as members.

During the interviews with member agencies, a question was raised about the desirability of expanding NITTEC services to engage smaller agencies. Interviewees discussed the current members that had not been active participants, and listed quite a number of other agencies/jurisdictions that either had expressed interest in membership or should otherwise be considered for membership. There was no clear consensus coming out of the interviews as to criteria for membership, but a number of membership principles were proposed.

Interviewees also discussed the focus of and participation in special purpose subcommittees, and suggested some potential new subcommittees. Finally, it was stated that a bigger issue than which agencies/jurisdictions should be members is the level of responsibility and/or expertise of the people the member agencies/jurisdictions send to represent them at meetings. To maximize participation and productivity of meetings, it was recommended that there be criteria for representation.

As a result of the strategic planning process, NITTEC has adopted the following statement of membership principles and categories:

### ***Membership Principles***

- a) NITTEC can serve as a regional coalition without every transportation-related regional agency being a member.
- b) Membership should include any agency that either perceives benefits for itself or can contribute to some facet of the coalition, but different tiers of

membership, including some form of “affiliate” membership might appropriately reflect the different requirements of and benefits to be derived by different agencies/jurisdictions.

- c) Some agencies/jurisdictions might serve the coalition primarily through participation in subcommittees and build consensus among other members of that subcommittee, because an agency/jurisdiction does not need to be a “policy member” of NITTEC to make policy recommendations.
- d) While equal votes for all agencies/jurisdictions, regardless of contribution, might not be appropriate, the effort should be made to engage all regional transportation-related agencies/jurisdictions in participating in the organization in one way or another.

### ***General Coalition Membership***

A graduated level of membership, based on participation, is appropriate because members have different requirements and benefits. Membership is based on contribution to the Coalition, in its committees and subcommittees. Member agencies should be actively engaged in transportation operations and shall have facility or infrastructure ownership<sup>1</sup>.

### ***Membership Status***

#### **General Membership**

In order to be a member of NITTEC, an agency must be an active participant in councils, committees or subcommittees, attend most committee meetings over a two year period, and be willing to take a leadership role in the council/committee/subcommittee.

Participation at the policy level of NITTEC (Executive Council and Regional Transportation Coordinating and Management Council (RTC MC)) will be available to all members of the Coalition. Participation is defined as attendance at the meetings and opportunity to make policy recommendations.

A “non-policy” member agency will be able to maintain its membership in the Coalition by letter commitment and participation.

#### **Policy Level Membership**

Policy level member agencies must execute the Memorandum of Understanding (MOU) and meet the participation commitment to maintain policy level membership in the Coalition. Voting by policy level member agencies at the Executive Council and RTC MC meetings will be by the member agency’s identified delegate or designee.

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<sup>1</sup> Facility or infrastructure ownership is defined as ownership of a highway with a Functional Class of Principal Arterial (U.S.) or Maintenance Standard Class 3 (Canada) or greater, or a transit or other transportation facility that is publicly owned and operated.

### **Coalition Affiliates**

Other stakeholders may participate in NITTEC, without being NITTEC members, through NITTEC's subcommittee structure.

### ***Committees***

Committees will be expanded to provide additional forums and opportunities for agency contribution. The following subcommittee structure has been identified:

- Traffic Operations Center
- Technology and Systems
- Incident Management (Canadian & U.S. subcommittees)
- Construction Coordination
- Border Crossing
- Standing or Ad-Hoc Subcommittees (e.g., Strategic Planning)

## 7. Location

In the interviews, NITTEC management staff and member agencies provided their perspectives on the issue of where NITTEC should be located and whether it should be co-located with another member or non-member agency, including advantages and disadvantages of co-location with specific other agencies.

Co-location was defined to refer to two agencies conducting their operations from the same operations center and complementing each others duties. As such, the current arrangement in which NITTEC rents facility space from NFTA for its operations is not considered to be co-location.

Interview comments received (some contradictory) are summarized below:

- NFTA may be able to physically accommodate NITTEC growth in the existing facility but only if the Coalition assists in consolidating NFTA's current space; such accommodation also is dependent on the amount of space NITTEC needs as determined by the services it plans to offer (as described in this Strategic Plan)
- If the NFTA space issue could be resolved, the current location is a good deal for both parties financially
- NFTA could continue to be host no matter where NITTEC is physically located
- NITTEC should remain functionally independent
- NITTEC needs a separate place it controls to remain as an independent Coalition
- NITTEC could be more centrally located bi-nationally
- Co-location has few benefits and a lot of "down side," particularly co-location with police or agencies with police-type powers

Alternative locations suggested during the interviews if NITTEC required more space included:

- Expansion of existing NFTA facility
- Co-location with EMS providers
- Erie County Public Safety Campus
- At bridge/border facility
- Common location with GBNRTC
- Independent downtown office space

The Strategic Planning Committee considered the interview comments and alternative locations and concluded:

- a. In general, the disadvantages of co-location with member or other agencies, apart from NITTEC's current occupancy of part of a NFTA building, outweigh the advantages.
- b. NITTEC should remain functionally independent
- c. Co-location of operations should not be an option

It was also agreed that if NFTA is able to physically accommodate the forecasted NITTEC growth in the existing facility, the current location is a good deal for both parties financially. In the event that NFTA is not able to accommodate the future growth and needs of NITTEC, the committee agreed that NITTEC should consider relocating its operations in the year 2009 to a new facility in downtown Buffalo or at a border crossing, or in a location shared with GBNRTC. Regardless of physical location, NFTA would continue to host NITTEC's administrative needs.

## 8. Action Plan and Conclusion

### *Near-Term Actions*

As noted in earlier chapters, additional services have been designated for implementation within the next two years (2007-2008). In addition, in their interviews, NITTEC member agencies recommended that development of a "Regional Concept for Transportation Operations" be the subject of early action.

The existing and additional services to be in place in the next two years are shown in Table 8.1.

The additional staff needed to support these services include 1 operations management, 1 operator, 1 systems network and 1 project management position, for a total of 4 additional positions by the end of 2008 and a growth in NITTEC total staff from 12.5 FTEs to 16.5 FTEs.

In order to provide space for the staff and equipment that will be needed, NITTEC will need an additional 200 square feet. How the needed additional space will be provided has not yet been determined.

**Table 8.1 Current and Early Action Services**

<b>Construction Coordination &amp; Event Planning</b>
NITTEC will work with agencies to standardize the regional approach to communicate, coordinate and manage construction and special events information.
NITTEC will coordinate and manage the development and implementation of regional traffic management plans and activities related to construction and special events.
NITTEC will coordinate and manage the development and implementation of regional evacuation and alternate/diversion routes plans and activities.
NITTEC will procure a web-based regional event planning tool to collect and integrate information, and coordinate and assist agencies with their planned activities.
NITTEC will use standards based data sharing and communication (i.e., Traffic Management Data Dictionary) as much as possible in these activities.
<b>Operational Services</b>
NITTEC will continue to gather and verify operational information and distribute to agencies and people using the existing CROSSROADS and public web systems.
NITTEC will continue to operate and maintain existing ITS systems and will continue to provide existing Traffic Operations Center (TOC) services.
NITTEC will lead and work with agencies to develop an approved regional operational procedure, protocols and policies, coordinated with statewide operational policies as applicable.
<b>ITS Deployment and Operations</b>
NITTEC will continue to work with agencies to deploy additional ITS elements in the field and at operations centers.
NITTEC will work with the appropriate member agencies to assure proper integration between their regional and statewide systems as applicable.
NITTEC will continue to adopt and deploy any available and upcoming ITS standards.
<b>Advanced Transportation Management Systems (ATMS)</b>
NITTEC will continue to operate member agencies' ATMS systems (CROSSROADS) and will provide technical, management, integration and operations and maintenance support services in expansion of existing systems as well as deployment of new systems.
In agreements with the City of Buffalo and NYSDOT Region 5, NITTEC will soon provide scenario-based operations services for their signal systems. This service will be available to other signal systems in the region.
The region is expanding TRANSMIT coverage in both countries. NITTEC will provide ability to integrate, host and operate any future TRANSMIT expansions in the region, and will maintain all operations elements located at NITTEC.
Overall, NITTEC will expand its operations and coverage within the region with the goal of integrating systems and operations in the region across modes and agencies.

<p><b>Regional Network and Center to Center (C2C) Systems</b></p> <p>NITTEC will work with agencies to deploy a multi-agency, multi-modal, bi-national transportation information sharing network in the region. This secure network will provide agencies and other approved users the ability to share information.</p> <p>NITTEC will work with agencies to adopt and deploy a regional C2C system. This will be used to facilitate the automated data exchange among various systems and with the regional agency network.</p> <p>NITTEC will work with others as needed to develop automated data interfaces to, among other systems, 911 Computer Aided Dispatch (CAD), TRANSMIT, CROSSROADS, CARS, City of Buffalo, and COMPASS, using the adopted C2C product.</p>
<p><b>Public Web</b></p> <p>NITTEC will use the regional agency network to expand on the existing regional public web and provide a comprehensive source of transportation information to the traveling public.</p>
<p><b>Disaster Recovery Sites</b></p> <p>NITTEC will provide redundancy and fault tolerance features for all systems. This will assure continuous operation in the event of any primary server failures, as well as the ability of the NITTEC TMC to continue its operation.</p> <p>Agencies will select a location to serve as the disaster recovery site, providing the ability to resume NITTEC operations in the event of TMC building failure.</p>
<p><b>Other Services</b></p> <p>NITTEC will continue to provide the opportunity for agencies to talk with each other, share knowledge and discuss issues.</p> <p>NITTEC will continue to work with GBNRTC to coordinate regional transportation planning and operations activities.</p> <p>NITTEC will pursue future funding opportunities to employ additional ITS technologies, enhance regional operations and provide information to the public.</p>

## *Conclusion*

Looking back on its 12 year history, NITTEC has much to be proud of. It is a shining example of the power and potential of regional coordination and a model of cooperation that transcends an international boundary. NITTEC members have worked together to bring state-of-the-art technology to the region to improve the quality of life of residents. Transportation industry experts look to NITTEC as a model of interagency transportation management.

NITTEC has exceeded the expectations of its founders and is now taking on an increasingly significant role in the region. The 2007 Strategic Plan is the product of a visioning process that developed a mission and strategic goals to guide NITTEC's growth. The plan lays out early, short term and mid-term actions that the organization can take to meet this new and enhanced vision.

This is an ambitious Strategic Plan. It provides both a great challenge and a significant opportunity for the agency. The coalition is strong and knows how to work together to achieve great things. NITTEC's track record proves that it can take on this plan to realize the region's great potential.