

## OVERVIEW

The first-phase effort of the Tompkins County Public Safety Communications System (TCPSCS) project having been completed, the findings are reported here as these Task Results Documents. This first-phase effort was based on developing findings to support the next-phase efforts.

This document summarizes NYSTEC findings in the first phase of the Tompkins County Public Safety Communications Wireless Communications Consulting Services effort. The first phase commenced in November 2000 and consisted of three tasks to be completed by mid-January 2001. Each task has its own separate detailed report, which expand on the results that are summarized here. The three tasks were:

- Task 1 – Communication Needs Analysis,
- Task 2 – Geographic and Demographic Constraints Assessment of Tompkins County, and
- Task 3 – Wireless Communications Evaluation.

The results of these three tasks would then be used to support the environmental impact statement (EIS) effort and help develop a Request for Proposal (Tasks 4 and 5 respectively) in the second phase.

The findings from the tasks then needed to be compared against the key parameters, which can be summarized as:

- Coverage - a measure of accessibility for the user, defined by critical areas and levels of coverage
  - mobile, portable; outdoors, and in-building (including incremental cost of varied percentages of portable and mobile coverage in critical/non-critical areas)
- Capacity - a measure of load on the network
  - number of users, type of communication (voice, data), traffic density
- Capability - a measure of system functionality
  - operational use (e.g., roaming, talk groups, talk around) communication features (e.g., AVL, Man-Down, priority calls), equipment environmental (e.g., ruggedness, size, form factor), data communications (e.g., text, image; rates)
- Constraints - those factors that otherwise limit the system measures
  - spectrum availability, spectrum regulations, environmental regulations, environmental impact, siting, costs (e.g., acquisition, operations, maintenance), schedule

The analysis will not be completed until after Tasks 4 and 5 are completed, but some preliminary conclusions can be made based on the Phase-I effort and are outlined in the Conclusion section at the end of this report.

## Task 1 - Communication Needs Analysis

The purpose of the needs analysis was to help form the basis for the functional requirements of a public-safety wireless communication network. People often talk about what they “need” or “want” with regard to a wireless communication system. The goal of a “needs analysis” is to get those same people to answer the follow-up question, “if I give you that, what will it do for you?” In that way, the requirements derived for a communication system are based on the function desired, as opposed to being based on a preconceived implementation or specific product.

NYSTEC developed a detailed multi-page survey to send out to a broad range of users in the county. The County developed a list of 243 County public-safety communications users, including fire, EMS, and law-enforcement personnel. The surveys were distributed on Wednesday, November 22, 2000 and returned on Wednesday, December 13. A few “trickled in” later by mail. In all, 199 Surveys were returned.

Interviews were then conducted over consecutive three days, starting December 18 2000. NYSTEC interviewed 33 people in both single and group sessions. The interviews allowed follow-up questions to be asked to help clarify and amplify the answers in the surveys.

The findings from the surveys and interviews are:

- **Lack of Interoperability** - Because of the use of so many different radio systems in so many different frequency bands, a subscriber’s only opportunity for interoperability with other agencies is through the network, which is currently inefficient because of both technical and operational reasons. Interoperability is needed as much inter-jurisdictional (e.g., between town police and county Sheriff) as inter-disciplinarian (e.g., between police and fire).
- **Lack of Required Coverage** – The users indicated that none of the current radio systems are built to deliver radio coverage that is sufficient to satisfactorily complete the operations they are meant to support. Law Enforcement, EMS, and particularly Fire said portable radio coverage throughout the county was vital.
- **Radio Congestion During Significant or Multiple Incidents** – Fire, EMS, and Law Enforcement all reported radio-traffic congestion or confusion during significant incidents when multiple agencies were involved or when separate incidents occurred at the same time.
- **Obsolete** - Much of the existing communications infrastructure and dependent technology lacks functionality and some of it (like the microwave) is in a serious state of decay and may seriously impact the operational readiness of agencies to deliver services.
- **Operational** - Numerous problems have contributed to the system not meeting the needs of the user in the field. There is a perceived (and real) safety concern.
- **Lack of Situational Awareness** - The system relies on unsecured single-call-path communications. Officers and Firefighters lack situational awareness, i.e., difficulty discerning who is talking to whom about what, in almost all transmission with caller and dispatcher.
- **Limited Capacity** - The voice system overlays (i.e., the multiple disparate radio systems) can not handle more than one call at a time.

In addition to the surveys and interviews, NYSTEC visited the current and potential radio sites and places of operation to better understand their potential role. These visits or site audits were performed to get information that can be used to:

- Assess if any problems in service can be attributed to site conditions,
- Determine an upgrade and maintenance plan,
- Assess the level of surge and lightning protection provided,
- Assess the grounding system, and
- Determine the future viability of the site.

NYSTEC findings are that the radio sites fall significantly below modern standards. This is not a criticism of the design and maintenance that has been done, but simply reflects the age and vintage of the systems. Specific problems include the following:

- The sites are not suitable for modern trunking equipment,
- All existing sites would require significant upgrading if used in a new system plan,
- Currently surge and lightning protection is poor or non-existent,
- Existing grounding systems are substantially under developed, and
- Most existing radio site locations are not well suited for substantial upgrading.

Coupled with the radio sites is the inter-site connectivity, which is currently done with a 2-GHz analog microwave system. Serious conditions exist with this microwave system:

- Many of the radios in this system are 25 years old.
- They simply are not supported by the manufacturer.
- Almost all of this critical support system has experienced some degree of “cannibalization” to keep it going.
- The only link with a back-up standby or “hot standby” is the one between Central Fire and the rest of the network.

The situation is that, if one link goes down, the whole system goes down, and then there is no communications anywhere in the county.

### **Task 2 – Geographic and Demographic Constraints Assessment of Tompkins County**

NYSTEC assessed the geographic, including physical and demographic, features of the County through the use of GIS data sets and a tour of the county. The focus was on the impact these geographic features have on a communications network design. The results of this task will be used largely in support of the other tasks.

Tompkins County is 476 square miles in area, with a population of less than 100,000 people. It is largely a rural area, with the majority of its population in the City of Ithaca, near areas surrounding Cornell University, or in small towns and villages. The Northern portion of the county has a lower overall roughness than the south. The Southern portion has high relief, rough terrain. The Central portion has an escarpment that runs along Rt. 366 north of Ithaca and around Rt. 13 south of Ithaca. For analysis purposes, areas with an inclination of 20% or greater were deemed

Areas of Aggressive Terrain. This means the terrain is so steep and rugged that it is anticipated that it would be very difficult to get radio coverage from fixed radio sites.

Overall, there are 17.5 square miles of urban and suburban areas that would need portable coverage from fixed sites. In addition there are 24 square miles of transition area along the fringes of those areas. Beyond that are 420 square miles of rural area that potentially could achieve portable coverage through non-fixed sites; 283 square miles could potentially use mobile repeaters, but 137 square miles has such rugged terrain that tactical means, i.e., a specialized mobile radio vehicle, may be necessary to achieve portable coverage.

### **Task 3 – Wireless Communications Evaluation**

NYSTEC reviewed the current Tompkins County radio communications technology and identified wireless communication options for meeting the needs of public-safety communications.

Some specific configurations evaluated are:

- Enhancement of Current Land-Mobile Radio System,
- Trunked, VHF Land-Mobile Radio System,
- Trunked, Digital, 800-MHz Land-Mobile Radio Network, and
- The New York Statewide Wireless Network (SWN).

In addition, there are other wireless technologies and services that NYSTEC appraised as well. These include:

- Satellite Services and
- Cellular, PCS, and other Commercial Services.

Also, the primary information transport media between radio sites, such as microwave and fiber optics, were considered.

#### Satellites

Because of the physical constraints and costs of their operations, satellites are a very limited option for entities like Tompkins County. The utility for users “on the move,” such as public-safety field personnel, is limited because of:

- Call-set-up times are long,
- Long delay times in transmissions severely hinder two-way voice communications,
- Direct line of sight to the satellites is required, thus no obstructed coverage, e.g., in-building or heavily forested areas, is possible,
- Mobile and portable user equipment is bulky, and
- Per-minute charges for service are expensive.

## Commercial Services

Commercial services include cellular/PCS (e.g., OmniPoint, NEXTEL, etc.) and satellites (e.g., Iridium, Globalstar, etc.). The issues with them are such that they do not meet the capabilities required by public safety. Specifically they:

- Are point-to-point only,
- Have long set-up times,
- Cover populated areas only,
- Have shared availability, and
- Provide no priority preemption.

## Land-Mobile Radio (LMR)

The fundamental aspects of Public-Safety LMR Systems are that they:

- Are mainly used by professionals, public-service/public safety personnel.
- Are generally owner managed.
- Have low connection times, typically less than one second.
- Enable user groups and point-to-multi-point calls.
- require licensing (RF Transmission is regulated, even for Public service systems).
- Typically have a central dispatcher, or telecommunicator.

Most existing LMR systems are based on proprietary designs and interface. Equipment from different manufacturers and systems — e.g., Motorola SmartNet, Com-Net Ericsson EDACS, Tyco OpenSky — will not work together. This limits competition once a system is purchased.

Standards are being developed for LMR equipment. The two are:

- APCO Project 25 and
- TETRA (Terrestrial (formerly, Trans European) Trunked Radio).

## The Statewide Wireless Network (SWN)

The SWN is anticipated to be a 700/800-MHz digital trunked network with mobile (on the road) coverage. It should be complete throughout the state in the next 3-4 years.

The network would be “leased” by the state for use by all state and local agencies.

- State agencies would be *required* to use it, local agencies *invited* to use it.
- Agencies would only provide their own subscriber equipment.

The SWN Project office anticipates having significant announcements by late March 2001.

The issues with the County involve timing and performance. Even if the County were to be a full participant in the SWN, the County would still need to augment the network in order to provide portable and in-building coverage.

## Tompkins County Radio Systems

- Existing system not worth upgrading, cannot be fixed to fully meet the requirements.
- VHF trunking does not seem possible because of lack of spectrum and proper pairing.
- UHF trunking does not seem possible because of lack of spectrum.

## Inter-site Connectivity

- Microwave transport desperately needs addressing.
- Fiber could possibly be used to augment a microwave network if considered properly up front in the process.

## CONCLUSIONS

### **Fundamental Requirements of Public-Safety Wireless Communications<sup>1</sup>**

- Point to Multipoint and Dispatch
- Fast Call Throughput
- Ubiquitous coverage “on the move”
- Priority Calling
- Call Preemption.

Land-mobile radio is the technology best designed to meet these needs.

### **Coverage**

Radio-coverage issues will need to be addressed as soon as possible. Radio coverage, for example, may require portable application by the users; how that is actually implemented is not the scope of this report, nor part of this Phase-I effort. In any public-safety radio system, communications must be available everywhere, as serious incidents can occur anywhere. Interviews and surveys indicate that these situations have happened in the past and will happen again. It is only a matter of time until a very serious event occurs in one of these coverage gaps. When this happens, its severity (and consequences) may likely be remembered for a long time.

The standard today for Public Safety is portable radio coverage. With the heavy reliance on portable radios by Tompkins County Public Safety, it is imperative that portable radio coverage be provided throughout the county. Without adequate portable coverage, the highly trained and motivated Tompkins County Public Safety personnel will be hampered in their ability to provide high levels of service to the citizens of Tompkins County.

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<sup>1</sup> Based not only on Tompkins County user findings from the Task 1: *Public-Safety Communication Needs Analysis Report*, but also the national study PSWAC — *The Public Safety Wireless Advisory Committee (PSWAC)*, 1996, which was established by the Federal Communications Commission (FCC) and the National Telecommunication and Information Administration (NTIA) to evaluate the wireless communications needs of federal, state, and local Public Safety agencies through the year 2010 and to recommend possible solutions. Also, New York Statewide Law Enforcement Telecommunications Committee (NYSLETC) reports provided by Mr. Robert F. Schlieman (Radio Engineer, NYSP Communications Section), the Technical Advisor to the committee.

## Radio System Urgency

The current Tompkins County public-safety radio system is actually five systems working independently of each other, with some loose operational connections that allow them to act as subsystems to each other. These five subsystems, or overlays, generally act to serve various functional requirements that public-safety agencies have.

The Tompkins County radio overlays and their primary functions are:

- Low Band VHF, primarily used for Fire Paging and control functions needed by Fire Services.
- High Band VHF, primary used by law-enforcement agencies throughout the county to provide voice dispatch.
- UHF, primary used by the fire services throughout the County to provide voice dispatch and fire ground command and control.
- 800 MHz, exclusively used for data transmission, primary by law enforcement for both situational awareness (vehicular location) and data base inquiries. Also used by the fire services for vehicular location and. infrequently for data inquiries.
- 2-GHz Microwave Transport, or backbone, system that maintains circuits between radio sites and dispatching operations.

Based on the survey, site audits, and general practices in the industry, the current system shortcomings that are counter productive to the County's operations are:

1. **Lack of Interoperability** - LMR overlays use a number of different radio bands. Because of the use of so many different radio bands, a subscriber's only opportunity for interoperability with other agencies is through the network (the radio systems as a whole), which is currently inefficient because of both technical and operational reasons.
2. **Lack of Required Coverage** – The users have indicated that none of the radio bands currently employed deliver radio coverage sufficient to satisfactorily complete the operational function they are meant to support.
3. **Antiquated System** - Much of the existing communications infrastructure and dependent technology lacks functionality to meet the needs of Tompkins County public services, and some of it (like the microwave transport layer) is in a serious state of decay and will seriously impact the operational readiness of agencies to deliver services.
4. **Lack of Wireless Data Harmonization among the Services** - Numerous problems have contributed to the system not meeting the needs of the public-safety service provider in the field. There is a perceived (and real) safety concern.
5. **Radio Congestion and the Lack of Situational Awareness** - The system relies on unsecured single-call-path communications. Officers and Firefighters lack situational awareness in almost all transmissions with caller and dispatcher.
6. **Limited** – The system lacks the robustness required of a modern public-safety communications system.

## *1 - Lack of Interoperability*

With only the exception of the microwave system, users have some degree of first-hand experience with one or two of the four land-mobile radio (LMR) overlays, and that experience is documented here in this report.

As this report shows from the users' testimony, these systems are disparate by nature. User equipment, or subscriber equipment, does not support multiple bands in one radio. Though the LMR overlays are currently all analog FM because of the use of so many different radio bands, a subscriber's only opportunity for interoperability with other agencies is through the network. The need to control and coordinate various Fire, EMS, and Police activities at a scene falls to the dispatcher or is made possible by providing key personal with multiple radios, or by physically pairing up key personal to coordinate operations among various the services at a scene.

The current situation only serves to lower the efficient use of emergency-services personal at a scene, as well as to reduce management's command and control options to better serve the public.

## *2 – Lack of Required Coverage*

Users have reported that all the radio bands have serious shortcomings in varying areas of the County. The specifics of these reported shortcomings are detailed in Appendix C of the Task 1 "Public-Safety Communication Needs Analysis Report." As pointed out earlier, a fundamental requirement in public-safety communications is ubiquitous coverage "on the move;" therefore, all areas share the same criticality. Today, much of the VHF and UHF subsystem system overlays *seem* to have fairly widespread coverage. Many users report good coverage in UHF, yet report a "few" problem areas. These "few" areas have amounted to 369 entered records and about 13 pages,<sup>2</sup> based only on reporting from interviewees that took the trouble to make detailed responses to coverage questions on the survey only! Many expressed the concern in follow-up interviews that a new system have as good voice coverage as the existing VHF and UHF overlays. It is the assessment of this study, based on current findings, that a new system should actually have much *better* coverage than the existing VHF and UHF overlays.<sup>3</sup>

## *3 – Antiquated System*

No other subsystem used by the public-safety services indicates the need to refresh the technology more than the existing microwave transport layer. Most of the microwave radios in this system are at least 25 years old, and all Tompkins County agencies rely on the microwave when they communicate. They simply are not supported by the manufacturer any more. The County is reduced to attending "swap meets" and scanning the backs of radio magazines to keep it going. Almost all of this critical support system has experienced some degree of "cannibalization" to keep it going. The only link with a back-up standby or "hot standby" is that currently linking Central Fire to the rest of the network via the Ithaca College site. This lack of standby links is a ticking time bomb waiting to go off and seriously inhibit services to the public at some critical moment of need. Detailed discussion of microwave and other key infrastructure

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<sup>2</sup> See Appendix C of Task 1: *Public-Safety Communication Needs Analysis Report*.

<sup>3</sup> Coverage studies were not performed at this time of the existing VHF and UHF County coverage. The coverage problems and gaps are currently based only on user input. It is reasonable to accept many of these reported areas as truly problematic in that a number of areas are reported repeatedly by a number of individuals. A map showing many of the repeated areas is documented in Task 2: *Geographic and Demographic Assessment of Tompkins County Report*

technologies can be found in the Task 3 “Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report.” Many of these key infrastructure technologies should be seriously considered in the next opportunity to refresh Tompkins County’s public-safety communications in the TCPSCS project.

The condition of the microwave overlay may be the most acute condition in the County’s public-safety communications, but it is not the only serious condition that exists. Other serious concerns exist with the conditions of the radio siting and the lack of spectrum to adequately control incidents. Further, much of the land-mobile infrastructure equipment is dated or has reached the end of its operational service life and is overdue being replaced. Most of the radio sites fall below modern standards and represent further opportunity for failure at a time of need. The existing radio sites simply are not developed enough to support modern radio equipment.<sup>4</sup> Conscientious County employees, under serious budget constraints, have (with Herculean efforts) tried their best to maintain the current radio sites. The findings clearly indicate that those responsible for maintaining this infrastructure have made do with barely adequate funding for some time, therefore stretching how far efforts “above and beyond” can go. These findings can be reviewed in the Task 1 “Public-Safety Communication Needs Analysis Report.” This report not only includes the user testimony about the workings of the current system, but also has a detailed site audit report of all the existing sites. This site audit report shows how the current infrastructure compares to modern radio site standards and practices.

#### *4 –Lack of Wireless Data Harmonization among the Services*

The success of the current 800-MHz system indicates how such functions as AVL and database inquiry enhance the ability of public-safety personnel and their management officials to deliver services efficiently to the public. However, there is some inequities among the service agencies as to the benefits being provided.

The employment of 800-MHz data was originally driven by the fire service, but the fire service currently derives the least benefit from this overlay. Most of the volunteer departments only have one vehicle that is data and AVL ready; all other vehicles are not covered at all by the 800-MHz data overlay. In the case of the Ithaca Fire Department (IFD), the 800-MHz system seems to be used little, if at all. All of the County’s Sheriff vehicles currently use the 800-MHz system for both AVL and NYSPIN data inquiries. Most of the village police departments have also been equipped with this system.

The reasons that this disparity has occurred is because the volunteer departments have been viewed as autonomous agencies and the Sheriffs and other law-enforcement groups have been viewed as a more homogeneous authority. Various outside funding opportunities over recent years, such as the COPS More program, have helped precipitate this disparity. Further, IFD originally had little confidence in the system because the AVL was not sufficiently accurate to work well enough in the city. With the advent of Selective Availability (SA)<sup>5</sup> having ended in the GPS signaling provided by the Federal government, the accuracy could now be well within the operational needs of IFD and its use should be re-considered.

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<sup>4</sup> With the possible exception of the site at the County lock-up. This site also had a lack in some areas practiced in modern radio site development; see section 3 of this report.

<sup>5</sup> Selective Availability, or SA, was the action (taken by the DoD) to “dither” or slightly corrupt the time-of-arrival information to civilian receivers by inducing errors into the broadcast navigation data transmitted by the GPS satellites. This practice was discontinued in 2000 by a Presidential order.

What is needed is a system that will serve the voice *and data* needs of all these users. A radio system should not effect the operations processes of the agencies — instead the radio systems should facilitate the operations processes of the agencies. The radio system clearly should inherently have both voice and data in its design. Technologies that offer digital voice and data are discussed in the Task 3 “Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report.”

## *5 – Radio Congestion and the Lack of Situational Awareness*

The radio congestion and the lack of situational awareness is systemic to the current system. The current set of systems overlays relies on unsecured single-call-path (simplex) voice communications.<sup>6</sup> Law-enforcement officers and firefighters lack situational awareness in almost all transmissions between callers and dispatcher. An example of this is police officers communicating on an open channel having to transmit and receive NYSPIN, Immigration, NCIC, or other database inquiries over an open channel when MDTs are not working.

This condition occurs in all the bands used for voice or paging dispatch. This lack of situational awareness occurs because of the use of base stations instead of repeaters.<sup>7</sup> With hilltop base stations, most of the time people not directly involved with a call to the dispatcher will only hear the dispatcher half of the call. This can lead to confusion and unnecessary calls for clarification to achieve a true understanding of the situation. At worst, this can lead to safety issues — particularly for law-enforcement officers that are on duty alone. Detailed discussion of the differences in these application as well as the impacts on the need for spectrum are discussed in the Task 3 “Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report.”

## *6 - Limited*

The current communications system overlays, low band VHF, VHF high band, UHF and 800-MHz data that make up the Tompkins County system are the result (often in a reactionary environment) of the system evolving to meet the changing and growing needs of the public-safety users. As the system has evolved to react to various situations over the years, it has not been engineered as a total solution and, therefore, it lacks the robustness of a more complete and harmonized design. This lack of robustness has come to the point where it is no longer economically, regulatory, or safety feasible.

Economically fixing the existing set of sub-systems could only be viewed as an effort to optimize the as-is. That is, to “fix it” would at best just make it work as best as it can. Thus, optimizing this set of existing systems would still fall below satisfying the fundamental requirements.<sup>8</sup> Again these requirements are:

- Point to Multipoint calls and user groups (Dispatch operations).
- Fast call throughput (Push-to-Talk, low connection time).
- Ubiquitous coverage (ability to communicate all over).

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<sup>6</sup> See NYSTEC document: *Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report* for a discussion on wide-area conventional communications systems built around base stations like that of the Tompkins County systems.

<sup>7</sup> See *Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report* Task 3 document that discusses the differences in base stations and repeaters in “Conventional Radio Systems” section of that report.

<sup>8</sup> Again, much of this is based not only on Tompkins County findings, but also on the PSWAC Report.

- Priority calling (ability to manage communications loading of the network).
- Call preemption (ability to interrupt a transmission for emergencies).
- Wireless regulatory constraints (RF transmission is regulated and requires licensing from the federal government).
- Mainly used by professionals, public-safety/public-service personnel, as opposed to civilians/consumers.

### Regulatory Findings

Regulatory issues exist in a number of areas. Digital trunking, which is technology that would serve the County well, would be difficult to achieve because VHF trunking does not seem possible because of lack of spectrum and proper channel pairing. Further, the facts are similar in UHF, because trunking there does not seem possible because of lack of available spectrum. The County is employing five 800-MHz frequencies and has been granted another five — which would allow constructing a 10-channel trunked system. Such a system would serve the County’s capacity needs (particularly by simulcasting<sup>9</sup> them) well. A regulatory issue exists with the 800-MHz spectrum as well: the five spectrum pairs that are currently unused were granted with a “must build within three years of issuance” stipulation. That stipulated implementation period is about to expire, and the County must show the FCC that it is making a good-faith effort to use these pairs by next year (or it will lose these pairs).

### Technology Findings

The world is moving to digital communications for a verity of reasons. Digital processing of voice can extend the range of clear reception, and digital modulation made the transmission of data less complex and more accessible to the mobile user (see the discussion on 2.3 in the Task 3 “Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report”). Spectrum is a precious resource, because it is limited. Trunking offers the County the widest possible operational flexibility to all the involved agencies. The combination of trunking and digital technologies gives the County the widest possible options in choosing a new land-mobile communications system. Trunking also represents the chance to give County agencies not only operational autonomy but also the opportunity to enjoy interoperability when needed. Further, trunking represent the opportunity for the County to bring all agency needs into one system. This move will take advantage of the most economical way to fulfill the public-safety community’s requirements, while using tax payer’s money wisely (see the discussion on 2.5 and Section 3 and Section 4 of the Task 3 “Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report”).

The technology findings — as well as a review of land-mobile technologies that the County should be considering — are detailed in the Task 3 “Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report.” The findings of these evaluations are that a trunked, digital, 800-MHz LMR network would best meet the requirements. Because SWN will be a similar network, NYSTEC recommends that Tompkins County plan to become part of SWN. However, because the SWN project is currently in a dynamic state, NYSTEC recommends that the County continue with the acquisition process for its own system up through

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<sup>9</sup> See *Options for a Public Safety Wireless Communications System: Synthesis and Evaluation Report* Task 3 document that discusses the use of simulcasting technology in the “Simulcast” section of that report.

## Executive Summary



the evaluation of proposals from vendors. At that time, the County can evaluate the viability and status of SWN relative to the timetable the County wants to follow. There are costs for the County associated with developing a Request for Proposal (RFP) and evaluating vendor proposals in parallel with the State continuing to implement the SWN project. This parallel approach, however, reduces the risk to the County. Should SWN turn out to not be viable for meeting the County's needs, the County has not lost valuable time in getting a system procured and implemented. If the SWN project and its timetable clearly becomes suitable for the County, the RFP will serve to define explicitly to the SWN project the requirements of the County, thus better assuring that SWN will meet the County's needs.