

Final Scoping Document

for the

Environmental Impact Statement (EIS)

Tompkins County Public Safety Communications System

December 12, 2001

This document outlines the anticipated contents of the Environmental Impact Statement that will be prepared for the Public Safety Communications System project (herein referred to as the Project). A draft of this document was prepared and distributed for public comment in the Spring of 2001. Comments submitted at that time have been considered and incorporated, where appropriate.

For more information on the Final Scoping Document and other material relating to this project, please contact the address, or number below.

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FINAL SCOPING DOCUMENT
PUBLIC SAFETY COMMUNICATION PROJECT
TOMPKINS COUNTY, NEW YORK

PROJECT DESCRIPTION

Tompkins County is seeking to replace and/or enhance the communication system currently in use by public safety (fire, EMS, and police) officials and other government agencies countywide. The current system, composed of several independent systems woven together to provide for voice and data transfer, is thirty to forty years old and incorporates dozens of isolated radio frequencies, many of which are incompatible. Currently, much of the primary system used for voice communication uses an analog signal which makes it prone to interference; it is also becoming increasingly obsolete due to the Federal Communications Commission's actions narrowing bandwidths.

Specific problems with the current system include:

- **Lack of interoperability** – The current system uses many radio bands, which makes communication among different emergency agencies slow or sometimes impossible.
- **Lack of coverage** – Gaps in radio coverage hamper users' ability to adequately respond to emergencies.
- **Congestion** – Users report radio congestion and confusion during incidents involving multiple agencies or events.
- **Age** – Much of the existing infrastructure and equipment is outdated and is in danger of failing. Some of the equipment is no longer manufactured and cannot be repaired.
- **Underbuilt towers** – Many of the existing towers are unsuitable for modern equipment, do not have power-surge or lightning protection, and may not suitably located for an improved system.

In November 2000, the County retained New York State Technical Enterprises Corporation (NYSTEC) to serve as wireless consultants for this Project. A study was commissioned to identify problems with the current system, evaluate the County's needs and recommend options for meeting those needs. A report, prepared by NYSTEC, recommends that the County replace the current communication system. NYSTEC summarized the available technologies for wireless communication and public safety; they concluded that the use of a digital, trunked 800-megahertz (MHz) frequency technology would provide the best option to address the County's current and future communications needs. Similarly, NYSTEC recommended that the County continue efforts to coordinate with the New York State Office of Technology's Statewide Wireless Network (SWN). The SWN project seeks to implement a statewide communication system that will be mandated for use by all state agencies and will potentially be available for use by local public safety agencies. Initially, the SWN system will employ 800-MHz technology with the requirement for "gateway" transition to 700-MHz, once these frequencies are available.

Therefore, the Project is the construction and operation of a wireless public safety communication system using 800 MHz frequencies and digital, trunked technology. Opportunities to collaborate with the New York State Office of Technology's Statewide Wireless Network will also be explored, as will other alternatives that meet the mandatory requirements of the system.

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During project development, various technologies, phased approaches, and cost-sharing opportunities with the Statewide Wireless Network will be explored and analyzed, as well as the potential environmental impacts. This information helped define the County's requirements and form the basis of a Request for Proposals (RFP) from vendors with expertise in communication system design and layout. Responses from vendors will help determine the specific alternatives to be evaluated in the draft EIS. While some alternatives are known at this time, others may arise during project development, or from responses to the RFP; these will also be evaluated in the draft EIS. The proposed action will be selected from these alternatives.

Tompkins County, as the sponsor of this Project, will prepare the Environmental Impact Statement (both a draft and final version), pursuant to New York State Environmental Quality Review Act (SEQR). The Environmental Impact Statement will examine the potential impacts of the Project. The draft Environmental Impact Statement will analyze any significant impacts that are not currently anticipated but become apparent once specific sites are known.

I. INTRODUCTION

A. Scope of the Document

This section will describe the document layout, project purpose and a general description of alternatives and issues addressed in the EIS.

B. Background and History of the Project

This section will describe the history of the decision-making process as it relates to the Project, the issuance of a positive declaration, and the development of the EIS. This section will summarize work conducted by NYSTEC to define the needs, objectives, and requirements of the Project sponsor, and will include a discussion of technological options considered for this Project.

C. General Project Location

This section will describe the general location of the Project area, regional setting, as well as significant physical and topographic features.

II. PROJECT PURPOSE, NEED, and BENEFITS

A. Description of Existing System

This section will provide a summary of the existing communication system including but not limited to: evaluation of existing communication infrastructure, technical issues (e.g., coverage, capabilities, and capacity), functionality, radio frequencies, and information from surveys and interviews of public safety representatives.

B. Public Need and Benefits of the Project

This section will describe the public need that currently exists for the proposed Project and the benefits that will be gained from it. It will include a discussion of existing studies that address issues relevant to the public need and benefits of the project.

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Particular attention will be given to studies that have examined emergency service delivery outcomes in relationship to the efficacy of communication technology used by providers of emergency services. Finally, there will be an analysis specific to Tompkins County of how many people live in the areas not currently covered by the radio system and how many people will be served by each telecommunication facility proposed to be added in the proposed action.

C. Goals and Objectives of Project

This section will discuss the goals and objectives of the Project based on the needs of the Tompkins County public safety community and the Project sponsor. Future communication needs of public safety as it relates to population growth and distribution will also be evaluated.

D. Description of Requirements of Project Sponsor

This section will provide a summary of the functional requirements of a public safety communications system.

For the purpose of this Project, a public safety communications system will be selected based upon its ability to satisfy the criteria listed below:

- meets the needs of public safety in Tompkins County;
- balances desired and adequate levels of service;
- is economically feasible; and,
- minimizes environmental impacts.

III. PROPOSED ACTION and ALTERNATIVES

A. Identification of Proposed Action (i.e., Preferred Alternative)

This section will describe the proposed action, and evaluate its ability to meet the needs, objectives, and functional requirements of the Project. This section will briefly describe the design, layout, and operation of the proposed action, and why it is the preferred course of action when compared with the alternatives considered. The following information will be presented for the proposed action:

1. Description of Proposed Action
 - a) Brief description of communication system
 - b) Ability to meet the needs of public safety in Tompkins County by balancing desired and adequate levels of service, economic feasibility and environmental impacts
 - c) Effect on project sponsor
 - d) Effect on public need
2. System Design and Architecture
 - a) Technical description of communication system (e.g., access language, modulation and information transport mechanisms)

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- b) Description of hardware, software and infrastructure (e.g., computer hardware and software to utilize technology and necessary infrastructure)
 - c) Locations of project infrastructure and site layouts
3. System Coverage, Capacity, and Capabilities
- a) Description of type of coverage, population served, critical coverage areas (e.g., accessibility for users, mobile, portable, outdoors, in-building), and radio frequencies required
 - b) Capacity of the system (e.g., traffic load, grade of service, voice, data)
 - c) Capability of the system (e.g., operational use, communication features)
4. Economic Impacts
- a) Costs to build and maintain the system
 - i) Equipment costs
 - ii) Infrastructure costs
 - b) Funding the system, including alternative sources of financing
 - c) Revenue generation
5. Summary of Environmental Impacts
- a) Natural resources
 - b) Human resources
6. Reason for Selection as the Proposed Action
- This section will discuss any significant beneficial and adverse impacts of the proposed action, associated mitigation measures, and why it was selected as the proposed action. Impacts are examined in greater detail in Sections V and VI of this document.
7. Permits, Approvals and Funding
- This section will discuss any required permits, approvals and funding associated with the proposed action.

B. Alternatives to the Proposed Action

This section will describe alternatives to the proposed action, evaluate the ability of each alternative to meet the needs, objectives and functional requirements of the Project, and identify issues as to why the proposed action is preferable to the alternative being discussed. The items discussed in this section will include the No Action Alternative, Alternative Technological Options (including discussion of vendor proposals received by the County in response to its Request for Proposals that were not selected as the Proposed Action), and alternative designs and layouts of the Proposed Alternative.

The following information will be presented for each alternative to the proposed action:

- 1. Description of Alternative

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- a) Brief description of communication system
 - b) Ability to meet the needs of public safety in Tompkins County, and balance desired and adequate levels of service, economic feasibility and environmental impacts
 - c) Effect on project sponsor
 - d) Effect on public need
2. System Design and Architecture
- a) Technical description of communication system (e.g., access language, modulation and information transport mechanisms)
 - b) Description of hardware, software and infrastructure (e.g., computer hardware and software to utilize technology and necessary infrastructure)
 - c) Location(s) of infrastructure and site layouts
3. System Coverage, Capacity and Capabilities
- a) Description of type of coverage, population served, critical coverage areas (e.g., accessibility for users, mobile, portable, outdoors, in-building), and radio frequencies required
 - b) Capacity of the system (e.g., traffic load, grade of service, voice, data)
 - c) Capability of the system (e.g., operational use, communication features)
4. Economic Impacts
- a) Costs to build and maintain the system
 - i) Equipment costs
 - ii) Infrastructure costs
 - b) Funding the system
 - c) Revenue generation
5. Summary of Environmental Impacts
- a) Natural resources
 - b) Human resources
6. Reasons for Rejecting this Alternative as the Proposed Action
This section will discuss any significant beneficial and adverse impacts of the alternative, associated mitigation measures, and why it was not selected as the proposed action.

IV. NATURAL RESOURCES: ENVIRONMENTAL SETTING, IMPACTS OF THE PROPOSED ACTION AND MITIGATING MEASURES

This section will include an analysis of the proposed action, as well as detailed analysis of each specific site proposed to host communications infrastructure.

A. Geology Soils and Topography

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1. Environmental Setting / Existing Conditions
 - a) Surface soils
 - b) Bedrock geology
 - c) Topography
2. Impacts of the Proposed Action
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
3. Mitigation Measures
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
 - i) Locate infrastructure in areas where slopes do not exceed 10%
4. Unavoidable Impacts

B. Water Resources

1. Environmental Setting / Existing Conditions
 - a) Surface water and drainage patterns
2. Impacts of the Proposed Action
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
3. Mitigation Measures
 - a) Short-term (construction phase)
 - i) Implement an erosion and sediment control plan during construction
 - b) Long-term (operations phase)
 - i) Locate infrastructure so as to minimize impacts to surface water
 - ii) Locate infrastructure outside of 100-year floodplains
 - iii) Locate infrastructure in areas where the depth to the water table is greater than 3 feet
4. Unavoidable Impacts

C. Wetlands

1. Environmental Setting / Existing Conditions
2. Impacts of the Proposed Action
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
3. Mitigation Measures
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)

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- i) Locate infrastructure so as to minimize impacts to wetlands

4. Unavoidable Impacts

D. Biological Resources: Flora, Fauna and Habitat

1. Environmental Setting / Existing Conditions

- a) Vegetation
- b) Wildlife
- c) Habitat

2. Impacts of the Proposed Action

- a) Short-term (construction phase)
- b) Long-term (operations phase)

3. Mitigation Measures

- a) Short-term (construction phase)
- b) Long-term (operations phase)
 - i) To the greatest extent possible, locate infrastructure away from Unique Natural Areas, Critical Environmental Areas, National Natural Landmarks, New York State Recreational Rivers, Important Bird Areas, NYS Parks, Finger Lakes Land Trust's Preserves and Easements, The Nature Conservancy's Preserves, Cornell Natural Areas
 - ii) Locate infrastructure so as to minimize impacts to flora and fauna, with special attention paid to threatened or endangered species, and species of concern
 - iii) Locate infrastructure so as to minimize species' attraction to infrastructures, with special attention paid to impacts on migratory birds (using FWS's interim guidelines and Migratory Bird Treaty Act restrictions)

4. Unavoidable Impacts

E. Agricultural Resources

1. Environmental Setting / Existing Conditions

- a) Soils
- b) Active farmland
- c) Agricultural districts

2. Impacts of the Proposed Action

- a) Short-term (construction phase)
- b) Long-term (operations phase)

3. Mitigation Measures

- a) Short-term (construction phase)
- b) Long-term (operations phase)
 - i) Placement of infrastructure to minimize loss of agricultural land and minimize impact on agricultural operations

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- ii) Use existing access roads and minimize the number of new access roads to reduce loss of agricultural lands

4. Unavoidable Impacts

V. HUMAN RESOURCES: ENVIRONMENTAL SETTING, IMPACTS OF THE PROPOSED ACTION AND MITIGATION MEASURES

This section will include an analysis of the proposed action, as well as detailed analysis of each specific site proposed to host communications infrastructure.

A. Community Character

1. Environmental Setting / Existing Conditions
 - a) Summary of municipal land use plans, master plans, comprehensive plans, and zoning and ordinances, and existing land use
2. Impacts of the Proposed Action
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
 - i) Impacts on open space
 - ii) Impacts on recreation
 - iii) Impacts on market value of neighboring residential property
 - iv) Growth-inducing impacts
 - v) Conversion of taxable property to tax exempt status
3. Mitigation Measures
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
 - i) Locate infrastructure so as to minimize conflict with existing land use
 - ii) Locate infrastructure so as to maximize compliance with existing municipal plans and ordinances
 - iii) Locate infrastructure so as to minimize impacts to municipal parks, existing trails, the Black Diamond Trail, and Scenic Byway
4. Unavoidable Impacts

B. Visual Resources

This section will analyze the visual impact of proposed structures on and from key natural and cultural resources. The study area for each site will be a minimum radius of five miles around each proposed structure.

1. Environmental Setting / Existing Conditions
2. Impacts of the Proposed Action
 - a) Short-term (construction phase)

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- b) Long-term (operations phase)
 - i) Parcels and overlooks dedicated to and available for the public use, enjoyment and appreciation of natural or man-made scenic qualities
 - ii) Sites or structures on the National or State Registers of Historic Places
 - iii) State Parks
 - iv) State Forests
 - v) National Wildlife Refuges and State Game Refuges
 - vi) National Natural Landmarks and other outstanding natural features
 - vii) State Recreational Rivers
 - viii) Existing foot trails
 - ix) Any sites, areas, lakes or reservoirs or highways designated as scenic
 - x) Municipal parks or designated open space
 - xi) County, State and local roads
- 3. Mitigation Measures
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
 - i) To the greatest extent possible, co-locate transmission hardware on existing structures and community facilities
 - ii) Design structures to promote co-location
 - iii) Limit infrastructure lighting through tower height design and FAA emergency flight path determination
 - iv) Locate infrastructure so as to minimize impacts to and from key natural and cultural resources
 - v) Consider creative design measures to camouflage facilities by integrating them into the surrounding landscape or existing buildings
 - vi) Remove all above ground infrastructure at the end of the project's life
- 4. Unavoidable Impacts

C. Public Health

- 1. Environmental Setting / Existing Conditions
 - a) Summary of current scientific knowledge of safety and health issues related to radiofrequency transmission
 - b) Comparison of radiofrequency emissions standards in the USA and Europe
- 2. Impacts of the Proposed Action
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
- 3. Mitigation Measures
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
 - i) Periodically test radiofrequency emissions near proposed facilities
 - ii) Use structural innovations to reduce possibility of structure collapse

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iii) Establish setback requirements for structure fall zones

4. Unavoidable Impacts
 - a) Electromagnetic fields
 - b) Radiofrequency radiation

D. Cultural Resources

1. Environmental Setting / Existing Conditions
 - a) Historic sites and structures listed on New York State and Federal Registries, as well as identified candidate sites meeting listing criteria
 - b) Archeological sites
2. Impacts of the Proposed Action
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
3. Mitigation Measures
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
 - i) Locate infrastructure so as to minimize impacts to historic and archeological sites and structures
4. Unavoidable Impacts

E. Noise

1. Environmental Setting / Existing Conditions
2. Impacts of the Proposed Action
 - a) Short-term (construction phase)
 - b) Long-term (operations phase)
3. Mitigation Measures
 - a) Short-term (construction phase)
 - i) To the greatest extent possible, locate infrastructure in non-residential areas
 - ii) Limit hours for construction activities when working near residences
 - b) Long-term (operations phase)
 - i) Limit the use of generators to only emergency situations when back-up power is needed
4. Unavoidable Impacts

F. Transportation System

1. Environmental Setting / Existing Conditions
2. Impacts of the Proposed Action

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- a) Short-term (construction phase)
 - i) Damage to roads and transportation delays due to delivery of oversized loads
 - b) Long-term (operations phase)
 - i) Additional curbcuts on State, County, or local roads may be required for site access
3. Mitigation Measures
- a) Short-term (construction phase)
 - i) Plan transportation routes along roads with adequate capacity to handle construction-related transport requirements
 - ii) Repair any and all damage done to roadways as a result of construction of this project
 - b) Long-term (operations phase)
 - i) Locate infrastructure so as to minimize curbcuts to State, County or local roads
4. Unavoidable Impacts

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

A. Natural and Human Resources

B. Materials Resources

C. Financial Resources

- 1. Commitment of County-issued capital bonds
- 2. Conversion of taxable property to tax exempt status

VII. EFFECTS ON THE USE AND CONSERVATION OF ENERGY RESOURCES

A. Anticipated short and long term levels of energy consumption

B. Alternative energy sources considered

VIII. ASSESSMENT OF UNAVAILABLE INFORMATION / UNCERTAINTIES

APPENDICES

List of information considered (NYSTEC Reports and others)
Regulatory requirements
Proposed construction schedule of proposed action
Relevant correspondence regarding the project
Technical exhibits
List of involved/interested agencies