

# MINNESOTA DEPARTMENT OF PUBLIC SAFETY



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## Office of the Commissioner

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March 8, 2005

The Honorable Jane Ranum, Chair  
The Honorable Thomas Neuville  
Senate Public Safety Budget Division

The Honorable Steve Smith, Chair  
The Honorable Mary Murphy  
The Honorable Michael Paymar  
House Public Safety Policy and Finance

Dear Members:

Enclosed, please find the 2004 report developed by the ARMER Division and the Metropolitan Radio Board required under Minnesota Statute 403.35 "Where the property, interests, and obligations of the Metropolitan Radio Board are combined with elements of the system backbone, the commissioner of public safety, the Statewide Radio Board, and the Metropolitan Radio Board shall formulate and submit to the legislature by February 1, 2005, a plan, consistent with the public safety radio system communication plan, specifying the terms and conditions under which the combined property, interests, or obligations will be jointly maintained."

The Department views this correspondence as satisfying the reporting requirements as provided in Minnesota Statute 403.35.

If you need further information, please do not hesitate to contact me or Ron Whitehead, Director of the ARMER/911 Division at 651-296-5778.

Sincerely,

Michael Campion  
Commissioner

cc: Governor Tim Pawlenty  
Albin Mathiowetz  
Patrick Flahaven  
Legislative Reference Library

# **REPORT TO THE LEGISLATURE**

**February, 2005**

**Minnesota Department of Public Safety, The Statewide Radio Board  
and  
The Metropolitan Radio Board**

## **Background**

The Metropolitan Radio Board was created in 1995 as a special purpose political subdivision of the State of Minnesota to “supervise the implementation of the regionwide public safety radio system communication plan” and to “ensure that the system is built, owned and operated, and maintained in accordance with the plan” (M.S. 403.23, Subdivision 4). The plan provided for the basic communication and interoperability infrastructure within the seven county metropolitan area. It also gave the Minnesota Department of Transportation the authority to “own, operate, and maintain those elements identified ... as the first phase,” (M.S. 403.23, Subdivision 13). Additionally, the plan provided the opportunity for local and regional enhancements to create a shared interoperable public safety radio communication. In June of 2002 that basic communication and interoperability infrastructure became operational. Carver County, Hennepin County, North Memorial Medical Transportation and the Cities of Minneapolis and Richfield were part of the initial implementation adding infrastructure necessary to provide additional coverage and capacity for local needs. The additional infrastructure created more robust coverage for regional users and the State of Minnesota.

In this first phase of development, the Metropolitan Radio Board served a joint role of implementing the basic communication and interoperability infrastructure and encouraging and coordinating the participation of local and regional public safety agencies. As the Metropolitan Road Board plan and system design was finalized, the Department of Transportation completed the 800 MHz Executive Team Report to the 2001 Minnesota Legislature, 800 MHz Statewide Shared Public Safety Radio System. Based upon that report, the legislature created the Statewide Public Safety Radio and Communication Planning Committee to further refine the plan and to oversee the implementation of an interoperable shared public radio and communication system throughout the State of Minnesota. That plan calls for a phased expansion of the basic communication and interoperability infrastructure throughout the state with provision for local and regional enhancements to provide interoperable public safety communication at all levels throughout the state.

In 2004, the legislature provided for a transition of the Metropolitan Radio Board to a regional radio board with continuing authority to coordinate local enhancements to the basic communication and interoperability infrastructure. With that legislation, the Statewide Public Safety Radio and Communication Planning Committee was abolished and the legislature created a Statewide Radio Board with authority to establish and enforce technical and operational standards over the basic communication and interoperability infrastructure throughout the state, including infrastructure previously under the control of the Metropolitan Radio Board (M.S. 403.38).

## **Report Requirement**

In accordance with the plan implemented by the Metropolitan Radio Board and M.S. 403.23, Subdivision 13 the Minnesota Department of Transportation is the legal owner of

the basic communication and interoperability infrastructure. The Metropolitan Radio Board and the Minnesota Department of Transportation entered into a contract as required in M.S. 403.23, Subdivision 13 defining the legal rights and responsibilities of each party. With the transition from a special purpose political subdivision to a regional radio board and the assumption of authority to set technical and operational standards on basic communication and interoperability infrastructure by the Statewide Radio Board, there was a need to identify and clarify the status of property rights and obligations between the parties. This report is required under the following provision of M.S. 403.35:

“Where the property, interests, and obligations of the Metropolitan Radio Board are combined with elements of the system backbone, the commissioner of public safety, the Statewide Radio Board, and the Metropolitan Radio Board shall formulate and submit to the legislature by February 1, 2005, a plan, consistent with the public safety radio system communication plan, specifying the terms and conditions under which the combined property, interests, or obligations will be jointly maintained.”

The plan required by this provision must also consider the provisions of M.S. 403.35, which states in part that the Metropolitan Radio Board “may retain property, interests, obligations, and rules that relate exclusively to the planning, implementation, operation, and maintenance of the second phase and to local and regional enhancements to the system backbone.”

#### Metropolitan Radio Board and Minnesota Department of Transportation Contract

In accordance with M.S. 403.23, Subdivision 13 the Metropolitan Radio Board and the Minnesota Department of Transportation entered into a contract providing for the “construction, ownership, operation, maintenance, and enhancement of these first phase backbone as defined in the plan.” The contract was originally executed on March 3, 1997 and has been subject to three amendments as follows:

April 26, 1999 1<sup>st</sup> Amendment  
January 20, 2000 2<sup>nd</sup> Amendment  
February 11, 2002 3<sup>rd</sup> Amendment

The major provisions of the contract are as follows:

Section A	Definitions
Section B	First Phase Ownership
Section C	First Phase Property Interests
Section D	Award of contracts for the First Phase
Section E	Construction of the First Phase
Section F	Excess Capacity in the First Phase, Ancillary Use of First Phase
Section G	Additions and Changes to the First Phase
Section H	Operation of the First Phase

Section J	Cost Allocation and Financing of the First Phase
Section I	Maintenance, Repair and Replacement of the First Phase Equipment
Section K	Itinerant Use by Eligible Users
Section L	Reports by MnDOT and the Radio Board
Section M	Conflict Resolution
Section N	Contract Administration
Section O	Successor to Radio Board
Section P	Employees

There is no specified term or length to the Agreement. Many of the provisions of the Agreement should be considered obsolete as they deal with specifics of construction of Phase One which is completed. The provisions which may be considered relevant to this report are as follows:

#### Section B First Phase Ownership

This section provides the following:

- that MnDOT shall own the basic communication infrastructure equipment and real estate acquired as part of the first phase development;
- that MnDOT shall also own subsystem components identified as “additions and changes to the first phase,” and
- that MnDOT shall pay 53.6% of capital costs and the Metropolitan Radio Board shall pay 46.4% of capital costs.

This section also provides for the acquisition of a second zone controller where MnDOT’s 53.6% of the cost is \$1,978,056. It states that MnDOT will perform operational maintenance service in that amount in exchange for its share of those costs. It is noted that this provision appears to reflect the Metropolitan Radio Board is responsible for 82% of the interoperability infrastructure.

Note: The amended language of this provision is not entirely clear and a different interpretation of this provision might be made. However, the above characterization would appear to be consistent with the understanding of MnDOT and the Metropolitan Radio Board staff.

#### Section C First Phase Property Interests

This section provides for the leasing of antenna and equipment sites for first phase infrastructure equipment. The provision and amendments reflect an initial intent that MnDOT should become the lessee of all real property sites needed for first phase construction. Subsequent amendments reflect an intent that the Metropolitan Radio Board be the lessee. It also provides that MnDOT would have no obligation or interest in sites required for subsystems. MnDOT’s share of the lease costs for first phase infrastructure is specified at 53.6% of the lease and utility costs.

## Section G Additions and Changes to the First Phase

This section provides that MnDOT shall own basic communication infrastructure improvements, as follows:

- That provide additional capacity to the State of Minnesota, regional agencies, emergency medical services or regional mutual aid.
- Antennas and subsystems that provide additional capacity to the State of Minnesota, regional agencies, emergency medical services or regional mutual aid.
- That are necessary to permit interface with local subsystems.

It also provides that MnDOT will not own equipment which is part of local improvements and that the costs of "additions and changes" to the first phase infrastructure will be shared in accordance with the allocation formula.

## Section H Operation of the First Phase

This section provides that the Metropolitan Radio Board shall ensure operation of the system in accordance with the plan, policies, priorities, procedures, protocols and technical and performance standards of the Metropolitan Radio Board. It also provides that eligible users may have access to the basic infrastructure in accordance with policies established by the Metropolitan Radio Board.

## Section I Maintenance, Repair and Replacement of the First Phase Equipment

This section provides that MnDOT shall maintain the first phase infrastructure and that the costs of maintenance shall be shared in accordance with the allocation formula. It also provides for casualty and liability insurance coverage with costs shared in accordance with the allocation formula. In practice, MnDOT has obtained casualty coverage, and the Metropolitan Radio Board has obtained liability coverage. Each entity has billed the other for its prorated share. In the case of the casualty insurance, the Metropolitan Radio Board has recovered prorated costs from subsystem owners.

## Section J Cost Allocation and Financing of the First Phase

This section outlines the initial capital contribution for phase one. It calls for sharing of future addition or change costs in accordance with the allocation formula.

Clause 4 provides that the Metropolitan Radio Board to work with MnDOT to develop a mutually agreeable allocation formula for first phase operating costs based upon traffic patterns, system usage and other factors affecting system capacity and

efficiency. The clause provides that the state use of the basic infrastructure may be denied if MnDOT is unable to pay costs due to insufficient appropriations.

#### Section K Itinerant Use by Eligible Users

Section K provides that the Metropolitan Radio Board's agreements with sub-system owners shall provide that the local subsystems shall be available for itinerant use ("roaming service") by eligible users.

#### Section L Reports by MnDOT and the Radio Board

This section provides that MnDOT shall make monthly reports to the Metropolitan Radio Board upon the progress of construction and upon expenditure of funds. These reports have been made verbally at regular Metropolitan Radio Board meetings. In the future, when all construction is complete, this provision may become obsolete.

#### Section M Conflict Resolution

This section provides that any disagreements under the agreement shall be submitted to mediation. It does not provide any other method of resolution.

#### Section O Successor to Radio Board

This section provides that this agreement should inure to the benefit of any successor.

#### Metropolitan Radio Board and Minnesota Department of Transportation practical issues

- Lease Agreements

Section C indicates an initial intent that MnDOT would be the owner or lessee upon all real property necessary for first phase construction. The amended language also reflects a shift in this intent to make the MRB the lessee upon real property necessary for first phase construction with lease costs and utility costs shared in accordance with the allocation formula. At the present time the MRB is the principle lessee upon leases of real estate. MnDOT then reimburses MRB for 53.6% of lease and utility costs related to first phase infrastructure. Where equipment for local enhancements is co-located at a first phase equipment site, the local entity pays a proportionate share of the lease and utility costs based upon rack space.

Parties involved in these transactions indicate that this shift was occasioned by the difficulty MnDOT had in gaining approval of long term commercial real estate leases. As the Metropolitan Radio Board could negotiate and execute leases in a much more timely manner, the basic shift was made to accommodate that business practice.

As a practical matter, there is no reason to change this arrangement. Lease contracts could be transferred to MnDOT, however, there is no compelling reason to do so. As

a regional radio board, the Metropolitan Radio Board will continue to have the authority to maintain those leases, with MnDOT paying its proportionate share of lease and utility costs.

Recommendation:

The current leases maintained by the Metropolitan Radio Board shall be transferred to the new regional radio board. MnDOT shall continue to pay the MRB its proportion of lease and utility costs based upon the allocation formula. As these leases reach their renewal, MnDOT and the regional radio board should assess individually whether to continue this relationship or transfer them to MnDOT.

- Insurance Coverage

Insurance coverage is provided for in Section I.5 of the agreement. As a practical matter, MnDOT provides for the basic property casualty insurance as part of its ownership and maintenance obligation. Similarly, the Metropolitan Radio Board provides the comprehensive liability insurance for the basic system. The costs of the coverage are shared in accordance with the allocation formula. There does not appear to be any overwhelming reason to change this arrangement at this time.

Recommendation:

MnDOT's primary concern is property casualty which they provide directly. The current arrangement is viable and there is no specific reason to change it.

- Cost Allocation

The 53.6%/46.4% capital funding arrangement forms the basis of the financial agreement between MnDOT and the Metropolitan Radio Board, respectively. This figure is thought to be derived from the amounts of capital available from each party to be invested in the regional backbone. It has since been the basis of all capital contributions and of cost allocation. There is a certain logic to the division in saying 53.6% of the system is what the state would have built for its own use and that 46.4% of the basic system is the regional piece providing interoperability and capacity between local systems. On a per radio basis, state users number approximately 1,300 whereas, local and regional users are expected to ultimately number 15,000 to 18,000 units.

Section J.4 of the Agreement provides as follows:

“The Board shall develop allocation formula(s) for operating costs of the First Phase that allocate the capital and operating costs of the system between MnDOT and the Board using traffic patterns, system usage and other factors affecting system capacity and efficiency.”

In discussion between Metropolitan Radio Board staff and MnDOT there seems to be a recognition that the 53.6%/46.4% has worked up to now and that it is a reasonable division of the state and regional infrastructure portions. It is noted that any other method, such as traffic pattern, system usage or other factors affecting system capacity," would result in a much smaller proportionate share to the state. It should be noted that in accepting responsibility for 53.6% of the basic system infrastructure MnDOT has indicated they should not be required to contribute to the 46.4% regional costs or of any portion of local costs reallocated to regional users. That is not to say that the state itself should bear no responsibility for assisting local units of government to keep maintenance costs reasonable for regional users. Some interests believe that for the state not to do so would create financial disincentives for some regional users, such as metro mobility and EMS providers.

The net effect of the ownership rules and allocation rules provided for herein, is that MnDOT is and shall be the legal owner of state infrastructure, including the 46.4% attributed to regional enhancements. Equitable ownership, however, is divided 53.6% to MnDOT and 46.4% to the Metropolitan Radio Board or its successor.

- Excess Capacity

The question of excess capacity is potentially a difficult subject. Section F of the agreement provides that "the Radio Board shall allocate and assign ancillary use of the First Phase subject to review by MnDOT." The initial language of the agreement provided a definition of excess capacity as "Excess capacity includes allocation and assignment of frequencies, channels, talk groups, microwave T-1 use, equipment building floor space reserved for local subsystem use, antenna tower space reserved for local subsystem use, and other backbone system capacity and resources that are not being used or are not included in the growth plan incorporated in the Plan." This language was deleted as part of an amendment to Section F with no new language defining excess capacity added.

The lack of definition and understanding over what constitutes excess capacity and what constitutes planned expansion capacity may be a problem in the future. The initial First Phase plan called for one zone controller but as the system was built and expanded a second zone controller was necessary to accommodate the demand for Central Electronics Banks (CEB's) and ports. It was also determined that it was a necessary redundancy feature for all users, including the state. At the present time, there is no cost associated with the use of limited system resources aside from regional maintenance costs. The allocation of those resources has been reviewed and approved by the Metropolitan Radio Board's System Managers Group and Technical Operations committee.

The issue presented here might be compared to the implementation of an automated phone system where each expansion card accommodating thirty two telephones costs \$10,000. If there is no cost associated with the thirty two system connections people

simply order their telephone devices without regard to that proportionate cost. However, when that thirty third telephone user comes along he or she is confronted with a \$10,000 bill to add the additional capacity. When an incremental improvement might cost \$3 to 4 million dollars, the allocation of those resources has a potential to become a significant problem in future as resources are allocated. Similar circumstances occur as other resources, such as microwave capacity, are allocated to users to transport CEB traffic and recorded voice channels.

Based upon the allocation formula, one might argue that 53.6% of the basic infrastructure is part of the statewide system available for allocation to system wide users. This result, however, would leave insufficient resources for local enhancements in the metro area. One might also argue that the contract and structure allows the Metropolitan Radio Board to allocate existing excess capacity for regional use leaving nothing for state infrastructure or assignment. The answer to this question may have significant consequences at some future date when additional capacity is needed to connect or interconnect other users to the system. Should existing users use of capacity be reduced to provide those connections or should someone pay for expansion resources? When those expansion resources can cost millions these can be difficult decisions.

This basic problem led MnDOT to give notice to the Metropolitan Radio Board that upon the addition of Isanti and Chisago Counties to the MRB's jurisdiction, they sought retroactive contribution for 46.4% of the costs of the basic infrastructure in those counties. At the time of construction, MnDOT paid 100% of those costs. MnDOT sought to apply those costs to its remaining payments upon the second zone controller noting that the necessity for the second zone controller was based upon the consumption of resources for local enhancements. The Metropolitan Radio Board's legal advisors rendered an opinion that the addition of Isanti County and Chisago County do not provide a circumstance for retroactive reimbursement.

In discussion of this issue with MRB staff, it was suggested that these issues have been resolved amicably in the past and can be resolved in the future in a similar fashion. If it should prove to be the case that a dispute cannot be resolved without intervention, provision might be made to allow the Statewide Radio Board to make a final determination. Use of excess capacity for systems outside the metropolitan area could still be allowed; however, the question of who gets bumped or who purchases any added capacity would clearly need to be resolved.

#### Recommendation:

As the metropolitan area is built-out to capacity, there is a potential issue over the assignment of infrastructure capacity. Previous assignments of capacity may have to be revisited and the cost of expansion of future capacity may need to be distributed among existing sub-system and integrated sub-system owners. Regional radio boards will need to work with the Statewide Radio Board to identify existing allocation of capacity, capacity allocated to future expansion within the region and the capacity

needed to assure statewide interoperability. By virtue of M.S. 403.38 and 403.37, subd.7 “the Statewide Radio Board has the final authority over technical and operational standards necessary to provide for the development and implementation of a statewide backbone” and to “determine how excess capacity provided in the system backbone design will be allocated.” The cooperation of the past should be encouraged. Where a cooperative agreement cannot be reached, the Statewide Radio Board shall have the final authority to resolve any questions over the allocation of capacity within the system backbone.

- Additions and changes to First Phase

Under the existing agreement, capital costs and operating costs of additions and changes to the system backbone are shared in accordance with the allocation formula. This raises a question whether this rule should or can be continued. The application of this rule in the system development stage makes sense, but upon completion of the first phase it is probably impractical.

Changes and additions to the system backbone are anticipated and the sharing of costs based upon equitable interests should continue. However, the presumption that those changes are part of the basic system enhancements will need to be examined individually on a careful basis, and the appropriate allocation of costs should be the result of negotiation among the Metropolitan Radio Board, MnDOT, the Statewide Radio Board and the Department of Public Safety.

Recommendation:

The basic allocation of capital costs and operational costs should continue. However, it should only be applied to additions and changes that enhance the basic communication infrastructure and which are not necessitated by the additional needs or demands of local or regional users. As a general rule, sharing of future additions and changes to the basic infrastructure should be by agreement of the parties. Final resolution of any questions should be submitted to the Statewide Radio Board for resolution.

- Interoperability Infrastructure

Interoperability infrastructure is referenced in Section C where MnDOT is authorized to charge back certain costs for “interoperability equipment” at the rate of 82%. “Interoperability equipment” is defined as “equipment provided as part of the First Phase backbone that allows for communications between the backbone system 800 MHz trunked radio users and other 800 MHz, UHF and VHF radio systems.”

MnDOT is the legal owner of interoperable infrastructure equipment with the Metropolitan Radio Board maintaining an equitable interest to the percentage indicated. It should be noted that the Metropolitan Radio Board with the consent of all participants, provided 100 percent of the cost of equipping all metropolitan

PSAPs with interoperable consolettes that allows them to respectively patch their dispatch consoles into the region-wide system. These units are owned by the Metropolitan Radio Board and leased at no cost to each PSAP. This equipment has become an intrinsic part of the interoperability system, although cannot be defined as "infrastructure."

- Itinerant and Interoperability users

Section K provides that local governments shall make their subsystems available for Itinerant Use by Eligible Users from other local subsystems. As a regional system, this language outlines the understanding that regional users shall be able to roam on to local subsystems. The implications of this rule have resulted in the imposition of various rules restricting out of subsystem operation. These rules are necessary to conserve capacity. For example, a Minneapolis police officer is not allowed to monitor the Minneapolis main talk group from his or her residence over the Carver County subsystem.

With the expansion of the statewide system, it would be appropriate to articulate an understanding concerning itinerant use by eligible users for outside the metro area. It is understood that similar limitations will be applicable but that common interoperability talk groups are fundamental to the system design and purpose.

At the present time, out-of-system interoperability users execute an agreement with the Metropolitan Radio Board for interoperability access to the basic system. They also pay the Metropolitan Radio Board's annual administrative fee. Although an issue for the Statewide Radio Board, there is a need to acknowledge a basic level of interoperability will be maintained for all users statewide upon all subsystems.

Recommendation:

The right of eligible system users, statewide, to register on the system and utilize a group of interoperability talk groups or hailing talk groups should be articulated with further refinement to be established by the Statewide Radio Board.

Summary

At the present time, the Metropolitan Radio Board Cost Allocation Committee continues its work upon the allocation of costs (46.4% regional share) among regional users. In those discussions it is assumed that the 53.6%/46.4% allocation formula will be continued. MnDOT staff has indicated that formula is acceptable as long as no additional regional costs are levied upon MnDOT. Based upon discussion at the Statewide Radio Board where this report was discussed further analysis of the 53.6%/46.4% equitable ownership and apportionment formula will be needed before that figure is finally adopted.

MnDOT will continue to be the legal owner of the basic communication and interoperability infrastructure. Equitable interest of the basic communication infrastructure shall be apportioned at 53.6% to MnDOT and 46.4% to the Metropolitan Radio Board and its successor regional radio board. Equitable interest of the interoperability communication infrastructure shall be apportioned at 18% to MnDOT and 82% to the Metropolitan Radio Board and its successor regional radio board.

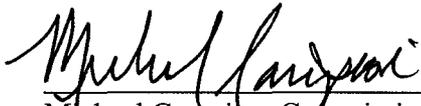
Future additions and changes to the basic communication and interoperability infrastructure will only be shared in accordance with the allocation formula where agreed to between MnDOT and the Metropolitan Radio Board and its successor regional board. Where there is no sharing of capital contribution to any addition or change to the basic communication and interoperability infrastructure, legal ownership of the addition or change be maintained by the party paying the capital costs or as otherwise agreed.

The allocation of excess capacity is still an open issue. Ideally an adequate cost would be associated with these limited resources to sufficiently recover the cost of expansion. Lacking a cost allocation or recovery model, an understanding of this issue needs to be addressed.

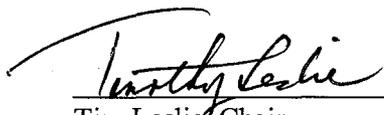
Interoperable itinerant use which impacts local subsystems needs to be addressed.

The terms and provisions concerning how "combined property, interests, or obligations will be jointly maintained" will be documented in a new agreement between the Metropolitan Radio Board or its successor regional radio board.

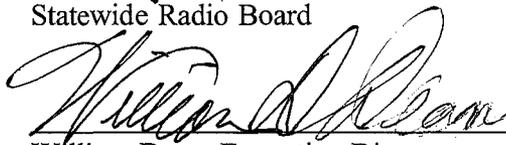
Respectfully submitted:

  
\_\_\_\_\_  
Michael Campion, Commissioner  
Department of Public Safety

3-8-2005  
Date

  
\_\_\_\_\_  
Tim Leslie, Chair  
Statewide Radio Board

3/8/2005  
Date

  
\_\_\_\_\_  
William Dean, Executive Director  
Metropolitan Radio Board

3/4/05  
Date