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Joint Committee on Finance

Paper #797

State Patrol Communications Infrastructure and Positions (Transportation -- State Patrol)

[LFB 2023-25 Budget Summary: Page 658 #3 and Page 659, #6]

CURRENT LAW

The primary duty of the Division of State Patrol (DSP) is the enforcement of traffic and commercial motor vehicle laws by conducting highway patrols, inspecting trucks, school buses, and ambulances, and aiding local law enforcement agencies with natural disasters or civil disturbances. To support this mission, the State Patrol operates a statewide digital microwave radio network for dispatch and command operations, and to support officers' communications while on duty.

DISCUSSION POINTS

Background

1. The state's microwave radio network was established in the early 1950s and was originally used to connect nine radio frequency repeater stations throughout the state. As of 2023, the Department of Transportation (DOT) operates and maintains 70 communications towers and another 96 network locations that consist of radio transmission equipment or data networking appliances. The current radio network provides a managed voice over internet protocol (VoIP) telephone system and internet connectivity for DOT, including State Patrol, as well for sites owned by other state agencies including the Department of Natural Resources, Department of Corrections, and the Wisconsin Air National Guard.

2. DSP is primarily responsible for maintaining DOT's statewide radio network infrastructure, and houses the Bureau of Network Engineering and Data Infrastructure (BNEDI), which designs, installs, and maintains DOT-owned communications and data networking technology.

Correspondingly, funds provided to the Department for the maintenance of the statewide radio network are provided to DSP's general operations appropriation.

3. The statewide microwave radio network also serves as the primary backbone for the Wisconsin Interoperable System for Communications (WISCOM), a radio system that permits emergency responders to communicate across jurisdictions and serves over 850 agencies and nearly 40,000 subscribers including several state agencies as well as federal, county, and municipal law enforcement agencies. DOT owns, operates and maintains the statewide tower network on which WISCOM is deployed, as well as the wide-area IP network that WISCOM uses for backhaul (linking WISCOM communications equipment with the broader internet network). However, the Department of Military Affairs (DMA) is responsible for the operation and governance of the WISCOM system, as well as establishing agreements for users, vendors, and tower site leases. DMA and DOT work together maintain and repair WISCOM equipment. DMA deploys some WISCOM hardware at DOT tower sites, but DOT also deploys hardware on tower sites that supports the WISCOM system.

4. DMA is currently undergoing a process to replace the existing WISCOM system. The 2017-19 biennial budget instituted a requirement for DMA to upgrade or replace WISCOM. Subsequently, the 2021-23 budget provided DMA with \$500,000 GPR for initial project management and consultant services associated with the upgrade, and reserved \$6,000,000 GPR in the Joint Committee on Finance's supplemental appropriation in 2022-23 to implement the upgrade, which the Committee has not yet released to DMA. In a separate recommendation, Assembly Bill 43/Senate Bill 70 (AB 43/SB 70) would provide \$45,000,000 GPR to DMA for implementation of the WISCOM upgrade. DMA indicates that it is currently evaluating proposals to implement the network upgrade following the release of a request for proposals in November, 2021. The 2021-23 budget also required DMA to oversee the development and operation of any current or future statewide public safety interoperable communication system, and allowed DMA to enter into agreements for the maintenance and support of, and upgrades to any current or future system.

5. While DMA has made progress on the mandate to upgrade the WISCOM system, some uncertainty exists regarding the status of the WISCOM system upgrade in the 2023-25 biennium. Implementation of the WISCOM upgrade likely cannot progress until the Committee approves funding for DMA, either by releasing the \$6,000,000 reserved for DMA in the Committee's supplemental appropriation for 2022-23, or by taking action on the Administration's recommendation to provide \$45,000,000 in 2023-25 to implement the WISCOM upgrade. Even once funding is provided, an extended period of time may be still be required before implementation of the WISCOM upgrade can occur, as preliminary work such as planning the upgrade and finalizing any agreements for maintaining the system must first be completed.

6. As mentioned previously, DSP currently maintains the tower sites and deploys some physical infrastructure on the towers to support WISCOM. Given DSP's ongoing role in maintaining the WISCOM system, as well as the uncertainty around the WISCOM system upgrade project in 2023-25, the Department indicates that DSP will likely continue to hold similar responsibilities for maintaining the WISCOM system in the 2023-25 biennium as it had in the past. Any future change that could occur to the division of responsibilities between DSP and DMA for maintaining the WISCOM network due to the system upgrade project remains unclear at this time.

7. This paper discusses three provisions related to State Patrol communications included in AB 43/SB 70: (a) additional funding for upgrades to State Patrol microwave radio link equipment; (b) funding to maintain State Patrol communications towers; and (c) five State Patrol communications positions.

A. Microwave Radio Network Link Upgrades

8. The Department indicates that its radio network requires routine maintenance and upgrades to sustain operations and ensure proper service. Previously, the Department had implemented two seven-year master lease agreements to replace and upgrade radio network link locations, both of which will expire before the 2023-25 biennium. The Department received \$290,500 SEG annually for its phase 1 master lease, which expired in September, 2021, and \$233,800 SEG annually for its phase 2 master lease, which expired in March, 2023. The Department completed upgrades to 37 radio network link sites under the two seven-year leases.

9. AB 43/SB 70 would provide DSP with an additional \$586,000 SEG annually to initiate a new phase 3 seven-year master lease for upgrading its radio network link locations. The requested funds would be provided in addition to the \$524,300 in existing SEG funding authority that was previously provided to the Department for the two past master leases, for a total annual funding level of \$1,110,300. The Department estimates that the new master lease would cost an estimated \$6,490,000 over its seven-year life cycle, and upgrade 59 sites at a cost of \$110,000 each, including antenna, hardware, and installation costs. The funding is needed to prevent future system failures, which would impact critical communications for the Department, State Patrol, local law enforcement agencies, and other national, state, and local agencies that rely upon the system. [Alternative A1]

10. The Department's \$6,490,000 estimate for the seven-year master lease equates to \$927,200 per year. Given DOT's existing funding of \$524,300, the Committee could instead provide \$402,900 annually. This amount of additional funding that along with the existing funding would be sufficient to cover the estimated \$927,200 annual cost of the lease over its seven-year lifespan. If costs in future years exceed the Department's estimate, the Department could request additional funds at a later time. [Alternative A2]

11. As previously discussed, DMA is required under 2017 Act 59 to upgrade or replace WISCOM, and is currently evaluating proposals to replace the system. With the WISCOM transition moving forward, there is some uncertainty regarding how State Patrol's microwave radio network will be utilized in the future, and there may be concerns about committing additional funds for another seven-year master lease to cover the cost of upfront investment of upgrading of State Patrol's microwave radio network until a final determination is made on the WISCOM transition. As mentioned, the Governor's 2023-25 biennial budget bill includes a separate recommendation to provide one-time funding of \$45,000,000 GPR to DMA to implement a WISCOM system upgrade. The need for DOT funding would be impacted by any decision on the recommended DMA funding, and on the future configuration and operation of the WISCOM system. As a result, providing additional funding could be postponed until the future of the WISCOM system is decided.

12. If no additional funding were provided, the Department would retain its \$524,300 in existing funding authority for radio network link upgrades, and may be able to continue implementing

some network link upgrade work with these funds. If possible, the Department would have to allocate other current funding amounts to fully fund this work. This action may be warranted given the timing of the potential WISCOM transition, and resulting uncertainty surrounding the future makeup of the network and DSP's role in maintaining WISCOM infrastructure. [Alternative A3]

B. Maintenance of Communications Towers

13. As noted, DSP BNEDI staff design, install, and maintain DOT's network of communications technology and infrastructure. This includes the statewide microwave radio network and WISCOM, and all equipment and infrastructure located at DOT communications tower facilities, as well as other systems such the mobile WISCOM site on wheels. The Department indicates that BNEDI is experiencing a backlog of maintenance projects on DOT communications tower facilities due to an insufficient availability of funding. The current backlog involves projects totaling over an estimated \$1.3 million. These projects include the need to replace approximately half of DOT's tower backup generators at an estimated \$150,000 each, carry out preventative maintenance for tower generators twice a year, replacing aging HVAC systems in tower buildings, and improving the general accessibility and security of tower sites.

14. AB 43/SB 70 would provide \$1,300,000 SEG annually for the DOT departmental management and operations appropriation to address the current backlog of maintenance work on communications towers. The Department indicates that this funding would be provided to DOT's general operations appropriation rather than DSP, because while DSP is responsible for maintenance of tower sites, the sites are owned by DOT. These recommendations would provide ongoing base funding of \$1,300,000 for the DOT departmental management and operations appropriation, which would fund ongoing maintenance of State Patrol communications infrastructure in future years. [Alternative B1]

15. Due to the uncertainty surrounding DMA's eventual upgrade to the current WISCOM system and how DOT's tower facilities would be utilized going forward under that system, providing such a large commitment of ongoing funding for DOT tower maintenance may not be fully needed. Instead, the Committee could provide one-time funding of \$650,000 SEG in both 2023-24 and 2024-25, and specifying that the funding not be included in base funding for DOT's 2025-27 budget. Since DOT's departmental management and operations appropriation is an annual appropriation, any unspent funds at the end of a fiscal year would lapse back to the transportation fund. Providing the one-time funds would allow BNEDI staff to address the current backlog of tower maintenance projects until a decision is made on WISCOM. [Alternative B2]

16. The Department's \$1.3 million backlog of tower maintenance projects likely accumulated over several years, and the provision of this level of ongoing funding to address the entire backlog of projects in one biennium could provide more annual funding than would be needed once the backlog is addressed. Instead, the Committee could provide \$650,000 annually for DOT's departmental management and operations appropriation. This level of funding may be sufficient to address DSP's backlog of tower maintenance projects in the biennium and provide a lower level of ongoing funding to address future projects. [Alternative B3]

17. Until the future of statewide communications systems is decided, the Committee could

choose to provide additional resources to maintain DOT communications tower infrastructure. Further, DOT did not include this funding as part of its budget request. However, DOT's communications towers provide the backbone for communications infrastructure used by DOT, DSP, and a variety of other federal, state and local agencies. Their upkeep is important to the security of communications networks for DSP and other agencies across the state. [Alternative B4]

C. State Patrol Communications Positions

18. The DSP BNEDI employs technical services units (TSUs), which carry out ongoing operation and maintenance of the Department's array of communications infrastructure, including the 70 microwave radio network tower sites and 96 network locations. DSP currently employ 24 TSU positions in BNEDI's three technical service areas, including five field technicians in the northwest area, nine in the northeast area, and eight in the southern area, as well as two statewide positions.

19. The Department indicates that the current staffing level of the BNEDI TSUs may be insufficient due to the growing complexity of the technology that BNEDI employs, and the increasing number of organizations that rely upon DSP communications systems such as WISCOM. As a result, the Department indicates that several BNEDI projects have experienced delays, including upgrades to tower site sensors that monitor essential functions and alarms, standardization of tower alarm systems, and implementation of future networking projects. The Department also indicates that extra staff would be needed to implement the additional \$1.3 million in communications tower maintenance work that would be performed annually under the previous recommendation. TSU staffing challenges may also be exacerbated in 2023-25 if the additional recommended funding is provided for microwave radio network link upgrades, and no additional resources are provided for TSU staff to implement the upgrades.

20. BNEDI also operates DSP's fleet installation center (FIC), which employs four positions that work to equip and maintain DSP's current fleet of over 500 squad vehicles. FIC is responsible for procuring DSP vehicles, and "upfitting" them by designing and installing specialized equipment such as radio transmitters, communications consoles, and weapon holsters. FIC also coordinates fleet trades and decommissions fleet vehicles once they have reached the end of their service life. The Department indicates that the current FIC staffing allocation has not kept pace with the amount of specialized equipment that is currently required for its vehicles. In addition, the strain on FIC staff may increase further if the Committee approves separate AB 43/SB 70 provisions to provide 45 additional state patrol officers in the 2023-25 biennium, which would also provide funding to purchase additional squad vehicles for the new officers.

21. AB 43/SB 70 would provide \$1,168,800 SEG in 2023-24, \$430,300 SEG in 2024-25, and 5.00 FTE to DSP's general operations appropriation, which would be used for BNEDI to hire four additional TSU network communications system analyst positions and one FIC electronic technician agency-senior position. The Department indicates that the need for the TSU positions directly corresponds to the previous recommendation to provide \$1.3 million for maintenance of communications towers, as the additional staff would be required to implement this work. The Department also indicates that the additional FIC position would ensure that all State Patrol officers receive fully-equipped squad vehicles on a timely basis. Additional FIC staff would be particularly needed if separate recommendations to hire additional State Patrol officers are also approved. The

higher funding level recommended in 2023-24 would be used to fund tools and equipment for the new staff. The recommendation to provide an ongoing increase of \$430,300 in 2024-25 would establish base level SEG funding in State Patrol's general operations appropriation to fund the ongoing costs of the new positions' salary and fringe benefits. [Alternative C1]

22. If funding is provided for the maintenance work backlog on DOT's communications tower facilities, the Committee could prioritize maintenance of DOT communications infrastructure by only approving the four additional TSU positions to assist with this work. This would provide \$935,000 SEG in 2023-24, \$344,200 SEG in 2024-25, and 4.00 FTE, and would establish an ongoing \$344,200 increase in base level SEG funding in State Patrol's general operations appropriation. However, not providing an additional FIC position could lead to delays in equipping and delivering state patrol vehicles for State Troopers, particularly if the Committee approves the separate recommendations to hire additional State Troopers in the 2023-25 biennium. [Alternative C2]

23. AB 43/SB 70 contains a variety of recommendations that increase spending from the transportation fund, while limited transportation fund revenues are available. In recognition of this concern, if the Committee chooses to provide only half of the recommended tower maintenance funding (\$650,000 annually), it could also provide a smaller increase in TSU staffing to implement this work by approving the additional FIC position and providing two additional TSU positions. This alternative would provide personnel to both FIC and the TSUs, while also limiting transportation fund expenditures compared to the amounts recommended under the bill. This would provide \$701,300 SEG in 2023-24, \$258,200 SEG in 2024-25, and 3.00 FTE, and would establish an ongoing \$258,200 increase in base level SEG funding in State Patrol's general operations appropriation. [Alternative C3]

24. Given the limited availability of transportation fund revenues, the Committee could further limit this recommendation by denying the additional TSU positions, while making certain that State Patrol vehicles are equipped by providing the additional FIC position. This alternative would be a better decision if the Committee does not provide additional funding for microwave radio network link upgrades, which is more directly related to the TSU positions. This would provide \$233,800 SEG in 2023-24, \$86,100 SEG in 2024-25, and 1.00 FTE, and would establish an ongoing \$86,100 increase in base level SEG funding in State Patrol's general operations appropriation. However, this may perpetuate State Patrol's existing backlog of projects to maintain DOT communications infrastructure. [Alternative C4]

25. Given the limited availability transportation fund revenues, the Committee could choose not to prioritize funding for the recommended additional positions at this time. As stated earlier, the additional TSU positions may not be as high a priority if the Committee does not approve the separate recommendation for microwave radio network link upgrades. [Alternative C5]

ALTERNATIVES

A. Microwave Radio Network Link Upgrades

1. Provide \$586,000 annually to the Division of State Patrol general operations appropriation to implement microwave radio network link upgrades. This would establish an ongoing

\$586,000 increase in base level SEG funding in State Patrol's general operations appropriation.

ALT A1	Change to Base
SEG	\$1,172,000

2. Provide \$402,900 annually to the Division of State Patrol general operations appropriation to implement microwave radio network link upgrades. This would establish an ongoing \$402,900 increase in base level SEG funding in State Patrol's general operations appropriation, which along with existing funding could fund a new lease.

ALT A2	Change to Base
SEG	\$805,800

3. Take no action.

B. Maintenance of Communications Infrastructure

1. Provide \$1,300,000 annually to the DOT departmental management and operations appropriation for the maintenance of DOT communications towers. This would establish an ongoing increase of \$1,300,000 to the DOT departmental management and operations appropriation.

ALT B1	Change to Base
SEG	\$2,600,000

2. Provide \$650,000 annually to the DOT departmental management and operations appropriation for the maintenance of DOT communications towers. Specify that the additional \$650,000 would not be included in base level funding for the appropriation in the 2025-27 budget.

ALT B2	Change to Base
SEG	\$1,300,000

3. Provide \$650,000 annually to DOT's departmental operations appropriation for the maintenance of DOT communications towers. This would establish an ongoing increase of \$650,000 to the DOT departmental management and operations appropriation.

ALT B3	Change to Base
SEG	\$1,300,000

4. Take no action.

C. State Patrol Communications Positions

1. Provide \$1,168,800 in 2023-24, \$430,300 in 2024-25, and 5.00 FTE to the Division of State Patrol general operations appropriation to hire one fleet installation center position and four BNEDI technical service unit positions. This would establish an ongoing increase of \$430,300 in base level SEG funding to State Patrol's general operations appropriation.

ALT C1	Change to Base	
	Funding	Positions
SEG	\$1,599,100	5.00

2. Provide \$935,000 in 2023-24, \$344,200 in 2024-25, and 4.00 FTE to the Division of State Patrol general operations appropriation to hire four BNEDI technical service unit positions. This would establish an ongoing increase of \$344,200 in base level SEG funding to State Patrol's general operations appropriation.

ALT C2	Change to Base	
	Funding	Positions
SEG	\$1,279,200	4.00

3. Provide \$701,300 in 2023-24, \$258,200 in 2024-25, and 3.00 FTE to the Division of State Patrol general operations appropriation to hire one fleet installation center position and two BNEDI technical service unit positions. This would establish an ongoing increase of \$258,200 in base level SEG funding to State Patrol's general operations appropriation.

ALT C3	Change to Base	
	Funding	Positions
SEG	\$959,500	3.00

4. Provide \$233,800 in 2023-24, \$86,100 in 2024-25, and 1.00 FTE to the Division of State Patrol general operations appropriation to hire one fleet installation center position. This would establish an ongoing increase of \$86,100 in base level SEG funding to State Patrol's general operations appropriation.

ALT C4	Change to Base	
	Funding	Positions
SEG	\$319,900	1.00

5. Take no action.

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