

## Broadband USA Applications Database

**Applicant Name:** TTM OPERATING CORPORATION, INC.

**Project Title:** The Southern Minnesota Broadband Enhancement Program

**Project Type:** Comprehensive Community Infrastructure

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### Executive Summary

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TTM Operating Company (TTM), a wholly-owned subsidiary of Telecom Transport Management, Inc. (TTMI) is applying for a grant of \$16,572,654 plus allowable pre-application expenses under the NTIA's Comprehensive Community Infrastructure Broadband Technology Opportunities Program (BTOP). With this grant and the TTM 30% matching cash capital contributions of approximately \$8,240,000 (which includes an approximately \$100,000 in-kind contribution from the City of Rochester, Minnesota as a partner), TTM will launch the Southern Minnesota Broadband Initiative and build an extensive middle-mile network (the Network), including 71 interconnection points (POIs) in unserved (11) and underserved (60) areas of Southern Minnesota. In many of the proposed funded service areas (PFSAs), there is no broadband access at all or no alternatives with the capacity and affordability that will be provided by TTM. Much of the area lacks the infrastructure required by many Community Anchor Institutions (CAI) and public safety entities who have expressed substantial interest in and support for the Network. Last mile mobile carriers have also expressed overwhelming interest in the Network, which clearly demonstrates that the critical need for this effective solution. TTM has engaged numerous public and private institutions in the region to offer direct high-speed fiber connections. For example, TTM has partnered with the State of Minnesota's Office of Enterprise Technology to deploy 118 miles of fiber between state network hubs co-located at Minnesota State Colleges in Mankato and Owatonna, and between Rochester and St. Paul, which will provide direct connections to establish affordable redundant broadband paths and reliability across the State network in the region. Over 100 CAIs would be served by this enhanced network. TTM has also partnered with the City of Rochester to construct a 26 mile fiber loop to the Rochester airport and its Emergency Operations Center (EOC) as well as a minimum of two fire stations. Likewise, TTM has engaged three other municipalities, Mankato, Owatonna and Albert Lea, for similar connections to their municipal airports. Finally, TTM has partnered with four community colleges and will provide connections to seven high schools in the region in support of the community colleges' distance learning and associated initiatives. Of these currently known direct community connections, five (5) are in unserved or underserved areas. TTM will leverage the institutional knowledge of several supporting institutions to create a 14-County Broadband Council (the Council), an advisory board that will help implement the project and identify further needs and opportunities. The Council will have three sub-committees: access for secondary and higher education, public safety, and improving the capacity in the state's core communications network. The Council will consist of nine members: two from each of the committees, one from a local Native organization, one from the state's library system, and one from the state's Broadband Task Force. In addition to the direct community connections discussed above, the Network will provide a total of 180 POIs in Southern Minnesota from

the outskirts of Minneapolis-St. Paul south to the border with Iowa and as much as 95 miles east-west from Mankato to Rochester. The PFSAs enabled by these POIs will cover approximately 7,100 square miles and contain 800,000 residents and the PFSAs covered by the Network are predominantly rural. The total number of households passed in the last mile service areas that will be enabled by the Network is 286,210. The total number of businesses passed is 8,348. The total number of CAIs, public safety entities, and critical community organizations in the last mile service areas passed by the Network is 572. Dozens of CAIs have expressed their direct support for TTM and the project, emphasizing that the quality of health care, education, emergency response and library science in the area is constrained because neither they nor the citizens they serve have access to affordable, reliable broadband services. TTM's Network will help these CAIs save lives, promote educational opportunities and provide a means for enhanced business and social interaction in Southern Minnesota. The Network will offer direct broadband service to CAIs, and also enable TTM's mobile carrier customers to provide mobile broadband services directly to end users. TTM will provide point-to-point services, with the option of shared or dedicated bandwidth. For CAIs, service will typically be from the customer's building to a carrier hotel where Internet access is available from multiple providers, or between different customer buildings on a campus or across the region. For cellular operators, service is provided from a cell site to the customer's Mobile Switching Center (MSC). In this proposal, TTM offers middle mile service from T1 (1.54 Mbps) to speeds in excess of 100 Mbps per customer at each site. TTM adheres to the FCC's Internet Policy Statement principles and does not favor any lawful Internet applications or content over others. TTM will display its network management policies in a prominent location on its website and provide notice to customers about changes to such practices for the proposed funded facilities. TTM will provide, upon completion, interconnection to the Network where technically feasible without exceeding current or reasonably anticipated capacity limitations on reasonable rates and terms to be negotiated with requesting parties. The Network uses a combination of fiber optics and microwave radio technology. The core of the Network is a fiber ring combining existing and new fiber that TTM will build, which will support massive scalability. Fiber fed last mile end sites are arranged in collector rings that connect back into the core redundantly. Some of the fiber fed sites also support licensed microwave extensions to pick up additional end sites. Adding these radio sites greatly increases the reach of the Network. When employing licensed microwave systems, TTM typically operates in the 11, 18 or 23 GHz bands, with small antennae (typically 1 to 3 ft. diameter). TTM deploys protected equipment and uses industry standard design criteria for link availability. TTM is one of the largest independent providers of high capacity backhaul services to last mile mobile service providers. It has partnered with several carriers as they have launched their 3G networks and is currently working with one provider to launch its 4G network in Minneapolis, adjacent to the proposed Network. TTM has designed, built and operated networks in Richmond and Norfolk, Virginia, Minneapolis-St. Paul, Minnesota, Central Pennsylvania, and Southern New Jersey, including nearly 800 interconnected cell sites and 4,400 route miles of dark fiber. TTM employees have extensive experience planning and implementing these networks, and its management team consists of individuals with years of experience in running successful facilities-based telecom companies. TTM operates its own Network Operations Control Center, monitoring on a 24/7 basis the approximately 7,000 T-1 equivalent circuits currently utilized by its customers. TTM is authorized to conduct business in Minnesota and holds a Certificate of Authorization from the Minnesota PUC. TTM has no current plans to sell any or all of its assets. The total cost of the

infrastructure for the Network is \$23,675,220. TTM is requesting a grant of \$16,572,654 plus allowable pre-application expenses. TTM's total contribution, including an in-kind contribution from the City of Rochester in support of the airport loop portion of the project, is approximately \$8,240,000 which represents a 30% matching contribution toward the total project cost. The number of end-user subscribers expected to be served in the last mile service areas enabled by the Network exceeds 363,400. Of these, 330,000 will be mobile broadband subscribers, 33,400 will be subscribers and end users of services at CAIs and commercial locations and other fixed locations. TTM estimates that there will be at least 70 direct and 100 indirect CAI connections to the Network. TTM estimates the project will create 177 job years over the course of network construction and implementation and three years of operations. Many permanent jobs within TTM will be created as it opens a network maintenance facility in the proposed service area.