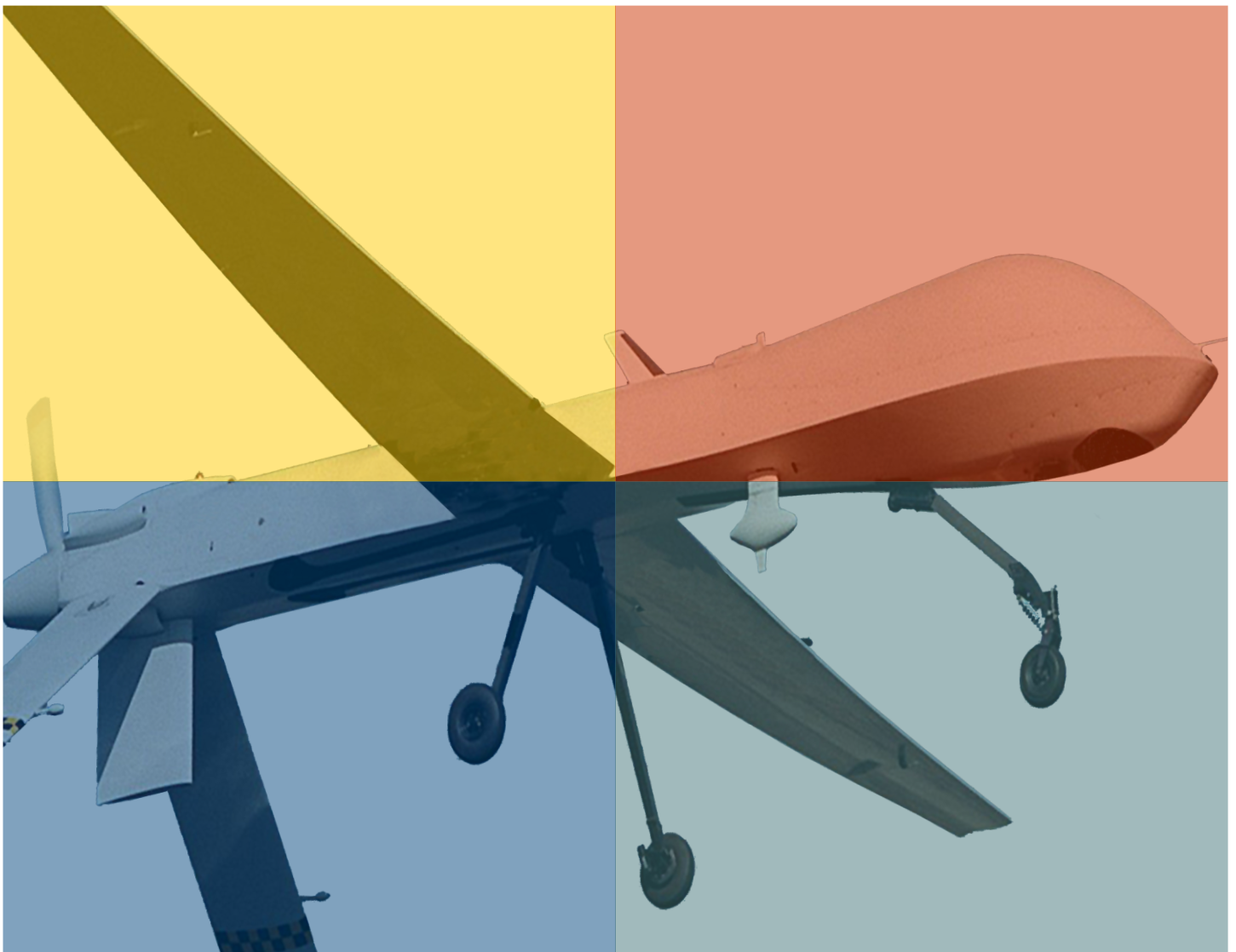




# Unmanned Aircraft Systems Task Force Final Report





RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
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November 20, 2017

The Honorable Rick Snyder  
Governor of Michigan  
P.O. Box 30013  
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The Honorable Tom Casperson, Chair  
Senate Transportation Committee  
Michigan State Senate  
P.O. Box 30036  
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The Honorable Triston Cole, Chair  
House Transportation and Infrastructure  
Committee  
Michigan House of Representatives  
P.O. Box 30014  
Lansing, Michigan 48909

Dear Governor Snyder, Senator Casperson and Representative Cole:

I am pleased to present the first report of the Unmanned Aircraft Systems Task Force in accordance with the requirements of Public Act No. 436 of 2016. The task force has had numerous productive and engaging meetings. Its deliberations informing this report reflect a broad spectrum of viewpoints but a unified purpose in establishing sound, clear and reasonable regulations for this important new form of aviation.

A few key principles are worth noting. Task force members desire to have a regulatory environment which respects state and federal areas of authority, but also establishes Michigan as a good location to test, develop and deploy this technology. Michigan is well positioned to capitalize on the numerous benefits of unmanned aircraft systems to be fully realized whether for commercial use, aiding the mission of public agencies or simply the enjoyment by recreational enthusiasts. At the same time, there needs to be clear standards for special situations for public safety and protection of personal privacy.

The task force members recognize that public awareness for all users will be essential to prevent misunderstandings, inadvertent violations of laws and potentially dangerous situations. A robust education effort will be a necessary compliment to the regulatory framework. The members also recognize the quickly changing nature of this technology and industry and agreed that trends and policies will need to be reviewed and updated. The task force is committed to such future vigilance.

Thank you for the privilege to serve on the Unmanned Aircraft Systems Task Force. On behalf of all the members, we greatly appreciate this chance to serve and hope our efforts will in turn serve the people of Michigan.

Respectfully submitted,

Mike Trout, Chair  
Michigan Unmanned Aircraft Systems Task Force

cc: Michigan Unmanned Aircraft Systems Task Force Members

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## Executive Summary

The Michigan Unmanned Aircraft Systems Task Force (UASTF or Task Force) was established by Public Act 436 of 2016, legislation passed both the Michigan Senate and House of Representatives with a bipartisan majority and was signed into law by Governor Rick Snyder on January 3, 2017. Following the process of appointing members, the UASTF held its first meeting on August 23, 2017; and, as required by statute, had 90 days from that date to complete its final report. To assist in accomplishing this goal, the UASTF met on six occasions. These meetings focused not only topic presentations and lengthy Task Force deliberations, but also included public comment from a variety of entities. While a full discussion of federal and state authority to regulate Unmanned Aircraft Systems (UAS), concerns and barriers for private and public UAS are discussed at length in the report that follows, please accept this executive summary as a “quick glance” resource for recommendations from the UASTF.

1. Establish an Unmanned Aerial System Joint Program Office (UASJPO) to coordinate public agency efforts and provide a unified voice for Michigan’s citizens seeking UAS information.
2. Recognize the Michigan Unmanned Aerial Systems Consortium (MIUASC) or other appropriate entity as the primary association for private entities and universities to collaborate and interface with the UASJPO.
3. Reaffirm the Michigan Aeronautics Commission as the state body responsible for all aeronautical activity in the state with authority to develop rules, regulations, policies, and procedures for the use and integration of UAS into Michigan.
4. Develop an education and outreach strategy to address coordinated educational outreach efforts for local governments, law enforcement and users.
5. Design and distribute recommended guidelines for public agency data sharing and record retention policies for state agency data collected by UAS.
6. Recommend the Legislature enact legislation establishing an extension of self principle. This means actions which are currently allowed or prohibited by persons would apply to persons using an UAS.
7. Explore deployment of UAS Traffic Management (UTM) system in Michigan to explore feasibility of state airspace protections.
8. Enact a state law to prohibit UAS interference with the operation of key and unique facilities. Mackinac Island is a strong example of a unique facility in Michigan.
9. Clarify Michigan Compiled Laws Section 259.321, which regulates UAS interference with official duties of police officers, firefighters, paramedics, or search and rescue personnel to ensure other appropriate public safety officials are included.
10. Develop a submission for the Federal Aviation Administration (FAA) UAS Integration Pilot Program.
11. Coordinate with other state and federal agencies to address current and future regulatory barriers.

12. Identify opportunities to share technological innovations among industry partners.
13. Expand the mission of the American Center for Mobility (ACM) to include Unmanned and Autonomous Aerial Vehicles and Systems.

## Introduction

Since the earliest days of flight, Michigan has played a leadership role in aviation. From the first paved runway in the world to the first mass-produced all metal airliner to the 1942 testing of drone aircraft in Traverse City, Michigan has led the way in pioneering aviation achievements. Aviation is now an integral part of our transportation system, moving people and goods throughout the world. We have a vibrant and diverse aviation community made up of airlines, business aviation, and recreational flyers. Today, there are new users like the operators of UAS and even commercial space vehicles. Virtually, every Michigan citizen is impacted by the benefits aviation provides.

Aviation activity is significant and vitally important to Michigan's economy and plays a notable role as people and businesses consider Michigan as a place to live and work. We now compete globally for opportunities to attract jobs, which in turn, requires Michigan to maintain an aviation system that is increasingly safe and efficient. With the geographic challenges of Michigan, access to all parts of the state in support of business, tourism, and emergency relief is critical.

In addition to the nearly \$22 billion economic impact of manned aviation in Michigan, as identified in the 2013 Economic Report from the Association for Unmanned Vehicle Systems International, UAS deployment is already producing positive economic benefits for the state despite the constantly evolving operational framework available to UAS users. In Michigan alone, the UAS industry is expected to contribute at least 1,426 new jobs and \$1.128 billion in economic impact in the first decade following full UAS integration into the National Airspace System.<sup>1</sup>

Michigan's leadership role in aviation is being challenged by the evolution of the industry and the growth of competition around the world. The rapidly changing aviation industry, the technological opportunities, and evolving workforce all comprise a compelling case for transformational change. We should embrace a common vision for the role Michigan will play in the future of aviation, both domestically and globally. These mutual goals will enable us to work closely in the coming months and years to achieve those transformational changes. To succeed, we need to unite the interests of the industry and flying public around our priorities. With a unified view from users and providers, we can appropriately address the challenges being faced. We can make a real difference and preserve Michigan's leadership role.

## Purpose, Objective, and Approach

The Michigan Unmanned Aircraft Systems Task Force (UASTF or Task Force) was established by Public Act 436 of 2016, legislation passed both the Michigan Senate and House of Representatives with a bipartisan majority and was signed into law by Governor Rick Snyder on January 3, 2017.

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<sup>1</sup> "Economic Report." *Economic Report*, Association for Unmanned Vehicles International, [www.auvsi.org/our-impact/economic-report](http://www.auvsi.org/our-impact/economic-report).

Mike Trout, Executive Administrator of the MDOT Office of Aeronautics and Director of the Michigan Aeronautics Commission, served as UASTF Chairman. MDOT staff provided administrative support for the Task Force.

Following the process of appointing members, the UASTF held its first meeting August 23, 2017, and, as required by statute, had 90 days from that date to complete its final report. To assist in accomplishing this goal, the UASTF met on six occasions. Each meeting included both topic presentations and task force deliberations. Additionally, the Task Force received and considered public comment at each of its meetings.

The 27-member Task Force was specifically charged with considering “commercial and private uses of unmanned aircraft systems, landowner and privacy rights, as well as general rules and regulations for safe operation of unmanned aircraft systems, and prepare comprehensive recommendations for the safe and lawful operation of unmanned aircraft systems in this state.” The recommendations are to “include, but not be limited to, recommendations regarding the protection of public and private property interests and the use of unmanned aircraft systems over public property.” The text of this Act is included as Appendix 1.

Membership of the UASTF was also legislatively established through Public Act 436 of 2016. Representation included members from six state agencies and twenty local government, law enforcement, industry, economic development, critical infrastructure, and other interests. A full membership list is included as Appendix 2.

At its opening meeting, the UASTF explored the approach it sought to address its charge. With an understanding that each member had a specific viewpoint on UAS operations in general and a deeper understanding that some viewpoints may lack full representation, the Task Force sought to examine all UAS issues using a holistic approach. Employing this methodology, the Task Force explored UAS topics from a level where operational considerations could be described in generalities, but in a manner where specific recommendations could be explored. This led to the formation of specific issue groups that will be addressed in the following sections of this report.

Additionally, the Task Force elevated two other considerations for the overall approach to addressing its charge. First, the UASTF maintained a determination to minimize a patchwork of difficult to find, to interpret, and to enforce local restrictions on UAS operations across a variety of land ownership scenarios and municipal governance structures. Secondly, the Task Force sought to avoid any additional regulation that was not absolutely necessary for the safety or economic development of the citizens of Michigan and the UAS industry.

The culmination of the initial 90 days of deliberation of the UASTF are represented in this report. However, the Task Force recognizes the development and integration of UAS into the National Airspace System, the State of Michigan, and local municipalities is an ongoing and rapidly evolving area of commerce, aviation, policymaking, and law. As such, the Task Force looks forward to providing additional expertise and comment to the Governor, Legislature, and Michigan Aeronautics Commission well into the future.

While the submission of this report marks the completion of the reporting requirement for the UASTF, members of the Task Force urge those reading this report to understand that this report

reflects only 90 days of deliberation in a rapidly evolving industry. The Task Force will continue to meet regularly in order to refine policy recommendations and explore new developments of the industry.

## Governmental Roles and Responsibilities/Development of an Aviation Framework

Since the advent of flight, aircraft have performed manned and unmanned operations with both types of aircraft operating in the same governmental and airspace framework safely. The recent and rapid development of relatively inexpensive, lightweight, and technologically capable UAS have necessitated an exploration of the role and responsibilities of governments, operators, and others for allowing innovative new technologies while maintaining the safety of the aviation system that has been in place for nearly 100 years.

Federal policymakers hold strongly to the idea that the FAA maintains the sole authority to regulate airspace use, management and efficiency, air traffic control, safety, navigation facilities, and aircraft noise. Further, Congress has specifically directed the FAA to develop policy and plans for the use of navigable airspace and assign, by regulation or order, the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. Finally, Congress additionally directs the FAA to prescribe air traffic regulations on the flight of aircraft for navigating, protecting, and identifying aircraft, protecting individuals and property on the ground, using navigable airspace efficiently, and preventing collision of aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects.

In Section 333 of the FAA Modernization and Reform Act of 2012 (Public Law No 112-95), Congress directed the Secretary of Transportation to determine whether UAS operations posing the least amount of public risk and no threat to national security could safely be operating in the National Airspace System and if so, to establish requirements for the safe operation of these systems.

On February 15, 2015 and in response to the 2012 charge from Congress, the FAA proposed a framework of regulations that would allow routine commercial use of certain small UAS. Under the Notice of Proposed Rulemaking, the FAA proposed a set of regulations outlining permissible hours of flight, line-of-sight observation, altitude, operator certification, optional use of visual observers, aircraft registration and marking, and other operational limits. This initial framework was commonly referred to as a “Section 333 exemption request” as commercial operators sought specific exemption from Federal Aviation Regulations for items such as aircraft airworthiness certification, which was traditionally required of manned aircraft.

On August 29, 2016, the FAA subsequent permanent rule making, Federal Aviation Regulations Part 107, became effective. This new set of regulations outlined specific requirements for commercial operations of UAS in the National Airspace System. It effectively replaced the previous Part 333 exemption process with a set of standardized pilot certification requirements and operational restrictions, but also left in place an opportunity for a small portion of those operational restrictions to be waived upon FAA review. It remains important to note that throughout this federal regulatory development for UAS, FAA has held strongly to its legal

authority, which provides for the sole control of airspace down to the “blades of grass” or in more practical terms – that FAA has the sole authority to control all airspace access across Michigan and the United States.<sup>2</sup>

Several judicial decisions, despite state and local attempts to restrict airspace, have upheld FAA’s jurisdiction over airspace across the country. Most recently in *Singer v. Newton*, a federal court struck down airspace restrictions and UAS registration requirements established by the City of Newton, Massachusetts.

Despite this federal sovereignty, many state and local governments (including 38 in 2017 alone) continue to seek control over the operation of UAS. Generally, recent state legislative attempts have sought to control the activity being conducted rather than restricting specific airspace, such as criminalizing UAS interference with public safety officers rather than restricting airspace near a police station.<sup>3</sup>

Similarly, the Michigan Legislature approved Public Act 436 of 2016 which, in addition to establishing the UASTF and requiring this report, codified the following UAS-related policies including those outlined below. It remains important to note that since these restrictions do not specifically call out certain types of airspace, these would likely stand up to scrutiny by FAA or other legal professionals with regard to airspace preemption.

- Prohibit an individual from using a UAS to interfere with a police officer, firefighter, paramedic, or search and rescue personnel.
- Prohibit an individual from using a UAS to subject another to harassment.
- Prohibit an individual from using a UAS in a manner that would be a violation of a restraining order or other judicial order, if the person were to do so personally rather than with a UAS.
- Prohibit an individual from using a UAS to invade an individual’s reasonable expectation of privacy.
- Prohibit a registered sexual offender from using a UAS to violate restrictions associated with registration as a sexual offender.
- Restrict the enactment or enforcement of UAS ordinances established by a political subdivision of the State of Michigan.
- Specifically permit UAS operations, both commercial and non-commercial, in Michigan, if operating in accordance with federal regulation.
- Prohibit the use of UAS to assist in hunting.

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<sup>2</sup> “State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet.” UAS, Federal Aviation Administration, [www.faa.gov/uas/resources/uas\\_regulations\\_policy/media/uas\\_fact\\_sheet\\_final.pdf](http://www.faa.gov/uas/resources/uas_regulations_policy/media/uas_fact_sheet_final.pdf).

<sup>3</sup> *Current Unmanned Aircraft State Law Landscape*. National Conference of State Legislatures, [www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx](http://www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx).

## Issues

### Private Issues – Current Uses

During the UASTF meeting on September 6, 2017, members received a briefing from a variety of commercial UAS users represented on the Task Force. This discussion examined current applications for UAS being used in Michigan at the time, including inspections by utility companies, facility management organizations, and the insurance industry for a variety of both routine and emergency related functions. An additional discussion occurred on the current utilization of UAS for the tourism, advertising, construction, and agriculture industries in Michigan.

The UASTF also discussed the value proposition of increasing utilization of UAS. The primary driver of UAS adoption in Michigan has been focused on the financial benefits to implementing UAS within an organization, including the ease of deployment, the relatively low entry cost for commercial grade UAS, and the quality of collected data compared to data obtained via other methods. Closely tied to the financial benefits of UAS are the significant safety enhancements afforded by UAS. Task Force members discussed the safety benefits afforded by UAS in cases like wind turbine inspection, electrical line observation, property insurance inspection, and pesticide application, to name just a few. Clearly, the fewer potential hazards an employee is exposed to (as a result of UAS deployment) reduces a commercial operator's liability exposure, while protecting the health and safety of employees.

### Private Issues – Concerns and Barriers

The UASTF spent considerable time exploring the concerns of both private users of UAS and private citizens, unsure of the legality of UAS operations in Michigan. The areas of discussion can be generally categorized into concerns related to privacy, trespass, key and unique facility security, education outreach for users and law enforcement agencies, and the need for a uniform set of UAS rules across the state.

During the discussion on both privacy and trespass, the UASTF noted that public perception related to UAS can vary widely based on familiarity with the systems, their users, and the law. The discussion built upon input received by several Task Force members described the importance of reasonableness in any law enforcement proceeding. Also, Instances where real estate agents, surveyors, and media outlets utilize UAS can all be perceived differently by nonparticipants. For example, areas of the law may permit a surveyor to enter property when performing official duties where a realtor would need landowner permission to occupy private property. The Task Force continued this discussion and indicated that existing legal restrictions that apply to an individual personally trespassing or illegally capturing images should apply to UAS users in the same manner.

Next, the UASTF discussed the possibility of restricting UAS operations near certain property types including correctional facilities, tourist destinations, prominent bridges and others. For purposes of this report, these areas will be referred to as key and unique facilities. Initial discussion examined the feasibility of the State of Michigan enacting restrictions prohibiting UAS near key facilities. While seemingly common sense, these airspace restrictions may be

contrary to FAA's preemption authority with regard to airspace. However, other options to ensure the safety of Michigan's key and unique facilities were discussed.

Additionally, the UASTF also specifically discussed the importance of uniformity of regulations across the state in order to prevent the development of a patchwork of locally promulgated regulations or restrictions that may in turn hinder deployment of UAS in Michigan – especially in the commercial use sectors. In addition to being potentially federally preempted, local restrictions make development of a commercial deployment of UAS on a statewide basis very difficult.

Finally, in the area of private UAS use concerns, the difficulties experienced by users, law enforcement, and state and local governments to receive timely and relevant information related to UAS operations in the state were discussed. Members of the law enforcement community commented on the difficulty in obtaining information needed to enforce existing state law and on the current regulations that exist, both on the federal and state level. Additionally, commercial operators discussed how information, specifically on the state level, was difficult to find publicly. Other members of the Task Force commented on the importance of “in the field” safety and education outreach for not only existing UAS users, but also for law enforcement and state and local government officials.

#### Public Issues

During the UASTF meeting on September 27, 2017, the group examined issues related to public or governmental use of UAS. While these discussions covered many topics, the primary topics of concern were law enforcement difficulty, key facility security, and state consideration of UTM.

Law enforcement members on the Task Force described, at length, the difficult situation state and local law enforcement officers have in attempting to enforce existing state law related to UAS. Since FAA regulations are not enforceable by state, county, or local law enforcement and state and local regulations are potentially preempted and ambiguous when viewed at a local level, Michigan's law enforcement personnel are left in a difficult situation, which can be compounded by unfamiliarity of UAS rules and regulations in the prosecutorial areas of state and local governments.

In a similar context, the UASTF discussed the need to protect critical infrastructure or key facilities as the Michigan Compiled Laws defines these facilities. While appearing an easy way to address these difficult issues, the Task Force discussed the imposition of certain airspace restrictions – such as a state law preventing flights above correctional facilities, bridges, railroad yards or similar facilities. However, these types of airspace restrictions may be specifically preempted by the federal authority vested in the FAA. With this in mind, other options to ensure the safety of Michigan's key and unique facilities may be available to Michigan policy makers.

To potentially address some of these concerns while respecting the sovereignty of FAA's airspace authority, the UASTF discussed the establishment of a UTM system. In such a system, the State of Michigan can support FAA's authority for flight safety while taking a strong step forward in protecting key facilities. Conceptually, this type of deployment would provide

limitations on the operational capabilities of UAS, if not operated in accordance with the State of Michigan UTM system.

Additionally, the UASTF made specific comments regarding the lack of information, for all interested parties, on the regulations and law regarding UAS use in Michigan. The Task Force commented on Michigan Department of Transportation's (MDOT) existing pilot safety education components and explored the possibility that MDOT support expansion of the organization's pilot education role to include UAS operators.

## Recommendations

After deliberations of both private and public use concerns and the recognition of the economic development opportunities of a fully integrated UAS system in Michigan, the UASTF provides the following recommendations to both Governor Snyder and members of the Legislature.

1. Establish an Unmanned Aerial System Joint Program Office (UASJPO) to coordinate public agency efforts and to provide a unified voice for Michigan's citizens seeking UAS information.

With the understanding that UAS use, operation, and regulatory concerns will continue to develop as technology and statewide policies evolve, the UASTF recommends establishment of a single point of contact for both state agency use of UAS technology, but also for inquiries from the general public on both federal and state UAS regulation, safe operating principles, restrictions, and any other UAS use. Such an office would also serve as the primary voice for UAS education and outreach outlined in this report.

Informed by the legislative directive expressed in the UASTF's enabling legislation, the Task Force recommends this joint program office be housed within MDOT and supported by the representatives from the Michigan Departments of Transportation, State Police, Natural Resources, Corrections, Agriculture and Rural Development, and Licensing and Regulatory Affairs.

2. Identify the organization through which private entities and universities can collaborate and interface with the UASJPO.

The Michigan UASTF received public comment from a variety of UAS user groups and other members of the public. During the course of the Task Force's review, it became evident that there is no unified voice able to communicate the primary needs of the Michigan UAS community to the Task Force, state agencies, Governor's Office, or Legislature.

Therefore, the Task Force recommends that an existing industry consortium or the UASTF and its private industry members be identified as the primary voice for state policy concerns. The Task Force is aware of the existence of the Michigan Unmanned Aerial Systems Consortium or a local chapter of the Association for Unmanned Vehicle Systems International currently in existence in Michigan.

3. Reaffirm the Michigan Aeronautics Commission as the state body responsible for all aeronautical activity in the state with authority to develop rules, regulations, policies, and procedures for the use and integration of UAS into Michigan.

For more than 70 years, the State of Michigan and the Michigan Aeronautics Commission have promoted the safe and efficient growth of the Michigan aviation system, its network of airports, aviators, and navigational equipment. Throughout eras of change in aviation, whether it be the transition from piston engines to jet turbines, visual flight operations to all weather operations, or ground-based radio navigation to global position system operations, the Michigan Aeronautics Commission has strongly advocated in favor of increasing the deployment of safety enhancing systems, supporting more efficient passenger and cargo transport, and is ready to support the ongoing development of UAS in Michigan.

With existing authority for all aeronautical operations and a dedicated staff of aviation professionals, the Michigan Aeronautics Commission and the MDOT Office of Aeronautics is a likely cornerstone for future support to the UASTF, other state agencies, and the general public's continued interest in the expansion of UAS in Michigan.

Of note is the recent action by the Commission to establish a UAS advisory committee under its oversight, with the purpose to "promote and support the ongoing development and expansion of unmanned aerial systems in Michigan while enhancing awareness to ensure public safety." The committee will be populated through an application process in the next several weeks

4. Develop an education and outreach strategy to address coordinated educational outreach efforts for local governments, law enforcement and users.

During the UASTF meetings, a variety of topics were covered. In each instance, the discussion pointed back toward the need for additional outreach to educate UAS users in both the commercial and non-commercial areas on the importance of adhering to state and federal law. In addition to educational outreach for UAS users, the Task Force identified a need in the area of law enforcement and local government collaboration on current state and federal laws related to UAS operation, in addition to better coordination on the enforcement mechanism in place to appropriately prosecute those operating illegally.

The UASTF also discussed existing efforts of MDOT's Office of Aeronautics, which conducts safety seminars for existing manned aircraft pilots. The Task Force indicated UAS outreach should mirror these existing efforts while seeking input from UAS specialists in other state agencies and universities. Additionally, the Task Force indicated the state should support existing aviation and UAS-specific conferences as a means of supporting educational outreach to Michigan UAS users – including hobbyists, commercial operators, and any others.

5. Design and distribute recommended guidelines for public agency data sharing and record retention policies for state agency data collected by UAS.

With the understanding that all Michigan citizens have a reasonable expectation of privacy and transparency from its governmental agencies, the UASTF recommends each state agency currently utilizing UAS technology have a publicly available data sharing and record retention policy for information collected from a UAS. Additionally, the UASTF recognizes that law enforcement operations are inherently different from other UAS operations conducted by state agencies and recommend law enforcement data sharing and retention policies comply with existing law enforcement regulations and other necessary judicial rules.

6. Recommend an “extension of self principle” be enacted by the Legislature.

During the course of UASTF deliberations, many topics related to individual liberties, privacy, and trespass were debated at length. While there is an understanding that UAS are a new and oftentimes worrisome technological development, the Task Force believes that existing Michigan law addresses these concerns by protecting private property from trespass and protection of reasonable personal privacy at all times, regardless of the use of a UAS.

The Task Force recommends amending current law to say UAS use is considered an extension of the person with regard to criminal violations. For example, introducing contraband into a correctional facility by carrying or concealing it on one’s person is currently illegal. The “extension of self principle” would mean it is similarly illegal to use a UAS to introduce contraband. Hopefully and preferably, such an amendment could be accomplished in a single public act rather than numerous amendments.

The extension of self principle also lends itself directly to discussions regarding privacy and the reasonable right to privacy afforded by state law today. Whether that invasion of privacy is a telephoto lens, inquisitive neighbor, or now with a UAS, all invasions of privacy should be treated similarly and an extension of self principle, enacted by the Legislature, would accomplish that task for UAS operations.

7. Explore deployment of a UTM system in Michigan.

With the understanding the FAA continues to assert its complete airspace control, the UASTF believes that airspace below 400 feet will likely require state support for enforcement of safety principles and for the protection of critical infrastructure. Further, recognizing that information and systems to automate approval for airspace access or for restriction of airspace (with appropriate FAA approval) exist today, the UASTF recommends the State of Michigan explore deployment of a UTM in Michigan.

8. Enact a state law to prohibit UAS interference with the operation of key and unique facilities.

The UASTF spent a considerable amount of time discussing how to appropriately consider the safety needs of Michigan’s key facilities with respecting FAA’s authority regarding airspace. With this in mind, the UASTF recommends that the Legislature consider

legislation that would prohibit interference with a key facility, as currently defined in statute with a UAS. This legislation should include no specific airspace restriction, but rather a prohibition on a certain conduct such as “interference” or similarly defined term.

9. Revisit Michigan Compiled Laws Section 259.321 which regulates UAS interference with official duties of police officers, firefighters, paramedics, or search and rescue personnel.

The Michigan Aeronautics Code contains provisions that prohibit an individual in Michigan from using a UAS to interfere with the official duties of a police officer, firefighter, paramedic, or search and rescue personnel. The UASTF recommends a thorough examination of this statute to ensure appropriate public safety officials are included in this statute.

10. Develop a submission for the FAA UAS Integration Pilot Program.

Recently, the FAA has announced a UAS Integration Pilot Program aimed at allowing state governments to partner with private sector entities, such as UAS operators or manufacturers, to accelerate safe UAS integration. The program is expected to provide immediate opportunities for new and expanded commercial UAS operations, foster a meaningful dialogue on the balance between local and national interests related to UAS integration, and to provide actionable information to the U.S. Department of Transportation and FAA on expanded and universal integration of UAS into the National Airspace System.

Given the nature of the program and the strong interest of state entities and partners to illustrate Michigan as a welcoming state for UAS, the UASTF recommends that the State of Michigan develop and submit a proposal for the FAA UAS Integration Pilot Program.

11. Coordinate with other state and federal agencies to address current and future regulatory barriers.

As the UASTF’s discussions have indicated, regulatory challenges on the state and federal level have the potential to significantly impact the deployment and acceptable use of UAS in Michigan. The UASTF recommends that the State of Michigan allow the Task Force to continue to evaluate these potential changes and provide updated information to the Governor, Legislature, and appropriate state agencies.

12. Identify opportunities to share technological innovations among industry partners.

Michigan is home to a vast array of companies pushing the limits of UAS technology. The Task Force recommends that the State of Michigan continue to cultivate these companies and the individuals with the capability to propel the industry and Michigan forward. This may take the form of hosting events and participating in conferences where Michigan can highlight its growing capabilities in an effort to attract jobs.

13. Expand the mission of the American Center for Mobility to include Unmanned and Autonomous Aerial Vehicles and Systems.

The American Center for Mobility (ACM), located in Ypsilanti Township and adjacent to the Willow Run Airport, is quickly becoming the focal point in the testing and eventual deployment of autonomous automobiles. Given its location, infrastructure, partners, and technological capabilities, the UASTF urges the state to collaborate with ACM to ensure autonomous vehicles – both on the ground and in the air – remain at forefront of the site’s development. The Task Force urges the Administration to use any upcoming events as an opportunity to formally announce this expanded role of the ACM as a premier environment to test and showcase how UAS can be safely integrated into the airspace system. Previous dialogue has indicated ACM is willing to grow its support for UAS deployment in Michigan.

## Conclusion

UAS have the potential to expand into nearly every facet of society in some capacity. The UAS industry will create transformational changes for Michigan residents in the years ahead. The technology is accelerating at an ever increasing pace. Government and industry must work together for the benefit of the state, while striving to understand and maintain the balance between economic opportunity and safety/privacy.

Michigan is ideally well-positioned to become a UAS leader. Michigan is home to world-class businesses and corporations, multiple UAS manufacturers, a strong retail and distribution network, numerous UAS clubs/organizations, educational institutions globally recognized for their academic excellence and innovation in transportation and beyond, and has historically had a very strong aviation presence.

New technology is driving UAS. The capabilities of UAS platforms are growing and are expected to expand in the years ahead, so too are the applications for which UAS are utilized. New ways of operating UAS in support of commercial and public business are being developed constantly, and recreational/hobby use of UAS has evolved and experienced an exponential growth in popularity. Even the word “drone” has become an integral part of today’s lexicon.

Overall, education is perhaps the most essential recommendation offered by the Task Force. This includes a comprehensive approach to educate UAS operators (commercial, public, and recreational/hobby), local elected officials and policy makers, the aviation community, the general public, and other stakeholders that may be interested in or impacted by UAS in Michigan. Education and outreach is one of the most fundamental, yet often overlooked components to implementing sound policy and successfully achieving desired results.

The State of Michigan has a responsibility to ensure the safety and protect the rights of the public. The Task Force fully supports the need to address legitimate privacy and land rights concerns and recommends care be taken to appropriately address these valid concerns without unduly restricting otherwise safe and lawful UAS operation.

However well-intentioned, overly burdensome regulations that discourage or unnecessarily obstruct the otherwise safe and lawful use of UAS should be avoided. Facts, not perception, should drive the regulatory conversation. Officials should be aware of the prevalence of misinformation or misconceptions surrounding UAS, as they develop public policy.

As UAS oversight at the state level is crafted and implemented, legislative policy makers must remain mindful of federal rules and regulations. State-level oversight, and any permitted Local restrictions on UAS operations, must maintain full compliance with federal law. Furthermore, state-level oversight should be structured in such a manner that allows for timely modification to adapt to future changes in federal rules and regulations.

UAS can develop into an economic driver for the state – by enhancing employee efficiency/productivity, through retail sale revenues, and also by creating or sustaining jobs in UAS design, development, manufacturing, distribution, retail, and professional commercial operators.

Finally, the Task Force would like to express its gratitude to the Governor and Legislature for their leadership in establishing the Task Force and their willingness to rely on these professionals. The Task Force understands this is not the end, but really the beginning and is hopeful the recommendations presented provide a step forward on the path to meaningful actions in the future.

## Appendix 1 – Public Act

Act No. 436  
Public Acts of 2016  
Approved by the Governor  
January 3, 2017  
Filed with the Secretary of State  
January 4, 2017

Effective Date: April 4, 2017

**STATE OF MICHIGAN  
98TH LEGISLATURE  
REGULAR SESSION OF 2016**

**Introduced by Senators MacGregor, Nofs, Casperson, Booher, Brandenburg and Schmidt**

## **ENROLLED SENATE BILL No. 992**

AN ACT to provide for the operation and regulation of unmanned aircraft systems in this state; to create the unmanned aircraft systems task force; to provide for the powers and duties of state and local governmental officers and entities; and to prohibit conduct related to the operation of unmanned aircraft systems and prescribe penalties.

*The People of the State of Michigan enact:*

Sec. 1. This act shall be known and may be cited as the “unmanned aircraft systems act”.

Sec. 3. As used in this act:

- (a) “Person” means an individual, partnership, corporation, association, governmental entity, or other legal entity.
- (b) “Political subdivision” means a county, city, village, township, or other political subdivision, public corporation, authority, or district in this state.
- (c) “Unmanned aircraft system” means an unmanned aircraft and all of the associated support equipment, control station, data links, telemetry, communications, navigation equipment, and other equipment necessary to operate the unmanned aircraft.
- (d) “Unmanned aircraft” means an aircraft flown by a remote pilot via a ground control system, or autonomously through use of an on-board computer, communication links, and any additional equipment that is necessary for the unmanned aircraft to operate safely.

Sec. 5. (1) Except as expressly authorized by statute, a political subdivision shall not enact or enforce an ordinance or resolution that regulates the ownership or operation of unmanned aircraft or otherwise engage in the regulation of the ownership or operation of unmanned aircraft.

(2) This act does not prohibit a political subdivision from promulgating rules, regulations, and ordinances for the use of unmanned aircraft systems by the political subdivision within the boundaries of the political subdivision.

(3) This act does not affect federal preemption of state law.

(4) If this act conflicts with section 40111c or 40112 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.40111c and 324.40112, those sections control.

Sec. 11. A person that is authorized by the Federal Aviation Administration to operate unmanned aircraft systems for commercial purposes may operate an unmanned aircraft system in this state if the unmanned aircraft system is operated in a manner consistent with federal law.

Sec. 13. A person may operate an unmanned aircraft system in this state for recreational purposes if the unmanned aircraft system is operated in a manner consistent with federal law for the operation of a model aircraft.

Sec. 21. An individual shall not knowingly and intentionally operate an unmanned aircraft system in a manner that interferes with the official duties of any of the following:

(a) A police officer.

(b) A firefighter.

(c) A paramedic.

(d) Search and rescue personnel.

Sec. 22. (1) A person shall not knowingly and intentionally operate an unmanned aircraft system to subject an individual to harassment. As used in this subsection, “harassment” means that term as defined in section 411h or 411i of the Michigan penal code, 1931 PA 328, MCL 750.411h and 750.411i.

(2) A person shall not knowingly and intentionally operate an unmanned aircraft system within a distance that, if the person were to do so personally rather than through remote operation of an unmanned aircraft, would be a violation of a restraining order or other judicial order.

(3) A person shall not knowingly and intentionally operate an unmanned aircraft system to violate section 539j of the Michigan penal code, 1931 PA 328, MCL 750.539j, or to otherwise capture photographs, video, or audio recordings of an individual in a manner that would invade the individual’s reasonable expectation of privacy.

(4) An individual who is required to register as a sex offender under the sex offenders registration act, 1994 PA 295, MCL 28.721 to 28.736, shall not operate an unmanned aircraft system to knowingly and intentionally follow, contact, or capture images of another individual, if the individual's sentence in a criminal case would prohibit the individual from following, contacting, or capturing the image of the other individual.

Sec. 23. (1) An individual who violates section 21 or 22 is guilty of a misdemeanor punishable by imprisonment for not more than 90 days or a fine of not more than \$500.00, or both.

(2) This section does not affect the ability to investigate or to arrest, prosecute, or convict an individual for any other violation of a law of this state.

Sec. 31. (1) The unmanned aircraft systems task force is created to develop statewide policy recommendations on the operation, use, and regulation of unmanned aircraft systems in this state.

(2) Within 90 days after the effective date of this act, the governor shall appoint initial members of the unmanned aircraft systems task force. The individuals appointed to the unmanned aircraft systems task force by the governor, initially and subsequently, must comprise 1 member from each of the following agencies or interest groups:

(a) A member from the state transportation department nominated by the director of the state transportation department.

(b) A member from the division of the state transportation department that performs bridge inspections and road work, nominated by the director of the state transportation department.

(c) A member from the department of state police, nominated by the director of the department of state police.

(d) A member from the department of natural resources, nominated by the director of the department of natural resources.

(e) A member from the department of agriculture and rural development, nominated by the director of the department of agriculture and rural development.

(f) A member from the department of licensing and regulatory affairs nominated by the director of the department of licensing and regulatory affairs.

(g) A member from the department of corrections, nominated by the director of the department of corrections.

(h) An unmanned aircraft systems technical commercial representative.

(i) An unmanned aircraft systems manufacturing industry representative.

- (j) A member who is licensed by the Federal Aviation Administration to operate unmanned aircraft that weigh less than 55 pounds.
- (k) A member who represents airports in this state, nominated by the director of the state transportation department.
- (l) A member from the Michigan Municipal League, nominated by the executive director of the Michigan Municipal League.
- (m) A law enforcement official from a municipality, nominated by a statewide police chiefs association.
- (n) A member who represents county sheriffs, nominated by the president of the Michigan Sheriffs' Association.
- (o) A member of a statewide agricultural association, nominated by the president of the association.
- (p) A member of a statewide retail association, nominated by the president of the association.
- (q) A member of a statewide manufacturing trade association, nominated by the president or chief executive officer of the association.
- (r) A member of a statewide property and casualty insurance association, nominated by the president or chief executive officer of the association.
- (s) A member of a statewide association that represents real estate brokers licensed in this state, nominated by the president of the association.
- (t) A member of a statewide surveying association, nominated by the president of the association.
- (u) A member of a statewide freight railroad association, nominated by the president of the association.
- (v) A member of a statewide broadcasters association, nominated by the president of the association.
- (w) A member who represents persons that operate key facilities, as that term is defined in section 552c of the Michigan penal code, 1931 PA 328, MCL 750.552c.
- (x) A member who is knowledgeable about the operation of public utilities who represents public utilities in the Upper Peninsula, nominated by the chairman of the public service commission.
- (y) A member who is knowledgeable about the operation of public utilities who represents public utilities in the Lower Peninsula, nominated by the chairman of the public service commission.
- (z) A member who represents the Mackinac Bridge Authority, nominated by the authority.

(aa) A member who represents the city of Mackinac Island.

(3) Initial nominations to the unmanned aircraft systems task force must be submitted to the governor within 60 days after the effective date of this act. The governor shall make the initial appointments within 30 days after the close of nominations.

(4) Members of the unmanned aircraft systems task force shall serve for terms of 4 years or until a successor is appointed, whichever is later, except that of the initial members appointed, 6 members, as designated by the governor, shall serve for 1 year, 6 members, as designated by the governor, shall serve for 2 years, and 7 members, as designated by the governor, shall serve for 3 years.

(5) If a vacancy occurs on the unmanned aircraft systems task force, the governor shall make an appointment for the unexpired term in the same manner as the original appointment.

(6) The governor may remove a member of the unmanned aircraft systems task force for incompetence, dereliction of duty, malfeasance, misfeasance, or nonfeasance in office, or any other good cause.

(7) The member from the state transportation department shall chair the unmanned aircraft systems task force and serve as a liaison to the governor and the standing committees in the house and senate that mainly deal with transportation issues. The unmanned aircraft systems task force shall meet as necessary to complete the duties of the task force. Meetings of the unmanned aircraft systems task force must be held in the central part of this state.

(8) A majority of the members of the unmanned aircraft systems task force constitute a quorum for the transaction of business at a meeting of the task force. A majority of the members present and serving are required for official action of the task force.

(9) The unmanned aircraft systems task force shall conduct its business at public meetings of the task force held in compliance with the open meetings act, 1976 PA 267, MCL 15.261 to 15.275.

(10) A writing prepared, owned, used, in the possession of, or retained by the unmanned aircraft systems task force in the performance of an official function is subject to the freedom of information act, 1976 PA 442, MCL 15.231 to 15.246.

(11) The members of the unmanned aircraft systems task force must receive no compensation for serving as members of the task force.

(12) The unmanned aircraft systems task force shall consider commercial and private uses of unmanned aircraft systems, landowner and privacy rights, as well as general rules and regulations for safe operation of unmanned aircraft systems, and prepare comprehensive recommendations for the safe and lawful operation of unmanned aircraft systems in this state. The recommendations must include, but not be limited to, recommendations regarding the protection of public and private property interests and the use of unmanned aircraft systems over public property.

(13) The state transportation department shall provide administrative support to the unmanned aircraft systems task force.

(14) The unmanned aircraft systems task force shall submit a report with recommendations to the governor and the standing committees in the house and senate that mainly deal with transportation issues within 3 months after the first meeting of the task force.

(15) After submitting the report required under subsection (14), the unmanned aircraft systems task force shall meet not less than once every 18 months to consider any new developments or problems that may require further consideration and recommendations by the task force.

Enacting section 1. This act takes effect 90 days after the date it is enacted into law.

## Appendix 2 – Task Force Membership

**Jon Cool, Grand Rapids**

Represents a member of a statewide freight railroad association, nominated by the president of the association.

Term expires 7/31/18

**Katie Jones, Northville**

Represents a member of a statewide property and casualty insurance association, nominated by the president or chief executive officer of the association.

Term expires 7/31/18

**Robert (Bob) Sweeney, St. Ignace**

Represents a member nominated by the Mackinac Bridge Authority.

Term expires 7/31/18

**Susan Roberts, Grand Rapids**

Represents a member who is an unmanned aircraft systems technical commercial representative.

Term expires 7/31/18

**Scott Baldwin, Fort Gratiot Township**

Represents county sheriffs, nominated by the president of the Michigan Sheriffs' Association.

Term expires 7/31/18

**Michael Olson, Battle Creek**

Represents a law enforcement official from a municipality, nominated by statewide police chief's association.

Term expires 7/31/18

**Eric Ebenstein, Annandale, VA**

Represents a member who is an unmanned aircraft systems manufacturing industry representative.

Term expires 7/31/19

**Daniel Coffey, New Buffalo**

Represents a member of a statewide association that represent real estate brokers licensed in this state, nominated by the president of the association.

Term expires 7/31/19

**John Hill, Traverse City**

Represents a member from the Department of Agriculture and Rural Development, nominated by the director of the department.

Term expires 7/31/19

**Christopher Johnson, Northville**

Represents a member from the Michigan Municipal League, nominated by the executive director of the Michigan Municipal League.

Term expires 7/31/19

**John Flanagan, Midland**

Represents a member of a statewide manufacturing trade association, nominated by the president of chief executive officer of the association.

Term expires 7/31/19

**Charles Drayton, St. Paul, MN**

Represents persons that operate key facilities.

Term expires 7/31/19

**Greg MacMaster, Kewadin**

Represents a member who is licensed by the Federal Aviation Administration to operate an unmanned aircraft that weighs less than 55 pounds.

Term expires 7/31/20

**Michael Trout, Clarklake**

Represents a member from the Michigan Department of Transportation, nominated by the director of the department.

Term expires 7/31/20

**Richard (Rich) Kathrens, Saint Johns**

Represents a member from the division of the Michigan Department of Transportation that performs bridge inspections and road work, nominated by the director of the department.

Term expires 7/31/20

**Kevin Klein, Traverse City**

Represents airports in this state, nominated by the director of the State Department of Transportation.

Term expires 7/31/20

**Thomas Scott, Okemos**

Represents a member of a statewide retail association.

Term expires 7/31/20

**Craig Amey, Shelby Township**

Represents a member of a statewide surveying association, nominated by the president of the association.

Term expires 7/31/20

**Brian Matchett, Traverse City**

Represents a member of a statewide agricultural association, nominated by the president of the association.

Term expires 7/31/20

**Matthew Rogers, Rockford**

Represents a member from the Department of State Police, nominated by the director of the department.

Term expires 7/31/21

**Kevin Jacobs, Roscommon**

Represents a member from the Department of Natural Resources, nominated by the director of the department.

Term expires 7/31/21

**Julia Dale, Lansing**

Represents a member from the Department of Licensing and Regulatory Affairs, nominated by the director of the department.

Term expires 7/31/21

**Corbett Adkins, McBain**

Represents a member of a statewide broadcaster's association, nominated by the president of the association.

Term expires 7/31/21

**Kevin Lindsey, Jackson**

Represents a member from the Department of Corrections, nominated by the director of the department.

Term expires 7/31/21

**Bradley Chambers, Mackinac Island**

Represents the City of Mackinac Island.

Term expires 7/31/21

**Thomas Harrell, Gladstone**

Represents a member who is knowledgeable about the operation of public utilities who represents public utilities in the Upper Peninsula, nominated by the chairman of the Public Service Commission.

Term expires 7/31/21

**Andrew Bordine, Jackson**

Represents a member who is knowledgeable with the operation of public utilities who represents public utilities in the Lower Peninsula, nominated by the chairman of the Public Service Commission.

Term expires 7/31/21