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Motorpool Operation Manual: Inputs for Enhancement of Syllabi in Selected Automotive Technology Courses

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***Abstract*—** This study determined the profile of the Sorsogon State University motorpool operations in terms of organizational structures, motorpool personnel, number of vehicles, number of drivers, record management, dispatching and scheduling, preventive maintenance services, and policies. It also observed the practices and described the challenges faced by the motorpool unit in its daily operations. The study proposed the creation of a SorSU operation manual and suggested that the manual serve as input in the enhancement of the syllabus of selected Automotive Technology courses.

The study utilized a descriptive research design to understand the qualitative data. A total of forty (40) respondents, composed of university administrators, motorpool personnel, faculty, and students, were selected using the purposive sampling method. An unstructured interview questionnaire developed by the researcher was utilized in the study. The data were analyzed using documentary analysis and Braun and Clarke's thematic analysis.

The findings reveal that the profile of SorSU motorpool operations is composed of competent personnel, various and diverse vehicles, excellent management systems, and organized policies. Also, the unit operated with industry-like outstanding practices. On the other hand, there were challenges encountered by the personnel and users in their daily operations. The output of the study is the creation of a motorpool operations manual that guides all motorpool stakeholders on its operations. Lastly, the said manual serves as instructional material and is inputted in the syllabus of selected automotive subjects.

***Keywords*—** challenges, motorpool, operations manual practices, syllabus enhancements.

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I. INTRODUCTION

Importance of Transport System in Public Institutions

Transportation systems facilitate the movement of people, goods, and services that support economic and social development. It acts as the circulatory framework of modern society. Globally, effective transport system is becoming more widely recognized as important determinant in institutions operational efficiency, service reliability and organizational productivity. The results of the study by Cigu et al. (2018) reveal that transport infrastructure has significant impact on economic development of countries in Europe. Moreover, Ke et al. (2020) mention improvements in roads; railways and the improvement of transport structure contribute to the economic growth in China. The development of efficient transport system is in-line with the United Nations Sustainable Development Goal (SDG) 11, "Sustainable Cities and Communities", which highlights the goal to make cities and human settlements inclusive, safe, resilient, and sustainable. According to the study of Zhang et al. (2024) the goal arises to respond to the rapid urbanization. Among its specific targets, SDG 11.2 emphasized the need to "provide access to safe, affordable, accessible and sustainable transport systems for all" by 2030 (United Nations, 2015).

In the context of the Philippines, public utility vehicles, tricycles, jeepneys, taxis and the like dominate the roads. This shows that the country's dependence on public transport plays a significant role in bridging different people, businesses, and

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communities across different places. The demand for public transport services increases as the country's economy continuously grows, making the improvement of the transport system a vital concern of the government. Continuous economic growth usually results in urbanization and commercial activities that cause frequent travel. Because of this, the current transportation system may become inefficient in meeting the population's needs and demands. Thus, the government must prioritize and exert more effort in improving the country's transport system to make sure that the public experiences efficient and accessible mobility.

Along these lines, the transport system plays a crucial and strategic role in universities such as the Sorsogon State University (SorSU). The transport system will ensure a safe, efficient, and reliable mobility for the students, faculty, staff, and other stakeholders as it supports safety, sustainability, and smooth operations within and outside the institution. A reliable transport system in universities supports different institutional functions such as research and extension activities, off-campus trainings and seminars, sports and academic competitions, administrative works, and other logistic purposes. Hence, a systematic transportation supports the university's various functions, such as academic, administrative, and community-extensions.

Role of Motorpool Operations in the Transport System

Motorpool operations play a pivotal role in the transport system, as it serves as the foundation that ensures the accessibility and efficiency of vehicle fleets used for the mobility of the public, institutions, and organizations. A motorpool operation is also responsible for the vehicles' maintenance, schedule and dispatch, and management that allow transport services to function in a cost-effective and well-coordinated manner. In a study conducted by Yoon, & Cherry, (2018) at the University of Tennessee, The UT motor pool serves the transportation needs of faculty, staff, and students conducting official business. In line with this, motorpool operations directly impact service deliveries and resource utilization, most especially those transport systems supporting government agencies, public organizations, and educational institutions.

In the Philippine setting, the primary role of the motorpool operations is to provide efficient and organized transportation services, most especially in the local universities. According to Bualong and Vargas, (2021), fifteen (15) colleges at the Central Luzon State University utilize the motorpool unit as the main transportation provider. This shows that the university promotes inter-campus mobility as their motorpool's central role. Cagande et al. (2024) also emphasize that the mortorpool operations at Bukidnon State University provide vehicle maintenance and transportation services to guarantee an efficient campus operations. Similarly, in a study conducted by Bonifacio & Despi (2025), Sorsogon Integrated Terminal Exchange (SITEX) motorpool is responsible for conducting preventive maintenance, such us oil change and vehicle check-ups or inspections. This shows the terminal's adherence to safety, efficiency, and organizational support. This also indicates that the motorpool is not just a mere operational unit, but a facility that promotes responsibility and readiness.

In Sorsogon State University's context, the motorpool unit is an organization composed of drivers, technicians, and scheduling and dispatching officers, that work together to provide transportation services. The drivers operate the vehicle to transport students, employees, and visitors of the university to facilitate academic and administrative duties.

Furthermore, the motorpool technicians provide preventive maintenance services and repairs to ensure that the university-owned vehicles are well-maintained and roadworthy. Lastly, the scheduling and dispatching officers are tasked to assist users in the scheduling process and communicate with drivers during dispatching procedures.

Every personnel in the motorpool play a crucial role for the operation to have a smooth workflow. In this regard, the absence of a single personnel or neglect of duties will result to unorganized operation.

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Challenges of Motorpool Operations in State Universities and Colleges

Academic institutions, especially those with satellite campuses, highly depend on effective transportation services to run their daily operations. The motorpool service, which supply and organize vehicles for institutional use, is necessary to meet the operational and logistical needs of its users, such as the administrative units, faculty, staff, drivers, and students. Although motorpool services support accessibility and efficiency, it is still challenged by several difficult problems that affect the operations.

Among the many problems often encountered in motorpool operations is the lack of standardized operating procedures in vehicle maintenance monitoring. These operating procedures include guidelines and protocols, particularly in records management, that must be strictly followed to maintain well-organized operations. In the absence of a recording system for maintenance schedules, institutions face unwanted vehicle failures that limit transportation services. This issue may result in more unforeseen vehicle breakdowns that disrupt the daily operations of the motorpool. Another problem in the motorpool is driver management. The lack of a strategic driver management program and driver evaluation procedures can result in fatigue-related risks and weaken operational control. Furthermore, with the increase in fuel prices, fuel management becomes a consistent concern. Universities have to develop wise strategies on fuel purchase and monitoring for better fleet organization. Ineffective fuel consumption tracking and weak monitoring can also negatively affect cost and transparency. Similarly, the absence of forms, templates, and organizational structures can hinder procedural flow and the effective chain of command in the institution.

Similarly, motorpool units in the Philippines are not exempted from these challenges, and one common problem is the lack of training for personnel. Members of the motorpool unit need enhancement training to improve their knowledge and skills about operations, especially as technology continues to advance. According to Naelgas (2022), training for employees should not be ignored and every organization, including motorpool units, must value personnel by providing relevant training. By doing so, personnel reciprocate the knowledge they receive through better performance for the organization. Naelgas (2022) also added that drivers should be trained to perform basic vehicle inspections, especially on safety items and performance issues. Aside from these, it is essential for motorpool facilities to have a designated and suitable building where operations can properly take place. According to Liza et al. (2024), the lack of a dedicated building restricts the motorpool's ability to manage vehicles and equipment properly. This reveals that institutions should also invest in proper infrastructure to improve operational competence.

In the context of Sorsogon State University, the lack of understanding of the procedures and functions by the employees appears to be the common issue in the motorpool operations. This is mainly because of the lack of an operation manual. In the absence of a tangible document, the operation of the motorpool services is prone to inefficiency, irregularity, non-compliance to safety, and other legal requirements. The functions of the motorpool serving the university may be at risk by problems like conflicting roles, unclear reservations, irregular maintenance scheduling, lack of official fuel, and vehicle utilization monitoring.

Motorpool Operations Manual Development

The development of the motorpool operation manual is essential to government institutions such as Sorsogon State University (SorSU), as it serves as an important document that enables effective operation and workflow. It serves as a guide for drivers, motorpool personnel, maintenance providers, and students because it can also function as instructional material for selected automotive courses. According to Schlotthauer (2024), creating an operations manual ensures that all stakeholders have the same understanding of daily office procedures. Additionally, the creation of a manual is an advancement for any organization pursuing the modernization and improvement of its operations and the consistency of its practices (Ribeiro, 2024). Creating a manual based on evidence-based recommendations can be useful for organizational

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planning and implementation. In the context of SorSU, creating a manual based on the identified challenges opens a way for the motorpool unit to improve its system.

In conclusion, the manual encourages greater compliance and will reduce procedure errors for SorSU's motorpool staff. The Sorsogon State University Motor Pool Services operation manual should be a living document that will serve as a guide for motorpool users and a source of knowledge for students. Creating a well-structured and easy-to-use operation manual for the motorpool unit ensures that it is not only operational but also a useful tool for enhancing knowledge and awareness among students about its practices that are in line with their specialization.

Furthermore, the United Nations Sustainable Development Goal (SDG) 4 aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (United Nations, 2015). Under SDG 4, target 4.3 promotes access to technical and vocational education for all. Meanwhile, the goal of target 4.4 is to increase the number of youth and adults who are equipped with important skills that make them employment-ready, find a decent job, and start their own business (UNESCO, 2021).

Moreover, integrating performance tasks that are similar to actual activities in the industry is very important for the learning experience of students and can help them acquire decent jobs in the future. This supports the tracer study of Aquino and Garcia (2023), which shows a positive correlation between skills acquired by students and the skills needed by employers. This is aligned with the on-the-job training course of SorSU that aims to expose students to the industry and prepare them for what comes next after college. Successful curriculum enhancement happens when practical knowledge is integrated into instructional materials. Integrating a motorpool operation manual as instructional material will improve students' practical knowledge. The motorpool operation manual contains industry-based preventive maintenance, efficient fuel management, and effective driver management, which will give students exposure to real-life situations where they can apply their knowledge. The gap between academic content and industry practices is one of the current problems in higher education, especially in technology and vocational tracks. The findings of Torres (2023) support this claim and urge the development of more relevant and updated curriculum for automotive courses aligned with industry needs. Thus, the study bridges the gap by integrating the SorSU motorpool manual into the syllabus of various automotive technology courses.

Generally, this study aimed to develop an operation manual for the motor pool of the Sorsogon State University. Specifically, it aimed to: (1) Profile the Sorsogon State University Motorpool operations in terms of (a) Organizational Structures, (b) motorpool personnel, (c) number of vehicle (d) number of drivers (e) fuel management (f) record management (g) scheduling and dispatching (h) preventive maintenance services (i) policies. (2) Determine the practices of Sorsogon State University motorpool operation along (a) preventive maintenance services (b) Driver management, (c) vehicle scheduling and dispatching (d) fuel management (e) record management (f) vehicle safety standards and emergency protocols; and (3) Describe the challenges of the motorpool operation.

II. METHODOLOGY

Research Design

The study employed a descriptive developmental research design, since it assessed the profile, practices, and challenges on the motorpool operations and used the findings as basis for developing a tangible output—in this case, an operations manual for motor pool operation of Sorsogon State University. The design used qualitative data to interpret and understand the problem. Creswell and Creswell (2018) define descriptive research as the collection of data to investigate the present status of a phenomenon, therefore allowing the researchers to identify trends and patterns. In the context of this study, the researcher conducted documentary analysis to profile the SorSU motorpool operation. Moreover, a structured interview questionnaire was used to collect relevant information

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about the practices and challenges of SorSU motorpool operation.

Sources of Data

The participants of this study were the Supervising Administrative Officer, Campus Directors, Supply Officers, Dispatching and Scheduling Officers, Motorpool personnel, Drivers, Employees and Students of Sorsogon State University, as shown in table 1 below. A total of forty (40) participants were interviewed to gather information about the study. Furthermore, the participants were selected through purposive sampling method to ensure that relevant data were collected. In addition, the researcher used a criteria to select participants for the study.

The criteria includes selecting employees who are knowledgeable of the different function and processes of the motorpool unit such as dispatching, scheduling, preventive maintenance, fuel management and motorpool unit administrative function. Moreover, employees and students are included as participants to asses the users experiences in the used of motorpool services.

Table 1. *The Participants*

Participants	Frequency	%
Supervising Administrative Officer	1	2
Campus Director	2	5
Supply Officer	2	5
Dispatching/Scheduling Officer	2	5
Motorpool Personnel	6	15
Drivers	8	20
Employees	11	28
Students	8	20
Total	40	100

Research Ethics

All the participants involved in the data gathering, such as the Supervising Administrative Officer, Campus Directors, Supply Officers, Dispatching and Scheduling Officers, motorpool personnel, drivers, employees, and students, were fully informed about the purpose of the research. According to Creswell and Creswell (2018), informed consent is a foundational principle in conducting ethical research. Therefore, the respondents' participation was clearly explained as voluntary, and their identities and all the information gathered were kept private, protected, and respected at all times. Only the researcher can access the information and use it for research purposes only.

The study also followed the legal ethics in conducting data gathering; the researcher provided approval letter to the Vice President for Administration and Finance for the retrival of the documents needed for the analysis as expressed in objective number 1. Moreover, approval letters were also provided to the Campus Directors of Sorsogon City campus, Magallanes campus, Castilla campus, and Bulan Campus, for the implementation of the data gathering in their respective campuses.

Moreover, Creswell and Creswell (2018) also pointed out the importance of transparency and reliability in presenting the results, clear from error and misinterpretation in presenting the respondents' views.

Research Instruments

A structured research interview questionnaire developed by the researcher was utilized to analyze the practices and challenges of the Sorsogon State University motorpool operations (see appendix D). Specifically, there were four different sets of questionnaires used in this study – where each set was translated to the Filipino language to help the respondents understand the context of the study better.

The first set of interview questionnaires was intended for the school administrators, containing questions divided into four sections – the profiling, practices,

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challenges, and suggestions and recommendations. The profiling section asks the participants to provide their name, age, designation, academic rank, role in the motorpool operations, and number of years of involvement in the operations. The second section, the motorpool practices, asks the participants about their knowledge or experience in vehicle scheduling and dispatching, preventive maintenance services, fuel consumption tracking, hiring procedures, records management, and existing policies of the operations. Then, section three includes investigating the challenges in the management, safety standards, driver discipline, coordination among four campuses, and the gaps in technical expertise of the motorpool personnel. Lastly, section four asks the participants to provide suggestions and recommendations for the improvement of the operations, as well as questions that will support the idea of the creation of motorpool operations manual and its integration into the automotive technology curriculum.

Then, the second set of questionnaire was intended for the motorpool personnel, also containing questions divided into four sections – the profiling, practices, challenges, and suggestions and recommendations. The first section of the questionnaire asks about the participant's name, designation, license, trainings, role in the motorpool, and number of years of involvement in the operations. The next section focuses on the preventive maintenance practices of the operations, such as the maintenance schedule protocol, specific maintenance activities, standard checklist, vehicle evaluation, reporting vehicle issue, and coordination among the motorpool staff and drivers. Then, the third section of the questionnaire provides questions regarding the challenges experienced by the motorpool personnel regarding the delivery of quality maintenance, it includes the lack of tools and equipment, lack of formal trainings, and teaching prioritization. Finally, section four of the interview questionnaire gathers information regarding the suggestions and recommendation for the improvement of the operations and questions that support the idea of the creation of the motorpool operations manual and its integration into the automotive technology curriculum.

Furthermore, the third set of questionnaire was intended for the university drivers. This set also has four sections including the participant's profile, their inputs on the practices of the operations, the challenges they often encounter, and their suggestions and recommendations. The first sections asks about the participant's name, age, campus assignment, license code, driving certificates, length of service, vehicle assignment, and frequency of travel. The second part of the questionnaire inquires about the knowledge and experiences of the participants regarding the practices of the operations, specifically the dispatch system, pre-driving inspections, documents, maintenance process, maintenance involvement, safety protocol, and safety orientation and training. The third part is composed of questions that examine the challenges faced by the drivers relating to their assigned vehicle. It also includes challenges such as the delays in preventive maintenance schedule, incomplete documentation, and communication among other motorpool staff. The last part of the drivers' interview questionnaire gathers the suggestions and recommendations of the drivers in the improvement of the operation. In addition, the fourth section asks about their perception in the creation of motorpool manual, and its integration into the automotive technology curriculum.

Finally, the fourth set of interview questionnaire is for the employees and students, who are the end user of the motorpool services. It also has four sections, where the first section determines the profile of the users in terms of name, age, designation, campus assignment, frequency of travel, and purpose of travel. The second part of the section gathers the experiences of the users in requesting the vehicle. The third part of the questionnaire gathers the participants' experiences regarding the challenges encountered in terms of delays of service, vehicle condition, driver's professionalism and courteousness, alternative mode of transportation and coordination, and communication with the motorpool office. The last part of the questionnaire examines the perception of the users in the idea of creating the operations manual, as well as their suggestions to improve the services of the operations.

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The draft questionnaires were presented to the research adviser, the panelists, and the dean for validation and approval. Afterwards, their feedback was incorporated to the final draft of the instrument. The research instrument is composed of questions that aim to investigate the practices and challenges of the university's motorpool operation.

Data Collection

The study followed the proper research protocols before conducting the data collection procedure. Before conducting the interviews, the researcher visited each campus to ask for permission from the campus directors of the four (4) SorSU campuses. Then, the researcher proceeded to the collection of data upon approval. The researcher started gathering the needed data from the Sorsogon City main campus first, then from the Magallanes Campus, the Bulan Campus, and the Castilla campus respectively.

In the main campus, the researcher intentionally looked for the Supervising Administrative Officer, campus director, supply officers, motorpool personnel, dispatching officer, Human Resources Office, university drivers, and select employees and students who are knowledgeable in the motorpool operations. The mentioned participants were interviewed using the developed interview questionnaires prepared by the researcher.

Firstly, the interview started with the SAO and the Campus Director who mainly answered questions about the practices of the motorpool unit, and the challenges they often encounter in the management of the operations. This was followed by the interview with the motorpool personnel, focusing on the preventive maintenance practices of the operations, as well as the challenges affecting the delivery of quality preventive maintenance services to the university-owned vehicles. Afterwards, the university drivers were interviewed regarding the vehicle management and dispatch practices. They were also asked to describe the challenges they encounter in their daily operations. Although there were six drivers designated in the main campus, only five drivers were interviewed since the other one was currently on leave at the time. After the drivers were interviewed, the researcher proceeded to the selection of employees and students with experiences in requesting and utilizing university vehicles. They were asked about the process of requesting up to the completion of the travel, and the challenges that come along with it.

Moreover, the researcher retrieved copies of several documents as part of the data collection procedure. The SAO provided a copy of the organizational structure of the motorpool, and the policies regarding the operations. The supply officer from the main campus provided the researcher a copy of the inventory of all university vehicles, procedures of fuel consumption, and summary report of monthly consumption and trip details. Additionally, the motorpool head provided a copy of the standard procedures of preventive maintenance services, and forms such inspection form, and job order form. The dispatching officer provided a copy of the trip ticket form, and summary of the completed trips. Also, the human resources officer provided the list of qualifications for hiring drivers.

After the interviews conducted at the SorSU main campus, the researcher proceeded with the interview at the Magallanes Campus. The researcher purposely looked for the campus director, supply officer, dispatching officer, campus-based university driver, employees, and students. At the time of the data collection, the campus director was on travel and was not interviewed. Thus, the administrative officer-in-charge approved the data collection. The researcher was able to interview the campus-based drivers, dispatching officers, employees, and students, and gather relevant information about the operations. Moreover, a summary of the monthly fuel consumptions and trip details were also retrieved from the campus-based supply officer during the course of data collection.

The researcher proceeded to the Bulan Campus after conducting data gathering in the Magallanes Campus. The researcher intentionally looked for the campus director, supply officer, campus based university driver, dispatching officer, employees and students. The selected participants were interviewed about the profile, procedural practices and challenges faced by

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the campus regarding the management and utilization of university-owned vehicle. The researcher gathered important information about the operations and also retrieved significant documents such as monthly summary of fuel consumption and trip details.

The last campus visited by the researcher was the Castilla campus. Upon arrival, the researcher intentionally looked for the campus director, supply officer, dispatching officer, campus-based university driver, employees and students. At the time of data collection, the campus director approved the data collection but unable to be interviewed due to scheduled important meeting. The campus director suggested to ask the questions intended for him to the dispatching officer. The researcher successfully interviewed the dispatching officer and the other participant like driver, employees and students, and gathered relevant data regarding such as the practices and challenges of the operations of the motorpool in Castilla campus.. The researcher also able to gather a copy of summary report of fuel consumption and other trip related details.

The whole duration of the data collection was from September 9 – October 10, 2025. A total of forty (40) participants coming from all SorSU campuses were interviewed.

Data Analysis

The data collected were analyzed using appropriate method, it includes documentatry analysis and thematic analysis.

Documentary analysis was used to analyze the profile of the Sorsogon State University motorpool. The researcher collected copy of several documents such as organizational structures, motorpool personnel profile, vehicle inventory and profile, qualification of hiring drivers, summary of fuel consumption and trip details, fuel requisition and consumption standard procedures, preventive maintenance standard procedures, and motorpool policies.

The organizational structures were carefully reviewed to determine the flow of command, reporting lines, clarify the roles and responsibilities in the operations. The motorpool personnel profile were examine to assess the credentials of the personnel including their trainings and certificate, licenses, and educational background that is relevant to the operations. Vehicle inventory and profile were studied to determine the number, type, utilization, campus assignment and conditions of university owned vehicle. Qualification standards were carefully assess to determine the minimum requirements and competency needed for the driver position. The summary of fuel consumption, trip details, fuel requisition and consumption standard procedures were scrutinized and provided insights on how fuel is manage, regulated and utilized. It also present comparison of the difference between the fuel consumption among four campuses. The preventive maintenance standard procedures were analyze to identify the existing maintenance practices including the intervals, protocol, and its alignment to industy standards. Lastly, the motorpool policies were deeply examined to understand the rules and guidelines governing the motorpool operations. This includes the vehicle usage, campus, assignment, drivers vehicle assignment and campus assignment, maintenance protocols, safety protocol and administrative supervision.

For objective number two (2), and three (3), the practices and challenges of SorSU motorpool operation were examined using Braun's and Clarke's thematic analysis. Thematic analysis is the process of finding, anaylizing, and summarizing pattern codes in qualitative data to formulate themes (Braun and Clarke, 2006). Moreover, thematic analysis allowed the researcher to present minimal yet detailed data.

The practices of the motorpool operations were carefully analyze using Braun's and Clarke's thematic analysis. The responses of the participants were organized, familiarized and carefully scrutinized to generate codes and create themes. The created themes includes implementing mileage-based and time-based preventive maintenance practices, practicing consistent monitoring and documentation of preventive maintenance activities, utilizing standard checklist, defined preventive maintenances scopes, conducting quality control and pre-dispatch practices, practicing selective hiring and qualification standard for drivers, implementing continuous evaluation and

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performance monitoring, systematic vehicle request and scheduling, practicing strategic vehicle assignment and supervision, post travel fuel tracking and reporting practices, fuel procurement and distribution, records consolidation assignment and reporting, practicing comprehensive pre-travel inspection procedures, maintaining compliance through safety equipment and speed regulation practices, and implementing emergency response and contingency protocol.

The same approach was used to analyze the challenges of the motorpool operation. Upon the organization, familiarization, and scrutinization of participants responses, codes has been generated and the following themes were created, absence of dedicated motorpool building, absence of dedicated parking, insufficient basic tools and absence of specialized equipment for advanced diagnostic and repair procedures, insufficient staffing and dual role challenges for instructors, driver discipline and management, documentation and process inconsistencies, vehicle availability, driver gaps in defensive driving safety training, long distance travel concerns, need for process orientation and dissemination, vehicle prioritization and schedule overlapping, alternative means of transportation and vehicle comfort issues.

III. RESULTS

Profile of the Sorsogon State University Motorpool

The findings show that the SorSU motorpool operates within a defined organizational structure that follows the university's administrative chain of command. The University President, through the administrative offices, exercises overall oversight, while the Supervising Administrative Officer directly supervises the motorpool personnel, dispatching officer, and drivers. This structure supports accountability and establishes a clear reporting flow for vehicle utilization, maintenance, and transport services across the four campuses. The profile data further show that the unit is staffed by competent personnel who possess valid driver's licenses, relevant educational qualifications, and technical certifications that support both operational and instructional functions.

The university's motorpool is composed of 11 vehicles with varied classifications, including pick-ups, multi-purpose vehicles, passenger vans, and buses, and these are operated by 9 drivers distributed across the four SorSU campuses. Most drivers are assigned to the main campus because it has the largest number of vehicles and the greatest volume of institutional travel. The findings also show that the motorpool workforce combines younger and more experienced personnel, which indicates both continuity and workforce development. The presence of personnel who are academically prepared and technically certified strengthens the university's capacity to maintain its fleet while also linking actual motorpool practices with Automotive Technology instruction.

In terms of administrative support systems, the findings reveal that fuel management, record management, scheduling and dispatching, preventive maintenance services, and policy implementation are already present in the current system. Fuel is monitored through fuel monitoring forms, gasoline slips, odometer readings, and monthly summary reports, while records are maintained through trip tickets, job orders, pre-travel inspection checklists, maintenance logbooks, and dispatch logbooks. The Sorsogon City campus records the highest fuel consumption, which reflects its role as the central campus with the highest transport demand. Although the system is still largely manual, the results show that the motorpool unit maintains organized documentation and monthly consolidation practices for accountability and audit compliance.

The scheduling and dispatching procedures also follow a clear process. Users submit a written request for travel, secure the required approvals, and then coordinate with the dispatching officer for scheduling, travel order completion, and trip ticket issuance. Before vehicle release, drivers secure the required fuel documents and comply with the pre-travel requirements. Preventive maintenance likewise follows a structured approach based on mileage and time intervals, with standard procedures for inspection, servicing, and documentation. These findings indicate that the profile of the SorSU motorpool is not limited to personnel and vehicles

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alone but also includes an existing operational system supported by forms, procedures, and institutional policies.

Practices of the SorSU Motorpool

The results show that SorSU motorpool practices are characterized by systematic preventive maintenance, driver management, vehicle scheduling and dispatching, fuel monitoring, record management, and safety compliance. Preventive maintenance is conducted using mileage-based and time-based intervals, supported by standard checklists, job orders, monitoring forms, and quality control practices prior to vehicle release. The findings also show that maintenance activities are documented regularly, which helps the unit monitor the condition of vehicles and identify recurring service needs.

Driver management practices also reflect operational order. Drivers are screened according to qualification requirements, assigned based on available vehicles and campus needs, and monitored through performance evaluation practices. Vehicle scheduling and dispatching are handled through written requests, official approvals, trip tickets, and coordination between users, dispatching officers, and drivers. Fuel management practices include pre-travel and post-travel fuel recording, issuance of fuel through supply procedures, and monthly consolidation of consumption records. Record management is likewise functional, as trip-related, maintenance-related, and fuel-related forms are stored and compiled for monitoring and reporting.

The findings further show that the SorSU motorpool observes safety and emergency practices in actual operations. Drivers conduct pre-travel inspection using the BLOWBAGETS checklist, vehicles carry basic safety equipment, and drivers generally observe prescribed speed limits during travel. These practices demonstrate that daily operations are guided not only by transport demand but also by routine safety precautions and emergency awareness. Overall, the results indicate that the SorSU motorpool already demonstrates industry-like practices that can serve as reference points for operational improvement and curriculum enhancement.

Challenges of the SorSU Motorpool

Despite the structured practices observed in the unit, the findings also identify several challenges affecting the quality and efficiency of motorpool operations. One major concern is the absence of a dedicated motorpool building and permanent parking area. The lack of a centralized facility affects supervision, coordination, storage of records, and the orderly dispatch of drivers and vehicles. Another issue is the insufficiency of basic tools and the absence of specialized diagnostic and repair equipment, which can delay maintenance work and limit the technical scope of services that can be performed internally.

The findings also reveal human resource and process-related concerns. Some personnel perform dual roles as instructors and motorpool staff, which may divide attention between teaching and maintenance work. Other challenges include driver discipline and management concerns, documentation and process inconsistencies, overlapping schedules, limited vehicle availability, the absence of substitute drivers for long-distance travel, and gaps in defensive driving preparation. From the users' perspective, delays in service and vehicle comfort issues, particularly related to air-conditioning performance, were also reported. These findings show that while the system is operational, several gaps remain in infrastructure, equipment, manpower, and service delivery.

Proposed Motorpool Operations Manual and Curricular Integration

Based on the profile, practices, and challenges identified, the study proposes the development of a Motorpool Operations Manual for SorSU. The proposed manual consolidates the organizational structure, roles and responsibilities, standard processes, maintenance procedures, safety protocols, documentation requirements, and recommended improvements for the identified gaps. As an output, the manual is intended to guide motorpool personnel, drivers, users, and administrators toward a more standardized and transparent motorpool system.

The findings also support the integration of the proposed manual into selected Automotive Technology courses. Because the manual is grounded

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in the actual practices and needs of the university's motorpool, it can serve as an instructional material that connects classroom content with real institutional operations. Through this integration, students can be exposed to authentic procedures in preventive maintenance, dispatching, fuel management, recordkeeping, safety compliance, and operational coordination. The results therefore show that the proposed manual has a dual function: it serves as an operational guide for the university and as a contextualized teaching resource for Automotive Technology education.

IV. DISCUSSION

The discussion shows that SorSU motorpool already has a working system, but the findings also point to the need for stronger coordination, infrastructure, digital support, and standardization across campuses.

Characteristics of the Sorsogon State University Motorpool

The SorSU motorpool follows a formal administrative structure that supports accountability and institutional control. However, concentrating supervision at one level across four campuses may slow coordination; thus, campus-level coordinators may improve responsiveness, consistent with Gudewicz et al. (2024).

The personnel profile indicates a combination of experience, technical preparation, and academic competence, which strengthens both service delivery and applied learning. Still, the dual role of some personnel as instructors and maintenance staff may divide attention and reinforces the need for clearer role assignment and continuing development, as also implied by Casian et al. (2021), Agarpao (2023), and Riwhain (2025).

The fleet, driver distribution, fuel use, and records system reflect the unequal transport demands of the four campuses. These findings support differentiated transport planning and knowledge sharing, in line with Pereglin and Stanković (2023) and Nilsson and Nilsson (2017), while the continued reliance on manual records also suggests the need for digital enhancement, as emphasized by Mallieswaran et al. (2024).

Operational Procedures of the SorSU Motorpool

SorSU motorpool already practices proactive maintenance through mileage-based and time-based servicing, checklists, job orders, and release procedures. These practices support roadworthiness and fewer preventable breakdowns, consistent with Naelgas (2022), Padhil and Haswika (2022), and ASSEFA (2024).

Driver management, scheduling, and dispatching are guided by qualification requirements, documentation, and administrative approval, showing that transport operations are structured rather than informal and are compatible with the standards discussed by the Department of Transportation (2018). Safety practices such as BLOWBAGETS pre-travel inspection, emergency equipment, and regulated driving also reflect compliance with LTO (2023) and Yıldırım (2021), although a more standardized contingency flow is still needed, as supported by Damaševičius et al. (2023); technology-assisted inspection may also strengthen future practice, as noted by Anitha et al. (2025).

Difficulties of the SorSU Motorpool

The difficulties identified in the study show that the motorpool remains constrained by infrastructure limits. The absence of a dedicated building, parking space, and waiting area affects supervision, dispatch efficiency, recordkeeping, and driver readiness, reflecting the concerns raised by AgileFleet (2025) and Peters et al. (2021).

Operational efficiency is also affected by limited tools, incomplete diagnostic equipment, overlapping personnel roles, schedule conflicts, vehicle shortages, weak user orientation, and discomfort from poorly maintained air-conditioning systems. These issues support the need for better equipment, stronger staffing, and tighter process standardization, consistent with Wolniak (2019) and Engetou (2017).

Suggested Motorpool Operation Manual

The proposed Motorpool Operations Manual is a practical response to these issues because it documents procedures, aligns stakeholders, and serves as a standardizing and compliance reference. This is consistent with Schlotthauer (2024), who emphasizes

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that an operations manual promotes shared understanding of procedures.

Integration of the Proposed Manual in Enhancing the Syllabus of Selected Automotive Technology Courses

The proposed manual is also relevant to selected Automotive Technology courses because it converts actual institutional procedures into instructional content. This supports outcomes-based and industry-aligned learning emphasized by CHED (2017) and strengthens both operational standardization and curricular relevance.

V. CONCLUSION AND RECOMMENDATION

The SorSU motorpool operations follows a chain of command, headed by the university President down to the Supervising Administrative Officer for Administrations and Motorpool Staff. These personnel are qualified based on their age, years of service, highest educational attainment and professional licenses. Motorpool is also composed of eleven (11) vehicles distributed to four campuses, operated by nine (9) drivers – six from the main campus and one from each satellite campus. In terms of fuel management, the vehicles used in the main campus was the major fuel consumers as reflected in the odometer readings from the consolidated fuel slip. Meanwhile, the motorpool unit manages its records through consolidations and filing of trip tickets, travel inspection forms, and maintenance logbook on a monthly basis. The motorpool also follows a manual process for scheduling and dispatching. Since the university vehicles are constantly used for different travel purposes, the motorpool unit requires preventive maintenance services once the odometer reached its 10,000 kilometer mark or the vehicle has reached the 6 month interval. Lastly, the motorpool unit follows serveal policies to ensure that its operations run smoothly. These policies emphasize the proper vehicle usage and authorization for travels within and outside Region V.

In terms of practices, SorSU motorpool operations follows vehicle safety and emergency management, the drivers are required to perform pre-travel inspections and ensure that the vehicles have safety equipment. They must also be well-informed of the maximum speed of 80-100 kph during travels to ensure safety. Also, the motorpool uses the Individual Performance Commitment and Review (IPCR) as an evaluation tool to monitor the performance of the drivers, dispatching officers, and other motorpool staff.

Although the study revealed a structured system and policies in the motorpool unit, there were notable challenges that need to be addressed to improve the quality of service and operations. These deficiencies were the lack of designated motorpool building and parking area for the university vehicles, inadequate tools and equipment for the technicians, limited human resources forcing instructors to carry dual roles, absence of defensive training among the drivers, lack of substitute drivers for long distance travels, and insufficient number of vehicles to cater all travelling demands.

Therefore, a Motorpool Operations Manual is proposed to provide a complete guide in the operations. It will contain the standard processes and policies in preventive maintenance, vehicle scheduling and dispatching, safety protocols and documentation. This proposed manual will benefit the stakeholders to better understand the services offered by the motorpool, and will properly guide the staff in navigating the processes and system.

Additionally, the Motorpool Operations Manual will serve as an input in enhancing the automotive curriculum. It will be used as an instructional material in automotive-related subjects such as Preventive Maintenance Servicing, Emission System Servicing, and Driving.

Therefore, the study recommends that the motorpool have an organizational modification, specifically the designation of motorpool coordinators for the four campuses of Sorsogon State University to ensure that all vehicles are well-managed and all its operations are properly documented. Also, the university drivers need to undergo trainings to update and enhance their knowledge regarding defensive driving.

The study also recommends enhancement of the motorpool practices through the digitalization of

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vehicle scheduling and dispatching, preventive maintenance record tracking, fuel tracking and monitoring, and record management.

Furthermore, the study recommends the allocation of specific motorpool parking and building for centralized operations. It is also necessary to provide complete tools and equipment to have a successful preventive maintenance services. The university should also hire permanent technicians for the unit to avoid conflicting roles with the instructors. Similarly, more vehicles should be provided along with hiring additional drivers. Since there are travels that exceed 6 hours of driving or take 400 kilometers, there should be a two-driver rule to avoid fatigue on drivers. The study also recommends the standardizing of emergency and response protocol so that the drivers know the correct response during unwanted circumstances. It is also important to conduct orientation for the users regarding the services offered by the motorpool to ensure that everyone knows their priviledge on vehicles and recognizes the process of requisition. Likewise, all SorSU campuses must adapt and implement the proposed manual of the motorpool to enhance and standardize its operations to properly guide the administrators.

In addition, the study recommends the implementation of the syllabus containing the proposed manual as an instructional material for the Automotive Technology Courses. It will bridge the gap between academic content and industry practices by integrating real world automotive situations.

Lastly, a follow-up research must be conducted to assess the impact of the manual to the operations of the motorpool unit and its effects to the automotive students' competency.

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