

Traffic Congestion Management: Evaluating Challenges and Opportunities

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Abstract- The study aimed to look into the status of the traffic management in the municipality of Dumanjug, province of Cebu during the calendar year 2025 as basis for a propose measures for its improvement. The study focused on the twenty-eight (28) total respondents from the municipality of Dumanjug Traffic Enforcers and its community representatives. The researcher employed descriptive design using the quantitative and qualitative approach in this research study. This frequency distribution research made use of quantitative and qualitative approach and interview method in qualitative approach. This study employed researcher – adapted instruments. There were four (4) instruments utilized in this research, namely: 1.) the profile of the traffic enforcers. The second tool was the status of the traffic operations. This is being followed by the status of the traffic management. The last one is the interview guide or the focused group discussion. As to the perception of respondent groups of the causes of traffic congestion in the inadequacy of traffic system, the data illustrates that respondents seldomly experience issues related to the breakdown of the traffic system during peak hours) and the queuing of vehicles near junctions. Level of traffic operations as to distribution of duties as to strategies This highlights that most strategies to manage traffic, rarely have access to necessary operational equipment. As to the level of performance of the traffic enforcement management, when it comes to output the data illustrates that traffic enforcers consistently demonstrate good levels of performance in their output, Job Knowledge highlights that traffic enforcers demonstrate good competence across various cognitive and technical dimensions of the job, In the supervisory control data shown supervisory control received a good rating, but with several items bordering on the fair category. People Management is assessed as fair. These ratings highlight a notable deficiency in leadership practices. Association between the status of traffic operations and the level of performance of the traffic enforcement management the results show that among the traffic operational components, duties assigned to traffic enforcers have a notably strong relationship with performance, particularly with Output, as evidenced and a statistically

significant. In the light of the findings, it is recommended that the output of the study would be implemented.

Keywords: Public Administration, Traffic Congestion Management, Evaluating Challenges and Opportunities, Descriptive Method, Cebu, Philippines

I. INTRODUCTION

Rationale of the Study

The current assessment of the Philippine Institute for Development Studies (PIDS) determined that the Philippines needs more adequate and better-quality road and rail transport infrastructure (Navarro & Latigar, 2022). With the current state of transportation facilities, transportation problems have been becoming severe, especially in road intersections, which are primarily vulnerable to transportation problems.

According to a recent report on traffic dynamics, the Philippines faces increasing congestion caused by vehicles, particularly in urban areas. Numbeo (2024) reported on their 2024 mid-year traffic index report that the Philippines placed second to the most pronounced vehicular congestion among six Southeast Asian nations and securing the 15th position globally. This demonstrates the urgent need to address this issue by examining the complicated interconnection of factors contributing to traffic patterns.

The influx of vehicles in the municipality of Dumanjug, province of Cebu has been responsible for the traffic congestions especially in the peak hours of the day. The welfare of the traffic management of the streets depends on the traffic enforcers. The management of these people would determine the success or failure of traffic management. There is no gain saying that this

municipality is a growing place and with its growth and development goes with in the traffic problems. This is inherent in every city however, if there is proper management of city traffic, such congestions could be minimized. It is the purpose of this study that through the findings, he would be able to find some proper measures to efficiently impose traffic rules and regulations. Through able management and proper supervision, it is believed that these traffic problems could be resolved in due time. The researcher believed that for every problem there is always a solution. If man could create these problems then man could also resolves these problems. Traffic policies play a significant role in managing traffic flow in a roadway. The study by Bahrami and Roorda (2020) looks for ways traffic management will be uplifted in certain areas. These policies aim to reduce traffic jams and make a difference in the expectation of traffic. The study found that the best way to make traffic flow smoothly depends on traffic volume and capacity. The current assessment of the Philippine Institute for Development Studies (PIDS) determined that the Philippines needs more adequate and better-quality road and rail transport infrastructure (Navarro & Latigar, 2022). With the current state of transportation facilities, transportation problems have been becoming severe, especially in road intersections, which are primarily vulnerable to transportation problems. Traffic congestion in Dumanjug, Cebu is primarily caused by a rapidly increasing volume of private cars and motorcycles overwhelming narrow, existing roads. As a growing municipality, Dumanjug faces bottlenecks from mixed traffic (trucks, jeepneys, motorcycles), lack of adequate parking, and limited road widening, exacerbated during peak hours. As of early 2026, the Municipality of Dumanjug, Cebu, has implemented strict traffic ordinances focused on noise control, vehicle restrictions on damaged infrastructure, and enhanced road safety. Key 2025/2026 regulations include a strict ban on modified mufflers/loud exhaust pipes and specific weight-based detour routes for heavy vehicles (6–10+ wheelers) around the Tangil-Tapon. The researcher had been working in the traffic section for many years and it is his desire to study on the traffic management to be able to know more and help of the measures to be implemented.

Theoretical Background

Traffic flow theory, pioneered by visionaries like John Glen Wardrop (1924) in the mid-20th century, offers a theoretical foundation for understanding the complex interactions between vehicles, pedestrians, and the built environment. In studies about traffic assignment, network equilibrium models are commonly used for the prediction of traffic patterns in transportation networks that are subject to congestion. The idea of traffic equilibrium originated as early as 1924, with Frank Knight. The concepts are related to the idea of Nash equilibrium in game theory developed separately. However, in transportation networks, there are many players, making the analysis complex. In 1952, Wardrop stated two principles that formalize different notions of equilibrium, and introduced the alternative behaviour postulate of the minimization of the total travel costs: Wardrop's first principle of route choice, now known as "user equilibrium", "selfish Wardrop equilibrium" or just "Wardrop equilibrium", which is identical to the notion postulated by Knight, became accepted as a sound and simple behavioural principle to describe the spreading of trips over alternate routes because of congested conditions. It states: The journey times in all routes actually used are equal and less than those that would be experienced by a single vehicle on any unused route.

The traffic flows that satisfy this principle are usually referred to as "user equilibrium" (UE) flows, since each user chooses the route that is the best. Specifically, a user-optimized equilibrium is reached when no user may lower his transportation cost through unilateral action. A variant is the stochastic user equilibrium (SUE), in which no driver can unilaterally change routes to improve his/her perceived, rather than actual, travel times.

This is being supported by Management by Objectives (MBO) 1954 by Peter F. Drucker, is a process in which a manager and an employee agree on specific performance goals and then develop a plan to reach them. It is designed to align objectives throughout an organization and boost employee participation and commitment. Management by Objective, also called Management by Results (MBR), is a theory of management developed by Peter F. Drucker in his book *Practice of Management* (1954). In summary, MBO is a management system

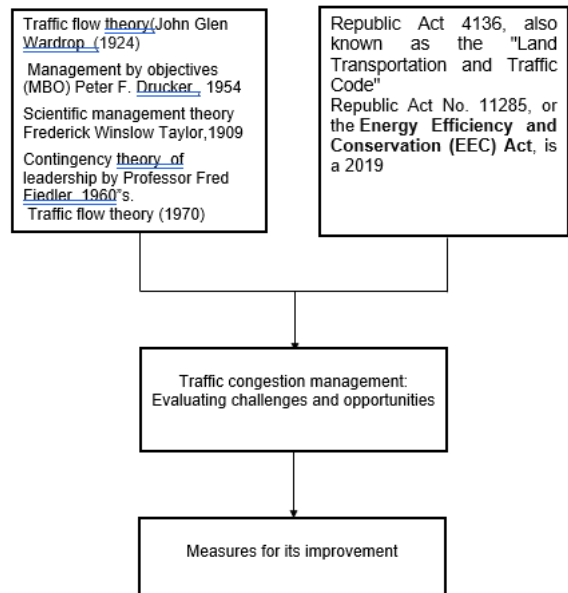
in which the manager and employees work together to develop areas of responsibility for employees. MBO emphasizes anticipatively established goals that are tangible, verifiable, and measurable. It is a powerful tool for aligning employees' actions with an organization's goals. By empowering people to take responsibility for their performance, and by encouraging them to see how their achievements affect the organization as a whole, you can increase their motivation, dedication, and loyalty. Benefits of Management by Objectives.

Traffic flow theory models the interactions between vehicles, drivers, and infrastructure to understand and optimize traffic behavior. It uses mathematical relationships between speed, density, and flow rate to manage congestion and design roads, often utilizing microscopic (individual vehicle behavior) or macroscopic (fluid-like flow) models. Braess' Paradox states that, counterintuitively, adding a road to a road network could possibly impede its flow (e.g. the travel time of each driver); equivalently, closing roads could potentially improve travel times. Mihaly Csikszentmihalyi introduced flow theory in the 1970s based on research examining people who did activities for pleasure, even when they were not rewarded with money or fame. He considered artists, writers, athletes, chess masters, and surgeons – individuals who were involved in activities they preferred.

The MBO approach usually results in better teamwork and communication. It provides the employees with a clear understanding of what is expected of them. The supervisors set goals for every member of the team, and every employee is provided with a list of unique tasks. management by objectives MBO process impact employee behaviors? Findings show that MBO process creates a state of employee motivation, satisfaction, commitment, loyalty which show the behavior of the employees. This in turn leads to improving the performance of the employees. Also, the goal set must be realistic, acceptable and relate to the functions of the organization.

This is being supported by a scientific management theory 1909 by Frederick Winslow Taylor. It is a management approach that utilizes scientific methods

to solve organizational problems and improve productivity. Developed by Frederick Winslow Taylor, also known as Taylorism, it aims to replace traditional management practices with a more systematic and efficient approach. Frederick Winslow Taylor developed and published his Scientific Management Theory in 1909. At its core, scientific



Theoretical Framework of the Study Figure 1

management theory believes that it is vital to find the most effective way to complete each and every task, no matter how small. In 1909, Taylor published "The Principles of Scientific Management." In this, he proposed that by optimizing and simplifying jobs, productivity would increase. He also advanced the idea that workers and managers needed to cooperate with one another.

Another theory is a contingency theory of leadership 1960's by Professor Fred Fiedler states that effective leadership is contingent upon the situation at hand. Essentially, it depends on whether an individual's leadership style befits the situation.

According to this theory, someone can be an effective leader in one circumstance and an ineffective leader in another. This theory was developed in the 1960s by Austrian psychologist, Professor Fred Fiedler. He studied leaders' personalities and characteristics and concluded that leadership style, since it is formed

through one's life experiences, is incredibly difficult, if not impossible, to change. Contingency theory is beneficial to organizations because of the potential for learning from specific situations and using these lessons to influence future management of the same or similar situations. The ability to adapt to external pressures and changes is also an advantage.

The TMA places a duty on local authorities to make sure traffic moves freely and quickly on their roads and the roads of nearby authorities. The TMA gives councils more tools to manage parking policies, coordinate street works and enforce some moving traffic offences. Traffic management operatives will usually use a combination of road signs, special vehicles, and handheld signs to keep traffic flowing safely around the highway workers. Similar tools are used for traffic management around short-duration works, which involve stops of up to an hour.

The Republic Act governing traffic management in the Philippines is Republic Act 4136, also known as the "Land Transportation and Traffic Code" which outlines the rules and regulations for vehicle registration, driver licensing, and overall road traffic management in the country; essentially serving as the foundation for all Philippine traffic laws. Out of the data gathered, findings will serve as reference for an output in a form of a plan proposing actions and strategies.

Republic Act No. 11285, or the Energy Efficiency and Conservation (EEC) Act, is a 2019 Philippine law that institutionalizes energy efficiency and conservation as a national way of life. It enhances the efficient use of energy, mandates energy management systems for designated establishments, and offers incentives for energy-saving projects.

II. THE PROBLEM

Statement of the Problem

The study aimed to look into the status of the traffic management in the municipality of Dumanjug, province of Cebu during the calendar year 2025 as basis for measures for its improvement.

Specifically, it sought to answer the following queries:

1. What is the profile of the respondent groups as to:
 - 1.1 Traffic Enforcers
 - 1.1.1 age;
 - 1.1.2. gender ;
 - 1.1.3 highest educational attainment;
 - 1.1.4. length of service; and
 - 1.1.5. employment status?
 - 1.2. entities involved in traffic enforcement
 - 1.2.1 Dumanjug Traffic Management and
 - 1.2.2 deputize policemen
2. What is the level of traffic operations in terms of:
 - 2.1 distribution of duties;
 - 2.2 strategies; and
 - 2.3 facilities and equipment?
3. What is the level of performance of the traffic enforcement management in terms of:
 - 3.1 output;
 - 3.2 job knowledge;
 - 3.3 supervisory control;
 - 3.4 people management;
 - 3.5 organizational responsive; and
 - 3.6 personal qualities?
4. Is there an association between the level of traffic operations and the level of performance of the traffic enforcement management?
5. What are the issues and concerns encountered by traffic management in the municipality?
6. What measures are to be undertaken by the traffic management to help the traffic congestions?

Hypothesis

Ho2: There an association between the level of traffic operations and the level of performance of the traffic enforcement management?

Significance of the Study

Policy makers. They would generate rules and infrastructure plans with the main purpose of safeguarding the safe, orderly, and well-organized movement of people and goods.

Head of Office. Results helped benefit the heads of office and PNP officers. The result of this research

will provide them more information of the traffic situation and implement measures needed.

PNP Officers. This study enabled them to know and realize how interpersonal relationship with peers and community people contributes the success of the implementation established.

Heads of traffic management agencies. The study served as the basis in the making of measures, which improved the management of traffic.

Traffic enforcers and other personnel's in the traffic management agencies. The study presented a real challenge for their growth and development. At least these people did something within their power to impose what should be proper steps in the enforcement of traffic laws and regulations.

LGU Personnel. This study made municipal personnel realized that the PNP administration need funding, backing and cooperation among them in order to build an organization where everybody loves to help one another where understanding and trust in the organization manifested.

Urban planners of traffic management. They will enhance current road infrastructure, boost security for all workers, lessen congestion, and promote sustainable, accessible mobility for the purposes of refining efficiency, reducing ecological effects.

PNP Station. This study increased involvement of PNP officers especially to community programs and projects implemented within the community.

General public. The recipients of the measures, the study would redound to them in one way or another.

Energy users. These users use it efficiently, and adopt sustainable habits to reduce ecological impact.

Environmentalist. They will enhance more to defend the planet through research, advocacy, and conservation.

Road users. They will follow traffic laws, prioritize safety, and respect the right of way to prevent accidents.

Community. The findings served as the basis for providing and coordinating with the PNP officers in the sustenance of the implementation of programs.

Researcher. The results of the study provided the researcher some intuitions and understanding on how to deal with their peers and the community people.

Future researcher. To the future researchers, the study served as another reference they make a study of similar in nature.

III. RESEARCH METHODOLOGY

This section presented the research methods, environment, respondents, instruments, data gathering procedure and statistical treatment of data.
Design

This study availed the used of descriptive method of research particularly the descriptive-survey and descriptive correlational method of research. This was the most appropriate method of research because the main intention of the study was to survey variables to be investigated.

Flow of the Study

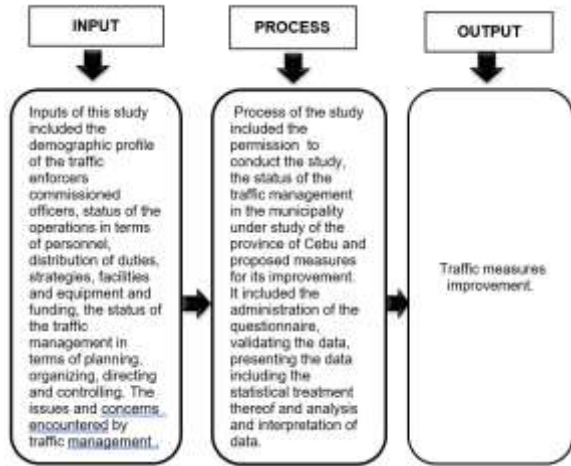
The main purpose of the study focused on the status of the traffic management in the municipality of Dumanjug, province of Cebu. Out of the data gathered, findings served as reference for an output in a form of an action plan proposing actions and strategies to improve the organization, and strengthen the community services.

Inputs of this study included the demographic profile of the traffic enforcers commissioned officers, status of the operations in terms of personnel, distribution of duties, strategies, facilities and equipment and funding, the status of the traffic management in terms of planning, organizing, directing and controlling. The issues and concerns encountered by traffic management.

Process of the study included the permission to conduct the study, the status of the traffic management in the municipality under study of the province of Cebu and proposed measures for its

improvement. It included the administration of the questionnaire, validating the data, presenting the data including the statistical treatment thereof and analysis and interpretation of data.

Output of the study is the proposed traffic measures for its improvement.



FLOW OF THE STUDY Figure 2

Environment

The Dumanjug Police Station was located in the municipality of Dumanjug in southwestern Cebu, Philippines, served as the primary law enforcement agency Dumanjug Cebu. While specific historical details about the station were limited, it's evident that the station operates under the Philippine National Police (PNP) framework, adhering to national standards and protocols, the municipality itself has a rich history.

The police station was strategically located in Poblacion Central, adjacent to key municipal landmarks such as the LGU Dumanjug Government Villa, Dumanjug Fire Station, Poblacion Central Barangay Hall. This central positioning facilitated efficient coordination during emergencies and public safety operations. In 1854, Dumanjug was established as a parish, and a year later, in 1855, it became an independent municipality. The police station at that time was established in the same building as that of the municipal town hall.

Throughout its history, Dumanjug had been under various administrative controls, including Spanish

colonial rule, the American period, and Japanese occupation during World War II. After the war, democratic leadership was re-established, and the Philippines gained independence in 1946. Some years later, the Municipal Government of Dumanjug constructed a one-storey building to serve as the municipal police station. In 2021, due to urban development, a new Police Station building was constructed in front of the old police station building. The Dumanjug Police Station continued to play a vital role in maintaining peace and order in the community. For instance, in October 2024, the station intercepted a shipment of undocumented hogs, highlighting its ongoing commitment to public safety. While detailed historical accounts of the Dumanjug Municipal Police Station's origins are scarce, its ongoing dedication to community service and law enforcement remains evident through its active operations and community engagement.

The current police-to-population ratio in Dumanjug is as follows: with a total registered voter count of approximately 59,000 based on the 2020 survey by the Philippines Statistics Authority, the Dumanjug Municipal Police Station has two (2) PCOs, thirty-six (36) PNCOs, and four (4) Non-Uniformed Personnel, all of whom are assigned specific tasks to address peace and order in the area of responsibility. The present police-to-population ratio is as follows: Population: 59,000, Police: 36, Ratio: 1: 1,638.

The area of responsibility has 4 Banks, 1 Mall, 1 Hotel, 6 Pawnshop, 1 Radio station, 1 Power plant, 1 University, 1 Public Market, 1 Rural Health Unit, 3 Church, 1 University, 9 Gas Station, 1 Mega Dome. The people in the area are predominantly Roman Catholics. At present, the area under the jurisdiction of Dumanjug Municipal Police Station remains peaceful. The Dumanjug Municipal Police Station continues to maintain order through regular patrols, community engagement, and strict enforcement of laws to ensure the safety and security of residents.

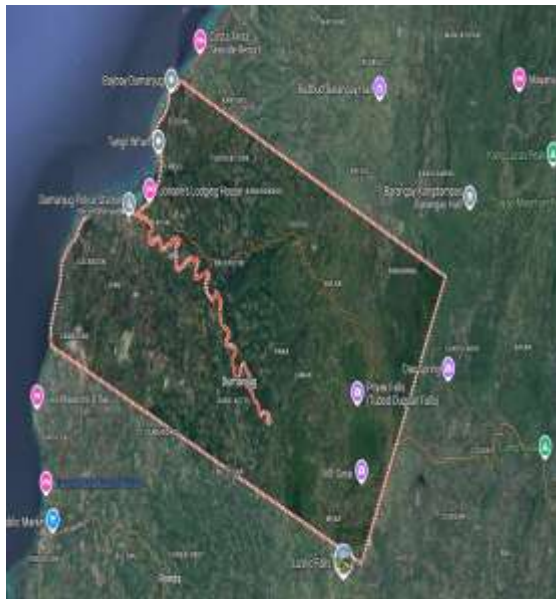
Respondents

The study focused on the twenty eight (28) total respondents from the municipality of Dumanjug Traffic Enforcers and its community representatives. Two (2) Head of Office, one (1) is the chief of police

and the other one is the Deputy officer. There are eighteen (18) traffic enforcers CITOM, three (3) policemen and five LTO personnel.

Table 1 Distribution of Respondents

NAME OF OFFICE	GROUPS OF PERSONNEL				Total	Percent (%)
	Head of Office / OIC	ENTITIES INVOLVED				
		Police men (deputized to enforce)	LTO Personnel	CITOM		
Dumanjug Traffic Section	2	3	5	18	28	100
TOTAL	2	3	5	18	28	100



Location Map for the Research Site Environment Figure 3

Instrument

There were four (4) instruments utilized in this research, namely: 1.) the profile of the traffic enforcers terms of the following sex, age level, educational attainment, length of service and

employment status. The second tool was the status of the traffic operations.

This instrument taken from the study of Manuel L. Vicente Jr. in his thesis entitled "the traffic management in Cebu City: status prospects and proposals "the status of operations such as personnel, distribution of duties, strategies, facilities and equipment and funding. This is being followed by the status of the traffic management in terms of planning, organizing, directing and controlling. The last one is the interview guide or the focused group discussion.

Data Gathering Procedure

Upon the approval of the letter of permission of the Dean of the Graduate school, after which permission from the higher authority of PNP traffic enforcer organization, the administration of all research instruments were produced in enough copies equal to the number of respondents.

Administration Procedure. The administration was personally done by the researcher. The instruction explained by the researcher for the respondents to understand fully the direction. The researcher personally administered them and assured that consistencies of directions were followed. The administration and retrieval of the instruments were done as scheduled. Data was scored and interpreted following closely the guidelines stipulated where the research instruments were adopted.

Statistical Treatment of Data

The statistical tools used in the study were the simple percentage, general weighted mean, person r, chi-square (X²), t-test and thematic contest analysis. The simple percentage was used to present the profile of research respondents in terms of age; gender, civil status, highest Educational Attainment, length of service; and trainings/seminars attended rank in the family, grade level, years of stay in the place, family income.

The general weighted mean was utilized to describe the status of the operations and status of traffic management.

The person r and chi-square was used to determine if there was a significant relationship between the

status of the operations and status of traffic management.

Thematic content analysis was to be employed in the case of qualitative data.

Scoring Procedure

I. PARAMETER LIMITS ON THE LEVEL OF THE OPERATIONS OF TRAFFIC ENFORCERS

SCALE	RANGE	CATEGORY	VERBAL DESCRIPTION
5	4.21 – 5.00	Always	Constantly practice
4	3.41 – 4.20	Fairly Often	Properly practice
3	2.61 – 3.40	Occasionally	Irregularly practice
2	1.81 – 2.60	Rarely	Seldom practice
1	1.00 – 1.80	Never	Not ever practice

II. PARAMETER LIMITS ON THE LEVEL OF PERFORMANCE OF THE TRAFFIC ENFORCEMENT MANAGEMENT

RATING SCALE	RANGE	DESCRIPTION
5	4.00 – 5.00	Outstanding
4	3.50 – 3.49	Very Good
3	2.50 – 3.49	Good
2	1.50 – 2.49	Fair
1	1.00 – 1.49	poor

IV. DEFINITION OF TERMS

The following terms are defined as they were used operationally in the study. To avoid vagueness of the study, some of the terms are defined:

Action Plan. It refers to the output of the study.

Descriptive Method. It is a strategy that teaches the concepts behind context specific vocabulary by using high-frequency, reusable, common words.

Traffic Management. The terms as used the study refer to the planning, directing, organizing and controlling of traffic enforcement in the city of Cebu.

Peak Hours. This refers to the busy hours in the morning and in the late afternoon where there is intense traffic congestion.

Problems. This refers to the difficulties and hardship encountered in the enforcement of traffic rules and regulations.

Strategies. It is the ways and means being considered by the traffic enforcement agency to ease traffic congestion.

level. It is the condition of the traffic enforcement agencies

in terms of the mentioned variables.

Profile. It is the background of the personnel of the traffic

Agencies.

Proposed Measures. These are the future steps to be taken into consideration in order to improve the traffic congestion.

Prospects. This refers to the future outcome of the measures undertaken to ease congestions.

Output- as used in this study are the quality of work, its timeliness, acceptability and accomplishment target.

Public Administration. Refers to the implementation of of government policies, determining the policies and programs of governments, specifically, the planning, organizing, directing, coordinating, and controlling of government operations.

V. DATA PRESENTATION, ANALYSIS AND INTERPRETATION

RESPONDENTS PROFILE

Traffic Enforcers

This section presented the demographic and professional profile of the traffic enforcers in Dumanjug, Cebu. Understanding their characteristics helped contextualized their role in traffic management and the challenges they encountered.

Table 2 Age

Age	f	%
over 55 years old	5	20.00
51 – 55 years old	1	4.00
46 – 50 years old	4	16.00
41 – 45 years old	2	8.00
36 – 40 years old	4	16.00
31 – 35 years old	6	24.00
25 – 30 years old	1	4.00
21 – 25 years old	2	8.00
Total	25	100.00
Average		41.18
Std Dev		10.36

The data in Table 2 illustrates that traffic enforcers span various age groups, with the majority concentrated in the 31–35 age bracket (24%). This is followed closely by the 25–30 and 36–40 age groups, each comprising 16% of the population. Notably, 20% of the enforcers are over 55 years old, suggesting the presence of experienced personnel.

The average age is approximately 41 years, with a standard deviation of 10.36 years, indicating a relatively wide age spread. This mix of younger and more seasoned personnel implies both energy and experience in the field, which can be beneficial for operational efficiency and mentoring.

Table 3 Gender

Gender	<i>f</i>	%
Male	23	92.00
Female	2	8.00
Total	25	100.00

Table 3 highlights that traffic enforcement remains a male-dominated field in Dumanjug, with 92% of respondents identifying as male and only 8% as female. This demographic composition may reflect traditional gender roles in public safety or operational preferences for physically demanding tasks.

Such gender imbalance suggests a potential area for inclusivity and gender equity, especially as more women seek roles in law enforcement and public service.

Table 4 Highest Educational Attainment

Highest Educational Attainment	<i>f</i>	%
Primary	0	0.00
High School	18	72.00
Vocational	1	4.00
Baccalaureate	6	24.00

Total 25 100.00

From the data shown in Table 4, it is evident that most traffic enforcers (72%) have reached a high school level of education. Meanwhile, 24% possess a baccalaureate degree, and a small portion (4%) completed vocational training.

This educational background reveals that most enforcers may have received limited formal training beyond high school. While practical experience can offset this, it also suggests opportunities to enhance effectiveness through capacity-building programs or continuing education, especially in traffic law enforcement and conflict resolution.

Table 5 Entities Involved in Traffic Enforcement

Entities involved in traffic enforcement	<i>f</i>	%
Dumanjug Traffic Management Group	22	88.00
LTO	0	0.00
Deputize Policemen	3	12.00
Total	25	100.00

The data in Table 5 illustrates that the vast majority (88%) of traffic enforcers are affiliated with the Dumanjug Traffic Management Group. A smaller segment (12%) are deputized policemen, while no respondents are associated with the LTO.

This concentration of responsibilities within a single local entity indicates centralized enforcement. While such centralization may streamline operations, collaboration with national agencies like the LTO could enhance technical enforcement capabilities, especially for addressing licensing or registration violations.

Table 6 Length of Service

Length of Service	<i>f</i>	%
above 36 years	1	4.00
31 – 35 years	0	0.00
26 – 30 years	0	0.00
21 – 25 years	0	0.00
16 – 20 years	1	4.00
11 – 15 years	2	8.00
6 – 10 years	9	36.00
2 – 5 years	3	12.00
1 year and below	9	36.00
Total	25	100.00
Average		6.86

Table 6 highlights that a large portion of the traffic enforcers have relatively limited experience, with 36% having served for one year or less, and another 36% for 6–10 years. Only one individual has served beyond 36 years, while other categories remain unrepresented.

With an average length of service at just 6.86 years, the data suggests a workforce that may still be in developmental or transitional phases. This short tenure could point to high turnover, lack of permanency in positions, or recent expansion of the enforcement team due to growing traffic issues. Enhancing job security and offering long-term career pathways could help in retaining skilled personnel.

Table 7 Employment Status

Employment Status	<i>f</i>	%
Permanent	3	12.00

Temporary	21	84.00
Deputize	1	4.00
Part-time	0	0.00
Provisional	0	0.00
Total	25	100.00

From the data shown in Table 7, a significant majority (84%) of traffic enforcers are in temporary positions, with only 12% holding permanent employment and 4% being deputized.

This employment structure could affect the motivation, accountability, and long-term commitment of traffic personnel. Temporary status may also limit access to training, benefits, or career advancement opportunities. Strengthening institutional support and offering more stable employment terms may contribute to better job performance and overall traffic system improvement.

VI. PERCEPTION OF RESPONDENT GROUPS OF THE CAUSES OF TRAFFIC CONGESTION

This section presents the perceptions of traffic enforcers regarding the key factors contributing to congestion in Dumanjug, Cebu. It provides a glimpse into how frontline personnel interpret recurring problems, offering essential insights for designing appropriate traffic interventions.

Table 8 Inadequacy of Traffic System

Inadequacy of Traffic System	Mean	Std Dev	Description
1. The traffic system simply fails during peak hours.	2.47	0.9035	Seldomly Experience

2. There are long queuing of vehicles near the junction.	2.31	0.9745	Seldomly Experience
Average Weighted Mean	2.39		Seldomly Experience

Legend: 4.21 – 5.00 Constantly Experience, 3.41 – 4.20 Regularly Experience, 2.61 – 3.40 Irregularly Experience, 1.81 – 2.60 Seldomly Experience, 1.00 – 1.80 Not ever Experience

The data in Table 8 illustrates that respondents seldomly experience issues related to the breakdown of the traffic system during peak hours (mean = 2.47) and the queuing of vehicles near junctions (mean = 2.31). The average weighted mean of 2.39 confirms this overall sentiment.

This suggests that while traffic congestion is present, the perception is that the core traffic system does not consistently fail. The relatively moderate standard deviations (around 0.90) reflect general agreement among enforcers. This may point to specific time-bound or location-specific issues rather than systemic failure, indicating that targeted rather than structural reforms might be more effective.

Table 9 Illegal road-side Parking

Illegal road-side Parking	Mean	Std Dev	Description
3. Parking illegally at road side has now a days become very common.	2.28	0.9165	Seldomly Experience
4. It's like public have stopped caring about the traffic and have become very selfish.	2.56	1.0146	Seldomly Experience
Average Weighted Mean	2.42		Seldomly Experience

Legend: 4.21 – 5.00 Constantly Experience, 3.41 – 4.20 Regularly Experience, 2.61 – 3.40 Irregularly Experience, 1.81 – 2.60 Seldomly Experience, 1.00 – 1.80 Not ever Experience

Table 9 highlights that illegal parking is seldomly experienced by respondents, with items rated at 2.28 and 2.56 respectively. The average weighted mean of 2.42 still falls under the “seldomly experienced” category.

Although the practice is not perceived as frequent, it still surfaces as a concern. The perception that the public is becoming “selfish” in their disregard for rules suggests an erosion of compliance culture, which, if unchecked, could lead to more widespread rule-breaking and localized congestion.

Table 10 Increasing number of Vehicles

Increasing number of Vehicles	Mean	Std Dev	Description
5. With a rapidly growing Sector in the area.	2.78	1.126	Irregularly Experience
6. There is a continuous increase in number of employees travelling.	3.00	0.933	Irregularly Experience
7. This overloads the transport system as the number of Commuters rapidly increases every day.	3.06	0.987	Irregularly Experience
Average Weighted Mean	2.95		Irregularly Experience

Legend: 4.21 – 5.00 Constantly Experience, 3.41 – 4.20 Regularly Experience, 2.61 – 3.40 Irregularly Experience, 1.81 – 2.60 Seldomly Experience, 1.00 – 1.80 Not ever Experience

From the data shown in Table 10, the increasing number of vehicles is irregularly experienced as a cause of traffic congestion. The items received mean scores between 2.78 and 3.06, with an overall average of 2.95.

This finding aligns with the visible trend of motorization in growing municipalities. Enforcers recognize that urban expansion and increased mobility demands are gradually overwhelming the existing infrastructure. The relatively high standard deviations suggest varying degrees of exposure across locations, hinting that traffic congestion related to vehicle volume might be more acute in key junctions or thoroughfares.

Table 11 High purchasing power of the Public

D. High purchasing power of the Public	Mean	Std Dev	Description
8.The standard of living increases along with the growth of income due to the sectors.	2.75	1.0635	Irregularly Experience
Average Weighted Mean	2.75		Irregularly Experience

Legend: 4.21 – 5.00 Constantly Experience, 3.41 – 4.20 Regularly Experience, 2.61 – 3.40 Irregularly Experience, 1.81 – 2.60 Seldomly Experience, 1.00 – 1.80 Not ever Experience

The data in Table 11 illustrates that the increasing standard of living, and consequently, higher purchasing power, is irregularly experienced (mean = 2.75) as a contributor to congestion.

This reflects the indirect relationship between economic development and traffic density. As more individuals can afford private vehicles, road usage increases. Although this isn't perceived as an immediate concern, the data suggests the potential for a long-term challenge if left unaddressed by policies promoting mass transit or carpooling.

Table 12 Improper Planning

Improper Planning	Mean	Std Dev	Description
9. Basic infrastructure has been developed after the development of business and apartments.	2.59	0.8913	Seldomly Experience
10.This has led to the deficiencies of infrastructural development of overall	2.44	0.9552	Seldomly Experience

area.

Average Weighted Mean	2.52	Seldomly Experience
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Legend: 4.21 – 5.00 Constantly Experience, 3.41 – 4.20 Regularly Experience, 2.61 – 3.40 Irregularly Experience, 1.81 – 2.60 Seldomly Experience, 1.00 – 1.80 Not ever Experience

Table 12 highlights that improper urban planning is seldomly experienced as a factor in traffic congestion. Respondents rated related items with means of 2.59 and 2.44, yielding a composite score of 2.52.

The results suggest that while poor infrastructure planning is acknowledged, it may not be the most pressing issue for current traffic conditions. However, the insights imply that reactive development where infrastructure trails behind residential or commercial growth can still compound congestion over time.

Table 13 Improper Lane Management

E. Improper Lane Management	Mean	Std Dev	Description
11.Commuters are in hurry to reach their destination without caring for the traffic laws and indirectly end up slowing themselves.	3.00	1.0000	Irregularly Experience
Average Weighted Mean	3.00		Irregularly Experience

Legend: 4.21 – 5.00 Constantly Experience, 3.41 – 4.20 Regularly Experience, 2.61 – 3.40 Irregularly Experience, 1.81 – 2.60 Seldomly Experience, 1.00 – 1.80 Not ever Experience

From the data shown in Table 13, improper lane behavior by commuters is irregularly experienced (mean = 3.00) as a source of congestion.

This result highlights behavioral causes over structural deficiencies. The lack of lane discipline, especially during rush hours, likely causes unnecessary bottlenecks and delays. This supports the need for better enforcement and perhaps educational campaigns to cultivate respect for lane usage and traffic etiquette.

Table 14 Improper Public Behavior

G.Improper Public Behavior	Mean	Std Dev	Description
12. There are always people seen not following the traffic rules.	2.75	0.8991	Irregularly Experience
13.This behavior of the public is dangerous as it possesses the threat of accidents, not only with vehicles but for the pedestrians too.	3.13	1.0339	Irregularly Experience
14.Strict action must be taken for people who are not complying with the rules.	2.94	1.0391	Irregularly Experience
Average Weighted Mean	2.94		Irregularly Experience

Legend: 4.21 – 5.00 Constantly Experience, 3.41 – 4.20 Regularly Experience, 2.61 – 3.40 Irregularly Experience, 1.81 – 2.60 Seldomly Experience, 1.00 – 1.80 Not ever Experience

The data in Table 14 illustrates that improper behavior by road users is irregularly experienced as a cause of congestion, with a consistent average of 2.94 across three items.

Respondents observed that many drivers and pedestrians do not follow traffic rules, and this indifference increases risks and disrupts flow. The emphasis on the need for strict enforcement reflects a perceived gap in accountability. These insights emphasize that congestion isn't just an infrastructure problem it's also rooted in behavioral patterns that undermine road discipline.

VII. LEVEL OF TRAFFIC OPERATIONS

This section explores how traffic enforcers in Dumanjug carry out their roles, the strategies they

use in managing traffic flow, and the availability of operational equipment and facilities. The insights drawn from this data help determine whether enforcers are well-supported and strategically deployed to address the municipality's growing traffic concerns.

Table 15 Distribution of Duties

Duties to enforce traffic	Mean	Std Dev	Description
1. Assigned to maintain traffic in peak hours and busy streets	3.38	1.1326	Occasionally
2.assigned in the Mobile Car	2.16	1.4555	Rarely
3.assigned in the office	2.09	1.1918	Rarely
4.assigned in the market areas	2.31	1.1562	Rarely
Average Weighted Mean	2.48		Rarely

Legend: 4.21 – 5.00 Always, 3.41 – 4.20 Fairly Often, 2.61 – 3.40 Occasionally, 1.81 – 2.60 Rarely, 1.00 – 1.80 Never

The data in Table 15 illustrates that traffic enforcers are rarely assigned across various operational areas, with a slight concentration in high-demand locations during peak hours (mean = 3.38, occasionally). Assignments in the office (mean = 2.09), market areas (2.31), and mobile car deployment (2.16) are all rated rarely, with an overall average of 2.48.

This pattern suggests that while enforcers are intermittently visible in busy zones, there is limited strategic deployment in other crucial traffic zones like markets and roadsides where congestion often escalates. The variance in responses, as seen in the standard deviations above 1.0, points to inconsistent assignment practices or rotational duties, which may hinder consistency in traffic flow enforcement.

Table 16 Strategies

B. Strategies to enforce traffic management	Mean	Std Dev	Description
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5. Placing an area for the inspection of vehicles on whether they meet the needed requirements in the anti-pollution campaign in the city.	2.94	1.0076	Occasionally
6.Seminars considered for erring drives	2.63	1.0964	Occasionally
7.Proving to the drivers the determination of the traffic enforcement to punish erring drivers.	2.88	1.2397	Occasionally
8.Campaign for smoke belching campaign is continued	2.22	1.0001	Rarely
9.Utilizing the mass media for the proper	2.50	1.1108	Rarely
10.education of drivers as well as for commuter	1.91	1.1257	Rarely
Average Weighted Mean	2.51		Rarely

Legend: 4.21 – 5.00 Always, 3.41 – 4.20 Fairly Often, 2.61 – 3.40 Occasionally, 1.81 – 2.60 Rarely, 1.00 – 1.80 Never

Table 16 highlights that most strategies to manage traffic are implemented occasionally to rarely, with an average weighted mean of 2.51. Notably, inspection areas for anti-pollution compliance (2.94), enforcement against erring drivers (2.88), and traffic seminars (2.63) are occasionally applied. However, key community-based approaches such as campaigns for smoke belching (2.22), use of mass media (2.50), and driver/commuter education (1.91) are rarely conducted.

These figures reveal a reactive rather than proactive approach to traffic strategy implementation. While some enforcement mechanisms are sporadically activated, there's a significant gap in public education and environmental monitoring, which are crucial in shaping long-term traffic discipline and reducing road obstructions caused by poorly maintained vehicles.

Table 17 Facilities and Equipment

C. Facilities and Equipment	Mean	Std Dev	Description
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11. mobile car	1.56	1.3771	FALSE
12. whistle	3.03	1.1451	Occasionally
13. traffic uniforms	2.97	1.3109	Occasionally
14. hand gloves(yellow in color)	2.06	1.3923	Rarely
15. rain coat	1.91	1.3354	Rarely
16. night stick	1.47	1.1197	FALSE
17. license gun	1.25	1.2834	FALSE

Average Weighted Mean 2.04 Rarely
 Legend: 4.21 – 5.00 Always, 3.41 – 4.20 Fairly Often, 2.61 – 3.40 Occasionally, 1.81 – 2.60 Rarely, 1.00 – 1.80 Never

From the data shown in Table 17, traffic enforcers rarely have access to necessary operational equipment, with an overall average of 2.04. Only whistles (3.03) and traffic uniforms (2.97) are reported as occasionally available. In contrast, essential items like hand gloves (2.06), raincoats (1.91), night sticks (1.47), mobile cars (1.56), and licensed guns (1.25) fall into the rarely or never used categories.

These results suggest that traffic enforcement in Dumanjug is challenged by equipment insufficiencies. The absence or low availability of critical tools, especially during nighttime or bad weather, limits the efficiency and safety of the enforcers. This lack of resources may also weaken the public perception of authority presence, reducing the deterrent effect on violators and complicating crowd or traffic control during peak times.

VIII. LEVEL OF PERFORMANCE OF THE TRAFFIC ENFORCEMENT MANAGEMENT

This section presents an assessment of how traffic enforcement management in Dumanjug performs across several dimensions, including output, job knowledge, supervisory control, people management, organizational responsiveness, and personal qualities. The data reflects the efficiency and effectiveness of

the personnel in executing their responsibilities and embodying professional values.

Table 18 Output

A.Output	Mean	Std Dev	Description
1.Quality of Work	3.09	1.0115	Good
2.Timeliness of Work	3.13	0.9695	Good
3.Quantity of Work	2.94	1.0697	Good
Average Weighted Mean	3.05		Good

Legend: 4.21 – 5.00 Outstanding, 3.41 – 4.20 Very Good, 2.61 – 3.40 Good, 1.81 – 2.60 Fair, 1.00 – 1.80 Poor

The data in Table 18 illustrates that traffic enforcers consistently demonstrate good levels of performance in their output, particularly in terms of timeliness (mean = 3.13), quality (3.09), and quantity of work (2.94), resulting in an overall weighted mean of 3.05. These scores reflect a reliable standard of performance, showing that traffic enforcers generally meet expectations in their daily responsibilities. The values, while not exceptionally high, suggest a work culture oriented toward dependable task completion. However, they also imply room for performance optimization, especially in enhancing volume without compromising timeliness or quality.

Table 19 Job Knowledge

B.Job Knowledge	Mean	Std Dev	Description
4. Decision making	2.75	0.9343	Good
5. Planning	2.66	0.7998	Good
6. Implementation of Instructions	2.69	0.9557	Good
7. Creativity/Resourcefulness	2.94	1.0697	Good
8. Analytical Ability	2.75	0.9343	Good
9. Problem Solving/Troubleshooting	2.63	0.8282	Good
10.Oral and Written communication	2.63	0.9028	Good

11.Community Oriented Policing	2.66	1.0133	Good
12.Law Enforcement and Maintenance of law	2.66	1.0446	Good
Average Weighted Mean	2.70		Good

Legend: 4.21 – 5.00 Outstanding, 3.41 – 4.20 Very Good, 2.61 – 3.40 Good, 1.81 – 2.60 Fair, 1.00 – 1.80 Poor

Table 19 highlights that traffic enforcers demonstrate good competence across various cognitive and technical dimensions of the job, with scores ranging from 2.63 to 2.94 and an average weighted mean of 2.70.

This consistent range reflects their familiarity with key responsibilities such as decision-making, law enforcement, communication, and problem-solving. The moderate standard deviations suggest agreement among respondents, indicating a stable skill base. However, the relatively even distribution of scores points to a need for targeted skills training, especially in more strategic areas like planning and analytical tasks to elevate performance from good to very good.

Table 20 Supervisory Control

C. Supervisory Control	Mean	Std Dev	Description
13.Control of Activities	2.69	0.9214	Good
14.Cost Control	2.59	0.8543	Fair
15.Records Management and Submission of Reports	2.63	0.8663	Good
16.Compliance with the implementation of policies /SOP's	2.78	0.9725	Good
17.Sense of Priority	2.59	0.9609	Fair
18.Client Satisfaction/Orientation	2.59	0.8543	Fair
19.Involvement/Presence in Activities	2.53	0.9001	Fair
Average Weighted Mean	2.63		Good

Legend: 4.21 – 5.00 Outstanding, 3.41 – 4.20 Very Good, 2.61 – 3.40 Good, 1.81 – 2.60 Fair, 1.00 – 1.80 Poor

From the data shown in Table 20, supervisory control received a good rating (average mean = 2.63), but with several items bordering on the fair category.

Notably, areas such as cost control, client satisfaction, and sense of priority scored only 2.59, while involvement in activities trailed at 2.53.

These findings point to a gap between managerial oversight and frontline performance. While some supervisory practices like policy compliance (2.78) are carried out satisfactorily, the lower scores in cost efficiency and stakeholder relations indicate areas where leadership engagement could be strengthened for improved institutional impact.

Table 21 People Management

D. People Management	Mean	Std Dev	Description
20.Motivation	2.75	0.8991	Good
21.Workgroup Management	2.59	0.8913	Fair
22.Work Organization/Delegation	2.63	0.8282	Good
23.Interpersonal Relations	2.81	0.9070	Good
24.Promoting Personal Development	2.53	0.8254	Fair
25.Training of Subordinates	2.53	0.9353	Fair
Average Weighted Mean	2.53		Fair

Legend: 4.21 – 5.00 Outstanding, 3.41 – 4.20 Very Good, 2.61 – 3.40 Good, 1.81 – 2.60 Fair, 1.00 – 1.80 Poor

The data in Table 21 illustrates that the level of people management is assessed as fair overall (average mean = 2.53), with lower scores in training of subordinates (2.53), promoting personal development (2.53), and workgroup management (2.59).

These ratings highlight a notable deficiency in leadership practices aimed at team growth and collaboration. Although motivation (2.75) and interpersonal relations (2.81) were rated slightly higher, the lack of structured support for development suggests that leadership efforts are more reactive than strategic. Prioritizing coaching, mentoring, and organized delegation could enhance workplace morale and operational cohesion.

Table 22 Organizational Responsive

E. Organizational Responsive	Mean	Std Dev	Description
26.Housekeeping and Safety/Security Consciousness	2.69	0.9214	Good
27.Preservation of unit properties/interests	2.72	0.9285	Good
28.Coordination	2.72	0.9285	Good
Average Weighted Mean	2.71		Good

Legend: 4.21 – 5.00 Outstanding, 3.41 – 4.20 Very Good, 2.61 – 3.40 Good, 1.81 – 2.60 Fair, 1.00 – 1.80 Poor

Table 22 highlights that enforcers show good organizational responsiveness, with all items scoring closely between 2.69 and 2.72 and an average weighted mean of 2.71.

This uniformity indicates a strong sense of organizational duty, particularly in coordination and asset preservation. These behaviors are critical in maintaining operational discipline and securing institutional resources. However, advancing from good to very good may require more proactive safety practices and streamlined inter-departmental communication.

Table 23 Personal Qualities

F. Personal Qualities	Mean	Std Dev	Description
29.Morally Upright	2.84	0.9773	Good
30.Honest	2.81	0.9756	Good
31.Loyal	3.63	0.9370	Very Good
32.Initiate positive action	2.78	0.9388	Good
33.Dedicated to service	2.81	0.9419	Good
34.Fair and Just	2.78	0.9725	Good
35.Civic-minded	2.66	0.9809	Good
36.Well groomed	2.72	0.9285	Good
37.Responsible	2.97	1.0360	Good
38.Courteous/Tactful	2.91	1.0095	Good
Average Weighted Mean	2.91		Good

Legend: 4.21 – 5.00 Outstanding, 3.41 – 4.20 Very Good, 2.61 – 3.40 Good, 1.81 – 2.60 Fair, 1.00 – 1.80 Poor

From the data shown in Table 23, the personal qualities of traffic enforcers are generally rated as good (average weighted mean = 2.91), with loyalty emerging as a standout trait (3.63 – very good). Traits such as responsibility (2.97), tactfulness (2.91), and moral uprightness (2.84) also reinforce the image of committed public servants.

These results indicate that enforcers are viewed as individuals with integrity and strong civic-mindedness. However, the data also suggest that while personal discipline is evident, enhanced emphasis on self-initiative and developmental growth

can build a more responsive and empowered workforce.

IX. ASSOCIATION BETWEEN THE LEVELS OF TRAFFIC OPERATIONS AND THE LEVEL OF PERFORMANCE OF THE TRAFFIC ENFORCEMENT MANAGEMENT

This section examines the statistical relationship between various components of traffic operations such as duty assignments, strategies, and available facilities and the performance dimensions of traffic enforcement management in Dumanjug. Understanding these associations provides valuable insights into which operational elements most significantly influence management effectiveness.

Duties to enforce traffic	r-value	coef	p-value	
Output	0.8772	1.0089	0.0025	sig, strongest predictor
Job Knowledge	0.8085	-0.2274	0.6867	
Supervisory Control	0.7989	-0.3963	0.4673	
People Management	0.8175	0.4518	0.4166	
Organizational Responsive	0.8264	0.7374	0.1437	
Personal Qualities	0.8493	0.2738	0.4924	
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Strategies to enforce traffic management				
Output	0.8979	0.9247	< 0.0000	highly sig, 2 nd strongest predictor
Job Knowledge	0.8610	0.2672	0.4378	
Supervisory Control	0.8460	-0.4147	0.2167	
People Management	0.8585	0.1574	0.6390	
Organizational Responsive	0.8641	1.0139	0.0028	sig, strongest predictor
Personal Qualities	0.8220	-0.3763	0.1298	
<hr/>				
Facilities and Equipment				
Output	0.757226	0.271537	0.409261	
Job Knowledge	0.771756	-0.30278	0.631386	
Supervisory Control	0.759734	0.046474	0.938795	
People Management	0.742013	-0.15162	0.805823	
Organizational Responsive	0.835742	0.407694	0.459596	
Personal Qualities	0.920737	1.5306	0.002536	sig, strongest predictor

The results show that among the traffic operational components, duties assigned to traffic enforcers have a notably strong relationship with performance, particularly with Output, as evidenced by a high r-value of 0.8772 and a statistically significant p-value

of 0.0025. This indicates that how and where traffic personnel are deployed plays a crucial role in determining the quality, timeliness, and quantity of their work. Other dimensions such as Job Knowledge, Supervisory Control, and People

Management also exhibited positive r-values (ranging from 0.7989 to 0.8493), yet their p-values suggest that these correlations are not statistically significant, implying that the influence of duty assignments on these areas may be less direct or more variable across personnel.

When examining strategies implemented for traffic enforcement, the data reveal an even stronger association with performance outcomes. A highly significant relationship was found between strategy application and Output ($r = 0.8979, p < 0.0000$) and with Organizational Responsiveness ($r = 0.8641, p = 0.0028$), identifying these as key leverage points in boosting performance. These findings suggest that well-designed and consistently implemented strategies not only enhance work results but also improve coordination, safety consciousness, and unit preservation. Other performance dimensions under strategies, such as Job Knowledge and Supervisory Control, reflect positive yet statistically non-significant relationships, hinting that strategies influence operational mindset and oversight, though not always consistently across all personnel.

On the other hand, the availability and use of facilities and equipment present a different dynamic. While the relationships with performance dimensions still show positive r-values, only Personal Qualities yielded a statistically significant result ($r = 0.9207, p = 0.0025$). This strongly suggests that well-equipped enforcers exhibit more admirable traits such as discipline, responsibility, and civic-mindedness. Other areas like Output, Job Knowledge, and Supervisory Control have R-values in the moderate range but with high p-values, indicating weak or statistically inconclusive relationships. This implies that while equipment availability contributes to how officers perceive and present themselves, it may not directly influence measurable work outcomes unless complemented by clear strategies and task alignment. In summary, the strongest performance predictors emerge from strategy application and duty assignments, particularly in relation to output and responsiveness. These associations underscore the importance of assigning enforcers strategically and providing them with structured plans and accountability frameworks. Meanwhile, enhancing access to equipment is crucial not just for efficiency

but also for reinforcing the integrity and personal conduct of the personnel, fostering a culture of professionalism essential for sustained public trust and operational success.

X. ISSUES AND OPPORTUNITIES
 ENCOUNTERED RELATED TO TRAFFIC
 MANAGEMENT

This section examines the prevailing issues and perceived systemic challenges that influence the effectiveness of traffic management in Dumanjug. Identifying these recurring concerns provides clarity on the core pain points in local traffic systems and opens the door for improvements and strategic interventions.

Table 25 ISSUES AND CONCERN

ISSUES AND CONCERNS	Mean	Std Dev	Description
1. Traffic delays construction, heavy rush hour traffic, and insufficient road capacity.	1.58	1.1200	Manifested
2. Traffic congestion is a condition	1.49	1.0325	Manifested
3. Increased travel time	1.36	1.0397	Manifested
4.Excessive air pollution	1.44	1.1420	Manifested
5.Road infrastructure	1.47	1.0679	Manifested
6.Excessive number of public transport vehicles can help to increase congestion	1.36	1.0613	Manifested
7.Deterioration in the levels of order and discipline associated with their operation	1.56	1.2497	Manifested
8.Liberalization of the rules on the importation of used vehicles	1.60	1.1638	Manifested
9.Deregulation of public transport	1.67	1.2102	Manifested
10.Importation of used vehicles	1.69	1.2667	Manifested
Average Weighted Mean	1.52		Manifested

Legend: 1 Very Manifested, 2 Manifested, 3 Moderately Manifested, 4 Somewhat Manifested, 5 Not Manifested

The data in Table 24 illustrates that all listed traffic-related issues are manifested to a notable degree, with an overall average weighted mean of 1.52, firmly within the "Manifested" category. Among the top concerns are traffic delays due to construction, peak-hour congestion, and insufficient road capacity (mean = 1.58), as well as broader issues such as air pollution (1.44) and increased travel time (1.36).

This consistent manifestation across multiple traffic-related stressors highlights a systemic inadequacy in infrastructure development and regulation. The low mean scores, clustered closely between 1.36 and 1.69, indicate high consensus among respondents that these issues are pervasive.

Table 1 highlights that excessive public transportation vehicles contribute significantly to congestion (mean = 1.36), alongside deterioration in discipline among operators (1.56). These suggest a dual challenge: one of vehicle volume and the other of regulatory enforcement. Without effective route control and behavioral oversight, even an optimized transport volume could result in inefficiency.

From the data shown in Table 1, liberal importation policies (1.60), deregulation (1.67), and used vehicle imports (1.69) are also seen as manifesting contributors to the congestion problem. These policy-level concerns suggest that the traffic issues are not merely local operational lapses but are influenced by national-level economic and transport policy decisions.

Together, these issues paint a picture of a system burdened by overlapping infrastructure shortcomings, policy gaps, and uncontrolled mobility trends. Addressing these would require coordinated responses not only at the municipal level but also through provincial and national partnerships, particularly in regulatory reform, urban planning, and sustainable transportation investment.

XI. SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presented the summary, findings, conclusions and propose appropriate recommendations.

SUMMARY

The study aimed to look into the status of the traffic management in the municipality of Dumanjug, province of Cebu during the calendar year 2025 as basis for measures for its improvement. The study surveyed the following areas of concern: related to the profile of the level of traffic operations in terms of: personnel; distribution of duties; strategies; and facilities and equipment. the level of performance of the traffic enforcement management in terms of output; job knowledge; supervisory control; people management; organizational responsive; and personal qualities. significant relationship between the status of traffic operations and the level of performance of the traffic enforcement management and the issues and concerns encountered by traffic management in the municipality.

FINDINGS

As to the perception of respondent groups of the causes of traffic congestion in the inadequacy of traffic system, the data illustrates that respondents seldomly experience issues related to the breakdown of the traffic system during peak hours) and the queuing of vehicles near junctions

When it comes to illegal road-side Parking it highlights that illegal parking is seldomly experienced by respondents. As to the Increasing number of Vehicles, the data shown, the increasing number of vehicles is irregularly experienced as a cause of traffic congestion. High purchasing power of the Public illustrates that the increasing standard of living, and consequently, higher purchasing power, is irregularly experienced as a contributor to congestion.

Improper Planning highlights that improper urban planning is seldomly experienced as a factor in traffic congestion. Improper Lane Management data shown improper lane behavior by commuters is irregularly experienced Improper Public Behavior illustrates that

improper behavior by road users is irregularly experienced as a cause of congestion.

When it comes to the level of traffic operations as to Distribution of Duties as to strategies This highlights that most strategies to manage traffic are implemented occasionally to rarely. Notably, inspection areas for anti-pollution compliance, enforcement against erring drivers, and traffic seminars are occasionally applied. However, key community-based approaches such as campaigns for smoke belching, use of mass media, and driver/commuter education are rarely conducted.

As to the facilities and equipment data shown, traffic enforcers rarely have access to necessary operational equipment. Only whistles and traffic uniforms are reported as occasionally available. In contrast, essential items like hand gloves ,raincoats night sticks , mobile cars , and licensed guns fall into the rarely or never used categories.

As to the level of performance of the traffic enforcement management, when it comes to output the data illustrates that traffic enforcers consistently demonstrate good levels of performance in their output, particularly in terms of timeliness, quality, and quantity of work.

Job Knowledge highlights that traffic enforcers demonstrate good competence across various cognitive and technical dimensions of the job,

In the Supervisory Control data shown supervisory control received a good rating, but with several items bordering on the fair category. Notably, areas such as cost control, client satisfaction, and sense of priority, while involvement in activities trailed.

People Management the data illustrates that the level of people management is assessed as fair with lower scores in training of subordinates, promoting personal development and workgroup management.

These ratings highlight a notable deficiency in leadership practices aimed at team growth and collaboration. In organizational Responsive, It highlights that enforcers show good organizational responsiveness. In the Personal Qualities data shown

the personal qualities of traffic enforcers are generally rated as good.

Association between the status of traffic operations and the level of performance of the traffic enforcement management the results show that among the traffic operational components, duties assigned to traffic enforcers have a notably strong relationship with performance, particularly with Output, as evidenced and a statistically significant.

When examining strategies implemented for traffic enforcement, the data reveal an even stronger association with performance outcomes. A highly significant relationship was found between strategy application and Output. Identifying these as key leverage points in boosting performance.

In summary, the strongest performance predictors emerge from strategy application and duty assignments, particularly in relation to output and responsiveness.

As to the issues and opportunities encountered related to traffic management it reflects that the data illustrates that all listed traffic-related issues are manifested to a notable degree, firmly within the "Manifested" category. Among the top concerns are traffic delays due to construction, peak-hour congestion, and insufficient road capacity, as well as broader issues such as air pollution and increased travel time.

This consistent manifestation across multiple traffic-related stressors highlights a systemic inadequacy in infrastructure development and regulation.

It is being highlighted that excessive public transportation vehicles contribute significantly to congestion alongside deterioration in discipline among operators.

From the data shown, liberal importation policies, deregulation, and used vehicle imports are also seen as manifesting contributors to the congestion problem. These policy-level concerns suggest that the traffic issues are not merely local operational lapses but are influenced by national-level economic and transport policy decisions.

Together, these issues paint a picture of a system burdened by overlapping infrastructure shortcomings, policy gaps, and uncontrolled mobility trends. Addressing these would require coordinated responses not only at the municipal level but also through provincial and national partnerships, particularly in regulatory reform, urban planning, and sustainable transportation investment.

CONCLUSION

There is an association between the status of traffic operations and the level of performance of the traffic enforcement management that have a notably strong relationship with performance, particularly with Output, as evidenced and a statistically significant.

RECOMMENDATIONS:

In the light of the findings, it is recommended that the output of the study will be considered for the implementation for sustainable measures for improvement.

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