Clark Shuttle Bus Service
PROJECT PLAN

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Measurable Organizational Value (MOV)

Provide a safe and comfortable transportation shuttle bus service to Clark University's community to Union Station, Walmart and Downtown Boston by adding these 3 new additional routes 7 days a week. On weekdays the buses will operate from 8am to 11 pm and on weekends from 10am to 12 midnight.

Executive Summary

Clark University is a private liberal arts university in Worcester, Massachusetts, with a student population of over 3,000 students. The university provides housing for approximately 70% of its students, which means that a significant portion of the student body relies on public transportation or other means of transportation to commute to campus. A shuttle bus service would be a great way to alleviate some of the transportation challenges for Clark University students.

Clark University aims to provide a safe, comfortable, and cost-free transportation shuttle bus service for the university community by adding three new routes to Walmart, Union Station, and Downtown Boston. The service will operate 7 days a week and be available to all students, faculty, and staff.

The proposed shuttle bus service aims to improve accessibility, convenience, and safety for Clark University's stakeholders while aligning with the institution's mission of promoting environmental sustainability.

The project plan includes developing and implementing direct routes from campus to each destination point, purchasing or leasing eco-friendly shuttle buses, hiring experienced drivers and a team to manage the operation and maintenance of these vehicles, and marketing the shuttle service through various channels.

Resource requirements include investment in five ADA-compliant buses, hiring 8 drivers, establishing regular schedules and pre-determined routes, communication planning, financial analysis, risk assessment, and continuous improvement efforts.

An estimated $2,600,000 will be saved over a period of five years through this initiative, factoring in initial investments, salary costs, maintenance fees, fuel costs, and marketing expenses. A proactive risk management strategy has been developed that identifies potential risks, analyzes their possible impacts, devises mitigation plans, and continually monitors their status throughout the project timeline.

This project is essential for improving the overall quality of life for members of the Clark community by reducing stress, enhancing access to amenities, facilitating social interaction, and catering to the diverse needs of students, faculty, and staff. By providing an accessible, reliable, and affordable transportation option, Clark University can demonstrate its commitment to sustainable development goals and enhance the on-campus experience for everyone involved.

Chapter 1: Statement of Business Need/Opportunity

The need for dedicated shuttle bus routes at Walmart, Union Station, and Downtown Boston arises from the fact that transportation is a major challenge for many students, faculty, and staff. Not all students have cars, and those who do not have cars find it difficult to move around the city. Additionally, some students, faculty, and staff may not be able to afford other means of transportation such as taxis and ride-sharing services. Therefore, there is an opportunity to provide a shuttle bus service that will connect the campus with Walmart, Worcester Union Station, and Downtown Boston. The service will be free of charge, efficient, and safe, and will provide a means of transportation for students, faculty, and staff.

Clark University already has an existing shuttle bus service which is currently running two routes- Becker Loop on weekdays from 7:30 a.m. to 9:30 p.m. and City Loop on weekends from 11 a.m. to 9 p.m. We are proposing to Clark to add three new routes to this service so that it is convenient and beneficial for students and staff to commute back and forth from Walmart, Union Station, and Downtown Boston. The proposed shuttle bus service is necessary to improve accessibility, convenience, and safety for the Clark community. The current transportation options are limited, unreliable, and often expensive. By establishing a shuttle bus service, Clark University can provide a safe, reliable, and affordable transportation option for students, faculty, and staff who need to travel to Walmart, Worcester Union Station, and Downtown Boston. Additionally, the shuttle service will improve the overall quality of life for members of the Clark community by reducing stress, improving access to amenities, and facilitating social interaction. In this business case, we will explore the benefits and potential challenges associated with the addition of these new routes and evaluate the financial viability of this project.

The shuttle bus service project aligns with Clark University's mission of providing a sustainable and accessible environment for all its stakeholders. The service's implementation will promote sustainability by reducing the carbon footprint associated with commuting and will provide access to different destinations for students, faculty, and staff. The service's success will be measured by its ability to reduce traffic congestion, promote community engagement, and increase overall satisfaction among its users. It will be measured through surveys and questionnaires.

Chapter 2: Business Solution

The proposed business solution for the shuttle bus service project includes the development of a shuttle bus service that provides safe, reliable, comfortable, and cost-free transportation to Walmart, Worcester Union Station, and Downtown Boston. The service will operate seven days a week and will provide direct routes to each destination. The service will be available to all Clark University stakeholders, including students, faculty, and staff, and will be funded through a combination of university funds, and student fees. The university will invest in the purchase or lease of eco-friendly shuttle buses and hire a team to operate the shuttle service. The shuttle service will be marketed to the community as a convenient and reliable transportation option.

To provide more efficient services and use the resources efficiently, the university should streamline its current shuttle routes. This will help reduce congestion, especially wherever the demand is high. Moreover, the university should establish regular timetables and pre-determined routes that cover all its shuttle destinations, such as Walmart, Worcester Union Station, and Boston.

To ensure the bus services are comfortable, the university should also invest in improved bus models. This includes making sure that the buses used are comfortable and clean, while also providing ample space for passengers' luggage and other items. Additionally, the university should provide proper ventilation and heating systems inside the shuttle buses.

This new project for the shuttle bus service must include the following:

- Partnering with a transportation company to lease or purchase shuttle buses.
- Hiring experienced and qualified drivers who are knowledgeable about the destinations and skilled in safe driving practices and customer service.
- Marketing the shuttle bus service through social media, email newsletters, and on-campus advertisements.
- Establishing a maintenance and repair protocol to ensure the shuttle buses are kept in good condition.

By implementing these business solutions, the university will be able to improve the efficiency, quality, and convenience of its shuttle bus service from Clark campus to Walmart, Worcester Union Station, and Downtown Boston and back, with routes running 7 days a week.

Chapter 3: Scope Management

This project will encompass the establishment and implementation of a shuttle bus service from Clark University's campus to Walmart, Worcester Union Station, and Downtown Boston. Three separate shuttle buses will be established and will make the designated trips throughout the week, 7 days a week. There will be two drivers for each bus, with at least one driver on each trip, in order to ensure safe and consistent service.

The service will operate seven days a week and provide dedicated back-and-forth routes to each destination. The service will be available to all Clark University stakeholders, including students, faculty, and staff. The project's scope also includes the establishment of a communication plan to inform stakeholders of the service's availability and any updates or changes to the service.

The project will aim to provide timely and convenient transportation to students, faculty, and staff, that is both safe and reliable. Successful completion of the project will allow Clark to operate the shuttle bus service seven days per week on the pre-established route, with a minimum average travel time of sixty (60) minutes.

The proposed solution is to invest in a new fleet of shuttle buses. The new routes will be designed to improve accessibility and convenience for students and faculty. The project will

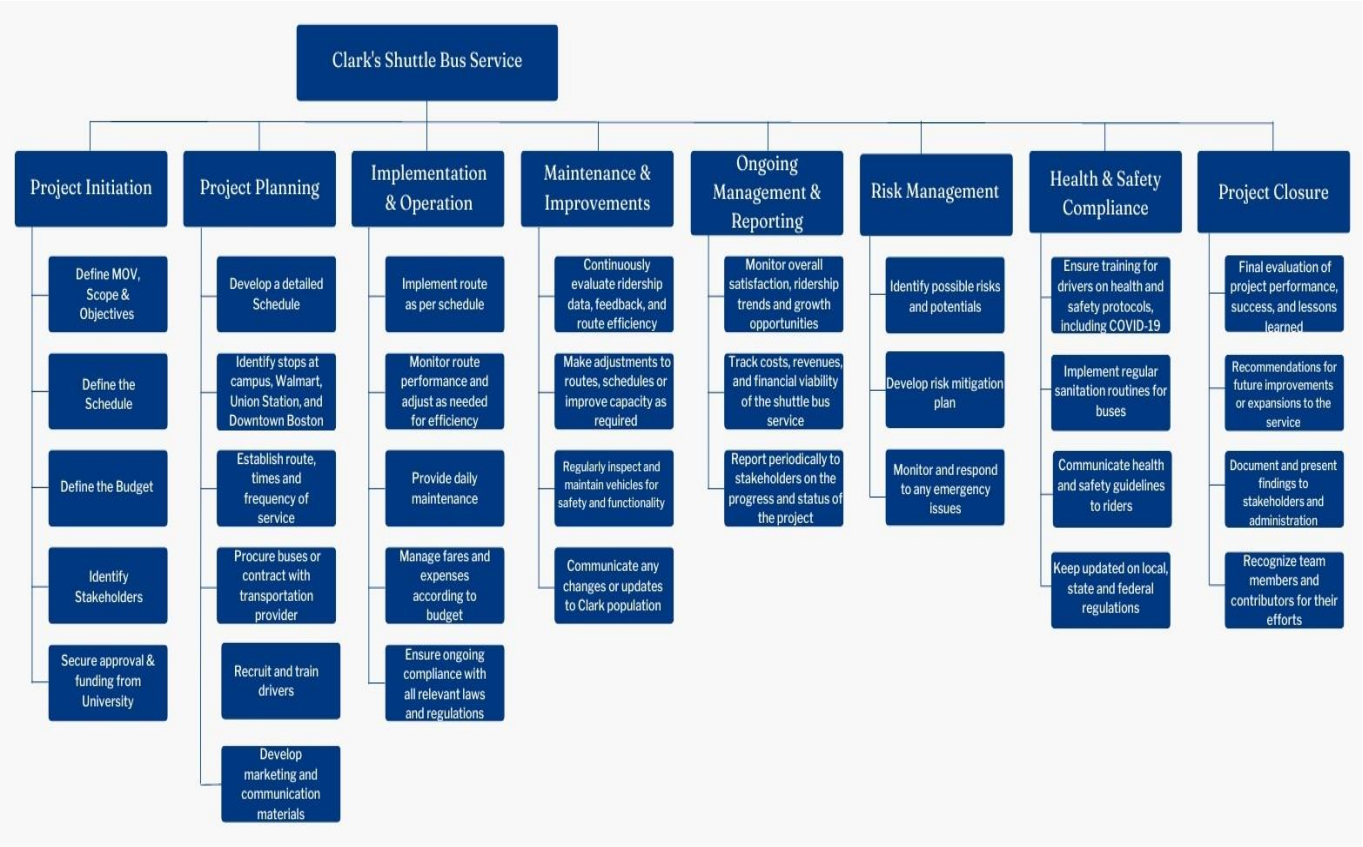
require a detailed plan for fleet procurement, staff training, route planning, and operational procedures.

The scope should include be limited to:

- Purchase or lease a fleet of 5 buses that are ADA compliant
- Hire 10 drivers to operate the shuttle service
- Develop and implement routes to Walmart, Worcester Union Station, and Downtown Boston
- Establish a scheduling system that operates 7 days a week
- Increasing the frequency of service to every 30 minutes during peak hours and every hour during off-peak hours
- Develop and implement a communication plan to inform the Clark University community about the new shuttle service
- Conducting a financial analysis to determine the costs and potential revenue for the shuttle bus service.
- Identifying the resource requirements for the shuttle bus service.
- Conducting a risk analysis to identify and mitigate potential risks associated with the shuttle bus service.
- Developing a fare structure and payment system
- Establishing maintenance and repair protocols for shuttle buses.
- Implementing safety

Route Times: Monday-Friday: 8:00 AM – 11:00 PM
Saturday-Sunday: 9 AM – 12 Midnight

Chapter 4: Work Breakdown Structure (WBS)



Chapter 5: Communication Plan

A communication plan will be developed to inform Clark University stakeholders of the shuttle bus service's availability and any updates or changes to the service. The communication plan will include a comprehensive marketing campaign that will utilize various communication channels, including social media, email, and the university website. The marketing campaign will focus on promoting the service's benefits, including its safety, reliability, and cost-effectiveness.

The success of the project will depend on effective communication with all stakeholders, including students, faculty, and transportation providers. The communication plan will include regular updates on the project's progress through above-the-line, between-the-line and below-the-line marketing campaigning methods. The plan will also include clear guidelines for passenger communication, including schedules, routes, and service updates.

The university will create a marketing campaign to promote the shuttle service, including flyers, posters, and social media posts. The university will also communicate regularly with riders to ensure that the shuttle service meets their needs.

The objective of the communication plan is to Increase awareness regarding public transportation options for Clark students and faculty, establish a smooth and efficient route from Clark campus to Walmart, Worcester Union Station, and Downtown Boston, re-engineer the current route network to accommodate all commuters, increase the number of trips and frequency between Clark and Union Station, Walmart and Downtown Boston -Ensure increased safety and quality of service.

The communication strategy will be to develop and launch a comprehensive marketing campaign on all digital and traditional platforms, create a dedicated website page, and an in-depth shuttle bus service page on the Clark University website. After that establish an active presence on social media platforms such as Twitter and Facebook. The strategy will also include the utilization of websites such as Yelp and Google to feature the Clark University shuttle system, utilize email lists and newsletters to remind students and faculty of the shuttle service, coordinate with the organization's existing vendors and partners to promote the shuttle bus service through special promotions, display informational posters on campus and in the surrounding area, partner with university media clubs and societies including radio and television stations and newspapers to promote the service and lastly create and incorporate shuttle-specific hashtags and keywords to regularly update commuters about the services.

Stakeholders and Target Audience:

- Current Clark student body
- Incoming freshmen
- Parents, guardians, and family members of Clark students
- Faculty members and staff

Key Messages which will be displayed:

- Clark University shuttle service provides reliable and efficient transportation between campus and nearby areas.
- The service offers convenient, affordable, and safe transportation options to Walmart, Worcester Union Station, and Downtown Boston.
- Clark University takes pride in its commitment to providing high-quality transportation services for all commuters.

Tools, Tactics and Channels:

- Press releases and print publications like pamphlets, brochures, and flyers.
- Email campaign targeting all stakeholders -Billboards and posters in nearby areas and on campus.
- Websites, landing pages, and dedicated pages
- Social media platforms and mobile applications
- Online ads, and search engine marketing/optimization
- SMS messaging campaigns
- Partnerships with local organizations and existing vendors
- Radio and television campaigns
- Utilization of current campus communication channels and on-campus promotion

Timeline:

- Week 1: Brainstorm and develop the strategy, target audiences, and tactics.
- Week 2: Develop the content and set up emails and website.
- Week 3: Establish partnerships and coordinate with other organizations.
- Week 4: Launch the campaign with print publications, emails, and ads.
- Weeks 5 and 6: Gather feedback and responses.
- Week 7: Research and analyze feedback and effectiveness of the campaign.
- Week 8: Revise campaign and messaging accordingly.

Budget & Resources:

- Print publications: $500
- Website and landing pages: $500
- Posters and billboards: $500
- Online Ads: $500
- Partnerships: $500
- Radio & TV Ads: $1000
- SMS Messaging: $500
- Total Budget: $4,000

In-House resources which will be required to make communication successful are Clark University Communication and Media Relations Team, Clark University IT department. Evaluation & Reporting will be conducted to guarantee the effectiveness of the marketing plan will be to analyze the number of commuters utilizing the shuttle bus service, gather feedback from commuters regarding the quality of service, evaluate the response to the campaign, develop metrics to measure the success of the campaign, collect data on website traffic and engagement, evaluate the relationship between the campaign and the direct effect on campus and nearby communities, generate reports based on the evaluation of the campaign, conduct webinars or focus groups to acquire qualitative feedback, create reports to present the campaign performance and present it to the stakeholders and continuously revise and document the reports as the campaign progresses.

Communication	Audience	Goals	Schedule	Format	Responsibility
Virtual Meetings	Project Team	Follow-up Projects	Weekly	Zoom	Project Manager
In-person Meetings	Project Team	Docking project content	Twice a Week	Face-to-face discussion	Project Manager
Project Update Debriefing Meetings	All Project Stakeholders, Project Leader	Review projects, identify problems, and facilitate monitoring	Weekly	Report	Project Manager
External Stakeholder Updates	All Project Stakeholders	Let the customer know about the product	Weekly	Report the progress of the project	Program Manager

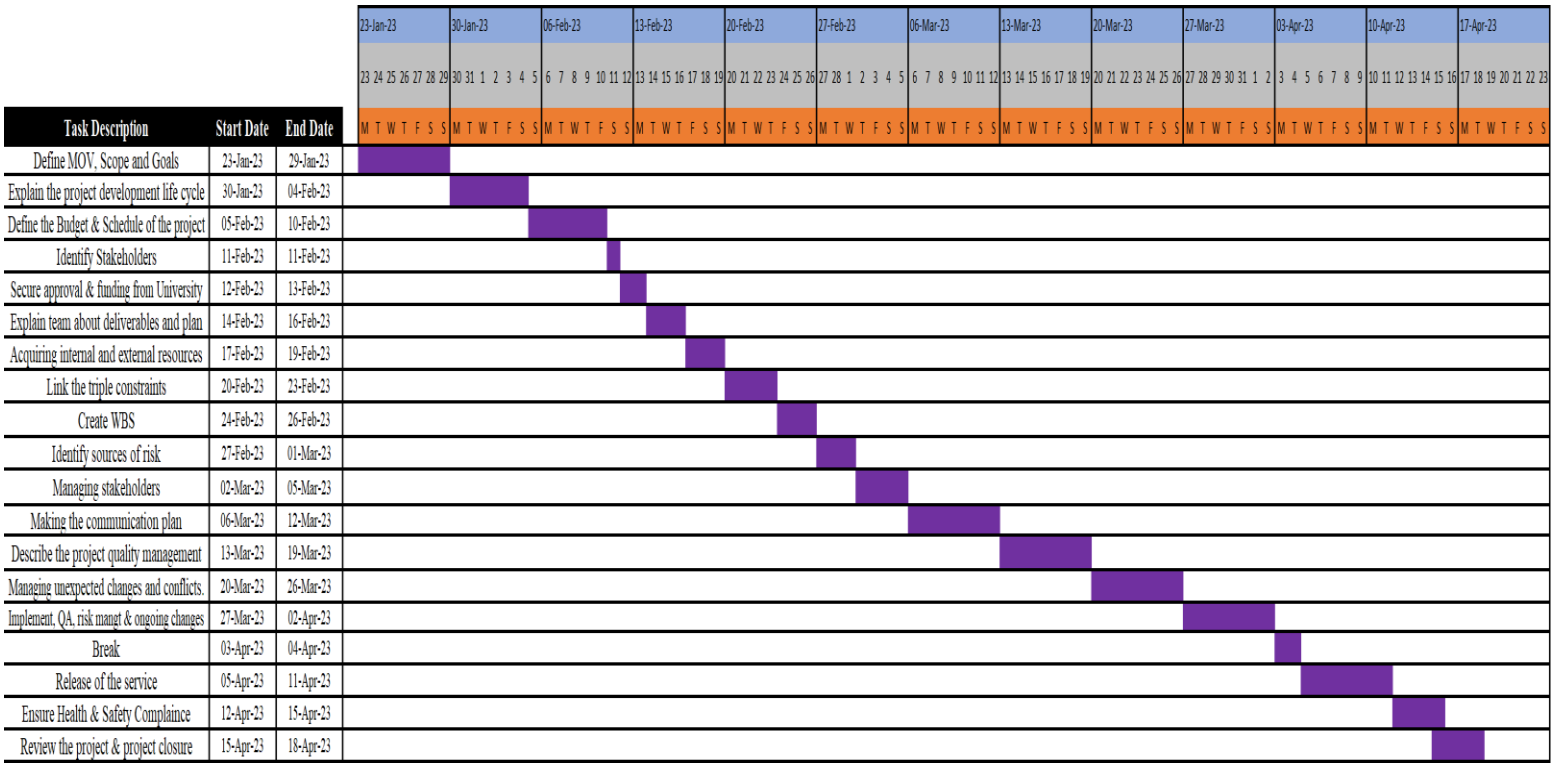
Milestone Updates	All Project Stakeholders	Reviewing status, deciding on next steps, and collecting feedback	Weekly	Meeting	Program Manager
Group members docking project content	Project Team	Ensure information is not missed	Twice a Week	Google Docs	Project Manager
Project Testing	Monitor Department	Fixing project or system bugs	Weekly	Waterfall and agile mode	Monitor Manager
Design project system	All Project Stakeholders, Project team, IT department	Meeting the Stakeholders' requirement	Weekly	Meeting	IT Manager
Project Evaluation	Monitor Department	Determine the feasibility of the project solution	Weekly	Report	Project Manager
Lessons Learned	Project Team	Summarize experience	Closeout of project	Reporting final Project, summarize lessons learned	Project Manager

Chapter 6: Project Plan

Task Description	Start Date	End Date	Duration(days)
Project Initiation Phase: Define MOV, Scope and Goals	23-Jan-23	29-Jan-23	7
Explain the project development life cycle	30-Jan-23	04-Feb-23	6
Define the Budget & Schedule of the project	05-Feb-23	10-Feb-23	6
Identify Stakeholders	11-Feb-23	11-Feb-23	1
Secure approval & funding from University	12-Feb-23	13-Feb-23	2
Explain the project team	14-Feb-23	16-Feb-23	3
How internal and external resources are acquired	17-Feb-23	19-Feb-23	3

Define the relationship between scope, schedule, and budget	20-Feb-23	23-Feb-23	4
Making the work breakdown structure (WBS)	24-Feb-23	26-Feb-23	3
Identify the sources of risk	27-Feb-23	01-Mar-23	3
Managing stakeholders	02-Mar-23	05-Mar-23	4
Making the communication plan	06-Mar-23	12-Mar-23	7
Describe the project quality management (PQM)	13-Mar-23	19-Mar-23	7
Managing unexpected changes and conflicts.	20-Mar-23	26-Mar-23	7
Ensure implementation, quality assurance, risk management & ongoing changes	27-Mar-23	02-Apr-23	7
Break	03-Apr-23	04-Apr-23	2
Release of the service	05-Apr-23	11-Apr-23	7
Ensure Health & Safety Complaince	12-Apr-23	15-Apr-23	3
Review the project & project closure	15-Apr-23	18-Apr-23	4
Total no. of days			**79**

Gantt Chart



Task Description	Start Date	End Date
Define MOV, Scope and Goals	23-Jan-23	29-Jan-23
Explain the project development life cycle	30-Jan-23	04-Feb-23
Define the Budget & Schedule of the project	05-Feb-23	10-Feb-23
Identify Stakeholders	11-Feb-23	11-Feb-23
Secure approval & funding from University	12-Feb-23	13-Feb-23
Explain team about deliverables and plan	14-Feb-23	16-Feb-23
Acquiring internal and external resources	17-Feb-23	19-Feb-23
Link the triple constraints	20-Feb-23	23-Feb-23
Create WBS	24-Feb-23	26-Feb-23
Identify sources of risk	27-Feb-23	01-Mar-23
Managing stakeholders	02-Mar-23	05-Mar-23
Making the communication plan	06-Mar-23	12-Mar-23
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Review the project & project closure	15-Apr-23	18-Apr-23

Planned Start date: 23rd January, 2023
Planned End date: 18th April, 2023
Total Duration of the project: 79 days

Chapter 7: Resource Requirements

The project will require the purchase or lease of shuttle buses, hiring a team to operate the shuttle service, and marketing the shuttle service to the community. The project team will consist of a project manager, a transportation operations manager, and shuttle drivers.

Resources required:

1. Buses: Clark University will require a sufficient number of buses to accommodate the estimated number of passengers, the length of the routes, and all other scheduled trips. The university will need to consider the ages, models, and sizes of the buses to ensure the safety and comfort of all passengers. We recommend purchasing or leasing 5 buses.
2. Drivers: Clark University will need to employ additional drivers who have valid commercial driver's licenses (CDL) to operate the buses. The university will need to ensure that advertisements for these positions are available and that the applicants are more than adequately qualified and experienced. We recommend hiring 10 new drivers.

3. Schedules: To ensure the efficient operation of the shuttle bus service, precise schedules need to be established for each route. The schedules will need to take into account the length of the routes and expected delays that may occur due to traffic or other external factors. We recommend increasing the frequency of service to every 30 minutes during peak hours and every hour during off-peak hours.
4. Tracking: Clark University will also need to implement a tracking system to monitor the locations and schedules of the buses. This system can be used to ensure the safety of the passengers and the efficient operation of the buses. Currently, there is already a tracking system in place through the mytrakk.com website, which can be used for tracking buses for the new routes.
5. Maintenance: Clark University will require a number of individuals to maintain the buses according to safety requirements. These individuals will need to be knowledgeable in the areas of engine maintenance and repair, electrical systems, and other technical aspects related to the buses. We recommend adding 10 new maintenance personnel for the 5 new buses.

Staff Resource Planning

RESOURCES	PHASES					
JOB TITLE	PLAN	DESIGN	DEVELOP	IMPLEMENT	SUPPORT	TOTAL
Project Manager	3	1	2	2	2	10
Graphic Designer	1	5	2	1	1	10
Analyst	2	1	1	4	2	10
Technical Personnel	1	1	3	3	2	10
Marketing Executive	1	NA	1	4	4	10
Quality Assurance Analyst	2	1	2	2	3	10
TOTAL FTEs						**60**

Staff Resource Plan Histogram

• Full-Time Equivalent (FTE) hours are the number of hours worked by employees. One FTE equals forty hours of labor. Due to the 10-week duration of the undertaking, a total of six resources and personnel are required (one of each).

• Each resource will perform a daily eight-hour shift for a period of ten weeks. Their weekly contributions to the undertaking will vary depending on the requirements.

• In ten weeks, the Project Manager will lead and manage the team and accomplish the addition of the subscription feature to Handshake.

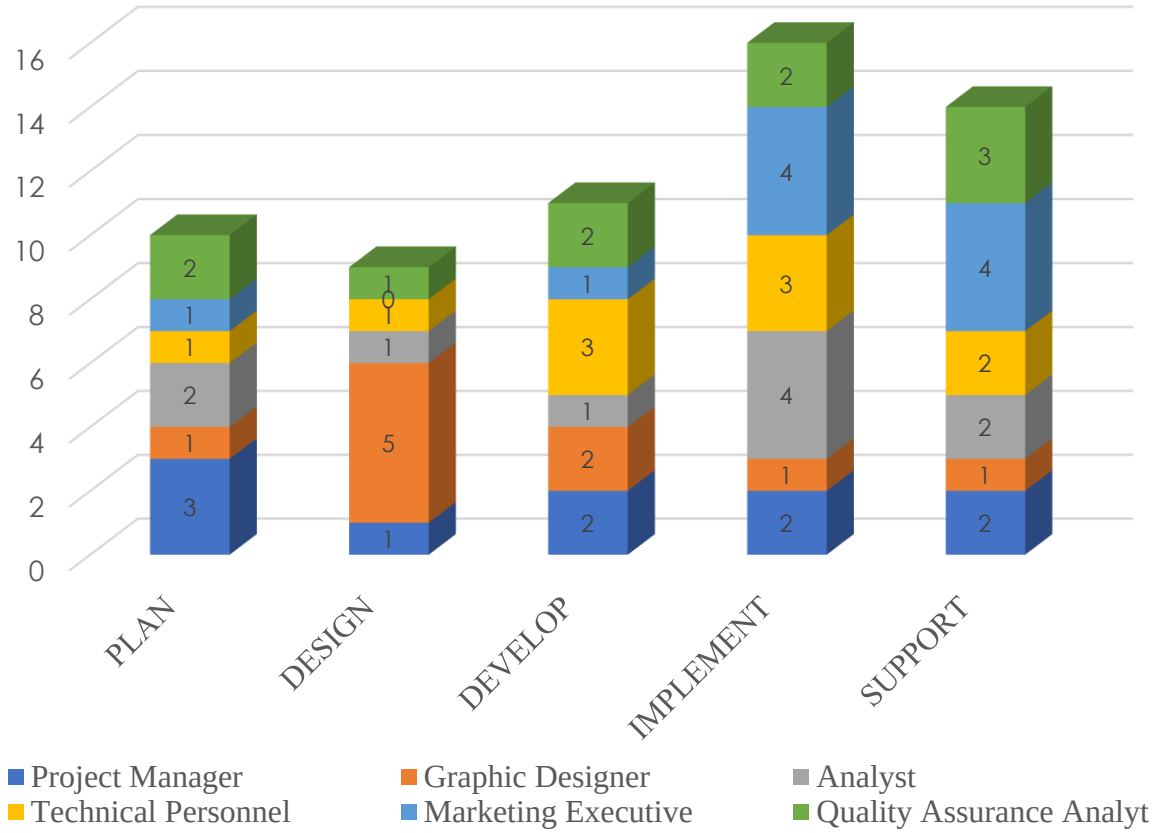
• **The Graphic Designer** will design the requisite images and typography for the subscription page.

• **An Analyst** will play a pivotal role in analyzing the collected data (Google Survey) and deriving conclusions, which will aid the project manager in formulating appropriate strategies.

• **Technical Staff** will assist in the design, engineering, and testing of the subscription feature.

• **The Marketing Executive** will supervise the campaigns for the successful launch and promotion of the feature.

• **Quality Assurance Analyst** will assist with the planning and testing of the feature, identifying and fixing any flaws, defects, or potential issues. Monitor and report pertinent information to management.



Chapter 8: Resource Management

• Resource management will aid in better organizing resources and matching them to the organization's overall objectives and aims.

• The project team will use the following Resource Management Techniques to manage and control our resources:

- Resource Forecasting - The project manager will estimate the resources needed for the project and consider how those requirements will correlate with the organization's

current strategies. The project's objective is to aid 500 students, or 50 percent of the student body, so only the resources specified above will be required.

- Resource Allocation - It will aid in assessing the Handshake and Clark resources that are available, their capacity, and the tasks that need to be completed in order to identify the team members with the most pertinent skills and guarantee that they have access to all the project resources they need at the appropriate times. The staff will have access to project resources such as premises, laptops, furniture, backup power generators, and projectors well in advance because a small project team is already present in the handshake office.

- Resource Leveling - The objective of resource leveling is to evaluate the skill sets of team members and identify areas where resources could be allocated more effectively. By considering attentively what each team member can contribute, we can allocate work in a manner that maximizes the use of our resources. For example, if the technical staff requires assistance with troubleshooting the new subscription feature, an analyst can also provide assistance.

- Resource Utilization - The project manager will keep note of resource utilization in order to identify any resources that aren't being utilized effectively. Then, they can readily redistribute the resources or make any necessary adjustments. A staff resource plan histogram is an excellent visual aid for determining what resources are needed and when.

Chapter 9: Financial Analysis

9.1 Cost

Assumptions:

1. The shuttle bus service will operate for an average of 15 hours a day.

2. Each route takes approximately 1 hour to complete (including stops and wait times).

3. Buses have an average fuel efficiency of 6 miles per gallon, and the average price of diesel is $3 per gallon.

4. Cost of Marketing and promotion is $4,00

I. Initial Investment Cost

a. Purchase of new buses: $100,000 x 5 buses = $500,000

II. Salaries

Assuming there are two shifts, eight drivers would be required.

Salary per driver = $20/hour

Hours worked per week = 40

Total salary costs per quarter = 8 drivers x ($20/hour) x (40 hours/week) x (13 weeks/quarter) = $83,200

Total salary costs for 5 years = $83,200 x 4 quarters x 5 years = $1,664,000

III. Maintenance Fees

Annual maintenance cost per bus = $10,000

Total annual maintenance costs = $10,000 x 5 buses = $50,000

Total quarterly maintenance costs = $50,000 / 4 = $12,500

Total maintenance costs for 5 years = $50,000 x 5 = $250,000

IV. Fuel costs (estimated annual fuel consumption for each bus route)

i. Campus to Walmart:

- Estimate round trip distance: 10 miles
- Trips per day: 15
- Days per year: 365
- Total mileage per year for route: 54,750 miles
- Average bus MPG: 6
- Gallons of fuel needed per year: 54,750 / 6 = 9,125 gallons
- Estimated cost of fuel ($3 per gallon) per year: $27,375

ii. Campus to Worcester Union Station:

- Estimate round trip distance: 8 miles
- Trips per day: 15
- Days per year: 365
- Total mileage per year for route: 43,800 miles
- Average bus MPG: 6
- Gallons of fuel needed per year: 43,800 / 6 = 7,300 gallons
- Estimated cost of fuel ($3 per gallon) per year: $21,900

iii. Campus to Downtown Boston:

- Estimate round trip distance: 90 miles
- Trips per day: 2
- Days per year: 365
- Total mileage per year for route: 65,700 miles
- Average bus MPG: 6
- Gallons of fuel needed per year: 65,700 / 6 = 10,950 gallons
- Estimated cost of fuel ($3 per gallon) per year: $32,850

iv. Total annual fuel costs per year = $27,375 + $21,900 + $32,850 = $82,125

9.1.1 TOTAL COST OF OWNERSHIP FOR 4 QUARTERS

Quarterly TCO: Capital Costs + Salaries + Maintenance Fees + Fuel Costs

	Q1	Q2	Q3	Q4	Y1
Capital Costs	$500,000	N/A	N/A	N/A	$500,000
Salaries	$83,200	$83,200	$83,200	$83,200	$332,800
Maintenance Fees	$12,500	$12,500	$12,500	$12,500	$50,000
Fuel Costs	$20,531.25	$20,531.25	$20,531.25	$20,531.25	$82,125
Marketing & Promotion	$4,000	$4,000	$4,000	$4,000	$16,000
Total	$620,231.25	$120,231.25	$120,231.25	$120,231.25	$980,925

9.1.2 TOTAL COST OF OWNERSHIP FOR 5 YEARS

5-Year TCO: Capital Costs + Salaries + Maintenance Fees + Fuel Costs

	Y1	Y2	Y3	Y4	Y5
Capital Costs	$500,000	N/A	N/A	N/A	N/A
Salaries	$332,800	$332,800	$332,800	$332,800	$332,800
Maintenance Fees	$50,000	$50,000	$50,000	$50,000	$50,000

Fuel Costs	$82,125	$82,125	$82,125	$82,125	$82,125
Marketing & Promotion	$16,000	$16,000	$16,000	$16,000	$16,000
Total	$980,925	$480,925	$480,925	$480,925	$480,925

9.2 Cost Savings

The calculation of cost savings would require data on the number of students using the shuttle bus service and their potential alternative transportation costs (private vehicles, ride-sharing services like Uber/Lyft, or public transportation). As this information is not provided in the prompt, it's impossible to provide a precise estimate.

However, if one assumes that each student who uses the shuttle could save an average of $10/week from avoiding other transportation options, then:

Number of Students Using Service Per Week = Total Weekly Cost Savings / Savings Per Student
Let's assume there are about 1000 students using the service.
Total weekly cost savings = 1000 students x ($10/student) = $10,000
Total quarterly cost savings = $4,000 x 13 weeks/quarter = $130,000
Total cost savings for 5 years = $52,000 x 20 quarters = $2,600,000

Chapter 10: Cost Management

During the project life cycle, we will monitor and manage our costs using the following strategies:

• Define Critical KPIs The project manager will choose key performance indicators for each task or procedure. These KPIs will be utilized to measure project progress.

• Anticipate Inflation: Market variables influence the cost of goods and services. This may lead to an increase in prices. Our endeavor will not be affected by inflation because it only lasts 10 weeks.

• Develop contingency plans - No matter how meticulously a project is planned, things can still go awry. We will anticipate the potential financial hazards and devise plans to deal with them so as to avoid unwelcome variations.

• Real-Time Expense Tracking - It is essential to monitor and track expenses. The project manager will monitor expenditures in real-time, enabling you to identify discrepancies and make the necessary adjustments.

Chapter 11: Risk Analysis

The risk Management Process will be to Identify Risks. The first step of the risk management process is to identify the risks associated with Clark University's shuttle bus service. This includes risks associated with the people using the service, such as passengers, drivers, and maintenance personnel, as well as risks related to the mechanics of the bus, such as the

mechanical and electrical operations, navigation and navigation system, and the overall safety of the bus. The second step of the process is to assess the risks identified. This will involve understanding which of the risks have the greatest probability of occurring and the potential impact of each risk. Once the risks are assessed, a calculated risk index and risk register table can be created to establish a risk score with probabilities of impact for each risk identified. The third step is to implement controls to minimize or eliminate the potential for the identified risks. This can include factors such as training policies and procedures, monitoring systems, and emergency plans. The fourth step is to monitor the risks on an ongoing basis to ensure they are being managed effectively and any changes in the risk level are noted.

The risks associated with implementing the shuttle bus service are as follows:

- **Accidents** – The possibility of accidents occurring is high, as there is no way to predict the actions of other drivers, or the condition of the roads.
- **Weather** – Inclement weather can cause delays, cancellations, and other problems.
- **Personnel turnover** – The university might have difficulty finding and retaining qualified drivers for the shuttle service.
- **Upfront cost** – The upfront cost of implementing the shuttle service may prove to be prohibitively expensive for the university.

Risk Description	Probability of occurrence	Potential impact	Risk mitigation plan	Risk Response
Uncontrollable Risk	High, Medium, or low	Rate	Description	Response
Approval and Funding not given by University	Medium	100%	Re-negotiate with University Administration by modifying the budget and schedule	Mitigation
Return of COVID-19 restrictions	Low	15%	Shift work to remote and online	Acceptance
Decrease in student enrollment	Medium	50%	Decrease amount of buses and intervals	Acceptance
Unavailability of bus drivers in Worcester	Medium	85%	Hire bus drivers from nearby cities	Mitigation
Increase of WRTA bus routes	Low	25%	Decrease amount of buses and intervals	Acceptance
Accident	High	70%	Hired experienced bus drivers, monitor their physical and mental health, and regularly check the maintenance of the bus. Implement a post-accident plan	Mitigation

Security/safety risk	Medium	55%	Establish a security system aligned with University Police	Transference
Fire	High	77%	Fire safety protocol and fire drill training	Mitigation
External factors- uncontrollable weather or political chaos/riot	High	85%	Continuous follow-up with local government and news/weather agencies	Acceptance
Controllable risk				
Bus breakdown	High	58%	Bus maintenance	Transference
Scheduling clash/mix-up	Medium	45%	Scheduling through ticketing/calendar systems	Mitigation
Upfront cost	Medium	50%	Lower establishment cost	Mitigation

Chapter 12: Risk Management

The risk management process involves identifying, analyzing, evaluating, treating, monitoring, and communicating risks associated with the shuttle bus service. The identified risks are categorized into strategic, operational, financial, human resource, internal (such as equipment failure), and external factors such as third-party involvement that could affect the performance and proper functioning of the transit system.

Identifying Risks
Some potential risks include:

- Accidents/incidents involving the shuttle buses - both minor (vehicle malfunction) or major (collision).
- Traffic congestion causing delays.
- Extreme weather conditions impacting the schedule or availability of the service.
- Inadequate maintenance leading to vehicle breakdowns and downtime.
- Unavailability of drivers resulting from illness or absence.
- Unauthorized use of transport vehicles by unauthorized personnel.
- Safety incidents, including assaults, thefts, or harassment on board.

Analyzing & Evaluating Risks
Each risk will be analyzed based on its severity (potential impact) and likelihood of occurrence. Based on this assessment, risks can be prioritized according to their significance, range of variation and exposures inducted. Here, a combination of quantitative and qualitative methods can be used to provide insights on how to prioritize efforts for effective risk mitigation plans.

Risk Treatment
For each potential risk, preventive measures and mitigation strategies will be established. Examples include:

- Regular inspection and maintenance of vehicles to ensure they are in good working condition.
- Adequate driver training in defensive driving techniques, emergency procedures, and customer service skills.
- Developing an alternate route plan in case of traffic congestion or extreme weather events.
- Implementing a communication system that can inform passengers of any delays or changes in schedule.
- Creating a pool of substitute drivers in case of unavailability.
- Ensuring proper safety procedures such as installing security cameras, visible ID check, and implementing a code of conduct for all passengers to follow.

Monitoring & Reviewing Risks
Regular monitoring and reviewing of the identified risks will be carried out periodically to ensure that appropriate mitigating measures are in place and are effective in reducing or eliminating the likelihood and impact of these risks. This may involve updating risk assessments, evaluating new risks that may arise during the course of operation, and collecting feedback from stakeholders, including passengers and drivers. Periodic reviews should take place at least annually or whenever there is a significant change in the service offering.

Communication
It is important to maintain communication with all parties involved, including staff, students, bus operators, and other relevant stakeholders. Information about any changes, delays, or incidents must be communicated effectively and promptly through various channels, such as email announcements, social media updates, and notices on the university website. Additionally, holding periodic meetings between university officials and key stakeholders can help address any concerns or suggestions to improve the service's effectiveness further.

Emergency Response Plan
In the case of an emergency or accident, drivers should have clear instructions on how to react and who to contact immediately. Predefined protocols should be established for reporting incidents and initiating response actions. A designated emergency response team, composed of trained personnel, should be made available to handle situations efficiently and professionally.

Continuous Improvement
The Risk Management Plan should be considered a living document that requires constant evaluation and improvement. Lessons learned from previous incidents or near misses should be documented so mitigation strategies can be revised accordingly. By committing to continuous improvement through regular review and implementation of necessary improvements, Clark University Shuttle Bus Service will reduce the number of risks faced by the organization and its passengers while providing an efficient and suitable transport option.

Chapter 13: Assumptions and Dependencies

- This service will be fully funded by Clark University.
- The political and social state of Massachusetts will remain the same.
- Student Enrollment will not decrease significantly
- Clark and the project team are working on this project exclusively.
- The Project Team and Clark's Division of Student Success is helping in building this feature.

Chapter 14: Summary

Decisions To Be Made

1. Decision on the budget allocation for the project, including purchase or lease of shuttle buses, hiring of personnel, and marketing efforts.

2. Determining the exact routes, schedule, and frequency of service for each proposed destination (Walmart, Worcester Union Station, and Downtown Boston).

3. Selecting the appropriate eco-friendly shuttle bus models that meet safety, comfort, and accessibility requirements.

4. Establishing a comprehensive communication plan using appropriate channels to inform all stakeholders about the new shuttle bus service.

5. Identifying potential risks associated with implementing the shuttle bus service and developing an effective risk management plan.

6. Establishment of a maintenance and repair protocol for the shuttle buses to ensure regular upkeep and prevent breakdowns.

7. Approval of key performance indicators (KPIs) to measure the success of the project based on its ability to reduce traffic congestion, promote community engagement, and increase overall satisfaction among users.

8. Decision on partnering with a transportation company for leasing or purchasing shuttle buses and hiring qualified drivers.

9. Establishing effective resource management practices, including staff resource planning for various phases of the project and a strategy to track real-time expenses throughout the project duration.

10. Developing emergency response plans in case of accidents, incidents, or unforeseen situations that may affect the shuttle bus service.

11. Determining the ongoing monitoring and reviewing processes post-implementation to evaluate risks and ensure continuous improvement in the quality and efficiency of the service provided.

12. Securing approval from Clark University administration for implementing the new shuttle bus service as proposed in this project plan.

Next Steps

1. Finalize and Obtain Approval of the Project Plan:
Present the finalized project plan to Clark University's key stakeholders and decision-makers, including relevant department heads and the university administration. Seek approval and endorsement for initiating the project.

2. Resource Acquisition and Procurement:
Upon approval, initiate procurement activities by either purchasing or leasing shuttle buses that meet the proper specifications as outlined in the project plan. Acquire necessary resources such as software and tracking systems required for the project's operational and communication needs. Secure contracts with vendors if necessary.

3. Recruitment and Hiring:
Post job vacancies for drivers and maintenance personnel, ensuring qualifications and experience requirements are met during recruitment. Conduct interviews and select the best candidates for employment within the stipulated timeline.

4. Training and Orientation:
Provide training programs for newly hired staff on company policies, route information, safety protocols, customer service standards, and emergency procedures to ensure they are well-prepared for their roles.

5. Implement Marketing Campaign:
Execute marketing strategies as specified in the communication plan to build awareness among the Clark University community about the new shuttle bus service availability and its benefits.

6. Develop an Operational System and Schedule:
Design route schedules and assign corresponding responsibilities to the selected drivers. Coordinate with other traffic and transportation authorities to confirm routes, obtain permits, and ensure compliance with relevant regulations.

7. Bus Maintenance Setup:
Establish a system for regular inspection, maintenance, and repairs of the shuttle buses to guarantee smooth operation and adherence to safety standards.

8. Service Launch:
Officially roll out the new shuttle bus service as per the schedule developed earlier. Continuously monitor early operations to identify any potential issues or areas for improvement, subsequently make necessary adjustments.

9. Monitoring, Evaluation and Continuous Improvement:
Continuously assess and track the performance of the shuttle service using key performance indicators (KPIs), stakeholder feedback, ridership data, and incident reports. Make adjustments and improvements as needed to optimize the efficiency, safety, and quality of service offered by Clark University's shuttle bus system.

10. Regular Reporting:
Provide regular updates on the project's progress and performance to key stakeholders in compliance with specified reporting guidelines.

Recommendations

- It is recommended that comprehensive documentation and no evidence be overlooked.
- The phase of follow-up is typically neglected. Everything necessary to effectively complete the project is organized during this phase. Follow-up phase activities include writing manuals, providing users with training and instructions, sustaining the result, evaluating the project, creating the project report, having a party to celebrate the result, delivering it to the directors, and disbanding the project team.

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