CHAPEL HILL TRANSIT
Town of Chapel Hill
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CHAPEL HILL TRANSIT PUBLIC TRANSIT COMMITTEE

NOTICE OF COMMITTEE MEETING AND AGENDA

NOVEMBER 17, 2020 – 11:00 A.M. to 1:00 P.M. (VIRTUAL MEETING)

CHAPEL HILL TRANSIT – FIRST FLOOR CONFERENCE ROOM

MEETING SUMMARY OF A VIRTUAL MEETING OF THE PUBLIC TRANSIT COMMITTEE

October 27, 2020 at 11:00 AM

Present: Michael Parker, Chapel Hill Town Council
Amy Ryan, Chapel Hill Town Council
Randee Haven-O'Donnell, Carrboro Town Council
Damon Sells, Carrboro Town Council
Anne-Marie Vanaman, Town of Carrboro Management Specialist
Cheryl Stout, UNC Transportation & Parking
Cha'ssem Anderson, UNC Associate Director of Transportation Planning

Absent: Hongbin Gu, Chapel Hill Town Council, Nathan Knuffman, UNC Vice Chancellor of Finance and Operations

Staff present: Flo Miller, Deputy Town Manager, Brian Litchfield, Transit Director, Rick Shreve, Budget Manager, Nick Pittman, Transit Planning Manager, Tim Schwarzauer, Grants Coordinator, Matt Cecil, Transit Development Mgr.

Guests: Fred Lampe

1. The Meeting Summary of September 22, 2020 was received and approved.

2. **Employee Recognition –** nothing to report

3. **Consent Items**

   A. October Financial Report– Provided for the Partners information. Rick reported that spending is on track for the year. Noted an increase in supplies but not enough to affect the budget projections.

4. **Discussion Items**

   A. North South Corridor Bus Rapid Transit – FTA has issued a Documented Categorical Exclusion for the NEPA Guidelines. Next steps are working with FTA and reviewing kickoff documentation. Final deadline for the project should be developed after more consultation with FTA.
      - Funding- Applied for a Transit Oriented Development federal grant. If application is approved, it would allow for further look into the entire corridor instead of only area around planned stations; Total amount would be $745,000 with the local match estimated at $152,000. Staff anticipate local match would be covered by the Orange County Transit Plan.

5. **Information Items**

A. Public Transportation Agency Safety Plan – Nick reviewed this item. Final approval should be presented to the Partners Committee Meeting in November with hopes to put final plan into action by December. Brian highlighted that having a PTASP will allow us to continue to apply for federal grant funding. Going forward, Partners Committee Members will see this plan up for review every few years.

B. Holiday Schedule Update– Brian reviewed this item. Committee member encouraged adjusting our messaging to convey to patrons that Transit will continue to serve the community during this time. Transit's Community Outreach Coordinator will work to ensure information is relayed appropriately.

C. Orange County Transit Plan Update – Brian reviewed this item.

D. Project Update – Brian reviewed this item.

E. January Service Scenarios – Brian reviewed this item for the Partners. Partners will review and vote on service scenarios at November's meeting. Staff are recommending Scenario A. A question was raised on whether we would adjust our passenger capacity if case count continue to rise. Transit staff continue to evaluate the situation and will follow CDC guidelines to determine passenger capacity.

   a. 405 Pilot Project with Go Durham – Brian reviewed this item.

6. **Departmental Monthly Reports**

A. Operations Report - Provided for the Partners information.
B. Community Outreach – Provided for the Partners information.
C. Director's Report – Provided for the Partners information.

7. **Future Meeting Items**

8. **Next Meeting** – November 17, 2020 at Chapel Hill Transit – Virtual Meeting

9. Adjourn

The Partners set a next meeting date for November 17, 2020

CONSENT ITEM November 17, 2020

3A. November Financial Report

Staff Resource: Rick Shreve, Budget Manager

- The November Financial Report will be provided at the meeting on November 17, 2020.

DISCUSSION ITEM November 17, 2020

4A. Public Transportation Agency Safety Plan
Action: Receive information provided by staff and approve adoption of the Public Transportation Agency Safety Plan (PTASP)

Staff Resource: Nick Pittman, Transit Planning Manager

Background

As we shared during the April and October meetings, to meet Federal Transit Administration's (FTA) guidance, we have contracted with RLS and Associates to develop a Public Transportation Agency Safety Plan (PTASP) for Chapel Hill Transit in compliance with 49 CFR Part 673. The plan will formalize our current Safety Management Systems (SMS). Prior to 2019, this was only a requirement for rail transit agencies. Small transit systems (less than 100 peak buses) that do not operate rail were given the option of creating their own plan or participating in a statewide plan (coordinated by NCDOT). Since the Plan can impact federal funding and grant eligibility, we elected to develop and maintain our own plan. The Plan requires:

- An approval by the agency's Accountable Executive and Board of Directors (or an equivalent authority);
- The designation of a Chief Safety Officer;
- The documented processes of the agency's SMS, including the agency's Safety Management Policy and processes for Safety Risk Management, Safety Assurance, and Safety Promotion;
- An employee reporting program;
- Performance targets based on the safety performance measures established in FTA's National Public Transportation Safety Plan (NSP):
    - Fatalities
    - Injuries
    - Safety Events
    - System Reliability;
- Criteria to address all applicable requirements and standards set forth in FTA's Public Transportation Safety Program and the NSP; and
- A process and timeline for conducting an annual review and update of the safety plan.

The Plan incorporates existing safety and security policies and procedures. The development of the new PTASP is not meant to replace existing safety plans, but rather to modify/adjust them to meet the rule and follow the structure outlined by FTA in 49 CFR Part 673. The PTASP must be approved and submitted to FTA by December 31, 2020 to maintain funding eligibility for the current fiscal year.

Attachments

- Public Transportation Agency Safety Plan (PTASP)

Recommendation

- Partners receive the information provided and approve adoption of the Public Transportation Agency Safety Plan (PTASP)

Public Transportation Agency Safety Plan

Town of Chapel Hill Transit

October 2020

DRAFT

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Section 1. Transit Agency Information

General Information

Town of Chapel Hill Transit

405 Martin Luther King Jr Blvd.

Chapel Hill, NC 27514

919-968-2743

chtransit@townofchapelhill.org

Accountable Executive: Brian Litchfield

Chief Safety Officer: Mark Lowry

Modes of Service:

FTA Funding Sources: FTA Section 5307, 5339a, 5339b, 5339c, 5310

Modes of Service Directly Provided:

☒Bus (MB) ☒Demand Response (DR)

☒CHT does provide transit services on behalf of another transit agency or entity (GoTriangle).

The primary mission of Chapel Hill Transit (CHT) is to provide safe, convenient, affordable, reliable, and responsive public transportation services to residents and visitors of the Chapel Hill, Carrboro, and University of North Carolina communities; to be accessible, efficiently operated and supportive of a healthy environment and a sustainable local economy; and to connect and coordinate with other transportation means in the Research Triangle area providing an alternative for local and regional travel.

CHT is made up of three divisions including the Administrative Division, the Operations Division and the Maintenance Division. Duties of the Operations division of CHT include fixed-route bus services and EZ Rider paratransit service for the mobility-challenged in the communities of Chapel Hill, Carrboro and the University of North Carolina. In addition, CHT operates the Tar Heel Express, a park and ride shuttle service for special events.

The Agency Safety Plan addresses all applicable requirements and standards as set forth in FTA's Public Transportation Safety Program and the National Public Transportation Safety Plan.

Section 2. Plan Development, Approval, and Updates

Name of Entity That Drafted This Plan	Chapel Hill Transit	
Signature by the Accountable Executive	**Signature of Accountable Executive**	**Date of Signature**
Approval by the Board of Directors or an Equivalent Authority	**Name of Individual/Entity That Approved This Plan**	**Date of Approval**
	Pubilc Transportation Committee	
	Relevant Documentation (title and location)	
Certification of Compliance	**Name of Individual/Entity That Certified This Plan**	**Date of Certification**
	Relevant Documentation (title and location)	

Version Number and Updates

Record the complete history of successive versions of this plan.

Version Number	Section/Pages Affected	Reason for Change	Date Issued
1	All	Initial Agency Safety Plan	12/1/2020

Annual Review and Update of the Public Transportation Agency Safety Plan

Describe the process and timeline for conducting an annual review and update of the Public Transportation Agency Safety Plan.

CHT's Public Transportation Agency Safety Plan also referred to as Agency Safety Plan, will be jointly reviewed and updated by CHT's Transit Director, and Chief Safety Officer in July of each year. The Transit Director will review and approve any changes, sign the revised Agency Safety Plan (ASP), and forward to the CHT's Public Transit Committee for final review and approval.

Along with annual updates, CHT may update the plan if CHT:

• Determines its approach to mitigating safety deficiencies is ineffective;

• Makes significant changes to service delivery;

• Introduces new processes or procedures that may impact safety;

• Changes or re-prioritizes resources available to support Safety Management Systems (SMS) and the Public Transportation Agency Safety Plan (PTASP);

• Changes are made to facilities, equipment or rolling stock with a potential to safety;

• Significant changes to CHT's organizational structure. Revisions will be submitted to CHT's Public Transit Committee. Upon adoption by the Council, revisions will be communicated to CHT's staff.

Section 3. Safety Performance Targets

Safety Performance Targets Specify performance targets based on the safety performance measures established under the National Public Transportation Safety Plan.
The following targets were developed based on the transit safety data collected by Chapel Hill Transit from the last three years and anticipated service level changes.

Mode of Service	Fatalities (Total)	Fatalities (Rate) per 100k VRM	Injuries (Total)	Injuries (Rate) per 100k VRM	Safety Events (Total)	Safety Events (Rate) per 100k VRM	System Reliability
Fixed Route (MB)	0	0	0	0	0	0	0
Demand Response/ Paratransit (DR)	0	0	0	0	2.34	0.60	0

Safety Performance Target Coordination

Describe the coordination with the State and Metropolitan Planning Organization(s) (MPO) in the selection of State and MPO safety performance targets.

CHT shares safety performance targets with North Carolina Department of Transportation (NCDOT) and Durham Chapel Hill Carrboro (DCHC) Metropolitan Planning Organization annually as part of our continued coordination of transit data. This data also includes Transit Asset Management Plan updates and anticipated capital replacement schedules.

Targets Transmitted to the State	**State Entity Name**	**Date Targets Transmitted**
	NCDOT	
	Metropolitan Planning Organization Name	**Date Targets Transmitted**

Targets Transmitted to the Metropolitan Planning Organization(s)	DCHC MPO	

Section 4. Safety Management Policy

Safety Management Policy Statement

Chapel Hill Transit (CHT) strives to provide safe, reliable, comfortable, and innovative transportation options to every member of the community. The Public Transportation Agency Safety Plan (PTASP) has been developed to integrate safety into all CHT system operations. By using the procedures contained in the PTASP, CHT can continue to improve the safety and security of CHT's operation and services.

This PTASP describes the policies, procedures, and requirements to be followed by management, maintenance, and operations personnel to provide a safe environment for CHT employees, customers, and the general public. The goal of this program is to eliminate the human and fiscal cost of avoidable personal injury and vehicle collisions.

Each department has a responsibility under the PTASP. The Director, Managers and Supervisors shall provide the continuing support necessary to achieve the PTASP objectives. A key to the success of this effort is for employees to be aware that they are accountable for safely performing the requirements of their position. The success of the program also depends on all employees actively identifying potential hazards and making a commitment to the safety of others.

CHT must be aware that decisions and actions often affect the safety of those in other operations. By following the processes described in the PTASP, CHT will continue to improve performance and the safety of the system while creating a culture of safety.

CHT's commitment is to:

- **Support** the management of safety through the provision of appropriate resources that will result in an organizational culture that fosters safe practices, encourages effective employee safety reporting and communication, and actively manages safety with the same attention to results as the attention to the results of the other management systems of the organization;
- **Integrate** the management of safety among the primary responsibilities of all managers and employees;
- **Clearly define** for all staff, managers, and employees alike, their accountabilities and responsibilities for the delivery of the organization's safety performance and the performance of CHT's safety management system;
- ♦ **Establish and operate** hazard identification and analysis, and safety risk evaluation activities--including an employee safety reporting program as a fundamental source for safety concerns and hazard identification--to eliminate or mitigate the safety risks of the consequences of hazards resulting from CHT operations or activities to a point which is consistent with an acceptable level of safety performance;
- **Ensure** that no action will be taken against any employee who discloses a safety concern through the employee safety reporting program, unless disclosure indicates, beyond any

reasonable doubt, an illegal act, gross negligence, or a deliberate or willful disregard of regulations or procedures;

- **Comply** with, and wherever possible exceed, legislative and regulatory requirements and standards;
- **Ensure** that sufficient skilled and trained human resources are available to implement safety management processes;
- **Ensure** that all staff are provided with adequate and appropriate safety-related information and training, are competent in safety management matters, and are allocated only tasks commensurate with their skills;
- **Establish and measure** safety performance against realistic and data-driven safety performance indicators and safety performance targets;
- **Continually improve** safety performance through management processes that ensure that appropriate safety management action is taken and is effective; and
- **Ensure** externally supplied systems and services to support operations are delivered, meeting established safety performance standards.

CHT's Goals for Safety are established as follows:

- In collaboration with the town and university partners, CHT will design, construct, test, and operate a transportation system that achieves an optimum level of safety, exceeding the safety performance of other transit systems of a similar size in the United States.
- Identify and evaluate, then eliminate or control hazards to employees, customers, and the public.
- Meet or exceed all government and industry occupational health and safety standards and practices.
- Maximize the safety of future operations by affecting the design and procurement processes.

The objectives of the PTASP are the means to achieving its goals. They also provide a method of evaluating the effectiveness of CHT's safety efforts. The PTASP objectives are:

- Integrate safety management and hazard control practices within each CHT department.
- Assign responsibilities for developing, updating, complying with, and enforcing safety policies, procedures, and requirements.
- Verify compliance with CHT safety policies, procedures, and requirements through performance evaluations, collision/incident trends, and internal audits.

- Investigate all collisions/incidents, including identifying and documenting the causes for the purpose of implementing corrective action to prevent a recurrence.
- Increase investigation and systematic documentation of near misses.
- Identify, analyze and resolve safety hazards in a timely manner.
- Minimize system modifications during the operational phase by establishing and utilizing safety controls at system design and procurement phases.
- Ensure that system modifications do not create new hazards.
- Train employees and supervisors on the safety components of their job functions.

CHT takes these commitments seriously as the lives of CHT customers, employees and the general public depend on CHT's ability to operate in a culture of safety.

_____

Accountable Executive

_____

Date

Safety Management Policy Communication

CHT realizes the importance of ensuring its employees and customers are aware of CHT safety management policies and procedures to effectively manage the system's day to day operations. To do this, CHT relies on several forms of effective communication.

Employees: CHT is constantly evaluating existing policies and procedures to verify their effectiveness. To do this, CHT seeks input from all staff, Town Department of Public Works and Human Resources Department, to determine if change is necessary based on trends, data analysis, operational changes or new assets. Several methods are used to communicate policy and/or procedure changes, including:

- Employee memorandum or policy change notice
- Bulletin board notices
- Transit Employee Forum
- Departmental meetings
- Monthly safety meetings

CHT includes a training element for safety management policies impacting safety or service delivery and is conducted before the policy effective date. New policies and procedures are incorporated into orientation training for new employees as well.

Depending on the importance of the policy or procedure change, an acknowledgement signature is required of each employee verifying their understanding of the change.

Customers: If a customer policy is changed or added, CHT and its Community Outreach Manager (COM) will notify customers through the following methods:

- Notice posted on vehicle and facilities including effective date and who to contact for more information
- Changes to digital customer guidance including schedules and ride guides as appropriate
- Public Meetings
- Social Media
- Any services impacted by policies changes will include outreach as required by Federal Guidance
- Customer service representatives informing customers scheduling demand response rides

Authorities, Accountabilities, and Responsibilities

As mentioned in the Safety Policy Statement, the ultimate authority for the success of this PTASP falls to the Accountable Executive (AE), the Chief Safety Officer (CSO), administration and management team, as well as employees fulfilling their commitment to safety on a day-to-day basis support the AE.

Accountable Executive (AE): The Accountable Executive will determine, based on feedback from senior staff, the level of Safety Management System (SMS) principals to maintain to ensure a safe work environment, rider experience and community safety. CHT's AE is committed to providing employees with the tools and training needed to be successful and safe in their roles with CHT. The AE will

continually strive to create a culture of safety among the employees, and CHT expects each employee to play a role in maintaining a safe workplace.

CHT's AE is accountable for ensuring that the agency's SMS is effectively implemented throughout the agency's public transportation system. The AE is accountable for ensuring action is taken, as necessary, to address substandard performance in the agency's SMS. He may delegate specific responsibilities, but the ultimate accountability for the transit agency's safety performance cannot be delegated and always rests with the AE.

The current AE, Brian Litchfield, is also the Transit Director and has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a public transportation agency; responsibility for carrying out the agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. § 5329(d), and the agency's Transit Asset Management Plan in accordance with 49 U.S.C. § 5326.

Chief Safety Officer (CSO)

: CHT has concluded one CSO will be sufficient to manage the day to day adherence to this Plan and, while in this role, report directly to the AE. As CSO, this individual will monitor safety and security throughout the organization. All departments have been notified of the CSO's role and the established reporting requirements relating to safety-related matters. The CSO has been adequately trained for this role and has the authority and responsibility for day-to-day implementation and operation of CHT's SMS. Along with CSO responsibilities, the CSO is also the Director of Safety and Emergency Management.

CHT's CSO will be responsible for the following:

- Developing and maintaining SMS documentation;
- Directing hazard identification and safety risk assessment;
- Managing updates to the Agency Safety Plan (ASP);
- Monitoring safety risk mitigation activities;
- Providing periodic reports on safety performance;
- Briefing the Accountable Executive and Public Transportation Committee on SMS implementation progress;
- Coordinating Safety Committee meetings;
- Planning safety management training; and
- Coordinating with Town and Regional Emergency Management staff.

Roll of Staff to Develop and Manage Safety Management Systems (SMS)

Accountable Executive

The Accountable Executive (AE), who also serves as Transit Director, will work with the Chief Safety Officer (CSO) and Administrative staff to adjust the PTASP as needed based on staff feedback, trends, and data analysis. The AE is vested with the primary responsibility for the activities of the transit system and overall safety performance. The AE fulfills these responsibilities by providing the resources necessary to achieve PTASP goals and objectives by exercising the approval authority for system

modifications as warranted. The AE also sets the agenda and facilitates the cooperative decision making of the management team.

Chief Safety Officer (CSO)

For purposes of managing the SMS and PTASP, the CSO will report directly to the AE to determine strategy, policy, and goals for maintaining safety and security for passengers, employees, and the general public. The CSO will monitor day to day operations and work with staff to identify and mitigate risk through evaluation, feedback, and data analysis.

Supervisors

Supervisors are responsible for the safety performance of all personnel and equipment under their supervision. They are responsible for the initial investigation of all collisions and incidents, and for reporting these collisions and incidents to the Human Resources, Risk Management and Operations Division

Employees

All CHT personnel are responsible for performing their work safely and for following established safety-related rules, procedures, and work practices. This includes reporting all collisions, incidents, and hazards to their supervisor per established requirements for the protection of themselves, co-workers, customers, facilities, and equipment.

Key Staff

CHT staff will be responsible for maintaining high standards of safety, customer service, and security. The Employee Safety Reporting Program (ESRP) will define the employees' role to identify and mitigate risk through open communication to superiors including the CSO and AE. Administrative staff will be instrumental in ensuring action is taken to reduce risk and the whole system is continuously monitored to ensure actions are effective and appropriate.

CHT staff will be involved with updates, modifications and implementation of the PTASP. Each staff member brings a valued perspective to the development of policies and procedures he or she will be expected to implement. Every opportunity will be given for employees and customers to provide input to increasing safety at CHT. Those opportunities include monthly safety meetings, annual employee meetings and training, department meetings, customer and employee surveys, customer feedback through customer service department and an open-door policy with access to all management staff.

Employee Safety Reporting Program (ESRP)

As stated in the Safety Management Policy Statement, CHT is determined to provide a safe working environment for its employees, customers and the general public. To ensure success, CHT has developed an ESRP to enable employees to report any risk or perceived risk to a supervisor, CSO, or member of administration.

All hazards reported through the Employee Safety Reporting Program go straight to the Chief Safety Officer for review, assessment, investigation, mitigation and follow-up. If the hazard directly impacts the working relationship between two or more employees, the Chief Safety Officer will ensure no retaliation or hostile work environment will take place. CHT will ensure that no action will be taken against any

employee who discloses a safety concern through the respective Employee Safety Reporting Program unless the employee engaged in the following:

- Willful participation in illegal activity, such as assault or theft;
- Gross negligence, such as knowingly utilizing heavy equipment for purposes other than intended such that people or property are put at risk; or
- Deliberate or willful disregard of regulations or procedures, such as reporting to work under the influence of controlled substances

The ESRP allows each employee to report detailed information and observations whether they are a driver in service, maintenance staff, or other on-duty employee. This program dovetails with other methods currently in place to proactively identify hazards or threats. Those methods include but are not limited to the following:

- Pre/Post Trip Inspections
- Preventive Maintenance Inspections
- Employee Evaluations
- Visual Hazard Reporting
- Facility Maintenance Plan
- Service Evaluation and Planning Program
- Training Program
- Rider and Public Complaint/Compliment Process
- Safety and Department Meetings
- Incident/Collision Policies
- Safety Committee

CHT's Employee Safety Reporting Program encourages employees who identify safety concerns in their day-to-day duties to report them to supervisors, CSO and senior management in good faith without fear of retribution. There are many ways employees can report safety conditions:

- Report conditions directly to the dispatcher, who will add them to the daily Operations Log.
- Report conditions anonymously via locked comment box in the driver area.
- Report conditions directly to any supervisor, manager, or director.

Examples of information typically reported include:

- Safety concerns in the operating environment (for example, county or town road conditions or the condition of facilities or vehicles);
- Policies and procedures that are not working as intended (for example, insufficient time to complete pre-trip inspection);
- Events that senior managers might not otherwise know about (for example, near misses, employee harassment); and
- Information about why a safety event occurred (for example, radio communication challenges).

CHT has developed an Incident Report Form used to identify and provide information about hazards observed by CHT employees while on-duty. The three-page form identifies vital information to assist employees in determining an action to mitigate the threat or hazard. This form is not meant to replace

collision forms currently being used, but instead used in conjunction with the collision forms. It is proactive reporting method to identify a perceived threat or hazard, potentially endangering employees, customers or the general public. The form serves a dual role as an incident, illness, and near miss report. The form is located in Appendix of this Plan.

Effective December 31, 2020 all CHT employees will receive one hour of training on the procedures associated with the Incident Report Form. The training will cover the following areas:

- Locations of blank Incident Report Form;
- When to use an Incident Report Form;
- Capturing critical information on the form;
- Notification process depending on the hazard;
- Proper assessment of the reported hazard;
- Levels of likelihood of repeat;
- Supervisor and CSO role in completing the form; and
- Follow-up process to determine effectiveness of mitigation.

The following process is used as part of the ESRP.

Immediate Action Required

If an employee has identified a hazard which is perceived to be a risk to the employee, fellow employees, passengers, or the public, the hazard must be reported immediately to the on-duty supervisor/dispatcher. Once reported, the employee or volunteer must determine if immediate action is necessary to prevent additional risk. If immediate action is required, the employee will communicate the risk of no action to the supervisor before taking action if time allows. Once action has been taken to mitigate the potential harm to the employee, customers, or property, employee will notify a supervisor of the results of actions taken. Once time allows, the employee will complete the Incident Reporting Form with complete information and give to the supervisor on duty.

Delayed Action Required

Once a hazard has been identified, the CHT employee should assess if the hazard requires immediate action to reduce the risk or if delayed action can be taken. If the employee determines delayed action is appropriate a full report must be completed using the Incident Report and submitted to the on-duty supervisor.

Role of Supervisor

The on-duty supervisor is responsible for advising the employee on immediate action or delayed action to mitigate a hazard. The supervisor must then review the Incident Report to ensure all information is included adding additional information from their perspective. Once the form is complete it must be reviewed by the CSO to determine action necessary, investigate root cause of hazard and follow-up.

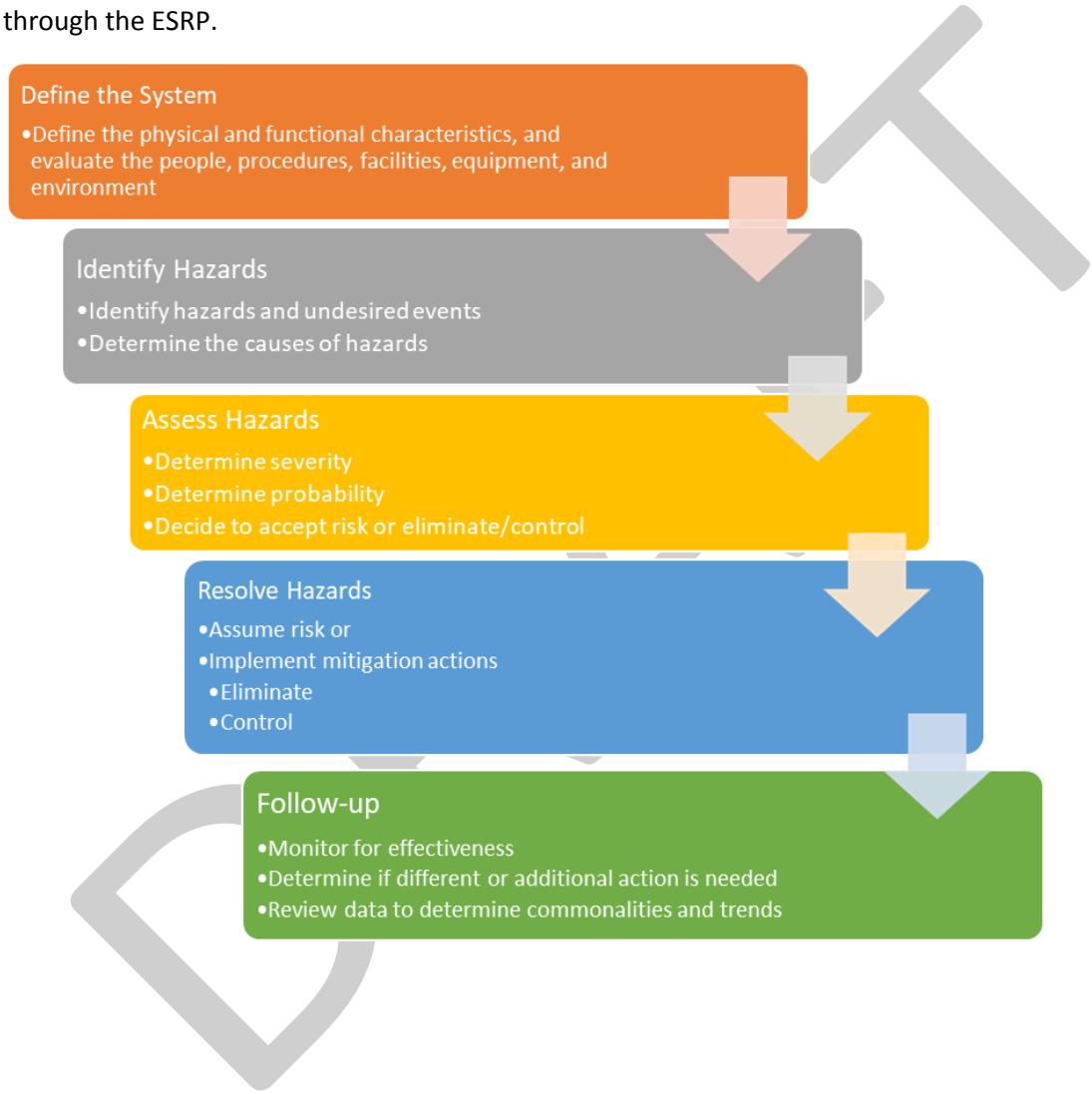
The CSO is responsible for determining the status of each hazard reported. In some cases, hazards may be identified and are not able to be resolved but actions are taken to reduce the risk of the hazard. It is CHT's goal to eliminate all identified hazards if possible. Some hazards may require continuous monitoring to ensure the hazard does not elevate to an action level.

All incident reports will be documented and integrated into current performance measures and the Condition Assessment Index, located in the Appendix. The CSO will track each hazard/incident to completion and recommend policy or procedural changes if needed as a result of the hazard mitigation.

CHT Responsibility

CHT takes every incident report seriously and investigates each one to determine if it's an isolated case, or emerging trend requiring evaluation of policies, procedures, training or service modifications.

The following process chart illustrates the steps taken as part of the hazard identification process through the ESRP.



Section 5. Safety Risk Management

CHT provides training to all personnel in the identification of hazards and security threats while also providing tools to enable personnel to report these risks. The Safety Risk Management process will utilize hazard identification, hazard assessment, and hazard mitigation methods and processes to ensure an awareness of hazards and the implementation of step or eliminate and/or control the hazards.

Safety Hazard Identification:

Hazard and security threats are identified through different methods of monitoring the system. This includes system, employee and asset assessments conducted daily and on incremental basis. Additionally, CHT communicates with peers across the state, FTA and NCDOT to identify common hazards impacting multiple systems. CHT conducts the following routine and random evaluations of the system in the following departments:

Personnel

Each CHT employee is evaluated twice a year to ensure they are performing their job to the expectations of the Agency. As part of their on-boarding process the employee is provided up to 240 hours of classroom and behind-the-wheel training and tools to perform their job. Employees will be in probationary status for the first six (6) months of employment. During the six (6) month period, the employee is evaluated at least twice to determine if they are properly prepared to perform their job.

Additional employee evaluations are conducted by the Training Department throughout the year through spot-checks and one-hour surveillance video reviews. The video evaluations are conducted daily with 40-50 operator clips reviewed a month. If through spot-checks, video reviews or annual evaluation it is determined the employee's performance does not meet expectations or training standards, remedial training will be provided, and additional evaluations will take place to ensure remedial training was effective. CHT provides coaching as the first alternative to operator deficiencies identified through the evaluation process. Depending on the deficiency, disciplinary action may be taken.

Assets

Rolling stock, facilities and equipment are monitored through a vigorous preventive maintenance plan aimed at identifying hazards and deficiencies as part of daily and scheduled inspections. Operations and Maintenance Departments coordinate the preventive maintenance program including daily Vehicle Inspection Reports (VIR)s, incremental, and annual inspections. Maintenance inspection records are kept in electronic and paper file systems, as well as documented in CHT's asset database, Dossier.

CHT updates the FTA required Transit Asset Management (TAM) Plan annually with data relevant to each asset to include a condition assessment, miles (with rolling stock and non-revenue vehicles) and age as to whether the asset is in a State of Good Repair (SGR). The TAM Plan allows CHT management to plan asset replacement or rehabilitation for future years.

System

As part of CHT's safety management system monitoring, the agency uses service evaluations when planning, spot-checking or responding to a safety event. New routes are strategically developed with safety being the first priority and passenger access second. CHT route planners plan and test all routes

before activating the route for revenue service. All routes are reviewed periodically to determine if environmental hazards may exist requiring modification to the route, schedule or vehicle.

All front-line staff have been trained to note any changes to service which may be considered a hazard or security threat and through the ESRP and Incident Report Process, notify their supervisors immediately or upon return to CHT depending on the severity of the hazard. Supervisors review route and demand response performance to identify anomalies in performance due to possible hazards. Trapeze software produces performance reports to allow supervisors the ability to focus on routes or manifests performing poorly and investigate the cause.

Hazard Identification Procedure

Any employee seeing something through inspection or observation they deem to be a hazard are instructed to immediately report that hazard to the on-duty supervisor regardless of the perceived level of threat. Depending on the situation, either the on-duty supervisor or the employee will complete an Incident Report Form and submit it to the CSO.

If the hazard requires immediate mitigation, the employee will be instructed on steps to take to reduce the risk which may or may not alleviate the risk completely. Additional actions may be taken once the immediate risk mitigation has been taken. Some hazards may not pose an immediate risk but are still reported and the CSO will be responsible for risk assessment, investigation and mitigation strategy.

In some cases, a passenger or member of the general public may call CHT with a complaint about a front-line employee which may rise to the level of hazardous behavior or actions. CHT currently documents all customer complaints/compliments and takes appropriate action to investigate any complaints. Complaints deemed hazardous will trigger immediate action by on-duty supervisors. Customer Service Representatives (CSR's) receiving information relative to safety concerns, will either through direct contact or email, notify the COM and/or the CSO

Incident Report Forms will be located on all vehicles along with standard safety kits for collision reporting, with all CSR's, Dispatch, Operations, and Maintenance Departments. A copy of the form is located in the Appendix.

The Incident Report Form will require the employee to briefly describe the hazard noting date, time of day, location, and other pertinent information. The form includes a section for the CSO or immediate supervisor to document immediate action taken to reduce risk, a risk assessment chart prioritizing the risk, determination of the potential for repeating, and a section for additional follow-up action. All forms will be processed by the CSO and summarized periodically for trend analysis and included in safety performance measures. A monthly summary or index of all safety events will be produced using a spreadsheet program and available for weekly management safety meetings and monthly safety committee meetings.

49 CFR part 673.5

Hazard means any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock, or infrastructure of a public transportation system; or damage to the environment.

Safety Risk Assessment

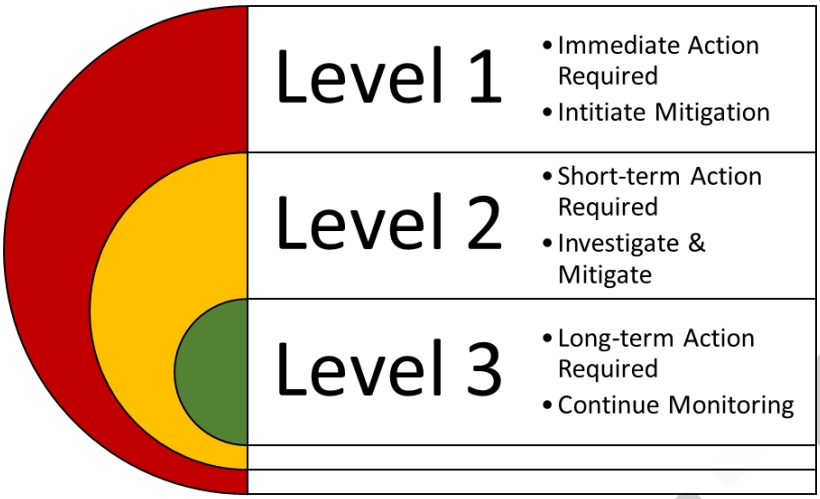
All CHT staff have been provided with training appropriate for their positions within the organization. CHT expects its employees to respond to hazards or threats with professional judgement as sometimes there might not be time to contact a supervisor to prevent a safety event. In cases where the hazard can be reported without immediate risk, the employee will make an initial assessment of the risk as part of their report.

Once received by the CSO, the initial risk assessment may be amended requiring immediate, short, or long-term response using the following scale.

Level 1 - Immediate: A deficiency, threat or hazard requiring immediate attention to mitigate risk either temporarily until further action can be taken or complete mitigation.

Level 2 - Short Term: Action is needed within seven days to mitigate an identified deficiency, threat or hazard. The deficiency, threat or hazard does not pose immediate danger but if no action is taken could elevate to an Immediate level risk.

Level 3 - Long Term: A deficiency, threat or hazard has been identified but does not pose a threat currently but could at a later time. Continued monitoring and awareness are required.



Additionally, the supervisor on-duty or the CSO will conduct an additional risk assessment to determine the level and timeline of mitigation response using the below Risk Assessment Matrix. The matrix allows the CHT to further define the initial assessment as well as modify mitigation strategies as appropriate. In some cases, complete risk removal may not be achieved, but reduced to the point of safe operation with routine monitoring of the risk.

The Risk Assessment Matrix includes four levels of consequence severity and five levels of likelihood of the risk/hazard repeating. For example, broken glass at a bus stop shelter may be the result of an isolated incident with a "Occasional" chance of repeating, but the consequence of not mitigating the broken glass may have "Critical" level of severity if not mitigated resulting in a "Medium" level of response. Initial mitigation actions might include sending a notice to all passengers through web and social media outlets indicating the stop is closed until further notice; place safety tape around the stop; instruct all drivers on the route of the hazard; remove all remnants of broken glass. Additional actions would be to schedule glass repairs or shelter replacement.

Risk Assessment Matrix

Safety Risk Index	Criteria by Index
HIGH	Unacceptable – Action Required: Safety risk must be mitigated or eliminated.
MEDIUM	Undesirable – Management Decision: Executive management must decide whether to accept safety risk with monitoring or require additional action.
LOW	Acceptable with Review: Safety risk is acceptable pending management review.

The CSO in coordination with staff will investigate each identified hazard, assess the risk, and take appropriate action to mitigate the risk. Additional mitigation may be needed based on follow-up monitoring to the action taken.

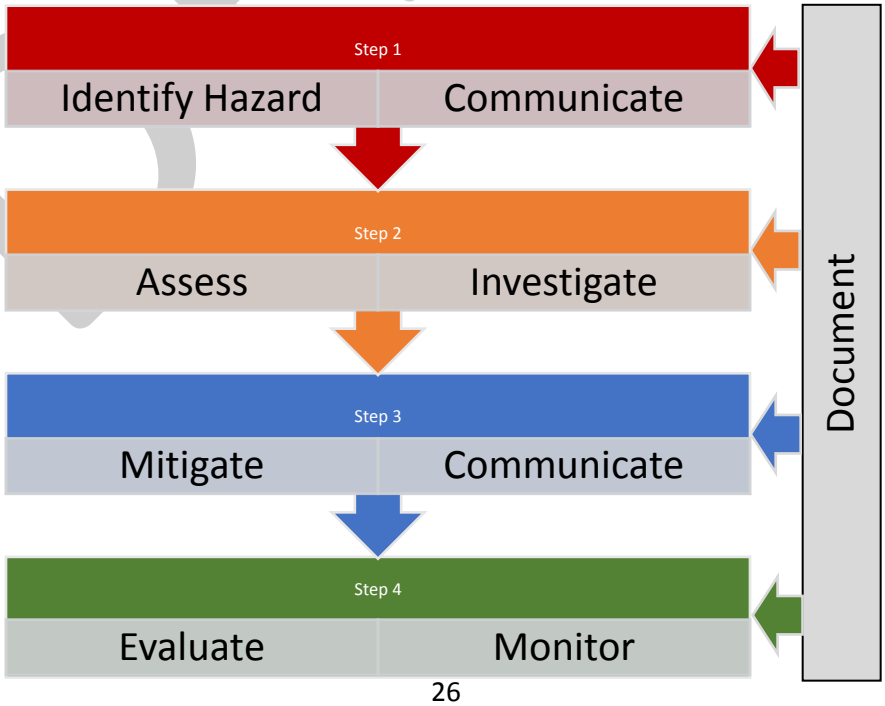
Safety Risk Mitigation

In response to all identified and assessed hazards, CHT will take steps to mitigate the hazard and reduce or eliminate the risk to employees, customers, and public. Mitigation strategies will be dependent on results of investigation into the elements contributing to the risks. The investigation may include more than one department and may include interviews outside of the transit system with subject matter experts.

Actions to mitigate risk will include all employees, customers, and public who may be impacted by either the hazard or the actions to reduce or alleviate the risk. CHT will communicate actions to appropriate staff through methods appropriate based on risk assessment. In some cases, immediate communication through two-way communications (dispatch system, text burst, email, or web alert) may be necessary. In other cases, bulletin board notices or memorandum posting may be appropriate.

Once a risk mitigation strategy has been implemented CHT will monitor the actions to determine if full mitigation is possible and if not, is additional action necessary to alleviate the risk or is stepped up monitoring necessary. Some risks may not be completely mitigated but awareness to the risk is a top priority.

All actions taken to mitigate risk will be responsibility of the CSO, documented and linked to the initial deficiency, threat, or hazard identification step.



Section 6. Safety Assurance

Performance Monitoring and Measurement

Safety performance monitoring and measurement involves the continual monitoring of the transit agency's activities to understand safety performance. Through these efforts, CHT can determine whether it is meeting its safety objectives and Safety Performance Targets (SPTs), as well as the extent to which it is effectively implementing Safety Management Systems (SMS).

CHT is constantly striving to maintain the highest level of safety through its monitoring methods to include adherence to policies and procedures, safety and maintenance plans, system and employee evaluation processes. These methods allow CHT to determine the need to make changes to improve policies, employee training and service delivery.

The CSO will monitor operations daily through observation, data analysis, communication and safety updates to identify mitigation strategies that may be ineffective. If mitigation actions are found to be ineffective, additional strategies will be developed through key and impacted staff feedback. In some cases, mitigation may not completely eliminate the safety risk or hazard but may allow for safe operation with regular monitoring.

Maintenance

Maintenance Standards and Procedures**.** Standards and procedures are included in the Town of Chapel Hill's Fleet Maintenance Plan. In general, maintenance procedures are designed to ensure that the maintenance recommendations of the manufacturer are met, maximum efficiency in performance and operation is obtained, and maximum bus life and condition are maintained. Daily bus inspections, an active Preventive Maintenance Program, contractor oversight, and careful monitoring are included in procedures to ensure the safety of buses and adequacy of the Fleet Maintenance Plan.

Maintenance personnel coordinate with CHT dispatch to develop a daily vehicle availability list based on three maintenance shifts input of vehicles out of service using a tag out system. The list is distributed to dispatch and the CSO each morning before revenue service begins. CHT maintains a vehicle spare ratio allowing last minute vehicle replacements and minimizing service disruptions. The maintenance department reviews all vehicle inspection reports and takes appropriate and timely action to correct deficiencies. In some cases, the mechanic may ride with the operator to analyze a potential problem before taking corrective action.

Maintenance equipment is inspected weekly as part of the facility inspection process. Any equipment found to be defective is tagged out and vendors are notified to schedule repairs or replacement. The

Town of Chapel Hill Fleet Safety Plan (2020) provides policies and procedures for all maintenance employees.

Operator Inspections**.** All operators are required to perform a pre-trip and post-trip inspection to ensure that the vehicle is safe and in good operating condition. If any defects are noted by the operator on the inspection form, the vehicle may be repaired or taken out of service until a repair can be made. In the case of a defect that develops or is noted once a vehicle is in service, the operator is required to communicate the problem to Operations, who will then notify Maintenance. Depending on the defect, the vehicle may be replaced with a spare vehicle.

Daily Servicing and Inspections**.** The CHT Maintenance Department inspects and services buses used in revenue service each day. The buses are fueled and washed, all fluids are checked, tires and lugs are checked, and the vehicle is inspected for any leaks or unusual noises. The Cleaners clean the bus interiors each day and exteriors twice a week. When a defect is noted, it is reported to the Lead Mechanic or Supervisor on shift so that evaluation and, if necessary, a repair can be conducted.

Mileage-Based Maintenance Inspections**.** All buses receive preventive maintenance inspections (PMI) at designated mileage intervals. Mileages are determined by vehicle and subcomponent manufacturers and real-world experience. Oil sampling is performed periodically for both engines and transmissions. A description of the schedule and type of inspection and service performed for each bus series is included in the CHT Fleet Maintenance Plan and entered into Dossier Fleet Maintenance software.

Operations

Facility Monitoring

Formal facility inspections of all CHT facilities and grounds are conducted weekly by the CSO using a facility checklist. The purpose of the inspections is to identify any unsafe or unhealthy conditions which may exist, and that may require maintenance or modification. Each facility is also visually inspected for compliance with OSHA and local fire codes.

Any guests to CHT's administration facility must check in through a secured process requiring check-in and validation of visit purpose. Employees are trained on procedures for visitors in the workplace and facility access is limited through security systems.

Frequency

The CSO conducts its safety inspections periodically. Maintenance employees look for potential hazards with equipment whenever they are using that equipment. Preventive maintenance of equipment and facilities is performed in accordance with the manufacturer's recommended practice. Hazards are also identified by analyzing work collision trends, through Incident Report Forms and Workers Comp claims submitted by employees. Incident Forms are used by employees to report safety concerns and to make safety recommendations. CHT's management team meets each Monday to discuss system performance and safety. The Safety Committee meets monthly to review safety data, mitigation strategies and review safety events for root cause analysis.

Reporting

When deficiencies are noted during weekly inspections by the CSO, they are documented and reported to the director of the department in which the safety hazard is located. When safety hazards are noted by non-scheduled observation, they must be reported by the observer to a supervisor or CSO. Incident Report Forms are routed to the department, CSO or director best equipped to evaluate the concern and, when necessary, propose a resolution.

Hazard Resolution

The primary purpose of facility inspections and hazard reporting is to identify conditions that could lead to collisions and losses. In view of this, it is crucial that all departments and employees be involved in the facility inspection, hazard identification and resolution process. Hazard resolution is related to the severity of the hazard and the probability and severity of a negative consequence of the hazard.

Follow-up

Corrective action for a confirmed hazard that has been identified by any established process is the responsibility of the manager of the department area in which the hazard exists in conjunction with the CSO. This includes arranging for the services of other CHT departments or subject matter experts, as necessary, to eliminate or control the hazard.

Documentation

Hazards that have been identified, assessed, investigated and mitigated are recorded in hard copy by the CSO. All safety events are recorded in a Safety Assessment Index for analysis and sharing with other departments and management.

All front-line personnel are responsible for monitoring safety and security as part of their respective positions. If a hazard is identified through observation or interaction with customers or the general public, it is reported to the immediate supervisor as well as following CHT's hazard reporting process.

Route/Operations Safety

Employees can fill out an Incident Report Form or discuss suggestions for making the system/route safer. CHT encourages employees to be advocates for safety while also suggesting methods of increasing performance. Management has an open-door policy and makes clear the importance of employee feedback; positive and negative.

Safety Events

Collision and Incident Reporting Process

All collisions and loss incidents are to be investigated. CHT's safe driving standards require professional safe performance of all operators. To ensure better than average safety performance, CHT employs the Smith System Defensive Driving, guidelines to determine if a collision or onboard incident could have been prevented. All personnel operating any CHT vehicle are held to this standard.

CHT's Employee Handbook includes procedures and responsibilities for collision/incident investigation. The combined manuals establish procedures for collision notification, response, and investigation.

Transit Operations coordinates with outside law enforcement agencies or subject matter experts if they investigate an event. Administrative staff coordinates with outside insurance providers and provides support among CHT departments and independent investigation to manage CHT liability and claims.

Most collisions and incidents involving CHT are relatively minor in severity and are investigated by Operations Field Supervision or the CSO. Since most collisions involve buses, this section focuses on bus collisions. However, all non-bus collisions and incidents are also investigated.

Notification

Bus Operators are to notify the operations system supervisor anytime an CHT vehicle might have been damaged, anytime an CHT vehicle and another vehicle come into contact, or anytime an instance occurs in where a customer may have been injured. An Operations Supervisor will be directed to the scene. Police and ambulance will be dispatched, if necessary.

At-Scene Procedures

Bus Operators will adhere to the following procedures defined in the CHT Operator's Manual:

- Assist the injured.
- If blocking traffic, set out reflective triangles.
- Do not move the vehicle unless required to do so by an Operations Supervisor, fire or police order, or impending danger from traffic.
- Obtain names, addresses, and phone numbers of all witnesses.
- Have all customers complete courtesy cards.

Operations Supervisors and the CSO are responsible for conducting on-scene investigations of collisions and incidents. Depending on the severity and the nature of the event, various mechanisms will be used for preserving transient evidence. These may include digital photography, bus video, field sketches, interviews, and observations.

Investigation

An attempt is made to complete the investigation of most collisions within three days. Operations Supervisors are required to complete an Collision/Incident Report. Operators are required to complete an Collision Report. The Supervisor is required to file a hard copy and attach all relevant media for use by the Operations Manager and the CSO.

A Report of Injury Form must be completed if an employee suffers an injury or illness as a result of an collision or incident.

Collision Review Process

Collisions and Incidents are classified as Preventable or Non-Preventable.

Preventable collisions are defined as those collisions that could have been reasonably avoided if the operator had followed all defensive driving techniques as established by the Five Keys of the Smith System, and/or Transit Operations Procedures and Policies. Collision investigation is conducted by Transportation Safety Institute's Collision Investigation trained staff.

After reviewing all related documents and evidence, the CSO, makes a final determination of whether the collision was preventable.

The CSO follows all policies, procedures, and definitions as established in the Employee Handbook. Examples of investigations may include reviews of collision and injury reports, vehicle condition reports, witness statements, employee interviews, collision scene sketches, bus videos, physical evidence, brake test reports, training manuals, and collision site visits. Employees who are not in agreement with the CSO's determination can appeal directly to the AE by providing additional evidence and testimony. The AE may review all relevant information, interview the employee making the appeal, and confer with any available person or resource he or she considers valuable to his or her deliberation.

Hazard Resolution

The primary purpose of the Collision Investigation process is to determine the cause(s) of collisions so that they may be prevented or mitigated in the future. To this end, it is crucial that all relevant departments be appropriately involved in the Process. A serious attempt is made to use lessons learned through the investigatory process to incorporate hazard resolutions into future procedures, designs, construction, modifications, training, and procurements.

Follow-up

Follow-up in the form of corrective actions is the responsibility of the employee's director. The responsibility may be delegated to the employee's manager, supervisor or CSO.

Any disciplinary action will be assessed using the Employee Handbook. Disciplinary consequences for collisions may include warnings, suspensions, and discharge.

Training will be provided for all employees who have been involved in preventable collisions and incidents. CHT prefers to coach employees to understand deficiencies before using disciplinary action when possible.

Internal Reporting

The Operations Supervisor is responsible for ensuring that all collision reports are completed and submitted to the Operations Manager for review before sending to the CSO for final determination. Once the CSO makes a final determination the report is filed with the Town's Human Resource and Risk Management Divisions. Human Resources will advise on the history of the employee if a pattern of safety events is evident. If disciplinary action is recommended by transit management it must be approved by the Town's Human Resource Department located in the transit facility. Additionally, disciplinary actions above written warnings are reviewed by the Town's legal department and Town Assistant.

Documentation

Transit Operations and Human Resources and CSO maintain the collision investigation documentation.

Performance Measures

Through a series of performance measures relative to operations, maintenance, and safety, CHT can monitor the system's safety by identifying trends and gaps in policies, procedures, training, and monitoring efforts. The following performance measures are on a daily, monthly, and quarterly basis.

Maintenance

- **Preventive Maintenance On-time Inspection Percentage** – determines the effectiveness of the maintenance department to ensure all inspections are conducted per manufacturing and CHT mileage intervals.
- **Vehicles Removed From Revenue Service** – tracks vehicles removed from service due to a mechanical defect developed while in service requiring immediate service either on-site of failure or once returned to the facility.
- **Annual Vehicle Condition Assessment** – through annual inspection, determines on a scale of 1-5 the overall condition of the asset. This performance measure is also used in annual updates of CHT's Transit Asset Management Plan.

Operations

- **Customer Complaints Per Month** – tracks all customer complaints to identify areas of deficiency with vehicle, driver or other CHT areas. Safety-related complaints are immediately routed to a supervisor on-duty or the CSO for investigation mitigation and response. Complaints may be a result of phone calls, website or CHT public forums.
- **On-time Performance** – serves as an indicator to issues with time management, environmental factors, scheduling, and vehicle and driver performance.
- **On-board Surveys** – conducted annually, allow CHT to receive rider feedback about bus operator performance, customer service, and vehicle safety.

Safety

- **Safety Performance Measure: Fatalities** (total number of reportable fatalities and rate per total vehicle revenue miles by mode)
- **Safety Performance Measure: Injuries** (total number of reportable injuries and rate per total vehicle revenue miles by mode)
- **Safety Performance Measure: Safety Events** (total number of reportable events and rate per total vehicle revenue miles by mode)
- **Safety Performance Measure: System Reliability** (mean distance between major mechanical failures by mode)

Section 7. Safety Promotion

Operator Selection

Hiring Practices

Selecting applicants best suited to excel at the Bus Operator job requirements is critical to safe transit operations. The transit Bus Operator is directly responsible for the safety of not only the passengers, but also the pedestrians, bicyclists, drivers, and all others who share the road with the transit vehicle. CHT's hiring process includes the following components:

Applications

Applicants are sought through postings in traditional and culturally diverse media, referrals from current employees, posted in Town Hall, local newspaper, CHT website and applications filed by prospective candidates when there are no positions available. The applications are screened by key personnel in Human Resources and Transit Operations.

Interview

After application reviews, applicants are then interviewed by an Operations Team Member and a Training Team Member. The interview process is designed to evaluate a candidate's strengths in customer service, the ability to simultaneous perform tasks, conflict resolution, and the ability to perform well under temporal and interpersonal pressure.

Driving Record

The Town's Human Resource Division, as part of every application process, reviews driving records of candidates.

Licensing

To be eligible for hire, a candidate must be able to earn a CDL with a Passenger and Air Brake Endorsement.

Criminal Background Check

To be eligible for hire, a candidate must submit to a Criminal Background Check administered by the North Carolina State Police with the Federal Bureau of Investigation. The results must meet all statutory and CHT standards for the Bus Operator position.

Drug Testing

To be eligible for hire, a candidate must produce a negative result for a pre-employment drug test.

Physical Capacities Testing

To be eligible for hire, a candidate must pass a position-specific physical capacities test.

Training

There are formal training programs for Bus Operators, Maintenance employees and Operations employees. These include training classes, manuals, CHT Standard Operating Procedures, and on-the-job training.

The safety component of training is designed to make employees aware of the hazards associated with their jobs and the appropriate methods for controlling these hazards. The training is intended to motivate employees to work safely. Trainings fall into three main categories: (1) Initial, (2) Periodic, and (3) Remedial or Refresher.

Initial Bus Operator Training

New Bus Operators receive an intensive 240 hours training course that covers every aspect of their new job. Approximately 40 hours of the training is delivered in the classroom using the TAPTCO training program. The majority of learning occurs on the vehicles during off-route and on-route training. The skills training encompasses 80 hours; route knowledge is 40-80 hours; and operator/trainer hours in revenue service at 80 hours. Each new operator is evaluated and surveyed after 30 days and 60 days to make sure they are comfortable in the position and are doing their job properly. The training includes, but is not limited to, the following areas:

- Smith System Defensive Driving
- Orientation to CHT
- Basic Bus Maneuvers
- Advanced Bus Maneuvers
- Service Stops
- System Overview
- System Procedures
- Communication Skills
- Customer Service
- Accessible Service
- Emergency Management
- Fleet Services
- Personal Safety
- Health/Injury Prevention
- Stress Management
- CDL Preparation

- On-route Training
- Vehicle Orientation of all Vehicles
- SMS Training

On-route training provides real service experience with an Operator Instructor on the new operator's regularly scheduled work. The time the new employee operates the revenue route is increased daily. Each day the student receives a full review and debriefing from his or her instructor. Instructors communicate among one another regarding where additional training for new operators is required.

After the initial training, new Bus Operators receive additional support and training, including:

- Check-rides at the 30-day and 60-day mark
- Refresher training monthly during monthly safety training programs.
- Annual evaluation and continued training

System Modification Design Review and Approval

General Process

The CHT bus system is regularly modified in response to operational experience, the addition of new types of service, and changes in service design and levels. CHT's philosophy is to use appropriate new technologies to benefit the environment and the community it serves. The challenge is to review any proposed modification adequately before it is approved. Any proposed modification should be evaluated to ensure it is compatible with existing systems and does not introduce new hazards to the system or reduce the effectiveness of existing hazard controls.

Equipment modifications may be proposed by any employee of any department that uses the equipment. Changes may also occur from an analysis of reliability performance, historical data, and available improvements in equipment design and components.

Modification Design Review

A review of any modification in equipment design shall be made by the director and managers of the department responsible for the equipment. It is an informal practice to include Human Resources and Operations in the review of any change that might affect safety. The impact on the safety of all designs and specifications should be identified and evaluated before the change is approved. Some of the areas to be considered include but are not limited to:

- Hazardous Materials (handling and use)
- Motor Vehicle Safety
- Human Factor

- Occupational Health and Safety
- Materials Compatibility
- Fire Protection
- Lighting
- Braking systems
- Mirrors
- Warning Devices

Modifications must not be made before it is determined how they might affect the safety of the system, or any other systems. Other departments may evaluate a proposed change to determine its compatibility with other systems (e.g., hoists, fueling systems, communications systems). The evaluation may also include a review of applicable regulations, such as the Federal Motor Vehicle Safety Standards and Regulations and the U.S. Department of Labor's Occupational Safety and Health Act.

Testing may also be performed to evaluate the safety of a proposed modification. The testing of small changes may be minimal. For substantial modifications, extensive field testing, mock-ups, and structural evaluations may be employed.

Modification Design Approval

Final approval is generally made by the Maintenance Manager and Assistant Director - Operations. When modifications are made by a bus manufacturer, the Director of Maintenance works with the manufacturer, and contractual changes may be made. If changes are substantial, additional training will be provided for maintenance and operation staff.

Monitoring

Once a modification is put in place, feedback from the operating department is solicited to evaluate the performance of the modification. Unsolicited input from the operating department and its employees (end users) is also encouraged. Depending on the nature of the modification, Human Resources, Planning and the Safety Committee may be involved for input.

Documentation

The Maintenance Department is responsible for documenting any vehicle modifications. Facilities Services is responsible for documenting any modifications made to a facility. Documentation may involve changing diagrams, schematics, manuals, service bulletins, service intervals, standard operating procedures, and Safety Data Sheets. Maintenance Supervisors are responsible for updating Safety Data Sheets based on input from product manufacturers.

Routes

Route modifications are designed by the Planning and Operations Divisions. Bus operators may be used to test routing and bus stop placement. This experience-based, real-world process is designed to protect the safety of the transit bus, transit passengers, other vehicles, and pedestrians.

The Planning and Operations Divisions informs the Safety Committee of any proposed route modifications. The Planning Division can request that the Committee evaluate a specific proposal, or the Committee can choose to evaluate any proposed modifications.

Transit operations management may request a route modification it believes will improve operations. It may also choose to evaluate a modification that has been proposed by another department. Input from individual bus operators is encouraged through the Incident Report Form, direct communication, and periodic surveying of operators conducted by the COM, CSO or Human Resources Department.

Finally, the Planning Division maintains a cooperative working relationship with the appropriate planning and road departments of all municipal levels of government within which CHT operates.

Section 8. Definitions of Terms Used in the Safety Plan

CHT incorporates all of FTA's definitions that are in 49 CFR § 673.5 of the Public Transportation Agency Safety Plan regulation.

• **Collision** means an Event that involves any of the following: A loss of life; a report of a serious injury to a person; a collision of public transportation vehicles; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at any time, whatever the cause.

• **Accountable Executive** means a single, identifiable person who has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a public transportation agency; responsibility for carrying out the agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. 5329(d), and the agency's Transit Asset Management Plan, in accordance with 49 U.S.C. 5326.

• **Equivalent Authority** means an entity that carries out duties similar to that of a Board of Directors for a recipient or subrecipient of FTA funds under 49 U.S.C. Chapter 53, including sufficient authority to review and approve a recipient or subrecipient's Public Transportation Agency Safety Plan.

• **Event** means any Collision, Incident, or Occurrence.

• **Hazard** means any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock, or infrastructure of a public transportation system; or damage to the environment.

• **Incident** means an event that involves any of the following: a personal injury that is not a serious injury; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a transit agency.

• **Investigation** means the process of determining the causal and contributing factors of an collision, incident, or hazard, for the purpose of preventing recurrence and mitigating risk.

• **National Public Transportation Safety Plan** means the plan to improve the safety of all public transportation systems that receive Federal financial assistance under 49 U.S.C. Chapter 53.

• **Occurrence** means an Event without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure does not disrupt the operations of a transit agency.

• **Operator** of a public transportation system means a provider of public transportation as defined under 49 U.S.C. 5302.

• **Performance measure** means an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets.

• **Performance target** means a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the FTA.

• **Public Transportation Agency Safety Plan (or Agency Safety Plan)** means the documented comprehensive Agency Safety Plan for a transit agency that is required by 49 U.S.C. 5329 and Part 673.

• **Risk** means the composite of predicted severity and likelihood of the potential effect of a hazard.

• **Risk mitigation** means a method or methods to eliminate or reduce the effects of hazards.

• **Safety Assurance** means processes within a transit agency's Safety Management System that function to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information.

• **Safety Management Policy** means a transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees in regard to safety.

• **Safety Management System** means the formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of a transit agency's safety risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards.

• **Safety performance target** means a performance target related to safety management activities.

• **Safety Promotion** means a combination of training and communication of safety information to support SMS as applied to the transit agency's public transportation system.

• **Safety risk assessment** means the formal activity whereby a transit agency determines Safety Risk Management priorities by establishing the significance or value of its safety risks.

• **Safety Risk Management** means a process within a transit agency's Agency Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk.

• **Serious injury** means any injury which: (1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date when the injury was received; (2) Results in a fracture of any bone (except simple fractures of fingers, toes, or noses); (3) Causes severe hemorrhages, nerve, muscle,

or tendon damage; (4) Involves any internal organ; or (5) Involves second or third-degree burns, or any burns affecting more than 5 percent of the body surface.

• **Transit agency** means an operator of a public transportation system.

• **Transit Asset Management Plan** means the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost effective, and reliable public transportation, as required by 49 U.S.C. 5326 and 49 CFR Part 625.

Section 9. Commonly Used Acronyms

Acronym	Word or Phrase
ADA	American's with Disabilities Act of 1990
ASP	Agency Safety Plan (also referred to as a PTASP in Part 673)
CFR	Code of Federal Regulations
CT	County Transit
ESRP	Employee Safety Reporting Program
FTA	Federal Transit Administration
NCDOT	North Carolina Department of Transportation
MPO	Metropolitan Planning Organization
Part 673	49 CFR Part 673 (Public Transportation Agency Safety Plan)
SMS	Safety Management System
SSP	System Safety Plan
U.S.C.	United States Code
VRM	Vehicle Revenue Miles

Section 10. Additional Information

This PTASP was developed from information in other CHT documents, policies and procedures and manuals. Those documents are listed below:

- CHT Employee Handbook
- Safety and Security Plan (SSP)
- Vehicle Maintenance Plan
- Town of Chapel Hill Ordinances
- Facility Maintenance Plan
- Training Manual

Appendix

INCIDENT REPORTING FORM

Reporting Employee		Report #	
Date of Report			
Time of Incident		Time Report Submitted	
Location of Incident		Route/Manifest	
Supervisor Notified			

(Check all that apply)

Type of Incident

Vehicle		Weather Related	
Passenger		Road Condition	
Facility		Security	
Employee		Near Miss	

Description of Incident

Initial Action Taken to Mitigate Incident

Initial Assessment of Incident

	Level 1 - Immediate: A deficiency, threat, or hazard requiring immediate attention to mitigate risk either temporarily until further action can be taken or complete mitigation.
	Level 2 - Short Term: Action is needed within seven days to mitigate an identified deficiency, threat, or hazard. The deficiency, threat, or hazard does not pose immediate danger, but if no action is taken could elevate to an Immediate level risk.
	Level 3 - Long Term: A deficiency, threat or hazard has been identified but does not pose a threat currently, but could at a later time. Continued monitoring and awareness are required.

Likeliness of re-occurance of this incident (1-10) ____

Received by: _____ Date/Time _____/_____

INCIDENT MITIGATION

Investigating Supervisor				Title	
Date of Investigation				Time	

Additional Information

Assessment Classification (Circle)	Level 1	Level 2	Level 3
			Report #

Mitigation Action(s) Taken

Action(s) Designed to:	Eliminate		Control	(Circle one)

Describe Communication of Action(s)

Follow-up

Date		Contact	

Status of Action Taken

Is additional action needed?	YES	NO

Additional Action Taken

INCIDENT CLASSIFICATION

Report #

Category of Incident

Vehicle		**Passenger**	
Mechanical		Behavior	
Performance		Weapon	
Interior		Suspended fron svc.	
Exterior		Medical Emergency	
Towed		Injury	
Repaired on scene		Death	
Safety equipment		Mobility Devise	
Lift/Ramp/Securemt			
See Pre-Trip			
Facility		**Facility**	
Safety Equipment		Shelter	
Security Systems		Fueling	
Plumbing		Hazardous Materials	
Electrical		Fencing/Gate	
Foundation		Passenger Amenities	
Parking			
Equipment		**Employee**	
HVAC/Heat		Behavior	
Roof		Theft	
Storage		Endangering Others	
Computer/Data		Property Abuse	
Farebox/Vault		Illegal Activity	

Chief Safety Officer Initials

Chapel Hill Transit Safety Risk Assessment Register

Identification

Hazard	Hazard Type	Identification Date	Identification Source	Analysis Date	Worst Possible, Worst Credible, or Most Common Potential Consequence(s)	Existing Mitigation(s)

Initial Safety Risk Rating			Further Mitigation Action	Revised Safety Risk Index	
Severity of Consequences	Likelihood of Consequences	Safety Risk Index	Further Mitigation Action	Revised Safety Risk Index	Revised Safety Risk Index Date

Mitigation Owner and Implementation Date		
Department Responsible for Mitigation	Estimated Implementation Date	Contact Person

DISCUSSION ITEM November 17, 2020

4B. January Service Scenarios and 405 Route Pilot Project Update
Action: 1. Receive information and provide staff with feedback. Staff recommends moving forward with Scenario A.

Staff Resource: Nick Pittman, Transit Planning Manager
Jeffrey Sullivan, Community Outreach Manager
Brian Litchfield, Director

Background

During the September and October Transit Partners Committee Meeting, Transit staff presented possible service scenarios for January. Based on the University's schedule January service would begin on Saturday, January 9, 2021.

Using the same assumptions that were presented during the April 28, 2020 meeting, and with the understanding that the University is undertaking planning efforts to potentially return students to campus and classes in January, staff has developed service scenarios for the Transit Partners consideration. The scenarios also take into consideration our staffing capacity.

Assumptions: As there are no reliable predictions about the course of the duration of this pandemic, our working assumptions include: 1 – plan for the worst and hope for the best, 2 – a vaccine isn't available until early 2021 and physical distancing, masks, etc. will likely be necessary until that time, 3 – socio-economic damage will likely be significant and while impacts are not yet known the challenges of the Great Recession could provide some insight, 4 – there will be significant pressure to return to reopen communities and restart transit services, 5 – a recovery is likely to be slow and see peaks and valleys.

Possible scenarios for January:

- **Scenario A:** Continue August 2020 service plan, along with October adjustments. This scenario will allow for capacity limits (currently 16, however, could move back to 10 if health officials recommend this adjustment) due to safety concerns and includes additional trippers on high-frequency routes.
    - Reduced Weekday Service: A, CL, CM, CW, D, FCX, J, HS, N, NS, NU, RU, S, U, Senior Shuttle, 420 and Demand Response.
    - Weekend Service: A, CM, CW, D, J, N, NS, NU, U and Demand Response (No Safe Ride Routes).

NOTES:

- Scenario A may require assistance for the FCX lot from the University, similar to what was provided in August during the AM and PM peak. Other hours may be necessary, depending on classes being held at the Friday Center.
- COVID may impact service delivery as with contact tracing and any positive we have the opportunity to several Team Members to be out of work for significant periods of time – fortunately our cases have been from initial contacts outside the work environment. We have experienced this several times over the past 8 months and expect that without a vaccine, this will continue to be a challenge that could have short term impacts on service delivery.

- **Scenario B:** Implement full service (not possible with physical distancing).
  - Weekday Service: A, B, CCX, CL, CM, CW, D, F, FCX, G, HS, J, JFX, N, NS, NU, RU, S, T, U, Senior Shuttle and Demand Response.
  - Weekend Service: A, CM, CW, D, J, NS, NU, U and Demand Response.

We will continue to work closely with our University partners as plans are developed for the Spring Semester and provide the Transit Partners with regular updates.

405 Route Pilot Project

Chapel Hill Transit and GoTriangle staff have developed a pilot fare free project for GoTriangle's 405 route that serves Durham (Durham Station, Duke and VA Hospitals), Chapel Hill (Downtown Chapel Hill, and UNC Hospitals) and Carrboro (Downtown Carrboro and Collins Crossing) on weekdays. The pilot will allow customers to use the 405 Route fare free to and from four (4) stops in Chapel Hill and Carrboro (Varsity Theater/Coffee Shop, West Franklin at Columbia/University Baptist Church, East Main Street at Jade Palace/Art Center and Jones Ferry at Collins Crossing/Alabama Street). The interest is to use the public transportation service in this key corridor to help address capacity concerns on Chapel Hill Transits CW and J routes during the afternoon/evening peak, demonstrate collaboration between GoTriangle and Chapel Hill Transit and utilize existing transit capacity. The pilot will allow us to test demand in this area, identify potential issues/challenges and determine if the concept is sustainable and/or could be applied in other areas.

GoTriangle and Chapel Hill Transit staff and working on marketing materials for the pilot.

The pilot was initially scheduled to begin in August 2020; however, we delayed the project at that time due to the University moving to remote instruction. We anticipate the pilot beginning on January 18, 2021.

Attachment

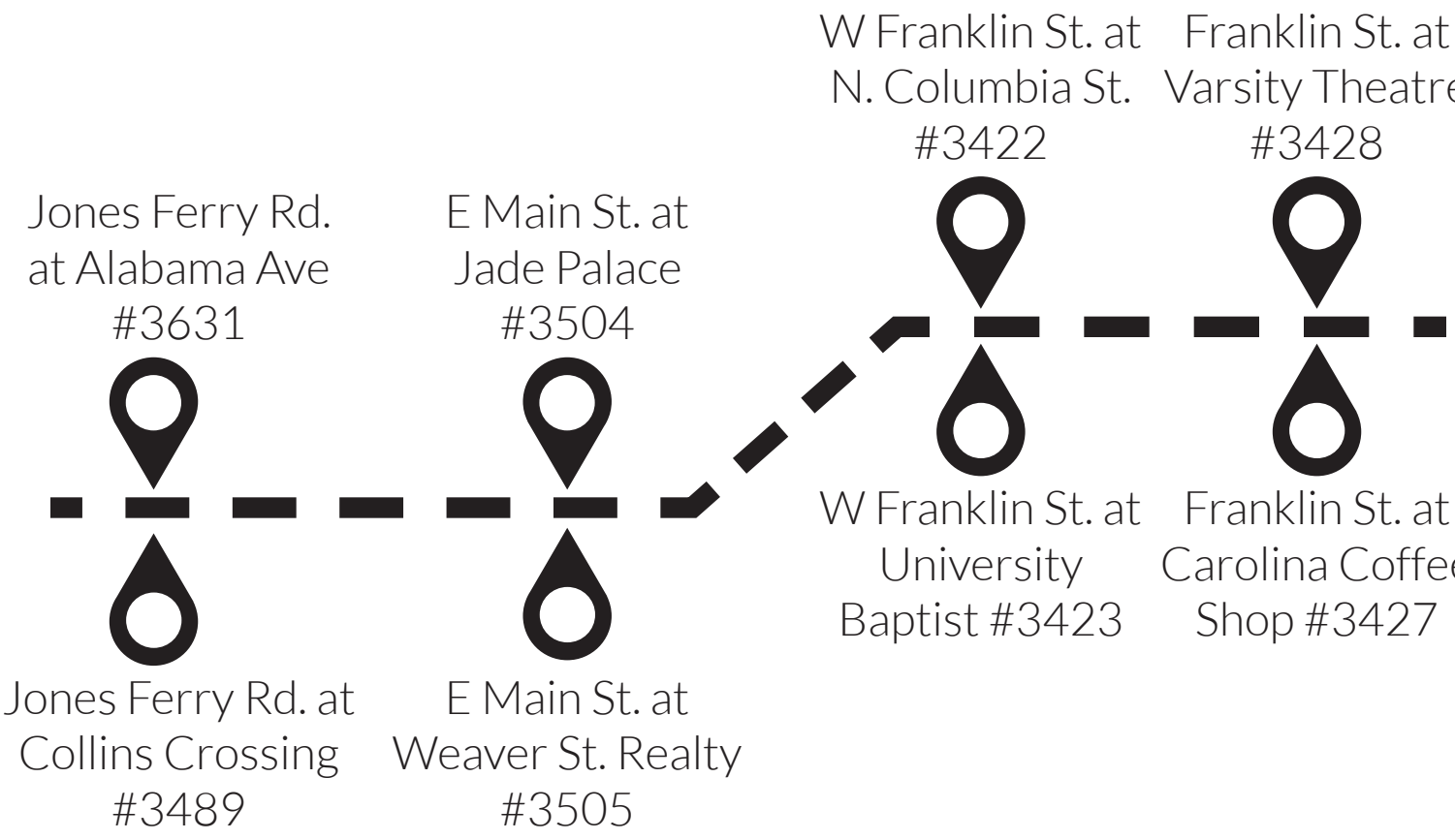
- Draft marketing flyer for 405 Pilot Project.

Recommendation

- Receive information and provide staff with feedback. Staff recommends moving forward with Scenario A.

GOTRIANGLE 405 PILOT PROJECT

For a limited time Chapel Hill Transit customers can use the 405 fare-free to and from eight stops in Carrboro and Chapel Hill.



INFORMATION ITEM November 17, 2020

5A. COVID-19 Response Update

Staff Resource: Brian Litchfield, Director
Henry DePietro, Assistant Director
Nick Pittman, Transit Planning Manager
Katy Fontaine, Training Coordinator
Mark Lowry, Transit Safety Officer

Transit staff continues to proactively respond to the COVID pandemic. The following is a summary of some of the additional steps we have taken recently – noting that our COVID response is ever evolving as we work to keep Team Members and customers as safe as possible. The Transit COVID Response Team continues to meet weekly:

- Henry DePietro – Assistant Director
- Katy Fontaine – Training Coordinator
- Nick Pittman – Transit Planning Manager
- Travis Parker – Interim Operations Manager
- Peter Aube – Maintenance Manager
- Tammy Morales – HRD Partner
- Jeffrey Sullivan – Community Outreach Manager
- Mark Lowry – Safety Officer, Liaison with Town EOC
- Brian Litchfield – Director

Our priorities continue to be:

- Protecting the safety and well-being of our team members and customers.
- Operating core routes for essential trips to provide access to services like health care, groceries and providing coverage across the communities we serve for community members who don't have many other options.
- Coordinate with Town Emergency Operations Center and regional partners.

We are making several assumptions:

- We will enforce physical distancing and will only allow 16 customers on a standard bus and 21 customers on an articulated bus at the same time – this could be reduced based on health department guidance.
- Face coverings or masks will continue to be strongly recommended.
- Returning to full service will be slow and will continue to happen in phases.
- Funding is limited and our resources continue to be strained.

- Changes will happen requiring consistent and frequent communication with our customers and community.

We continue to follow cleaning/sanitizing and safety protocols consistent with industry best practices, OSHA/CDC and from practices recommended by the European Commission to keep our Operators and customers as safe as possible. Some of our current efforts include:

- Installed additional 28 UV lights systems on buses (30 total). We are evaluating options for expanding this through the fleet.
- Purchased air purification systems on all EZ Rider vehicles.
- Installed an air purification system in the transit facility
- Installing new thermostats so that we can better monitor temperature, relative humidity and CO2 levels throughout the buildings.
- Testing additional plexiglass barriers on fixed routes buses.
- Installed touchless door handles on all restroom doors and added Plexiglas barriers to breakroom tables.
- Continue to provide masks on all buses for customers that may not have access to them or forgot to bring one with them to the bus stop.
- Increased signage and messaging related to COVID symptoms and personal safety precautions.
    - The Town has expanded paid adverse leave (does not come from Employees earned time) to cover all Employees that experience COVID related symptoms.
- Implemented temperature screening protocols for all employees and visitors utilizing infer-red technology.
- Staff has attended several State and National listening and/or training sessions related to COVID best practices for transit and local government.
- Installed additional hand sanitizer devices on all buses (two on each bus).
- Partnered with University and Town of Chapel Hill to increase signage on vehicles and at stops related to face coverings.
- Partnered with Town of Chapel Hill to expand the #SpreadKindnessNotIllness to buses (interior and exterior ads in several languages – Spanish, Mandarin Chinese, Karen, and Burmese).
- Expanded messaging on social media and buses related to hygiene information.
- Entered into an agreement with a vendor for guaranteed delivery of alcohol wipes through November 2021.
- We continue to meet with our regional partners on a regular basis.
- As with most Town facilities, our Operations and Administration building continues to be closed to the public (appointment only following screening protocols). We continue to provide lost and found, EZ rider applications and other customer based services on an appointment basis.

INFORMATION ITEM November 17, 2020

5B. Project Updates

Staff Resource: Tim Schwarzauer, Grants Compliance Manager
Matt Cecil, Transit Development Manager

Bus Stop Assessments: the following stops are currently under surveying and review/design (funded though Orange County Transit Plan and Grant Funds). We have received the first design packet and sent off for review by Town and UNC employees:

- Martin Luther King Jr. Blvd at Longview Drive
- Martin Luther King Jr Blvd at Barclay Drive
- Cameron Avenue at Swain Hall
- Pittsboro Street at University Place
- Manning Drive at Hinton James
- E. Franklin Street at Varsity Theater
- Umstead Road at Bolinwoods
- W. Franklin Street at Chapel Hill News
- Raleigh Street at Lewis Hall
- Estes at 15/501
- Hwy 54 Bypass at ABC Store
- 15-501 at Bennett

Carrboro Bus Stop/Shelter Review:

The Town of Carrboro has requested full site reviews for the following stops and Chapel Hill Transit staff are currently processing a contract with Ramey Kemp and Associates to complete the work in a timely manner:

- Carrboro Plaza Park and Ride
- Jones Ferry Park and Ride
- Old Fayetteville Road at Poplar Place Apartments
- Culbreth Road at Covenant Place
- NC 54 East at Canterbury
- NC54 East at Westbrook
- NC54 East at Dominion Ramsgate
- W. Main Street at Town Hall
- W. Main Street at Simpson Street
- N. Greensboro Street at Sue Ann Court
- Carrboro High School

Employee Parking Lot Project: The Town awarded a contract to L & L Concrete to complete this work. We hosted a pre-construction meeting outside at the construction site on September 10th. Work is expected to begin as soon as the electrical utilities have been relocated.

Solar Real Time Signs: Transit staff have been working with Connexionz to install 25 real-time solar information signs (picture below)

Transit staff and Connexionz representatives will begin installing the 25 Solar Real-Time signs the week of November 30, 2020. Installation will not require stop closures and will not interfere with transit operations. Installation will be completed at the following locations by December 4 (weather permitting).

- Pritchard Avenue at Longview Street
- Merritt Mill Road at Manley Estates
- NC 54 East at Carrboro Plaza (ABC Store)
- Smith Level Road at BLW Club Road
- BPW Club Road at the Villages
- Rock Haven Road at Rock Creek West
- NC 54 at Kingswood
- NC 54 at Westbrook
- NC 54 at Dominion Ramsgate
- Martin Luther King Jr. Blvd. at Airport Gardens Apartment
- East Franklin Street at the Planetarium
- Martin Luther King Jr. Blvd. Timber Hollow
- Martin Luther King Jr. Blvd. at Chapel View
- Martin Luther King Jr. Blvd. at Stateside
- East Franklin Street at Elliott Road
- East Franklin Street at Franklin Woods
- University Place
- NC 54 East at The Crest
- Jones Ferry Road at Collins Crossing
- East Main Street at Weaver Street Realty

- Weaver Street at Carrboro Century Center
- East Main Street at Arts Center Plaza
- Homestead Road at Southern Human Services
- Caldwell Street at Housing Authority
- Rock Haven Road opposite Rock Creek West

MONTHLY REPORT November 17, 2020

6A. Operations

Staff Resource: Peter Aube, Maintenance Manager
Joe McMiller, Assistant Operations Manager – Fixed Route
Tim Thorpe, Assistant Operations Manager – Fixed Route
Mark Rodgers, Interim Assistant Operations Manager - Demand Response
Katy Fontaine, Training Coordinator

Tim Thorpe and Joe McMiller - Fixed Route Division

- On time Performance (OTP) – November 2020 – 78%
- November 3rd – Fixed Route had team members actively involved in Town EOC, pending Election Day results
- November 4th – Morale Booster: Team members are allowed to wear their favorite team sports paraphernalia for the 1st 2 weekends
- November 9th – In order to assist with the Friday Center loads, the S bus was recently rerouted to start at the Friday Center Park & Ride Lot. To continue this initiative, we will be rerouting the S bus starting on Monday, November 9th. After reaching the Pittsboro Street Credit Union, the bus will turn right on to South Columbia Street, turn left on to Mason Farm Road, turn left on Manning Drive, and then turn left back on to South Columbia Street. This will provide customers with an easier way to access the hospital.
- November 11th – Chapel Hill Transit honors team members who are Veterans
- November 20th – Chapel Hill Transit will host its Annual Thanksgiving Dinner with strict social distancing practices in place
- November 27th – Fixed Route will operate a Sunday Level Service day after Thanksgiving

Mark Rodgers - Demand Response

The EZ Rider Advisory Committee has expressed an interest in looking at some service delivery improvements. We have shared the following potential priorities with them and they are discussing these and other interests:

- Same day/On Demand trips and/or reduced requirements for scheduling trips
- Text/phone alerts to customers when an EZ Rider vehicle is heading to a pickup, late/delayed, etc. (including notification to a care giver, family member, etc – if desired)
- Web-based trip scheduling to allow customers to book trips in real time

- Proactive outreach to historically underserved populations, including people with limited English proficiency, to provide information about EZ Rider, assistance with applying for the program and scheduling trips.

Total Trip Requests: 3,886 Cancellations: 923
No-shows: 90 Total Actual Trips: 2,873

Katy Fontaine – Training

1. Training Classes
    a. Two (2) Operator Trainees currently in training
    b. Next Class on November 16th
2. Projects
    a. Transit Training Solutions Audit
    b. Microaggression Training

Peter Aube - Maintenance

- Demand response ran 28,751 miles in October
- Non-revenue vehicles ran 26,194 miles in October
- Fixed route ran 163,027 miles in October
- Maintenance performed (84) Preventive Maintenance Inspections in October (100% on-time).
- Maintenance performed (5) road calls in October, (32,605.4) miles between road calls for fixed route.
- Maintenance performed (0) road calls in October (79,260) miles between road calls for demand response.
- Completed final meeting with contractors to submit final site plan for BEB Charge station planning permit application
- Maintenance continued twice daily deep cleaning (disinfecting) on all buses and LTV's in use and twice daily common area deep cleaning with CDC approved disinfectant.
- Maintenance completed 26 additional Bus HVAC UVC systems installs.

Communications and Community Outreach Report

Transit Partners Meeting
May 26, 2020

Draft Marketing – New Sunday Service

To-Do:

- Translate into key languages
- Reach out to apartment complexes for distribution
- Share with community partners for distribution

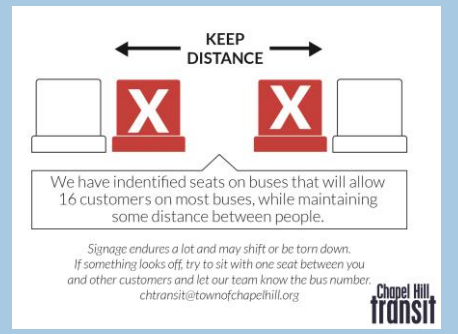
Public Communication: Voting

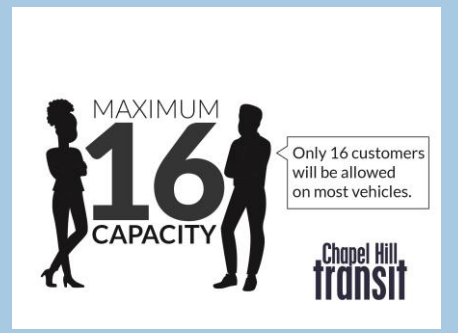
- Developed and updated early-voting/voting specific webpage available (Oct. 17- Nov. 3)
- Publicized transit as an option to go to the polls.
- Prepared public communication plan for potential service impact following the election

Public Communication – COVID-19

- Continued to communicate about measures used to limit spread of COVID-19
- Updated graphics and messaging around new capacity limits on buses.
- Preparing new signage around mask requirement

Draft signage for exterior of bus





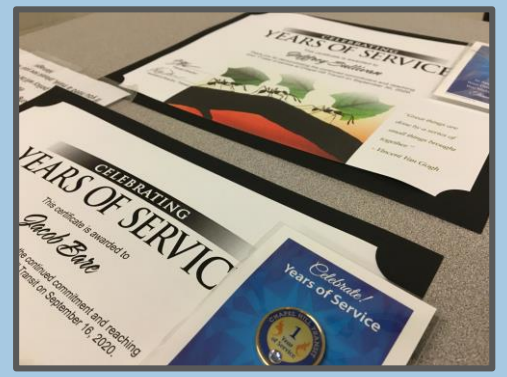
New social media messages

Internal Engagement: Employee Appreciation

Veterans Day

Barnett, William
Blacknell, Scott
Breedlove, James
Butler, Joseph
Carranza, Milo
Combs, Tony
Earhart, Robert
Edwards, Ty
Evans, Jason
Fox, Michael
Gentry, Terence
Gray, Larry
Hackett, Anita
Hagens, Randolph
Harrelson, Melinda
Hawkins, Tommy
Jackson, Samuel
Jordan, Hal
Lee, Michael
Lowry, Mark
McMiller, Joe
Owensby, Jeffrey
Peterson, Tim
Roberts, Richard
Rodgers, Mark
Ronald Schwarm

Years of Service Celebrations



25 Years
Tony Combs (DR)

15 Years
Gerhard Koning (DR)

5 Years
Peter Aube (MT)
Ronald Bigelow (FR)
Mark Lowry (AD)

1 Year
Jacob Bare (FR)
Morgan Blackwell (FR)
Nakeisha Guzman (FR)
Melinda Harrelson (FR)
John Howell (MT)
Ross Morrison (FR)
Eric North (FR)
Betty Poole (FR)
Jeffrey Sullivan (AD)

MONTHLY REPORT November 17, 2020

6C. Director

Staff Resource: Brian Litchfield, Transit Director

- The Director's Report will be provided at the meeting on November 17, 2020.

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CHAPEL HILL TRANSIT PUBLIC TRANSIT COMMITTEE

FUTURE MEETING ITEMS

NOVEMBER 17, 2020

December 2020 – No Meeting	
Action Items	Informational Items
January 26, 2021	
Action Items	Informational Items
	Legislative Update
Program of Projects	NSBRT Update
February 23, 2021	
Actions Items	Informational Items
	NSBRT Update

Key Meetings/Dates

MPO Technical Committee Meeting
November 18, 2020 9-11AM
Committee Room, Durham City Hall

MPO Technical Committee Meeting
November 25, 2020, 9-11AM
Committee Room, Durham City Hall

MPO Board Meeting
December 9, 2020, 9-11AM
Committee Room, Durham City Hall

MPO Technical Committee Meeting
December 16, 2020 9-11AM
Committee Room, Durham City Hall

MPO Technical Committee Meeting
December 23, 2020, 9-11AM
Committee Room, Durham City Hall

The New York Times

California Is Trying to Jump-Start the Hydrogen Economy

The fuel could play an important role in fighting climate change, but it has been slow to gain traction because of high costs.

By Ivan Penn and Clifford Krauss
Nov. 11, 2020, 5:00 a.m. ET

IRVINE, Calif. — Since President George W. Bush fueled a minivan with hydrogen 15 years ago, the promise of cars and trucks powered by the fuel has come up mostly empty.

That hydrogen pump, in Washington, closed long ago. But in California, the beginnings of a hydrogen economy may finally be dawning after many fits and starts.

Dozens of hydrogen buses are lumbering down city streets, while more and larger fueling stations are appearing from San Diego to San Francisco, financed by the state and federal governments. With the costs of producing and shipping hydrogen coming down, California is setting ambitious goals to phase out vehicles that run on fossil fuels in favor of batteries and

hydrogen. Large auto and energy companies like Toyota Motor and Royal Dutch Shell have committed to supplying more cars and fueling stations.

“In past cycles, there was always something missing,” said Matthew Blieske, Shell’s global hydrogen product manager. “There was a policy missing, or the technology wasn’t quite ready, or people were not so serious about decarbonization. We don’t see those barriers anymore.”

Some energy executives said they expected investment in hydrogen to accelerate under President-elect Joseph R. Biden Jr., who made climate change a big part of his campaign and proposed a $2 trillion plan to tackle the problem.

A recent McKinsey & Company study estimated that the hydrogen economy could generate $140 billion in annual revenue by 2030 and support 700,000 jobs. The study projected that hydrogen could meet 14 percent of total American energy demand by 2050.

The use of hydrogen, the lightest and most abundant substance in the universe, is still in its infancy, and California is determined to be its cradle in the United States, with $20 million in annual funding from the California Energy Commission through vehicle license fees. California will have spent about $230 million on hydrogen projects by the end of 2023. The state now has roughly 40 fueling stations, with dozens more under construction. While those numbers are tiny compared with the 10,000 gasoline stations across the state, officials have high hopes.

With about 7,500 hydrogen vehicles on the road, an aggressive state program of incentives and subsidies from cap-and-trade dollars envisions 50,000 hydrogen light-duty vehicles by middecade and a network of 1,000 hydrogen stations by 2030. The infrastructure required for producing, transporting and dispensing the gas alone will cost about $10 billion, according to California hydrogen researchers, who expect both private and government investment.

Other states are much further behind. A vast majority of the country’s hydrogen fueling stations and vehicles are in California.

Hydrogen-powered vehicles are similar to electric cars. But unlike electric cars, which have large batteries, these cars have hydrogen tanks and fuel cells that turn the gas into electricity. The cars refuel and accelerate quickly, and they can go for several hundred miles on a full tank. They emit only water vapor, which makes them appealing to California cities that are trying to reduce pollution and greenhouse gas emissions.

“Almost any objective analysis for getting to zero emissions includes hydrogen,” said Jack Brouwer, director of the National Fuel Cell Research Center at the University of California, Irvine.

Mr. Brouwer does not think hydrogen will become the dominant energy source soon, but he argues that it has great potential as a fuel for vehicles, power plants and appliances. Hydrogen, he said, will complement the use of lithium-ion batteries, solar panels, wind turbines and natural gas.

The Orange County Transportation Authority and other transit systems have bought hydrogen buses with the help of clean energy grants. Philip Cheung for The New York Times

U.C. Irvine has experimented with hydrogen for years and formed partnerships with local governments and major corporations to popularize its use in Southern California.

Just over a decade ago, Tim Brown worked on gasoline systems at General Motors. He went back to school in 2004, studied hydrogen with Mr. Brouwer and “became a believer.”

Five years after earning his doctorate in 2008, he founded First Element Fuel, which operates 21 hydrogen fueling stations, including a four-pump unit at an Arco gas station in Fountain Valley, about a 10-minute drive from U.C. Irvine. The company plans to build up to 80 stations across the state, under the brand name True Zero.

One recent afternoon, Karen Harelson pulled up to the Arco station in her Toyota Mirai, a hydrogen-powered sedan that she bought two years ago. “I personally don’t think they should make another car without it,” said Ms. Harelson, 66, a retired professor at Golden West College. “It’s the best car I’ve ever had. The problem is, there’s just not enough stations around.”

That’s a common complaint. Because of the paucity of hydrogen pumps, car owners often wait in line. But unlike battery-powered electric cars, which can require 45 minutes to several hours to fully charge, hydrogen cars, like gasoline ones, fill up in less than 10 minutes and are good for 300 miles or more on a full tank.

Some proponents of hydrogen think its biggest use will be in larger vehicles. Among them is SunLine Transit, which serves Palm Springs and other cities in Riverside County.

The transit system has 17 hydrogen buses and is planning to add 10 in the next year. SunLine used more than $27 million in grants over the last 10 years to buy the vehicles and equipment to produce hydrogen, which it makes with the help of electricity from the grid and solar panels. The transit agency already sells compressed natural gas, which fuels most of its buses, to commercial and government agencies, and it plans to sell hydrogen, too.

Lauren Skiver, the chief executive and general manager of SunLine, said that she had invited other transit agencies and utilities to see just how far hydrogen had come but that she had often met with disbelief and ambivalence.

“We try to meet with them all the time: ‘Look what we’re doing on hydrogen,’” Ms. Skiver said. “They’re not interested at all.”

Brenda Pineda fueled her hydrogen-powered Toyota Mirai at the Arco in Fountain Valley. Philip Cheung for The New York Times

There is good reason for skepticism.

While there have been many technical advances, hydrogen is still expensive to make and transport. Fuel-cell vehicles also cost more than comparable electric cars. A Toyota Mirai sells for nearly $60,000 before subsidies. A Tesla Model 3 starts at about $38,000 before subsidies.

Then there is the chicken-or-egg issue of trying to get people to buy hydrogen vehicles before there is a comprehensive fueling infrastructure.

Critics, including Tesla's chief executive, Elon Musk, point out that hydrogen's promoters have long failed to deliver on their promises.

In his 2003 State of the Union address, President Bush said that "the first car driven by a child born today could be powered by hydrogen and pollution free." Those hopes were propelled mainly by the rising cost of oil and natural gas at the time. After a boom in hydraulic fracturing helped drive down energy prices, hydrogen took a back seat.

Still, hydrogen's potential continues to entice governments, researchers and corporations. Countries like France, Germany, China, Australia, South Korea and Japan have invested tens of billions of dollars in hydrogen, in part to reduce their reliance on fossil fuels and to address climate change.

Toyota, Hyundai, Daimler and several other automakers are betting on hydrogen cars and trucks. And Shell is building hydrogen stations in Europe and California.

The best use for hydrogen, some experts argue, is to power trucks, buses and airplanes. That's because the fuel packs energy in a smaller and lighter package than the current generation of batteries, leaving more room for cargo and passengers. Hyundai is prepared to introduce the first mass-produced heavy-duty fuel-cell truck in a few months. Toyota, which has been testing fuel-cell trucks at the Port of Los Angeles since 2017, recently said it would develop heavy-duty fuel-cell trucks for North America.

Hydrogen poses a long-term threat to oil companies because it could compete with diesel and jet fuel. That is also why many large European oil and gas companies, like Shell and BP, have sought to make hydrogen part of a transition to a lower-carbon future.

Most hydrogen today is extracted from natural gas in a process that requires a lot of energy and emits carbon dioxide. But combined with carbon capture and sequestration, the process can be environmentally viable.

Over time, government officials and researchers expect most hydrogen to be made without emissions. The cleanest hydrogen production comes from using renewable electricity to split water molecules into hydrogen and oxygen. The equipment to do that is expensive, but costs have been falling in recent years, especially as wind and solar energy become the cheapest ways to generate electricity.

European oil companies are also investing in renewables so they could, eventually, pair hydrogen production with solar and wind farms.

"The oil companies are very well positioned to play in this," said Joan Ogden, an energy researcher at the University of California, Davis. "They know how to make molecules at large

scale better than anybody, they already use a lot of hydrogen in oil refining, and they are used to supplying transportation fuels."

Businesses are exploring other approaches, too.

Air Liquide, a French company, is building a $150 million plant outside Las Vegas that will turn biogas from decomposed organic waste into hydrogen, which it plans to sell in California. The plant will begin operations late next year. Air Liquide is building another plant on the Canadian side of Niagara Falls to supply the Northeast.

"We see hydrogen as an energy vector of the future," said Michael Graff, chief executive of America Air Liquide Holdings.

The hydrogen business may be in its infancy, but interest in it is robust and growing, said Michael Webber, a mechanical engineering professor at the University of Texas at Austin and chief science and technology officer at Engie, a French energy company.

"The customers for hydrogen are there," Mr. Webber said. "They're just waiting for the hydrogen to show up."