

City of Clemson Sustainability Committee

November Minutes

Minutes – November 13th Meeting

Chair: Rita Singh called the meeting to order at 6:31 pm.

Members Present - Bob Fennell, Cindy Dienemann Hekking, Nancy Spitler, Elaine Richardson

Eunice Lehmachaer (excused) ; Mary Hendrix (absent)

City Staff Present - Tony Tidwell, Chris White

Approval of Previous Minutes

Bob requested clarification on attendance notation and minute-taking. Tony confirmed that the changes discussed via email had been made. The minutes were approved by vote: Nancy Spitler motioned to approve, and Cindy Hekking seconded.

Presentation and Discussion

Guest Speaker: Jerry Kerns, Transit Administrator, Clemson Area Transit (CATbus)

- **Career Background:** Jerry shared his history with Clemson and CATbus since 1991.
- Jerry reported that CAT operates routes in Clemson and Seneca with 13 electric buses in Clemson and 7 in Seneca. There are 12 diesel buses operating in Clemson. Three new electric buses were recently purchased for Clemson. Seneca is planning to move to a new system without electric buses and without CAT operation. Jerry stated that Clemson will continue to operate with electric and diesel buses. Based on the lack of reliability of electric buses, the City will use funds from a \$4.6 million grant to purchase three compressed natural gas diesel buses. These buses will replace current diesels and are much clearer.
- **Electric Buses Overview:** He emphasized the distinction between battery-electric and the older wire-run buses.
 - **Seneca's Experience:** Since 2014, CATbus has operated electric buses in Seneca, purchasing five electric buses from Proterra (Greenville-based) as prototypes. They have faced operational challenges, with only 2-3 of the 7 buses reliably running due to a shortage of charging infrastructure (only two chargers, one of which operates at 60% capacity).
 - **Maintenance Issues:** Electric bus mechanics are essential but less accessible compared to diesel mechanics. Jerry noted that Clemson's mechanics have advanced knowledge, even training visiting technicians.

- **Challenges with Charging and Compatibility:**
 - Seneca's primary charger has been non-functional for over three years, and the buses lack compatibility with updated industry-standard chargers due to manufacturer resistance.
 - **Comparison of Diesel vs. Electric Buses:**
 - Clemson has 13 electric and 12 diesel buses.
 - Diesel buses offer 90-95% reliability, running 22 hours on a tank and taking 20 minutes to refuel, whereas electric buses require 4-6 hours of charging and have about 50% operational uptime.
 - Cost comparison: Diesel buses cost approximately \$750,000, while electric buses are around \$1.4 million, effectively doubling the required investment due to the need for two electric buses to replace one diesel.
 - **Operational Limitations:**
 - Electric buses are suited for short routes due to limited range.
 - Seneca's electric bus program is shutting down due to financial strain and the high cost of maintaining CATbus services.
 - **Funding and New Technologies:**
 - Clemson received a \$4.6 million grant for new compressed natural gas (CNG) buses, which have cleaner emissions than treated diesel.
 - Propane engines and hydrogen fuel cell hybrids are emerging alternatives but are not yet commercially viable.
 - **Environmental and Cost Concerns:** Rita inquired about air quality impacts and specific fueling costs. Jerry stated that overall diesel fuel costs and electric charging costs for the Clemson fleet are similar. He will provide the Committee with details about charging and fueling costs. Jerry explained that, despite academic advancements, the practical application of electric technology lags behind research predictions
-

Action Items

1. **Vote on Term Limits for Committee Members:**
 - 3 year- Eunice, Reeta, Cindy 2 year- Bob, Mary, 1 year- Elaine, Nancy, Andrew. Bob moved and Nancy seconded a motion to approve these term limits. The motion passed unanimously

Discussion Items

2009 Climate Action Plan: Tony submitted a report on the status of action items recommended by the 2009 City of Clemson Green Ribbon Committee. Most of these actions

have not been completed. Tony suggested that the Committee and its subcommittees review these items and make future recommendations.

Committee Goals: The previously identified four main goals are Promoting Energy Efficiency, Preserving Natural Resources, Reducing Waste, and Promoting sustainable development and smart growth. Included in each of these goals is the desire to increase community awareness and engagement and identification of grant opportunities for the city to pursue.

The promoting sustainable development and smart growth goal was discussed. This could include tree ordinances and green technology.. Elaine mentioned an EPA program related to growth in small and rural communities.

Discussion identified overlaps in the objectives for the four main goals and the formation of subcommittees to achieve these objectives.

Andrew suggested the following realignment of goals and objectives.

- **Ecological Preservation and Circular Economy Development**
 - Composting initiatives citywide
 - Waste reduction and litter control
 - Urban land management and habitat certification
 - Wildlife habitat preservation, biodiversity, and food-abundant greenspaces
 - Tree ordinances for canopy protection and heat island reduction
 - Promotion of native plants and pollinators
 - Stormwater and watershed health enhancement
- **Technological Development**
 - Clean energy initiatives
 - Car charging stations and alternative transportation support
 - Solar energy engagement
- **Full Committee Concerned Items:**
 - Explore grants, specifically under the Inflation Reduction Act
 - Develop green industry policies and standards
 - Address risk and safety measures

Upon further discussion, there was verbal agreement to keep the four main goals from the October meeting.

Determination of short term, priority actions for the Committee and formation of subcommittees will be an agenda item for the December meeting.

Discussion of an article for the Spring Committee Connection newsletter will also be a December agenda item.

Chris White provided current plans for certification of Clemson as a Community Wildlife Habitat.

- Requirements for Certification are explained in Chris's handout at the October Meeting. Private property, community common area and school area need certification. There are also educational and administrative requirements.
- The goal is to complete educational and administrative goals by January 1, 2025 and all required certifications by Earth Day, April 22, 2025.
- Committee members wishing to help coordinate these efforts should contact Chris.
- Chris will be making presentations to civic organizations. Several organizations were suggested.
- The Committee agreed that certification of both community common areas and private property needs to be pursued.

Tony Tidwell distributed a detailed report on recent Department of Urban and Park Land Management activities. Discussion focused on:

- A green infrastructure grant has been submitted to the S C Forestry Commission.
- Dec 6 Arbor Day activities. This event is a Tree City USA requirement. Tony welcomes suggestions to increase community involvement. A flier for the event is being prepared.
- Tony is a member of the Campus Tree Advisory Board. There is positive collaboration between this group and Tony's department.
- Andrew requested feedback on his **Enhancing Clemson's Tree Ordinances and Sustainable Urban Development** document, see Andrew's Nov. 11 email. Contact Andrew to assist in formalized recommendations.
- Currently there is a tree inventory of public lands and only a canopy map for private lands. A natural resources component will be part of the City 2025 Comprehensive. An Urban Forestry Master Plan will be requested as a budget item with a matching grant from the SCFC.

- Tony is reviewing the 1993 City Comprehensive Tree plan. He will share this document with the Committee.

Elaine has a number of tree ordinance articles to share.

Andrew moved adjournment and Nancy seconded his motion. The meeting was adjourned at 8:13 PM.

-