Board and Commission
Council Committee Agenda Item Request

Name of Board or Commission:
Austin-Travis County Food Policy Board

Request Number: 20180212-5.ii.1

Description of Item:

The Austin-Travis County Food Policy Board encloses the attached Proposed Food and Climate Addendum to the Austin Community Climate Plan for your consideration. The strategies and actions in this addendum are intended to be effective at reducing greenhouse gas emissions associated with food and are based on extensive best-practice research. The recommendations take into consideration:

- Reducing greenhouse gas emissions from the food system, which accounts for 25% of Austin's carbon footprint.
- Creating healthy food systems, which steward natural resources and mitigate carbon emissions.
- Aligning environmental health with healthy bodies, vibrant communities, and strong local economies by encouraging a plant-based diet.
- Enhancing the resilience and sustainability of Austin's local food production capabilities in the face of climate changes and challenges.

The Austin-Travis County Food Policy Board supports this Addendum because Austin has committed to reach net-zero greenhouse gas emission by 2050 (Resolution 20140410-024), and the food sector is an important contributor to greenhouse gas emissions. While current plans address energy and natural gas, transportation and land use, and waste and materials management, the food system has not been leveraged in the pursuit of a sustainable and green city. Including strategies which address the food system in Austin's Climate Action Plan will also realize co-benefits such as a healthier population and a healthier environment.

Achievable, practical and effective approaches identified here are critical to the success of this effort, and build upon the experiences of other forward-looking and innovative municipal governments from across the United States. By including the food system in the larger goal of reaching net-zero emissions by 2050, the Austin City Council will move closer to fulfilling its 2007 resolution to "make Austin the leading city in the nation in the effort to reduce the negative impacts of global warming." We recommend that anticipated updates to Austin's Community Climate Plan include the food system in emissions mitigation strategies.

Board or Commission Vote to refer item to Council: 10 in favor, none opposed

Date of Approval of Request: February 12th, 2018

Attachments: ☒ Yes ☐ No
If yes, please list the attachments: Food and Climate Report

Attest: Edwin Marty, Food Policy Manager, Office of Sustainability/ Austin Travis County Food Policy Board staff liaison
MAYOR'S OFFICE USE ONLY
Council Committee Assigned: ☐Audit and Finance Committee ☐Austin Energy Utility Oversight Committee ☐Mobility Committee ☐Health and Human Services Committee ☐Housing and Planning Committee
Recommend a Fiscal Analysis be completed?
Recommend a Legal Analysis be completed?
Notes:
Mayor Signature & Date:

Austin Community Climate Plan

Proposed Food and Climate Addendum

February 2018

Executive Summary

The Austin Community Climate Plan was adopted by City Council in 2015. Strategies and actions in the plan are focused on greenhouse gas emission reductions from fossil fuel sources in the Austin area, known as direct emissions sources. However, significant emissions are also the result of purchasing goods and food that are manufactured or produced outside the Austin geographic area, as well as from the transportation logistics necessary to bring those items to Austin. These indirect emissions sources were not calculated, nor were specific mitigation strategies identified as part of the Austin Community Climate Plan.

To address this gap, a working group focused on food and climate change was created by the Joint Sustainability Committee. The Food and Climate Working Group is composed of community members Adrienne Haschke, Alexandra van den Berg, Christine Jovanovic, Karen Magid, and Danika Trierweiler, and was supported by the City of Austin's Climate Program Manager, Zach Baumer, and Food Policy Manager, Edwin Marty.

The food system is influenced by a variety of socioecological factors such as individual choice and behaviors, cultural context, economics, and public policy. The ways that the food system contributes positively and negatively to greenhouse gas emissions through carbon sequestration and fossil fuel usage is even more complex. The Food and Climate Working Group has identified ten top priority actions that support four overarching strategies to reduce greenhouse gas emissions associated with the food system in Austin.

Strategy 1:

Reduce emissions, support sequestration, and enhance resilience in food production.

TOP PRIORITY ACTIONS:

- Create a City of Austin staff position, or Travis County Agriculture Extension position, to provide farmers with technical assistance related to (but not limited to) regenerative agriculture practices and best practices for planning and permitting farms.
- Work with Austin Water and other water providers to determine the feasibility of offering rebates or other incentives to farmers for irrigation water management equipment, water storage, reclaimed water, and conservation tillage equipment that saves potable water.
- Develop a comprehensive farmland conservation plan that prioritizes food production while taking into consideration other Imagine Austin priorities. The plan could also include specific maps or areas prioritized for farmland conservation or identify those areas most at risk from development.

Strategy 2:

Reduce emissions in logistics (processing, storage, distribution) and food retail.

TOP PRIORITY ACTIONS:

- Enhance regional sustainable food producer access to markets by identifying City of Austin, Travis County, and privately owned facilities and / or land for collective aggregation, storage, sales, and distribution. Support Sustainable Food Center's Food Hub feasibility study.
- Work with distribution and retail establishments to voluntarily phase out refrigerants with high ozone depletion and global warming potential. Explore conservation, efficiency and weatherization rebates for improving refrigeration efficiency.

Strategy 3:

Reduce emissions associated with the purchase and consumption of food.

TOP PRIORITY ACTIONS:

- Identify funding options and partner organizations to promote public awareness of a climate-friendly diet through public education campaigns.
- Explore opportunities to making proteins per the hierarchy of carbon intensity more available and accessible in the consumer market.

Strategy 4:

Reduce emissions from food waste.

TOP PRIORITY ACTIONS:

- Support the implementation of an end-to-end food waste reduction and recovery technology infrastructure to support recovery of food for human consumption (*see: Austin / Travis County Food Policy Board Recommendation 20170522-2*).
- Explore options to update the Austin Resource Recovery organic diversion ordinance and incentives to prioritize feeding humans first.
- Explore options to expand the Universal Recycling Ordinance Requirements to include collection of food residuals and other compostable material at multi-family residences.

Introduction

The food system is a significant contributor of global greenhouse gas emissions. Food production, processing, distribution, retail, consumption patterns, and waste have reverberating environmental impacts that extend well beyond the geographic boundaries where each occurs. Healthy food systems, which steward natural resources and mitigate carbon emissions, are also closely aligned with healthy bodies, vibrant communities, and strong local economies.

Agriculture contributes to greenhouse gas emissions both directly and indirectly through modern farming practices such as synthetic nitrogen fertilization, tillage and mono-cropping, which deplete carbon stocks from soil and emit nitrous oxide; livestock intensification, which releases potent methane; and land use changes, such as deforestation.

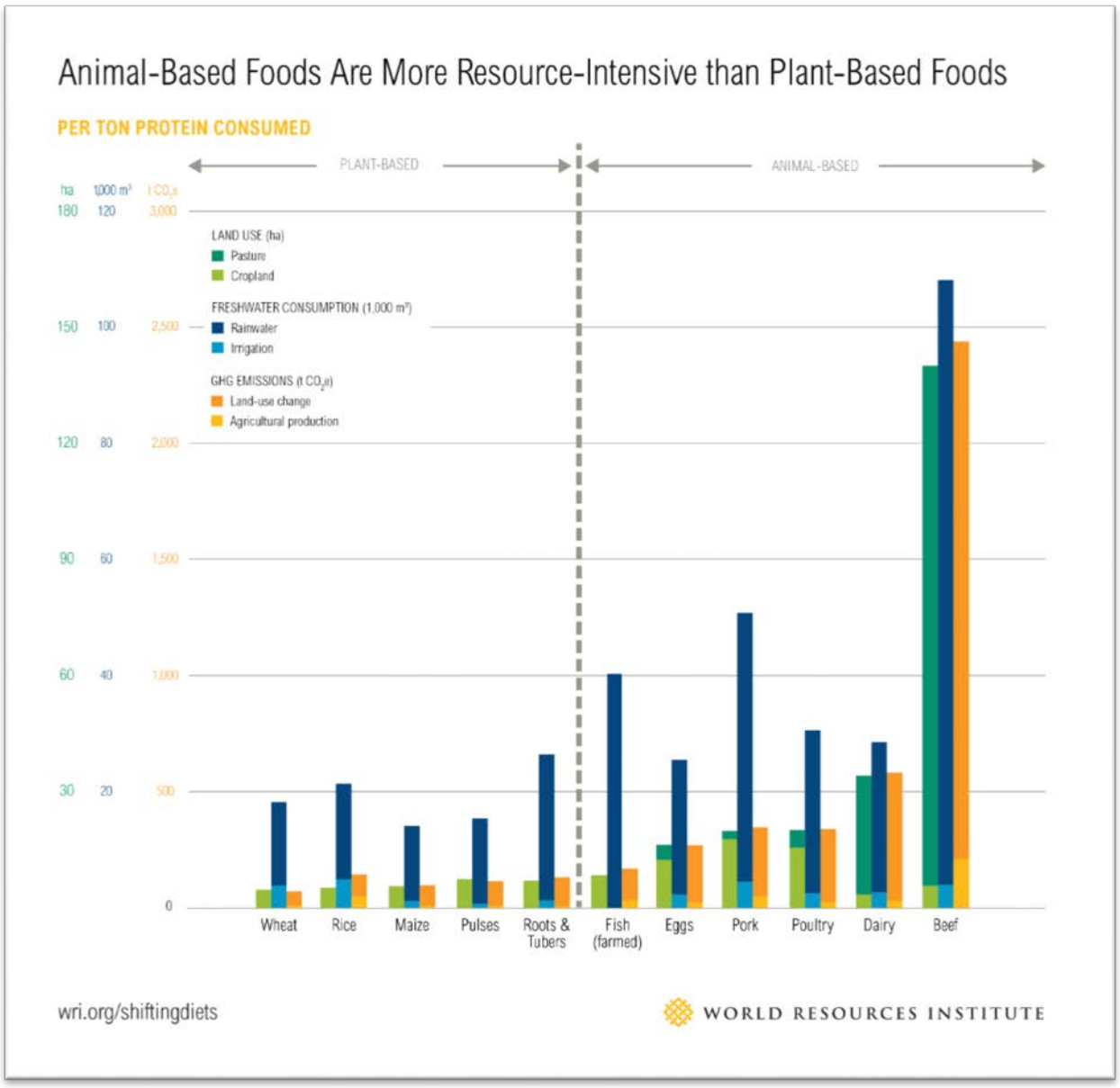
Regenerative agriculture is a system of farming principles and practices that increase biodiversity, enrich soils, improve watersheds, and enhance ecosystem services. By capturing carbon in soil and biomass, regenerative agriculture aims to reverse global climate change. Healthy soil and pasture associated with regenerative agriculture has the potential to sequester from between 50 to 1000 kilograms per hectare per year of atmospheric carbon (1.8 – 2.6 million metric tons of carbon dioxide-equivalent) (Lal, 2004). Policies that support regenerative food production and preserve farmland in Austin and the surrounding ten-county area will both mitigate carbon emissions and remove atmospheric carbon (Garnett, 2011; Post, 2000).

Climate smart agriculture is a similar approach that guides actions to support development and ensure food security in a changing climate. Climate smart agriculture objectives include:

- Sustainably increasing agricultural productivity.
- Adapting and building resilience to climate change.
- Reducing and / or removing greenhouse gas emissions from the atmosphere.

While regenerative and climate smart approaches have the potential to reduce greenhouse gases resulting from the local production of food, reducing emissions from food produced “upstream” and outside the Austin area is also critical.

Some foods produce more greenhouse gas emissions than others. **Climate-friendly food** includes fruits, vegetables, high-protein plant foods (peas, lentils, soy and other beans), whole grains, and unprocessed foods, and fewer animal products, especially red meat and dairy. As shown in the figure below from the World Resources Institute, animal-based foods require more water, use more land, and have a larger carbon footprint than plant-based foods. Conventional livestock production contributes almost 80% of the agricultural sector’s greenhouse gas emissions. Strategies that facilitate eating the recommended daily allowance of vegetables, fruits, whole grains, and lean proteins may be the most efficient way to reduce food-related emissions at the local level (Weber, 2008). Throughout this document, we refer to the “**hierarchy of protein carbon intensity**” which means prioritizing low carbon intensity protein like high-protein plant foods over animal proteins, especially red meat and dairy.



Food supply is also particularly vulnerable to climate change impacts. Unpredictable weather patterns and extreme events can greatly diminish agricultural yield, food quality and safety, delivery reliability, and affordability (Vermeulen et al., 2012). In addition to emissions mitigation and carbon sequestration, this document considers strategies to enhance the resilience of Austin's supply of food.

The recommendations in this document are intended to be effective at reducing greenhouse gas emissions associated with food and are based on extensive best-practice research. The Food and Climate Working Group considered evidence-based food and agriculture strategies identified in the *Cities Across the Nation Report,* which includes actions to reduce emissions from various community climate action plans. The most feasible strategies to increase consumption of local food, decrease consumption of carbon-intensive foods (animal products), and improve local farming practices and policies have been included in this document (Jarosz, 2008; Neuner, 2011).

Greenhouse Gas Emissions Quantification

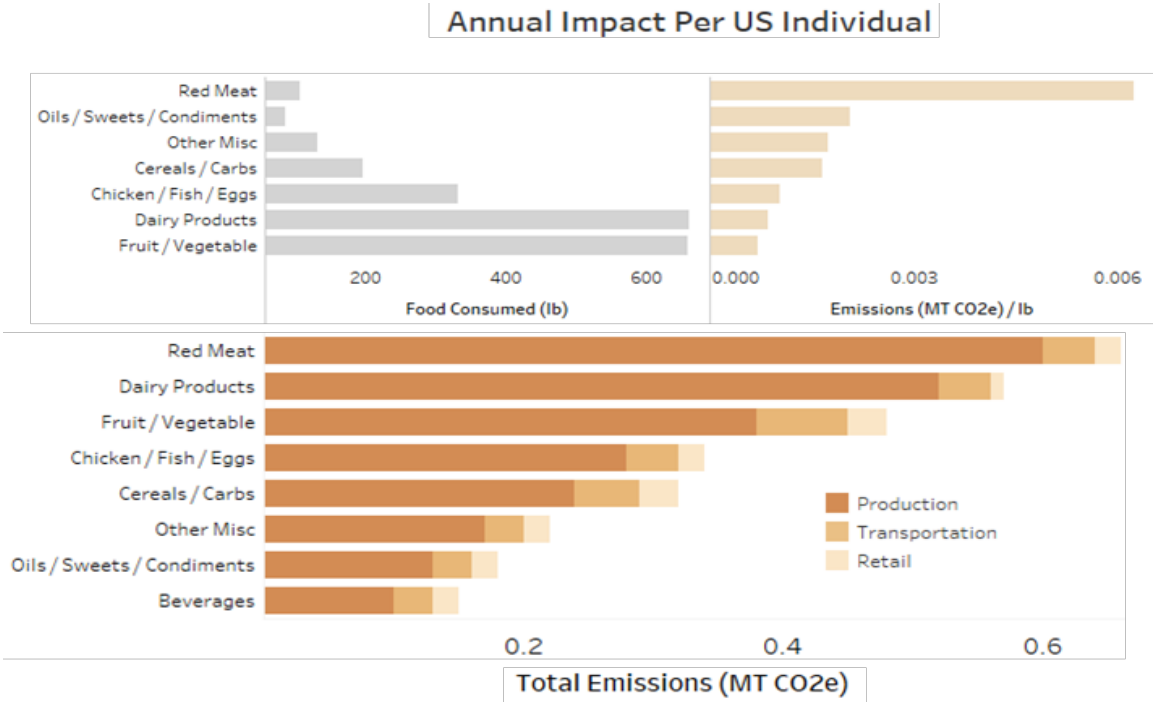
A consumption-based methodology was used to estimate life-cycle emissions created from producing, transporting, and selling the food that is consumed by Austin residents. This method addresses "upstream" emissions beyond the geographic boundaries of Austin / Travis County and was based on the 2008 study: *Food-Miles and the Relative Climate Impacts of Food Choices in the United States*, by Christopher Weber and H. Scott Matthews from Carnegie Mellon University. The basic approach and assumptions are as follows:

Assumptions:

- Analysis is based on 2007 data extrapolated from the 1997 U.S. Commodity Flow Survey.
- Population numbers and food categories were updated to 2015 values.
- The Travis County population is estimated to be 1,200,000 people.
- It is estimated that each person eats approximately 2,174 pounds of food per year.

Methodology:

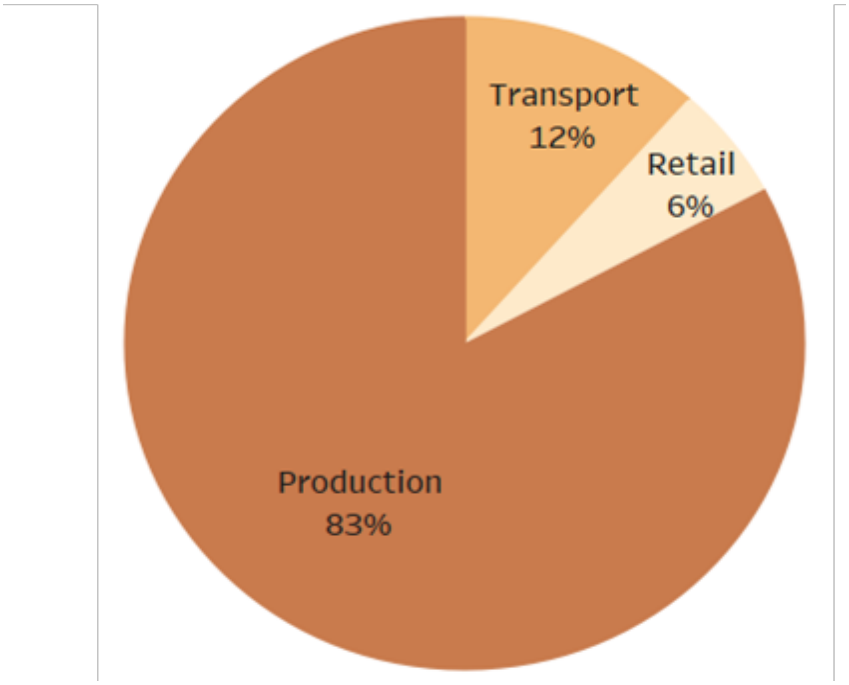
- Economic Input / Output Life-Cycle Analysis was used to estimate greenhouse gas emissions associated with the life cycle of food. All stages of food production are tracked through economic activity; emissions factors are assigned to each activity to calculate emissions.
- Results for emissions by life-cycle phase were normalized to pounds of food.
- Total food per year is divided into categories of food; each type of food has an associated emission factor for production, transportation, and sale. Emissions per food type and life-cycle phase is summarized below.



The 2016 Austin / Travis County greenhouse gas inventory from direct emissions sources like energy, transportation, and waste was estimated to be 13.2 million metric tons of carbon dioxide-equivalent emissions. The 2015 food consumption-based carbon footprint for Austin / Travis County was estimated to be 3.5 million metric tons of carbon dioxide-equivalent emissions, or 2.92 metric tons per person. "Upstream" production emissions are responsible for approximately 83% of Travis County's food emissions, or 2.8 million metric tons of carbon dioxide-equivalent. The next largest category of emissions is 400,000 metric tons coming from the transportation of food to Austin (12% of the total), and finally 190,000 metric tons of emissions from food retail in the Austin area (6% of the total). The largest impact for an individual resident comes from the consumption of red meat.

2015 Estimated Food Consumption-Based Carbon Footprint for Austin / Travis County:

3.5 million metric tons of carbon dioxide equivalent



Challenges and Opportunities for Food-Related Emissions Reductions

Challenges:

- **Land use.** Rapid development in Central Texas is quickly destroying land most suitable for agriculture; high demand for housing has increased land values, presenting economic challenges for farming in and around the Austin area. Over 25% of farmland in Travis County has been lost in the last 10 years.
- **Economic factors.** Locally-sourced food can be cost prohibitive for many residents. Increased housing and transportation costs, without raising incomes, reduces food purchasing power.
- **Climate change.** Increasingly frequent extreme weather events affect farm yield and can cause major disruptions to the food logistics / warehouse / delivery supply chain. A hotter climate also causes increased refrigeration costs.
- **Equity concerns.** The impacts of climate change in Austin will be felt most acutely by low income African-American and Latino populations, who are most vulnerable to extreme weather events and food cost fluctuations.

Opportunities:

- **Local economy.** Increasing consumer demand for local, sustainable food offers the opportunity to strengthen the entire local food system as well as reduce the climate impacts associated with conventional food production and distribution methods. Local, sustainable food also strengthens Austin's economy; the food sector already represents $4.1 billion annually and has the potential for growth to meet increased demand.
- **Health outcomes.** Many Austin residents do not eat the recommended five servings of fruits and vegetables per day. Consuming more fruits and vegetables will result in a healthier community, reduce greenhouse gas emissions, and support Austin's local farmers.
- **Connected communities.** Increasing the number of local community gardens, farmers markets, and successful urban farms will increase local food production, as well as Austin's resilience and interconnectedness.

Food and Climate Strategies

The following strategies and actions were developed by the working group. In each section, we set the context for each strategy and then list the actions. In each strategy table, the actions have been prioritized into high, medium, and low actions based on status, impact, barriers and timeframe. Status has been defined as not yet begun, in development, or underway. Scope and Impact of emissions reductions are defined as direct (reductions occurring in Austin) or indirect (reductions occurring outside Austin) and low impact (effecting thousands of people), medium impact (effecting tens of thousands of people), and high impact (effecting hundreds of thousands of people). Finally, barriers identified are funding, policy, institutional capacity, and behavior change, and timeframe is defined as near term (2018-2022), medium term (2023-2030), and long term (2030-beyond).

Strategy 1:

Reduce emissions, support sequestration, and enhance resilience in food production.

Food production includes both soil and crop management; these combined activities account for most greenhouse gas emissions across the entire food system. Managing agricultural production as a healthy natural system reduces greenhouse gas emissions. Emerging research indicates that soil-based emissions mitigation activities also have the potential to sequester atmospheric carbon:

> "In addition to decreasing greenhouse gas emissions and sequestering carbon, wise soil management that increases organic matter and tightens the soil nitrogen cycle can yield powerful synergies, such as enhanced fertility and productivity, increased soil biodiversity, reduced erosion, runoff and water pollution, and can help buffer crop and pasture systems against the impacts of climate change." (Paustian et al., 2016)

In addition to emissions reduction, food production strategies that support resilience are imperative to maintain a local food system that can withstand the increasingly unpredictable weather patterns associated with climate change.

The majority of food's climate impact comes from non-carbon dioxide greenhouse gases. Nitrous oxide emissions are the result of nitrogen fertilizers, soil management techniques, and manure management. Nitrous oxide is prevalent in all food groups, but especially so in animal husbandry. Methane emissions result mainly from enteric fermentation in ruminant animals (cattle, sheep, goats) and manure management, and are thus concentrated in the red meat and dairy categories. (Weber, 2008)

Producing animals for food creates more emissions than plants, but sustainable animal husbandry practices would help with emissions reductions. **Holistic Management** is an alternative approach to conventional livestock production that uses grazing and land planning to improve soil organic matter, ground cover, and water retention. In addition, reducing meat consumption could drastically reduce emissions while improving health outcomes for a large portion of the population.

Strategy 1: **Reduce emissions, support sequestration, and enhance resilience in food production**

Priority	Action	Status	Current Program	Stakeholders	Emissions Reduction (Scope & Impact)	Barriers to Implementation	Timeframe
High	**PR1**: Create a City of Austin staff position, or Travis County Agriculture Extension position, to provide farmers with technical assistance related to (but not limited to) regenerative agriculture practices and best practices for planning and permitting farms.	NOT YET BEGUN	Austin Parks and Recreation Department has a Sustainable Urban Agriculture and Community Gardens Coordinator dedicated to facilitating new community agriculture projects and permitting for new gardens.	City of Austin Departments: Parks and Recreation Development Services Austin Water Utility Economic Development Travis County	Direct Sources Low Impact	Funding	2018-22
High	**PR2:** Work with Austin Water and other water providers to determine the feasibility of offering rebates or other incentives to farmers for irrigation water management equipment, water storage, reclaimed water, and conservation tillage equipment that saves potable water.	NOT YET BEGUN	Austin Water gives urban farms commercial rates and has a framework of incentives that could be used by agriculture, but there is not a specific initiative, directive, or marketing program to advance in this area.	Private Farmers Austin Water Utility Other water utilities in Travis County	Direct Sources Low Impact	Policy Institutional Capacity	2018-22
High	**PR3**: Develop a comprehensive farmland conservation plan that prioritizes food production while taking into consideration other Imagine Austin priorities. The plan could also include specific maps or areas prioritized for farmland conservation or identify those areas most at risk from development.	NOT YET BEGUN	Austin-Travis County Food Policy Board Recommendation Number 20160119 – 4.1.1: "Creation of a Regional Community–Based Food System Study." The recommendation has not yet been funded.	Office of Sustainability Travis County Capitol Area Council of Governments Austin-Travis County Food Policy Board	Direct Sources Low Impact	Policy Funding Institutional Capacity	2018-22
Medium	**PR4:** Preserve prime farmland through the continued support of Conservation Easements, using a "right match" land use framework.	UNDERWAY	Travis County has initiated a program to conserve land through conservation easement agreements with willing landowners.	Land trusts Travis County Transportation & Natural Resources, and Economic Development and Strategic Investments Austin-Travis County Food Policy Board	Direct Sources Low Impact	Technology Institutional Capacity Funding	2018-22
Medium	**PR5:** Reduce code and permitting obstacles that hinder farming operations, while ensuring public health.	NOT YET BEGUN	Austin-Travis County Food Policy Board Recommendation Number 20151012-5A1A: "CodeNEXT Supports Sustainable Food Systems."	City of Austin Departments: Development Services Planning and Zoning Austin Public Health Austin Water Utility Austin-Travis County Food Policy Board	Direct Sources Low Impact	Policy Institutional Capacity	2018-22

Priority	Action	Status	Current Program	Stakeholders	Emissions Reduction (Scope & Impact)	Barriers to Implementation	Timeframe
Medium	**PR6:** Allow and support regenerative food production on City of Austin / Travis County-owned land under lease contracts of at least 3-year terms.	IN DEVELOPMENT	The City of Austin and Travis County have identified City and County owned land suitable for agricultural use and is determining if any of these lands can be leased for food production. Agreements need to include criteria for regenerative food production.	City of Austin Departments: Office of Sustainability Parks and Recreation Real Estate Office Watershed Protection Travis County Planning & Budget Office Private Farmers (both for profit and non-profit)	Direct Sources Low Impact	Policy Funding	2018-22
Medium	**PR7:** Support all food producers within City of Austin / Travis County boundaries through incentives to use regenerative agriculture methods and pursue certifications such as organic, holistic management, permaculture, and biodynamic.	IN DEVELOPMENT	Community gardens on City-owned land must adhere to sustainable land management practices.	Austin Parks and Recreation Department Travis County Transportation & Natural Resources	Direct Sources Low Impact	Funding Policy	2018-22
Low	**PR8:** Partner with the Travis County Tax Assessor's office to ensure that land used primarily for agriculture consistently qualifies for "agricultural valuation" to retain current farms while lowering barriers for new farmers attempting to purchase agricultural land. Extend homestead exemption to all urban farms (with or without residence on-site), including those that are on rented property.	NOT YET BEGUN	Austin-Travis County Food Policy Board Recommendation Number 20170410 – 5ii3a: "Promoting Farmland Preservation through Reasonable Taxation."	Travis County Austin-Travis County Food Policy Board	Direct Sources Low Impact	Policy Institutional Capacity	2023-30

Strategy 2:

Reduce emissions in logistics (processing, storage, distribution) and food retail.

Logistics strategies encompass the processing, storage, distribution, and retail functions of the food system and the actions recommended below align with those related to the transportation sector in the Austin Community Climate Plan. However, while the concept of food miles has gotten a lot of attention in recent years, the type of food purchased and how it is grown produces far more greenhouse gas emissions. In fact, emissions for local transportation in general is more than 10 times higher than the impact of "upstream" food transport.

Refrigerants used to keep food fresh also have a large environmental impact. Older chemical refrigerants have global warming potentials 500-5,000 times greater than the impact of carbon dioxide.

Strategy 2: **Reduce emissions in logistics (processing, storage, distribution) and food retail.**

Priority	Action	Status	Current Program	Stakeholders	Emissions Reduction (Scope and Impact)	Barriers to Implementation	Timeframe
High	**LR1:** Enhance regional sustainable food producer access to markets by identifying City of Austin, Travis County, and privately owned facilities and / or land for collective aggregation, storage, sales, and distribution. Support Sustainable Food Center's Food Hub feasibility study.	IN DEVELOPMENT	Sustainable Food Center received USDA funding to convene stakeholders across Central Texas and determine the feasibility of a food hub to aggregate, store and distribute local food to existing and expanded markets serving the greater Austin area.	Sustainable Food Center Texas Center for Local Foods Central Texas Food Bank Farmshare Austin National Center for Appropriate Technology Austin Public Health Travis County Local farmers Private-sector food distributors	Direct Sources Medium Impact	Funding Institutional Capacity	2018-22
High	**LR2:** Work with distribution and retail establishments to voluntarily phase out refrigerants with high ozone depletion and global warming potential. Explore conservation, efficiency and weatherization rebates for improving refrigeration efficiency.	NOT YET BEGUN	Austin Energy commercial rebates program.	Austin Energy Office of Sustainability Food distribution and retail establishments	Direct Sources High Impact	Behavior Change Funding Institutional Capacity	2018-22
Medium	**LR3:** Explore partnerships between food logistics companies and Austin Energy to support electrification of refrigerated trucks.	NOT YET BEGUN	Austin Energy's Electric Vehicles and Emerging Technologies team supports Electric Vehicle technology in Austin. There are currently no programs that support electrification of refrigerated trucks, as the technology is still being developed.	Austin Energy Private-sector food distributors Institutional food purchasers	Direct Sources High Impact	Technology Funding Behavior Change	2023-30
Medium	**LR4:** Incentivize local meat, dairy, grain, and produce processing facilities in an effort to bolster local food production.	IN DEVELOPMENT	The City of Austin's Economic Development Department is currently revamping incentive policies for recruiting businesses under State law (known as Chapter 380).	Economic Development Department Office of Sustainability Travis County	Direct Sources Medium Impact	Policy Funding	2023-30
Low	**LR5:** Explore partnerships with zero emissions bike delivery / pickup companies (electric and human powered) to directly move local and healthy food to people.	IN DEVELOPMENT	"EVs are for Everyone" is a new Austin Energy electric vehicle outreach initiative, with a focus on low to moderate income communities. Both an Electric Vehicle Car Share and E-Bike Share pilot programs are in the Discovery Phase.	Austin Energy Office of Sustainability Austin Transportation Department Private sector bicycle delivery	Direct Sources Low Impact	Behavior Change Technology Funding Policy	2018-22

Strategy 3:

Reduce emissions associated with the purchase and consumption of food.

Market demand driven by food purchasing and consumption choices can have a large impact on greenhouse gas emissions. Climate-friendly dietary choices include locally-produced food whenever possible, as well as protein sources associated with lower greenhouse gas emissions:

> "Shifting less than one day per weeks' worth of calories from red meat and dairy products to chicken, fish, eggs, or a vegetable-based diet achieves more greenhouse gas emissions reduction than buying all locally sourced food." (Weber 2008)

Strategy 3: **Reduce emissions associated with the purchase and consumption of food.**

Priority	Action	Status	Current Program	Stakeholders	Emissions Reduction (Scope and Impact)	Barriers to Implementation	Timeframe
High	**PC1:** Identify funding options and partner organizations to promote public awareness of a climate-friendly diet through public education campaigns.	IN DEVELOPMENT	The Office Sustainability provides a tip sheet about sustainable eating on their web site: http://austintexas.gov/page/food-system-helpful-resources-0	Office of Sustainability Austin Public Health Non-profit partners	Indirect Sources High Impact	Funding Behavior Change Policy	2018-22
High	**PC2:** - Explore opportunities to make proteins per the hierarchy of carbon intensity more available and accessible in the consumer market.	NOT YET BEGUN		Office of Sustainability Austin Public Health Non-profit partners	Indirect Sources High Impact	Policy Funding Behavior Change Institutional Capacity	2018-22
Medium	**PC3:** Continue City of Austin support of the Good Food Purchasing Program and other climate-friendly institutional purchasing frameworks, and increase efforts to expand partners and participants in the program.	UNDERWAY	The University of Texas at Austin, Austin Independent School District, and Austin Convention Center are currently piloting partners in the Good Food Purchasing Program.	Office of Sustainability Good Food Purchasing Program participants	Indirect Sources Medium Impact	Institutional Capacity Policy	2018-22
Medium	**PC4:** Incentivize City of Austin employee purchases of fruits and vegetables (e.g. participation in Farm-to-Work).	UNDERWAY	2,160 City of Austin employees participate in the Farm to Work program.	City of Austin Human Resources Department Sustainable Food Center	Indirect Sources Low Impact	Behavior Change Funding	2018-22
Low	**PC5:** Explore a climate-friendly City of Austin food purchasing policy that encourages fruits, vegetables, whole grains, and proteins per the hierarchy of protein carbon intensity.	IN DEVELOPMENT	The Office of Sustainability is developing a catering guide and employee training to provide guidance about climate-friendly food purchasing for City-sponsored events and meetings.	City of Austin Purchasing Department and Human Resources Department	Indirect Sources Low Impact	Behavior Change Policy	2018-22
Low	**PC6:** Pilot a Nutritious Food Incentive Program to reduce the cost of fresh local produce in existing food retail locations for low income families.	UNDERWAY	Austin Public Health has a contract with Central Texas Food Bank to administer a Nutritious Food Incentive Program in brick-and-mortar food retailers in Austin.	Office of Sustainability Austin Public Health Central Texas Food Bank	Indirect Sources Low Impact	Funding Policy Institutional Capacity	2018-22
Low	**PC7:** Based on data from the Food Environment Analysis, develop a specific plan to improve transportation, sidewalks, and bike routes to healthy food retail locations (Safe Routes to Market) in order to reduce vehicle miles traveled to access food.	IN DEVELOPMENT	The Office of Sustainability has met with City staff from departments implementing the Sidewalk Master Plan, the Austin Strategic Mobility Plan, and the 2016 Mobility Bond, as well as Capital Metro to share data about access to healthy food retail locations.	Office of Sustainability Public Works Austin Transportation Department Corridor Program Implementation Office Capital Metro Travis County	Direct Sources Low Impact	Funding Policy Institutional Capacity	2018-22

Priority	Action	Status	Current Program	Stakeholders	Emissions Reduction (Scope and Impact)	Barriers to Implementation	Timeframe
Low	**PC8:** Work with the City of Austin's Equity Office to solicit ideas from the most vulnerable populations to address food access challenges and community resilience.	IN DEVELOPMENT	Initial conversations about engagement strategies and opportunities are underway between the Office of Sustainability and Equity.	Office of Sustainability Equity Office	Direct Sources Low Impact	Institutional capacity	2018-22

Strategy 4:

Reduce emissions from food waste.

Wasted food has economic, environmental, and equity implications. “Wasted,” “surplus,” or “excess” food are terms commonly used to describe wholesome, nutritious food that is lost or sent for disposal, which may include unsold food from retail stores, as well as untouched prepared food or trimmings from restaurants, grocery stores, cafeterias or industrial processing. Food waste that is unfit for human consumption may be used to feed animals or for industrial purposes, composted, or sent to an anaerobic digester. The Environmental Protection Agency encourages anyone managing food waste to reference the Food Recovery Hierarchy to put food waste to beneficial use.

Actions in this category strive to meet the Environmental Protection Agency Food Recovery Hierarchy of highest and best use, align with Austin Resource Recovery programs, and encourage Austin businesses and residents to actively participate in solving this avoidable problem.

Strategy 4: **Reduce emissions from food waste.**

Priority	Action	Status	Current Program	Stakeholders	Emissions Reduction (Scope and Impact)	Barriers to Implementation	Timeframe
High	**W1:** Support the implementation of an end-to-end food waste reduction and recovery technology infrastructure to support recovery of food for human consumption.	IN DEVELOPMENT	Austin-Travis County Food Policy Board Recommendation Number 20170522-2 "Support for Strategies to Improve Austin's Food System." Central Texas Food Bank currently uses an app called "Meal Connect" to connect rescue food to their partner agencies.	Austin Resource Recovery Central Texas Food Bank Meal Connect Major public institutions	Direct Sources Medium Impact	Funding Behavior Change Institutional Capacity	2018-22
High	**W2:** Explore options to update the Austin Resource Recovery organic diversion ordinance and incentives to prioritize feeding humans first.	NOT YET BEGUN	Austin Resource Recovery administers the Universal Recycling Ordinance, which requires all food permitted facilities to have an organics diversion plan in place. While Austin Resource Recover promotes the EPA's hierarchy of beneficial uses for organics diversion, all approaches (source reduction, feeding hungry people, feeding animals, and composting) are treated equally under the current ordinance.	Austin Resource Recovery Austin-Travis County Food Policy Board University of Texas at Austin Save the Food	Direct Sources Medium Impact	Policy Institutional Capacity Funding	2018-22
High	**W3:** Explore options to expand the Universal Recycling Ordinance Requirements to include collection of food residuals and other compostable material at multi-family residences.	NOT YET BEGUN	Austin Resource Recovery administers the Universal Recycling Ordinance that requires affected property owners to ensure that tenants and employees have access to convenient recycling. There is also an organics diversion component to the ordinance, however it only applies to food permitted facilities and requires having an organics diversion plan in place.	Austin Resource Recovery	Direct Sources Medium Impact	Policy Institutional Capacity	2018-22

Priority	Action	Status	Current Program	Stakeholders	Emissions Reduction (Scope and Impact)	Barriers to Implementation	Timeframe
Medium	**W4:** Promote awareness of the correct actions to reduce food waste at the household level through public education campaigns.	UNDERWAY	Austin Resource Recovery currently encourages awareness around food waste reduction with the following programs, rebates, and initiatives: ● Home Composting Rebates ($75 toward home composting system or chicken coop) ● Expansion of Curbside Composting Collection (available to all Austin Resource Recovery customers by 2020)	Austin Resource Recovery Independent school districts and other schools Higher education	Direct Sources Medium Impact	Funding Behavior Change	2018-22
Medium	**W5:** Conduct a compost market assessment to determine ways in which value for product can be maximized.	NOT YET BEGUN	There is a Recycling Economic Development Program (liaison position between Economic Development and Austin Resource Recovery) that is tasked with exploring expansion opportunities for the local recycling and reuse sector.	Austin Resource Recovery Central Texas farmers Texas Department of Transportation Texas Department of Agriculture	Direct Sources Medium Impact	Funding Institutional Capacity	2018-22
Low	**W6:** Research the feasibility of processes to safely handle and treat restaurant waste for animal feed.	IN DEVELOPMENT	Austin Resource Recovery has conducted preliminary research to identify commercial pasteurizers that can handle restaurant waste for animal feed.	Austin Resource Recovery Hornsby Bend	Direct Sources Low Impact	Policy Funding	2018-22

Metrics and Reporting

Developing metrics to track progress in the food sector is challenging due to the lack of available data. If adopted as an addendum to the Austin Community Climate Plan, the status of each action in this document will be reported to annually to City Council. Metrics that could potentially be tracked include:

- Annual estimated greenhouse gas emissions from the food sector.
- Amount of local food produced and consumed in Travis County.
- Amount of land preserved for agriculture in Travis County.
- Amount of money spent on food purchases in Travis County that qualifies as climate-friendly.
- Reduction in greenhouse gas emissions from refrigerants used in food retail in Austin.
- Amount of organic food waste diverted from landfills for safe consumption by humans and animals.

Existing Plans & Initiatives that Support Food-Related Emissions Reduction Strategies

Imagine Austin Comprehensive Plan

Adopted by City Council in 2012, Imagine Austin provides a comprehensive road map for Austin to grow sustainably into the future. Food is mentioned extensively – over 25 times – within the context of developing a strong local food system that enhances the environmental, economic, social and nutritional health of Austin and Central Texas. Many of Imagine Austin's food and agriculture-related goals and actions align with the carbon reduction strategies of this report.

Travis County Land, Water and Transportation Plan

Adopted by the Travis County Commissioners Court in 2014, the Travis County Land, Water, and Transportation Plan is a set of long-term growth and development goals and policies that protect land and natural resources in unincorporated Travis County. The plan prioritized prime farmland conservation with the following actions that align with carbon reduction strategies:

- Update the Conservation Easement Program
- Assess the feasibility of a Farmland Preservation Initiative

Travis County Greenprint for Growth

The goal of the comprehensive Travis County Greenprint is to create a unified vision led by the community and facilitated by the Trust for Public Land that identifies critical parks, recreation, and natural land protection needs. The Greenprint is aimed at helping Central Texas organizations leverage available resources more effectively, resulting in a better parks, recreation, and natural areas system in the region.

Austin CodeNEXT

CodeNEXT is an effort underway to revise Austin's Land Development Code and address issues such as housing affordability, access to healthy lifestyles, and diminishing natural resources. Specifically, CodeNEXT aims to require larger developments to create prominent, user-friendly green spaces; these green spaces could potentially be used for community gardens, which would reduce the emissions associated with "upstream" food production and distribution.

Community Health Improvement Plan

Where and how we live, work, play, and learn affects our health. Understanding how these factors influence health is critical in developing the best strategies to improve health. The Community Health Improvement Plan will focus on four priority issues over the next 3-5 years:

- *Priority 1: Chronic Disease – Obesity.*
  Reduce the burden of chronic diseases caused by obesity among Austin/Travis County residents.
- *Priority 2: Built Environment – Access to Healthy Foods.*
  All people should have reasonable access to affordable, quality, nutritious food.
- *Priority 3: Built Environment – Transportation.*
  Local and regional stakeholders will collaboratively increase accessibility to community resources via safe, active transportation.

- *Priority 4: Access to Primary Care and Mental/Behavioral Health Services - Focus on Navigating the Healthcare System.*
  Expand access to high-quality, behaviorally integrated, and patient-centered medical homes for all persons.

Austin Strategic Mobility Plan and Safe Routes to Market

Currently in development, the Austin Strategic Mobility Plan will update the City's transportation plan to incorporate Imagine Austin priorities and address Austin's current and future transportation needs based on projected growth and development. The Strategic Mobility Plan will consider health and safety, economic prosperity, affordability, and sustainability, as well as incorporate planning efforts from other transportation organizations and regional stakeholders. Safe Routes to Market is a recommendation for the Strategic Mobility Plan from Austin's Healthy Food Access Initiative to prioritize the creation of multiple mobility options, such as new sidewalks, bike lanes, bus routes, and the development of dense, mixed-use affordable housing to improve access to healthy food retailers. The Strategic Mobility Plan will be brought to City Council for adoption in early 2018; if adopted, it could support the reduction of greenhouse gas emissions by increasing transportation availability and alternatives to food markets.

Austin Community Climate Plan: Carbon Impact Statement

A recommendation from the Austin Community Climate Plan was to determine the feasibility of a carbon impact statement that could be used to inform major Council decisions. A pilot of a proposed Carbon Impact Statement is underway within the development community for Planned Unit Developments in Austin. The draft statement includes twelve yes / no questions on different actions that affect the long term greenhouse gas emissions from a site. One action included in the statement pertains to food production: *Will the project include a full service grocery store onsite, or is one located within 1 mile of the project, or will the project integrate opportunities for agriculture to the scale as defined by Austin Energy Green Building?*

Austin's Healthy Food Access Initiative

In response to City Council Resolution 20160303-020, Austin's Healthy Food Access Initiative recommended increasing the amount of food retail and farming available in low-income communities, and improving the affordability of nutritious food for economically insecure community members. The goal was to increase consumption of sustainably produced fruits and vegetables without adding a cost burden to low-income families. In addition, a robust spectrum of nearby community food retail allows families to spend less time shopping for food by making it more accessible.

Farm-to-Work

The Farm-to-Work program is a partnership between the Sustainable Food Center, Department of State Health Services, and WebChronic, LLC. Employees at over 30 work sites in Austin, including City Hall and 4 other City of Austin buildings, have the opportunity to purchase a bag of local, farm-fresh fruits and vegetables that is delivered weekly. Since its inception in 2007, the Farm-to-Work program has increasingly improved access to fresh, local produce; the program successfully managed the distribution of over $230,000 of locally produced fruits and vegetables in FY 2015-2016.

Good Food Purchasing Program

The Good Food Purchasing Program is an initiative aimed at leveraging the power of institutional purchasing to positively influence the food system in five key areas as established by the Center for Good Food Purchasing: local economies, nutrition, animal welfare, environmental sustainability, and valued workforce. The program began with the Los Angeles Food Policy Council and has since expanded nationwide. In Austin, the Austin Independent School District, University of Texas at Austin's Office of Sustainability, and Austin Convention Center are participating as pilot partners. With continued City of Austin support and increased participation from other major purchasing entities, this program has the potential to impact all aspects of the local food system and reduce greenhouse gas emissions.

Austin Energy Green Building Rating System

The City of Austin created the nation's first green building program in 1990. Austin Energy Green Building encourages Central Texans to design and construct more sustainable homes and buildings. Developing and maintaining an Austin-specific rating system helps to meet the City's aggressive climate protection goals and paves the way for energy and building code changes to reduce building energy use.

Austin Energy Green Building rates the sustainability of new and remodeled buildings for single family, multifamily, and commercial buildings. Credit 13 in the rating system addresses Access to Local & Regional Produce. The intent of the credit is to reduce the environmental impact of globally-sourced food production; to improve occupant health and productivity by supporting local, regional, and urban agriculture; and remove barriers to eating healthy, local produce. There are three options for compliance:

- Implement a weekly local produce delivery program available on an elective basis to employees or residents of the building.
- Implement a local produce purchasing policy for the building's cafeteria.
- Integrate opportunities for agriculture, appropriate to the scale and density of the project, using the Floor Area Ratio (F.A.R.) as the basis for calculation. The garden must be available to building occupants for participation.

Site Description	F.A.R.	Percentage of Site Dedicated to Food Production
Rural to General Urban	< 0.50	5.0%
Urban Core Zone	≥ 0.50	2.5%

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