



Summary Report

Southern Nevada Food Council Visioning Session for the 2050 City of Las Vegas Master Plan



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This special publication provides a summary of the Visioning Session feedback, a compilation of initiatives and policies from other parts of the nation that may address member concerns, and a listing of recommendations to improve the local food system.

Visioning Session

The City of Las Vegas hosted Southern Nevada Food Council (SNFC) members in a visioning session for the 2050 Master Plan at their Development Services Center on Thursday, April 25, 2019, 1 – 4 p.m. Council members and other invited stakeholders represent various sectors of the food system in southern Nevada. The purpose of the half-day workshop was to develop a list of possible solutions from issues that SNFC members see as food system priorities, in order to provide the City of Las Vegas with a set of food system-related recommendations to consider for the 2050 Master Plan.

The visioning session started with a welcome from Marco Velotta, AICP, a member of the City of Las Vegas Office of Sustainability. It was followed by an icebreaker activity led by Namita Koppa, also a member of the Office of Sustainability. The session continued with a presentation defining community food security, initiatives and policies that help create a food system that aligns with the values and mission of the Southern Nevada Food Council, given by Aurora Buffington. Subsequently, in a breakout activity, SNFC members addressed the following food systems topics by identifying *the issues*, *the ideal solutions*, and the *policy and programs* that they deemed priorities to help strengthen the local food system:

- Marketing
- Markets and purchasing
- Preparation and Consumption
- Diversion
- Distribution and transportation:
- Production
- Resilience
- Processing

The session concluded with a recap of the process used in creating a master plan by Namita Koppa, Sustainability Management Analyst, City of Las Vegas. Twenty-five Council members and other stakeholders attended. (See Appendix A for a list of participants.) The authors transcribed the list of suggestions created through the visioning process, and additional related resources were added to the list to make this

report. Council members received the draft report for review, provided their feedback, and approved the final report, which was presented to the City of Las Vegas for consideration.

About the Council

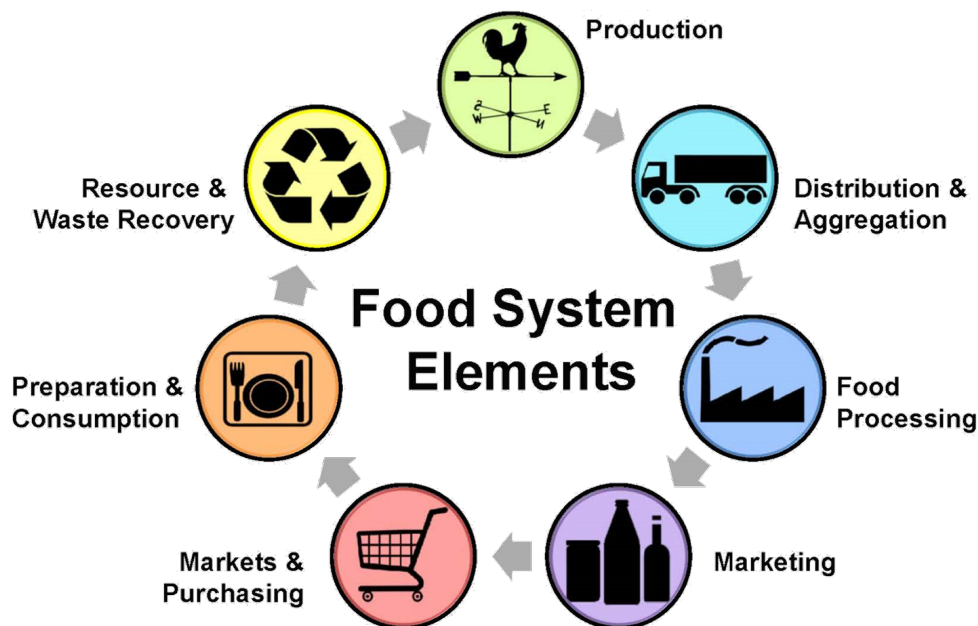
The Southern Nevada Food Council (SNFC) meets regularly to advance its mission centered on food policy, access and security. In developing recommendations, members are guided by values that "...support socially, economically and ecologically sustainable food systems that promote health – the current and future health of individuals, communities and the natural environment." Therefore, a healthy and sustainable food system is:

- Health-promoting
- Sustainable
- Resilient
- Diverse in size and scale, geography, culture and choice
- Fair
- Economically balanced
- Transparent

"A healthy, sustainable food system emphasizes, strengthens, and makes visible the interdependence and inseparable relationships among individual sectors (from production to waste disposal) and characteristics of the system."¹

Figure 1.

Food system diagram.²



¹ <https://gethealthyclarkcounty.org/community-tools/coalitions/southern-nevada-food-council/>

² Adapted by Christy Shi, Center for Environmental Farming Systems. From Wilkins, J. & Eames-Sheavly, M. Discovering the Food System: An experiential learning program for young and inquiring minds. Cornell University, Department of Nutritional Science and Horticulture. Accessed at <https://www.ces.ncsu.edu/wp-content/uploads/2013/06/Local-Foods-System-Diagram-no-title.jpg>

The following are potential solutions to help remedy issues brought up during the visioning session for each of the eight food system topics, including marketing, markets and purchasing, preparation and consumption, diversion, distribution and transportation, production, resilience, and processing. Appendices B-I include the eight topic charts of notes compiled from the visioning session exercise.

Marketing (See Appendix B for participant notes.)

The American Marketing Association defines marketing as "the activity, set of institutions, and processes for creating, communicating, delivering and exchanging offerings that have value for customers, clients, partners and society at large."³ However, "marketing can be used as a tool to either promote or harm the public's health."⁴ It may also include price setting. Visioning session participants identified five issues related to marketing they deemed relevant enough to be addressed in the Master Plan.

The first issue was that of the ***promotion and definition of local foods***. There is no program to promote locally produced food in Las Vegas, although there is at the state level, and there is no commonly agreed-upon definition for local food. Food production in southern Nevada is limited, but not nonexistent. According to the 2017 Census of Agriculture County Profile for Clark County⁵ (USDA), there were 179 farms and 309 producers in Clark County, generating a market value of products sold at \$12,651,000. Food production included fruits, tree nuts, berries, vegetables, melons, potatoes, sweet potatoes, grains, oilseeds, dry beans, dry peas, livestock, poultry, and other animal products. The development of a slogan and marketing campaign to promote "*Buy Local*" in collaboration with civic organizations may help consumers place a higher value on locally produced foods. Alignment of such a program should be done with existing programs currently administered under the Governor's Office for Economic Development and the Nevada Department of Agriculture, such as the *Buy Nevada* and *Nevada Grown* programs, designed to promote food and agriculture businesses in Nevada.

Grant funding exists to help promote local foods. For example, the USDA Agricultural Marketing Service (AMS) invites project applications through the Local Food Promotion Program (LFPP) with a 25% match to support the development and expansion of local and regional food business enterprises.⁶ The last time Nevada was awarded an LFPP grant, in 2015, one implementation and two planning projects were funded to improve retailers' and consumer access to fresh local foods in neighborhoods through the creation of an agricultural alliance, a virtual food pantry and a mobile market⁷. The two LFPP planning projects were successful and included the design and recent expansion

³ Chandon, P., & Wansink, B. (2012). Does food marketing need to make us fat? A review and solutions. *Nutrition reviews*, 70(10), 571-593.

⁴ <http://www.foodsystemprimer.org/food-and-nutrition/food-marketing-and-labeling/index.html>

⁵ https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Nevada/cp32003.pdf⁶ More information at <https://www.ams.usda.gov/services/grants/lfpp>

⁷ https://www.ams.usda.gov/sites/default/files/media/LFPP_2015DescriptionOfFundedProjects.pdf

of the DigiMart™ Food Pantry,⁸ the nation's first virtual food pantry, operated by Lutheran Social Services of Nevada, and the creation and ongoing seasonal operation of the Veggie Buck Truck. This mobile produce truck accepts federal nutrition benefits for payment by Together We Can. The implementation project focused on building an agricultural alliance that was unable to create a food hub or create a substantial supplier network. However, the grant awardee did share in their final report a recommendation to "...organize a research project that updates information about the needs of our local/regional producers to provide training in marketing, grading, sorting, logistics and branding that could help the producers create a producer-operated food hub for the region." To foster a successful regional branding campaign, it may first be necessary to build the infrastructure to coordinate aggregation, transportation and sales between producers and buyers, as the experience of one of our local 2015 LFPP awardees suggested.⁹

Finally, to better define local food, the state and local food policy councils should create a mutually agreed-upon definition for local food.¹⁰ The USDA broadly defines local food as "a food product that was raised, produced, aggregated, stored, processed and distributed in the locality or region in which the final product is marketed." Some USDA programs state that local food comes from the state in which it was produced or from a 400-mile radius, but there is no official designation for the term of local food.¹¹ A search for a definition of local food in Nevada did not yield a formally accepted term. An alternative could be to seek food items bearing the Nevada Grown or Buy Nevada logos, which guarantee that the food item originated from within the state of Nevada. However, items grown in northern Nevada could easily have originated from a distance greater than 400 miles when brought to Las Vegas, meaning produce brought in from neighboring states like California and Arizona may actually be considered more "local" when comparing distance traveled. Because local food policy councils are concerned with their local food system, it seems reasonable to ask the local food council to develop a definition of local food.

The second issue brought up by session participants was that **food product dates are misleading and increase food waste**. The Food and Drug Administration recognizes consumer confusion with food product dating. It supports food industry efforts to standardize the use of the term "Best if Used By" when dating is associated with quality and not safety as part of a White House initiative called *Winning on Reducing Food Waste*.¹² Locally, Three Square Food Bank has an established and robust food recovery program; thus, a collaboration between the City of Las Vegas and Three Square would logically support a local food recovery program using gleaning or emergency food systems.

⁸ <https://www.nevadabusiness.com/2020/02/lutheran-social-services-to-expand-digimart-food-pantry-march-5-groundbreaking-to-kick-off-construction-for-expansion-that-will-serve-an-additional-5000-clients-annually/>

⁹ <https://www.ams.usda.gov/sites/default/files/media/NV0113OnTheRanchAlliance92160.pdf>

¹⁰ See <http://growingfoodconnections.org/gfc-policy/greensboro-fresh-food-action-plan-greensboro-north-carolina/>

¹¹ <https://www.ams.usda.gov/sites/default/files/media/Why%20Local%20Food%20Matters.pdf> ¹² <https://www.fda.gov/consumers/consumer-updates/confused-date-labels-packaged-foods>

Additionally, the promotion of food waste and recovery programs, such as the Food for People, Not Landfills Program that the state Council on Food Security will establish as a result of the newly passed Nevada legislation, SB178, may help reduce waste.¹³

Meetings of the Council on Food Security and its subcommittees are open to the public and posted following open meeting law. All meeting minutes and associated documents are posted on the Council's website, facilitating public input. The program will establish an official seal and a work plan to help redirect food for higher use. Once operational, educational campaigns targeted to members of the food supply chain and the community are expected to lessen food loss due to waste.

One example of policy from San Francisco was a Food Service Waste Reduction Ordinance. This ordinance requires compostable packaging for food service operations, citing that food service operations easily switched to alternatives with ease, and positive environmental impacts were evident in other cities with similar codes.¹⁴ The City of Las Vegas could consider the implementation of a zero-waste campaign by 2050 using a phased approach. Some areas to explore include residential and commercial recycling, composting programs that include organic and compostable waste, and compostable packaging for all food-related businesses.

Another area of opportunity concerning marketing was the ***lack of awareness that Supplemental Nutrition Assistance Program (SNAP) may be used to purchase seeds and plants for food.*** Helping SNAP-eligible people learn that they can grow their own food using SNAP benefits can help promote food security, add dietary variety that can lead to improved nutritional status, and provide a source of physical activity, among other benefits. A partnership with the Clark County University of Nevada, Reno Extension office could help the City establish a program to promote SNAP Gardens.¹⁵ Additionally, the City could encourage SNAP-authorized retailers that sell seeds and plants that grow food to market the fact that SNAP benefits may be used to purchase them.

An area of concern with marketing is the ***stores and gas stations that accept SNAP benefits market foods with little to no nutritional value.*** Stores, especially those that are not traditional grocery stores, often promote the fact that they accept SNAP/EBT with signage that may be seen from a distance. However, some stores target SNAP consumers with marketing, encouraging them to use their SNAP benefits on energy drinks and seasonal candies. (See Appendix J.)

It is possible to use tools at the disposal of local government to promote healthy foods, such as seeking the creation of a healthy food ordinance restricting the marketing of unhealthy foods.¹⁶ Substantial effort and political will are required to gain approval on

¹³ See <https://www.leg.state.nv.us/App/NELIS/REL/80th2019/Bill/6298/Text>

¹⁴ For an example https://sfenvironment.org/sites/default/files/editor-uploads/zero_waste/pdf/sfe_zw_food_service_waste_reduction_ordinance.pdf

¹⁵ <https://www.snapgardens.org/snap-participant/> and also see <https://farmersmarketcoalition.org/connecting-plant-vendors-with-snap-customers/>

¹⁶ <https://www.publichealthlawcenter.org/topics/healthy-eating>

such rules, however. In light of this, the use of nutrition incentives or nudges to encourage consumer purchases of healthy foods may be easier to accomplish. An example is the Double Up Bucks Program in Las Vegas that matches SNAP purchases made on fruits and vegetables up to \$20 per day at participating corner stores and farmers markets. This grant-funded program has been effective in incentivizing the purchase of healthy foods. However, there needs to be a source of sustainable funding to operate the program, which is not reliant on grants to maintain program integrity. The City could commit to funding such a program by including it in their annual budget.

Visioning session participants noted that another marketing opportunity exists because **some schools have low student participation rates in federal child nutrition programs.** The Clark County School District Food Service Department oversees these federal nutrition programs at the local level. School accountability reports¹⁷ include metrics providing the percentage of students eligible to receive free or reduced-price breakfasts and lunches versus percentage of students that *receive* free or reduced-price breakfasts and lunches. The City may be able to assist the school district in getting the word out or helping with other forms of promotion, such as participating in national school breakfast or lunch weeks. The City could also commit to promote the Summer Food Service Program¹⁸ by providing sites for meal distribution to children 18 years and below when school is out during the summer.

Markets and Purchasing (See Appendix C for participant notes.)

Markets and purchasing are just one part of the overall food supply chain. These would include retailers, such as grocery stores, farmers markets and mobile delivery services, and branding programs used for the marketing of foods. "Access to healthy food is a significant public health concern, and neighborhoods classified as food deserts with large minority and low-income populations often lack healthy food options."¹⁹ More specifically, fresh fruit, vegetables and other healthful whole foods are lacking.²⁰ Session participants assigned to this topic came up with four issues they deemed as opportunities for improvement.

First, **some neighborhoods have little access to healthy foods but have plenty of access to unhealthy foods.** The term "food swamp" is a metaphor to describe neighborhoods where energy-dense fast foods inundate or swamp out healthy-choice foods.²¹ Ideally, communities would be designed so that affordable produce and other

¹⁷ <https://ccsd.net/schools/accountability-reports/>

¹⁸ The CCSD has a summer food program with information at <https://ccsd.net/district/summer/>, and Three Square Food Bank has a program with information at <https://www.threesquare.org/summer-food-service>

¹⁹ Fish, C. A., Brown, J. R., & Quandt, S. A. (2015). African American and Latino low income families' food shopping behaviors: promoting fruit and vegetable consumption and use of alternative healthy food options. *Journal of immigrant and minority health*, 17(2), 498-505.

²⁰ Torrence, C., Griffin, S., Rolke, L., Kenison, K., & Marvin, A. (2018). Faithful Families Cooking and Eating Smart and Moving for Health: Evaluation of a Community Driven Intervention. *International journal of environmental research and public health*, 15(9), 1991.

²¹ Rose, D., Bodor, J. N., Swalm, C. M., Rice, J. C., Farley, T. A., & Hutchinson, P. L. (2009). Deserts in New Orleans? Illustrations of urban food access and implications for policy. *Ann Arbor, MI: University of Michigan National Poverty Center/USDA Economic Research Service Research*.

healthy foods could be accessible to all. A mechanism to help assess accessibility is to define healthy food outlets, then map all places where people may obtain healthy food within City limits. This mapping exercise is already underway as a cooperative effort led by staff at the Regional Transportation Commission of Southern Nevada (RTCSNV). Once completed, the Healthy Food Access Map can be used by stakeholders, for example, to compare the ratio of fast food outlets and other places that typically sell food that is not health-promoting to healthy food outlets. This information may then be used to justify action(s) by the City to help residents gain healthy food access where it is compromised.

Another possible solution is to provide funding or other financial incentives to attract new retailers, or for grocery retailers to improve and add capacity to sell fresh fruits and vegetables in their stores. AB 326 passed during the 2019 Nevada Legislative session and will provide tax credits for certain business entities that invest in certain fresh food retailers located in underserved communities and similar areas²². Permits are often required to make these improvements, so efforts by the City to streamline the process where it is involved would be most helpful. Because health permits associated with refrigeration may be required, a partnership with the Environmental Health Division at the Southern Nevada Health District may help streamline the process further.

Second, **the current nutrition incentive program in southern Nevada is grant-funded and expires after the grant.** Nutrition incentive programs match SNAP purchases dollar for dollar when spent on fruits and vegetables, helping SNAP beneficiaries stretch their food dollars and promoting the use of farmers markets. As mentioned previously in the *marketing* section, the City could provide funding to create a City nutrition incentive program that SNAP customers may use at farmers markets operating within City limits. These efforts could be coordinated with the nonprofit Together We Can or other organizations planning to apply for USDA grants that fund nutrition incentive programs. Or, the City itself could apply for grants for which it is eligible.

Third, **farmers market managers find it challenging to implement SNAP and incentive programs, leading them to forego SNAP acceptance.** SNAP can be burdensome for market managers to implement for many reasons, including the cost of equipment to accept SNAP/EBT cards, individual vendor agreements that market managers need to put into place, and staff time to operate a wireless terminal to accept SNAP benefits, among other reasons. These burdens are often compounded by the operational procedures established by funders or grant recipients of a nutrition incentive program designed to supplement SNAP benefits redeemed at farmers markets.

The City may help farmers market managers accept SNAP with incentives, and this, in turn, will increase access to healthy foods for low-income residents. The City could also offer employees or volunteers to operate the central terminal required to accept SNAP at farmers markets. Another strategy is to help farmers markets with marketing by

²² <https://www.leg.state.nv.us/App/NELIS/REL/80th2019/Bill/6592/Overview>

purchasing banners, signage and other promotional items advertising the fact that they accept SNAP benefits. Market managers and direct-consumer farms need to be made aware that the state of Nevada provides wireless SNAP-only terminals free of charge, but will need to be requested by the market manager. Extension's Healthy Food Systems program staff provide technical assistance to help market managers and farmers become SNAP authorized.

The fourth concern, which has been resolved since the visioning session, was that **the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) Farmers Market Nutrition Program (FMNP) was not available in southern Nevada, despite being offered in other parts of Nevada.** However, in June 2019, the program became available in Las Vegas. The state WIC office had offered the WIC FMNP in northern Nevada and rural counties since 2016, and added counties using a phased approach. Nevada WIC administers this program in partnership with the Nevada Department of Agriculture.²³ To build synergy, the City could require that farmers markets accept EBT, WIC and Senior Farmers' Market Nutrition Program (FMNP) coupons at farmers markets or other direct sales outlets to improve food access for community members of all economic backgrounds. Individual farmers apply to accept the FMNP coupons, not the farmers market manager. However, the market manager can require that their vendors apply to take the coupons. Ideally, Farmers Market Nutrition Programs should be cross-promoted with other nutrition programs whenever possible to help increase their coupon redemption rate.

Preparation and Consumption (See Appendix D for participant notes.)

Session participants referred to preparation and consumption from the consumer perspective, which may include recipes, home economics classes in schools, cooking classes, food safety, nutrition education, and places/equipment to prepare food safely. An Urban Food Hub concept of high-efficiency food production and commercial kitchens can serve as business incubators and training facilities for food processing and nutritional health-related activities. Also, Urban Food Hubs contribute to job creation and urban sustainability in its economic, social/cultural and environmental/ physical dimensions.²⁴

The first issue highlighted was that **there are limited congregate meal sites for the frail or elderly with limited resources.** The reimbursement rate for senior congregate meals has traditionally been among the lowest in the nation; however, advocacy efforts to increase the reimbursement rate yielded some changes during the 2019 Session of the Nevada Legislature. Sites need to have commercial kitchens and the appropriate health permits to prepare and serve meals.^{25,26} The City could help alleviate the burden to organizations providing congregate meals by providing funds to match meal

²³ More information may be found at <http://nevadawic.org/ebt/wic-farmers-market/farmer-information-nevada-wic-fmnp/>

²⁴ O'Hara, S. (2015). Food security: the urban food hub solution. *Solutions*, 6, 42-52.

²⁵ <http://adsd.nv.gov/uploadedFiles/adsdnvgov/content/Programs/Grant/Nutrition/FoodSafetyChecklist.pdf>

²⁶ <https://www.southernnevadahealthdistrict.org/permits-and-regulations/facility-design-assessment-permitting/plan-review-for-specific-food-establishments/requirements-for-catering-remote-service-site-permits-equipment-and-food-service/>

reimbursement rates, or a portion thereof. It could also offer capacity-building funds, technical assistance or a streamlined permitting process for organizations seeking to improve their kitchens so they may serve congregate meals.

A second issue frequently mentioned by the community at large is that **there are not enough commercial kitchens for use by community entrepreneurs**. Commercial kitchens are an affordable option for aspiring entrepreneurs with limited startup capital.²⁷ Also, the commercial kitchen provides a facility where individuals can incubate their food business, create value-added products, and receive culinary training.²⁸

A potential solution includes the idea of making available any City-owned commercial kitchens with health permits that are rarely used, and designating them as shared kitchens for the community. A logistical process to manage their use could be facilitated with an initial investment in software to enable scheduling and other tasks, such as the one offered by The Food Corridor.²⁹ Ideally, a kitchen manager would be hired to oversee the operation.

Other potential solutions are for the City to provide facilities and investment, simplify permitting, allow by right, or pass ordinances to support shared-use kitchens. Where the City has no kitchen facility to work with, it could provide incentives to restaurants that participate in a shared kitchen program. It could also plan for and help finance the infrastructure and equipment to support aggregation, processing and distribution of locally produced foods (food hub), and this could be done in partnership with other organizations promoting a healthy local food system.

A third issue and concern is that **the food environment does not favor healthy choices and is exacerbating chronic disease conditions**. The Centers for Disease Control and Prevention (CDC) include several factors that influence individual diets, such as the presence of food, proximity to food retailers, the distribution of food outlets, and access to food using the local food system.³⁰ Several strategies were suggested to help support healthier food choices, and many are used in other parts of the country.

Increasing personal knowledge and skills may help people make healthier choices. The City can help facilitate skill-building by coordinating programming with local agencies that offer cooking classes, such as University of Nevada, Reno Extension; Lutheran Social Services; and Three Square Food Bank. The courses should be provided at places and times when busy residents can attend. Additionally, farmers markets and grocery stores should be encouraged to offer food demonstrations featuring healthy foods.

Although building skills is a popular solution to help people make healthier food choices, it is also essential to have an environment that supports healthy eating behaviors.

²⁷ Godfrey, P. (2017). 8 Reflexive Food Truck Justice: A Case Study in CLiCK, Inc., a Nonprofit, Shared-Use Commercial Kitchen. *Food Trucks, Cultural Identity, and Social Justice: From Loncheras to Lobsta Love*, 149.

²⁸ <https://digitalcommons.wpi.edu/cgi/viewcontent.cgi?article=2838&context=iqp-all>

²⁹ At <https://app.thefoodcorridor.com/en/login>

³⁰ <https://www.cdc.gov/healthyplaces/healthtopics/healthyfood/general.htm>

Otherwise, the knowledge gained may not have the intended effect of promoting a healthy diet. By establishing a "Food in All Policies" strategy, the City may be able to improve health outcomes while increasing access to healthy, affordable food in Las Vegas, especially food deserts. Within the boundaries of its own places of employment, such as City Hall, it could support community-supported agriculture (CSA) farm shares for its employees. The convenience of being able to take a share of healthy food home without having to make an additional stop on the way could compel some City employees to eat more health-promoting foods, such as fresh fruits and vegetables.

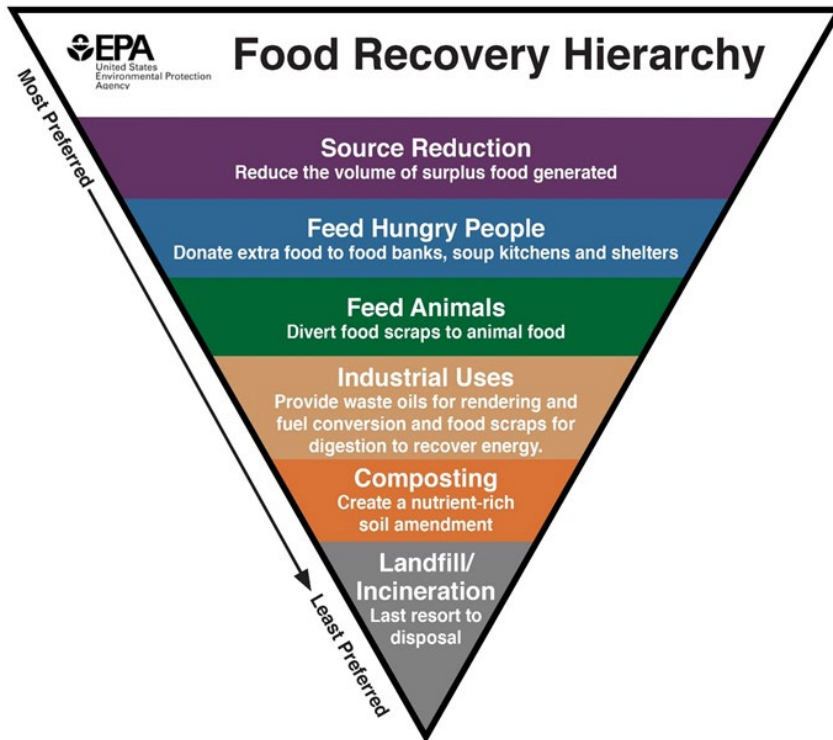
Diversion (See Appendix E for participant notes.)

Diversion refers to the practice of sending materials, such as food, to another beneficial use rather than to the landfill. All sections of the recovery hierarchy (see Figure 2), except source reduction and landfill/incineration, represent a form of diversion, and each has its own unique set of benefits and challenges.³¹ Also, diversion of food pertains to surplus/waste management, meaning "the process of food recovery, including gleaning; and minimizing, composting, and recycling of food waste or surplus."³²

³¹ <https://www.rit.edu/affiliate/nysp2i/food/diversion-overview>

³² <http://healthyfoodpolicyproject.org/crosswalk>

Figure 2. U.S. Environmental Protection Agency Food Recovery Hierarchy.³³



³³ Environmental Protection Agency. (n.d.) Sustainable Management of Food. <https://www.epa.gov/sustainable-management-food/food-recovery-hierarchy>

The first issue of concern to session participants was that **large restaurant portion sizes lead to a higher amount of food waste than smaller portions.** It is easy to understand why this is a concern when considering that more than 60,000 pounds of food is served daily in Las Vegas restaurants and hotels. The³⁴average restaurant plate waste is estimated at 17%,³⁵ meaning that consumers dining out in Las Vegas leave behind about 10,200 pounds of food every day. This food that has already been served to the customer may be diverted for use as animal feed. However, solutions at the service level to prevent plate waste that are highly feasible include addressing menu design, controlling portion sizes, and customizing dishes.

Other solutions may be targeted in the areas of procurement and supply chain, donation policy and infrastructure, and through the development of programs and partnerships. In 2016, IKEA's **Food Is Precious Initiative** aimed to cut food waste in its global operations by 50% by 2020. The goal is to engage co-workers in finding ways to prevent food waste and to get others to think about food as a precious resource.³⁶ Google cafés reduce food waste by tracking how much food is prepared compared to how much is actually consumed or eaten. Google cafés repurpose leftovers and donate the unused inventory.³⁷Efforts such as the ones by IKEA and Google lead to a reduction in waste and carbon dioxide emissions.

The second issue brought forth by this group was that **food waste is challenging to compost because of the many types of waste involved.** Animal derived waste (milk, eggs and meat) harbor unhealthy bacteria and can attract unwanted animal attention. Although it is possible to compost, it requires a uniquely designed composter.³⁸ In contrast, the use of plant-derived waste (fruits and vegetables) is used to produce compost that may enrich the nutrient value of soil.³⁹Also, there are seasonal changes and hot or cold composting to consider.⁴⁰The Food Recovery Hierarchy (Figure 2.) is a guide provided by the United States Environmental Protection Agency (EPA) that prioritizes actions that prevent or divert food waste from landfills. Each level of the hierarchy focuses on different strategies for wasted food, and the best ways to prevent and divert wasted foods to benefit the environment, society and the economy.

As mentioned previously, there are many levels at which initiatives may address food waste, including those aimed at recovery and recycling. The first step is to develop waste-tracking procedures to monitor food surplus and to determine the number of meals and disposal costs saved. Food banks in other counties around the nation have created a donation fact sheet, including state and local laws, in tandem with their local

³⁴ <https://futurism.com/las-vegas-food-service-workers-strike-automation>

³⁵ https://www.refed.com/downloads/Restaurant_Guide_Web.pdf

³⁶ https://www.ikea.com/us/en/about_ikea/newsitem/062217-IKEA-FOOD-IS-PRECIOUS-Initiative

³⁷ <https://sustainability.google/projects/rews/>

³⁸ <https://www.cleanairgardening.com/how-to-compost-meat/>

³⁹ Sall, P. M., Antoun, H., Chalifour, F. P., & Beauchamp, C. J. (2016, May). On farm composting of fruit and vegetable waste from grocery stores: A case under cold climatic conditions of Eastern Canada. In *Third Symposium on Urban Mining and Circular Economy* (pp. 23-25).

⁴⁰ https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/features/?&cid=nrcs143_023537

health departments. These fact sheets can be provided to restaurants during health inspections and include information about the Federal Bill Emerson Good Samaritan Food Donation Act.⁴¹ Concerning recycling, food waste can be used as a renewable energy resource.⁴² The Clark County School District's school buses run on biodiesel fuel, which incorporates used oil and grease recycled from local restaurants.⁴³ At the policy level, the City could create or modify laws and regulations for the disposal of waste.

A third issue is that **a considerable amount of grocery store food waste is still edible and should be donated.** At the time of the visioning session, Three Square Food Bank worked with 291 retail partners to reduce food waste. Truck drivers travel to area grocery stores, such as Albertsons, Smiths and Walmart, to pick up food that is past the retail shelf life. The food rescue program repurposes foods, such as bruised apples, and redistributes nutritious food to agency partners who make sure those in need receive the rescued food.⁴⁴ Retailers who wish to be a partner can contact to the Food Rescue Department at Three Square Food Bank. Because the Clark County School District Food Service Department serves over 1.5 million meals per week, food rescue targeted in local school food programs should be implemented.

Session participants brought up a fourth and final issue that **recycling offers the most substantial diversion potential.**⁴⁵ Food waste efforts should include defined strategies, goals and activities supported by the City. During the Southern Nevada Food and Organics Recovery Workshop held in 2016, participants prioritized the creation of an affordable, permitted compost facility with the capacity to handle large volumes of food scraps that cannot be donated.⁴⁶ The creation of and determination of who should oversee a centralized composting facility to collect animal-derived and plant-derived waste is highly desired. Its lack is often cited as a barrier to recycling by major resorts and manufacturers. Finally, information on where to go for help to donate or dispose of food should be easier to find.

Distribution and Transportation (See Appendix F for participant notes.)

Distribution and transportation include... *"the process of transporting and delivering food to wholesale, retail, institutional and other food access points (such as food shelves, food pantries or food banks). Includes the use of marketing strategies, such as labeling, pricing, placement, promotions, "sell-by" and similar dates, and other marketing techniques, and includes decisions about what types of food will be made available to the consumer, such as procurement decisions."*⁴⁷

⁴¹ <https://www.feedingamerica.org/about-us/partners/become-a-product-partner/food-partners>

⁴² Ravindran, R., & Jaiswal, A. K. (2016). Exploitation of food industry waste for high-value products. *Trends in Biotechnology*, 34(1), 58-69.

⁴³ <https://www.nrel.gov/docs/fy04osti/35773.pdf>

⁴⁴ <https://www.threesquare.org/programs/food-rescue-distribution>

⁴⁵ https://www.refed.com/downloads/Foodservice_Guide_Web.pdf

⁴⁶ https://www.epa.gov/sites/production/files/2016-03/documents/s_nevada_food_organics_workshop_report_508_030416a.pdf⁴⁷

<http://healthyfoodpolicyproject.org/crosswalk>

The first issue brought up was that **food travels**. Visioning session participants referred to the amount of time it can take for food to make it to its destination, often taking days, and expressed concern that the local health district requires food service providers to pull foods with expired dates, even if they are still wholesome. According to the USDA Food Safety and Inspection Service, "...except for infant formula, dates on food products are not required by any federal law or regulation, although some states do have requirements for them." Nevada law requires certain foods include dates, such as dairy, and as such, the local health districts cannot relax the law. However, foods may be donated up to a specified number of days after the expiration date.⁴⁹

A second issue is that **it would be more sustainable to preserve food safety and freshness using green technology**. An example is the Green Cooling Initiative⁵⁰, which is environmentally friendly air conditioning and refrigeration because it reduces emission by using climate-friendly refrigerant and improving efficiency. An estimate of the amount of energy used by refrigeration systems was as high as 40-50% of total energy use in restaurants.⁵¹ Thus it stands to reason that energy consumption may be significantly decreased through the use of green technology.

A third issue brought up by this group of session participants was that **there is a stigma associated with food insecurity**. This stigma can inhibit people in need from seeking food assistance.⁵² To combat this stigma, especially among young people, City facilities could provide more food-centered programming by pairing programs such as recreation or health care support with food. It is also helpful to increase awareness of existing food assistance programs among residents so they do not have to seek out the information, which may feel stigmatizing.

A fourth issue was **cultural distribution**. Visioning session participants brought up this term about food retailers not having culturally relevant foods available. While many grocery stores carry culturally relevant foods, they may not be easily accessible for all residents. Additionally, farmers markets vendors are unable to sell culturally relevant produce under the umbrella of exempt certified producers because of existing rules that specify a producer's certificate must be connected to all produce sold without a health permit. Many culturally relevant foods are not grown in the U.S. and, therefore, will not have a U.S.-issued producer's certificate.⁵³

A fifth concern focused on distribution and transportation is that **there is no exact way to identify where food needs exist**. A mapping project is underway by RTCSNV staff.

⁴⁸ <https://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/food-labeling/food-product-dating/food-product-dating>

⁴⁹ For more details see <https://www.refed.com/tools/food-waste-policy-finder/nevada>

⁵⁰ <https://www.green-cooling-initiative.org/refrigeration-sectors/overview/>

⁵¹ <https://www.restaurantbusinessonline.com/operations/cooling-trend>

⁵² See this guide for more ideas and strategies to reduce stigma: https://www.urban.org/sites/default/files/publication/99831/evidence-based-strategies-to-end-childhood-food-insecurity-and-hunger-in-vt_1.pdf

⁵³ This issue is under the jurisdiction of the local health district <http://www.southernnevadahealthdistrict.org/permits-and-regulations/food-establishment-regulations/chapter-13-farmers-markets-and-ancillary-food-establishments/#133>

However, more metrics and resources could help expand the project so that it helps define needs. Additional metrics related to the food system would greatly enhance a needs assessment. A central clearinghouse for this data would be helpful, especially by making it accessible to the public. See Appendix K for a list of recommended metrics.

Production (See Appendix G for participant notes.)

During the agricultural and production activities of food, various environmental issues arise, such as land, water, energy use and atmospheric emissions. In the U.S., agriculture and food industries are the primary driver sectors of the national economy, which account for 15% of total household consumption and \$775.8 billion to the national gross domestic product. ⁵⁴Further research studies suggest policymakers move toward improving the environmental sustainability performance of the agricultural food sector.

The first issue of concern was **the limited availability of land, the challenging climate, and the lack of urban agriculture-focused zoning to support food production in the City**. The use of infill may help increase the amount of land available for food production, and a starting point for this strategy is to conduct an inventory of available City-owned land suitable for agriculture. Once identified, the City could lease the vacant land to urban farmers or civic groups to support community gardens and urban agriculture. To raise awareness and promote urban agriculture, the City or one of its partners could provide a Farm Link service to connect landowners with land seekers.

Other ways to promote urban agriculture include zoning to address season extension strategies, such as hoop houses and high tunnels, while ensuring they are consistent with federal funding sources. Because the Clark County School District is the nation's fifth-largest school district and schools are often considered a community resource, school gardens may prove to be a valuable contribution to food production efforts. A variety of funding opportunities and resources often exist to help schools establish school gardens, such as local nonprofit groups, the local Extension office and state funding for Title I schools. The City of Las Vegas Parks and Recreation Department, as well as other City facilities and buildings, could be used to increase food production with edible landscaping or indoor agriculture.

A second very salient issue is that **water is scarce, and conservation is essential**. Engagement of the local water district or authority to create policies or regulations that support access to water for food production, such as urban agriculture or community gardens, has been voiced as a concern by community garden staff and volunteers. Session participants were not clear whether a food garden would qualify as water-smart landscaping instead of a traditional lawn. However, the Southern Nevada Food Council hosted a presentation given by a representative from the local water authority claiming this could be done. A list of educational resources focused on water conservation, such as classes or demonstrations offered by the local water authority, Springs Preserve or

⁵⁴ Park, Y. S., Egilmez, G., & Kucukvar, M. (2016). Energy and end-point impact assessment of agricultural and food production in the United States: a supply chain-linked ecologically-based life cycle assessment. *Ecological indicators*, 62, 117-137.

Extension, may provide benefit. Additionally, the Conservation District of Southern Nevada's (CDSN) website may also be a potential resource. The CDSN has regular board meetings, and one of its board members represents incorporated cities, providing a direct connection for the City to an educational resource focused on conservation issues.

A third issue related to natural resources was that **more productive soil is needed**. Soil testing information is available from the local Extension office. However, as noted under the topic of diversion, a large-scale composting facility might be able to provide high-quality compost to help enhance current soil conditions and make them more conducive to food production.

A fourth concern expressed by session participants was that **more public knowledge regarding growing food is needed**. Despite this concern, many learning opportunities exist. For example, Extension and other organizations offer a variety of classes in the community, both for industry and the public. A partnership among these food gardening class providers and the City could lead to educational sessions hosted at City-run gardens.

The fifth and final issue was that **funding to support food production is needed**. One way to help small urban producers is to offer a tool and farm equipment sharing or renting cooperative to provide access to equipment (i.e., tillers, grow lights) that producers might not be able to afford, maintain or store. Additionally, the City or its partners could provide incentives or funding to support food production. The City can seek grants that may then be used to contract or provide sub-awards to community members who wish to grow food.

Resilience (see Appendix H for participant notes)

Food systems resilience is defined as "*the capacity over time of a **food system** and its units at multiple levels, to provide sufficient, adequate and accessible **food** to all, in the face of various and even unforeseen disturbances*"⁵⁵ Therefore, resilience and sustainability are complementary concepts.⁵⁶

The first concern brought up by session participants was that **vulnerable populations might have an even more challenging time obtaining emergency food supply than others**. The City should, therefore, include strategies to help ensure at-risk populations can be reached effectively when developing a disaster preparedness plan.⁵⁷ The City could go a step further by creating a registry of people with disabilities living within the jurisdiction for emergency preparedness.⁵⁸ However, a partnership with local social

⁵⁵ Tendall, Joerin, Kopainsky, Edwards, Shreck, Le, Kruetli, Grant, & Six. "Food System Resilience: Defining the Concept." *Global Food Security* 6 (2015): 17- 23. Web. <https://doi.org/10.1016/j.gfs.2015.08.001>

⁵⁶ Maleksaeidi, Hamideh, & Ezatollah Karami. "Social-Ecological Resilience and Sustainable Agriculture Under Water Scarcity." *Agroecology and Sustainable Food Systems* 37.3 (2013): 262-90.

⁵⁷ A guide to assist is <https://www.cdc.gov/nceh/hsb/disaster/atriskguidance.pdf>

⁵⁸ See <https://www.southernnevadahealthdistrict.org/download/php/ability-self-assessment-for-disabilities.pdf>

service agencies, such as the Nevada Aging and Disability Services, might be able to provide vital information as to the City's most vulnerable citizens.

A second and oft-cited concern is the scenario posed **that the Las Vegas Metropolitan area would have only three days' worth of food before running out if transportation channels were cut off.** This information is frequently stated as fact, including at this visioning session. However, a search to verify the statement did not turn up a reference. When developing urban resilience strategies, food systems should be considered, especially in the face of more frequent and extreme weather conditions that can lead to disasters and transportation blockages, limiting the ability to transport food. The City should strongly encourage residents to maintain emergency food and water supply.⁵⁹

The third issue brought up by this group was that **the arid climate and limited water supply leave Las Vegas more vulnerable to the adverse effects of a changing climate.** Since this issue was related to the topic of production, details were not explored under this topic section. Refer to the first and second issues of concern under production, which include land availability and climate and water scarcity.

The fourth issue was that **there is not a known emergency food plan.** The Southern Nevada Health District's Office of Public Health Preparedness maintains some emergency operations plans on their website.⁶⁰ Plans include disaster preparedness for people with functional and/or access needs, and emergency food and water supplies FAQs, among others. The FAQs recommend a three-day supply of food but are primarily recommendations for residents and not industry specific. Some other suggestions made include creating an emergency food plan and diversifying sources of food and their associated transportation routes. ⁶¹

Processing (See Appendix I for participant notes.)

*"Nearly all our food is processed in some way. Food processing offers important benefits to businesses and consumers, including a more varied food supply and foods with a longer shelf life. Certain aspects of food processing, however, raise concerns over dietary health, worker health and food safety."*⁶² Processing includes added-value products, specialty meats, food safety and cottage foods, among others.

The only issue brought up at the session was that there is **a perception of a lack of transparency concerning food origin.** Food tracking, particularly sources of food, age, transit time and fossil fuel use, may be accomplished through food traceability. Visioning

⁵⁹ The SNHD has information at <https://www.southernnevadahealthdistrict.org/programs/emergency-preparedness/emergency-food-and-water-supplies-faqs/>

⁶⁰ A list of plans may be found at <https://www.southernnevadahealthdistrict.org/programs/emergency-preparedness/operations-plans/>

⁶¹ A resource to help is found at https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/_pdf/projects/resilience/Baltimore-Resilience-Report.pdf

⁶² <http://www.foodsystemprimer.org/food-processing/index.html>

session participants suggested a possible consumer lack of confidence in claims related to fresh fruits and vegetables.⁶³ One suggested resource to help residents increase awareness regarding how far food travels is to share a food miles calculator on the City website, such as the International Food Miles Calculator.⁶⁴ Food tracking and likely traceability fall under the jurisdiction of health regulatory agencies, such as the local health district. For example, farmers market vendors are required to carry producer certificates for all fresh fruits and vegetables sold. ⁶⁵Perhaps a campaign to promote local foods or foods grown in Nevada, such as those mentioned under the first topic of marketing in issue one, *promotion and definition of local foods*, may help increase consumer confidence concerning food origin.

Conclusion and Recommendations

Following is a list of recommendations that align with visioning session feedback and are adapted from checklists found in the *Growing Local: A Community Guide for Planning for Agriculture and Food Systems*.⁶⁶ The suggested strategies below the **bolded objectives** are general starting points that should be further developed to add context and specific measurable benchmarks. To support a more sustainable, healthy and resilient food system, include the following objectives in the 2050 City of Las Vegas Master Plan:

- **Prioritize food access and health.**
 - Address food access and health in a comprehensive plan.
 - Create zoning policies that support food access and health.
 - Support a "food in all policies" strategy.
 - Create or adopt a food system resolution or charter to express commitment to urban agriculture and community food systems.
 - Support the local food policy council.
 - Use performance indicators such as those listed in Appendix K to measure the progress of "State of the City of Las Vegas Food System."
 - Hire full-time dedicated staff to oversee food systems planning and initiatives.
- **Encourage health and wellness.**
 - Use zoning to increase the availability of healthy food options and restrict unhealthy choices.
 - Support healthy food financing initiatives to attract supermarkets and grocery stores to underserved communities.
- **Improve food access.**
 - Host or encourage the development of farmers markets, CSA and other direct-to-consumer channels to bring healthy foods to underserved neighborhoods.

⁶³ More information is available on this industry webpage: <https://bciincorporated.com/food-tracking-systems/>

⁶⁴ <https://www.foodmiles.com/>

⁶⁵ <https://www.southernnevadahealthdistrict.org/permits-and-regulations/food-establishment-regulations/chapter-13-farmers-markets-and-ancillary-food-establishments/>

⁶⁶ The guide may be accessed at <https://growingfoodconnections.org/tools-resources/community-guide/>

- Require that farmers markets or other direct sales outlets offer EBT, WIC and Senior Farmers Market coupon programs.
- Support programs that increase the value of SNAP benefits and farmers market coupons.
- Allow for mobile markets and mobile food vending to bring fresh produce and other healthy foods to underserved neighborhoods.
- Create healthy food retail incentives or regulations to ensure local food retailers stock ingredients necessary for a healthy diet.
- **Promote local, fresh and healthy foods.**
 - Create a "Buy Local" campaign when production is sufficient to warrant it.
 - Provide promotion materials such as maps, resource guides and interactive websites for the more than 44 million annual visitors who enjoy food.
 - Promote healthy eating for residents through a marketing campaign.
 - Promote nutrition guidelines, and support nutrition education and school wellness policies to promote wellness and encourage healthy eating.
- **Support markets and infrastructure.**
 - Scale regulations appropriately to address on-farm/garden marketing and direct-to-consumer systems.
 - Support marketing infrastructure for local farmers/producers with a food hub.
 - Support value-added processing with shared use of commercial kitchens.
 - Support farm-to-school and other institutions' procurement policies.
- **Prioritize natural resources conservation.**
 - Create policies to address food waste and recovery, including composting.
 - Create policies or regulations to support access to water for food production.
- **Encourage food production.**
 - Address urban agriculture and food production in a comprehensive plan.
 - Provide public land and resources for farming and food production.
 - Encourage connections between agriculture and residents, including education.
 - Create ordinances that allow residents to raise poultry, bees and livestock for their own consumption.
- **Improve agricultural viability.**
 - Provide tax credits and exemptions.
 - Create an ordinance to support urban agriculture and food production.
 - Create voluntary districts where agriculture is encouraged and protected.
- **Support emergency food programs.**
 - Provide emergency food funding to support community food banks, pantries and soup kitchens.
 - Support gleaning programs to collect produce from farms, farmers markets, community gardens and other sources to provide nutritious foods.
 - Create an emergency food plan.

Appendix A

Visioning Session Attendees

Arredondo, Victor – American Heart Association, **SNFC member**

Bermudez, Mario – Regional Transportation Commission

Buffington, Aurora – University of Nevada, Reno Extension; **SNFC Chair**

Braxton, Millicent – University of Nevada, Reno Extension; **SNFC member**

Clark, Corey – City of Henderson

Coutinho, Rebecca – City of Henderson, **SNFC member**

DeCorte, Jarrett – University of Nevada, Reno Extension

Fazekas, Alejandra – City of Henderson, **SNFC member**

Gully, Paul – Regional Transportation Commission, **SNFC member**

Glidewell, Tina – University of Nevada, Las Vegas; Dept. of Kinesiology and Nutrition Sciences

Hubert, Rod – Las Vegas Farmers Markets

Johnson, Steve – Molly Pop Farms, **SNFC member**

Johnson, Virginia – Molly Pop Farms, **SNFC member**

Johnson, Christian – Decipher LLC., composting program

Kastanek, Hannali – Green Our Planet

Koppa, Namita – City of Las Vegas, **SNFC member**

Lewis, Ashanti – Three Square Food Bank

McCoy, Dewayne – Three Square Food Bank

Melendez, Jessica – Green Our Planet

Prince, Sophia – City of Las Vegas

Regalado, Nikki – University of Nevada, Reno Extension

Saheb, Christina – Clark County School District Food Services, **SNFC member** **Schnitzer**,

Allison – Southern Nevada Health District, **SNFC member**

Whaley, Regis – Three Square Food Bank, **SNFC Vice-Chair**

Zeniou, Mary – University of Nevada, Reno Extension; **SNFC member**

Appendix B

Marketing: Group Notes and Suggestions

Issue	Ideal	Policy/Program
1. Effectiveness of Buy NV or N.V. Grown; Promote Local; Define local	More foods identified as local; One "Local Foods" Campaign	CLV implements process for connecting eligible business with local foods campaigns
2. Expiration dates, toss foods in trash	Education about identifying if food has gone bad; Zero wholesome food wasted!	Marketing/Education campaign
3. People don't know they can use SNAP to buy seeds and plants to grow food	Marketing campaign for purchasing seeds, plants and healthy foods	Marketing campaign
4. Promoting foods of minimal value for SNAP Purchases e.g., candy, energy drinks	Promote SNAP in front of healthy foods; Provide permanent incentives for purchasing healthy foods	Appropriate funds for nutrition service incentive programs; Establish nutrition standards for SNAP promotion
5. Low federal child nutrition [program] participation in schools d/t lack of knowledge [awareness]	100% participation in federal child nutrition program	Marketing program for federal child nutrition program

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix C

Markets and Purchasing: Group Notes and Suggestions

Issue	Ideal	Policy/Program
1. Food Deserts; Food Swamps; Lack of small food retailer network/purchasing co-op	Affordable & accessible produce for all	A.B. 326-ish program from CLV to retro-fit "corner" stores to offer FFV - capital costs
2. Expiring Nutrition Incentive [Program] funds	Permanent fund to incentivize FFV purchases	City fund for matching nutrition incentives
3. Difficult for farmers markets to offer SNAP and incentive programs	1 to 1 matching with no limit	[See above]
4. No WIC at Farmers Markets	Farmers markets can take WIC	

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix D

Preparation and Consumption: Group Notes and Suggestions

Issues	Ideal	Policy/Program
1. Frail populations who cannot cook for themselves; limited means; Lack of congregate meal sites and prep kitchens	Congregate meal sites; -Higher per meal reimbursement; -startup funding	Federal, State, Municipal Funding
2. Where do food entrepreneurs companies prepare products in a safe, healthy place?	Affordable, Accessible Food Hub	Commercial Kitchen
3. Lots of fast food (access) unhealthy eating habits; raised [high] health costs; Portion sizes	Awareness & skill at cooking, nutrition, meal prep; affordability	Cooking education campaign

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix E

Diversion: Group Notes and Suggestions

Issues	Ideal	Policy/Program
Portion size; Food waste	Smaller portion size	Enact a policy similar to IKEA and Google
Composting wet materials, Tree/shrub dry material waste; soil depreciation, landfill capacity; meats/dairy, non-compostable	Citywide municipal compost collection	Education programs at university for compost; Composting friendly laws and collection service
Grocery Store Food Waste; Edibles	Inventory; Incentives for participants	Tax Write-offs; Good Samaritan Emerson Act
Central gathering location(s)/ who oversees	Many locations around town - community gardens - Universities - Community areas	Designated Areas for Local collection

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix F

Distribution and Transportation: Group Notes and Suggestions

Issues	Ideal	Policy/Program
1. Time from farm to plate (Logistics)	Expand on local production; Greenhouses, vertical farms, Hydroponics	Repeal local expiration date laws
2. Food Preservation Methods; Green technology	Regional, Refrigerated Storage	Solar-powered refrigerated storage
3. Stigma of food insecurity	Community Markets; marketing	Programs eliminating negative terminology
4. Cultural Distribution	Research on ethnic & cultural communities	Money for research program/ pilot stores
5. Unknown locations of needs	Accurate geographic mapping	Increase community participation in geographic mapping

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix G

Production: Group Notes and Suggestions

Issues	Ideal	Policy/Program
1. Land (availability); Climate; Zoning. Land with utilities; water; productive soil, continuous maintenance; skills set; knowledge of local environ- ment, harshness of land; limited crops that thrive here; variation of crops	Free land for growing; Utilization of methods to create microclimates to protect crops	Zoning for Ag especially Urban; Dual use of land, Ex. Growing in Cemeteries; CSAs Providing all schools to have community gardens; Utilize unconventional spaces to grow such as rooftops, empty commercial space; adoptive reuse for urban AG
2. Water (scarcity and conservation) Use it-don't lose it! Ways to store, process, and use all that is produced	Access to water: irrigation systems; Water smart methods	Allotted water amounts w/o understanding the Ag needs; Education and defining of landscape practices, okay [approve] gardens as yards
3. Soil quality (productive soil)	Compost & recycle soil to increase quality	Composting and recycling regulations; Education on food rescue & training. safe & canning food; composting fees
4. Skillset (need of local grower knowledge)	Commitment of growers and residents and organizations. with knowledge, both private, public and non-profit training & education	Education programs at schools, colleges, companies, cities, apartment complexes, HOA's; Food storage, refrigeration, and processing
5. Financial (need for funds and knowledge to grow)	Loans and grants and Tax credits; Available and regular incentives	CSAs; Bills for allocation; make gardens attractive; educate people to want and fight for local food; increase demand
NEED MORE LOCAL GROWN FOOD!		

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix H

Resilience: Group Notes and Suggestions

Issues	Ideal	Policy/Program
1. Lack of access to vulnerable population: - Homeless - Seniors - Carless - Disabled - Youth	Food Alert; hotline text; food rescue app; congregate sites	Develop food access map/database; Create/Implement food rescue app in N.V.; Emergency food/water alert text; Recognition Program for participant/companies
2. Only 72-hour food supply - not self-sufficient	Urban Ag Farms in LV; Victory gardens & storage; Education for public on emergency prep; Dry good storage; Each person/group [becomes] self-sufficient	Incentives for Urban Ag farms Incentivize victory gardens/food storage Educational Awareness/simplify process to help people create Victory gardens and food storage
3. Arid climate; Limited water	Water storage; access to water; improvement of soil; incentivize water conservation	Agricultural water [for both] traditional and urban usage rates
4. Regional emergency food plan; multiple jurisdictions; connectedness – <i>Non-existent</i> [cont'd below]	Have a plan well connected with institutions in jurisdictions; Clearinghouse	Technology to connect and share among multiple agencies; Emergency protocol developed; MOU
Food supply and water contamination; Preparedness plan - education to public needed	Educate the public; Create plan; Monitor food and water supply	Public report on food and water conditions; Accountability report

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix I

Processing: Group Notes and Suggestions

Issue	Ideal	Policy/Program
Fresno to Las Vegas → what are these stops along the way?		
More control		
Lack of Transparency	Track sources of food, age, transit time, gasoline	Barcode system? Via distribution [route]

Note: All content in tables are the transcribed notes from the visioning session as provided by the participants. Any edits or clarifications are provided [in parentheses].

Appendix J

Photos of SNAP/EBT Promotion

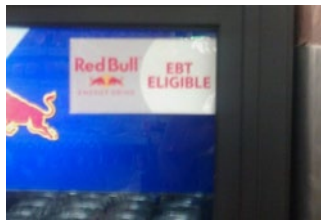
Promotion of healthy foods



Shelf talkers promoting the use of SNAP benefits to purchase candies at the drugstore



Beverage cooler in a checkout line at grocery store.



Candy display at the drugstore



Promotion of sugary beverages



Appendix K

Food system metrics to help assess progress in the City of Las Vegas food system

Food System Categories	Food System Indicators
Growing Food	<ul style="list-style-type: none"> • % Locally produced food • Number of urban farms • Number of indoor farms/agriculture • Number of community gardens • Number of schools with a garden • Acres of city-owned land used for food production
Selling Food	<ul style="list-style-type: none"> • Farm-direct sales • Number of farmers markets • Number of food retailers • Number of full-service stores with food • Number of food pantries that offer fresh produce • Value of EBT benefits redeemed at farmers markets • Value of local food sold at farmers markets • Number of jobs generated in local food and agriculture sectors (FTEs) • Number of urban farm employees • Number of community-supported agriculture (CSA) shares sold • Number of commercial kitchens • Number of food retailers selling some local produce
Eating Food	<ul style="list-style-type: none"> • % Population, % children, and % seniors that are food insecure • % Population receiving SNAP • % Population receiving WIC • % Residents living more than 1 mile from a grocery store • Number of zip codes lacking a full-service grocery store • % Obesity rate • % Diabetes rate • % People that meet the fruits & vegetables dietary intake recommendations • Number of low-income households greater than 1 mile to grocery store • Number of schools with a farm-to-school program
Food Recovery	<ul style="list-style-type: none"> • Multiple Listings Service (MLS) of homes with fruit trees • Number of pounds of food wasted annually • Number of composting classes offered • Number of households with curbside composting (city and private providers) • Number of tons of organic material (from food waste) diverted from landfill • Number of restaurants with pick-up and estimated weight of food waste picked up for composting • Food composting facilities and community composting programs
Connecting to Food	<ul style="list-style-type: none"> • Number of times information portals related to local food are accessed • Number of community destination and gathering places related to food • Number of visible landmarks or icons related to food • Number of residents who attend City of Las Vegas food events

Adapted from: Bidiuc, B. (2015). *A food system plan for Austin* (Master of Science Report).
https://www.austintexas.gov/sites/default/files/files/Sustainability/A_Food_System_Plan_for_Austin_Final_Bidiuc.pdf

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