Climate Resilience Zoning Task Force, June 2019
Discussion Framework: Heat Predictions, Impacts, and Development Strategies

	Heat Projections	**Heat Impacts**	**Land Use and Development Strategies**
Questions for Task Force	1. What changes in temperature and heat index are anticipated? 2. How will urban heat island effects affect temperatures and other conditions experienced by the Cambridge community?	3. What heat impacts should this group focus on? What heat impacts are of most concern?	4. What strategies might property owners employ to mitigate heat impacts, and what are the relevant benefits and costs of these strategies?
Key concepts and content for consideration	*Relevant content from the city's Climate Change Vulnerability and Adaptation work* Projections (see maps): • Baseline ○ Approx. 11 days above 90°F ○ Average heat index 85°F ○ Localized heat islands above 100°F • 2030 ○ Approx. 31 days above 90°F ○ Average heat index 96°F ○ Localized heat islands above 100°F • 2070 ○ Approx. 68 days above 90°F ○ Average heat index 115°F ○ Localized heat islands above 120°F	*Examples of types of possible heat impacts* General impacts: A. Increased potential of mortality or heat related illnesses, especially for vulnerable populations, such as the elderly, children and people with chronic conditions B. Uncomfortable indoor climate C. Increased surface temperature from exposed conventional pavement D. Heat and air quality issues prohibiting outdoor activity E. Demand for indoor conditioned space F. Disruption to critical services, transit, telecommunications G. Increased energy demand from cooling H. Economic loss due to reduced labor hours	*Land use scenarios for which this Task Force's work could apply:* • Continuation or alteration of existing buildings and uses ○ Not making change (with its own impact) ○ Protecting what exists ○ Making changes (which make impacts better or worse) • Redevelopment of individual sites / new projects ○ Best practices for new projects • Large-scale planned redevelopment ○ Opportunities in larger projects that involve infrastructure and public amenities *Strategies (refer to CCPR Preparedness Handbook):* • Increasing vegetative cover, reducing paving ○ "Depaving" to create more planting ○ Green roofs • Shade ○ Tree planting ○ Structural shading • Reflective materials ○ High-albedo roofs ○ High-albedo paving materials • Passive resilient design ○ Natural indoor cooling and ventilation when mechanical cooling not available • District-level strategies ○ Cooling centers *Benefits, costs & considerations re: land-owner strategies to address heat* • Where to prioritize interventions? (project types, land use types, areas of the city) • Level of difficulty of implementing • Co-benefits with flooding strategies • Resilience impact • Cost to implement • Trade-offs with other planning goals such as housing, urban design & economic development.