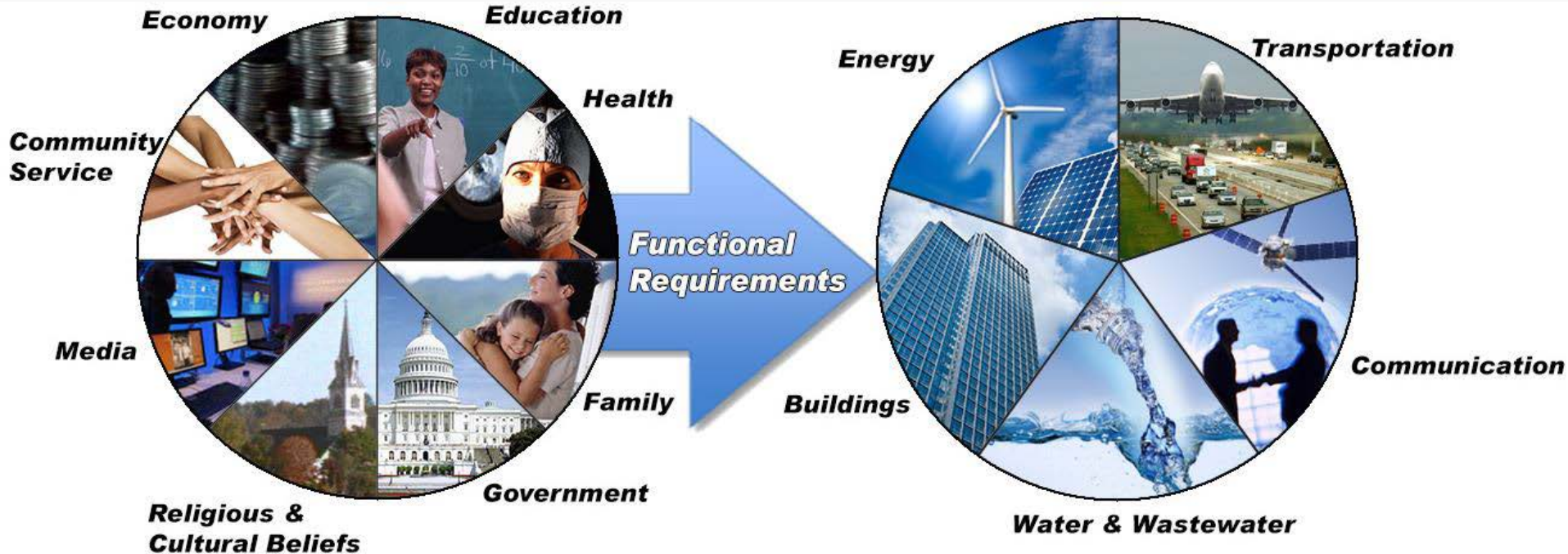


Fort Collins
Community Resilience Assessment:
Social Functions & Built Environment

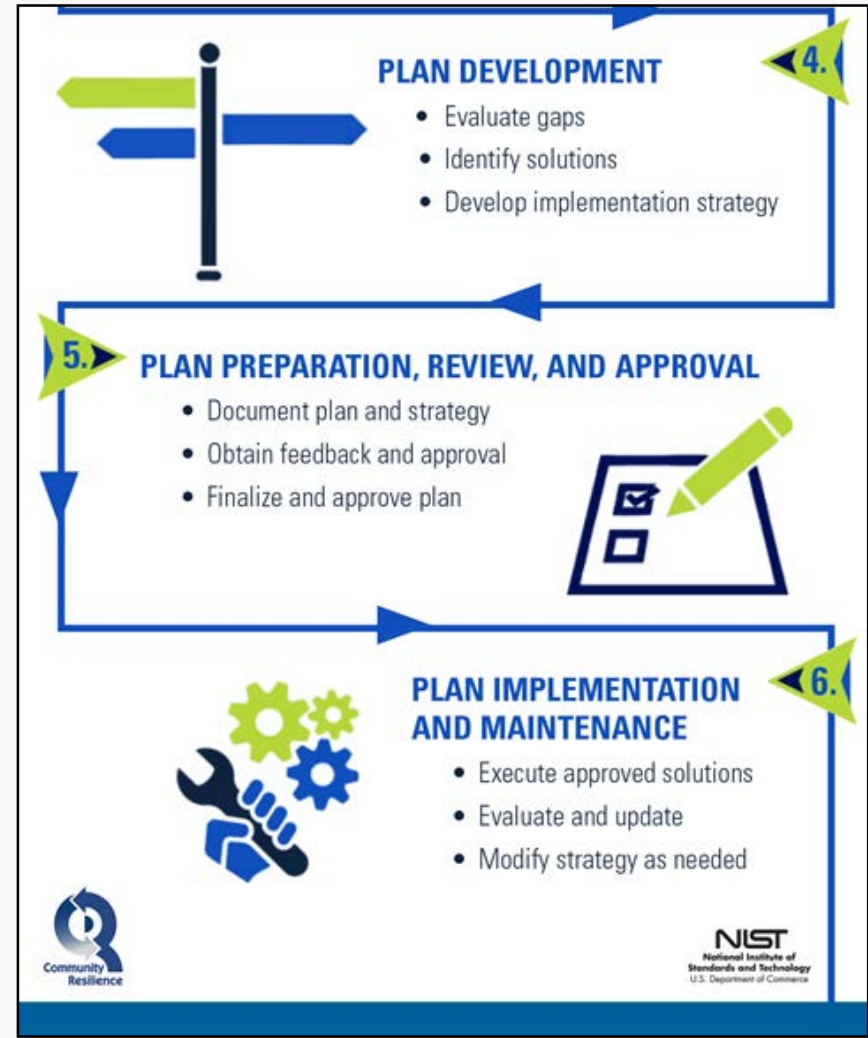
Link Social Dimensions and Built Environment



“The social functions and needs of a community should drive the requirements of the built environment for a community to be resilient.”

NIST CRPG, Vol I, Chp 3, p. 32

NIST Community Resilience Planning Guide Steps



News worthy

CitiesSpeak.com The Official Blog of the National League of Cities:

How the City of Fort Collins is Making Community Resiliency a Reality

The goal is the development of a prioritized list of resilience gaps that relate to critical lifeline infrastructure that directly support the community.

July 18, 2016 by Paul Konz, <https://citiesspeak.org/2016/07/18/how-the-city-of-fort-collins-is-making-community-resiliency-a-reality/>

Guest post by Fort Collins, Colorado, Mayor Pro Tem Gerry Horak

Speaking on RRAP, “Building on previous steps to reach the next level, in 2016 Fort Collins was one of only 12 areas selected by the U.S. Department of Homeland Security (DHS) to receive a Regional Resilience Assessment. This planning process considers impacts and mitigates risks to our buildings and our critical infrastructure from natural, technological and human-caused hazards.”

Speaking on NIST, “We don’t expect overnight miracles, and our resources are limited. We know that resilience takes place over time. Fortunately, hazards are not an everyday occurrence, and actions to improve resilience can offer immediate dividends beyond resiliency. That’s why we are planning now and moving forward in ways that reflect our community’s priorities. The NIST Guide is a very helpful tool for doing just that.”

Fort Collins Collaborative Planning Team

Lead: Mike Gavin, Emergency Manager, City of Fort Collins Office of Emergency Management; Battalion Chief, Poudre Fire Authority

Members:

- Lori Hodges, Emergency Manager, Larimer County
- Joel Max, Emergency Management Coordinator, Larimer County
- Jon Haukaas, Water Engineering and Field Services Manager, Ft Collins Utilities
- Drew Davis, Senior Business Analyst, Larimer County Public Works
- Tim McCollough, Light & Power Operations, Ft Collins Utilities
- Katy Bigner, Project Coordinator, Fort Collins Utilities Sustainability Services
- Jory Maes, Infrastructure Protection Program Manager, DHSEM Colorado Information Analysis
- Kevin Gertig, Utility Director, Fort Collins Utilities
- Laurie Kadrach, Director, City of Fort Collins Planning, Development, & Transportation

Sampling of Fort Collins Planning Documents

- Colorado Resiliency Framework
- Colorado Energy Assurance Emergency Plan
- Larimer County Unmet Needs & Community Fragility Study
- Larimer County Hazard Mitigation Plan
- Fort Collins Strategic Plan
- Fort Collins City Plan - Transportation Master Plan
- Fort Collins City Plan - Pedestrian Plan
- Fort Collins City Plan - Capital Improvement Plan
- Fort Collins City Plan
- Larimer County Base Emergency Operations Plan
- NIST Community Resilience Planning Guide for Buildings & Infrastructure Systems
- NEP Climate Change Colorado Workshop Summary Report
- Quadrennial Energy Review: Energy Transmission, Storage, and Distribution Infrastructure
- Colorado Division of Homeland Security & Emergency Management Strategic Plan
- Northern Colorado Regional Hazard Mitigation Plan
- Water Supply and Demand Management Policy
- Water Supply Shortage Response Plan
- Fort Collins Water Supply and Demand Management Policy Revision Report
- Utilities' Water Conservation Plan

Objectives

- Implement the NIST Community Resilience Planning Guide for Buildings and Infrastructure Systems.
- Develop a dependency/ interdependency product that depicts lifeline sector infrastructure supporting designated social functions.
- Develop a comparison between the actual performance and desired performance of lifeline systems under stress.
- Provide a resiliency assessment that analyzes the impact of alternative mitigation strategies on lifeline sector resilience gaps.
- Establish a framework for future communities to build their own resilience projects.

Implementation Activities

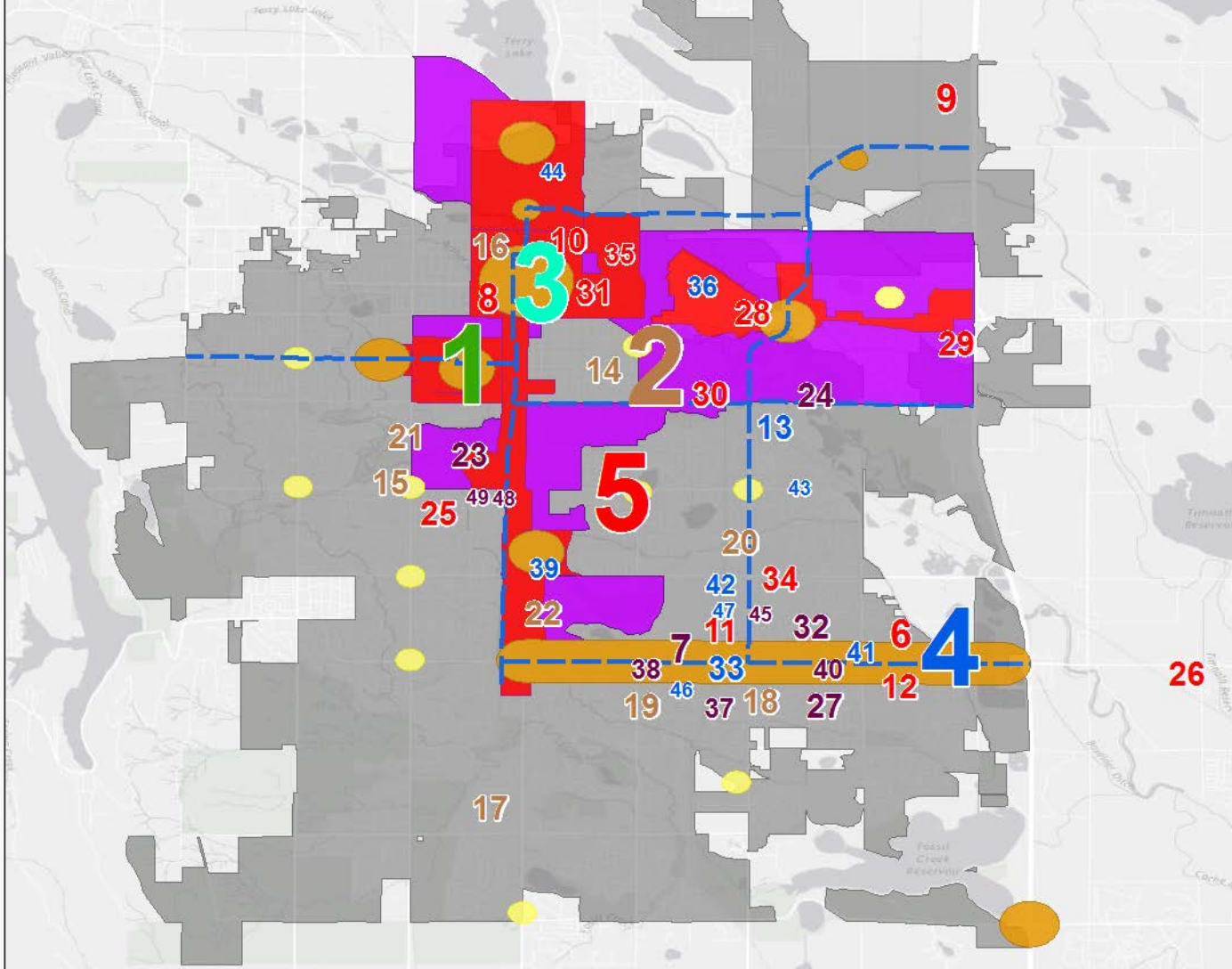
- Assessments: IST, IVP, C-IST, CSET, CRR
- Mapping Infrastructure Systems and Links to Dependent Infrastructure
- Identification and Communication of Priorities & Recovery Time Objectives
- Community Resilience Plan: “The Resiliency Assessment”
- Facilitated workshops and/or tabletop exercises

Major Employers in Fort Collins, CO

with the “Economic Health” layer of FCMaps

Education Government Healthcare IT/Software Manufacturing
R&D/Engineering

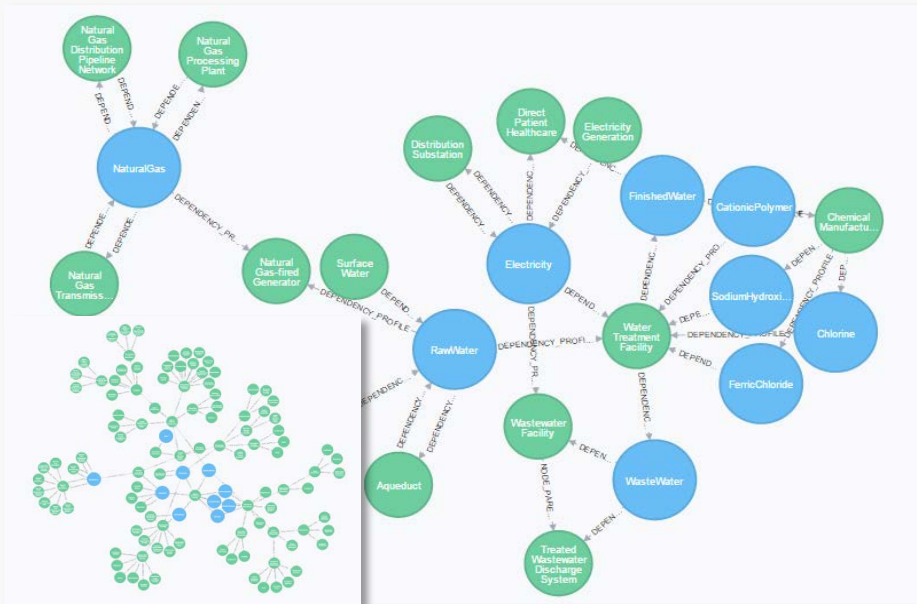
Targeted Activity Centers (Orange) Other Activity Centers (Yellow) State Enterprise Zone (Purple)
Targeted Redevelopment Areas (Red) Enhanced Travel Corridor (Blue)



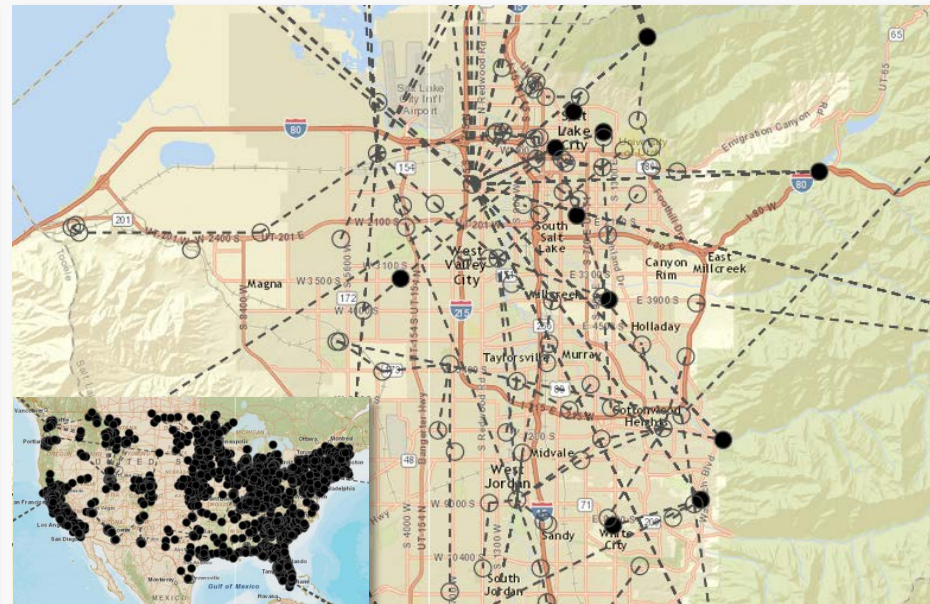
ID	Employer	Employees
1	Colorado State University	>1000
2	University of Colorado Health	>1000
3	Fort Collins Communication Office	>1000
4	Hewlett Packard Co.	>1000
5	Woodward Inc.	>1000
6	Avago Technologies US Inc.	500-999
7	Qualfon Data Services Group	500-999
8	Otter Products LLC	500-999
9	Anheuser Busch Inc.	500-999
10	New Belgium Brewing Co Inc.	100-499
11	Advanced Energy Industries Inc.	100-499
12	Intel Corporation	100-499
13	AECOM Technology Corporation	100-499
14	Associates In Family Medicine PC	100-499
15	Centre Ave Health & Rehab Facility	100-499
16	Evergreen Home Healthcare	100-499
17	Foothills Gateway Rehabilitation Ctr.	100-499
18	Fort Collins Orthopedic Assoc. PC	100-499
19	Greenfield Mgmt. Services Inc.	100-499
20	Interim Healthcare of Ft. Collins	100-499
21	Larimer Center for Mental Health	100-499
22	Maguire Senior Services Inc.	100-499
23	Techni Graphic Systems Inc.	100-499
24	Telvent USA LLC/Schneider Electric	100-499
25	Tolmar Inc.	100-499
26	Walker Manufacturing Company	100-499
27	CA Technologies Inc.	100-499
28	Connell Resources	100-499
29	Forney Industries	100-499
30	Water Pik	100-499
31	In-Situ	100-499
32	Advanced Micro Devices Inc.	100-499
33	Wolf Robotics	100-499
34	CBW Automation	100-499
35	Odell Brewing Co.	50-99
36	ALS Group USA Corp	50-99
37	Cherokee Services Group LLC	50-99
38	Colorado Customware Incorporated	50-99
39	ESC Engineering Inc.	50-99
40	Heit Consulting Inc.	50-99
41	Riverside Technology Inc.	50-99
42	Tetra Tech Inc.	50-99
43	Cargill Incorporated	<50
44	CPP Inc.	<50
45	Deltek Systems Inc.	<50
46	Dresser Rand Company	<50
47	EDM International Inc.	<50
48	New Century Software Inc.	<50
49	Vistrionix Inc.	<50

All Hazards Critical Infrastructure Knowledge Framework

- Is a framework that learns from data and expert knowledge
- Seamlessly integrates structured and unstructured datasets
- Provides both geospatial and graph visualization capability due to problem space complexity



Dependency Model



Geographic Visualization

Analysis and Visualization

Fort Collins

